May 24, 2016

City of Watertown
Attn: Justin Wood, City Engineer
Room 305, City Hall
245 Washington Street
Watertown, NY 13601

AUBERTINE and CURRIER
ARCHITECTS, ENGINEERS & LAND SURVEYORS, PLLC
NYS WBE/DBE Certified
SBA Woman Owned
Small Business (WOSB)
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Watertown, New York 13601
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Fax: 315.782.1472
Managing Partner
Annette M. Mason, P.E.
Structural Engineer
Partners
Michael L. Aubertine, R.A.
Architect
Patrick J. Currier, R.A.
Architect
Brian A. Jones, AIA.,
LEED AP BD+C
Architect
Matthew R. Morgia, P.E.
Civil Engineer
Jayson J. Jones, P.L.S.
Land Surveyor

Re: **Response & Summary to the 04/28/2016**
Planning Department Comments for Site Plan Review

- **Cancer Center Addition and Woodruff St. South Parking Reconstruction,**
- **Women's and Children's Center Addition and Sherman St. Parking Reconstruction**
- **Woodruff Street Northwest Parking Area Expansion**
- **Woodruff Street Northeast Parking Area**

Samaritan Medical Center (A&C #2015-174)
830 Washington Street, Watertown, NY

Dear Mr. Wood:

This cover letter and the attachments provides a summary of the discussion and response/clarification of the items and questions brought up by the City Planning Department in the April 28, 2016 Site Plan Review Memorandum for the above referenced projects. Included with this submission is sixteen (16) copies of this Cover Letter and attachments, three (3) full size and thirteen (13) 11"x17" copies of the revised set of plans and three (3) copies of the SWPPP and revised Engineering Report.

Following the April 19, 2016 Site Plan Review submission, there were thirty-three (33) items outlined by City Planning Department. Response and clarification of these items are as follows:

1. The applicant shall obtain a variance for parking setback requirements.
   An Area Variance was submitted on March 30th, First ZBA Meeting was held on April 20th, and a Public Hearing was scheduled for May 18th. Following the Public Hearing each of the four variance requests were approved by the ZBA, with contingencies. Contingencies include perimeter curbing of the 4 parking lots, and landscaping at the road frontages.

2. The parking count labeled on Sheet SITE-105 for the reconfigured parking lot at Sherman and Pratt Street must be corrected to say 53 total spaces instead of 52.
   Women's and Children's Only – Sheet SITE-105 is revised to reflect the correct number of 53.

3. The applicant shall remove truncated domes from the sidewalks at driveways.
   Women's and Children's Add. – Truncated domes have been removed from sidewalk crossings at the two driveways.

4. The applicant shall indicate snow storage areas for the four parking areas on the site plans.
   Snow will be plowed in the morning and during the day to designated areas. Snow will be removed and hauled off-site at night when the snow accumulation impacts necessary parking

needs. Snow storage areas will "not" be located near street intersection or driveway entrances that might restrict visibility. Designated areas for each project are as follows:
Women's and Children's Add. - In the middle portion of westerly parking aisle.
Cancer Center Add./Sherman Street Parking - In the southwesterly corner of the parking area.
Woodruff Street Northwest Parking Exp. - In the northwesterly corner of the parking area.
Woodruff Street Northeast Parking - In the northwesterly corner of the parking area.

5. The applicant shall include a demolition plan showing the location of utilities to be removed.
   Woodruff Street Northeast Parking Only - Sheet CD-102 has been revised to include the demolition of the utilities.

6. Refuse dumpster areas shall not be within 15 feet from the property line unless written acceptance is provided from the neighbor.
   Cancer Center Addition/Sherman Street Parking Only – Sheet CS-101has been revised to include Roll-off Dumpster concrete pad that is located 15'-4" from the property line.

7. The applicant must indicate where 'no parking' and 'handicapped parking' signs will be installed.
   Cancer Center Addition/Sherman Street Parking Only – Sheet CS-101has been revised to include "handicapped parking" and "no stopping" signs

8. The applicant shall clarify in the Site Plans the number of parking spaces that will be available in the reconfigured parking lot on the Woodruff Street South Parking Area, not to include spaces occupied by rolloff dumpsters.
   Cancer Center Addition/Sherman Street Parking Only – Sheet CS-101 has been revised, the parking space label bubble has been revised to reflect the correct total number of parking spaces.

9. The applicant shall either remove midblock crossing ramps on Woodruff Street or complete warrants for the addition of a midblock crossing and submit them to the City Engineer to prove the necessity of midblock crossing.
   A Pedestrian Traffic Study was completed on May 15, 2016 by GTS Consulting. The conclusion of the study found that following the construction of the proposed Cancer Center Addition and parking expansion, an estimated 80-120 pedestrian would be crossing near the west driveway during peak hours. It was recommended that a stripped crosswalk and pedestrian signage be placed near the westerly driveway, and that the existing crosswalk east of MOB remain, to provide safer overall operations. The Pedestrian Traffic Study is attached and will be included in a revised Engineering Report.

10. Plans shall include a City Sidewalk Detail, separate from the site sidewalk details, which meet City sidewalk specifications for the walks within the City margin.
    All sidewalks within all City ROW shall meet City Sidewalk Specifications, and the details have been revised accordingly.

11. Site plans shall indicate where the detectable warnings are proposed and use standardized cast iron detectable warnings within the City right-of-way.

Cast Iron detectable warning strips shall be used within all City ROW and the details have been revised accordingly.

12. All existing and proposed curb ramps and sidewalks within the City margin shall be built to City specifications and shall meet the requirements of Public Right of Way Accessibility Guidelines (PROWAG).
    All proposed curb ramps and sidewalks within City ROW shall meet (PROWAG) Public Right of Way Accessibility Guidelines, and the details have been revised accordingly.

13. The plans shall be modified so that light spillage to the north of the property shall be kept below 0.5 foot candles at the property line.
    Women's and Children's Add. – Refer to sheet SITE-107 for revisions to the photometrics plan that no greater than 0.5 fc is spilling onto the Goodfriend Property. Light fixture was moved closer to the parking and will be mounted with and arm off the pole.

14. The applicant shall complete a Stormwater Pollution Prevention Plan (SWPPP) and submit it to the City Engineering Department for review.
    Three copies of the combined SWPPP for all four projects has been submitted along with this submission.

15. The applicant shall submit the Notice of Intent (NOI) to the NYSDEC and forward the NYSDEC's acknowledgement to the NOI to the City upon receipt.
    The NOI is included in the combined SWPPP and will be submitted to NYSDEC following City's review of the SWPPP. Acknowledgement letter will be forwarded to City upon receipt.

16. All roof drain and/or foundation drains shall be shown on the utility plan.
    Cancer Center Add - Sheet CG-101 has been revised to include the reconnection of the existing 8" roof drain from the existing Medical Office Building to CB #1F. A new roof drain has also been included from the Cancer Center Addition and connects to CB #1E. Building design is ongoing and site design will be coordinated as the building and MEP design continues.

17. The applicant must provide a detail showing the connection to existing storm manhole.
    A "Typical Connection to Storm Manhole Detail" has been added to the Detail Sheets.

18. The applicant must provide an inlet protection detail for the City owned catch basins that does not allow excavation around catch basins.
    A "Typical Inlet Protection Detail" for City Catch Basins that does not allow for excavation, has been added/or revised to the Detail Sheets.

19. Flow direction arrows shall be added to all underground Storm and Sanitary Sewer utility pipes.
    All flow direction arrows have been added to all underground Storm and Sanitary Sewer utility pipes to the plans.

20. The applicant must obtain the following permits (minimally) prior to construction: Demolition Permit, Building Permit, Fence Permit, Sidewalk Permit, General City Permit (to work

within margin), Storm Sewer Connection Permit, Disconnect and Plug Permit (capping of existing sanitary) and Sanitary Sewer Connection Permit.
SMC - Acknowledged

21. The applicant shall clarify the location of the proposed Biohazard Storage Area that had been included in previous site plans.
The Biohazard and Chemical Storage buildings shown being removed during the Women's and Children's Additon will be relocated and replaced onto the site of the Cancer Center Addition project. Refer to Sheet CS-101 for the revised location of the new Biohazard and Chemical Storage Buildings. SMC dumpster (1 trash, 1 recycling) previously depicted at the new Biohazard and Chemical Storage building location will be relocated across campus near the Keep Home service area.

22. Site plans shall include a Land Use and Zoning table of requirements and shall address, minimally, the number of parking spaces, setbacks, coverage, etc. that are required by zoning and proposed for the project.
Women's and Children's Only – Sheet SITE-100 includes a revised table that includes existing and proposed requirements.

23. Site plans shall include a note indicating the extents of City Curb Replacement on Woodruff Street.
All limits of City Curb Replacements have been noted on all design plans.

24. Site plans shall include a note in the Utility Plans for the contractor to coordinate with the DPW Sewer Department on the requirements of the Sanitary Sewer Connection and Doghouse manhole requirements.
Cancer Center Add. Only – Refer to Sheet CU-500 for Sanitary Sewer Connection Details and including a "Doghouse" Manhole Detail. Note has been added to the "Doghouse" Manhole Detail that the contractor shall coordinate with City DPW Sewer Department prior to the construction. Also, the particulars regarding the relocation of the SMC 10" sewer lateral to make room for the Cancer Center Addition are still being worked through. Note the revision to the relocation.

25. The applicant must assemble parcels 14-02-101.110, 14-01-102.000, 14-01-139.000 by way of a new metes and bounds description filed with the County Clerk.
SMC - Acknowledged

26. The applicant must assemble parcels 14-01-112.000, 14-01-113.000, 14-01-114.000 by way of a new metes and bounds description filed with the County Clerk.
SMC - Acknowledged

27. All plans and surveys shall be signed and stamped by a licensed professional.
Women's and Children's Add.– Three copies of a Survey map that were Stamped and Signed by a Licensed Surveyor were submitted at the April Planning Board Meeting.

Cancer Center Add./Sherman Street Parking, Woodruff Street Northwest Parking Exp. and Woodruff Street Northeast Parking - Three copies of a Survey map that were Stamped and Signed by a Licensed Surveyor were submitted on 4/22/2016.

28. The applicant shall copy the City on all correspondence to the NYS DOH and NYS DEC with regards to the approval of plans due to water and sewer usage.
    We requested clarification from NYSDEC and NYSDOH, if review of the water and sewer is required. Attached is correspondence confirming that review is not required from either agency for the water and sewer.

29. The applicant shall add NYS DOH and NYS DEC approval to Question 2 of the Short Environmental Assessment Form.
    NYSDOH and NYSDEC review is not required, so the Short EAF has not been revised.

30. Fire Department Connections (FDC) shall be relocated to the Woodruff Street side of the proposed expansion.
    Cancer Center Add. – Refer to Sheet CU-101 for the proposed FDC locations. The Cancer Center Addition FDC is located along the building face along Woodruff Street. A remote FDC has been included on the plans to replace existing FDC #1 and FDC #2 from their current location, in conjunction with the combined fire/domestic service relocation. Further investigation into the entire hospital's fire protection system is currently underway. Initial indications are FDC's #1, 3, 4, 5 are all FDC connections to the SMC Hospital fire suppression system. FDC #2 serves the SMC kitchen and MRI/LINAC Oncology wing.

31. A turning movement diagram for the City Fire Department Ladder Truck shall be submitted by the applicant.
    Cancer Center Add./Sherman Street South Parking - A turning movement diagram for the City's FD Ladder truck is included with this submission.

32. The applicant must coordinate with the City Fire Department for the location of required Knox Boxes.
    Architect will notate/coordinate with Building Codes Office & Fire Department during Building Permit process.

33. The applicant shall submit an updated hydrant flow test and hydraulic fire flow analysis.
    Fire Flow Tests were completed on May 17, 2016. The Fire Flow Test Reports are attached and are included in the revised Engineering Report. Further analysis into the entire hospital's fire protection system demand flow needs is currently underway.

We anticipate that these responses and clarifications will enable the Planning Board to complete Site Plan review at the June 7, 2016 meeting. If there are any questions, please feel free to contact our office at your earliest convenience.

Sincerely,
Aubertine and Currier Architects, Engineers & Land Surveyors, PLLC

Matthew R. Morgia, P.E.
Civil Engineer

Attachments
Cc: Chris Bastien – Samaritan Medical Center

Tim Titus

From: Tracy, Michael J (HEALTH) [michael.tracy@health.ny.gov]
Sent: Thursday, May 05, 2016 11:03 AM
To: Tim Titus
Subject: RE: SMC Projects

Tim,

Based on the City's overview of construction and size of project, we would not require a review of the exterior water line. The interior of the work is another story but this would be handled by a different group.

Please call if you have any questions.

Mike

Michael Tracy, P.E.
Public Health Engineer 2
Watertown District Office

New York State Department of Health
317 Washington St., Watertown, NY 13601
P: 315-785-2277 F: 315-785-2600
michael.tracy@health.ny.gov
www.health.ny.gov

From: Tim Titus [mailto:tft@aubertinecurrier.com]
Sent: Wednesday, May 04, 2016 10:20 AM
To: Tracy, Michael J (HEALTH) <michael.tracy@health.ny.gov>
Subject: SMC Projects

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Mike,
We have a couple project for Samaritan Medical Center and are currently going thru the Site Plan Review process with the City. City Engineering has asked if either of the projects would have to go for review to NYSDOH or NYSDEC for the construction scheduled on the water and sanitary sewer. I have attached a couple of plans on the two projects. On both of these projects we needed to relocate the existing on-site utilities away from the proposed building addition foundation. The entire SMC facility is licensed for 290 beds, and there will be no increase in that bed count. Its anticipated that the sewer flows/water usage from the facility will not see an increase as a result of these projects.

Can you please confirm if NYSDOH review of the combined domestic water and fire service line improvements will be required?

Thanks,
Tim

Tim Titus

From: Rarick, David (DEC) [david.rarick@dec.ny.gov]
Sent: Thursday, May 05, 2016 2:14 PM
To: Tim Titus
Subject: RE: SMC Projects

Tim,

We will not need to review either of these sewer relocations. I really appreciate you and the City checking with us first, and ask that we continue to be consulted on future projects.

Thanks very much,
Dave

David Rarick, P.E.
Environmental Engineer

New York State Department of Environmental Conservation
Division of Water, Region 6
317 Washington Street, Watertown, NY 13601
P: 315-785-2513 | F: 315-785-2411
david.rarick@dec.ny.gov

From: Tim Titus [mailto:tft@aubertinecurrier.com]
Sent: Wednesday, May 04, 2016 10:12 AM
To: Rarick, David (DEC)
Subject: SMC Projects

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Dave,
We have a couple project for Samaritan Medical Center and are currently going thru the Site Plan Review process with the City. City Engineering has asked if either of the projects would have to go for review to NYSDOH or NYSDEC for the construction scheduled on the water and sanitary sewer. I have attached a couple of plans on the two projects. On both of these projects we needed to relocate the existing on-site utilities away from the proposed building addition foundation. The entire SMC facility is licensed for 290 beds, and there will be no increase in that bed count. Its anticipated that the sewer flows/water usage from the facility will not see an increase as a result of these projects.

Can you please confirm if NYSDEC review of the sanitary sewer improvements will be required?

Thanks,
Tim

Timothy F. Titus | Civil Designer
NYS WBE/DBE Certified | SBA Woman Owned Small Business (WOSB)

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GTS Consulting
1396 White Bridge Road
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May 15, 2016

Aubertine and Currier Architects, Engineers, & Land Surveyors, PLLC
522 Bradley Street
Watertown, NY 13601

Attn: Mr. Matthew Morgia, P.E.

Re: Pedestrian Study – Samaritan Medical Center – Woodruff Street Pedestrian Crossing Watertown, NY

Dear Mr. Morgia:

I have completed my review of the pedestrian operations associated with the Samaritan Medical Center (SMC) and the Woodruff Street North Parking Lot in Watertown, NY. This letter summarizes the work completed in this review as well as my findings/recommendations.

Project Understanding

The SMC has an existing 176 space parking lot on the north side of Woodruff Street that is primarily used by staff, although patients may use spaces also if available. While there are no painted crosswalks on Woodruff Street for people to cross between the parking lot and the SMC, there are existing pedestrian ramps to cross to the eastern side of the medical office building (MOB) at the east parking lot driveway. These ramps are associated with a temporary crossing that was permitted a number of years ago, which were never removed. The SMC has estimated that roughly half of the people using the parking lot are using this existing crossing location with the other half crossing at various locations on Woodruff Street near the western side of the MOB to access services staff entrance.

The SMC has a planned Cancer Center to the west of the MOB which will further attract people crossing at the western side of the MOB to access the staff entrance at the rear of the Cancer Center building. There is also a 118 space parking expansion planned to the Woodruff Street lot to the west of the existing lot.

An overall site development plan, prepared by Aubertine and Currier Architects, Engineers and Land Surveyors, PLLC, dated April 19th, 2016, has been attached. This plan shows a proposed additional pedestrian crossing at the west side of the MOB.

Data Collection

Site visits were conducted on Wednesday, May 11th, 2016 to collect the following:

- Traffic Volume Counts – Traffic turning movement counts were collected at both the east and west parking lot driveways between 6:15-8:15 am and 3:15-5:15pm as these periods were identified by the SMC has peak "turnover" times for staff.

- Pedestrian Volumes – Pedestrian volumes crossing Woodruff Street between the parking lot and the SMC were recorded throughout the count periods.

Re: Pedestrian Study – Samaritan Medical Center – Woodruff Street Pedestrian Crossing Watertown, NY

- Woodruff Street Gap Data – Woodruff Street is approximately 30 feet wide. With an average pedestrian walking speed of 3.5 feet per second, a person needs approximately 8-9 seconds to cross Woodruff Street safely. Gaps in traffic on Woodruff Street between the two existing driveways were collected during the traffic count periods to identify the number of gaps available for pedestrians to safely cross Woodruff Street.

- Geometric Information – Data such as roadway width, speed limits and control signage was collected in the area of the parking lot.

2016 Existing Operations

Based on traffic and pedestrian counts collected, the peak hours were identified as follows:

Morning Peak Hour – 6:45am to 7:45am
Afternoon Peak Hour – 3:45pm to 4:45pm

The 2016 existing vehicular and pedestrian traffic volumes observed during the peak hours are shown in the attached Figure 1. In general, traffic volumes are relatively low on Woodruff Street with less than 100 vehicles observed in either direction during both peak hours. There were approximately 60-70 vehicles entering the Woodruff Street North Parking Lot during the morning peak hour and exiting during the afternoon peak hour.

There were 98 pedestrians observed crossing Woodruff Street during the morning peak hour and 72 pedestrians observed during the afternoon peak hour. Pedestrians were identified to be crossing Woodruff Street at three primary locations, the existing crossing location near the east driveway (42 in the morning and 36 in the afternoon), at the western driveway location (42 in the morning and 18 in the afternoon), and through the landscaped median at the west side of the MOB (14 in the morning and 18 in the afternoon).

The results of the gap analysis indicate that there are approximately 15-20 available gaps in traffic of 9 seconds or longer on Woodruff Street during each 15 minute interval for a total of more than 60 available gaps during each peak hour. This shows that there is at least one available gap per minute to safely cross Woodruff Street without vehicular conflict. It is also noted that regardless of where pedestrians looked to cross Woodruff Street, motorists almost universally yielded to let them cross. The gap data is attached.

Given the relatively low traffic volumes, excess of available gaps, and lack of defined pedestrian crossings on Woodruff Street, pedestrians are crossing at the most convenient locations. Since the driveways provide a clear connection from the parking lot to the street, the majority of pedestrians are using whichever location that corresponds to the side of the MOB that they are walking to/from. Some pedestrians are not willing to walk to the west driveway, so they cut through the landscaping to access the west side of the MOB.

Projected Operations with Cancer Center and Expanded Parking

In addition to the proposed Cancer Center to the west of the MOB, the SMC is proposing the Woodruff Northwest Parking Lot, which will add 118 parking spaces on the north side of Woodruff Street, interconnected to the existing parking lot. This represents an approximate 67% increase in available parking on the north side

Re: Pedestrian Study – Samaritan Medical Center – Woodruff Street Pedestrian Crossing Watertown, NY

of the Woodruff Street. Given the increase in parking, it is assumed that both the vehicular traffic and pedestrian traffic associated with the north side parking will also increase by approximately 67%.

Figure 2 shows the estimated traffic and pedestrian volumes associated with the Woodruff Street North and Northwest Parking Lots after the expansion. With a third access driveway to parking area, it is assumed that all vehicular traffic will redistribute with approximately 50% using the driveway closest to their origin/destination and 25% using each of the other two driveways. With the increase in pedestrian traffic all located at the west end of the parking lot, there is no change to the existing volumes crossing at the east driveway expected. The additional pedestrian traffic is expected to be split with 90% crossing at the existing west driveway and 10% crossing through the landscaping at the west side of the MOB.

Recommendations

It is generally recommended that pedestrian crossings be provided at intersections to increase awareness for both motorists and pedestrians alike. Given that 50%-75% of the project pedestrian traffic will be crossing at or near the existing west parking lot driveway after the expansion, a second pedestrian crossing is recommended at this location. With 30-40 pedestrians using the existing crossing at the east driveway, this crossing should also remain.

To promote both safety and the use of the designated crossing locations, it is recommended that pedestrian crosswalks and warning signage be installed at both locations. Based on the gap data, signalized crossings or flashing beacons are not warranted or necessary at either location.

Conclusions

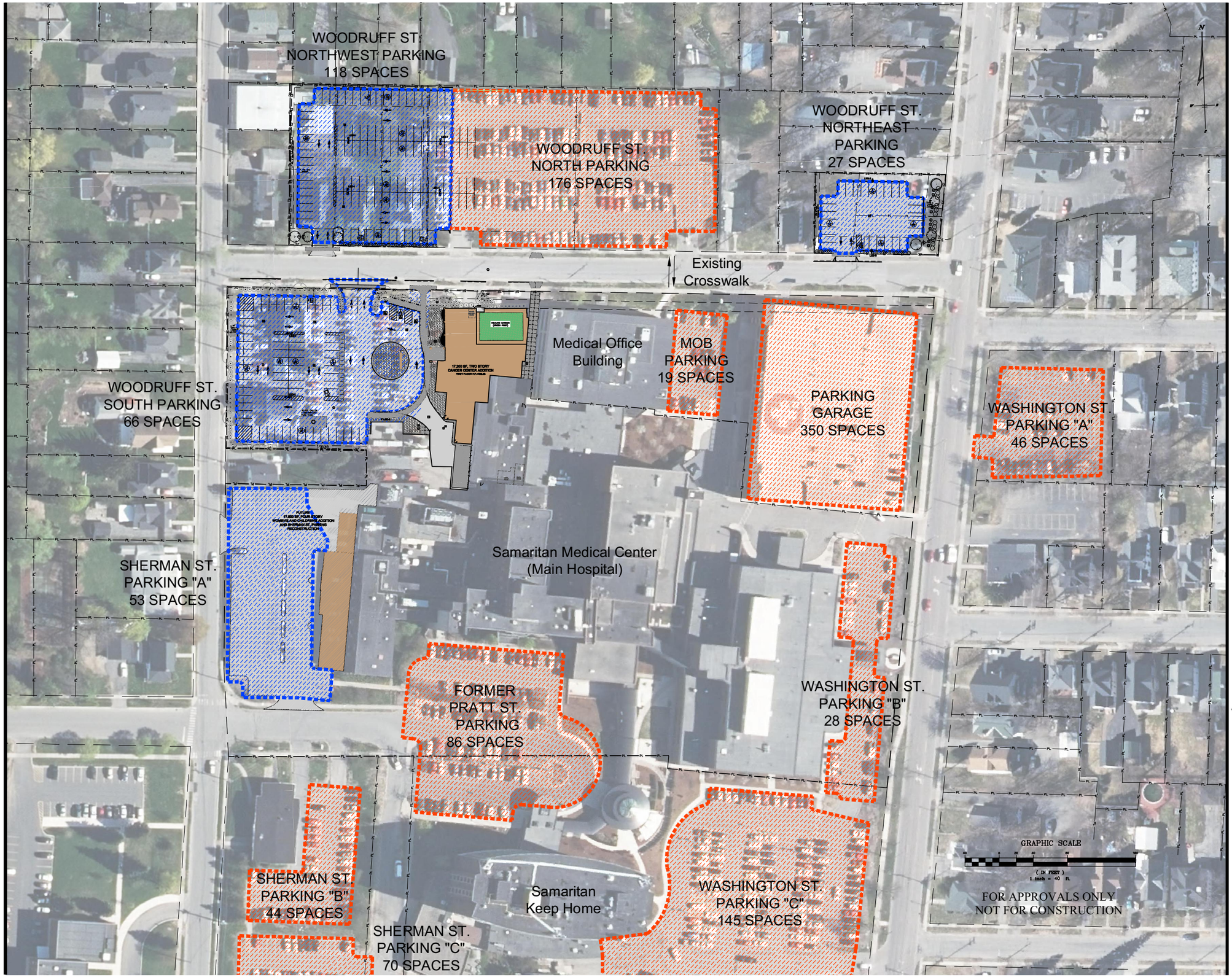
Traffic volumes are generally low on Woodruff Street, which result in pedestrians crossing at various locations based largely on convenience. With the proposed Cancer Center and parking expansion, pedestrian traffic crossing at the existing west driveway is expected to increase significantly. The end result is expected to be 30-40 pedestrians crossing at the eastern driveway and 80-120 pedestrians crossing at the west driveway during the peak hours. Striped crosswalks and pedestrian crossing signage should be provided at both the existing east and west driveways to better define crossing locations for both pedestrians and motorists. This will provide safer overall operations at the Samaritan Medical Center.

Thank you for the continued opportunity to provide traffic engineering services for Aubertine and Currier. If you have any questions or need additional information, please call.

Sincerely,

Gordon T. Stansbury, P.E., P.T.O.E.
GTS Consulting

Attachments Overall Site Development Plan
Figures 1-3
Gap Data



SLAM
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Drawn
TFT
Checked
MRM

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SAMARITAN HEALTH COMPREHENSIVE

CANCER CENTER
830 Washington Street
WATERTOWN, NY 13601

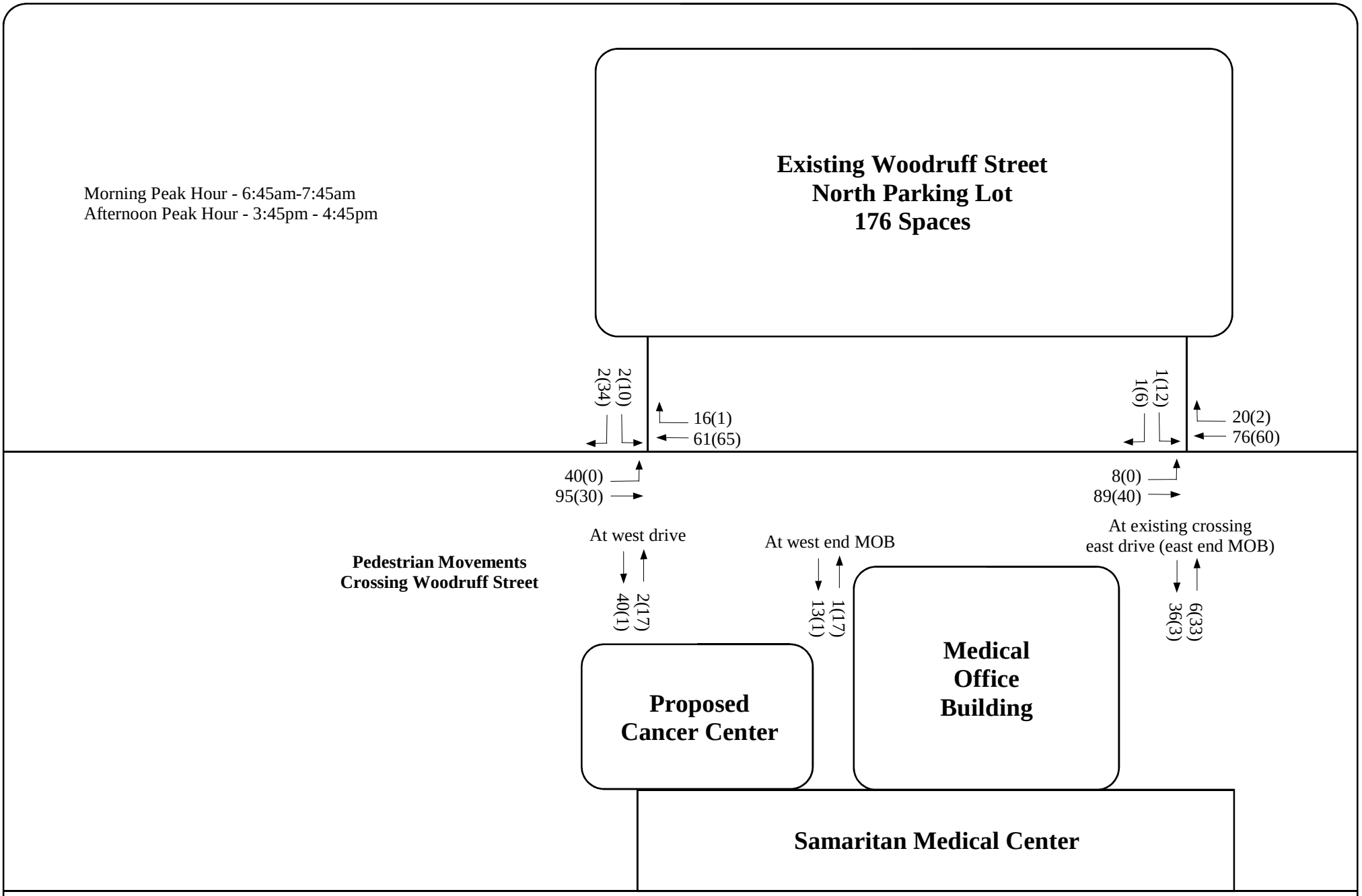
Number	Date	Issued For
1	XXXXXXX	ISSUED FOR -

OVERALL SITE DEVELOPMENT PLAN

Date
04/19/2016
Scale
AS NOTED
Proj. Number
2015-174

Drawing Number
CS-100

Z:\Projects\2015\2015-174 SLAM Collaborative- SMC Woodruff St North and South Parking Lots\dwg\2015-174 Site.dwg May 04, 2016 - 9:26 AM



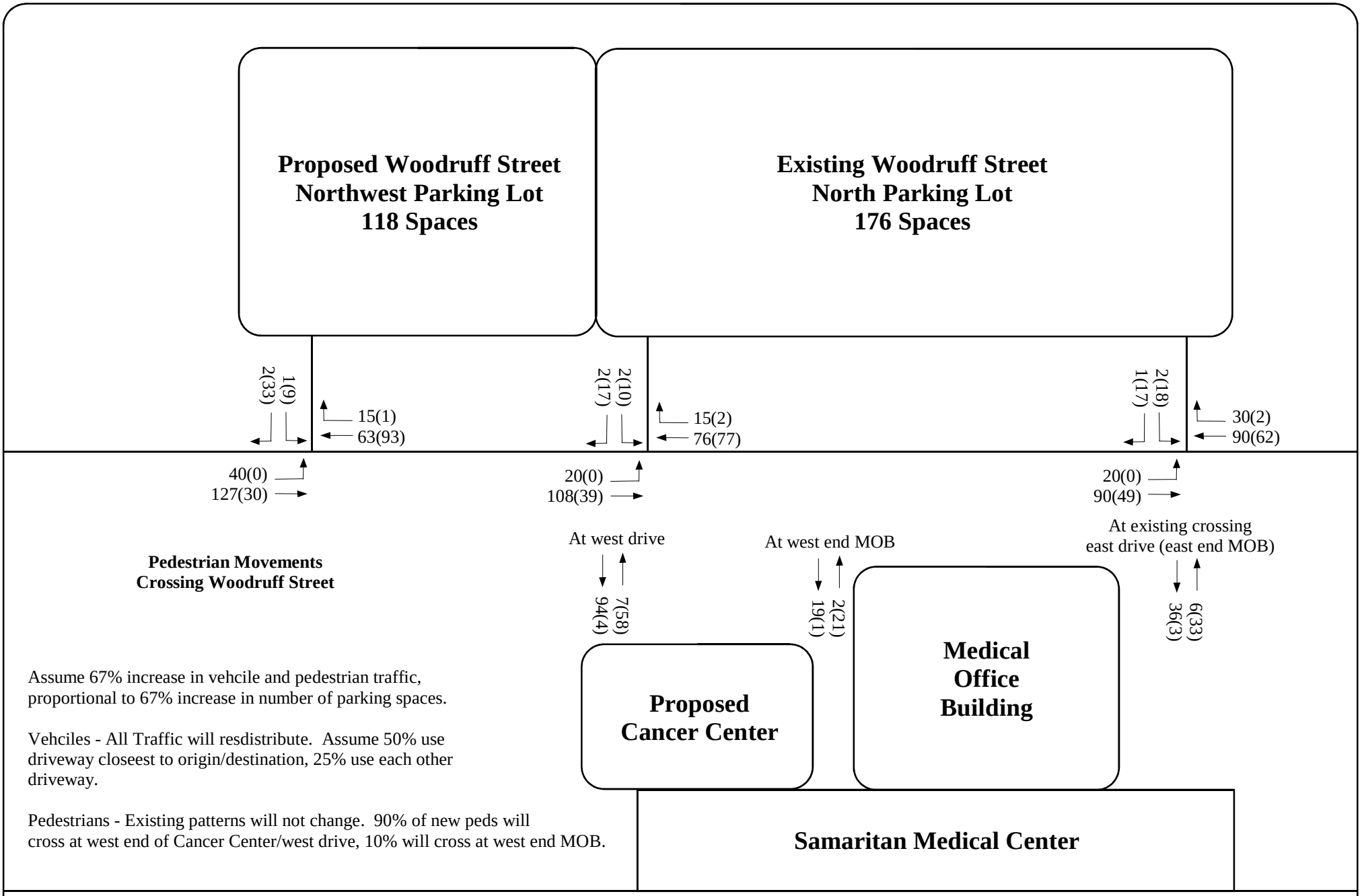
Samiritan Medical Center - Woodruff Street Pedestrian Crossing Review

2016 Existing Vehicle and Pedestrian Volumes - Woodruff Street North Parking Lot
Morning (Afternoon) Peak Hours

N
W E

GTS Consulting

Figure 1



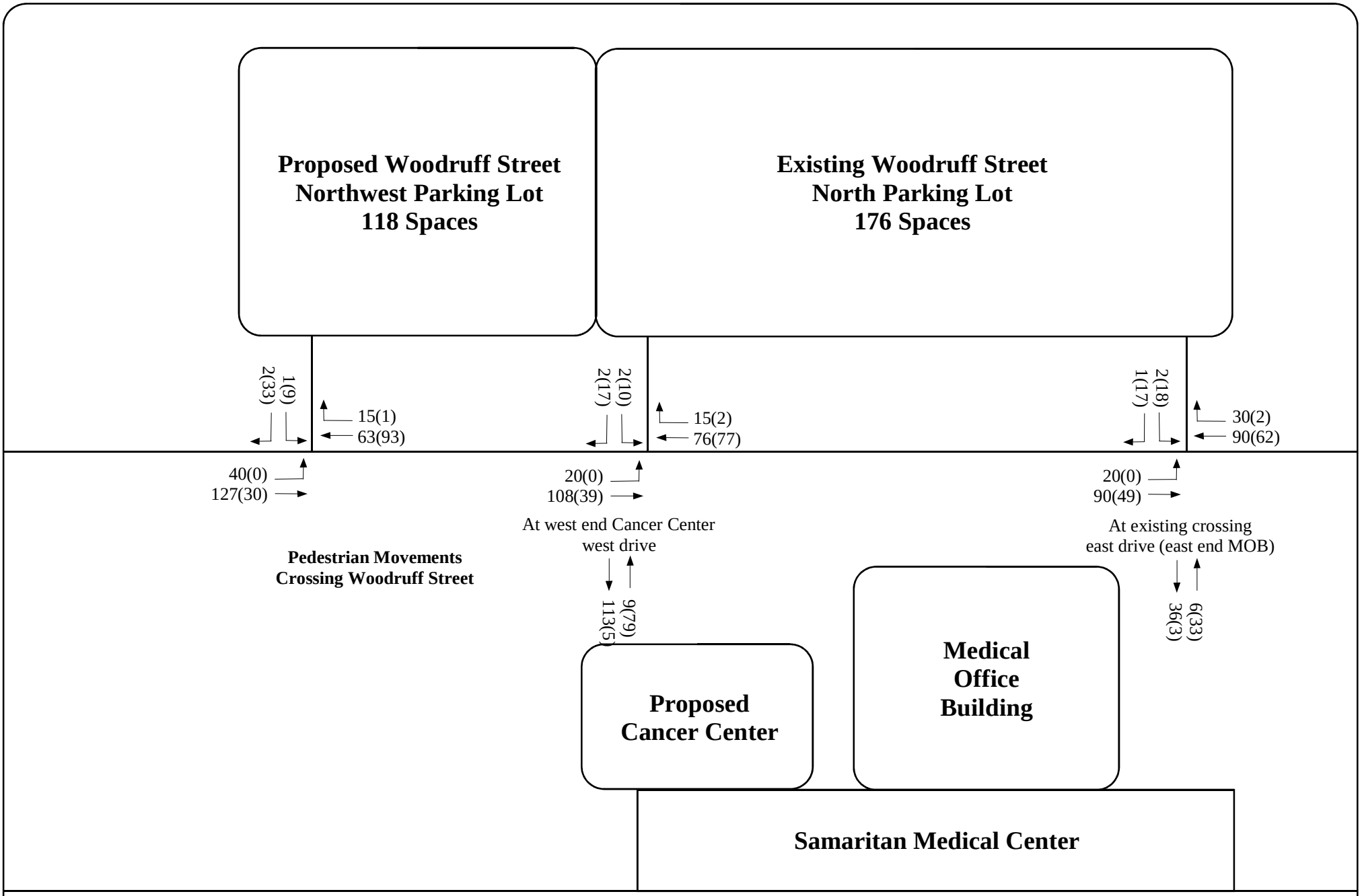
Samiritan Medical Center - Woodruff Street Pedestrian Crossing Review

Projeced Vehicle and Pedestrian Volumes - Woodruff Street North Parking Lot(s) - Without Defined Crossing(s)
Morning (Afternoon) Peak Hours

N
W E

GTS Consulting

Figure 2



Samiritan Medical Center - Woodruff Street Pedestrian Crossing Review

Projeced Vehicle and Pedestrian Volumes - Woodruff Street North Parking Lot(s) - With Defined Crossing at Each Side of MOB
Morning (Afternoon) Peak Hours

N
W E

GTS Consulting

Figure 3

Intersection Gap Study

GTS Consulting

Project: Samaritan Medical Center - Woodruff Street Pedestrian Crossing Review
Date: 5/11/2016

Location: Woodruff Street
Movement: Pedestrians Crossing between Parking and the M.O.B.

Time Interval		8-9 sec x 1	10-13 sec x 2	14-17 sec x 3	18-19 sec x 4	20-23 sec x 5	24-25 sec x 6	26-29 sec x 7	>29 sec x 8	Interval Total	Hour Total
Morning Peak											
6:45-7:00am	# of Gaps	4	4	8	1	2	1	1	0	21	
7:00-7:15am	# of Gaps	3	6	2	2	4	1	1	1	20	
7:15-7:30am	# of Gaps	3	3	3	2	1	0	4	0	16	
7:30-7:45am	# of Gaps	4	4	4	3	1	1	3	1	21	78
Evening Peak											
3:45-4:00pm	# of Gaps	2	2	8	0	2	2	1	3	20	
4:00-4:15m	# of Gaps	0	3	1	2	1	0	3	3	13	
4:15-4:30pm	# of Gaps	2	5	3	2	0	2	3	2	19	
4:30-4:45pm	# of Gaps	1	1	2	1	1	1	2	3	12	64

HYDRANT FLOW TEST REPORT

Location Woodruff Street South (Test #1) Date 05/17/2016

Test made by Matt Morgia and Tim Titus Time 8:17 am

Representative of Aubertine and Currier PLLC

Witness Dave O'brien (City of Watertown)

Purpose of Test Fire Flow Test of water service entering near FDC #1 located near the SMC Maintenance Room

Consumption rate during test 1115

If pumps affected test, indicate pumps operating n/a

Flow Hydrants	A_1	A_2	A_3	A_4	
Elevation	485.5				
Size Nozzle	2 1/2"				
Pitot Reading	1115				
Discharge Coefficient	1x				**TOTAL GPM**
gpm	1115				1115

Static B 63 psi Residual B 54 psi

Elevation 486.5 ft

Projected results: @20 psi residual 2,670 gpm or @ _____ psi residual _____ gpm

Remarks: Flow hydrant is located on SMC property near Oxygen tank. Static/Residual hydrant is located along Woodruff Street north of Medical Office building.

Location map: Show sizes and distances to next cross-connected line. Show valves and hydrant branch size. Indicate north. Show flowing hydrants and label as A_1, A_2, A_3, A_4. Show location of static and residual and label as **B**.

Indicate **B**: Hydrant ☑ Sprinkler ☐ Other (identify) _____

Aubertine and Currier Architects, Engineers & Land Surveyors, PLLC (315) 782-2005
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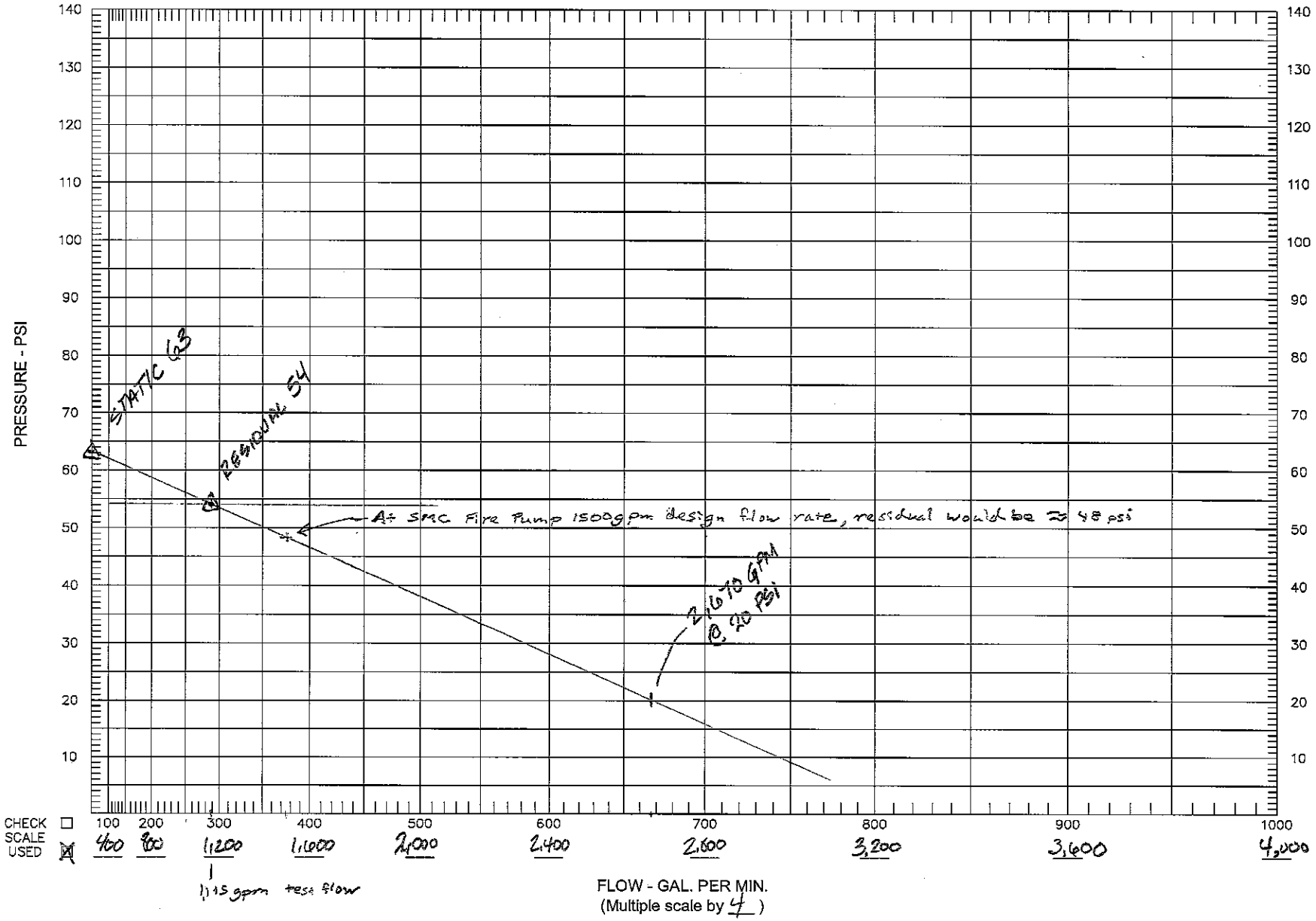
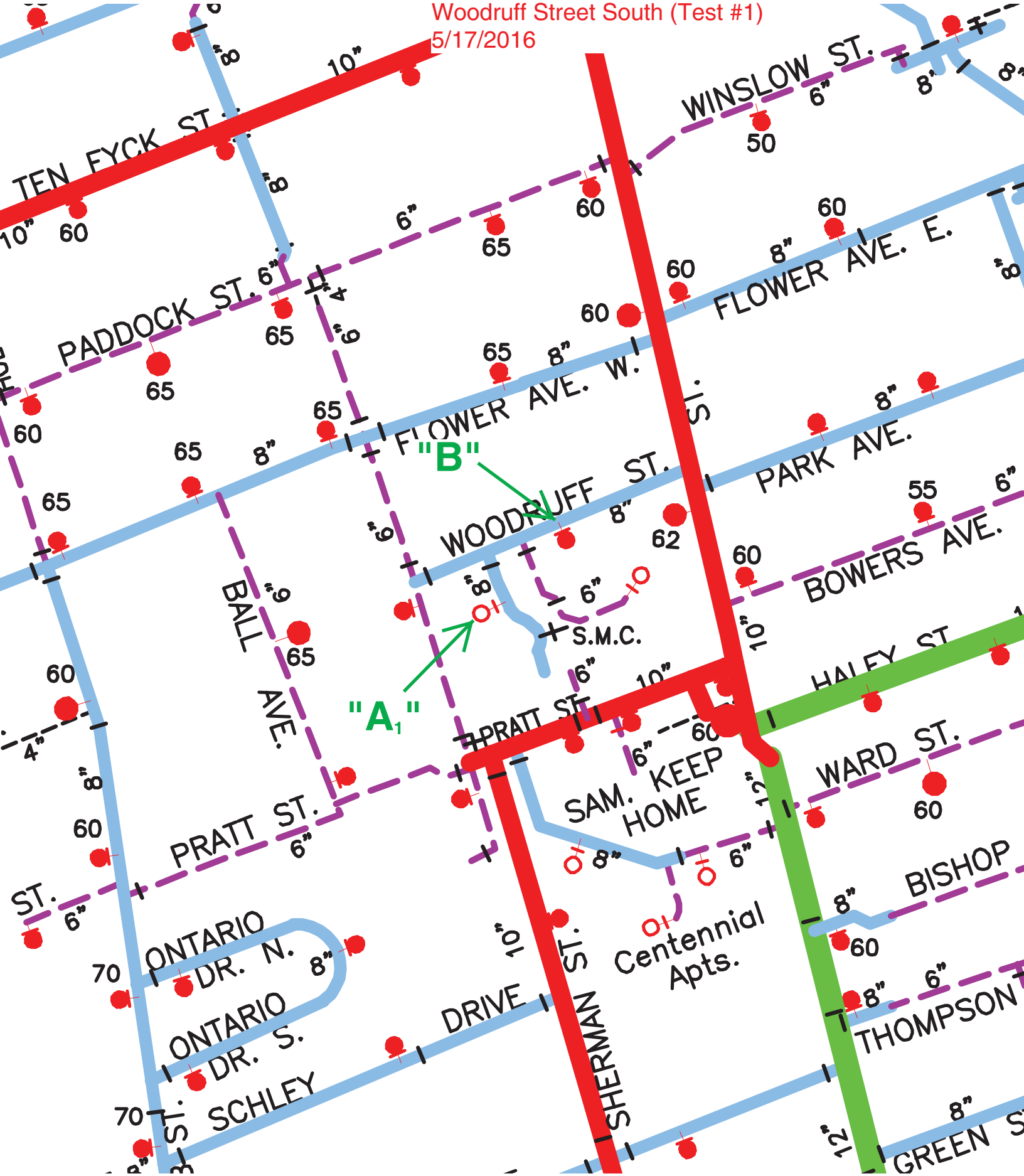
Fax: 315-782-1472
Web: www.aubertinecurrier.com

Project No. 2015-174
Project Name. SAMARITAN MEDICAL CENTER
Date 5/17/2016 Time 8:17 AM
Hydrant Test #1 WOODRUFF STREET SOUTH



Woodruff Street South (Test #1)
5/17/2016



HYDRANT FLOW TEST REPORT

Location Woodruff Street South (Test #2) Date 05/17/2016

Test made by Matt Morgia and Tim Titus Time 8:30 am

Representative of Aubertine and Currier PLLC

Witness Dave O'brien (City of Watertown)

Purpose of Test Fire Flow Test of FDC #1 located near the SMC Maintenance Room

Consumption rate during test 1650

If pumps affected test, indicate pumps operating n/a

Flow Hydrants	A_1	A_2	A_3	A_4	
Elevation	485.5	487.0			
Size Nozzle	2 1/2"	2 1/2"			
Pitot Reading	950	700			
Discharge Coefficient	1x	1x			**TOTAL GPM**
gpm	950	700			1650

Static B 63 psi Residual B 39 psi

Elevation 486.5 ft

Projected results: @20 psi residual 2,220 gpm or @ _____ psi residual _____gpm

Remarks: Flow hydrant A1 is located on SMC property near Oxygen tank. Flow hydrant A2 is located along Woodruff Street between Medical Office Building and Parking Garage.

Static/Residual hydrant is located along Woodruff Street north of Medical Office Building

Location map: Show sizes and distances to next cross-connected line. Show valves and hydrant branch size. Indicate north. Show flowing hydrants and label as A_1, A_2, A_3, A_4. Show location of static and residual and label as **B**.

Indicate **B**: Hydrant ☑ Sprinkler ☐ Other (identify) _____

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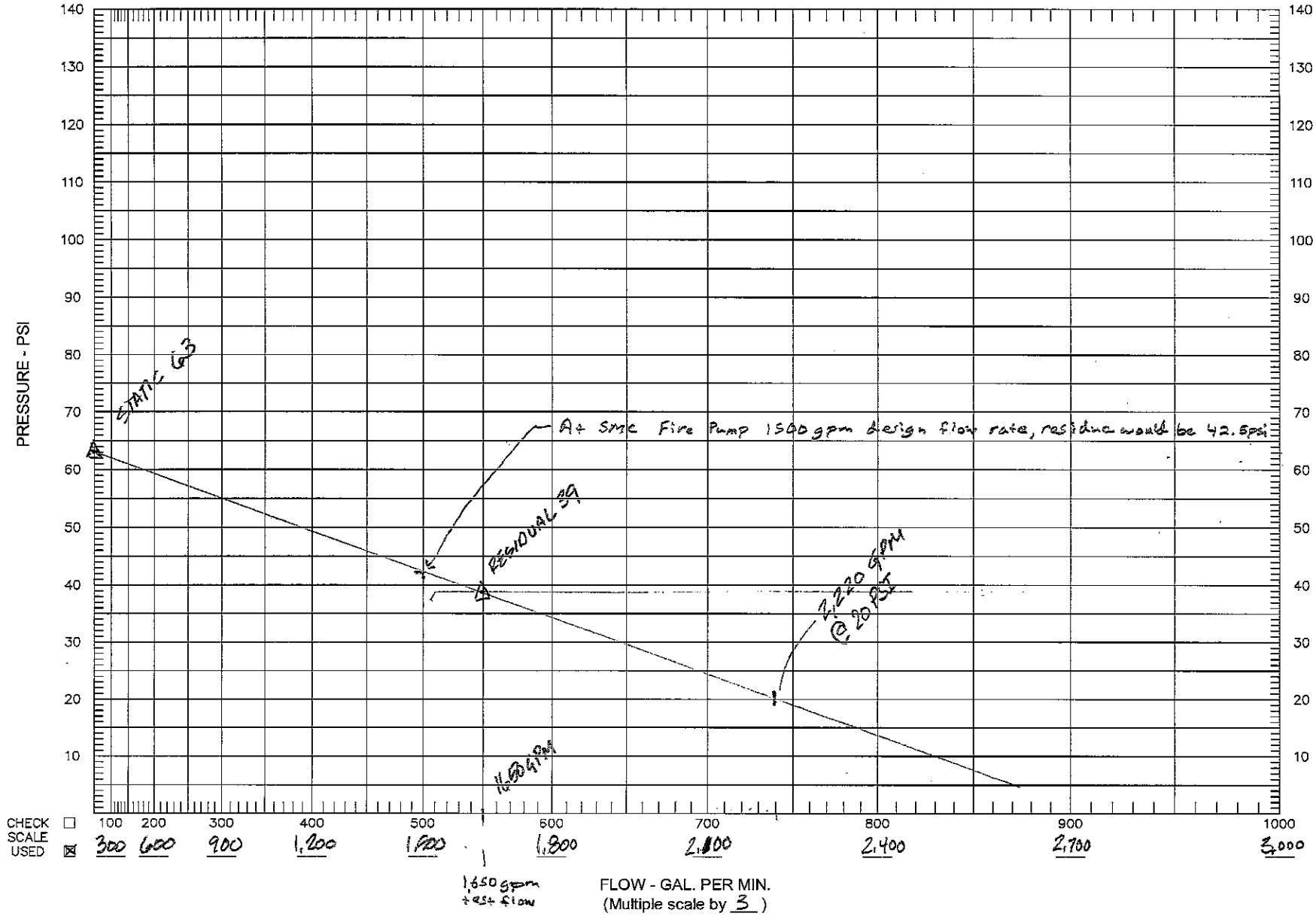
Project No. 2015-174

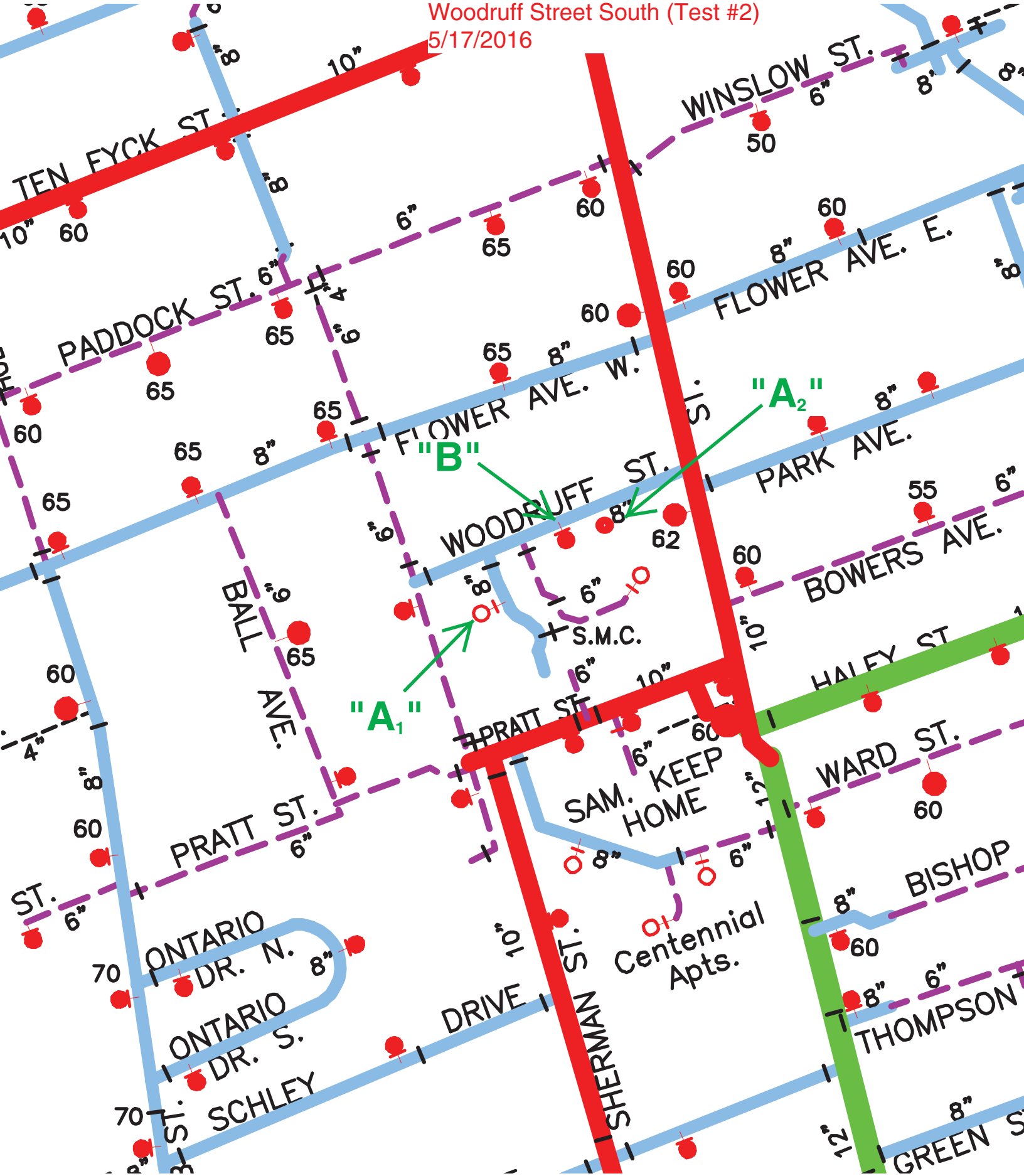
Project Name. SAMARITAN MEDICAL CENTER

Date 5/17/2016 Time 8:30 AM

Hydrant Test #2 WOODRUFF STREET SOUTH



Woodruff Street South (Test #2)
5/17/2016



HYDRANT FLOW TEST REPORT

Location Sherman Street West (Test #3) Date 05/17/2016

Test made by Matt Morgia and Tim Titus Time 8:50 am

Representative of Aubertine and Currier PLLC

Witness Dave O'brien (City of Watertown), Mark Cote, (SMC)

Purpose of Test Fire Flow Test Along Sherman Street

Consumption rate during test 1095

If pumps affected test, indicate pumps operating n/a

Flow Hydrants	A_1	A_2	A_3	A_4	
Elevation	484.5				
Size Nozzle	2 1/2"				
Pitot Reading	1095				
Discharge Coefficient	1x				**TOTAL GPM**
gpm	1095				1095

Static B 63 psi Residual B 58 psi

Elevation 486.5 ft

Projected results: @20 psi residual 3,340 gpm or @ _____ psi residual _____gpm

Remarks: An appropriate static/residual hydrant test location was not available. The static/residual hydrant utilized is not able to provide accurate results for interpolation of Sherman Street system strength.

Location map: Show sizes and distances to next cross-connected line. Show valves and hydrant branch size. Indicate north. Show flowing hydrants and label as A_1, A_2, A_3, A_4. Show location of static and residual and label as **B**.

Indicate **B**: Hydrant ☑ Sprinkler ☐ Other (identify) _____

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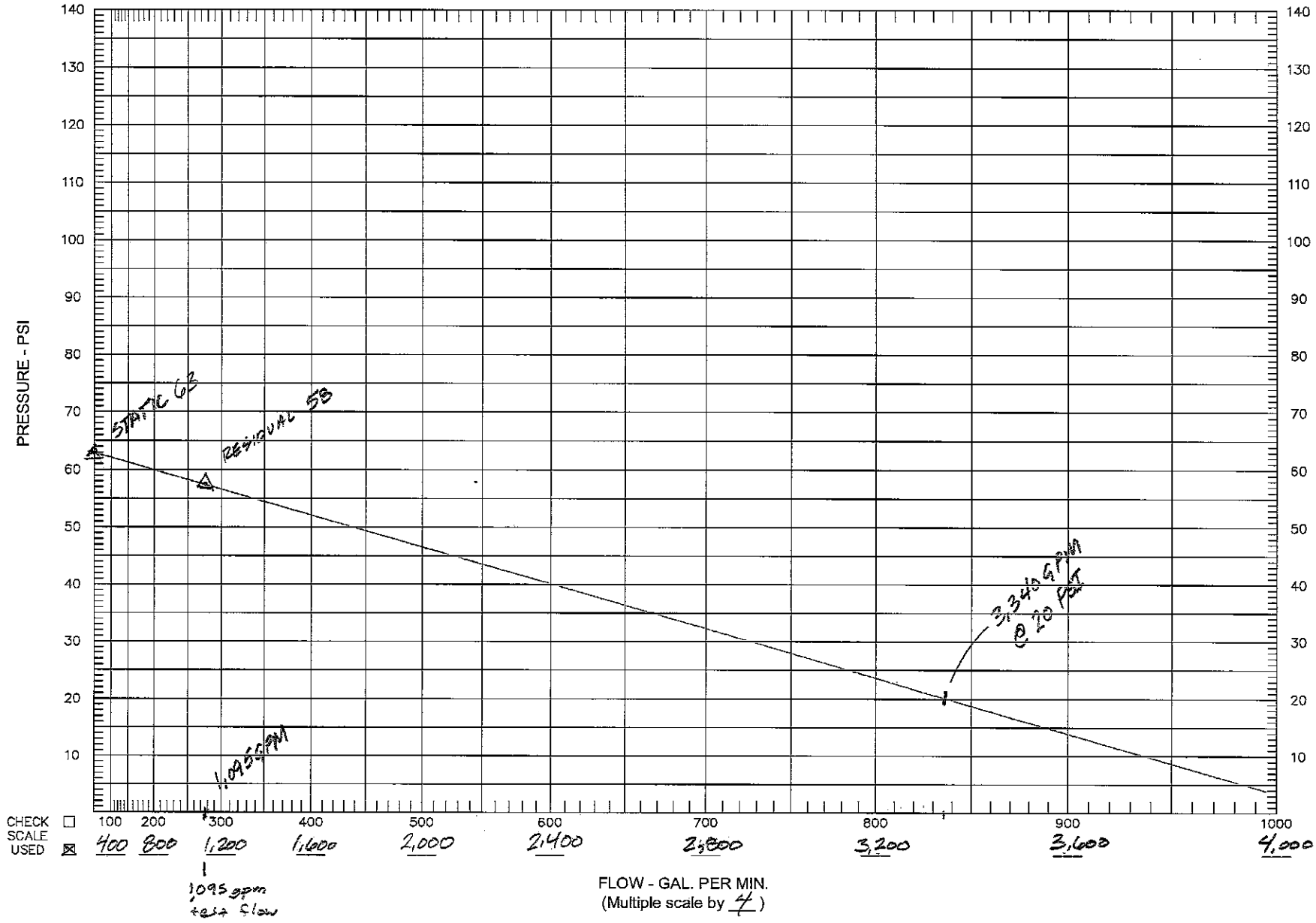
Project No. 2015-174
Project Name. SAMARITAN MEDICAL CENTER
Date 5/17/2016 Time 8:50 AM
Hydrant Test #3 SHERMAN STREET WEST



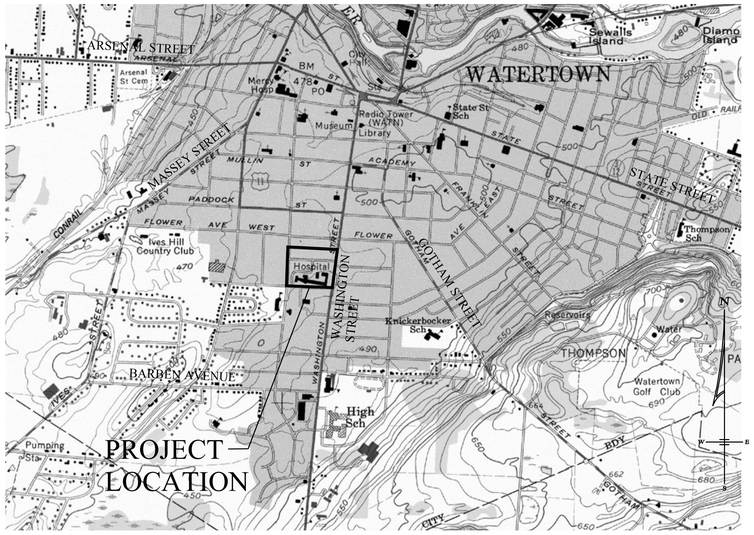
Sherman Street West (Test #3)
5/17/2016

SAMARITAN HEALTH

WOODRUFF STREET NORTHEAST PARKING

CITY OF WATERTOWN
JEFFERSON COUNTY, STATE OF NEW YORK

PRELIMINARY SITE PLANS:05/24/2016



INDEX OF DRAWINGS

C-001	COVER SHEET
CS-100	OVERALL SITE DEVELOPMENT PLAN
CC-102	CONSTRUCTION AND EROSION AND SEDIMENT CONTROL PLAN
CD-102	EXISTING CONDITIONS AND DEMOLITION PLAN
CS-102	SITE AND LANDSCAPING PLAN
CG-102	GRADING AND DRAINAGE PLAN
CP-102	SITE PHOTOMETRIC PLAN
CS-500	SITE DETAILS
CG-500	STORM SEWER AND EROSION AND SEDIMENT CONTROL DETAILS

OWNER

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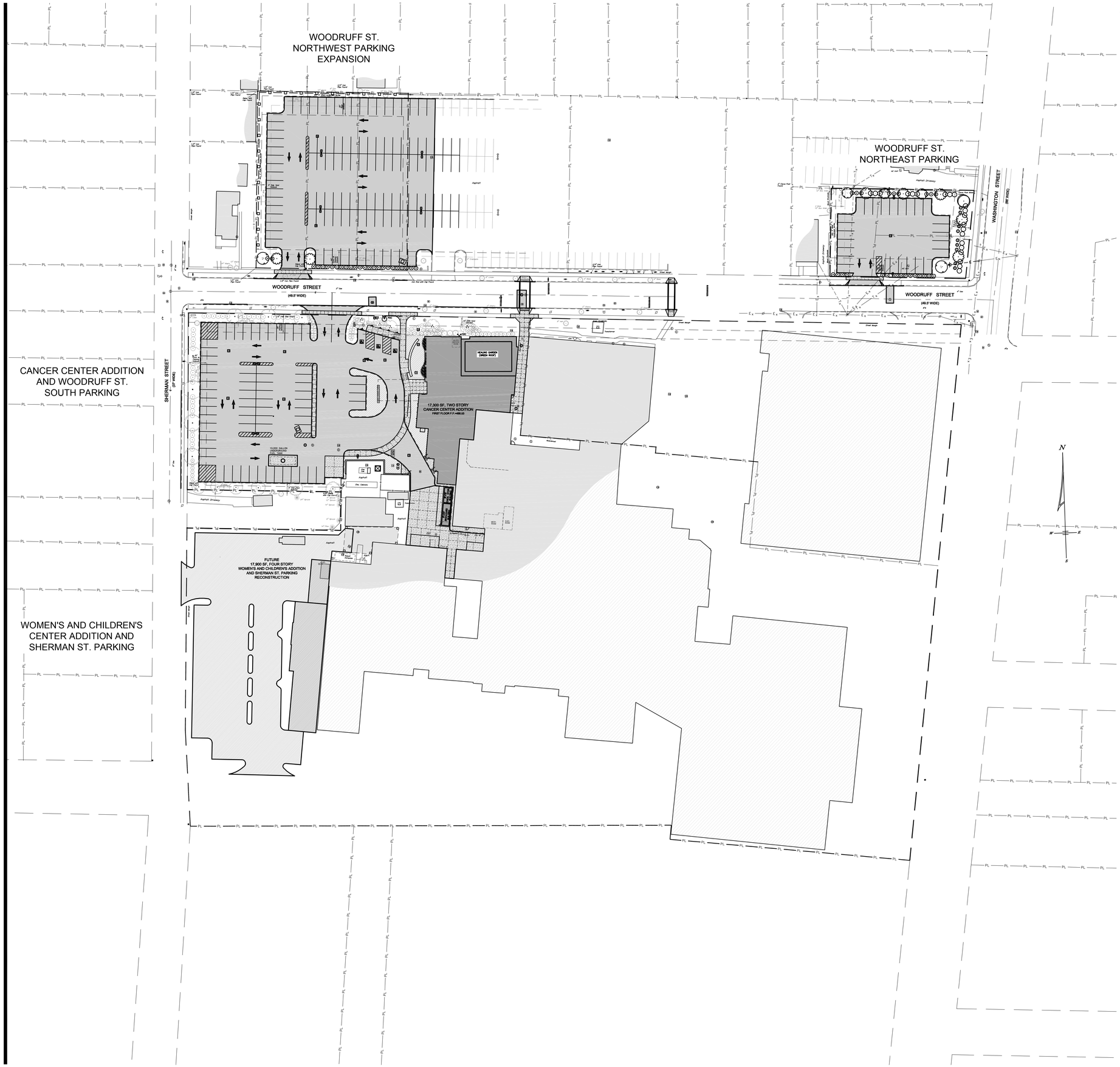
Number	Date	Issued For

COVER SHEET

WOODRUFF ST. NORTHEAST

Date: 05/24/2016
Scale: AS NOTED
Proj. Number: 2015-174
Drawing Number: **C-001**



GENERAL NOTES:

1. UNDERGROUND FACILITIES, STRUCTURES AND UTILITIES HAVE BEEN PLOTTED FROM AVAILABLE SURVEYS AND RECORDS, AND THEREFORE THEIR LOCATIONS MUST BE CONSIDERED APPROXIMATE ONLY. THERE MAY BE OTHERS, THE EXISTENCE OF WHICH IS PRESENTLY NOT KNOWN. PRIOR TO CONSTRUCTION CONTACT UNDERGROUND UTILITIES CALL CENTER OF NEW YORK FOR EXACT LOCATION OF ALL UNDERGROUND UTILITIES, (1-800-962-7962). CONTRACTOR IS RESPONSIBLE FOR LOCATING AND WORKING WITH THE APPROPRIATE UTILITY COMPANIES PRIOR TO CONSTRUCTION.
2. THE ONSITE TOPOGRAPHIC, UTILITY, AND PLANIMETRIC SURVEY FOR THE PROJECT AREA WAS CONDUCTED BY AUBERTINE AND CURRIER, PLLC IN NOVEMBER AND DECEMBER OF 2015 AND IN JANUARY AND FEBRUARY OF 2016. UTILITY LOCATIONS WERE PLOTTED FROM DRAWINGS OF MULTIPLE PROJECTS THAT ARE ON FILE IN THE CITY ENGINEERING DEPARTMENT. VERTICAL DATUM IS BASED ON NAVD88 DATUM AND THE HORIZONTAL DATUM IS BASED ON NAD83 (2011).
3. ALL OUT-OF-SCOPE AREAS DISTURBED BY THE CONTRACTOR'S OPERATIONS WILL BE RESTORED TO CONDITIONS EQUAL TO OR BETTER THAN THAT PRIOR TO CONSTRUCTION. OUTSIDE OF PROPERTY BOUNDARIES AND EASEMENT AREAS THE CONTRACTOR IS REMINDED THAT HE MUST OBTAIN WRITTEN AUTHORIZATION TO USE PRIVATE PROPERTY AND ASSUMES ALL LIABILITY HIMSELF.
4. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING THE CHARACTERISTICS AND EXTENT OF SUBSURFACE SOILS, ROCK, WATER TABLE LEVELS, ETC., PRIOR TO BIDDING.
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND BONDS NECESSARY TO OBTAIN SAID PERMITS WHERE APPLICABLE.
6. SITE CONTRACTOR TO PROVIDE EROSION AND DUST CONTROL AS REQUIRED.
7. A LICENSED LAND SURVEYOR SHALL BE RETAINED FOR ALL UTILITY AND FIELD STAKEOUT AT THE CONTRACTORS EXPENSE.
8. PAVED AREAS WILL BE SAWCUT PRIOR TO EXCAVATION AND PAVING OPERATIONS. SAW CUT AREAS WILL BE TACK COATED PRIOR TO PAVING. TACK COAT SHALL MEET THE REQUIREMENTS OF ASPHALT EMULSION FOR TACK COAT, NYSDOT TABLE 702-9.
9. CONTRACTOR SHALL MAINTAIN ALL EROSION CONTROL MEASURES THROUGHOUT CONSTRUCTION UNTIL ESTABLISHMENT OF VEGETATIVE COVER. RUN-OFF CONTAINING SEDIMENTS FROM DISTURBED AREAS OF THE SITE SHALL NOT BE ALLOWED DIRECTLY INTO NATURAL STREAM CHANNELS.
10. ALL TREES AND WETLANDS TO REMAIN SHALL BE PROTECTED BY THE CONTRACTOR. CONSTRUCTION ACTIVITIES ADJACENT TO TREES SHALL BE CONDUCTED TO REDUCE THE IMPACT TO TREES TO THE MAXIMUM EXTENT PRACTICAL. ANY DAMAGE TO EXISTING TREES SHALL BE REPAIRED OR THE TREE REPLACED, AS DIRECTED BY THE OWNER AT THE CONTRACTORS EXPENSE.
11. CONTRACTOR SHALL PERFORM ALL ROADWAY CONNECTION WORK IN ACCORDANCE WITH NYSDOT SPECIFICATIONS. ALL ROADWAY WORK SHALL BE IN ACCORDANCE WITH NYSDOT MAINTENANCE AND PROTECTION OF TRAFFIC REGULATIONS, INCLUDING FLAGMEN, BARRICADES, WARNING SIGNS/LIGHTS, ETC., WHERE WARRANTED.
12. CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVAL AND PROPER DISPOSAL, AT A NYSDEC ACCEPTABLE LOCATION, OF ALL MATERIALS NOT REUSED AS TRENCH BACKFILL.
13. EXCAVATIONS SHALL BE TO DEPTHS SHOWN ON DRAWINGS. ALL UNSTABLE OR UNSUITABLE MATERIAL SHALL BE EXCAVATED AND REMOVED TO SUCH DEPTH AS REQUIRED TO PROVIDE SUFFICIENT BEARING CAPACITY. OVEREXCAVATED AREAS SHALL BE BACKFILLED WITH SUITABLE MATERIAL.
14. COMPACTION OF PIPE BEDDING AND BACKFILL MATERIAL SHALL BE BY MEANS OF HAND-GUIDED POWER DRIVEN OR DRUM-TYPE OR PLATE TAMPERS. BACKFILLING SHOULD PROCEED IN ACCORDANCE WITH LIFT THICKNESSES AND COMPACTION REQUIREMENTS AS SHOWN ON THE DRAWINGS. UNLESS OTHERWISE NOTED ON THE DRAWINGS, COMPACTION REQUIREMENTS REFER TO PERCENT OF MAXIMUM DRY DENSITY AS DETERMINED IN ACCORDANCE WITH ASTM STANDARD D1557 METHOD "C". CARE SHOULD BE TAKEN TO SHAPE PIPE BEDDING TO FIT THE LOWER PART OF THE PIPE. BACKFILLING AND COMPACTION SHOULD PROGRESS EVENLY ALONG THE PIPE SIDEWALLS AND TO THE TOP OF PIPE BEDDING.
15. THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF ANY DISCREPANCIES OF DIMENSIONS, ELEVATIONS AND LOCATIONS DURING PRECONSTRUCTION FIELD VERIFICATION. SUCH INFORMATION SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER FOR VERIFICATION OR MODIFICATION OF THE PLANS.
16. THE CONTRACTOR SHALL PROVIDE AS-BUILT RECORD DRAWINGS INCLUDING, AS A MINIMUM, THE FOLLOWING INFORMATION AS WELL AS ALL REQUIREMENTS OF THE SPECIFICATION:
    - RECORD OF ALL UTILITIES ENCOUNTERED IN TRENCH EXCAVATION. INFORMATION SHALL INCLUDE DIAMETER OF UTILITY, DEPTH OF BURIAL AND LOCATION WITH REFERENCE TO NEAREST STRUCTURE SHOWN ON DRAWINGS. THIS INFORMATION SHALL BE KEPT CURRENT ON A WEEKLY BASIS. FAILURE TO DO SO MAY RESULT IN WITHHOLDING OF PAYMENTS.
    - DISTANCE TIES TO ALL MANHOLES, CLEANOUTS, BENDS AND CORPORATION STOPS.
    - UTILITY REPAIRS, SIDEWALK, AND DRIVEWAY REPLACEMENTS CENTERLINE.
    - STATIONS OF BENDS, CLEANOUTS, VALVES AND CORPORATION STOPS.
    - DENOTE BENCH MARK REFERENCE USED.
    - PERIODIC OFFSETS.
    - RECORD DETAILS NOT SHOWN ON THE ORIGINAL CONTRACT DOCUMENTS. ANY FIELD CHANGES OF DIMENSIONS AND DETAILS AND ANY CHANGES MADE BY CHANGE ORDER OR FIELD ORDER.
    - CERTIFICATE OF SUBSTANTIAL COMPLETION SHALL NOT BE ISSUED UNTIL AS-BUILT INFORMATION IS ACCEPTABLE.
    - PROVIDE TWO (2) SETS OF FINAL COMPLETE RECORD DRAWINGS. CONTRACTOR SHALL FURNISH AS-BUILT DATA ON PLAN SHEETS.
17. UPON COMPLETION OF STORM SEWER FACILITIES AND ESTABLISHMENT OF VEGETATION, THE NEW AND EXISTING STORM SYSTEMS RECEIVING RUNOFF FROM THIS SITE SHALL BE CLEANED OF DEBRIS. ONLY AT THIS TIME SHALL THE EROSION AND SEDIMENTATION CONTROL MEASURES BE REMOVED.
18. ALL WATER MAIN AND SERVICE WORK MUST BE COORDINATED WITH THE CITY OF WATERTOWN WATER DEPARTMENT. WATER DEPARTMENT REQUIREMENTS SUPERCEDE ALL OTHER PLANS AND SPECIFICATIONS PROVIDED.
19. ALL WORK TO BE PERFORMED WITHIN THE CITY OF WATERTOWN MARGIN WILL REQUIRE SIGN-OFF FROM A PROFESSIONAL ENGINEER, LICENSED AND CURRENTLY REGISTERED TO PRACTICE IN THE STATE OF NEW YORK, THAT THE WORK WAS BUILT ACCORDING TO THE APPROVED SITE PLAN AND APPLICABLE CITY OF WATERTOWN STANDARDS. COMPACTION TESTING WILL BE REQUIRED FOR ALL WORK TO BE PERFORMED WITHIN THE CITY OF WATERTOWN MARGIN AND MUST BE SUBMITTED TO THE CITY OF WATERTOWN CODES DEPARTMENT.

GRAPHIC SCALE

40 0 20 40 80 160

(IN FEET)
1 inch = 40 ft.

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OVERALL SITE DEVELOPMENT PLAN IS FOR INFORMATION AND ILLUSTRATION ONLY. SEE 1"=20' SCALE PLANS FOR CONSTRUCTION NOTES.

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SAMARITAN HEALTH COMPREHENSIVE

CANCER CENTER
830 Washington Street
WATERTOWN, NY 13601

Number	Date	Issued For
1	XXXXXXXXX	ISSUED FOR -

OVERALL SITE DEVELOPMENT PLAN

Date 05/24/2016
Scale AS NOTED
Proj. Number 2015-174
Drawing Number CS-100

Z:\Projects\2015\2015-174 SLAM Collaborative- SMC Woodruff St North and South Parking Lots\dwg\2015-174 Site.dwg May 24, 2016 - 9:48 AM

GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)
1 inch = 20 ft.

LEGEND	EXISTING	PROPOSED
5' CONTOUR	155	155
1' CONTOUR	154	154
PROPERTY LINE	PL	PL
RIGHT OF WAY		
SETBACK		
BUILDING		
ASPHALT PAVEMENT		
EDGE OF GRAVEL		
CURB		
SIDEWALK		
TREE LINE		
FENCE		
WATERLINE	W_X	W
SANITARY SEWER	SS_X	SS
STORM SEWER	SD_X	SD
OVERHEAD UTILITIES	OU_X	OU
UNDERGROUND UTILITIES	UU_X	UU
UNDERGROUND ELECTRIC	E_X	E
GAS	G_X	G
COMMUNICATION	CU_X	C
FUEL OIL	FO_X	FO
VENT PIPE	V_X	V
SANITARY MANHOLE	S	S
STORM MANHOLE	D	D
CATCH BASIN	CB	CB
FIRE HYDRANT	H	H
WATER VALVE	W	W
CURB STOP	W	W
GAS METER	G	
ELECTRIC METER	E	
FUEL OIL MANHOLE	F	
FUEL OIL FILL PORT	FP	
UTILITY POLE		
LIGHT POLE		
SIGN		
BOLLARD	BOL	BOL
TREES		

TEMPORARY MEASURES:

1. INSTALL SILT FENCE IN LOCATIONS INDICATED AND WHERE THERE IS THE POTENTIAL FOR OFFSITE RUNOFF TO OCCUR PRIOR TO ANY CONSTRUCTION WITHIN THOSE AREAS. FENCE MUST BE MAINTAINED AND MUST REMAIN IN PLACE UNTIL PROJECT HAS BEEN FINAL GRADED AND VEGETATION HAS BEEN ESTABLISHED.
2. CONSTRUCTION ENTRANCES SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OF SEDIMENT ONTO PUBLIC RIGHT OF WAY OR STREETS. ALL SEDIMENT SPILLED, DROPPED OR WASHED ONTO PUBLIC RIGHTS OF WAY MUST BE REMOVED IMMEDIATELY.
3. INLET PROTECTION SHALL BE INSTALLED AROUND CULVERTS AND CATCH BASINS FOLLOWING THEIR INSTALLATION.

— SF — SF — **SILT FENCE**

STABILIZED CONSTRUCTION ENTRANCE

INLET PROTECTION

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WATERTOWN, NY 13601

Number	Date	Issued For
1	XXXXXXXX	ISSUED FOR -

CONSTRUCTION AND EROSION AND SEDIMENT CONTROL PLAN WOODRUFF ST. NORTHEAST

Date 05/24/2016
Scale AS NOTED
Proj. Number 2015-174
Drawing Number **CC-102**

Z:\Projects\2015\2015-174 SLAM Collaborative- SMC Woodruff St North and South Parking Lots\dwg\2015-174 Site.dwg May 24, 2016 - 9:49 AM

GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)
1 inch = 20 ft.

LEGEND	EXISTING	PROPOSED
5' CONTOUR	155	155
1' CONTOUR	154	154
PROPERTY LINE	PL	PL
RIGHT OF WAY		
SETBACK		
BUILDING		
ASPHALT PAVEMENT		
EDGE OF GRAVEL		
CURB		
SIDEWALK		
TREE LINE		
FENCE	X	□
WATERLINE	W	W
SANITARY SEWER	SS	SS
STORM SEWER	SD	SD
OVERHEAD UTILITIES	OU	OU
UNDERGROUND UTILITIES	UU	UU
UNDERGROUND ELECTRIC	E	E
GAS	G	G
COMMUNICATION	CU	C
FUEL OIL	FO	FO
VENT PIPE	V	V
SANITARY MANHOLE	S	S
STORM MANHOLE	D	D
CATCH BASIN	CB	CB
FIRE HYDRANT		
WATER VALVE	W	W
CURB STOP	W	W
GAS METER	G	
ELECTRIC METER		
FUEL OIL MANHOLE	F	
FUEL OIL FILL PORT	FO	
UTILITY POLE		
LIGHT POLE		
SIGN		
BOLLARD	BOL	BOL
TREES		

GENERAL BUILDING DEMOLITION NOTES:

1. AN ASBESTOS DEMOLITION SURVEY REPORT WAS CONDUCTED ON THE PROPERTIES LOCATED AT 150,154,158 AND 161 WOODRUFF STREET AND 809 SHERMAN STREET BY AUBERTINE AND CURRIER, PLLC, DATED JANUARY 6, 2016 AND LAST REVISED MARCH, 23, 2016.
2. PRIOR TO ANY BUILDING DEMOLITION ON THESE PROPERTIES, ALL MATERIALS IN THE BUILDINGS THAT WERE IDENTIFIED IN THE REPORT AS ASBESTOS CONTAINING MATERIALS SHALL BE REMOVED IN ACCORDANCE WITH NEW YORK STATE LABOR LAW AND INDUSTRIAL CODE RULE 56.
3. IF ANY ADDITIONAL "SUSPECTED" ASBESTOS CONTAINING MATERIALS ARE ENCOUNTERED, NOTIFY THE ENGINEER, PRIOR TO CONTINUING WORK.
4. CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND PROVIDE PROPER INSURANCE.
5. TERMINATION OF EXISTING ELECTRIC, TELEPHONE AND CABLE SERVICES SHALL BE COORDINATED WITH THE APPROPRIATE UTILITY SERVICE PROVIDER.
6. TERMINATION OF EXISTING WATER AND SANITARY SEWER SERVICES SHALL BE COORDINATED WITH THE CITY OF WATERTOWN.
7. ALL BUILDING DEMOLITION DEBRIS SHALL BE REMOVED OFF SITE AND TRANSPORTED TO A LANDFILL APPROVED BY NEW YORK STATE.
8. BUILDING FOUNDATION SHALL BE REMOVED 3' BELOW GRADE. BASEMENTS SHALL BE FILLED WITH NYSDOT ITEM 304.12 AND COMPACTED TO 95% COMPACTION.
9. COMPACTION TEST RESULTS SHALL BE PROVIDE FOLLOWING THE CONSTRUCTION.

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Number	Date	Issued For
1	XX/XX/XXXX	ISSUED FOR -

EXISTING CONDITIONS PLAN

WOODRUFF STREET NORTHEAST

Date: **05/24/2016**
Scale: **AS NOTED**
Proj. Number: **2015-174**
Drawing Number: **CD-102**

Z:\Projects\2015\2015-174 SLAM Collaborative- SMC Woodruff St North and South Parking Lots\dwg\2015-174 Site.dwg May 24, 2016 - 9:50 AM

GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)
1 inch = 20 ft.

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NOT FOR CONSTRUCTION

LEGEND	EXISTING	PROPOSED
5' CONTOUR	155	155
1' CONTOUR	154	154
PROPERTY LINE	PL	PL
RIGHT OF WAY		
SETBACK		
BUILDING		
ASPHALT PAVEMENT		
EDGE OF GRAVEL		
CURB		
SIDEWALK		
TREE LINE		
FENCE	X	
WATERLINE	W_X	W
SANITARY SEWER	SS_X	SS
STORM SEWER	SD_X	SD
OVERHEAD UTILITIES	OU_X	OU
UNDERGROUND UTILITIES	UU_X	UU
UNDERGROUND ELECTRIC	E_X	E
GAS	G_X	G
COMMUNICATION	CU_X	C
FUEL OIL	FO_X	FO
VENT PIPE	V_X	V
SANITARY MANHOLE	S	S
STORM MANHOLE	D	D
CATCH BASIN	CB	CB
FIRE HYDRANT		
WATER VALVE	W	W
CURB STOP	W	W
GAS METER	G	
ELECTRIC METER	E	
FUEL OIL MANHOLE	F	
FUEL OIL FILL PORT	FO	
UTILITY POLE		
LIGHT POLE		
SIGN		
BOLLARD	BOL	BOL
TREES		

PLANNING DATA

ZONING: HEALTH SERVICES
USE: WOODRUFF STREET NORTHEAST PARKING

ITEM	REQUIRED	AS PROVIDED
MIN. LOT AREA	2,500 SF	14,165 SQ. FT. (0.33 ACRES)
MIN. LOT WIDTH	NONE	95.00'
MIN. FRONT YARD BUILDING SETBACK	20'	N/A
MIN. REAR YARD BUILDING SETBACK	25'	N/A
MIN. SIDE YARD BUILDING SETBACK	5'	N/A
MIN. PARKING SETBACK FROM ANY STREET LOT LINE	20'	20'-0" (WASHINGTON STREET) 4'-2" (WOODRUFF STREET)

PARKING DATA

ITEM	REQUIRED	AS PROVIDED
PARKING REQUIREMENTS (ENTIRE SAMARITAN MEDICAL CAMPUS) PRE-2016 EXPANSIONS: SAMARITAN MEDICAL CENTER 181,580 SF AT 5 SPACES/1,000 SF = 909 SAMARITAN MEDICAL CENTER 290 BEDS AT 1 SPACE/2 BEDS = 145 SAMARITAN KEEP HOME 272 BEDS AT 1 SPACE/3 BEDS = 91 2016-2018 EXPANSIONS: SAMARITAN MEDICAL CENTER 197,951 SF AT 5 SPACES/1,000 SF = 991 SAMARITAN MEDICAL CENTER 290 BEDS AT 1 SPACE/2 BEDS = 145 SAMARITAN KEEP HOME 272 BEDS AT 1 SPACE/3 BEDS = 91	1,145 SPACES (PRE-2016 EXPANSIONS) 1,227 SPACES (2016-2018 EXPANSIONS)	1,183 SPACES (EXISTING) 1,227 SPACES (PROPOSED)
HANDICAPPED SPACES (PER ADA)	42 SPACES	46 SPACES (EXISTING) 46 SPACES (PROPOSED)
ITEM	EXISTING	PROPOSED
WOODRUFF STREET NORTHEAST PARKING EXPANSION	0 SPACES	27 SPACES

PLANTING SCHEDULE

SYM	COMMON NAME	ABBREV.	BOTANICAL NAME	SIZE	QUANTITY
	ARMSTRONG FREEMAN MAPLE	AFA	ACER X FREEMANI "ARMSTRONG"	2" CALIPER	1
	IVORY SILK JAPANESE TREE LILAC	SRI	SYRINGA RETICULATA "IVORY SILK"	2" CALIPER	2
	IVORY SILK JAPANESE TREE LILAC	SRI	SYRINGA RETICULATA "IVORY SILK"	2" CALIPER	2
	"AUTUMN BRILLIANCE" SERVICEBERRY	AGA	AMELANCHIER X GRANDIFLORA "AUTUMN BRILLIANCE"	8'-10' HT.	1
	ISANTI REDOSIER DOGWOOD	CSI	CORNUS SERICEA "FARROW"	#3 CONT	21
	TINKERBELLE LILAC	SB	SYRINGA X "BAILBELLE" TM	#3 CONT	24
	INKBERRY	IGS	ILEX GLABRA "SHAMROCK"	#3 CONT	9

SITE LIGHTING SCHEDULE

LABEL	FIXTURE	MOUNTING HEIGHT	QUANTITY
LED-3	GLEON-AE-02-LED-E1-SLS-BZ-HSS BY COOPER LIGHTING	21' FIXTURE HEIGHT (18' POLE AND 3' CONCRETE BASE)	2

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Fax: (315 782-1472

SAMARITAN HEALTH COMPREHENSIVE

CANCER CENTER
830 Washington Street
WATERTOWN, NY 13601

Number	Date	Issued For
1	XXXXXXXX	ISSUED FOR -

SITE AND LANDSCAPING PLAN
WOODRUFF ST. NORTHEST

Date **05/24/2016**
Scale **AS NOTED**
Proj. Number **2015-174**
Drawing Number **CS-102**

Z:\Projects\2015\2015-174 SLAM Collaborative- SMC Woodruff St North and South Parking Lots\dwg\ May 24, 2016 - 8:51 AM

GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)
1 inch = 20 ft.

LEGEND	EXISTING	PROPOSED
5' CONTOUR	155	155
1' CONTOUR	154	154
PROPERTY LINE	PL	PL
RIGHT OF WAY		
SETBACK		
BUILDING		
ASPHALT PAVEMENT		
EDGE OF GRAVEL		
CURB		
SIDEWALK		
TREE LINE		
FENCE	X	
WATERLINE	W_X	W
SANITARY SEWER	SS_X	SS
STORM SEWER	SD_X	SD
OVERHEAD UTILITIES	OU_X	OU
UNDERGROUND UTILITIES	UU_X	UU
UNDERGROUND ELECTRIC	E_X	E
GAS	G_X	G
COMMUNICATION	CU_X	C
FUEL OIL	FO_X	FO
VENT PIPE	V_X	V
SANITARY MANHOLE	S	S
STORM MANHOLE	D	D
CATCH BASIN	CB	CB
FIRE HYDRANT		
WATER VALVE	W	W
CURB STOP	W	W
GAS METER	G	
ELECTRIC METER		
FUEL OIL MANHOLE	F	
FUEL OIL FILL PORT	FP	
UTILITY POLE		
LIGHT POLE		
SIGN		
BOLLARD	BOL	BOL
TREES		

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SAMARITAN HEALTH COMPREHENSIVE

CANCER CENTER
830 Washington Street
WATERTOWN, NY 13601

Number	Date	Issued For
1	XXXXXXXX	ISSUED FOR -

GRADING AND DRAINAGE PLAN
WOODRUFF ST. NORTHEAST

Date
05/24/2016
Scale
AS NOTED
Proj. Number
2015-174

Drawing Number
CG-102

Z:\Projects\2015\2015-174 SLAM Collaborative - SMC Woodruff St North and South Parking Lots\dwg\2015-174 Site.dwg May 24, 2016 - 8:51 AM

GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)
1 inch = 20 ft.

FOR APPROVALS ONLY
NOT FOR CONSTRUCTION

LEGEND	EXISTING	PROPOSED
5' CONTOUR	155	155
1' CONTOUR	154	154
PROPERTY LINE	PL	PL
RIGHT OF WAY		
SETBACK		
BUILDING		
ASPHALT PAVEMENT		
EDGE OF GRAVEL		
CURB		
SIDEWALK		
TREE LINE		
FENCE	X	
WATERLINE	W_X	W
SANITARY SEWER	SS_X	SS
STORM SEWER	SD_X	SD
OVERHEAD UTILITIES	OU_X	OU
UNDERGROUND UTILITIES	UU_X	UU
UNDERGROUND ELECTRIC	E_X	E
GAS	G_X	G
COMMUNICATION	CU_X	C
FUEL OIL	FO_X	FO
VENT PIPE	V_X	V
SANITARY MANHOLE	S	S
STORM MANHOLE	D	D
CATCH BASIN	CB	CB
FIRE HYDRANT		
WATER VALVE	W	W
CURB STOP	W	W
GAS METER	G	
ELECTRIC METER		
FUEL OIL MANHOLE	F	
FUEL OIL FILL PORT	FP	
UTILITY POLE		
LIGHT POLE		
SIGN		
BOLLARD	BOL	BOL
TREES		

SITE LIGHTING SCHEDULE

LABEL	FIXTURE	MOUNTING HEIGHT	QUANTITY
LED-3	GLEON-AE-02-LED-E1-SL3-BZ-HSS BY COOPER LIGHTING	21' FIXTURE HEIGHT (18' POLE AND 3' CONCRETE BASE)	2

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SAMARITAN HEALTH COMPREHENSIVE

CANCER CENTER
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WATERTOWN, NY 13601

Number	Date	Issued For
1	XXXXXXXX	ISSUED FOR -

SITE PHOTOMETRIC PLAN
WOODRUFF ST. NORTHEST

Date 05/24/2016
Scale AS NOTED
Proj. Number 2015-174
Drawing Number CP-102

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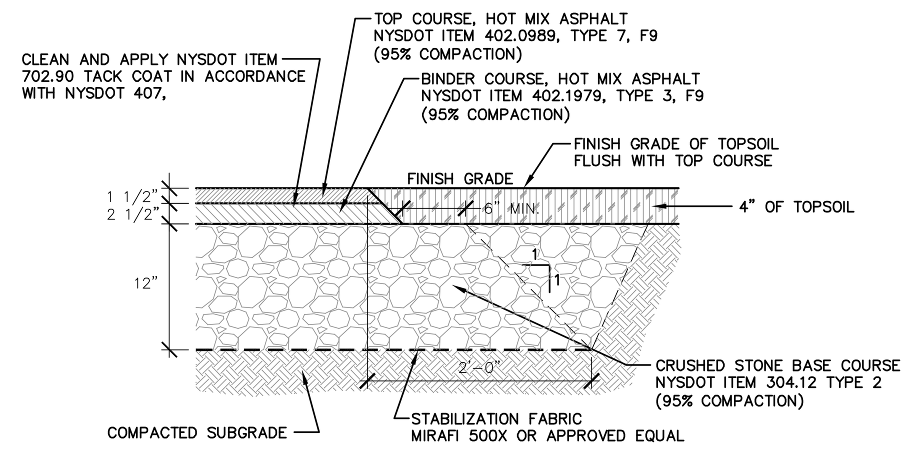
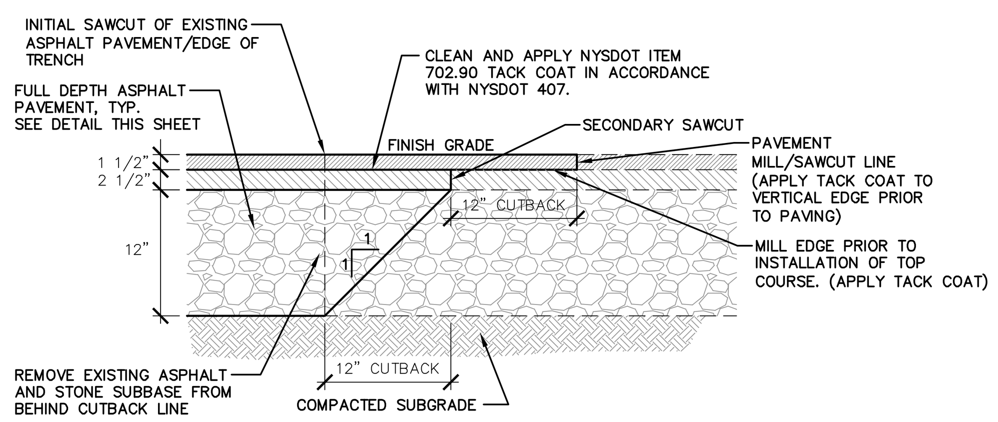
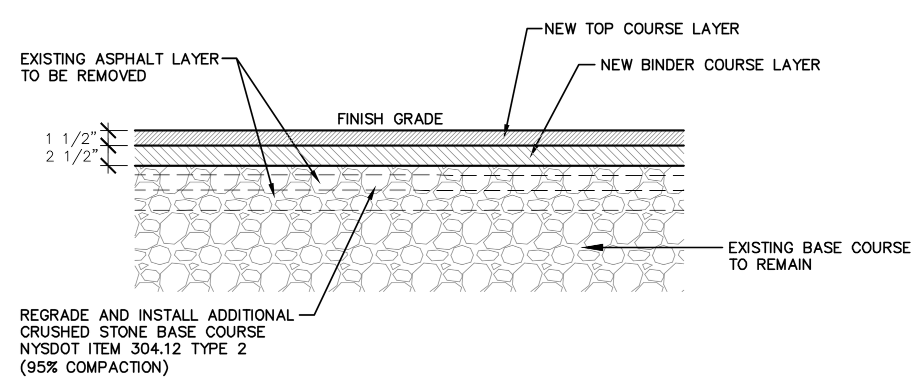


NOTES:
1. ALL HMA COMPACTION WILL BE TO 95% MADMTD (MIXTURE'S AVERAGE DAILY MAXIMUM THEORETICAL DENSITY) PER NYS DOT SPECIFICATIONS FOR HMA COMPACTION 402-3.07
2. BASE COURSE SHALL BE COMPACTED TO 95% MODIFIED PROCTOR MAXIMUM DENSITY
3. FIELD VERIFICATION OF COMPACTION SHALL BE BY NUCLEAR DENSITY TESTING METHODS

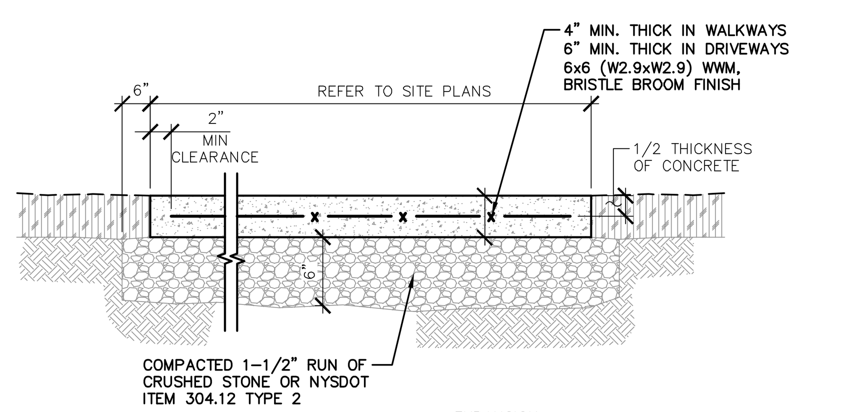
1 TYPICAL ASPHALT PAVEMENT DETAIL
NOT TO SCALE



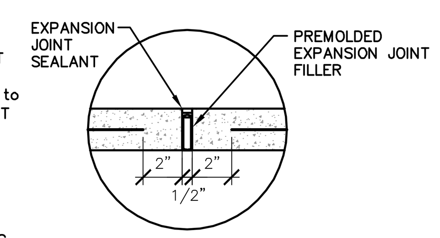
2 TYPICAL ASPHALT PAVEMENT JOINT DETAIL
NOT TO SCALE



3 TYPICAL EXISTING ASPHALT PAVEMENT REMOVAL AND REGRADE AND ASPHALT PAVEMENT RECONSTRUCTION DETAIL
NOT TO SCALE

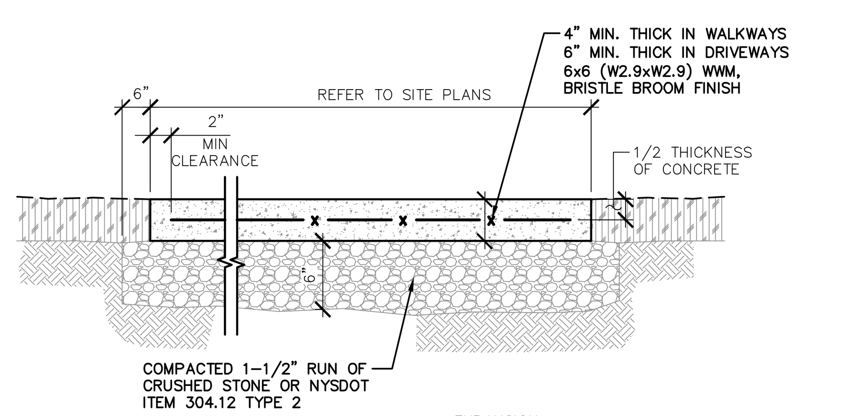


NOTES:
1. CONCRETE WALK EXPANSION JOINTS TO COINCIDE AT 20' O.C. MAX.,
2. CONTRACTION JOINTS TO BE SPACED EVENLY AT 4' to 6' O.C. MAX. BOTH DIRECTIONS. CONTRACTION JOINT SPACING SHALL BE SPACED SYMMETRICALLY BASED UPON THE SIDEWALK WIDTH BEING CONSTRUCTED.
   (I.E. 6' WIDE WALK – 6' CONTROL JOINTS
   5' WIDE WALK – 5' CONTROL JOINTS
   8'' WIDE WALK – 4' CONTROL JOINTS)
3. EXPANSION JOINTS TO BE 1/2" WIDE FILLED WITH PREMOLDED JOINT FILLER AND SEALANT CONFORMING TO ASTM D1752 TYPE II.
4. CONTROL/CONTRACTION JOINTS SHALL BE TOOLED OR SAW CUT JOINT WITH A DEPTH OF 1/4 THE CONCRETE THICKNESS.
5. CONCRETE SHALL BE MIN. 4,500 PS.

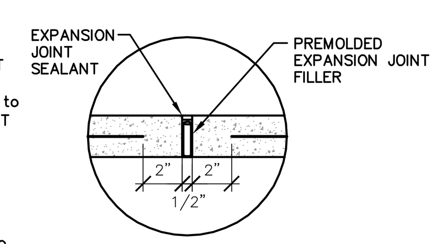


EXPANSION JOINT SECTION

4 TYPICAL CONCRETE WALK DETAIL
NOT TO SCALE

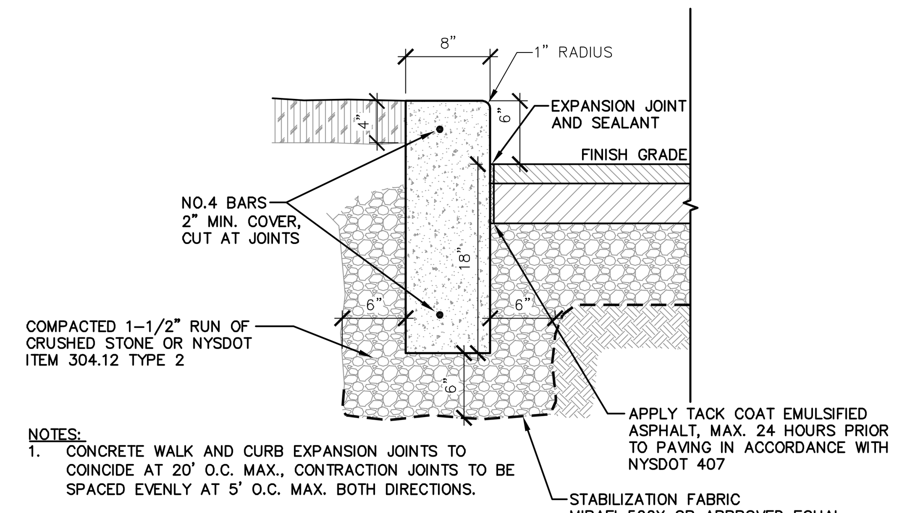


NOTES:
1. CONCRETE WALK EXPANSION JOINTS TO COINCIDE AT 20' O.C. MAX.,
2. CONTRACTION JOINTS TO BE SPACED EVENLY AT 4' to 6' O.C. MAX. BOTH DIRECTIONS. CONTRACTION JOINT SPACING SHALL BE SPACED SYMMETRICALLY BASED UPON THE SIDEWALK WIDTH BEING CONSTRUCTED.
   (I.E. 6' WIDE WALK – 6' CONTROL JOINTS
   5' WIDE WALK – 5' CONTROL JOINTS
   8'' WIDE WALK – 4' CONTROL JOINTS)
3. EXPANSION JOINTS TO BE 1/2" WIDE FILLED WITH PREMOLDED JOINT FILLER AND SEALANT CONFORMING TO ASTM D1752 TYPE II.
4. CONTROL/CONTRACTION JOINTS SHALL BE TOOLED OR SAW CUT JOINT WITH A DEPTH OF 1/4 THE CONCRETE THICKNESS.
5. CONCRETE SHALL BE 5,000 PSI (CITY OF WATERTOWN)
6. ALL WALKS WITHIN CITY MARGINS SHALL BE BUILT TO CITY SPECIFICATIONS AND SHALL MEET THE (PROWAG) PUBLIC RIGHT OF WAY ACCESSIBILITY GUIDELINES



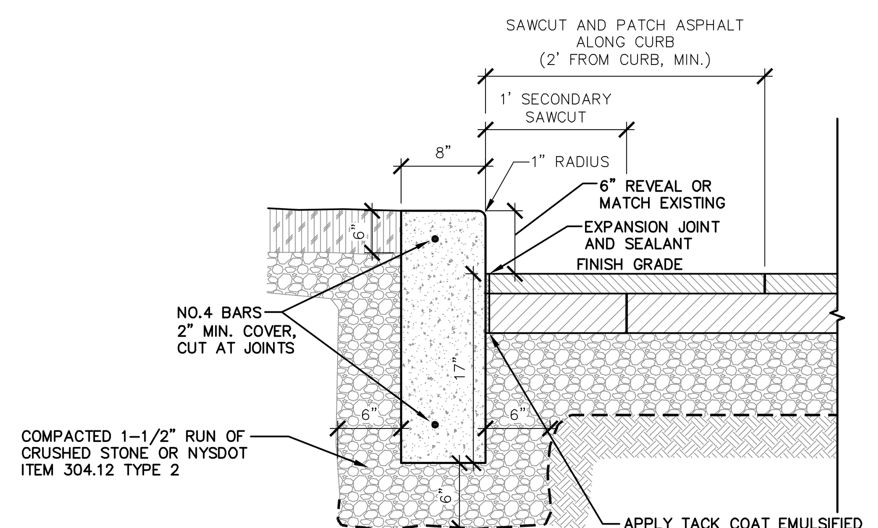
EXPANSION JOINT SECTION

5 TYPICAL CITY CONCRETE WALK DETAIL
NOT TO SCALE



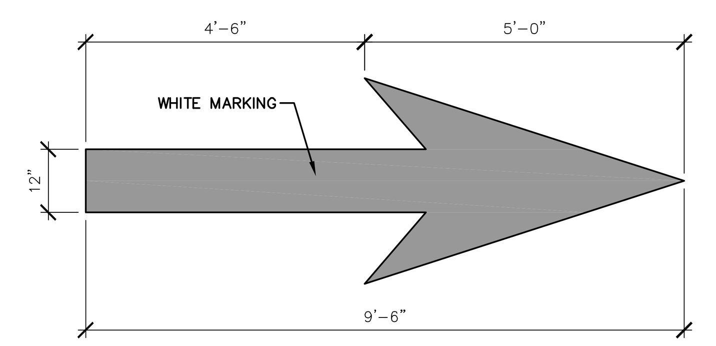
NOTES:
1. CONCRETE WALK AND CURB EXPANSION JOINTS TO COINCIDE AT 20' O.C. MAX., CONTRACTION JOINTS TO BE SPACED EVENLY AT 5' O.C. MAX. BOTH DIRECTIONS.
2. EXPANSION JOINTS TO BE 1/2" WIDE FILLED WITH PREMOLDED JOINT FILLER AND SEALANT CONFORMING TO ASTM D1752 TYPE II.
3. CONCRETE SHALL BE MIN. 4,500 PSI.

6 TYPICAL CONCRETE CURB DETAIL
NOT TO SCALE

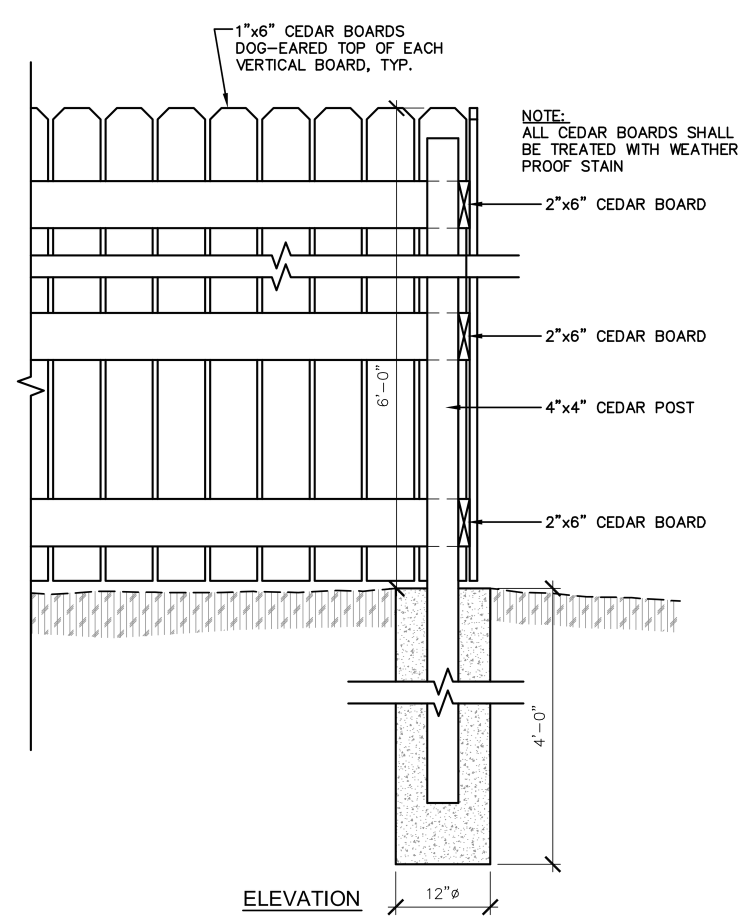


NOTES:
1. CONCRETE WALK AND CURB EXPANSION JOINTS TO COINCIDE AT 20' O.C. MAX., CONTRACTION JOINTS TO BE SPACED EVENLY AT 5' O.C. MAX. BOTH DIRECTIONS.
2. EXPANSION JOINTS TO BE 1/2" WIDE FILLED WITH PREMOLDED JOINT FILLER AND SEALANT CONFORMING TO ASTM D1752 TYPE II.
3. CONCRETE SHALL BE 5,000 PSI (CITY OF WATERTOWN)
4. ALL CURBS WITHIN CITY MARGINS SHALL BE BUILT TO CITY SPECIFICATIONS AND SHALL MEET THE (PROWAG) PUBLIC RIGHT OF WAY ACCESSIBILITY GUIDELINES

7 TYPICAL CITY CONCRETE CURB REPLACEMENT DETAIL
NOT TO SCALE

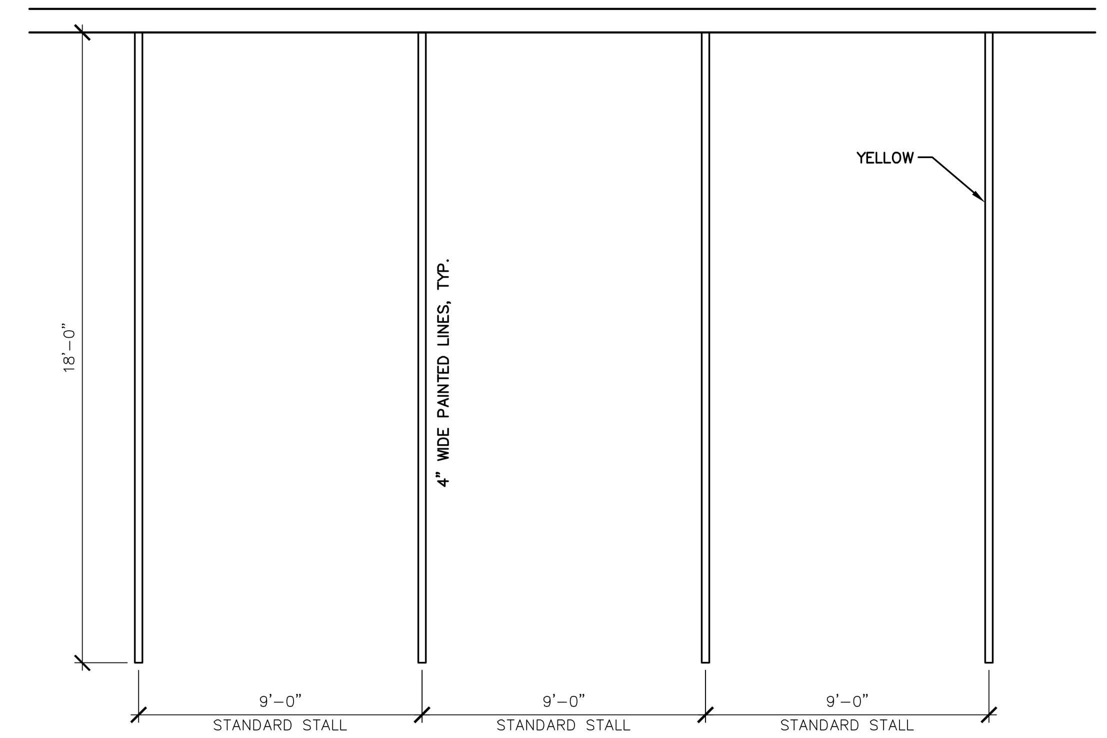


8 TYPICAL THROUGH LANE ARROW DETAIL
NOT TO SCALE

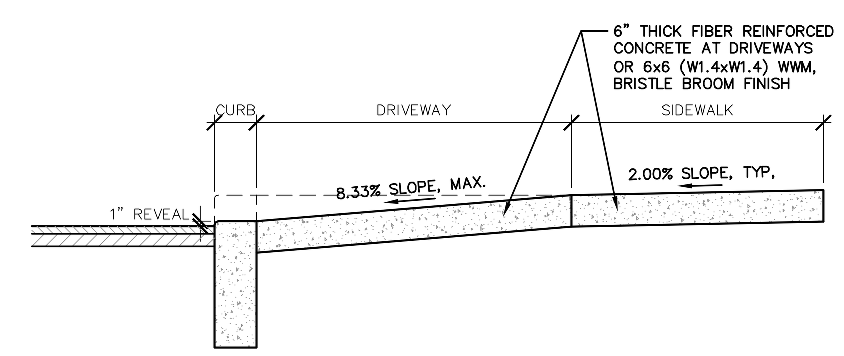


ELEVATION

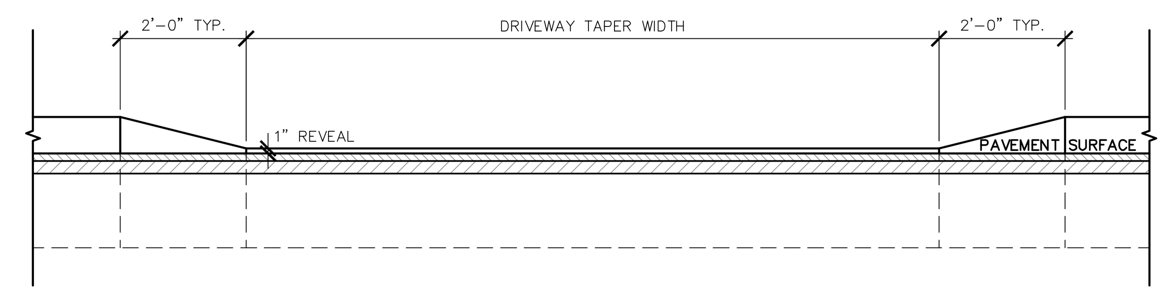
9 TYPICAL WOOD STOCKADE FENCE DETAIL
NOT TO SCALE



10 TYPICAL PARKING STALL MARKINGS DETAIL
NOT TO SCALE

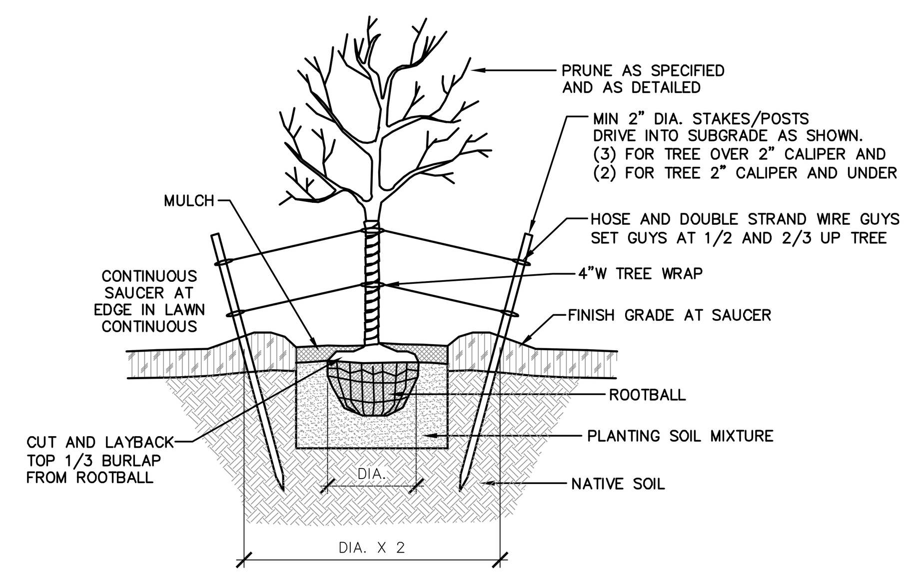


SECTION VIEW

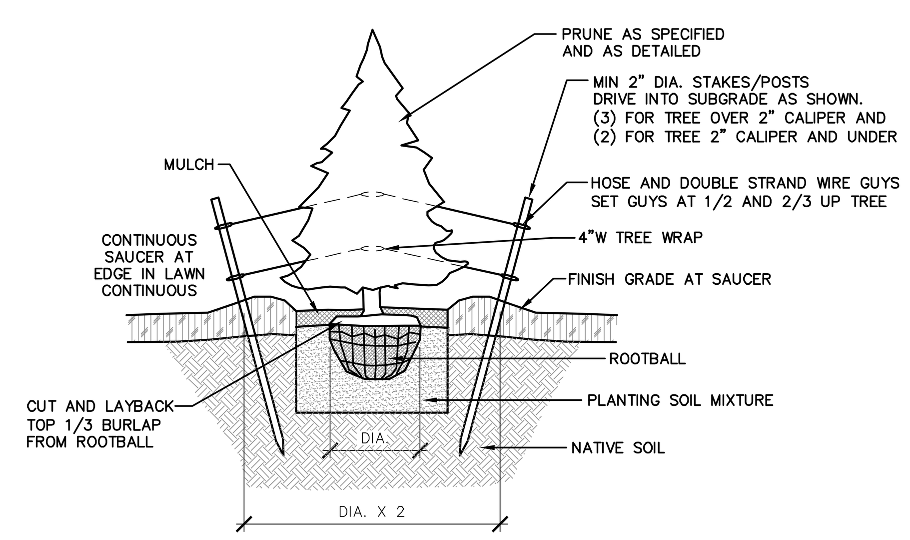


ELEVATION VIEW

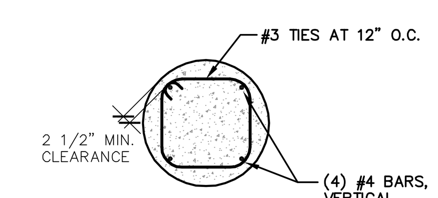
11 TYPICAL DRIVEWAY CURB CUT AND TAPER DETAIL
NOT TO SCALE



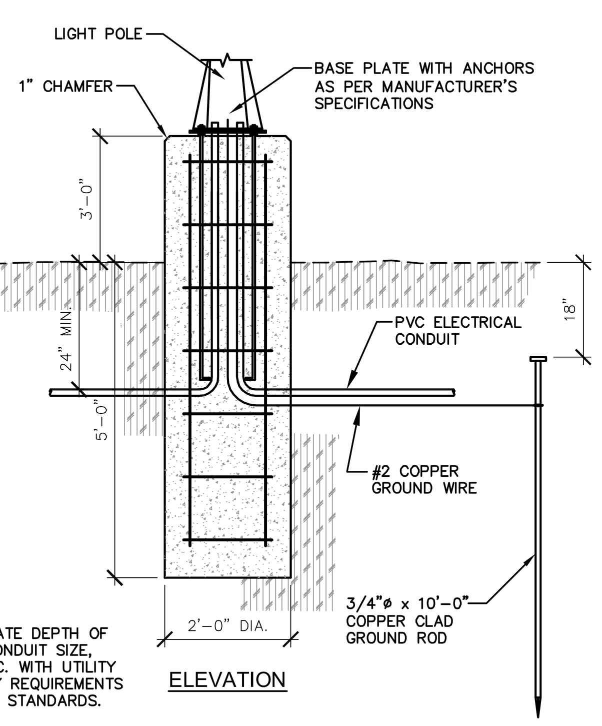
12 TYPICAL TREE PLANTING DETAIL
NOT TO SCALE



13 TYPICAL EVERGREEN TREE PLANTING DETAIL
NOT TO SCALE



PLAN



NOTE:
1. COORDINATE DEPTH OF BURY, CONDUIT SIZE, WIRE, ETC. WITH UTILITY COMPANY REQUIREMENTS AND NEC STANDARDS.

ELEVATION

14 TYPICAL LIGHT POLE BASE DETAIL
NOT TO SCALE

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SITE DETAILS

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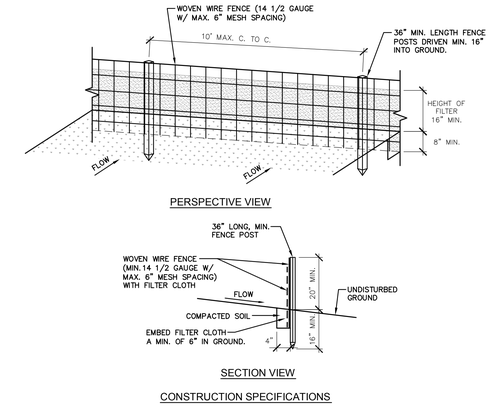
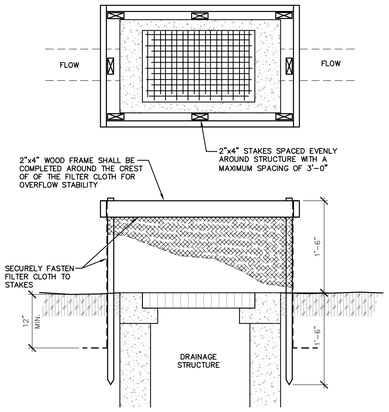


CONSTRUCTION SPECIFICATIONS

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

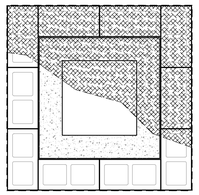
1 TYPICAL SILT FENCE DETAIL
NOT TO SCALE

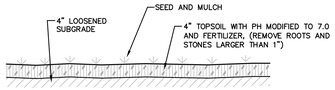


INSTALLATION NOTES:

1. FILTER CLOTH TO BE CUT FROM A ROLL TO ELIMINATED JOINTS. IF JOINTS ARE NEEDED THEY WILL BE OVERLAPPED TO THE NEXT STAKE.
2. STAKE SHALL BE 2"x4" AND A MINIMUM OF 36" LONG.
3. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REMOVED AT REGULAR INTERVALS.
4. FILTER CLOTH SHALL BE FILTER X, MIRAFI 100X, STABILINKA-T140N OR APPROVED EQUAL

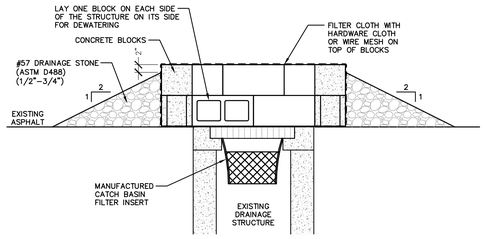
2 TYPICAL INLET PROTECTION DETAIL
NOT TO SCALE





NOTE:
PROVIDE SOIL TESTS WITH SEED, FERTILIZER AND MULCH RECOMMENDATIONS (ONE PER EACH 5 ACRES OF SEEDING AND MIN. ONE PER TOPSOIL STOCKPILE)

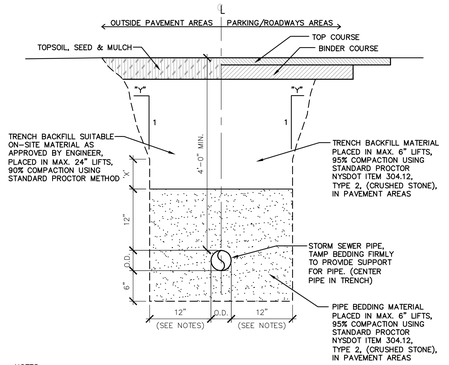
4 TYPICAL TOPSOIL REPLACEMENT DETAIL
NOT TO SCALE



INSTALLATION NOTES:

1. FILTER CLOTH TO BE CUT FROM A ROLL TO ELIMINATED JOINTS.
2. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REMOVED AT REGULAR INTERVALS.
3. FILTER CLOTH SHALL BE FILTER X, MIRAFI 100X, STABILINKA-T140N OR APPROVED EQUAL
4. MANUFACTURED CATCH BASIN INSERT FILTER CAN BE USED INSIDE THE STRUCTURE INSTEAD OF USING AN ABOVE GRADE INLET PROTECTION

3 TYPICAL INLET PROTECTION DETAIL
NOT TO SCALE



NOTES
1. DIMENSIONS 'X' AND 'Y' SHOWN ABOVE SHALL BE DETERMINED BY CONTRACTOR TO COMPLY WITH O.S.H.A., NEW YORK STATE DEPARTMENT OF LABOR, NEW YORK STATE INDUSTRIAL CODE AND ALL OTHER APPLICABLE SAFETY STANDARDS.
2. SAFETY SHEETING OR TRENCH BOX MAY BE USED IN PLACE OF SLOPED TRENCH WALLS.
3. SHEETING, WHEN REQUIRED, TO BE CUT OFF AT LEAST 5 FEET BELOW STREET AND A MINIMUM OF 1 FOOT ABOVE TOP OF PIPE. WOOD SHEETING DRIVEN BELOW MID-DIAMETER OF THE PIPE SHALL BE LEFT IN PLACE. STEEL SHEETING DRIVEN BELOW MID-DIAMETER MAY BE WITHDRAWN IF APPROVED IN WRITING BY THE ENGINEER. FOR PVC PIPE ALL SHEETING DRIVEN BELOW MID-DIAMETER SHALL BE LEFT IN PLACE.
4. TRENCHES LOCATED WITHIN 5' OF ROAD SHOULDERS SHALL BE TREATED THE SAME AS UNDER PAVEMENT.

5 TYPICAL STORM SEWER TRENCH DETAIL
NOT TO SCALE

EROSION AND SEDIMENT CONTROL NOTES:

1. PRIOR TO COMMENCING ANY EARTHWORK ACTIVITIES, ETC. AT THE SITE, THE CONTRACTOR SHALL FLAG THE WORK LIMITS AND SHALL INSTALL ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES (I.E. SILT FENCES, TREE PROTECTION/BARRIER FENCES, STABILIZED CONSTRUCTION ENTRANCES, STORM DRAIN SEDIMENT FILTERS, DRAINAGE DITCH SEDIMENT FILTERS, ETC.) INDICATED ON THE PROJECT DRAWINGS. TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES MUST BE CONSTRUCTED, STABILIZED, AND FUNCTIONAL BEFORE SITE DISTURBANCE BEGINS WITHIN THEIR TRIBUTARY AREAS, ONCE CONSTRUCTED, ALL MEASURES SHALL BE PROPERLY MAINTAINED AND/OR REPLACED AS NECESSARY AND THEN REMOVED FROM THE SITE ONCE VEGETATION AND PAVEMENT ARE IN PLACE.
2. EARTH DISTURBANCE SHALL BE LIMITED TO AREAS WHERE TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES ARE TO BE INSTALLED. ONCE ALL MEASURES ARE INSTALLED TO THE SATISFACTION OF THE ENGINEER, THE REMAINDER OF THE CLEARING AND GRADING ACTIVITIES SHALL COMMENCE.
3. ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE IN STRICT COMPLIANCE WITH THE "NEW YORK STATE STANDARDS AND SPECIFICATIONS FOR EROSION AND SEDIMENT CONTROL" CURRENT EDITION.
4. THE CONTRACTOR SHALL INSPECT AND MAINTAIN THE INTEGRITY AND FUNCTION OF ALL TEMPORARY EROSION CONTROL MEASURES THROUGHOUT THE DURATION OF THE DEVELOPMENT PROCESS. TO ASSURE PROPER FUNCTION, SILTATION BARRIERS SHALL BE MAINTAINED IN GOOD CONDITION AND REINFORCED, EXTENDED, REPAIRED OR REPLACED AS NECESSARY. WASHOUTS SHALL BE IMMEDIATELY REPAIRED, RE-SEEDED AND PROTECTED FROM FURTHER EROSION. ALL ACCUMULATED SEDIMENT SHALL BE REMOVED AND CONTAINED IN APPROPRIATE SPOIL AREAS. WATER SHALL BE APPLIED TO NEWLY SEEDED AREAS AS NEEDED UNTIL GRASS COVER IS WELL ESTABLISHED TO EFFECTIVELY CONTROL WIND EROSION. WATER SHALL BE APPLIED TO ALL EXPOSED SOILS AS NECESSARY UNTIL GROUND COVER IS PERMANENTLY ESTABLISHED.
5. THE STABILIZED CONSTRUCTION ENTRANCE, UTILIZED DURING CONSTRUCTION, SHALL BE MAINTAINED IN A CONDITION THAT SHALL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED, OR TRACKED ONTO PUBLIC RIGHTS-OF-WAY MUST BE REMOVED IMMEDIATELY. WHEELS SHALL BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTRANCE ONTO PUBLIC RIGHTS-OF-WAY. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH STONE AND WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE. PERIODIC INSPECTIONS AND NEEDED MAINTENANCE SHALL BE PROVIDED AFTER EACH RAIN EVENT.
6. THE INLET PROTECTION SHALL FUNCTION TO PREVENT SEDIMENT FROM ENTERING THE STORM DRAINS. THEY SHALL BE MAINTAINED IN GOOD CONDITION UNTIL FINAL VEGETATIVE COVER IS WELL ESTABLISHED.
7. AS MUCH AS IS PRACTICAL, EXISTING VEGETATION SHALL BE PRESERVED. FOLLOWING THE COMPLETION OF CONSTRUCTION ACTIVITIES IN ANY PORTION OF THE SITE, PERMANENT VEGETATION SHALL BE ESTABLISHED ON ALL EXPOSED SOILS.
8. IN SOME INSTANCES, ESTABLISHING VEGETATION WILL BE NECESSARILY DELAYED WHILE CONSTRUCTION IS IN PROGRESS. DURING THESE TIMES, SEDIMENT CONTROL MEASURES WILL BE EMPLOYED TO PREVENT SEDIMENT FROM LEAVING THE SITE. VEGETATION SHALL BE ESTABLISHED IN THESE AREAS AS SOON AS IT IS PRACTICAL.
9. SITE PREPARATION ACTIVITIES SHALL BE PLANNED TO MINIMIZE THE SCOPE AND DURATION OF SOIL DISRUPTION.
10. PERMANENT TRAFFIC CORRIDORS SHALL BE ESTABLISHED AND "ROUTES OF CONVENIENCE" SHALL BE AVOIDED. STABILIZED CONSTRUCTION ENTRANCES SHALL BE INSTALLED AT ALL POINTS OF ENTRY ONTO THE PROJECT SITE.
11. AREAS UNDERGOING GRADING AND WHERE WORK IS DELAYED OR COMPLETED AND WILL NOT BE REDISTURBED FOR 21 DAYS OR MORE SHALL BE STABILIZED WITH TEMPORARY OR PERMANENT VEGETATIVE COVER WITHIN 14 DAYS.
12. TOPSOIL AND FILL THAT IS TO REMAIN STOCKPILED ON-SITE FOR PERIODS GREATER THAN 30 DAYS SHALL BE STABILIZED BY SEEDING. PRIOR TO THE SEEDING OPERATION, THE STOCKPILED MATERIAL SHALL BE GRADED AS NEEDED AND FEASIBLE TO PERMIT THE USE OF CONVENTIONAL EQUIPMENT FOR SEEDBED PREPARATION, FERTILIZATION, SEEDING, MULCH APPLICATIONS AND MULCH ANCHORING.
13. SILT FENCES SHALL BE CONSTRUCTED AROUND ALL STOCKPILES OF FILL, TOPSOIL, AND EXCAVATED OVERBURDEN. SILT FENCES SHALL BE ANCHORED AND MAINTAINED IN GOOD CONDITION UNTIL SUCH TIME AS SAID STOCKPILES ARE REMOVED AND STOCKPLING AREAS ARE BROUGHT TO FINAL GRADE AND PERMANENTLY STABILIZED.
14. IN NO CASE SHALL ERODIBLE MATERIALS BE STOCKPILED WITHIN 25 FEET OF ANY DITCH STREAM OR OTHER SURFACE WATER BODY.
15. DAMAGE TO SURFACE WATERS RESULTING FROM EROSION AND SEDIMENTATION SHALL BE MINIMIZED BY STABILIZING DISTURBED AREAS AND BY REMOVING SEDIMENT FROM CONSTRUCTION SITE DISCHARGES.
16. CONSTRUCTION TRAFFIC SHALL NOT CROSS STREAMS OR DITCHES EXCEPT AT SUITABLE CROSSING FACILITIES, AND SHALL NOT OPERATE UNNECESSARILY WITHIN WATERWAYS OR DRAINAGE DITCHES.
17. NO SYNTHETIC EROSION CONTROL MATERIAL, FENCING OR MATTING SHALL BE PART OF THE PERMANENT INSTALLATION.
18. WHERE CONCENTRATED FLOWS ARE CREATED AS A RESULT OF CONSTRUCTION OPERATIONS, CHECK DAMS SHALL BE INSTALLED DEEMED NECESSARY.

SPECIFICATIONS:

SEED

A. TEMPORARY SEED SPECIES: STATE CERTIFIED SEED FROM GRASS SPECIES, AS FOLLOWS:
   1. PERENNIAL RYE, 100%
   2. ANNUAL RYE, 100%
   3. 'AROOSTOOK' WINTER RYE, 100%
B. GRASS/LAWN AREA SEED SPECIES: STATE-CERTIFIED SEED OF GRASS SPECIES, AS FOLLOWS:
   1. KENTUCKY BLUE GRASS: 40%
   2. CREEPING RED FESCUE GRASS: 25%
   3. PERENNIAL RYE: 15%
   4. TALL FESCUE OR SMOOTH BROMEGRASS: 20%

PLANTING MATERIALS

A. TOPSOIL: ASTM D 5268, PH RANGE OF 6.5 TO 7.5, A MINIMUM OF 6 PERCENT ORGANIC MATERIAL CONTENT AND A MAXIMUM OF 20 PERCENT; FREE OF STONES 1 INCH (25 MM) OR LARGER IN ANY DIMENSION AND OTHER EXTRANEOUS MATERIALS HARMFUL TO PLANT GROWTH; NOT LESS THAN 20 PERCENT FINE TEXTURED MATERIAL C PASSING THE NO. 200 SIEVE, AND NOT MORE THAN 15 PERCENT CLAY; CONTAIN LESS THAN 500 PPM SOLUBLE SALTS.
   1. TOPSOIL SOURCE: REUSE SURFACE SOIL STOCKPILED ON-SITE AND SUPPLEMENT WITH IMPORTED OR MANUFACTURED TOPSOIL FROM OFF-SITE SOURCES WHEN QUANTITIES OR QUALITY IS INSUFFICIENT. VERIFY SUITABILITY OF STOCKPILED SURFACE SOIL TO PRODUCE TOPSOIL.
   2. TOPSOIL SOURCE: AMEND EXISTING IN-PLACE SURFACE SOIL TO PRODUCE TOPSOIL. VERIFY SUITABILITY OF SURFACE SOIL TO PRODUCE TOPSOIL. SURFACE SOIL MAY BE SUPPLEMENTED WITH IMPORTED OR MANUFACTURED TOPSOIL FROM OFF-SITE SOURCES.
B. INORGANIC SOIL AMENDMENTS:
   1. LIME: ASTM C 602, CLASS T OR O, AGRICULTURAL LIMESTONE CONTAINING A MINIMUM 80 PERCENT CALCIUM CARBONATE EQUIVALENT.
C. ORGANIC SOIL AMENDMENTS
   1. COMPOST: WELL-COMPOSTED, STABLE, AND WEED-FREE ORGANIC MATTER, PH RANGE OF 5.5 TO 8.
   2. PEAT: SPHAGNUM PEAT MOSS, PARTIALLY DECOMPOSED, FINELY DIVIDED OR GRANULAR TEXTURE, WITH PH RANGE OF 3.4 TO 4.8
   3. PEAT: FINELY DIVIDED OR GRANULAR TEXTURE, WITH PH RANGE OF 6 TO 7.5, CONTAINING PARTIALLY DECOMPOSED MOSS PEAT, NATIVE PEAT, OR REED-SEDGE PEAT AND HAVING WATER-ABSORBING CAPACITY OF 1100 TO 2000 PERCENT.
D. FERTILIZER:
   1. COMMERCIAL FERTILIZER: COMMERCIAL-GRADE COMPLETE FERTILIZER OF NEUTRAL CHARACTER, CONSISTING OF FAST- AND SLOW-RELEASE NITROGEN, 50 PERCENT DERIVED FROM NATURALORGANIC SOURCES OF UREA FORMALDEHYDE, PHOSPHOROUS, AND POTASSIUM IN THE FOLLOWING COMPOSITION: COMPOSITION: 1 LB/1000 SQ. FT. (0.45 KG/92.9 SQ. M) OF ACTUAL NITROGEN, 4 PERCENT PHOSPHOROUS, AND 2 PERCENT POTASSIUM, BY WEIGHT.
   2. SLOW-RELEASE FERTILIZER: GRANULAR OR PELLETED FERTILIZER CONSISTING OF 50 PERCENT WATER-INSOLUBLE NITROGEN, PHOSPHORUS, AND POTASSIUM IN THE FOLLOWING COMPOSITION:
   3. COMPOSITION: 20 PERCENT NITROGEN, 10 PERCENT PHOSPHOROUS, AND 10 PERCENT POTASSIUM, BY WEIGHT.
E. MULCHES:
   1. STRAW MULCH: PROVIDE AIR-DRY, CLEAN, MILDEW- AND SEED-FREE, SALT HAY OR THRESHED STRAW OF WHEAT, RYE, OATS, OR BARLEY. PEAT MULCH MAY BE REQUIRED IF SEEDED LAWNS ARE SUBJECT TO HOT, DRY WEATHER OR DRYING WINDS WITHIN 30 DAYS OF PLANTING.
   2. PEAT MULCH: SPHAGNUM PEAT MOSS, PARTIALLY DECOMPOSED, FINELY DIVIDED OR GRANULAR TEXTURE, WITH PH RANGE OF 3.4 TO 4.8.
   3. PEAT MULCH: FINELY DIVIDED OR GRANULAR TEXTURE, WITH PH RANGE OF 6 TO 7.5, CONTAINING PARTIALLY DECOMPOSED MOSS PEAT, NATIVE PEAT, OR REED-SEDGE PEAT AND HAVING WATER-ABSORBING CAPACITY OF 1100 TO 2000 PERCENT.
   4. COMPOST MULCH: WELL-COMPOSTED, STABLE, AND WEED-FREE ORGANIC MATTER, PH RANGE OF 5.5 TO 8.
   5. UTILIZE MULCH ANCHORING METHOD OR MATERIAL AS REQUIRED BY NYS STANDARD SPECIFICATIONS FOR EROSION AND SEDIMENT CONTROL. (PEG & TWINE, MULCHING NETTING, WOOD CELLULOSE, TACKIFIER, OR MECHANICAL METHODS)

EXECUTION

LAWN PREPARATION

A. NEWLY GRADED SUBGRADES: LOOSEN SUBGRADE TO A MINIMUM DEPTH OF 4 INCHES (100 MM). REMOVE STONES LARGER THAN 1 INCH (25 MM) IN ANY DIMENSION AND STICKS, ROOTS, RUBBISH, AND OTHER EXTRANEOUS MATTER AND LEGALLY DISPOSE OF THEM OFF OWNER'S PROPERTY.
   1. APPLY SUPERPHOSPHATE FERTILIZER DIRECTLY TO SUBGRADE BEFORE LOOSENING.
   2. THOROUGHLY BLEND PLANTING SOIL MIX OFF-SITE BEFORE SPREADING OR SPREAD TOPSOIL, APPLY SOIL AMENDMENTS AND FERTILIZER ON SURFACE, AND THOROUGHLY BLEND PLANTING SOIL MIX.
   3. SPREAD PLANTING SOIL MIX TO A DEPTH OF 4 INCHES (150 MM) BUT NOT LESS THAN REQUIRED TO MEET FINISH GRADES AFTER LIGHT ROLLING AND NATURAL SETTLEMENT. DO NOT SPREAD IF PLANTING SOIL OR SUBGRADE IS FROZEN, MUDDY, OR EXCESSIVELY WET.
B. FINISH GRADING: GRADE PLANTING AREAS TO A SMOOTH, UNIFORM SURFACE PLANE WITH LOOSE, UNIFORMLY FINE TEXTURE. GRADE TO WITHIN PLUS OR MINUS 1/2 INCH (13 MM) OF FINISH ELEVATION. ROLL AND RAKE, REMOVE RIDGES, AND FILL DEPRESSIONS TO MEET FINISH GRADES. LIMIT FINE GRADING TO AREAS THAT CAN BE PLANTED IN THE IMMEDIATE FUTURE.
C. MOISTEN PREPARED LAWN AREAS BEFORE PLANTING IF SOIL IS DRY. WATER THOROUGHLY AND ALLOW SURFACE TO DRY BEFORE PLANTING. DO NOT CREATE MUDDY SOIL.
D. RESTORE AREAS IF ERODED OR OTHERWISE DISTURBED AFTER FINISH GRADING AND BEFORE PLANTING.

TEMPORARY EROSION AND SEDIMENTATION CONTROL

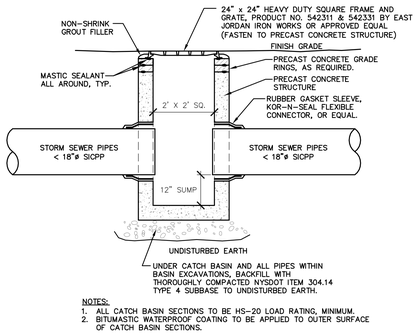
A. PROVIDE TEMPORARY EROSION AND SEDIMENTATION CONTROL MEASURES TO PREVENT SOIL EROSION AND DISCHARGE OF SOIL-BEARING WATER RUNOFF OR AIRBORNE DUST TO ADJACENT PROPERTIES AND WALKWAYS, ACCORDING TO A SEDIMENT AND EROSION CONTROL PLAN, SPECIFIC TO THE SITE THAT COMPLIES WITH NYS DEC SPDES GENERAL PERMIT FOR STORMWATER DISCHARGES FROM CONSTRUCTION ACTIVITY, GP-01-15-002.
B. THE OPERATOR SHALL INITIATE STABILIZATION MEASURES AS SOON AS PRACTICABLE IN PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITIES HAVE TEMPORARILY OR PERMANENTLY CEASED, BUT IN NO CASE MORE THEN 14 DAYS AFTER THE CONSTRUCTION ACTIVITY IN THAT PORTION OF THE SITE HAVE TEMPORARILY OR PERMANENTLY CEASED. THIS REQUIREMENT DOES NOT APPLY IN THE FOLLOWING INSTANCES:
   1. WHERE THE INITIATION OF STABILIZATION MEASURES BY THE 14TH DAY AFTER CONSTRUCTION ACTIVITY TEMPORARILY OR PERMANENTLY CEASED IS PRECLUDED BY SNOW COVER OR FROZEN GROUND CONDITIONS, STABILIZATION MEASURES SHALL BE INITIATED AS SOON AS PRACTICABLE.
C. SEED WITH 24 HOURS OF DISTURBANCE OR LOOSEN SCARIFY THE SOIL SURFACE PRIOR TO SEEDING.
D. SPRING, SUMMER OR EARLY FALL TEMPORARY SEEDING: ANNUAL OR PERENNIAL RYE GRASS AT A RATE OF 30 LBS/AC. (PERENNIAL RYE GRASS MUST BE UTILIZED WHERE FINAL GRADING ACTIVITIES WILL NOT BE COMPLETED UNTIL THE FOLLOWING SPRING.)
E. LATE FALL OR EARLY WINTER TEMPORARY SEEDING: CERTIFIED 'AROOSTOOK' WINTER RYE AT A RATE OF 100 LBS/AC.
F. MULCH HAY OR STRAW AT A RATE OF 2 TONS/ACRE (APPROXIMATELY 90 BALES PER ACRE). MULCH ANCHORING WILL BE REQUESTED WHERE WIND OR AREAS OF WATER ARE OF CONCERN. WOOD FIBER HYDROMULCH OR OTHER SPRAYABLE PRODUCTS APPROVED FOR EROSION CONTROL MAY BE USED IF APPLIED ACCORDING TO MANUFACTURERS SPECIFICATIONS.

PERMANENT SEEDING

A. SOWING RATES VARY WITH GRASS SPECIES AND MIXTURES.
B. SOW SEED AT THE RATE OF 6 LB/1000 SQ. FT. (250 LB/AC).
C. RAKE SEED LIGHTLY INTO TOP 1/8 INCH (3 MM) OF TOPSOIL, ROLL LIGHTLY, AND WATER WITH FINE SPRAY.
D. MULCH WITH STRAW AT A RATE OF 2 TONS/ACRE (APPROXIMATELY 90 BALES PER ACRE). MULCH ANCHORING WILL BE REQUESTED WHERE WIND OR AREAS OF WATER ARE OF CONCERN. WOOD FIBER HYDROMULCH OR OTHER SPRAYABLE PRODUCTS APPROVED FOR EROSION CONTROL MAY BE USED IF APPLIED ACCORDING TO MANUFACTURERS SPECIFICATIONS.

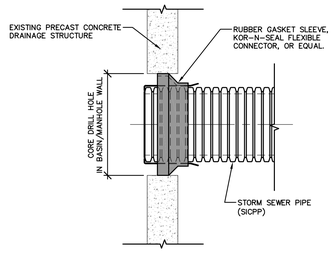
SATISFACTORY LAWNS

A. SATISFACTORY SEEDED LAWN: AT END OF MAINTENANCE PERIOD, A HEALTHY, UNIFORM, CLOSE STAND OF GRASS HAS BEEN ESTABLISHED, FREE OF WEEDS AND SURFACE IRREGULARITIES, WITH COVERAGE EXCEEDING 90 PERCENT OVER ANY 10 SQ. FT. (0.92 SQ. M) AND BARE SPOTS NOT EXCEEDING 5 BY 5 INCHES (125 BY 125 MM.)
B. VEGETATION SHALL BE ESTABLISHED AS SOON AFTER CONSTRUCTION AS POSSIBLE TO ENSURE PROTECTION FROM EROSION. IF RILLING OCCURS, REGRADE AND USE FABRIC OR JUTE MESH TO PROTECT AREA.
C. REESTABLISH LAWNS THAT DO NOT COMPLY WITH REQUIREMENTS AND CONTINUE MAINTENANCE UNTIL LAWNS ARE SATISFACTORY.



NOTES:
1. ALL CATCH BASIN SECTIONS TO BE HS-20 LOAD RATING, MINIMUM.
2. BITUMASTIC WATERPROOF COATING TO BE APPLIED TO OUTER SURFACE OF CATCH BASIN SECTIONS.

6 TYPICAL 2' x 2' SQ. CATCH BASIN DETAIL
NOT TO SCALE



7 TYPICAL STORM SEWER CONNECTION DETAIL
NOT TO SCALE

FOR APPROVALS ONLY
NOT FOR CONSTRUCTION

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MRM

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SAMARITAN HEALTH COMPREHENSIVE

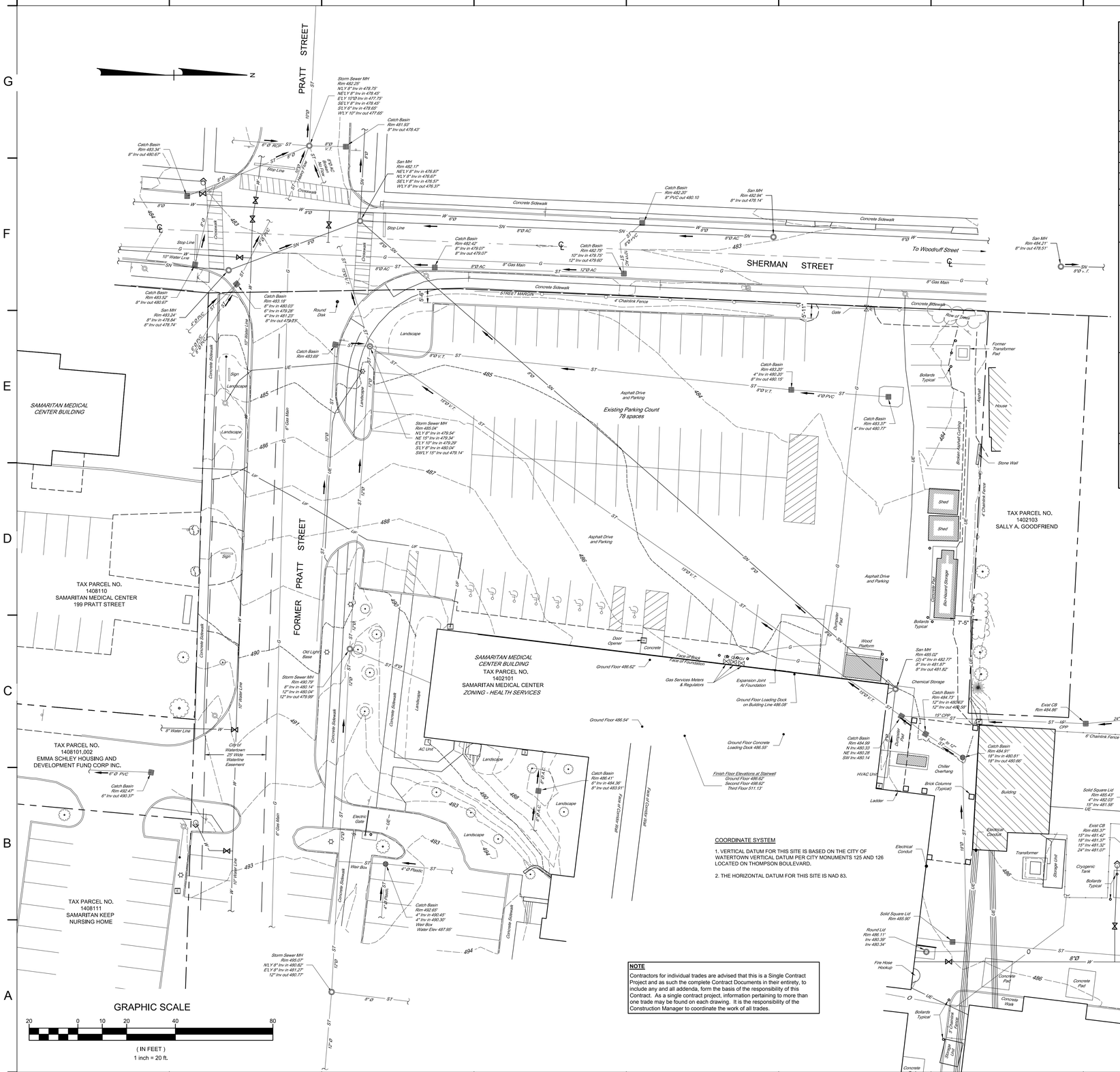
CANCER CENTER
830 Washington Street
WATERTOWN, NY 13601

Number	Date	Issued For

STORM SEWER AND EROSION AND SEDIMENT CONTROL DETAILS

Date
05/24/2016
Scale
AS NOTED
Proj. Number
2015-174

Drawing Number
CG-500



ZONING REGULATIONS

MUNICIPALITY	CITY OF WATERTOWN	
ZONED	HEALTH SERVICES DISTRICT	
PERMITTED PRINCIPAL USES	HOSPITAL, NURSING HOME, MEDICAL OFFICE OR CLINIC ADULT OR CHILD DAY CARE	
PERMITTED ACCESSORY USES	ACCESSORY STRUCTURES, MEDICAL WASTE AUTOCLAVE, ADMINISTRATIVE STAFF OFFICE, EDUCATION AND RESEARCH FACILITY, MEDICAL LABORATORY AND REHABILITATION OR THERAPY CENTER.	
	REQUIRED	**AS PROVIDED**
MINIMUM LOT SIZE	2,500 SQ. FT.	8.07± ACRES
MAXIMUM LOT COVERAGE	N/A	N/A
MINIMUM FRONT SETBACK	20 FT.	110'-7"
MINIMUM SIDE SETBACK	5 FT.	31'-8"
MINIMUM REAR SETBACK	25 FT.	N/A
MINIMUM SIDE SETBACK CORNER LOT	10 FT.	N/A
MINIMUM PARKING SETBACK FROM ANT STREET OR LOT LINE	20'	5'-0" SHERMAN STREET
PARKING SPACE REQUIREMENTS	**HOSPITALS** - 1 SPACE FOR EACH 2 BEDS, PLUS 5 SPACES FOR EACH 1,000 SQ. FT. OF FLOOR SPACE DEDICATED TO OTHER PRINCIPAL OR ACCESSORY USES. **NURSING HOMES** - 1 SPACE FOR EACH 3 BEDS	
LOADING SPACE REQUIREMENTS	**LOADING AREAS BASED ON GROSS FLOOR AREAS (SQ. FT.)** UNDER 15,000 SQ. FT. - 1 LOADING SPACE REQUIRED 15,000 - 29,999 SQ. FT. - 2 LOADING SPACE REQUIRED 30,000 - 49,999 SQ. FT. - 3 LOADING SPACE REQUIRED **NOTE:** 1. COMPUTATION OF FLOOR AREA FOR PARKING AND LOADING SPACE REQUIREMENTS IS THE SUM OF THE GROSS ARE OF ALL FLOORS, INCLUDING BASEMENT, USED DIRECTLY FOR THE PURPOSES OF ENUMERATED, EXCEPT WHEN SUCH FLOOR AREAS ARE DESIGNED AND RESERVED FOR OFF-STREET PARKING PURPOSES. THE AREAS USED FOR THE BOILER ROOM, HEATING FACILITIES, UTILITY FACILITIES, AND STORAGE SHALL NOT BE INCLUDED IN THE COMPUTATION OF FLOOR AREA.	
LOADING SPACE SIZE REQUIREMENTS	1. EACH SPACE REQUIRED SHALL BE NO LESS THAN 10 FT. WIDE BY 30 FT. LONG WITH A VERTICAL CLEARANCE OF NO LESS THAN 14 FT. 2. WHERE ADEQUATE SPACE IS PROVIDED ALONG A PUBLIC STREET OR ALLEY THAT IS DESIGNATED FOR LOADING AND/OR UNLOADING OF VEHICLES, SUCH SPACE SHALL BE DEEMED TO FULFILL ZONING REQUIREMENTS AS LONG AS THE GROSS FLOOR AREA OF ANY PERMITTED USE IS NOT MORE THAN 30,000 SQ. FT. IF THE PERMITTED USE EXCEED 30,000 SQ. FT. THE SCHEDULE LISTED ABOVE SHALL APPLY.	
MINIMUM SIGN SURFACE AREA	200 SQ. FT.	

CITY OF WATERTOWN CODES ENFORCEMENT BUREAU

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245 WASHINGTON ST., RM. 105
WATERTOWN, NY 13601

HOURS
9:00 AM - 5:00 PM
MONDAY - FRIDAY

WEB ADDRESS
HTTPS://WWW.WATERTOWN-NY.GOV/INDEX.ASP?NID=112

ZONING INFORMATION WAS TAKEN FROM THE CITY OF WATERTOWN ZONING AND DISTRICT USE REGULATIONS GUIDE. THIS GUIDE CAN BE FOUND ONLINE AT:

HTTP://ECODE360.COM/10498494

SPECIAL REGULATIONS AND REQUIREMENTS

FENCES *(CHAPTER 310, SECTION 26.1)*

1. FOR ALL ZONING REQUIREMENTS CONCERNING THE CONSTRUCTION AND/OR ALTERATION OF ANY FENCE / FENCES IN A HEALTH SERVICES DISTRICT REFER TO THE CITY OF WATERTOWN DISTRICT USE REGULATIONS GUIDE.

COORDINATE SYSTEM

1. VERTICAL DATUM FOR THIS SITE IS BASED ON THE CITY OF WATERTOWN VERTICAL DATUM PER CITY MONUMENTS 125 AND 126 LOCATED ON THOMPSON BOULEVARD.

2. THE HORIZONTAL DATUM FOR THIS SITE IS NAD 83.

NOTE
Contractors for individual trades are advised that this is a Single Contract Project and as such the complete Contract Documents in their entirety, to include any and all addenda, form the basis of the responsibility of this Contract. As a single contract project, information pertaining to more than one trade may be found on each drawing. It is the responsibility of the Construction Manager to coordinate the work of all trades.

LEGEND

- SANITARY SEWER MANHOLE
- STORM SEWER CATCH BASIN
- PIPE BOLLARD
- B-1 SOIL BORING
- SN SANITARY SEWER LINE
- ST STORM SEWER LINE
- 485 CONTOUR
- G GAS LINE
- UF UNDERGROUND FIBER OPTIC LINE
- ADA ACCESSIBLE TRAVEL ROUTE
- EXISTING SANITARY SEWER MANHOLE
- EXISTING STORM SEWER CATCH BASIN
- EXISTING FIRE HYDRANT
- EXISTING VALVE
- EXISTING UTILITY POLE
- EXISTING LIGHT POLE
- GV EXISTING GAS VALVE
- SN EXISTING SANITARY SEWER LINE
- ST EXISTING STORM SEWER LINE
- W EXISTING WATER LINE
- UE EXISTING UNDERGROUND ELECTRIC
- OE EXISTING OVERHEAD ELECTRIC
- UF EXISTING UNDERGROUND FIBER OPTIC
- G EXISTING UNDERGROUND GAS
- UT EXISTING UNDERGROUND TELEPHONE
- PROPERTY LINE
- STREET MARGIN
- 485 EXISTING CONTOUR
- EXISTING FENCE

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Bernier, Carr & Associates, Engineers, Architects and Land Surveyors, P.C.
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Watertown NY 13601
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STATE OF NEW YORK · MICHAEL D. BERNIER · 093734 · LICENSED PROFESSIONAL ENGINEER

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REVISION SCHEDULE

NAME	DATE
C-ADD-01	5/12/2016
CITY SITE PLAN RESUBMISSION	5/24/2016

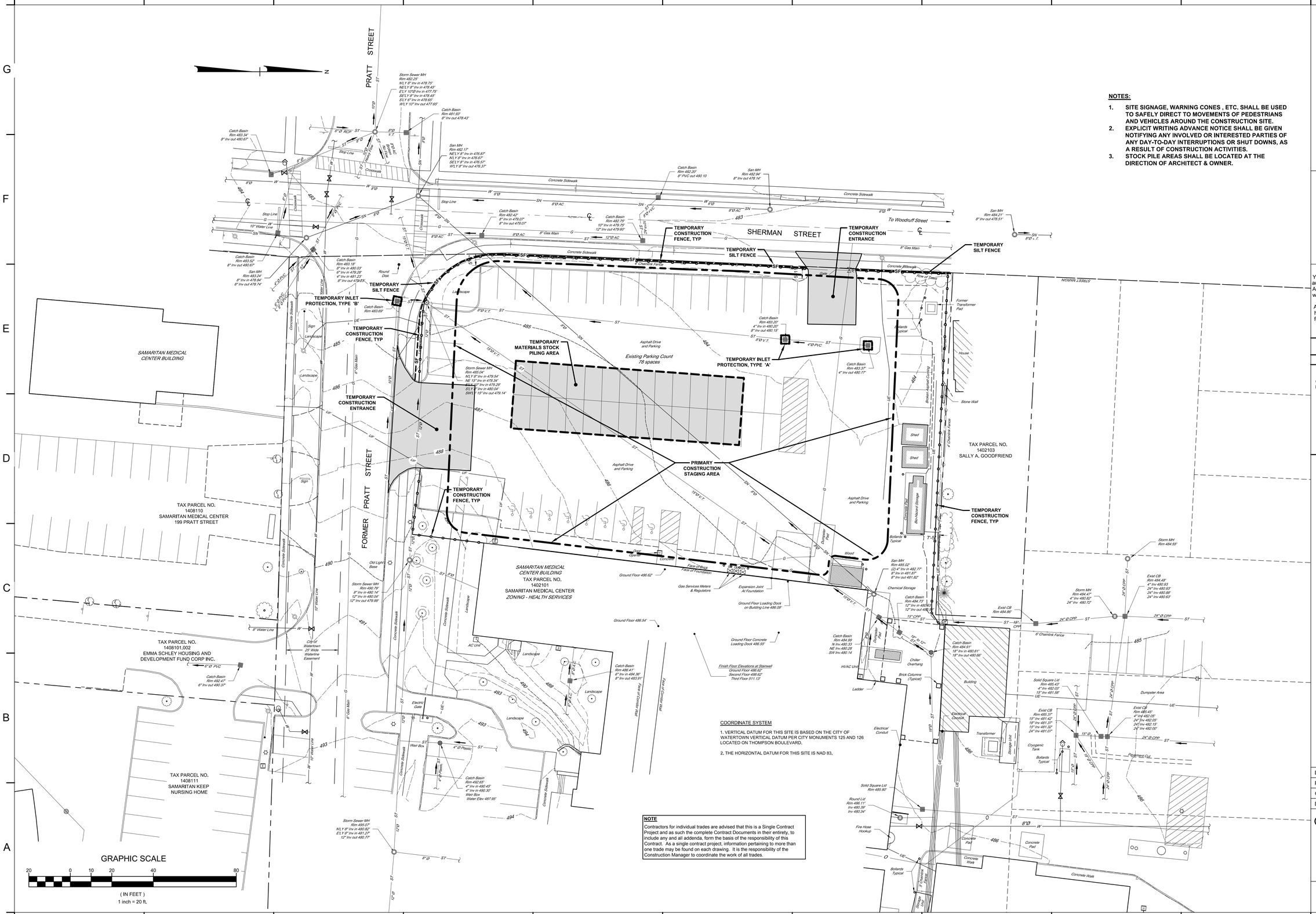
PHASE IV: MATERNITY, PEDIATRICS, IMHU, and SUPPORT SERVICES

SAMARITAN MEDICAL CENTER
830 WASHINGTON ST, WATERTOWN, NY

DATE:	4/22/2016
PROJECT:	2014-150B
OTHER:	
DRAWN BY:	JBE

EXISTING SITE PLAN

SITE-100



NOTES:

1. SITE SIGNAGE, WARNING CONES , ETC. SHALL BE USED TO SAFELY DIRECT TO MOVEMENTS OF PEDESTRIANS AND VEHICLES AROUND THE CONSTRUCTION SITE.
2. EXPLICIT WRITING ADVANCE NOTICE SHALL BE GIVEN NOTIFYING ANY INVOLVED OR INTERESTED PARTIES OF ANY DAY-TO-DAY INTERRUPTIONS OR SHUT DOWNS, AS A RESULT OF CONSTRUCTION ACTIVITIES.
3. STOCK PILE AREAS SHALL BE LOCATED AT THE DIRECTION OF ARCHITECT & OWNER.

COORDINATE SYSTEM

1. VERTICAL DATUM FOR THIS SITE IS BASED ON THE CITY OF WATERTOWN VERTICAL DATUM PER CITY MONUMENTS 125 AND 126 LOCATED ON THOMPSON BOULEVARD.

2. THE HORIZONTAL DATUM FOR THIS SITE IS NAD 83.

NOTE

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Interior Design
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Ithaca NY 14850
p 607.273.7600 f 607.273.0475

Bernier, Carr & Associates, Engineers, Architects and Land Surveyors, P.C.
327 Mullin Street
Watertown NY 13601
p 315.782.8130 f 315.782.7192

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REVISION SCHEDULE

NAME	DATE
C-ADD-01	5/12/2016
CITY SITE PLAN RESUBMISSION	5/24/2016

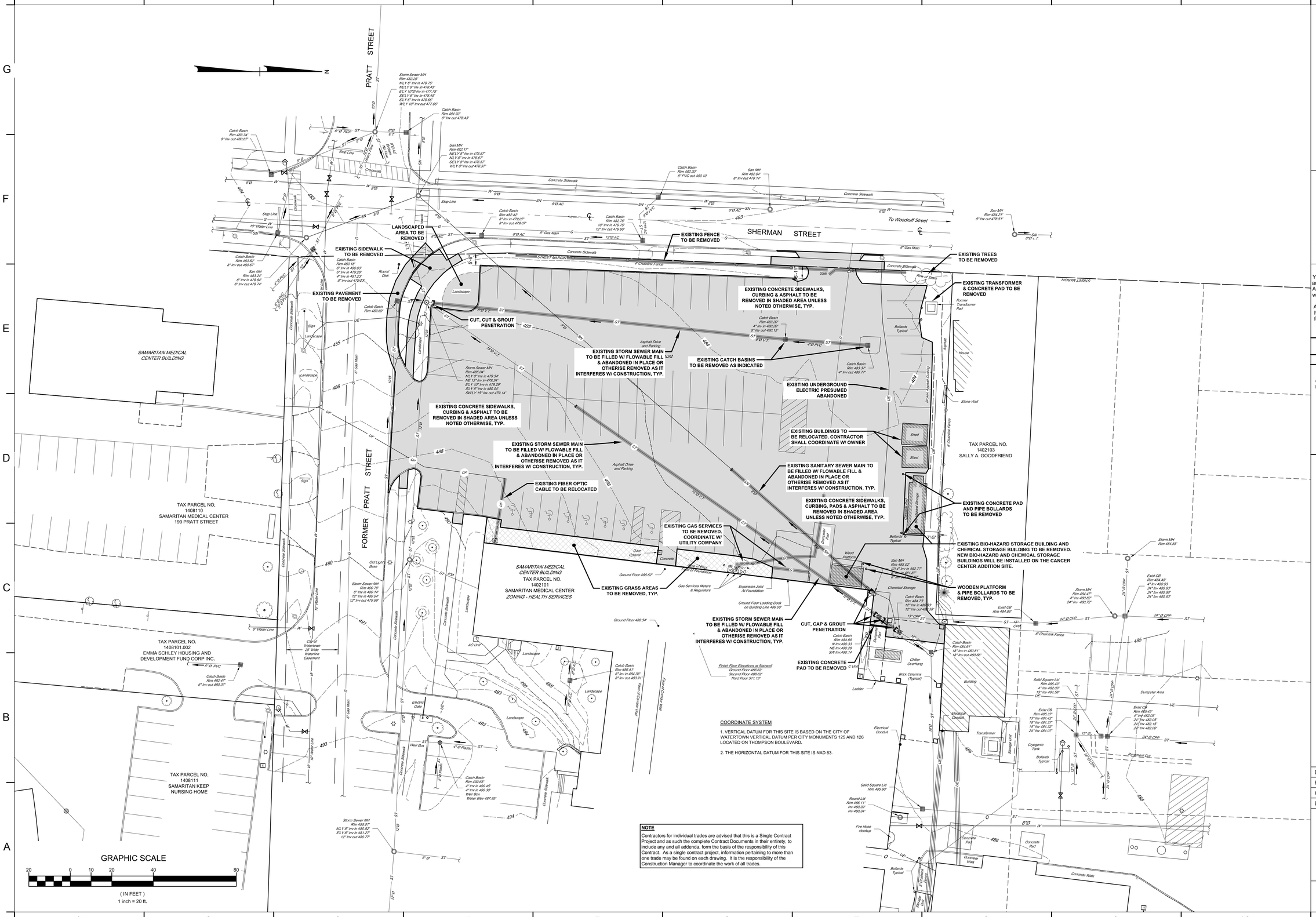
PHASE IV: MATERNITY, PEDIATRICS, IMHU, and SUPPORT SERVICES

SAMARITAN MEDICAL CENTER
830 WASHINGTON ST, WATERTOWN, NY

DATE:	4/22/2016
PROJECT:	2014-150B
OTHER:	
DRAWN BY:	JBE

CONSTRUCTION, EROSION & SEDIMENT CONTROL PLAN

SITE-101



COORDINATE SYSTEM

1. VERTICAL DATUM FOR THIS SITE IS BASED ON THE CITY OF WATERTOWN VERTICAL DATUM PER CITY MONUMENTS 125 AND 126 LOCATED ON THOMPSON BOULEVARD.

2. THE HORIZONTAL DATUM FOR THIS SITE IS NAD 83.

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CITY SITE PLAN RESUBMISSION	5/24/2016

PHASE IV: MATERNITY, PEDIATRICS, IMHU, and SUPPORT SERVICES

SAMARITAN MEDICAL CENTER
830 WASHINGTON ST, WATERTOWN, NY

DATE:	4/22/2016
PROJECT:	2014-150B
OTHER:	
DRAWN BY:	JBE

SITE DEMOLITION PLAN

SITE-102

NOTE

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SAMARITAN MEDICAL CENTER BUILDING

TAX PARCEL NO.
1402101
SAMARITAN MEDICAL CENTER

ZONING - HEALTH SERVICES

COORDINATE SYSTEM

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2. THE HORIZONTAL DATUM FOR THIS SITE IS NAD 83.

Finish Floor Elevations at Stairwell
Ground Floor 486.62'
Second Floor 498.62'
Third Floor 511.13'

Ground Floor Concrete Loading Dock 486.05'

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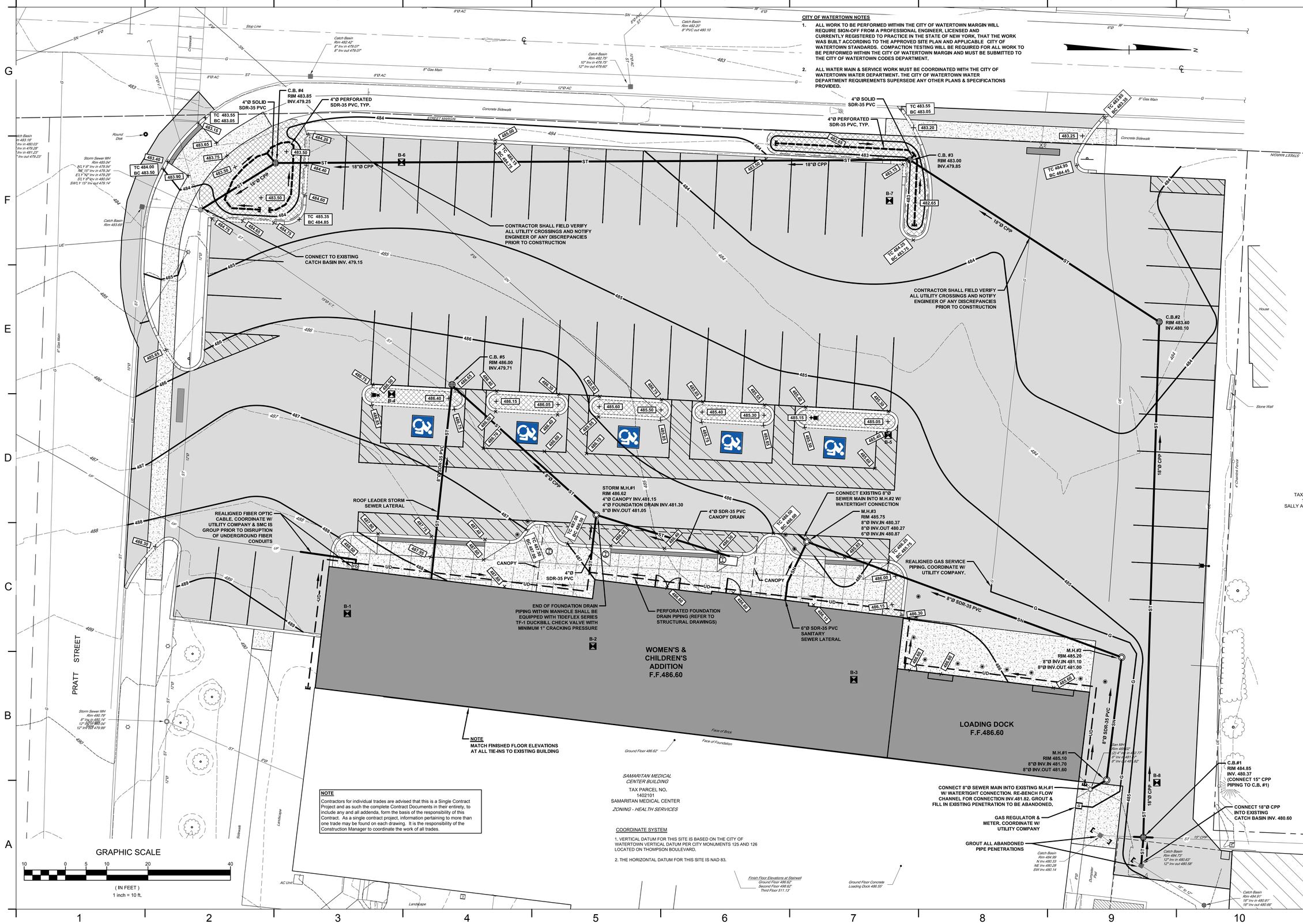
SAMARITAN MEDICAL CENTER
830 WASHINGTON ST, WATERTOWN, NY

DATE:	4/22/2016
PROJECT:	2014-150B
OTHER:	
DRAWN BY:	JBE

ACCESS & PARKING SITE PLAN

SITE-103



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CITY OF WATERTOWN NOTES

1. ALL WORK TO BE PERFORMED WITHIN THE CITY OF WATERTOWN MARGIN WILL REQUIRE SIGN-OFF FROM A PROFESSIONAL ENGINEER, LICENSED AND CURRENTLY REGISTERED TO PRACTICE IN THE STATE OF NEW YORK, THAT THE WORK WAS BUILT ACCORDING TO THE APPROVED SITE PLAN AND APPLICABLE CITY OF WATERTOWN STANDARDS. COMPACTION TESTING WILL BE REQUIRED FOR ALL WORK TO BE PERFORMED WITHIN THE CITY OF WATERTOWN MARGIN AND MUST BE SUBMITTED TO THE CITY OF WATERTOWN CODES DEPARTMENT.
2. ALL WATER MAIN & SERVICE WORK MUST BE COORDINATED WITH THE CITY OF WATERTOWN WATER DEPARTMENT. THE CITY OF WATERTOWN WATER DEPARTMENT REQUIREMENTS SUPERSEDE ANY OTHER PLANS & SPECIFICATIONS PROVIDED.

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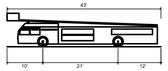
SAMARITAN MEDICAL CENTER
830 WASHINGTON ST, WATERTOWN, NY

DATE:	4/22/2016
PROJECT:	2014-150B
OTHER:	
DRAWN BY:	JBE

GRADING & UTILITY PLAN

SITE-104



Copy of Copy of Aerial Fire Truck	
Overall Length	43.000ft
Overall Width	8.250ft
Overall Body Height	7.515ft
Min Body Ground Clearance	0.765ft
Track Width	8.250ft
Lock-to-lock time	5.00s
Max Wheel Angle	45.00°

CITY OF WATERTOWN AERIAL FIRE TRUCK

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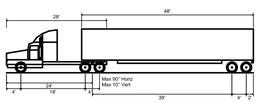

STAA-STD - STAA Design Vehicle (50ft MTCR)	
Overall Length	69.000ft
Overall Width	8.500ft
Overall Body Height	12.227ft
Min Body Ground Clearance	1.422ft
Track Width	8.500ft
Lock-to-lock time	6.00s
Curb to Curb Turning Radius	50.000ft

HEAVY TRACTOR TRAILER DESIGN DELIVERY VEHICLE

GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)
1 inch = 20 ft.

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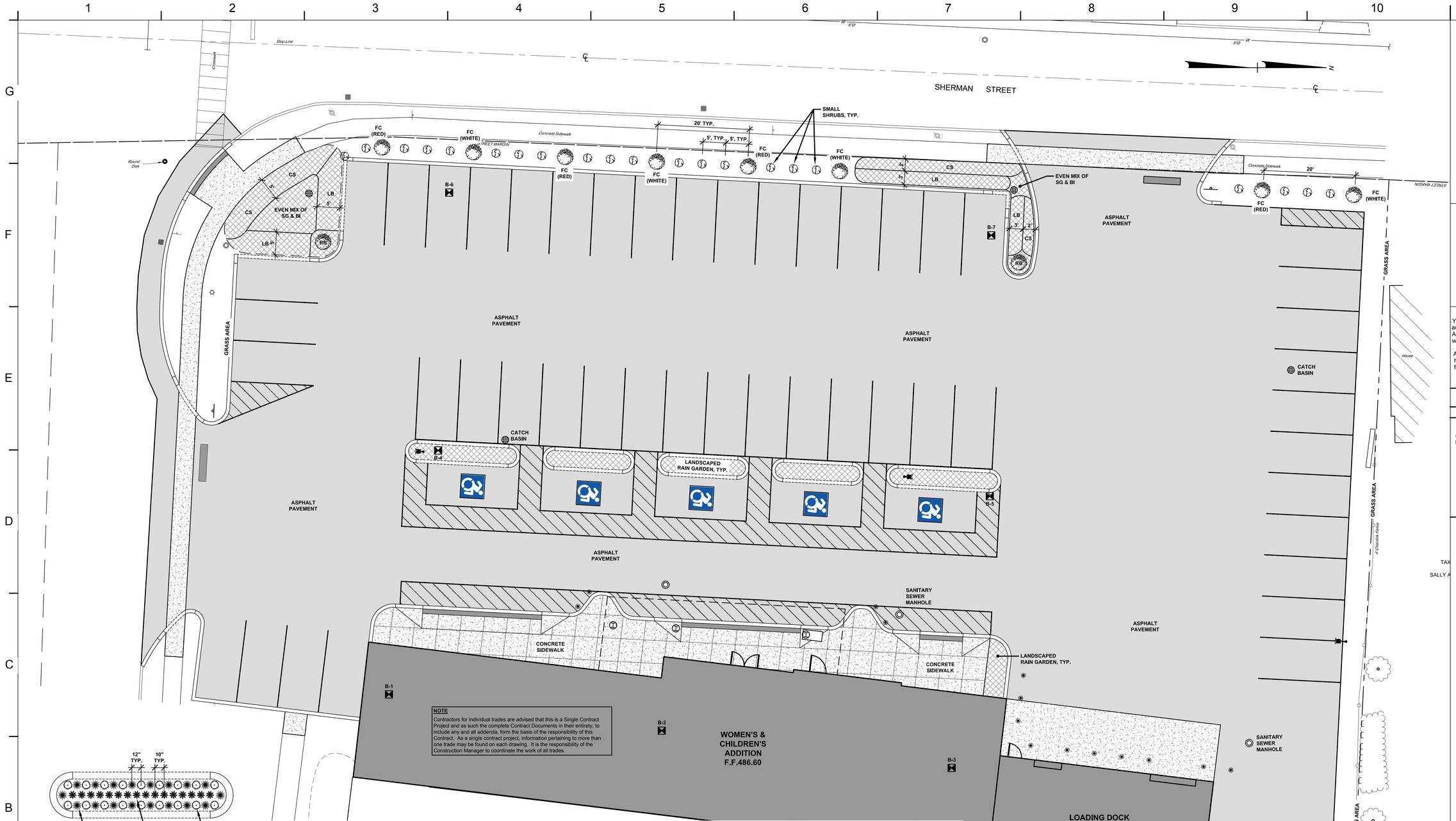
SAMARITAN MEDICAL CENTER
830 WASHINGTON ST, WATERTOWN, NY

DATE:	4/22/2016
PROJECT:	2014-150B
OTHER:	
DRAWN BY:	JBE

CODE COMPLIANCE SITE PLAN

SITE-105



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TYPICAL LANDSCAPED RAIN GARDEN PLANTING LAYOUT

NOT TO SCALE

PLANTING SCHEDULE

COMMON NAME	SYMBOL	QUANTITY	MIN. SIZE	ROOT	ROOT DEPTH	SPACING	BOTANICAL NAME	COMMENTS
SWITCH GRASS	SG	80	11 CU.IN.	PLUG	5"	12"	PANICUM VIRGATUM	
STANDING OVATION LITTLE BLUE STEM	LB	280	11 CU.IN.	PLUG	5"	12"	SCHIZACHYRIGM SCOPARIUM 'STANDING OVATION'	
CONEFLOWER	CS	225	1 QUART	PLUG	NA	12"	ECHINACEA 'EVAN SAUL'	
BLUE FLAG IRIS	BI	180	11 CU.IN.	PLUG	5"	10"	DESCHAMPSIA FLEXUOSA	
GOLDEN SEDGE	GS	110	11 CU.IN.	PLUG	5"	12"	CARIX AUREA	
PURPLE DOME NEW ENGLAND ASTER	NA	105	NO.2	CONTINUOUS	NA	12"	ASTER NOVAE - ANGLIAE 'PURPLE DOME'	
FLOWERING CRAB APPLE	FC	8	1-1/2" CALIPER	B & B	NA	NA	MALUS	RED & WHITE FLOWERING VARIETIES, NON-FRUITING
RIVER BIRCH	RB	2	1-1/2" CALIPER	B & B	NA	NA	BETULA NIGRA	MULTI BOLE

NOTES

1. TREE PLANTS SHALL BE BALLED & BURLAPPED. (B&B)
2. PROVIDE IRRIGATION OF ALL PLANTINGS TO ESTABLISH GROWTH.

GRAPHIC SCALE

10 0 5 10 20 40

(IN FEET)
1 inch = 10 ft.

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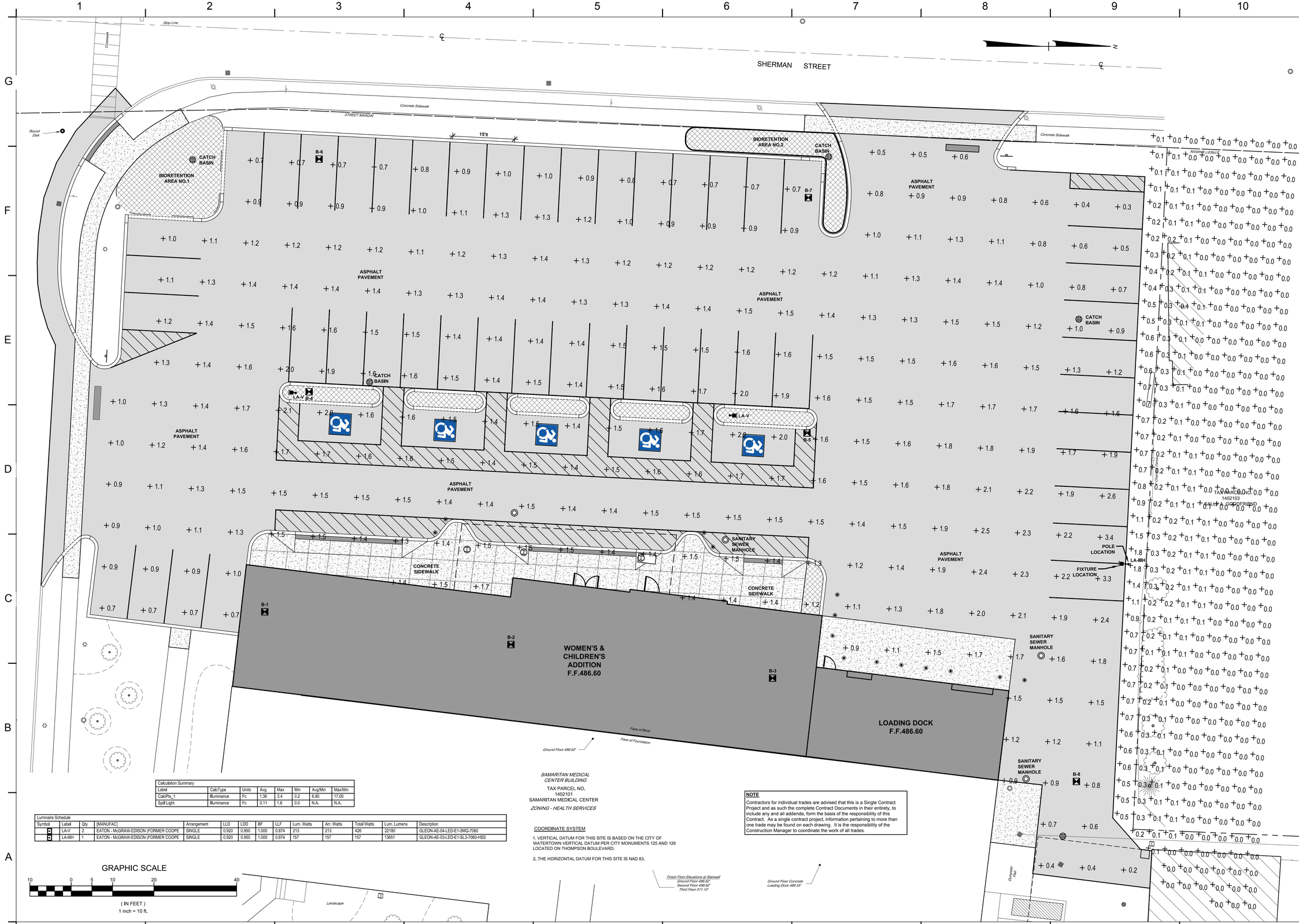
OTHER:	
DRAWN BY:	JBE

LANDSCAPING SITE PLAN

SITE-106



Calculation Summary								
Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min
CalcPts_1	Illuminance	Fc	1.36	3.4	0.2	6.80	17.00
Spill Light	Illuminance	Fc	0.11	1.8	0.0	N.A.	N.A.

Luminaire Schedule													
Symbol	Label	Qty	[MANUFAC]	Arrangement	LLD	LDD	BF	LLF	Lum. Watts	Arr. Watts	Total Watts	Lum. Lumens	Description
	LA-V	2	EATON - McGRAW-EDISON (FORMER COOPE	SINGLE	0.920	0.950	1.000	0.874	213	213	426	22180	GLEON-AE-04-LED-E1-5MQ-7060
	LA-IIIH	1	EATON - McGRAW-EDISON (FORMER COOPE	SINGLE	0.920	0.950	1.000	0.874	157	157	157	13651	GLEON-AE-03-LED-E1-SL3-7060-HSS

GRAPHIC SCALE

10 0 5 10 20 40

(IN FEET)
1 inch = 10 ft.

SAMARITAN MEDICAL CENTER BUILDING
TAX PARCEL NO. 1402101
SAMARITAN MEDICAL CENTER
ZONING - HEALTH SERVICES

COORDINATE SYSTEM

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SAMARITAN MEDICAL CENTER
830 WASHINGTON ST, WATERTOWN, NY

DATE:	4/22/2016
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OTHER:	
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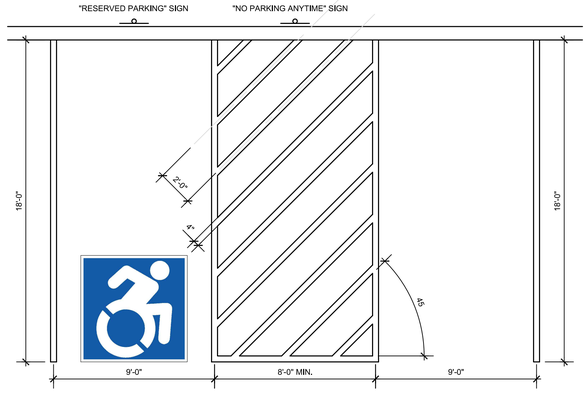
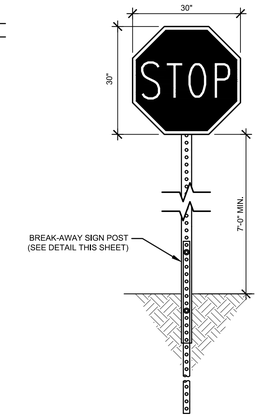
PHOTOMETRIC PLAN

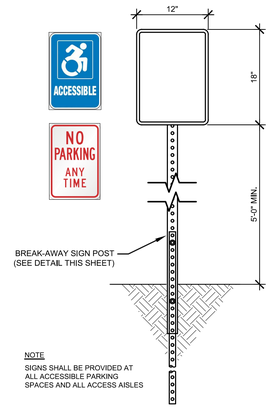
SITE-107



1. PARKING SPACE LAYOUT DETAIL (TYPICAL & HANDICAP ACCESIBLE SPACES)
NOT TO SCALE

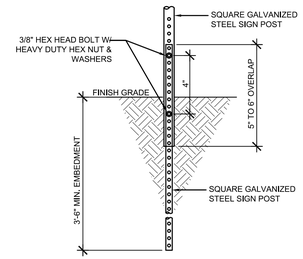


4. STOP SIGN DETAIL
NOT TO SCALE

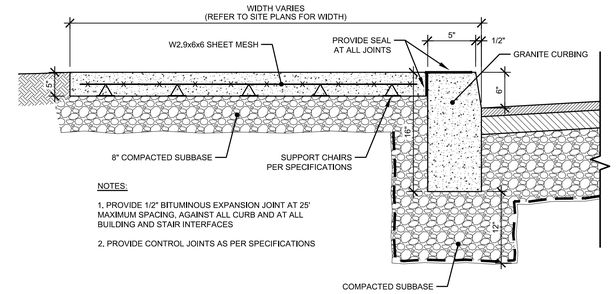


NOTE
SIGNS SHALL BE PROVIDED AT ALL ACCESSIBLE PARKING SPACES AND ALL ACCESS AISLES

8. ACCESSIBLE PARKING SIGN DETAIL
NOT TO SCALE



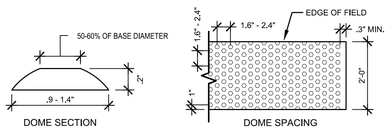
9. BREAK-AWAY SIGN POST DETAIL
NOT TO SCALE



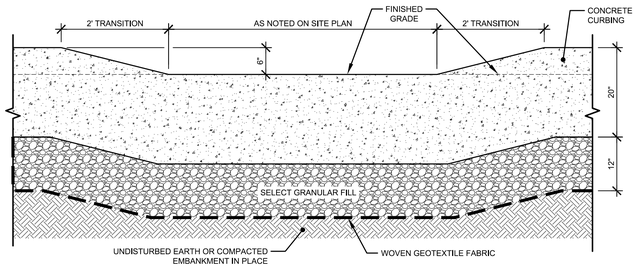
NOTES:

1. PROVIDE 1/2" BITUMINOUS EXPANSION JOINT AT 25' MAXIMUM SPACING, AGAINST ALL CURB AND AT ALL BUILDING AND STAIR INTERFACES
2. PROVIDE CONTROL JOINTS AS PER SPECIFICATIONS

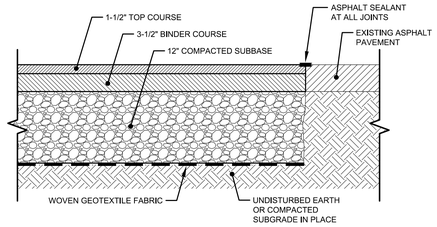
13. GRANITE CURB AND SIDEWALK DETAIL
NOT TO SCALE



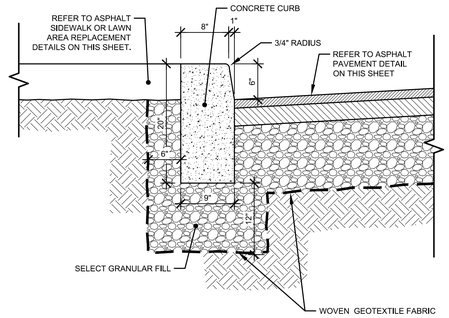
2. DETECTABLE WARNING FIELD DETAILS
NOT TO SCALE



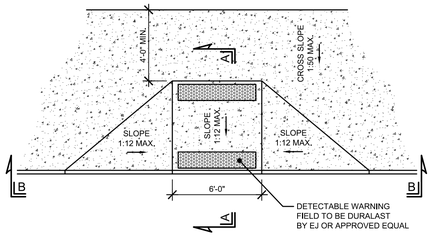
5. CURB CUT DETAIL
NOT TO SCALE



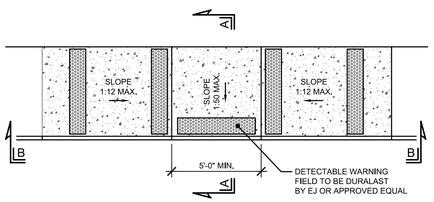
10. ASPHALT PAVEMENT RECONSTRUCTION DETAIL
NOT TO SCALE



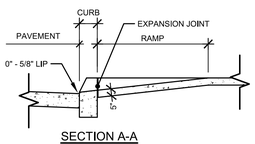
14. STANDARD CONCRETE CURB DETAIL
NOT TO SCALE



PLAN



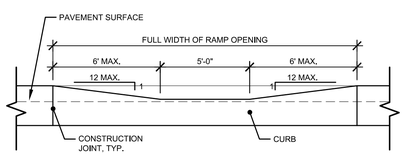
PLAN



SECTION A-A

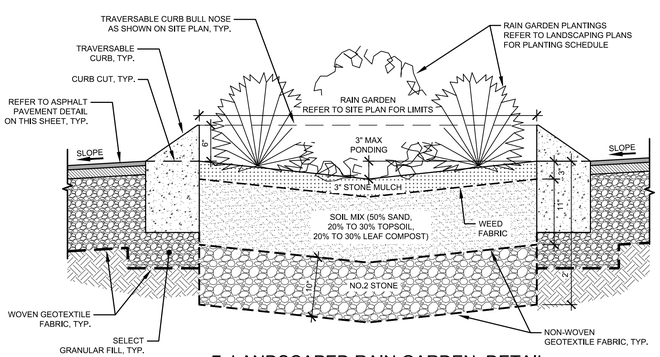
NOTE:

1. ALL PROPOSED CURB RAMPS AND SIDEWALKS, SHALL MEET (PROWAG) PUBLIC RIGHT OF WAY ACCESSIBILITY GUIDELINES

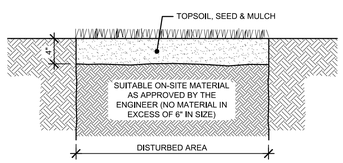


SECTION B-B

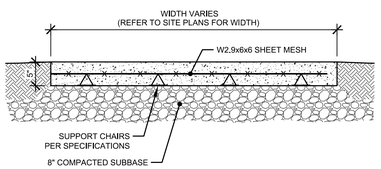
3. ALL ACCESS RAMP DETAILS
NOT TO SCALE



7. LANDSCAPED RAIN GARDEN DETAIL
NOT TO SCALE



6. LAWN AREA REPLACEMENT DETAIL
NOT TO SCALE



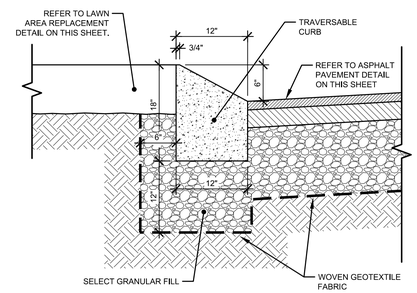
CONCRETE SPECIFICATIONS:

1. 28 DAY STRENGTH:	5,000 PSI
2. MAXIMUM SLUMP:	4 INCHES
3. AIR ENTRAINMENT:	6 %
4. WATER/CEMENT RATIO	0.42 MAX
5. CEMENT:	TYPE I-A
6. AGGREGATE:	ASTM C-33

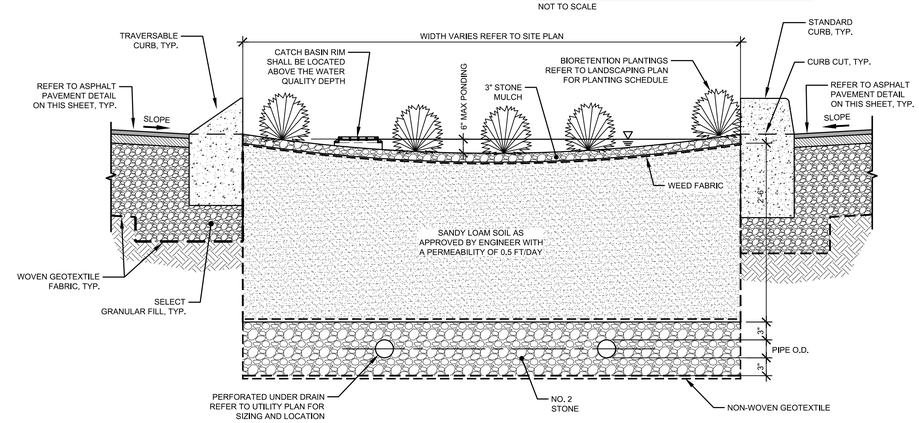
NOTE:

1. ALL SIDEWALK CONSTRUCTION WITHIN THE CITY MARGIN SHALL BE IN CONFORMANCE WITH CITY OF WATERTOWN SIDEWALK CONSTRUCTION SPECIFICATIONS.
2. PROVIDE 1/2" BITUMINOUS EXPANSION JOINT AT 25' MAXIMUM SPACING, AGAINST ALL CURB AND AT ALL BUILDING AND STAIR INTERFACES.
3. HEAVY DUTY SIDEWALK AND CONCRETE PADS SHALL BE 6" THICK WITH 2.9x4x4 SHEET MESH.

11. CONCRETE SIDEWALK DETAIL
NOT TO SCALE



15. TRAVERSABLE CURB DETAIL
NOT TO SCALE



12. BIO-RETENTION AREA WITH TRAVERSABLE CURB DETAIL
NOT TO SCALE

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REVISION SCHEDULE

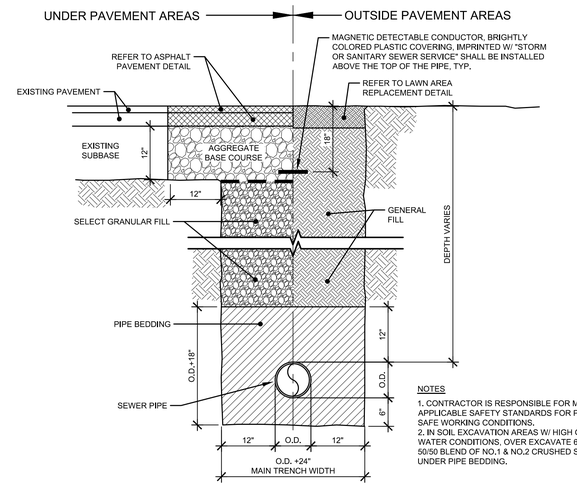
NAME	DATE
C-ADD-01	5/12/2016
CITY SITE PLAN RESUBMISSION	5/24/2016

PHASE IV: MATERNITY, PEDIATRICS, IMHU, and SUPPORT SERVICES
SAMARITAN MEDICAL CENTER
830 WASHINGTON ST, WATERTOWN, NY

DATE:	4/22/2016
PROJECT:	2014-150B
OTHER:	
DRAWN BY:	JBE

SITE DETAILS

SITE-200

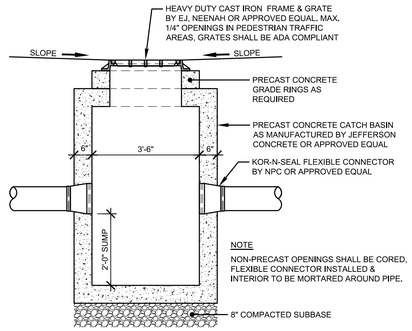


NOTES

1. CONTRACTOR IS RESPONSIBLE FOR MEETING ALL APPLICABLE SAFETY STANDARDS FOR PROVIDING SAFE WORKING CONDITIONS.
2. IN SOIL EXCAVATION AREAS W/ HIGH GROUND WATER CONDITIONS, OVER EXCAVATE 6" & PROVIDE 50/50 BLEND OF NO.1 & NO.2 CRUSHED STONE UNDER PIPE BEDDING.

1. STORM / SEWER TRENCH AND PIPE BEDDING DETAIL

NOT TO SCALE

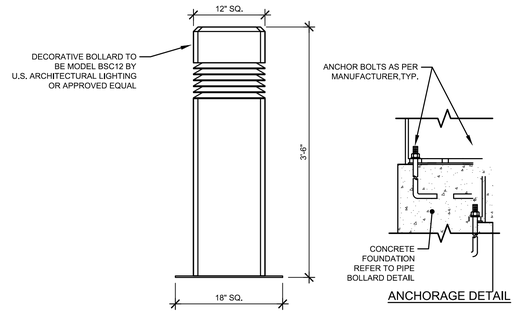


NOTE

NON-PRECAST OPENINGS SHALL BE CORED, FLEXIBLE CONNECTOR INSTALLED & INTERIOR TO BE MORTARED AROUND PIPE.

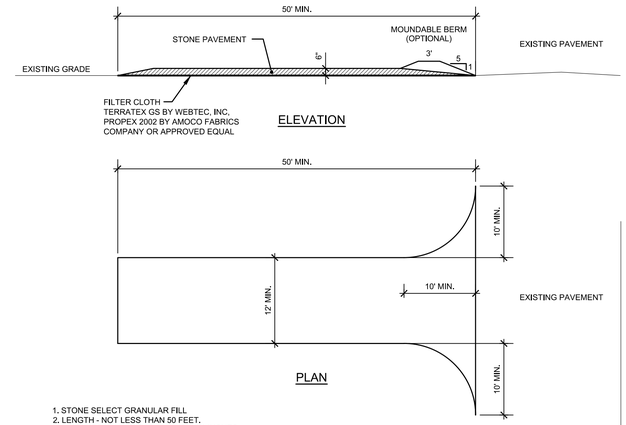
3. CATCH BASIN DETAIL

NOT TO SCALE



7. DECORATIVE PIPE BOLLARD DETAIL

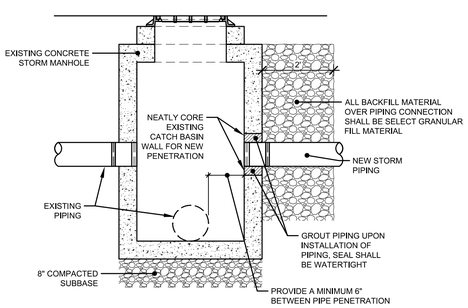
NOT TO SCALE



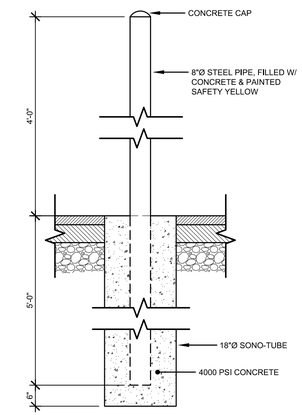
1. STONE SELECT GRANULAR FILL
2. LENGTH - NOT LESS THAN 50 FEET.
3. THICKNESS - NOT LESS THAN SIX (6) INCHES.
4. WIDTH - TWELVE (12) FEET MINIMUM, BUT NOT LESS THAN THE FULL WIDTH AT POINTS WHERE INGRESS AND EGRESS OCCURS. TWENTY-FOUR (24) FOOT IF SINGLE ENTRANCE TO SITE.
5. FILTER CLOTH - WILL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING OF STONE.
6. SURFACE WATER - ALL SURFACE WATER FLOWING OR DIVERTED TOWARD CONSTRUCTION ENTRANCES SHALL BE PIPED ACROSS THE ENTRANCE. IF PIPING IS PRACTICAL. A MOUNTABLE BERM WITH 5:1 SLOPES WILL BE PERMITTED.
7. MAINTENANCE - THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHT-OF-WAY. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHT-OF-WAY MUST BE REMOVED IMMEDIATELY.
8. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH STONE AND WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE.
9. PERIODIC INSPECTION AND NEEDED MAINTENANCE SHALL BE PROVIDED AFTER EACH RAIN.

9. STABILIZED CONSTRUCTION ENTRANCE

NOT TO SCALE

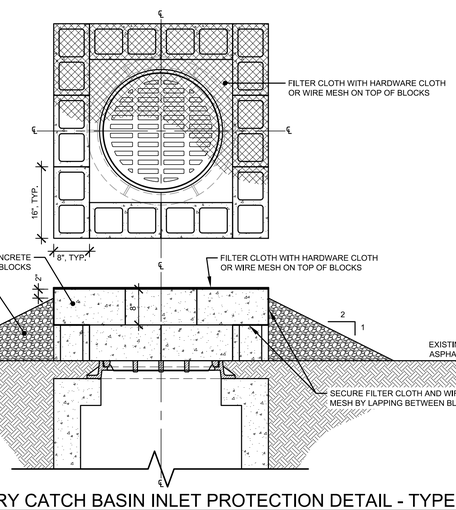


4. CONNECTION TO EXISTING STORM MANHOLE DETAIL



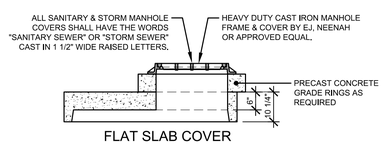
8. STANDARD PIPE BOLLARD DETAIL

NOT TO SCALE

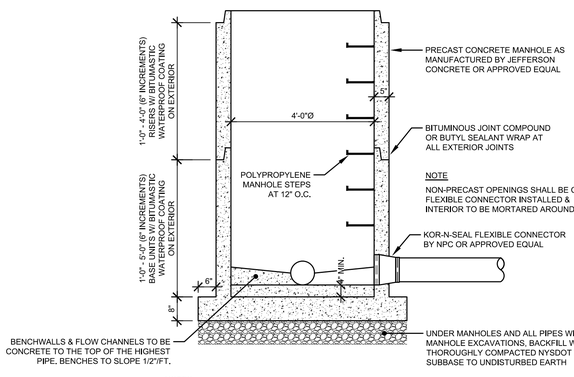


10. TEMPORARY CATCH BASIN INLET PROTECTION DETAIL - TYPE 'B'

NOT TO SCALE



FLAT SLAB COVER



NOTE

NON-PRECAST OPENINGS SHALL BE CORED, FLEXIBLE CONNECTOR INSTALLED & INTERIOR TO BE MORTARED AROUND PIPE.

NOTES

1. ALL MANHOLES ARE 4' I.D. UNLESS OTHERWISE NOTED ON PLANS OR SPECIFICATIONS.

2. PIPE CONNECTIONS TO ALL MANHOLES TO BE MADE USING FLEXIBLE BOOTS TO FILL IN THE SPACE BETWEEN THE OUTSIDE OF THE PIPE AND THE MANHOLE WALLS.

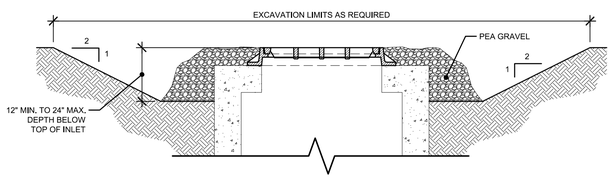
3. MANHOLE FRAMES ARE TO BE INSTALLED 1/4" BELOW AND MATCH SLOPE OF STREET GRADIENTS AND/OR CROWN OF PAVEMENT, DRIVEWAYS, LAWNS AND OTHER LOCATIONS WHERE FRAME AND COVER SHOULD CONFORM TO EXISTING SLOPES AND MATCH EXISTING ELEVATIONS.

4. FOR SHALLOW MANHOLES, VARY HEIGHT OF BASE SECTION BY CAST IN PLACE OR PRECAST MANHOLE BASE TO PERMIT INSTALLATION OF FLAT SLAB TOP.

5. MAGNETIC DETECTABLE CONDUCTOR, BRIGHTLY COLORED PLASTIC COVERING, IMPRINTED W/ "SANITARY SEWER SERVICE" SHALL BE INSTALLED ABOVE THE TOP OF THE PIPE, TYP.

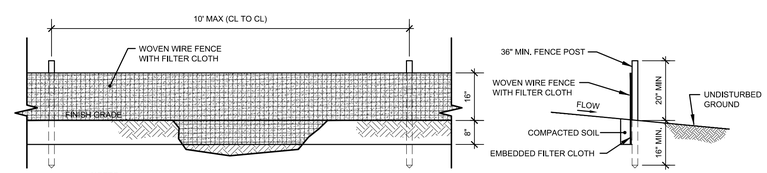
2. SEWER MANHOLE DETAIL

NOT TO SCALE



5. TEMPORARY CATCH BASIN INLET PROTECTION DETAIL - TYPE 'A'

NOT TO SCALE

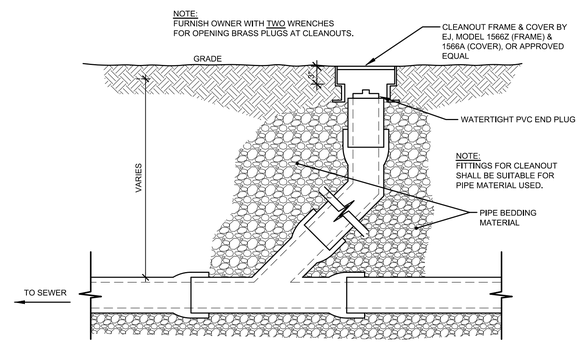


NOTES

1. WOVEN WIRE FENCE TO BE FASTENED SECURELY TO FENCE POSTS WITH WIRE TIES OR STAPLES.
2. FILTER CLOTH TO BE FASTENED SECURELY TO WOVEN WIRE FENCE WITH TIES SPACED EVERY 24" AT TOP AND MID SECTION.
3. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHALL BE OVERLAPPED BY SIX INCHES AND FOLDED.
4. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REMOVED WHEN BULGES DEVELOP IN THE SILT FENCE.

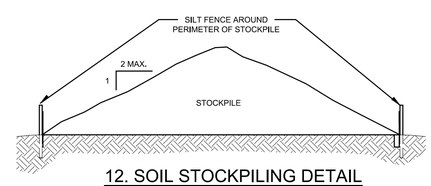
11. SILT FENCE DETAIL

NOT TO SCALE



6. GRAVITY SEWER CLEANOUT DETAIL

NOT TO SCALE



12. SOIL STOCKPILING DETAIL

NOT TO SCALE

ADDITIONAL STORMWATER POLLUTION PREVENTION NOTES:

- THERE SHALL NOT BE MORE THAN FIVE (5) ACRES OF DISTURBED SOIL AT ANY ONE TIME.
- DISTURBED AREAS WITHIN THE NYSDOT HIGHWAY RIGHT-OF-WAY SHALL BE PROTECTED FROM EROSION WITHIN 7 DAYS, ALL OTHER AREAS SHALL BE PROTECTED WITHIN 14 DAYS.
- EROSION CONTROL BLANKET SHALL BE INSTALLED ON DISTURBED AREAS WITH 3:1 OR GREATER SLOPE OR IN CONCENTRATED FLOW PATHS.
- CONTRACTOR SHALL PREPARE AND CONTINUOUSLY UPDATE A CONSTRUCTION PHASING PLAN.
- CONTRACTOR SHALL PROVIDE LOCATIONS OF OFF-SITE MATERIAL, WASTE, BORROW OR EQUIPMENT.
- SOIL AND STONE STOCKPILES SHALL BE PROTECTED FROM EROSION, WHEN STOCKPILES ARE IN USE, THE PROTECTION SHALL BE REPLACED AT THE END OF EACH WORK DAY.
- A STABILIZED CONSTRUCTION ENTRANCE SHALL BE CONSTRUCTED AT STAGING AREAS TO PREVENT TRACKING SEDIMENT ONTO PUBLIC RIGHT-OF-WAY OR STREETS.
- CONTRACTOR SHALL INSPECT ALL EROSION AND SEDIMENT CONTROL PRACTICES WEEKLY, AND AFTER ALL RAINFALL EVENTS.
- CONTRACTOR SHALL MAINTAIN EROSION AND SEDIMENT CONTROL PRACTICES UNTIL PERMANENT RESTORATION IS ESTABLISHED.

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REVISION SCHEDULE

NAME	DATE
C-ADD-01	5/12/2016
CITY SITE PLAN RESUBMISSION	5/24/2016

PHASE IV: MATERNITY, PEDIATRICS, IMHU, and SUPPORT SERVICES

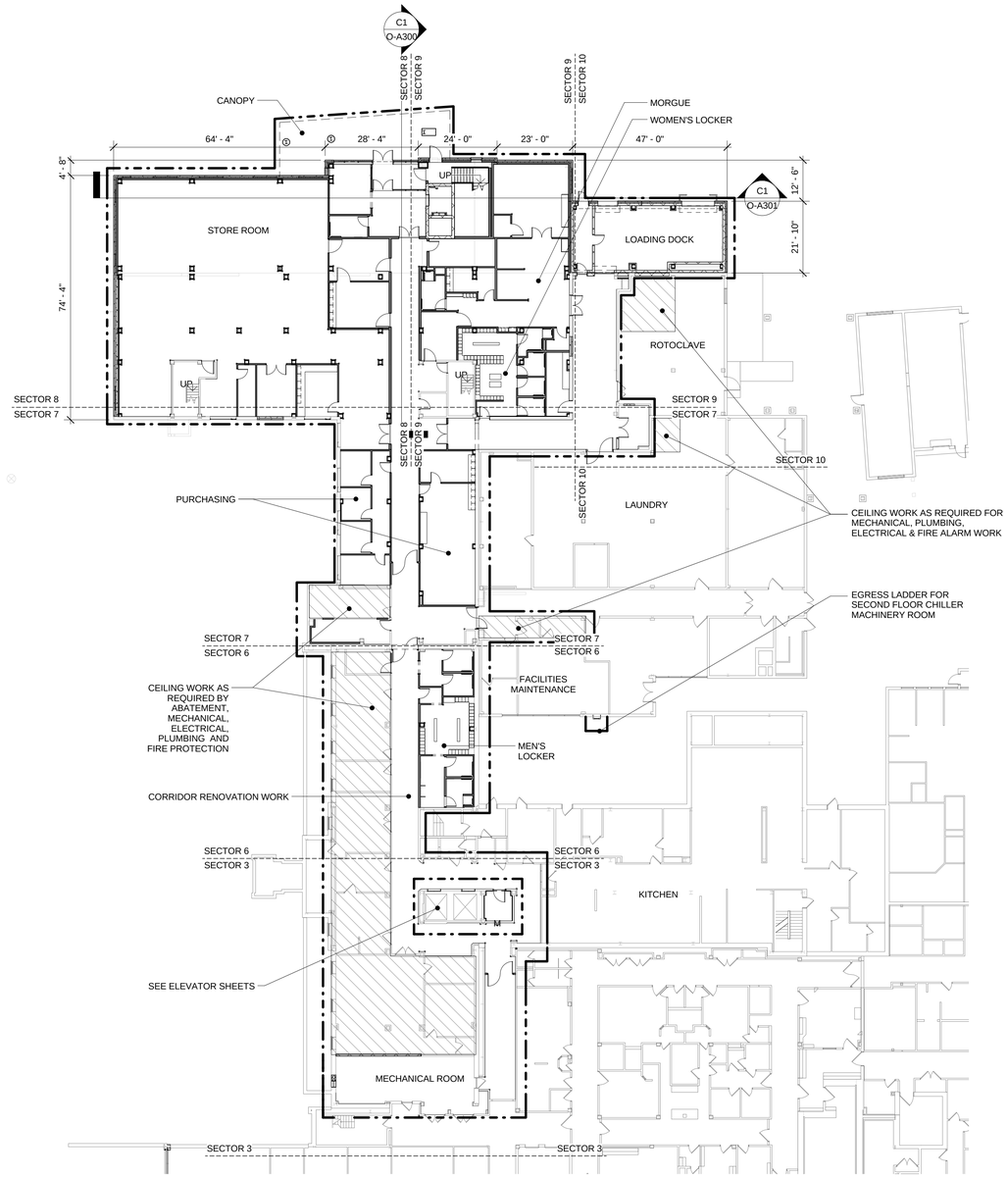
SAMARITAN MEDICAL CENTER
830 WASHINGTON ST, WATERTOWN, NY

DATE:	4/22/2016
PROJECT:	2014-150B
OTHER:	
DRAWN BY:	JBE

SITE DETAILS

SITE-201

4/21/2016 4:44:22 PM



A1 FIRST FLOOR - REFERENCE PLAN
3/64" = 1'-0"

N

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830 WASHINGTON ST, WATERTOWN, NY

DATE:	04/22/2016
PROJECT:	2014068
OTHER:	
DRAWN BY:	Author

FIRST FLOOR REFERENCE PLAN

E-A100

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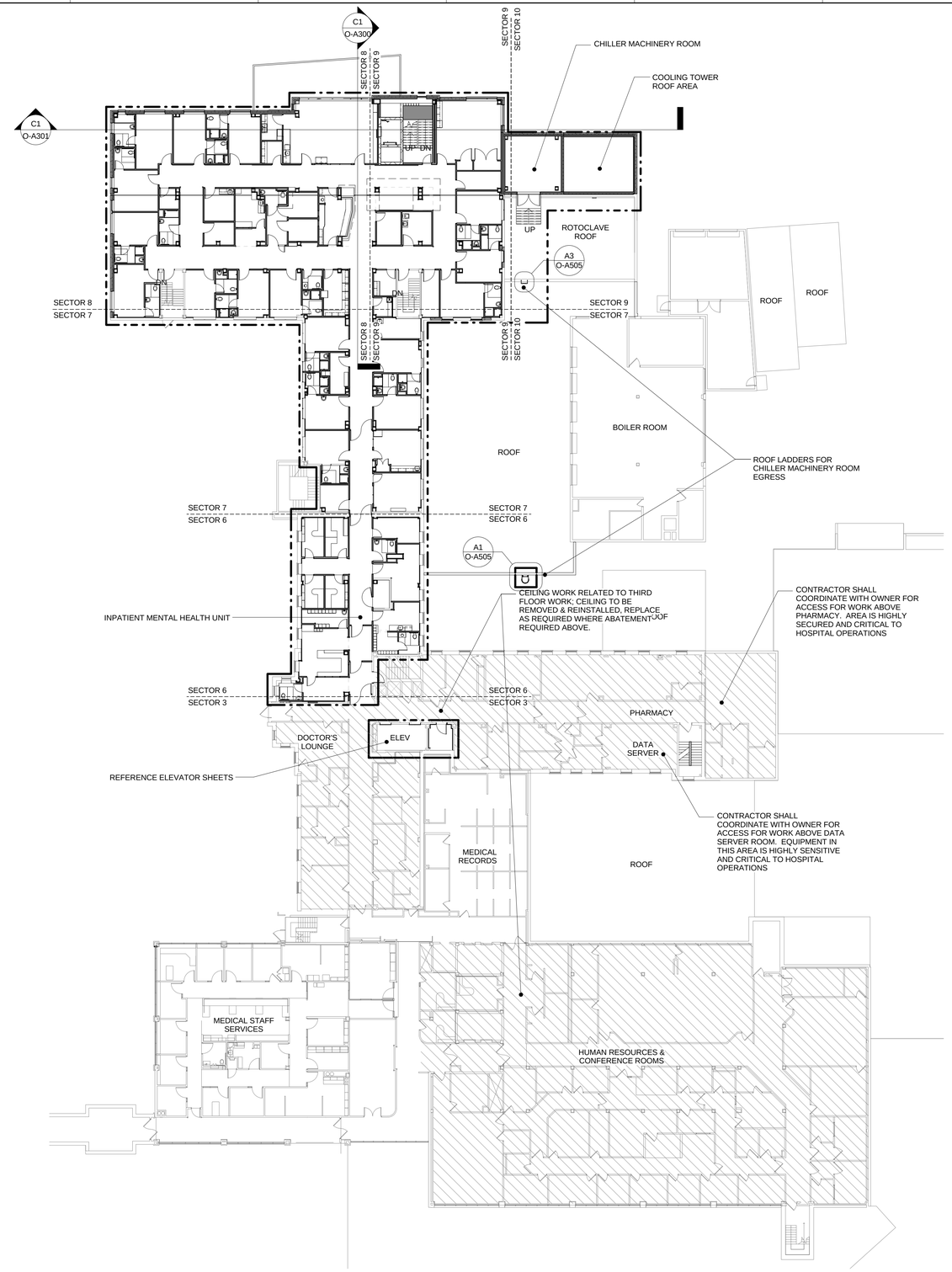

A3 SECOND FLOOR - IMHU REFERENCE PLAN
3/64" = 1'-0"

PATIENT SAFETY NOTE: INPATIENT MENTAL HEALTH UNIT IS A SECURE UNIT AND A HIGHLY CONTROLLED ENVIRONMENT. CONTRACTOR IS RESPONSIBLE FOR MAINTAINING SECURE WORK AREA AT ALL TIMES. COORDINATE WITH OWNER TO CREATE A PATIENT SAFETY PLAN FOR ALL CONSTRUCTION AREAS AND PHASES. REFER TO SPECIFICATIONS FOR MORE INFORMATION

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SAMARITAN MEDICAL CENTER
830 WASHINGTON ST, WATERTOWN, NY

DATE:	04/22/2016
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OTHER:	
DRAWN BY:	GMC

SECOND FLOOR
REFERENCE
PLAN

D-A100

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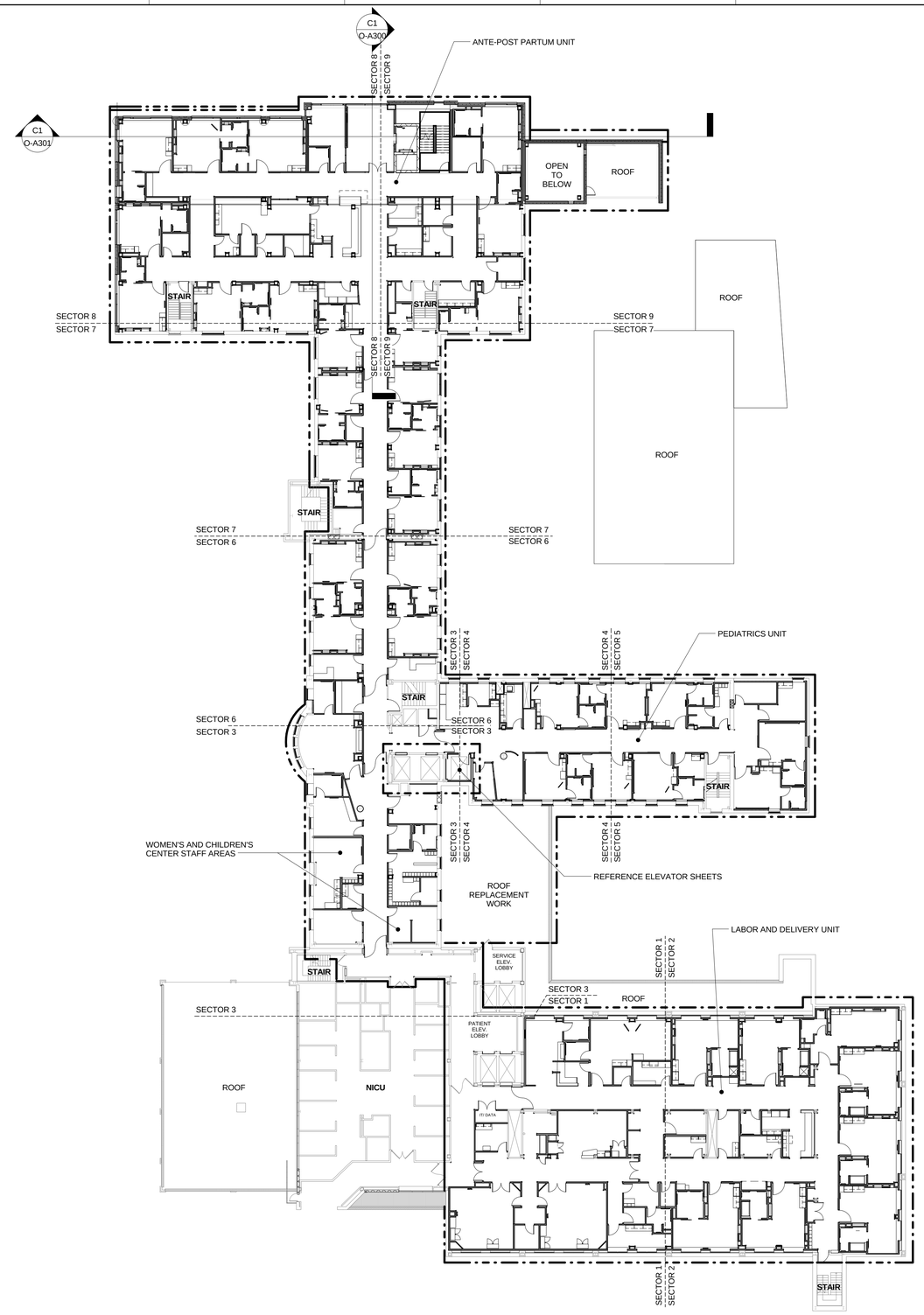

A3 THIRD FLOOR REFERENCE PLAN
3/64" = 1'-0"

N

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DATE:	04/22/2016
PROJECT:	2014068
OTHER:	
DRAWN BY:	Author

THIRD FLOOR REFERENCE PLAN

C-A100

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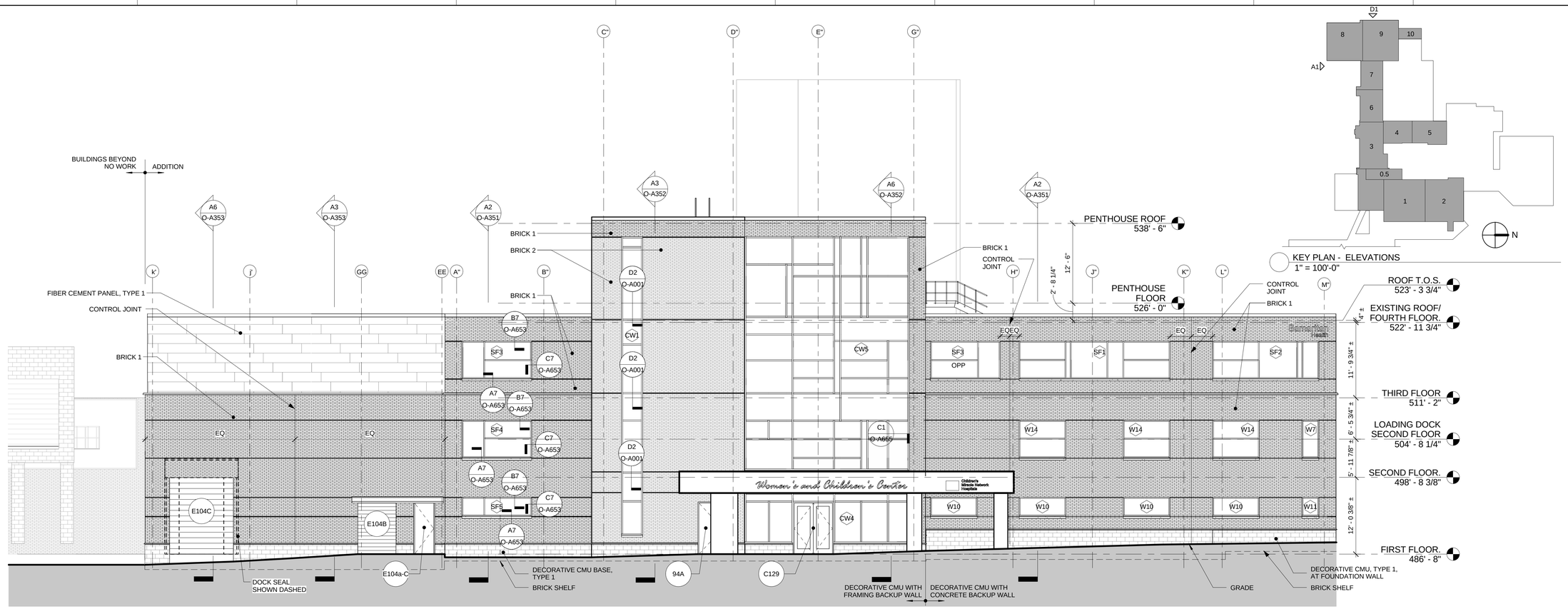
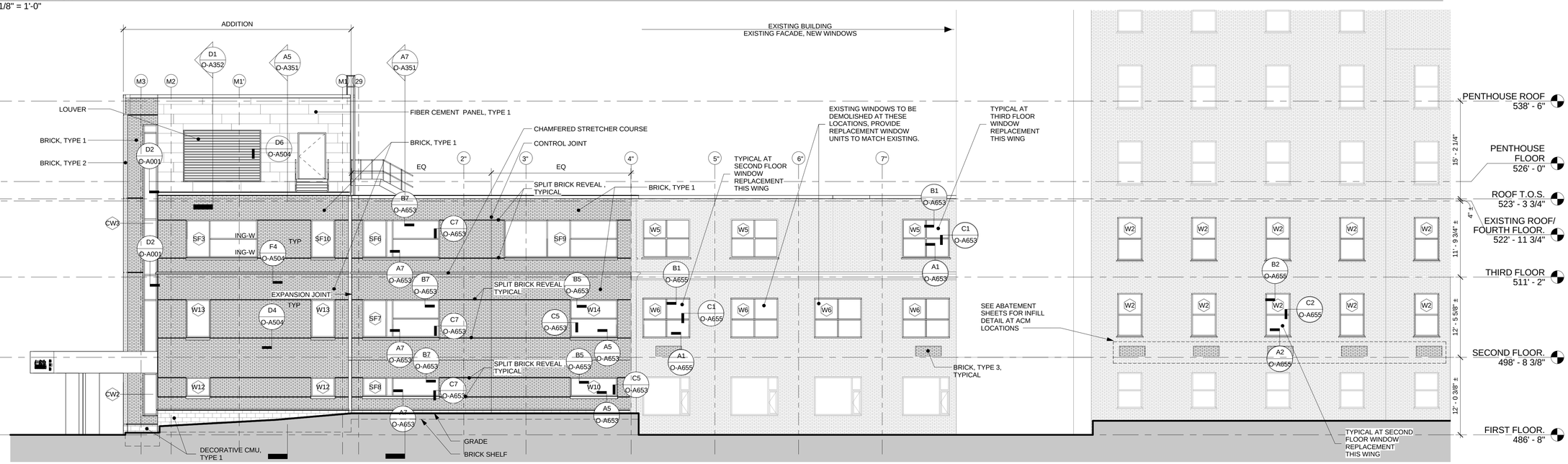


D1 WEST ELEVATION
1/8" = 1'-0"



A1 SOUTH ELEVATION
1/8" = 1'-0"

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PHASE IV: MATERNITY, PEDIATRICS, IMHU, and SUPPORT SERVICES
SAMARITAN MEDICAL CENTER
830 WASHINGTON ST, WATERTOWN, NY

DATE:	04/22/2016
PROJECT:	2014068
OTHER:	
DRAWN BY:	Author

EXTERIOR ELEVATIONS

O-A201

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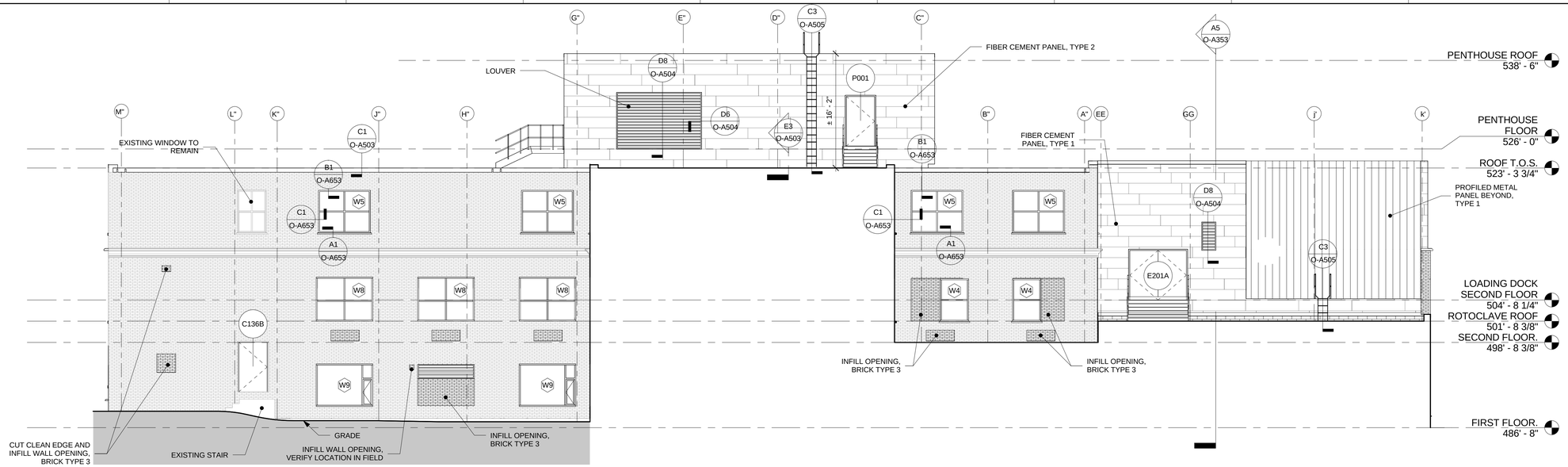
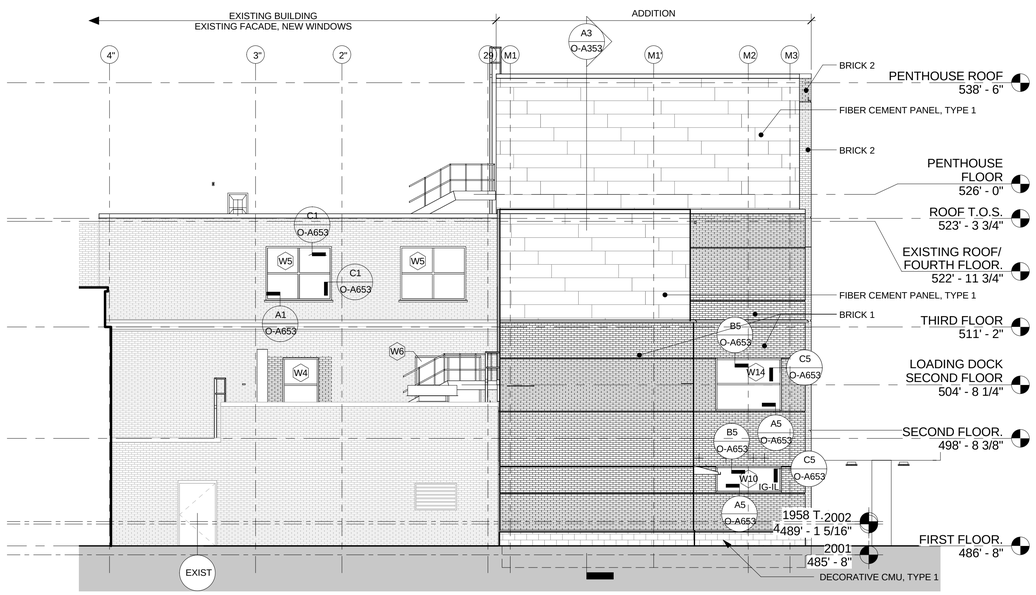
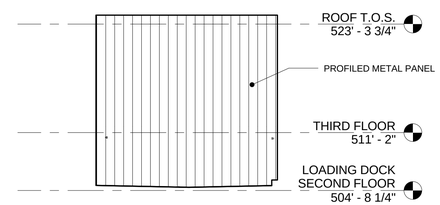


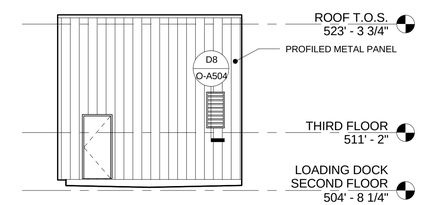
E1 EAST ELEVATION
1/8" = 1'-0"



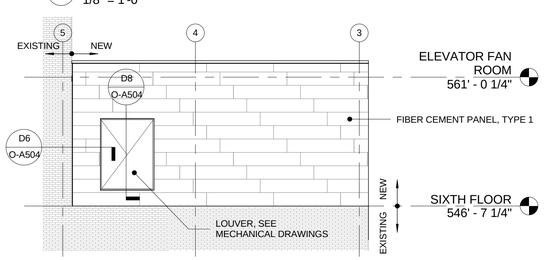
B1 NORTH ELEVATION
1/8" = 1'-0"



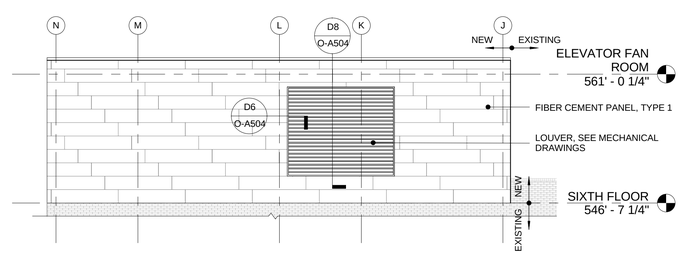
C6 E202 MECHANICAL ROOF AREA NORTH
1/8" = 1'-0"



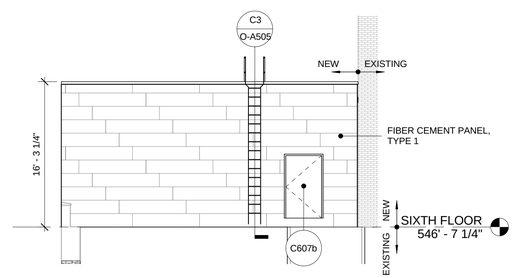
C8 E202 MECHANICAL ROOF AREA SOUTH
1/8" = 1'-0"



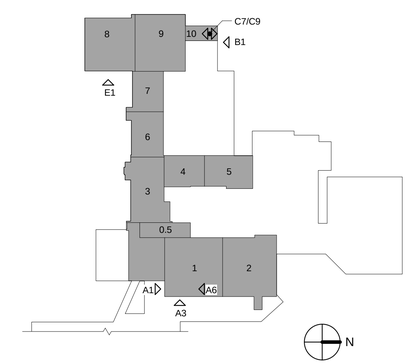
A1 SOUTH ELEVATION - PRATT PENTHOUSE
1/8" = 1'-0"



A3 EAST ELEVATION - PRATT PENTHOUSE
1/8" = 1'-0"



A6 NORTH ELEVATION - PRATT PENTHOUSE
1/8" = 1'-0"



KEY PLAN - ELEVATIONS

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PHASE IV: MATERNITY, PEDIATRICS, IMHU, and SUPPORT SERVICES
SAMARITAN MEDICAL CENTER

830 WASHINGTON ST, WATERTOWN, NY

DATE:	04/22/2016
PROJECT:	2014068
OTHER:	
DRAWN BY:	Author

EXTERIOR ELEVATIONS

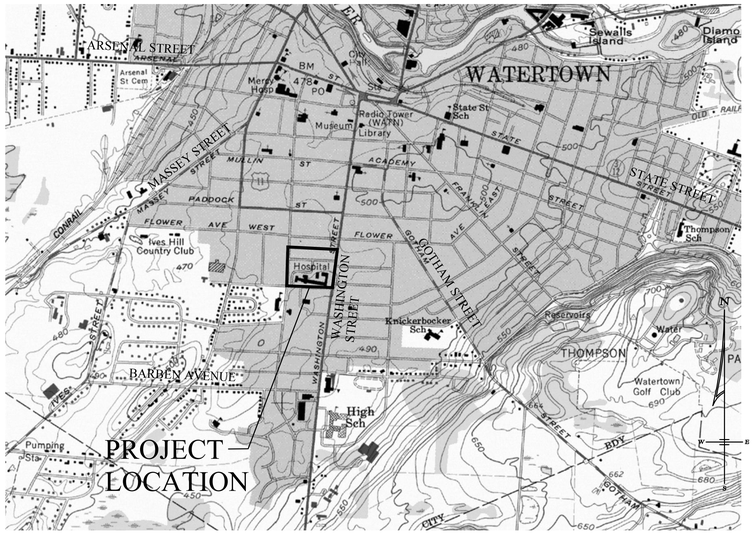
O-A202

SAMARITAN HEALTH

COMPREHENSIVE CANCER CENTER ADDITION
WOODRUFF ST. SOUTH PARKING RECONSTRUCTION
WOODRUFF ST. NORTHWEST PARKING EXPANSION

CITY OF WATERTOWN
JEFFERSON COUNTY, STATE OF NEW YORK

PRELIMINARY SITE PLANS:05/24/2016



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SAMARITAN HEALTH COMPREHENSIVE

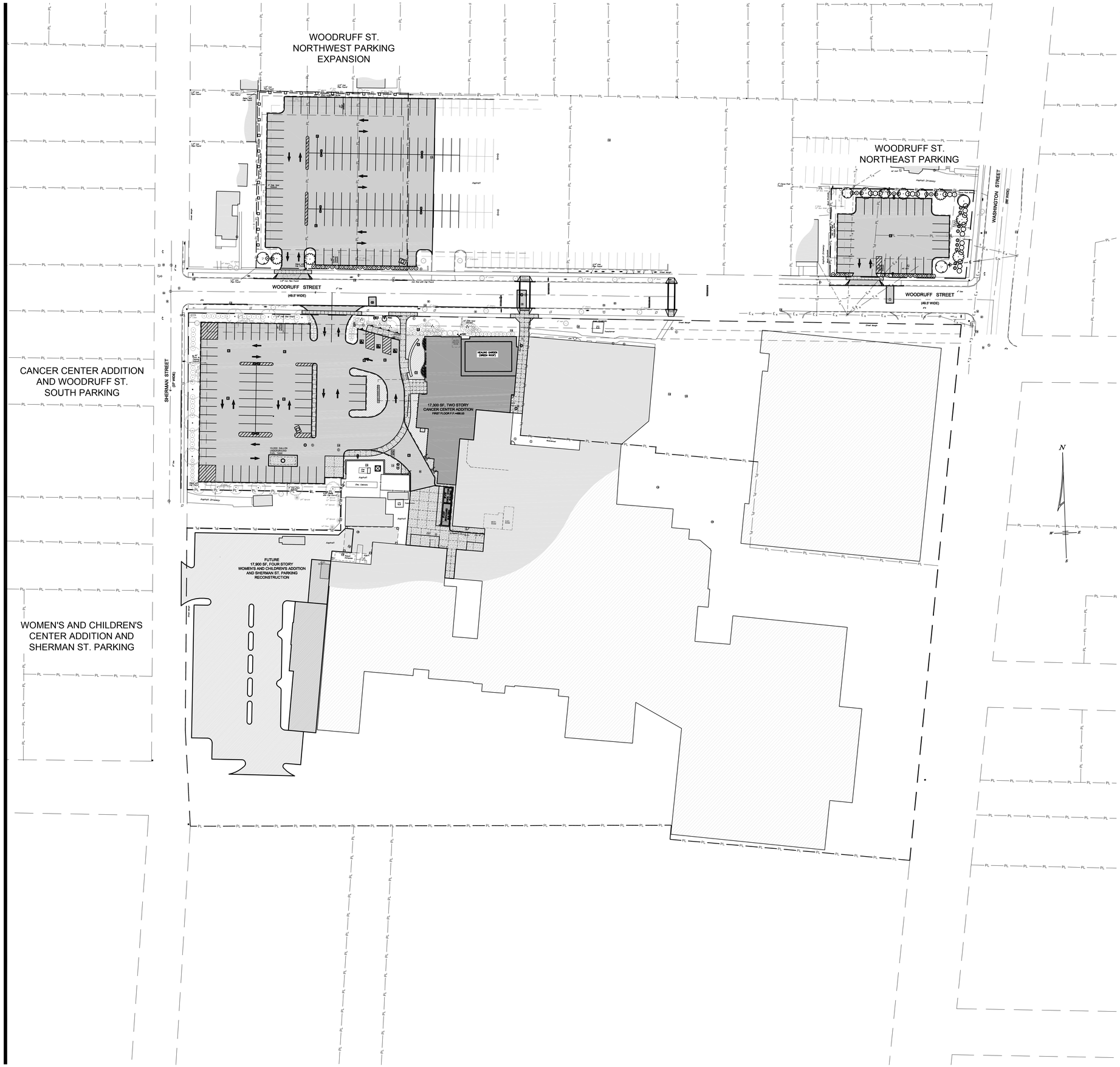
CANCER CENTER
830 Washington Street
WATERTOWN, NY 13601

Number	Date	Issued For

COVER SHEET

CANCER CENTER ADDITION
WOODRUFF ST. SOUTH
WOODRUFF ST. NORTHWEST

Date: 05/24/2016
Scale: AS NOTED
Proj. Number: 2015-174
Drawing Number: C-001



GENERAL NOTES:

1. UNDERGROUND FACILITIES, STRUCTURES AND UTILITIES HAVE BEEN PLOTTED FROM AVAILABLE SURVEYS AND RECORDS, AND THEREFORE THEIR LOCATIONS MUST BE CONSIDERED APPROXIMATE ONLY. THERE MAY BE OTHERS, THE EXISTENCE OF WHICH IS PRESENTLY NOT KNOWN. PRIOR TO CONSTRUCTION CONTACT UNDERGROUND UTILITIES CALL CENTER OF NEW YORK FOR EXACT LOCATION OF ALL UNDERGROUND UTILITIES, (1-800-962-7962). CONTRACTOR IS RESPONSIBLE FOR LOCATING AND WORKING WITH THE APPROPRIATE UTILITY COMPANIES PRIOR TO CONSTRUCTION.
2. THE ONSITE TOPOGRAPHIC, UTILITY, AND PLANIMETRIC SURVEY FOR THE PROJECT AREA WAS CONDUCTED BY AUBERTINE AND CURRIER, PLLC IN NOVEMBER AND DECEMBER OF 2015 AND IN JANUARY AND FEBRUARY OF 2016. UTILITY LOCATIONS WERE PLOTTED FROM DRAWINGS OF MULTIPLE PROJECTS THAT ARE ON FILE IN THE CITY ENGINEERING DEPARTMENT. VERTICAL DATUM IS BASED ON NAVD88 DATUM AND THE HORIZONTAL DATUM IS BASED ON NAD83 (2011).
3. ALL OUT-OF-SCOPE AREAS DISTURBED BY THE CONTRACTOR'S OPERATIONS WILL BE RESTORED TO CONDITIONS EQUAL TO OR BETTER THAN THAT PRIOR TO CONSTRUCTION. OUTSIDE OF PROPERTY BOUNDARIES AND EASEMENT AREAS THE CONTRACTOR IS REMINDED THAT HE MUST OBTAIN WRITTEN AUTHORIZATION TO USE PRIVATE PROPERTY AND ASSUMES ALL LIABILITY HIMSELF.
4. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING THE CHARACTERISTICS AND EXTENT OF SUBSURFACE SOILS, ROCK, WATER TABLE LEVELS, ETC., PRIOR TO BIDDING.
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND BONDS NECESSARY TO OBTAIN SAID PERMITS WHERE APPLICABLE.
6. SITE CONTRACTOR TO PROVIDE EROSION AND DUST CONTROL AS REQUIRED.
7. A LICENSED LAND SURVEYOR SHALL BE RETAINED FOR ALL UTILITY AND FIELD STAKEOUT AT THE CONTRACTORS EXPENSE.
8. PAVED AREAS WILL BE SAWCUT PRIOR TO EXCAVATION AND PAVING OPERATIONS. SAW CUT AREAS WILL BE TACK COATED PRIOR TO PAVING. TACK COAT SHALL MEET THE REQUIREMENTS OF ASPHALT EMULSION FOR TACK COAT, NYSDOT TABLE 702-9.
9. CONTRACTOR SHALL MAINTAIN ALL EROSION CONTROL MEASURES THROUGHOUT CONSTRUCTION UNTIL ESTABLISHMENT OF VEGETATIVE COVER. RUN-OFF CONTAINING SEDIMENTS FROM DISTURBED AREAS OF THE SITE SHALL NOT BE ALLOWED DIRECTLY INTO NATURAL STREAM CHANNELS.
10. ALL TREES AND WETLANDS TO REMAIN SHALL BE PROTECTED BY THE CONTRACTOR. CONSTRUCTION ACTIVITIES ADJACENT TO TREES SHALL BE CONDUCTED TO REDUCE THE IMPACT TO TREES TO THE MAXIMUM EXTENT PRACTICAL. ANY DAMAGE TO EXISTING TREES SHALL BE REPAIRED OR THE TREE REPLACED, AS DIRECTED BY THE OWNER AT THE CONTRACTORS EXPENSE.
11. CONTRACTOR SHALL PERFORM ALL ROADWAY CONNECTION WORK IN ACCORDANCE WITH NYSDOT SPECIFICATIONS. ALL ROADWAY WORK SHALL BE IN ACCORDANCE WITH NYSDOT MAINTENANCE AND PROTECTION OF TRAFFIC REGULATIONS, INCLUDING FLAGMEN, BARRICADES, WARNING SIGNS/LIGHTS, ETC., WHERE WARRANTED.
12. CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVAL AND PROPER DISPOSAL, AT A NYSDEC ACCEPTABLE LOCATION, OF ALL MATERIALS NOT REUSED AS TRENCH BACKFILL.
13. EXCAVATIONS SHALL BE TO DEPTHS SHOWN ON DRAWINGS. ALL UNSTABLE OR UNSUITABLE MATERIAL SHALL BE EXCAVATED AND REMOVED TO SUCH DEPTH AS REQUIRED TO PROVIDE SUFFICIENT BEARING CAPACITY. OVEREXCAVATED AREAS SHALL BE BACKFILLED WITH SUITABLE MATERIAL.
14. COMPACTION OF PIPE BEDDING AND BACKFILL MATERIAL SHALL BE BY MEANS OF HAND-GUIDED POWER DRIVEN OR DRUM-TYPE OR PLATE TAMPERS. BACKFILLING SHOULD PROCEED IN ACCORDANCE WITH LIFT THICKNESSES AND COMPACTION REQUIREMENTS AS SHOWN ON THE DRAWINGS. UNLESS OTHERWISE NOTED ON THE DRAWINGS, COMPACTION REQUIREMENTS REFER TO PERCENT OF MAXIMUM DRY DENSITY AS DETERMINED IN ACCORDANCE WITH ASTM STANDARD D1557 METHOD "C". CARE SHOULD BE TAKEN TO SHAPE PIPE BEDDING TO FIT THE LOWER PART OF THE PIPE. BACKFILLING AND COMPACTION SHOULD PROGRESS EVENLY ALONG THE PIPE SIDEWALLS AND TO THE TOP OF PIPE BEDDING.
15. THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF ANY DISCREPANCIES OF DIMENSIONS, ELEVATIONS AND LOCATIONS DURING PRECONSTRUCTION FIELD VERIFICATION. SUCH INFORMATION SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER FOR VERIFICATION OR MODIFICATION OF THE PLANS.
16. THE CONTRACTOR SHALL PROVIDE AS-BUILT RECORD DRAWINGS INCLUDING, AS A MINIMUM, THE FOLLOWING INFORMATION AS WELL AS ALL REQUIREMENTS OF THE SPECIFICATION:
    - RECORD OF ALL UTILITIES ENCOUNTERED IN TRENCH EXCAVATION. INFORMATION SHALL INCLUDE DIAMETER OF UTILITY, DEPTH OF BURIAL AND LOCATION WITH REFERENCE TO NEAREST STRUCTURE SHOWN ON DRAWINGS. THIS INFORMATION SHALL BE KEPT CURRENT ON A WEEKLY BASIS. FAILURE TO DO SO MAY RESULT IN WITHHOLDING OF PAYMENTS.
    - DISTANCE TIES TO ALL MANHOLES, CLEANOUTS, BENDS AND CORPORATION STOPS.
    - UTILITY REPAIRS, SIDEWALK, AND DRIVEWAY REPLACEMENTS CENTERLINE.
    - STATIONS OF BENDS, CLEANOUTS, VALVES AND CORPORATION STOPS.
    - DENOTE BENCH MARK REFERENCE USED.
    - PERIODIC OFFSETS.
    - RECORD DETAILS NOT SHOWN ON THE ORIGINAL CONTRACT DOCUMENTS. ANY FIELD CHANGES OF DIMENSIONS AND DETAILS AND ANY CHANGES MADE BY CHANGE ORDER OR FIELD ORDER.
    - CERTIFICATE OF SUBSTANTIAL COMPLETION SHALL NOT BE ISSUED UNTIL AS-BUILT INFORMATION IS ACCEPTABLE.
    - PROVIDE TWO (2) SETS OF FINAL COMPLETE RECORD DRAWINGS. CONTRACTOR SHALL FURNISH AS-BUILT DATA ON PLAN SHEETS.
17. UPON COMPLETION OF STORM SEWER FACILITIES AND ESTABLISHMENT OF VEGETATION, THE NEW AND EXISTING STORM SYSTEMS RECEIVING RUNOFF FROM THIS SITE SHALL BE CLEANED OF DEBRIS. ONLY AT THIS TIME SHALL THE EROSION AND SEDIMENTATION CONTROL MEASURES BE REMOVED.
18. ALL WATER MAIN AND SERVICE WORK MUST BE COORDINATED WITH THE CITY OF WATERTOWN WATER DEPARTMENT. WATER DEPARTMENT REQUIREMENTS SUPERCEDE ALL OTHER PLANS AND SPECIFICATIONS PROVIDED.
19. ALL WORK TO BE PERFORMED WITHIN THE CITY OF WATERTOWN MARGIN WILL REQUIRE SIGN-OFF FROM A PROFESSIONAL ENGINEER, LICENSED AND CURRENTLY REGISTERED TO PRACTICE IN THE STATE OF NEW YORK, THAT THE WORK WAS BUILT ACCORDING TO THE APPROVED SITE PLAN AND APPLICABLE CITY OF WATERTOWN STANDARDS. COMPACTION TESTING WILL BE REQUIRED FOR ALL WORK TO BE PERFORMED WITHIN THE CITY OF WATERTOWN MARGIN AND MUST BE SUBMITTED TO THE CITY OF WATERTOWN CODES DEPARTMENT.

GRAPHIC SCALE

40 0 20 40 80 160

(IN FEET)
1 inch = 40 ft.

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OVERALL SITE DEVELOPMENT PLAN IS FOR INFORMATION AND ILLUSTRATION ONLY. SEE 1"=20' SCALE PLANS FOR CONSTRUCTION NOTES.

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SAMARITAN HEALTH COMPREHENSIVE

CANCER CENTER
830 Washington Street
WATERTOWN, NY 13601

Number	Date	Issued For
1	XXXXXXXXX	ISSUED FOR -

OVERALL SITE DEVELOPMENT PLAN

Date 05/24/2016
Scale AS NOTED
Proj. Number 2015-174
Drawing Number CS-100

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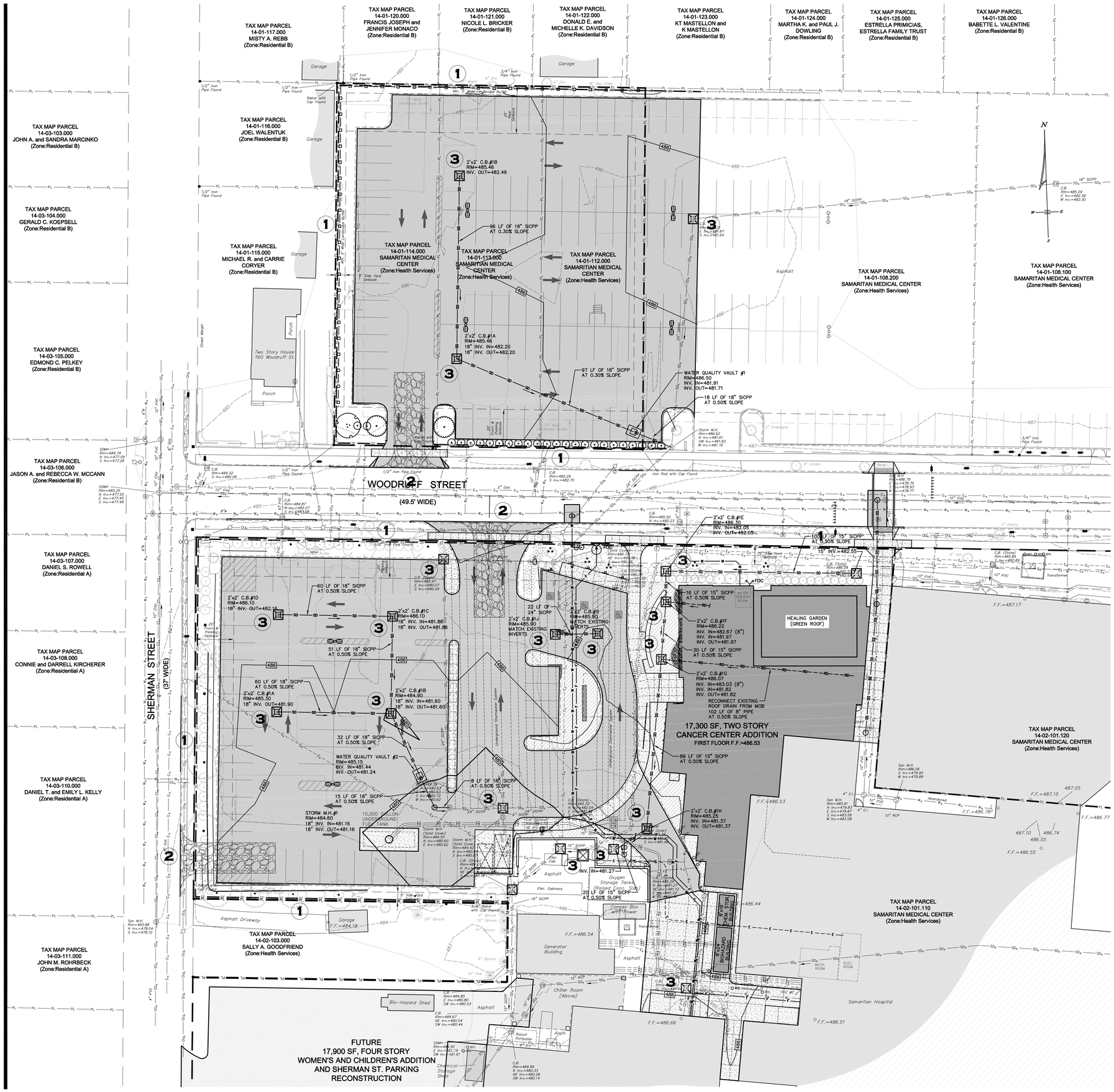

LEGEND	EXISTING	PROPOSED
5' CONTOUR	155	155
1' CONTOUR	154	154
PROPERTY LINE	PL PL	PL PL
RIGHT OF WAY		
SETBACK		
BUILDING		
ASPHALT PAVEMENT		
EDGE OF GRAVEL		
CURB		
SIDEWALK		
TREE LINE		
FENCE	X X	D D D
WATERLINE	W_X W_X	W W
SANITARY SEWER	SS_X SS_X	SS SS
STORM SEWER	SD_X SD_X	SD SD
OVERHEAD UTILITIES	OU_X OU_X	OU OU
UNDERGROUND UTILITIES	UU_X UU_X	UU UU
UNDERGROUND ELECTRIC	E_X E_X	E E
GAS	G_X G_X	G G
COMMUNICATION	CU_X CU_X	C C
FUEL OIL	FO_X FO_X	FO FO
VENT PIPE	V_X V_X	V V
SANITARY MANHOLE	S	S
STORM MANHOLE	D	D
CATCH BASIN	CB	CB
FIRE HYDRANT		
WATER VALVE	W	W
CURB STOP	WV	WV
GAS METER	G	
ELECTRIC METER	E	
FUEL OIL MANHOLE	F	
FUEL OIL FILL PORT	FO	
UTILITY POLE		
LIGHT POLE		
SIGN		
BOLLARD	BOL	BOL
TREES		

TEMPORARY MEASURES:

1. INSTALL SILT FENCE IN LOCATIONS INDICATED AND WHERE THERE IS THE POTENTIAL FOR OFFSITE RUNOFF TO OCCUR PRIOR TO ANY CONSTRUCTION WITHIN THOSE AREAS. FENCE MUST BE MAINTAINED AND MUST REMAIN IN PLACE UNTIL PROJECT HAS BEEN FINAL GRADED AND VEGETATION HAS BEEN ESTABLISHED.
2. CONSTRUCTION ENTRANCES SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OF SEDIMENT ONTO PUBLIC RIGHT OF WAY OR STREETS. ALL SEDIMENT SPILLED, DROPPED OR WASHED ONTO PUBLIC RIGHTS OF WAY MUST BE REMOVED IMMEDIATELY.
3. INLET PROTECTION SHALL BE INSTALLED AROUND CULVERTS AND CATCH BASINS FOLLOWING THEIR INSTALLATION.

— SF — SILT FENCE

STABILIZED CONSTRUCTION ENTRANCE

INLET PROTECTION

GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)
1 inch = 20 ft.

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CANCER CENTER
830 Washington Street
WATERTOWN, NY 13601

Number	Date	Issued For
1	XXXXXXXX	ISSUED FOR -

CONSTRUCTION AND EROSION AND SEDIMENT CONTROL PLAN CANCER CENTER ADDITION WOODRUFF ST. SOUTH WOODRUFF ST. NORTHWEST

Date
05/24/2016
Scale
AS NOTED
Proj. Number
2015-174

Drawing Number
CC-101

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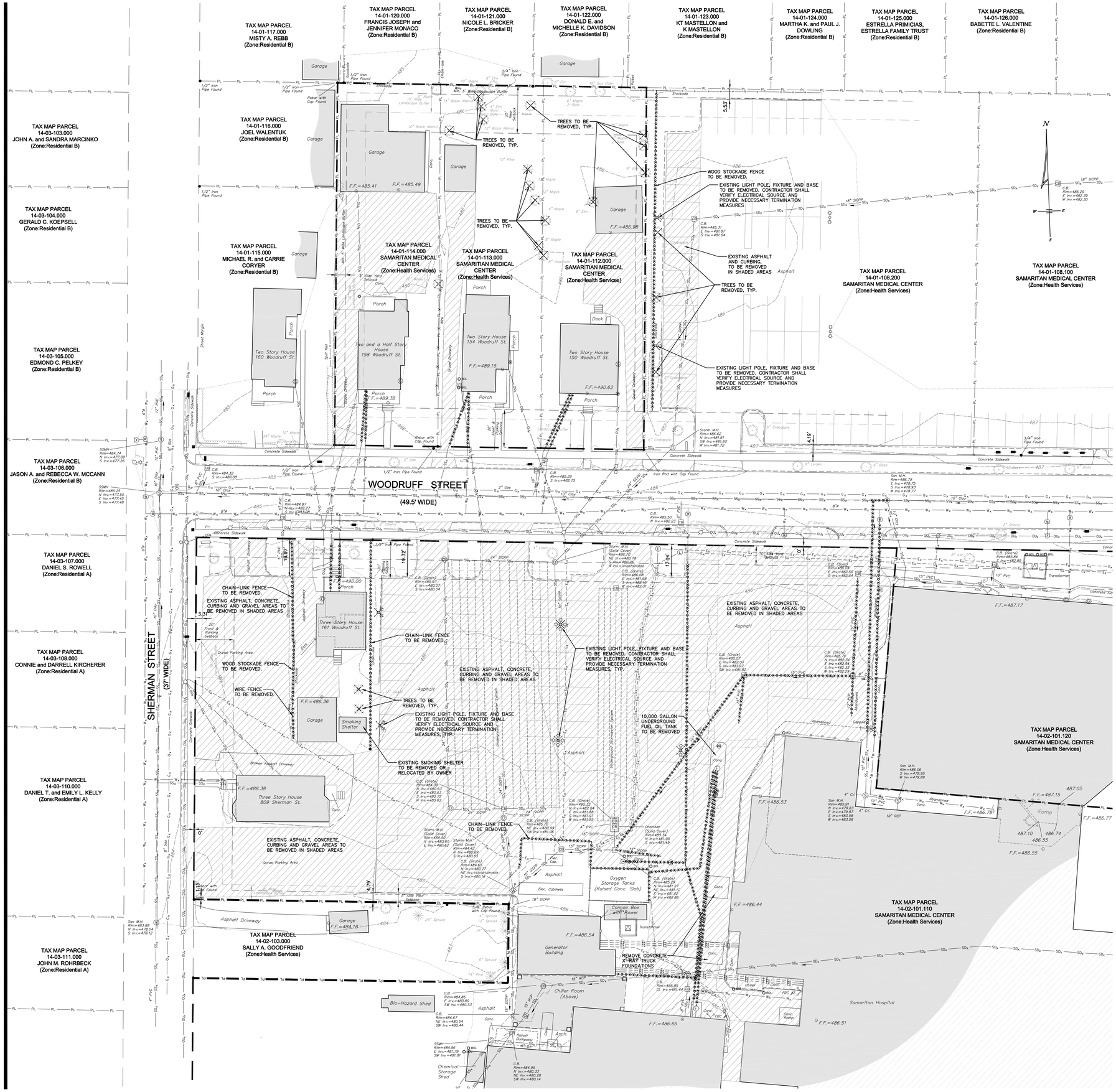

LEGEND	EXISTING	PROPOSED
5' CONTOUR	155	155
1' CONTOUR	154	154
PROPERTY LINE	PL	PL
RIGHT OF WAY		
SETBACK		
BUILDING		
ASPHALT PAVEMENT		
EDGE OF GRAVEL		
CURB		
SIDEWALK		
TREE LINE		
FENCE	X X	D D D
WATERLINE	W_X W_X	W W
SANITARY SEWER	SS_X SS_X	SS SS
STORM SEWER	SD_X SD_X	SD SD
OVERHEAD UTILITIES	OU_X OU_X	OU OU
UNDERGROUND UTILITIES	UU_X UU_X	UU UU
UNDERGROUND ELECTRIC	E_X E_X	E E
GAS	G_X G_X	G G
COMMUNICATION	CU_X CU_X	C C
FUEL OIL	FO_X FO_X	FO FO
VENT PIPE	V_X V_X	V V
SANITARY MANHOLE	S	S
STORM MANHOLE	D	D
CATCH BASIN	CB	CB
FIRE HYDRANT		
WATER VALVE	W	W
CURB STOP	WSO	WSO
GAS METER	G	
ELECTRIC METER		
FUEL OIL MANHOLE	F	
FUEL OIL FILL PORT	FM	
UTILITY POLE		
LIGHT POLE		
SIGN		
BOLLARD	BOL	BOL
TREES		

GENERAL BUILDING DEMOLITION NOTES:

1. AN ASBESTOS DEMOLITION SURVEY REPORT WAS CONDUCTED ON THE PROPERTIES LOCATED AT 150,154,158 AND 161 WOODRUFF STREET AND 809 SHERMAN STREET BY AUBERTINE AND CURRIER, PLLC, DATED JANUARY 6, 2016 AND LAST REVISED MARCH, 23, 2016.
2. PRIOR TO ANY BUILDING DEMOLITION ON THESE PROPERTIES, ALL MATERIALS IN THE BUILDINGS THAT WERE IDENTIFIED IN THE REPORT AS ASBESTOS CONTAINING MATERIALS SHALL BE REMOVED IN ACCORDANCE WITH NEW YORK STATE LABOR LAW AND INDUSTRIAL CODE RULE 56.
3. IF ANY ADDITIONAL "SUSPECTED" ASBESTOS CONTAINING MATERIALS ARE ENCOUNTERED, NOTIFY THE ENGINEER, PRIOR TO CONTINUING WORK.
4. CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND PROVIDE PROPER INSURANCE.
5. TERMINATION OF EXISTING ELECTRIC, TELEPHONE AND CABLE SERVICES SHALL BE COORDINATED WITH THE APPROPRIATE UTILITY SERVICE PROVIDER.
6. TERMINATION OF EXISTING WATER AND SANITARY SEWER SERVICES SHALL BE COORDINATED WITH THE CITY OF WATERTOWN.
7. ALL BUILDING DEMOLITION DEBRIS SHALL BE REMOVED OFF SITE AND TRANSPORTED TO A LANDFILL APPROVED BY NEW YORK STATE.
8. BUILDING FOUNDATION SHALL BE REMOVED 3' BELOW GRADE. BASEMENTS SHALL BE FILLED WITH NYSDOT ITEM 304.12 AND COMPACTED TO 95% COMPACTION.
9. COMPACTION TEST RESULTS SHALL BE PROVIDE FOLLOWING THE CONSTRUCTION.

SPECIFIC BUILDING DEMOLITION NOTES:

THE FOLLOWING MATERIALS WERE IDENTIFIED AS ASBESTOS CONTAINING MATERIALS AND SHALL BE REMOVED IN ACCORDANCE WITH NEW YORK STATE LABOR LAW AND INDUSTRIAL CODE RULE 56:

150 WOODRUFF STREET	
BROWN AND GRAY/GREEN EXTERIOR HOUSE SIDING	2,400 SQ. FT.
WHITE PLASTER/SKIMCOAT ON KITCHEN WALL	550 SQ. FT.
BROWN PLASTER ON KITCHEN WALL	550 SQ. FT.
YELLOW FLOOR TILE IN KITCHEN	100 SQ. FT.
154 WOODRUFF STREET	
WHITE PIPE WRAP IN BASEMENT	20 LF
158 WOODRUFF STREET	
BROWN/WHITE CEILING PLASTER IN ENTRY HALL	60 SQ. FT.
BROWN/WHITE WALL PLASTER IN ENTRY HALL	250 SQ. FT.
BLACK FELT PAPER ON EXTERIOR WALLS	2,250 SQ. FT.
BLACK CAULK ON EXTERIOR WALLS	2,250 SQ.FT. (WALL AREA)
BLACK FELT PAPER ON ROOF	1,200 SQ. FT.
BLACK CAULK ON ROOF	1,200 SQ.FT. (WALL AREA)
158 WOODRUFF STREET GARAGE	
GRAY FIBROLITE ASBESTOS BOARD ON THE NORTHEAST WALL AND CEILING	70 SQ. FT.
WHITE EXTERIOR WINDOW CAULK	12 SQ.FT.
BLACK FELT PAPER ON EXTERIOR WALLS	2,000 SQ.FT.
BLACK CAULK ON EXTERIOR WALLS	2,000 SQ.FT. (WALL AREA)
BLACK FELT PAPER ON ROOF	1,500 SQ.FT.
BLACK CAULK ON ROOF	1,500 SQ.FT. (ROOF AREA)
GRAY EXTERIOR FIRE RATED DOOR	1 EACH
161 WOODRUFF STREET	
BLACK EXTERIOR ROOF CAULK ON HOUSE	1,200 SQ. FT. (ROOF AREA)
BLACK EXTERIOR ROOF SHINGLES ON GARAGE	600 SQ. FT.
BEIGE LINOLEUM FLOORING IN KITCHEN	130 SQ. FT.
809 SHERMAN STREET	
GRAY GROUT ON THE WALLS AND FLOOR IN SECOND FLOOR BATHROOM	70 SQ. FT.
GRAY PIPE WRAP IN BASEMENT	25 SQ. FT.

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SAMARITAN HEALTH COMPREHENSIVE

CANCER CENTER
830 Washington Street
WATERTOWN, NY 13601

Number	Date	Issued For
1	XXXXXXXX	ISSUED FOR -

EXISTING CONDITIONS PLAN

CANCER CENTER ADDITION
WOODRUFF ST. SOUTH
WOODRUFF ST. NORTHWEST

Date: 05/24/2016
Scale: AS NOTED
Proj. Number: 2015-174
Drawing Number: CD-101

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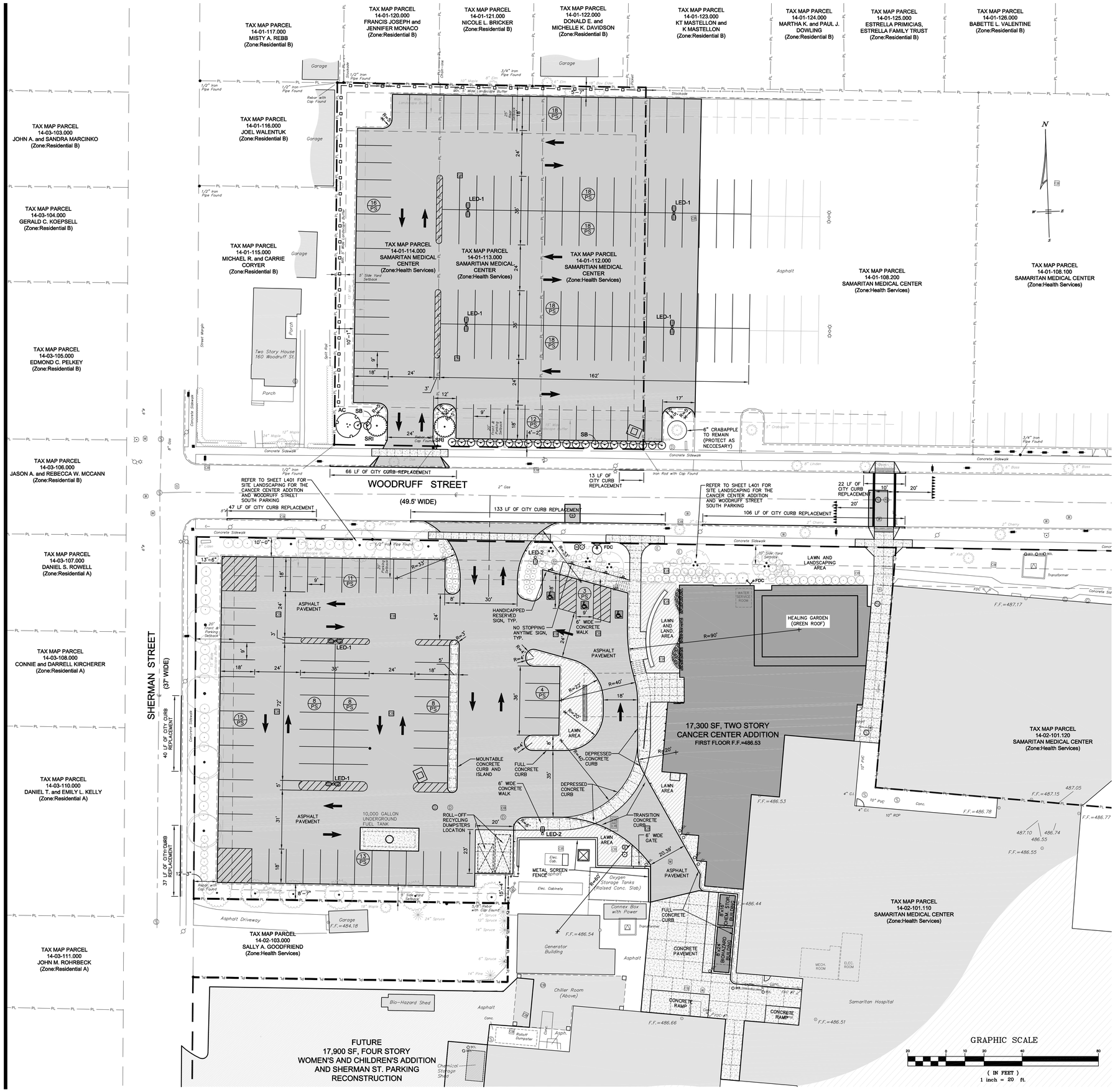

LEGEND	EXISTING	PROPOSED
5' CONTOUR	155	155
1' CONTOUR	154	154
PROPERTY LINE	PL	PL
RIGHT OF WAY		
SETBACK		
BUILDING		
ASPHALT PAVEMENT		
EDGE OF GRAVEL		
CURB		
SIDEWALK		
TREE LINE		
FENCE	X X	D D D
WATERLINE	W_X W_X	W W
SANITARY SEWER	SS_X SS_X	SS SS
STORM SEWER	SD_X SD_X	SD SD
OVERHEAD UTILITIES	OU_X OU_X	OU OU
UNDERGROUND UTILITIES	UU_X UU_X	UU UU
UNDERGROUND ELECTRIC	E_X E_X	E E
GAS	G_X G_X	G G
COMMUNICATION	CU_X CU_X	C C
FUEL OIL	FO_X FO_X	FO FO
VENT PIPE	V_X V_X	V V
SANITARY MANHOLE	S	S
STORM MANHOLE	D	D
CATCH BASIN	CB	CB
FIRE HYDRANT		
WATER VALVE	W	W
CURB STOP		
GAS METER	G	
ELECTRIC METER		
FUEL OIL MANHOLE	F	
FUEL OIL FILL PORT	FP	
UTILITY POLE		
LIGHT POLE		
SIGN		
BOLLARD	BOL	BOL
TREES		

PLANNING DATA

ZONING: HEALTH SERVICES
USE: WOODRUFF STREET NORTHWEST PARKING EXPANSION

ITEM	REQUIRED	AS PROVIDED
MIN. LOT AREA	2,500 SF	30,721 SQ. FT. (0.71 ACRES)
MIN. LOT WIDTH	NONE	161.97'
MIN. FRONT YARD BUILDING SETBACK	20'	N/A
MIN. REAR YARD BUILDING SETBACK	25'	N/A
MIN. SIDE YARD BUILDING SETBACK	5'	N/A
MIN. PARKING SETBACK FROM ANY STREET LOT LINE	20'	4'-2" (WOODRUFF STREET)

PLANNING DATA

ZONING: HEALTH SERVICES
USE: 16,122 SF BUILDING ADDITION (CANCER CENTER) AND WOODRUFF STREET SOUTH PARKING EXPANSION

ITEM	REQUIRED	AS PROVIDED
MIN. LOT AREA	2,500 SF	351,340 SQ. FT. (8.07 ACRES)
MIN. LOT WIDTH	NONE	189.65'
MIN. FRONT YARD BUILDING SETBACK	20'	245.67'
MIN. REAR YARD BUILDING SETBACK	25'	N/A
MIN. SIDE YARD BUILDING SETBACK	5'	20.42'
MIN. PARKING SETBACK FROM ANY STREET LOT LINE	20'	4'-2" (WOODRUFF ST. NORTH) 10'-0" (WOODRUFF ST. SOUTH) 12'-3" (SHERMAN STREET)

PARKING DATA

ITEM	REQUIRED	AS PROVIDED
PARKING REQUIREMENTS (ENTIRE SAMARITAN MEDICAL CAMPUS) PRE-2016 EXPANSIONS: SAMARITAN MEDICAL CENTER 181,580 SF AT 5 SPACES/1,000 SF = 909 SAMARITAN MEDICAL CENTER 290 BEDS AT 1 SPACE/2 BEDS = 145 SAMARITAN KEEP HOME 272 BEDS AT 1 SPACE/3 BEDS = 91	1,145 SPACES (PRE-2016 EXPANSIONS)	1,183 SPACES (EXISTING)
2016-2018 EXPANSIONS: SAMARITAN MEDICAL CENTER 197,951 SF AT 5 SPACES/1,000 SF = 991 SAMARITAN MEDICAL CENTER 290 BEDS AT 1 SPACE/2 BEDS = 145 SAMARITAN KEEP HOME 272 BEDS AT 1 SPACE/3 BEDS = 91	1,227 SPACES (2016-2018 EXPANSIONS)	1,230 SPACES (PROPOSED)
HANDICAPPED SPACES (PER ADA)	42 SPACES	46 SPACES (EXISTING) 46 SPACES (PROPOSED)

ITEM	EXISTING	PROPOSED
WOODRUFF STREET NORTHWEST PARKING EXPANSION	0 SPACES	118 SPACES
CANCER CENTER ADDITION AND WOODRUFF STREET SOUTH PARKING	121 SPACES	70 SPACES

PLANTING SCHEDULE

SYM	COMMON NAME	ABBREV.	BOTANICAL NAME	SIZE	QUANTITY
	IVORY SILK JAPANESE TREE LILAC	SRI	SYRINGA RETICULATA "IVORY SILK"	2" CALIPER	2
	SHADBLOW SERVICEBERRY MULTITRUNK	AC	AMELANCHIER CANADENSIS	2" CALIPER	1
	TINKERBELLE LILAC	SB	SYRINGA X "BAILBELLE" TM	#3 CONT	25

SITE LIGHTING SCHEDULE

LABEL	FIXTURE	MOUNTING HEIGHT	QUANTITY
LED-1	GLEON-AE-02-LED-E1-5MQ-BZ BY COOPER LIGHTING	25' FIXTURE HEIGHT (22' POLE AND 3' CONCRETE BASE)	6
LED-2	GLEON-AE-04-LED-E1-T4FT-BZ-HSS BY COOPER LIGHTING	25' FIXTURE HEIGHT (22' POLE AND 3' CONCRETE BASE)	2

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SAMARITAN HEALTH COMPREHENSIVE

CANCER CENTER
830 Washington Street
WATERTOWN, NY 13601

Number	Date	Issued For
1	XXXXXXXX	ISSUED FOR -

SITE AND LANDSCAPING PLAN
CANCER CENTER ADDITION
WOODRUFF ST. SOUTH
WOODRUFF ST. NORTHWEST

Date 05/24/2016
Scale AS NOTED
Proj. Number 2015-174
Drawing Number CS-101

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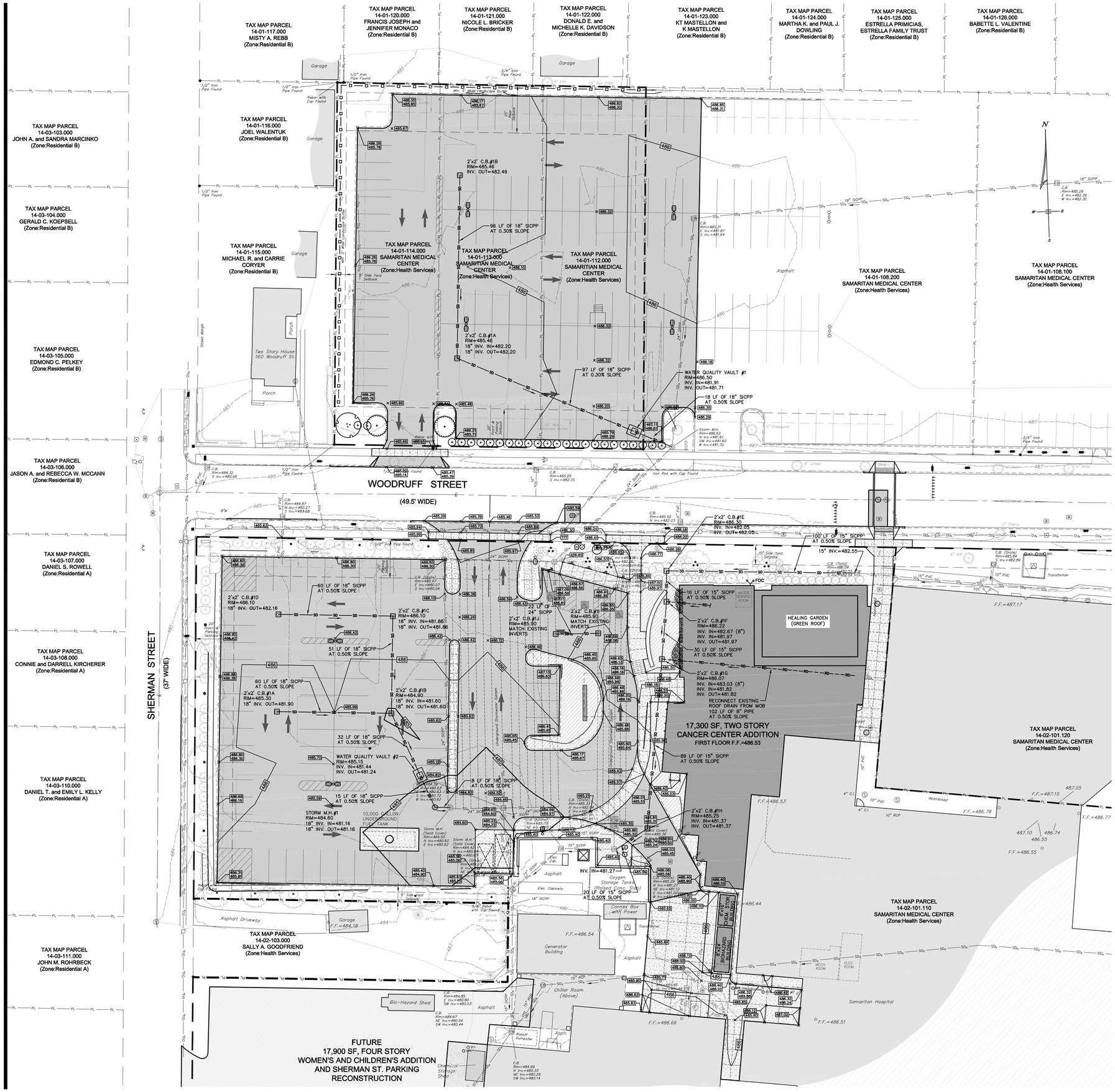

LEGEND	EXISTING	PROPOSED
5' CONTOUR	155	155
1' CONTOUR	154	154
PROPERTY LINE	PL	PL
RIGHT OF WAY		
SETBACK		
BUILDING		
ASPHALT PAVEMENT		
EDGE OF GRAVEL		
CURB		
SIDEWALK		
TREE LINE		
FENCE	X	D
WATERLINE	W	W
SANITARY SEWER	SS	SS
STORM SEWER	SD	SD
OVERHEAD UTILITIES	OU	OU
UNDERGROUND UTILITIES	UU	UU
UNDERGROUND ELECTRIC	E	E
GAS	G	G
COMMUNICATION	CU	C
FUEL OIL	FO	FO
VENT PIPE	V	V
SANITARY MANHOLE	S	S
STORM MANHOLE	D	D
CATCH BASIN	CB	CB
FIRE HYDRANT		
WATER VALVE	W	W
CURB STOP	W	W
GAS METER	G	
ELECTRIC METER	E	
FUEL OIL MANHOLE	F	
FUEL OIL FILL PORT	FO	
UTILITY POLE		
LIGHT POLE		
SIGN		
BOLLARD	BOL	BOL
TREES		

GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)
1 inch = 20 ft.

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SAMARITAN HEALTH COMPREHENSIVE

CANCER CENTER
830 Washington Street
WATERTOWN, NY 13601

Number	Date	Issued For
1	XXXXXXXX	ISSUED FOR -

GRADING AND DRAINAGE PLAN
CANCER CENTER ADDITION
WOODRUFF ST. SOUTH
WOODRUFF ST. NORTHWEST

Date	Drawing Number
05/24/2016	CG-101
Scale: AS NOTED	
Proj. Number: 2015-174	

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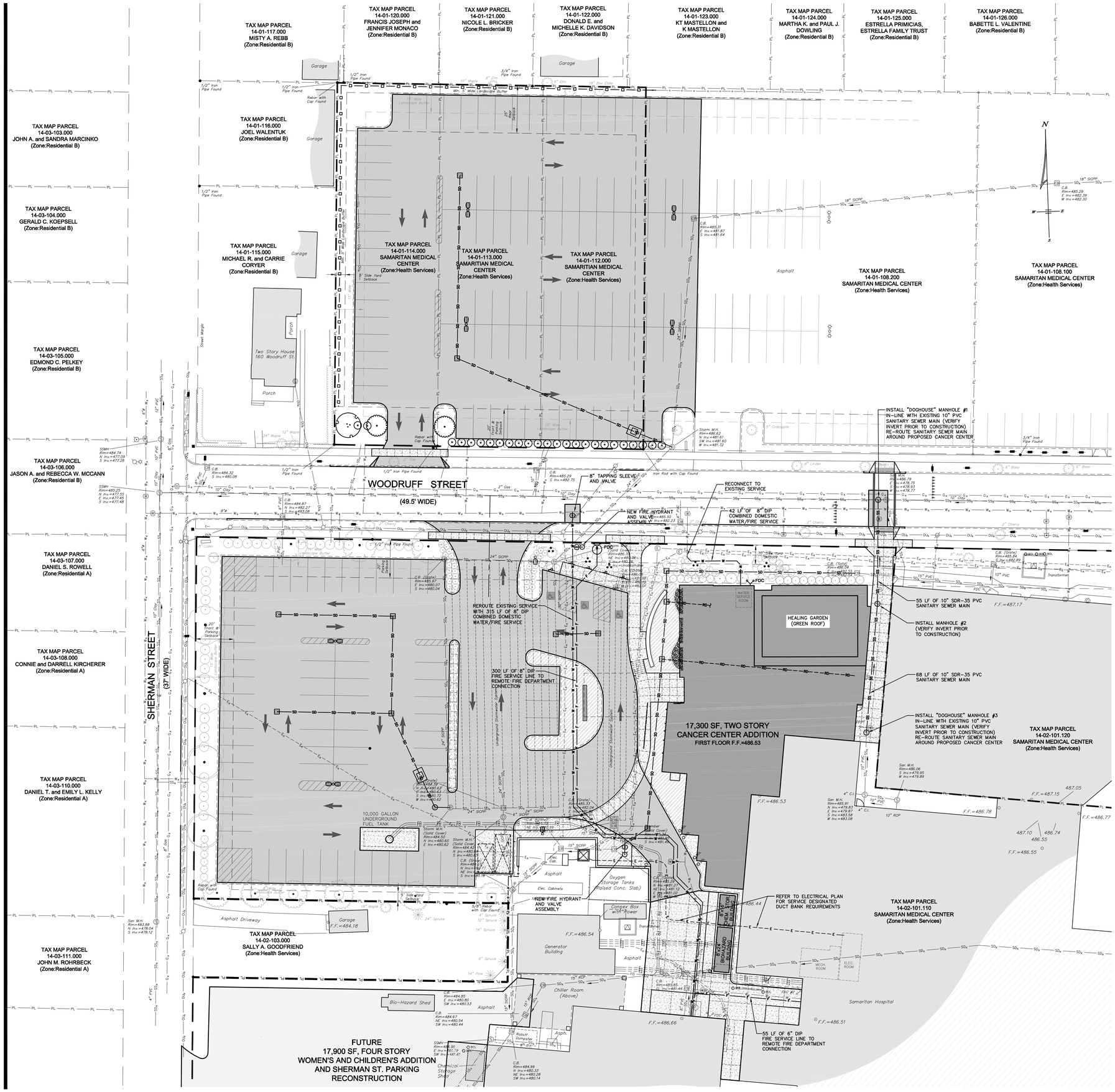

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LEGEND	EXISTING	PROPOSED
5' CONTOUR	155	155
1' CONTOUR	154	154
PROPERTY LINE	PL	PL
RIGHT OF WAY		
SETBACK		
BUILDING		
ASPHALT PAVEMENT		
EDGE OF GRAVEL		
CURB		
SIDEWALK		
TREE LINE		
FENCE	X	D
WATERLINE	W_X	W
SANITARY SEWER	SS_X	SS
STORM SEWER	SD_X	SD
OVERHEAD UTILITIES	OU_X	OU
UNDERGROUND UTILITIES	UU_X	UU
UNDERGROUND ELECTRIC	E_X	E
GAS	G_X	G
COMMUNICATION	CU_X	C
FUEL OIL	FO_X	FO
VENT PIPE	V_X	V
SANITARY MANHOLE	Ⓢ	Ⓢ
STORM MANHOLE	Ⓓ	Ⓓ
CATCH BASIN	CB	CB
FIRE HYDRANT		
WATER VALVE	W	W
CURB STOP	W	W
GAS METER	Ⓖ	
ELECTRIC METER	Ⓔ	
FUEL OIL MANHOLE	Ⓕ	
FUEL OIL FILL PORT	FO	
UTILITY POLE		
LIGHT POLE		
SIGN		
BOLLARD	BKL	BKL
TREES		

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SAMARITAN HEALTH COMPREHENSIVE

CANCER CENTER
830 Washington Street
WATERTOWN, NY 13601

Number	Date	Issued For
1	XXXXXXXX	ISSUED FOR -

UTILITY PLAN

CANCER CENTER ADDITION
WOODRUFF ST. SOUTH
WOODRUFF ST. NORTHWEST

Date: 05/24/2016
Scale: AS NOTED
Proj. Number: 2015-174
Drawing Number: **CU-101**

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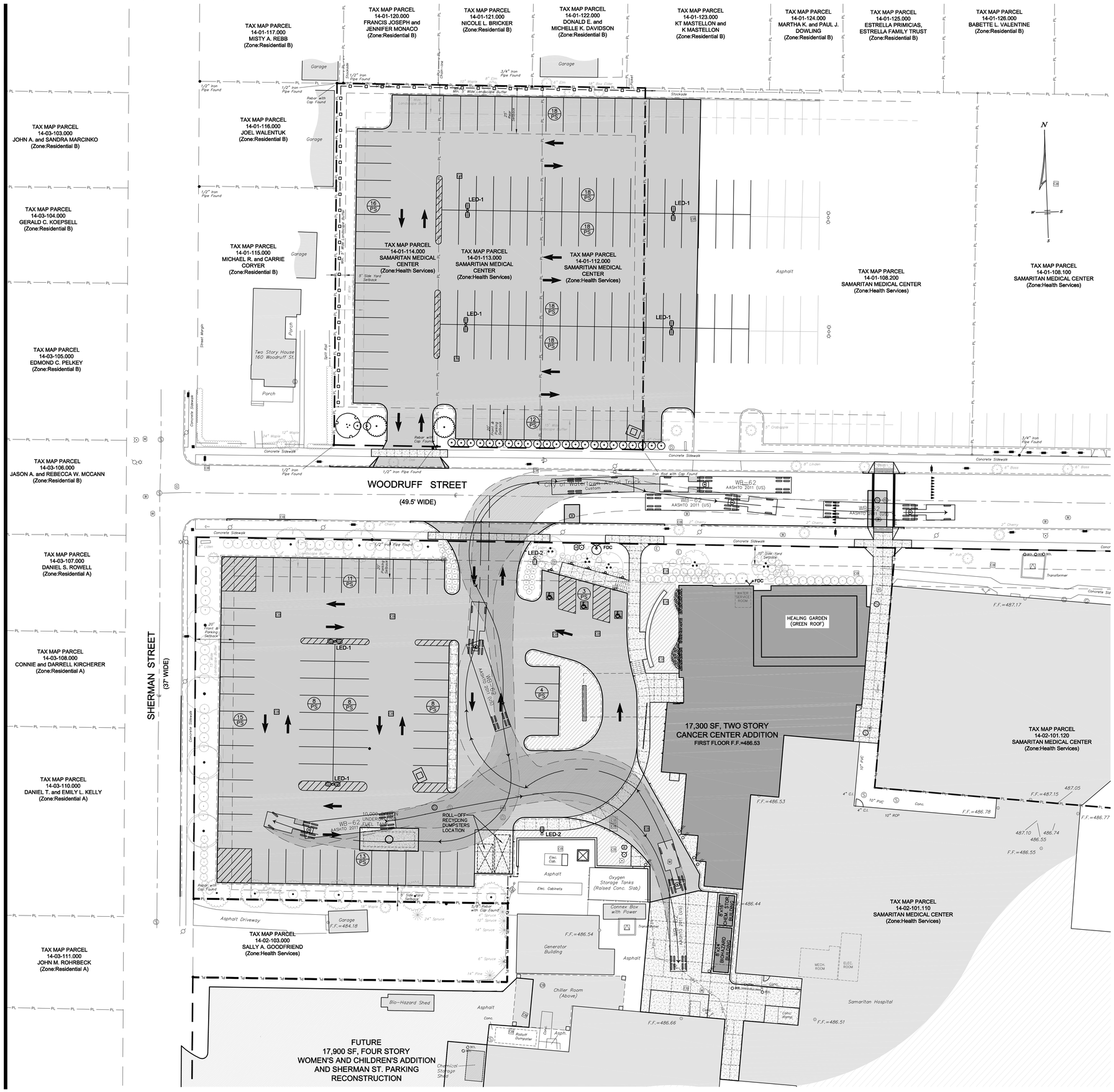
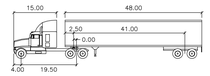


LEGEND	EXISTING	PROPOSED
5' CONTOUR	155	155
1' CONTOUR	154	154
PROPERTY LINE	PL	PL
RIGHT OF WAY		
SETBACK		
BUILDING		
ASPHALT PAVEMENT		
EDGE OF GRAVEL		
CURB		
SIDEWALK		
TREE LINE		
FENCE	X	D
WATERLINE	W_X	W
SANITARY SEWER	SS_X	SS
STORM SEWER	SD_X	SD
OVERHEAD UTILITIES	OU_X	OU
UNDERGROUND UTILITIES	UU_X	UU
UNDERGROUND ELECTRIC	E_X	E
GAS	G_X	G
COMMUNICATION	CU_X	C
FUEL OIL	FO_X	FO
VENT PIPE	V_X	V
SANITARY MANHOLE	S	S
STORM MANHOLE	D	D
CATCH BASIN	CB	CB
FIRE HYDRANT	H	H
WATER VALVE	W	W
CURB STOP	W	W
GAS METER	G	
ELECTRIC METER	E	
FUEL OIL MANHOLE	F	
FUEL OIL FILL PORT	FP	
UTILITY POLE		
LIGHT POLE		
SIGN		
BOLLARD	BOL	BOL
TREES		



WB-62 feet

Tractor Width	: 8.00	Lock to Lock Time	: 6.0
Trailer Width	: 8.50	Steering Angle	: 28.4
Tractor Track	: 8.00	Articulating Angle	: 70.0
Trailer Track	: 8.50		

GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)
1 inch = 20 ft.

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SAMARITAN HEALTH COMPREHENSIVE

CANCER CENTER
830 Washington Street
WATERTOWN, NY 13601

Number	Date	Issued For
1	XXXXXXXX	ISSUED FOR -

TRAFFIC CIRCULATION PLAN
WB-62 TRACTOR TRAILER
CANCER CENTER ADDITION
WOODRUFF ST. SOUTH
WOODRUFF ST. NORTHWEST

Date 05/24/2016
Scale AS NOTED
Proj. Number 2015-174
Drawing Number **CT-101**

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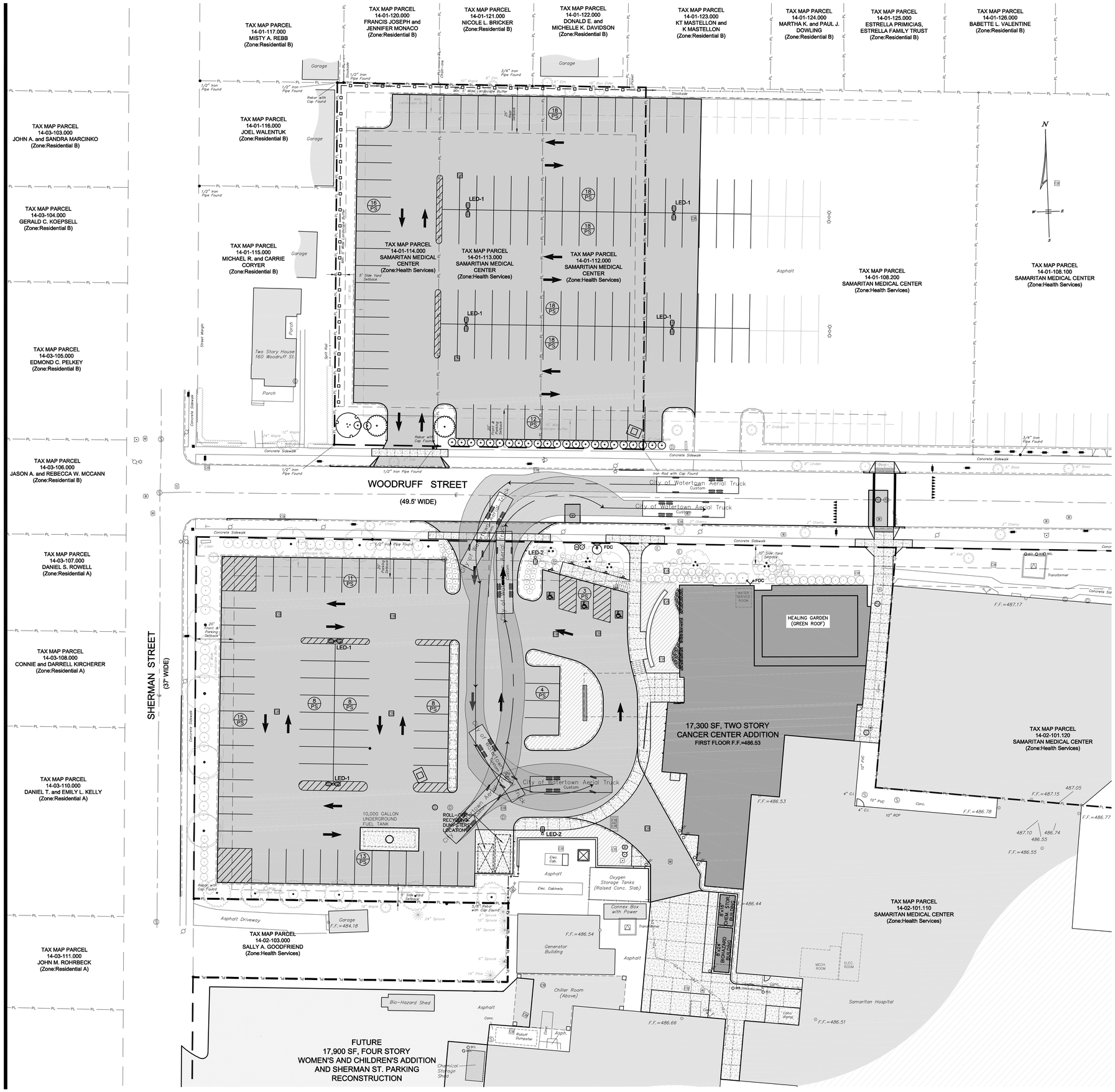
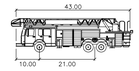


LEGEND	EXISTING	PROPOSED
5' CONTOUR	155	155
1' CONTOUR	154	154
PROPERTY LINE	PL	PL
RIGHT OF WAY		
SETBACK		
BUILDING		
ASPHALT PAVEMENT		
EDGE OF GRAVEL		
CURB		
SIDEWALK		
TREE LINE		
FENCE	X X	D D D
WATERLINE	W_X W_X	W W
SANITARY SEWER	SS_X SS_X	SS SS
STORM SEWER	SD_X SD_X	SD SD
OVERHEAD UTILITIES	OU_X OU_X	OU OU
UNDERGROUND UTILITIES	UU_X UU_X	UU UU
UNDERGROUND ELECTRIC	E_X E_X	E E
GAS	G_X G_X	G G
COMMUNICATION	CU_X CU_X	C C
FUEL OIL	FO_X FO_X	FO FO
VENT PIPE	V_X V_X	V V
SANITARY MANHOLE	S	S
STORM MANHOLE	D	D
CATCH BASIN	CB	CB
FIRE HYDRANT		
WATER VALVE	W	W
CURB STOP	W	W
GAS METER	G	
ELECTRIC METER	E	
FUEL OIL MANHOLE	F	
FUEL OIL FILL PORT	FP	
UTILITY POLE		
LIGHT POLE		
SIGN		
BOLLARD	BOL	BOL
TREES		



City of Watertown Aerial Truck

	feet
Width	: 8.25
Track	: 8.50
Lock to Lock Time	: 5.0
Steering Angle	: 45.0

GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)
1 inch = 20 ft.

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SAMARITAN HEALTH COMPREHENSIVE

CANCER CENTER
830 Washington Street
WATERTOWN, NY 13601

Number	Date	Issued For
1	XXXXXXXX	ISSUED FOR -

TRAFFIC CIRCULATION PLAN
CITY AERIAL FIRE TRUCK
CANCER CENTER ADDITION
WOODRUFF ST. SOUTH
WOODRUFF ST. NORTHWEST

Date: 05/24/2016
Scale: AS NOTED
Proj. Number: 2015-174
Drawing Number: CT-102

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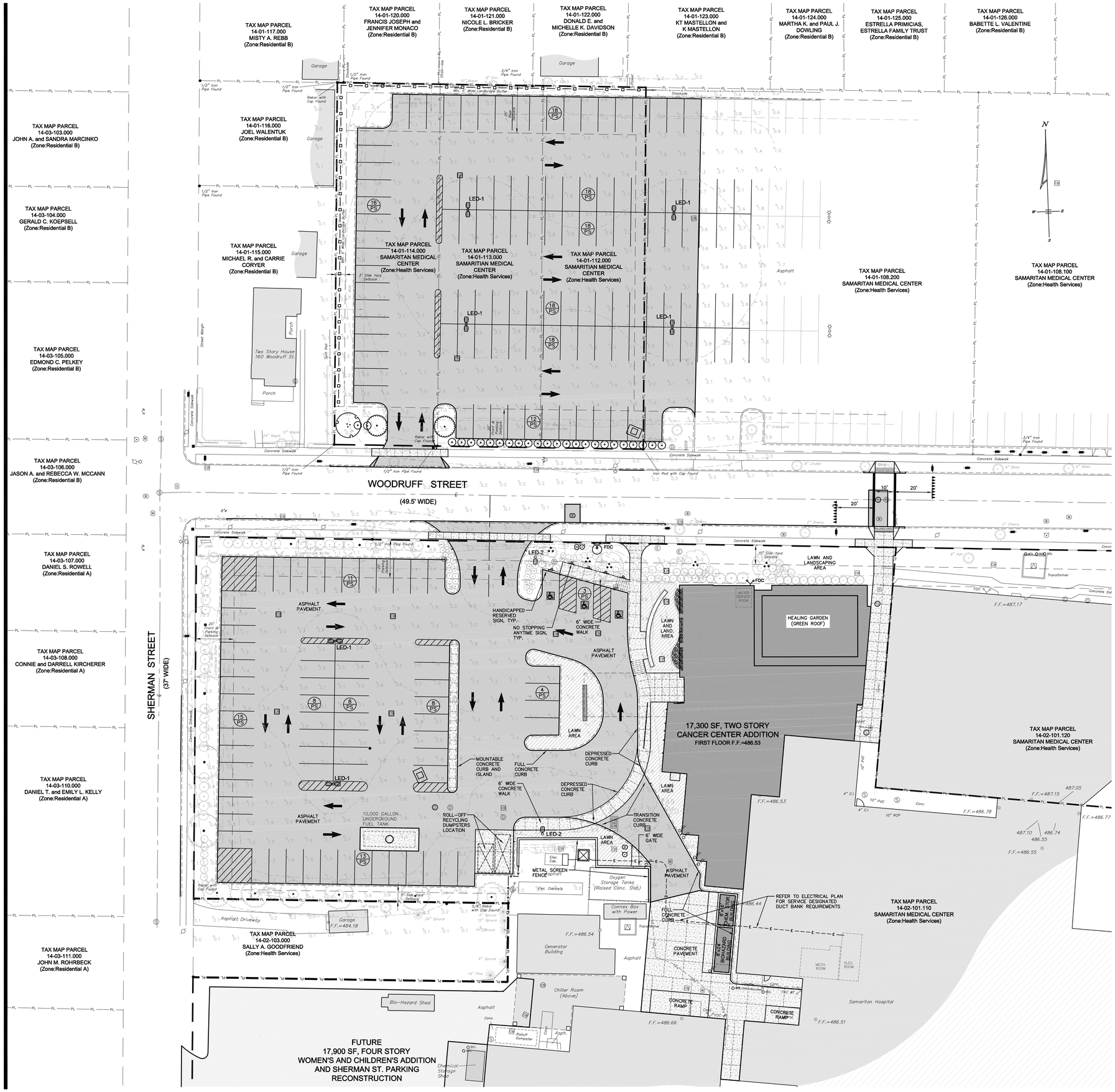

LEGEND	EXISTING	PROPOSED
5' CONTOUR	155	155
1' CONTOUR	154	154
PROPERTY LINE	PL	PL
RIGHT OF WAY		
SETBACK		
BUILDING		
ASPHALT PAVEMENT		
EDGE OF GRAVEL		
CURB		
SIDEWALK		
TREE LINE		
FENCE	X	D
WATERLINE	W	W
SANITARY SEWER	SS	SS
STORM SEWER	SD	SD
OVERHEAD UTILITIES	OU	OU
UNDERGROUND UTILITIES	UU	UU
UNDERGROUND ELECTRIC	E	E
GAS	G	G
COMMUNICATION	CU	C
FUEL OIL	FO	FO
VENT PIPE	V	V
SANITARY MANHOLE	S	S
STORM MANHOLE	D	D
CATCH BASIN	CB	CB
FIRE HYDRANT		
WATER VALVE	W	W
CURB STOP	W	W
GAS METER	G	
ELECTRIC METER	E	
FUEL OIL MANHOLE	F	
FUEL OIL FILL PORT	FO	
UTILITY POLE		
LIGHT POLE		
SIGN		
BOLLARD	BOL	BOL
TREES		

SITE LIGHTING SCHEDULE

LABEL	FIXTURE	MOUNTING HEIGHT	QUANTITY
LED-1	GLEON-AE-02-LED-E1-5MQ-BZ BY COOPER LIGHTING	25' FIXTURE HEIGHT (22' POLE AND 3' CONCRETE BASE)	6
LED-2	GLEON-AE-04-LED-E1-T4FT-BZ-HSS BY COOPER LIGHTING	25' FIXTURE HEIGHT (22' POLE AND 3' CONCRETE BASE)	2

GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)
1 inch = 20 ft.

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SAMARITAN HEALTH COMPREHENSIVE

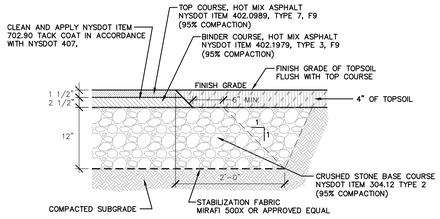
CANCER CENTER
830 Washington Street
WATERTOWN, NY 13601

Number	Date	Issued For
1	XXXXXXXX	ISSUED FOR -

SITE PHOTOMETRIC PLAN
CANCER CENTER ADDITON
WOODRUFF ST. SOUTH
WOODRUFF ST. NORTHWEST

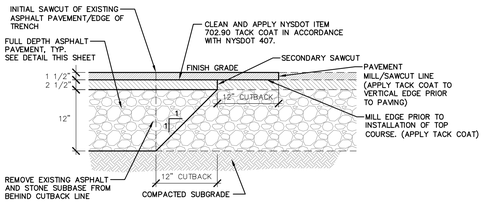
Date: 05/24/2016
Scale: AS NOTED
Proj. Number: 2015-174
Drawing Number: CP-101

Z:\Projects\2015\2015-174 SLAM Collaborative- SMC Woodruff St North and South Parking Lots\dwg\May 24, 2016 - 9:52 AM

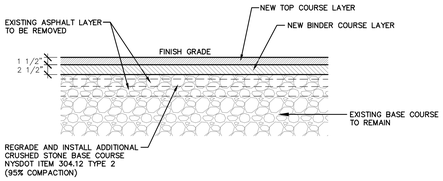


NOTES:
1. ALL HMA COMPACTION WILL BE TO 95% MADMTD (MIXTURE'S AVERAGE DAILY MAXIMUM THEORETICAL DENSITY) PER NYS DOT SPECIFICATIONS FOR HMA COMPACTION 402-3.07
2. BASE COURSE SHALL BE COMPACTED TO 95% MODIFIED PROCTOR MAXIMUM DENSITY
3. FIELD VERIFICATION OF COMPACTION SHALL BE BY NUCLEAR DENSITY TESTING METHODS

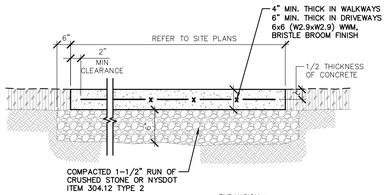
1 TYPICAL ASPHALT PAVEMENT DETAIL
NOT TO SCALE



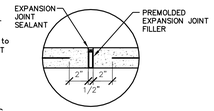
2 TYPICAL ASPHALT PAVEMENT JOINT DETAIL
NOT TO SCALE



3 TYPICAL EXISTING ASPHALT PAVEMENT REMOVAL AND REGRADE AND ASPHALT PAVEMENT RECONSTRUCTION DETAIL
NOT TO SCALE

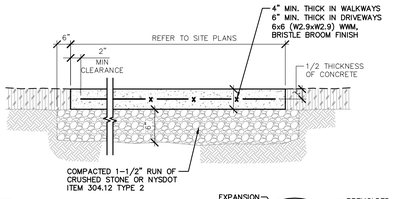


NOTES:
1. CONCRETE WALK EXPANSION JOINTS TO COINCIDE AT 20' O.C. MAX.,
2. CONTRACTION JOINTS TO BE SPACED EVENLY AT 4' to 6' O.C. MAX. BOTH DIRECTIONS. CONTRACTION JOINT SPACING SHALL BE SPACED SYMMETRICALLY BASED UPON THE SIDEWALK WIDTH BEING CONSTRUCTED.
   (I.E. 6' WIDE WALK – 6' CONTROL JOINTS
   5' WIDE WALK – 5' CONTROL JOINTS
   8" WIDE WALK – 4' CONTROL JOINTS)
3. EXPANSION JOINTS TO BE 1/2" WIDE FILLED WITH PREMOLDED JOINT FILLER AND SEALANT CONFORMING TO ASTM D1752 TYPE II.
4. CONTROL/CONTRACTION JOINTS SHALL BE TOOLED OR SAW CUT JOINT WITH A DEPTH OF 1/4 THE CONCRETE THICKNESS.
5. CONCRETE SHALL BE MIN. 4,500 PS.

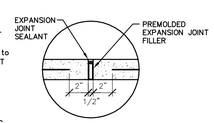


EXPANSION JOINT SECTION

4 TYPICAL CONCRETE WALK DETAIL
NOT TO SCALE

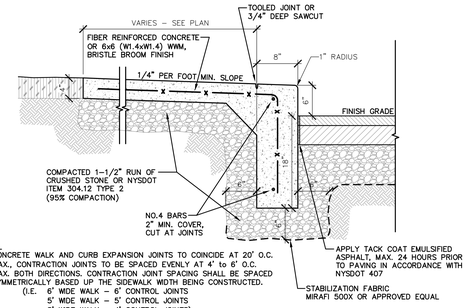


NOTES:
1. CONCRETE WALK EXPANSION JOINTS TO COINCIDE AT 20' O.C. MAX.,
2. CONTRACTION JOINTS TO BE SPACED EVENLY AT 4' to 6' O.C. MAX. BOTH DIRECTIONS. CONTRACTION JOINT SPACING SHALL BE SPACED SYMMETRICALLY BASED UPON THE SIDEWALK WIDTH BEING CONSTRUCTED.
   (I.E. 6' WIDE WALK – 6' CONTROL JOINTS
   5' WIDE WALK – 5' CONTROL JOINTS
   8" WIDE WALK – 4' CONTROL JOINTS)
3. EXPANSION JOINTS TO BE 1/2" WIDE FILLED WITH PREMOLDED JOINT FILLER AND SEALANT CONFORMING TO ASTM D1752 TYPE II.
4. CONTROL/CONTRACTION JOINTS SHALL BE TOOLED OR SAW CUT JOINT WITH A DEPTH OF 1/4 THE CONCRETE THICKNESS.
5. CONCRETE SHALL BE 5,000 PSI (CITY OF WATERTOWN)
6. ALL WALKS WITHIN CITY MARGINS SHALL BE BUILT TO CITY SPECIFICATIONS AND SHALL MEET THE (PROWAG) PUBLIC RIGHT OF WAY ACCESSIBILITY GUIDELINES



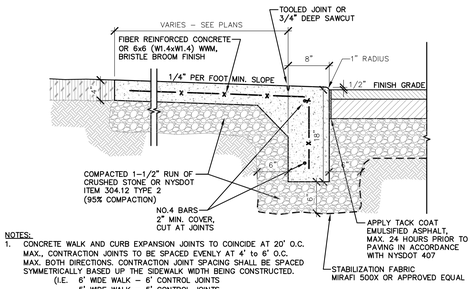
EXPANSION JOINT SECTION

5 TYPICAL CITY CONCRETE WALK DETAIL
NOT TO SCALE



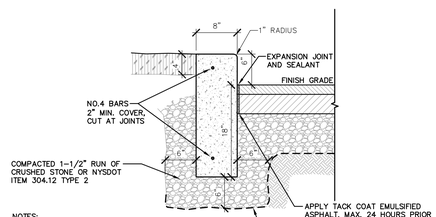
NOTES:
1. CONCRETE WALK AND CURB EXPANSION JOINTS TO COINCIDE AT 20' O.C. MAX., CONTRACTION JOINTS TO BE SPACED EVENLY AT 4' to 6' O.C. MAX. BOTH DIRECTIONS. CONTRACTION JOINT SPACING SHALL BE SPACED SYMMETRICALLY BASED UP THE SIDEWALK WIDTH BEING CONSTRUCTED.
   (I.E. 6' WIDE WALK – 6' CONTROL JOINTS
   5' WIDE WALK – 5' CONTROL JOINTS
   8' WIDE WALK – 4' CONTROL JOINTS)
2. EXPANSION JOINTS TO BE 1/2" WIDE FILLED WITH PREMOLDED JOINT FILLER AND SEALANT CONFORMING TO ASTM D1752 TYPE II.
3. CONTROL/CONTRACTION JOINTS SHALL BE TOOLED OR SAW CUT JOINT WITH A DEPTH OF 1/4 THE CONCRETE THICKNESS.

6 TYPICAL INTEGRAL CURB AND WALK DETAIL
NOT TO SCALE



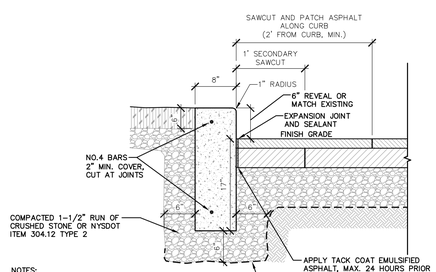
NOTES:
1. CONCRETE WALK AND CURB EXPANSION JOINTS TO COINCIDE AT 20' O.C. MAX., CONTRACTION JOINTS TO BE SPACED EVENLY AT 4' to 6' O.C. MAX. BOTH DIRECTIONS. CONTRACTION JOINT SPACING SHALL BE SPACED SYMMETRICALLY BASED UP THE SIDEWALK WIDTH BEING CONSTRUCTED.
   (I.E. 6' WIDE WALK – 6' CONTROL JOINTS
   5' WIDE WALK – 5' CONTROL JOINTS
   8' WIDE WALK – 4' CONTROL JOINTS)
2. EXPANSION JOINTS TO BE 1/2" WIDE FILLED WITH PREMOLDED JOINT FILLER AND SEALANT CONFORMING TO ASTM D1752 TYPE II.
3. CONTROL/CONTRACTION JOINTS SHALL BE TOOLED OR SAW CUT JOINT WITH A DEPTH OF 1/4 THE CONCRETE THICKNESS.

7 TYPICAL RECESSED INTEGRAL CURB AND WALK DETAIL
NOT TO SCALE



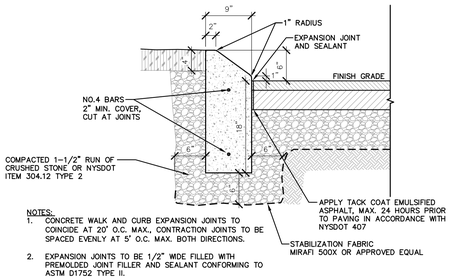
NOTES:
1. CONCRETE WALK AND CURB EXPANSION JOINTS TO COINCIDE AT 20' O.C. MAX., CONTRACTION JOINTS TO BE SPACED EVENLY AT 5' O.C. MAX. BOTH DIRECTIONS.
2. EXPANSION JOINTS TO BE 1/2" WIDE FILLED WITH PREMOLDED JOINT FILLER AND SEALANT CONFORMING TO ASTM D1752 TYPE II.
3. CONCRETE SHALL BE MIN. 4,500 PSI.

8 TYPICAL CONCRETE CURB DETAIL
NOT TO SCALE



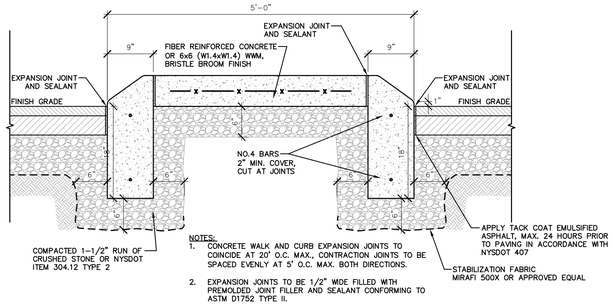
NOTES:
1. CONCRETE WALK AND CURB EXPANSION JOINTS TO COINCIDE AT 20' O.C. MAX., CONTRACTION JOINTS TO BE SPACED EVENLY AT 5' O.C. MAX. BOTH DIRECTIONS.
2. EXPANSION JOINTS TO BE 1/2" WIDE FILLED WITH PREMOLDED JOINT FILLER AND SEALANT CONFORMING TO ASTM D1752 TYPE II.
3. CONCRETE SHALL BE 5,000 PSI (CITY OF WATERTOWN)
4. ALL CURBS WITHIN CITY MARGINS SHALL BE BUILT TO CITY SPECIFICATIONS AND SHALL MEET THE (PROWAG) PUBLIC RIGHT OF WAY ACCESSIBILITY GUIDELINES

9 TYPICAL CITY CONCRETE CURB REPLACEMENT DETAIL
NOT TO SCALE



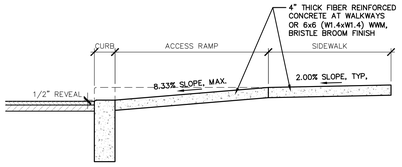
NOTES:
1. CONCRETE WALK AND CURB EXPANSION JOINTS TO COINCIDE AT 20' O.C. MAX., CONTRACTION JOINTS TO BE SPACED EVENLY AT 5' O.C. MAX. BOTH DIRECTIONS.
2. EXPANSION JOINTS TO BE 1/2" WIDE FILLED WITH PREMOLDED JOINT FILLER AND SEALANT CONFORMING TO ASTM D1752 TYPE II.

10 TYPICAL MOUNTABLE CONCRETE CURB DETAIL
NOT TO SCALE

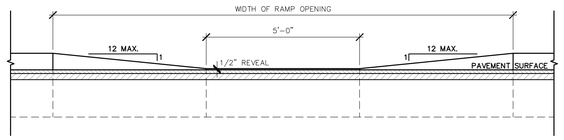


NOTES:
1. CONCRETE WALK AND CURB EXPANSION JOINTS TO COINCIDE AT 20' O.C. MAX., CONTRACTION JOINTS TO BE SPACED EVENLY AT 5' O.C. MAX. BOTH DIRECTIONS.
2. EXPANSION JOINTS TO BE 1/2" WIDE FILLED WITH PREMOLDED JOINT FILLER AND SEALANT CONFORMING TO ASTM D1752 TYPE II.

11 TYPICAL MOUNTABLE CONCRETE ISLAND DETAIL
NOT TO SCALE

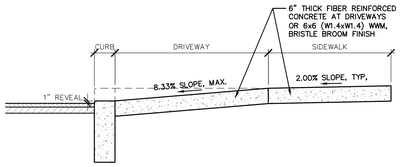


SECTION VIEW

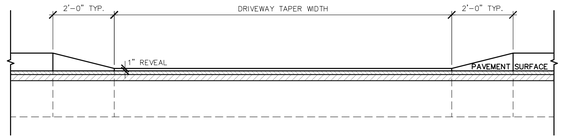


ELEVATION VIEW

12 TYPICAL ACCESS RAMP DETAIL
NOT TO SCALE



SECTION VIEW



ELEVATION VIEW

13 TYPICAL DRIVEWAY CURB CUT AND TAPER DETAIL
NOT TO SCALE

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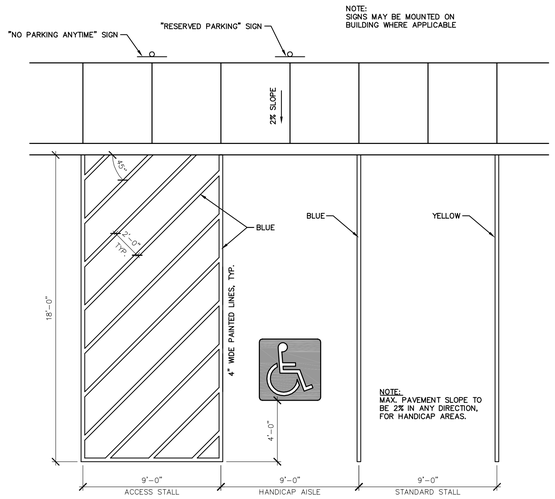
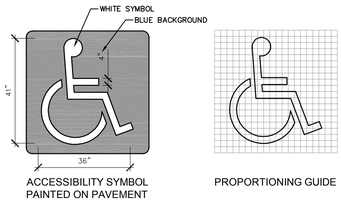
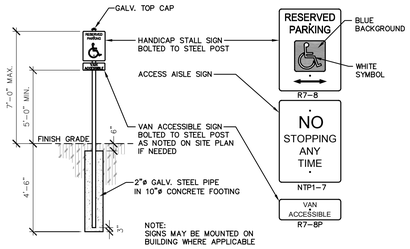
Drawing Number
CS-500



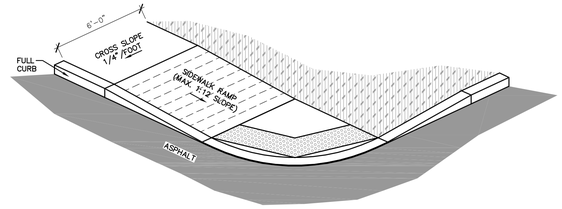
1 TYPICAL PARKING STALL MARKINGS DETAIL
NOT TO SCALE



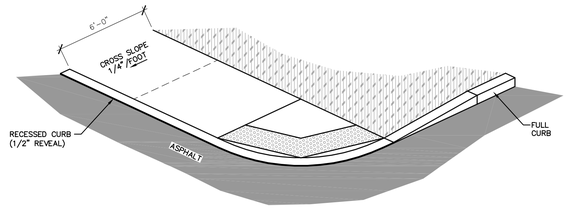
2 TYPICAL HANDICAP SYMBOL DETAIL
NOT TO SCALE



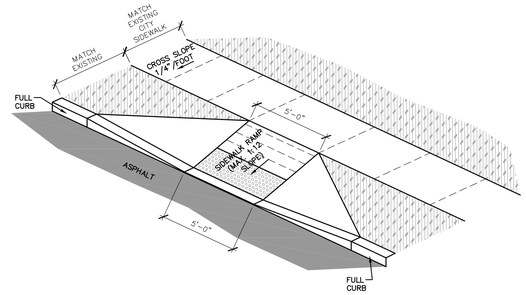
3 TYPICAL HANDICAP SIGN DETAIL
NOT TO SCALE



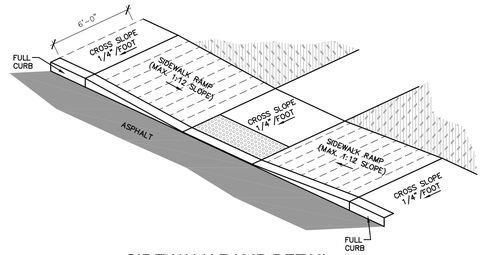
8 SIDEWALK RAMP DETAIL
NOT TO SCALE



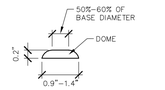
9 SIDEWALK RAMP DETAIL
NOT TO SCALE

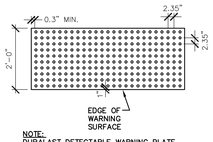


10 SIDEWALK RAMP DETAIL
NOT TO SCALE



11 SIDEWALK RAMP DETAIL
NOT TO SCALE





NOTE:
DURALAST DETECTABLE WARNING PLATE, MANUFACTURED BY EAST JORDAN IRON WORKS OR APPROVED EQUAL

DETECTABLE WARNING UNIT DIMENSIONS:
THE SIZE OF THE DETECTABLE WARNING FIELD SHALL BE 24" IN THE DIRECTION OF TRAVEL AND SHALL EXTEND THE FULL WIDTH OF THE CURB RAMP OR FLUSH SURFACE, EXCLUSIVE OF SIDE FLARES.

DOME ALIGNMENT:
THE ROWS OF DOMES SHALL BE ALIGNED TO BE PERPENDICULAR OR RADIAL TO THE GRADE BREAK BETWEEN THE RAMP LANDING OR CURB RAMP AND THE STREET.

WHERE DOMES ARE ARRAYED RADIALLY THEY MAY DIFFER IN DOME DIAMETER AND CENTER-TO-CENTER SPACING WITHIN THE RANGES SPECIFIED ON THIS SHEET.

COLOR REQUIREMENTS:
THE DETECTABLE WARNING FIELD SHALL BE THE COLOR SPECIFIED IN THE CONTRACT DOCUMENTS OR MEET THE REQUIREMENTS OF THE STANDARD SPECIFICATIONS.

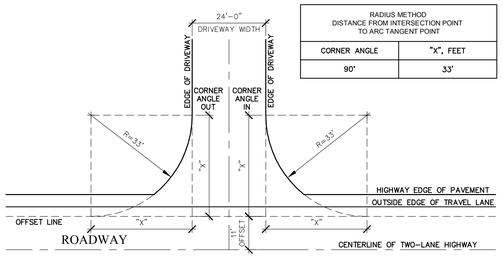
DETECTABLE WARNINGS LOCATIONS:
DETECTABLE WARNINGS SHALL BE LOCATED SO THAT THE EDGE OR CORNER OF THE WARNING FIELD NEAREST TO THE ROADWAY IS 5" TO 9" FROM THE FRONT OF THE CURB OR THE ROADWAY EDGE (12" WHERE TRAVERSABLE CURB IS USED).

THE EDGE OF THE DETECTABLE WARNING FIELD NEAREST TO A RAILROAD CROSSING SHALL BE 6'-0" MINIMUM AND 15'-0" MAXIMUM FROM THE CENTERLINE OF THE NEAREST RAIL.

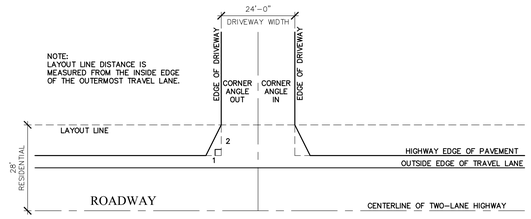
DETECTABLE WARNING MATERIAL:
CAST IRON WITH POWDER COATED FINISH (CITY OF WATERTOWN)

12 TYPICAL DETECTABLE WARNING SURFACE DETAIL
NOT TO SCALE

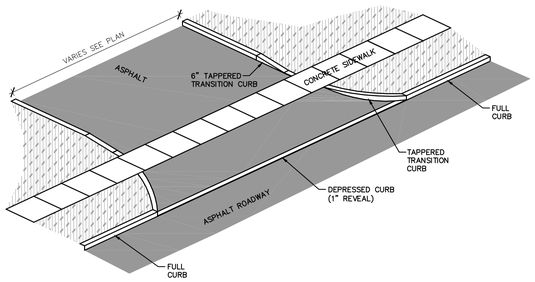
RADIUS METHOD DISTANCE FROM INTERSECTION POINT TO ARC TANGENT POINT	
CORNER ANGLE	"X", FEET
90°	33'



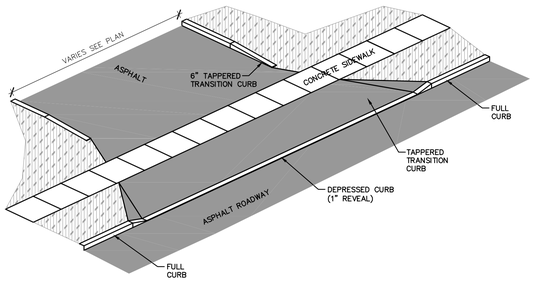
4 TYPICAL COMMERCIAL DRIVEWAY ENTRANCE RADIUS LAYOUT
NOT TO SCALE



6 TYPICAL RESIDENTIAL DRIVEWAY ENTRANCE TAPER LAYOUT
NOT TO SCALE



5 TYPICAL COMMERCIAL DRIVEWAY ENTRANCE RADIUS DETAIL
NOT TO SCALE



7 TYPICAL RESIDENTIAL DRIVEWAY ENTRANCE TAPER DETAIL
NOT TO SCALE

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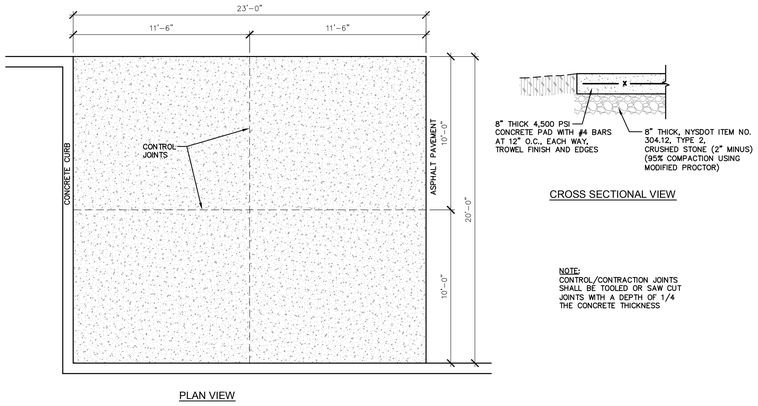
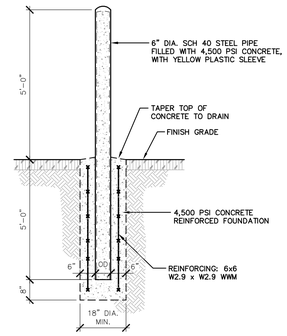
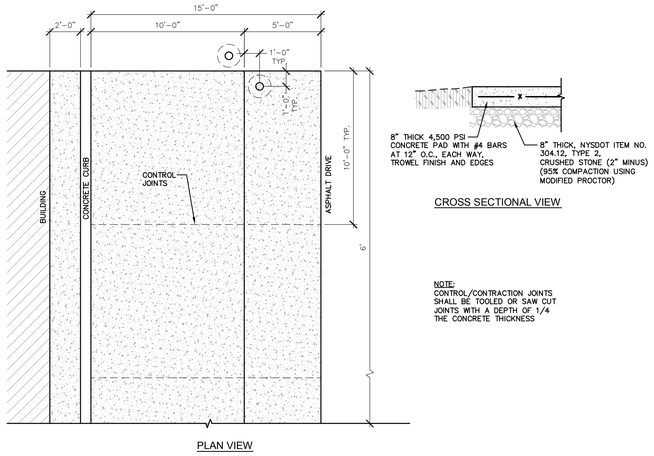


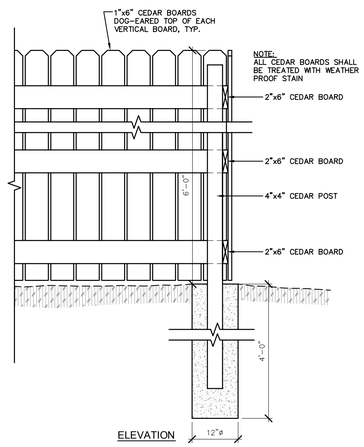
1 TYPICAL ROLLOFF DUMPSTER CONCRETE PAD DETAIL
NOT TO SCALE



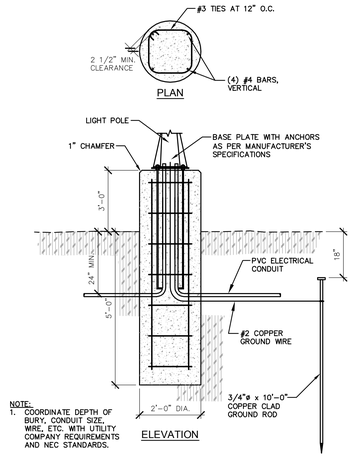
3 TYPICAL PIPE GUARD BOLLARD DETAIL
NOT TO SCALE



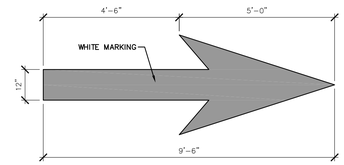
2 BIOHAZARD AND CHEMICAL STORAGE BUILDING CONCRETE PAD DETAIL
NOT TO SCALE



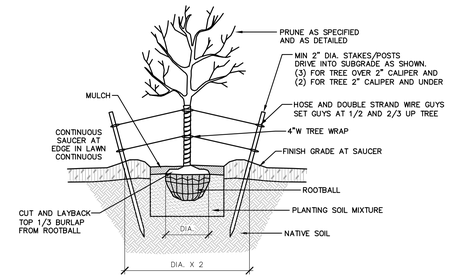
4 TYPICAL WOOD STOCKADE FENCE DETAIL
NOT TO SCALE



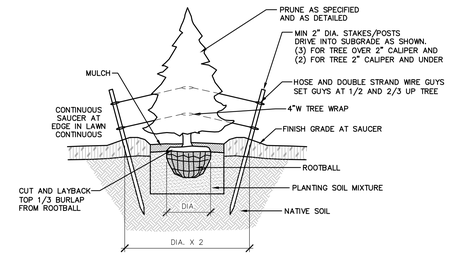
5 TYPICAL LIGHT POLE BASE DETAIL
NOT TO SCALE



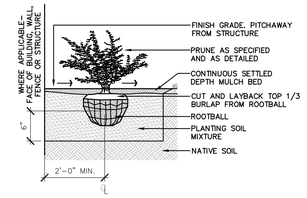
6 TYPICAL THROUGH LANE ARROW DETAIL
NOT TO SCALE



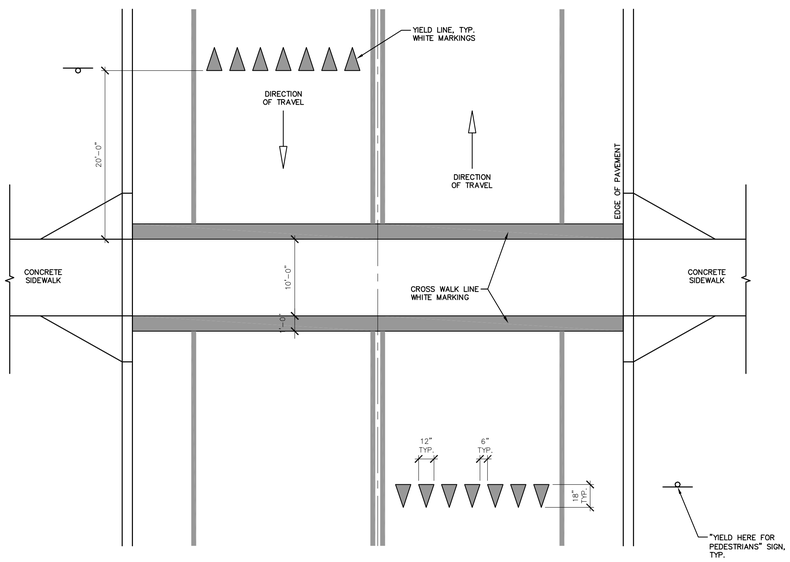
7 TYPICAL TREE PLANTING DETAIL
NOT TO SCALE



8 TYPICAL EVERGREEN TREE PLANTING DETAIL
NOT TO SCALE

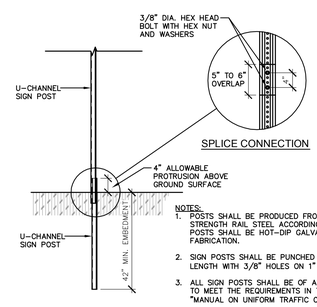


9 TYPICAL SHRUB PLANTING DETAIL
NOT TO SCALE



NOTE:
ALL PAVEMENT MARKINGS SHALL BE PLACED IN ACCORDANCE WITH THE NATIONAL MANUAL FOR UNIFORM TRAFFIC CONTROL DEVISES AND NYS DOT STANDARDS

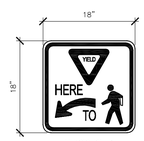
10 TYPICAL CROSS WALK MARKING DETAIL
NOT TO SCALE



NOTES:
1. POSTS SHALL BE PRODUCED FROM HIGH STRENGTH RAIL STEEL ACCORDING TO ASTM A499. POSTS SHALL BE HOT-DIP GALVANIZED AFTER FABRICATION.
2. SIGN POSTS SHALL BE PUNCHED THEIR FULL LENGTH WITH 3/8" HOLES ON 1" CENTERS.
3. ALL SIGN POSTS SHALL BE OF ADEQUATE LENGTH TO MEET THE REQUIREMENTS IN THE CURRENT "MANUAL ON UNIFORM TRAFFIC CONTROL DEVISES"
4. SPLICE HARDWARE SHALL BE AS SUPPLIED OR RECOMMENDED BY THE MANUFACTURER, CADMIUM PLATED ACCORDING TO ASTM A165.

11 TYPICAL SIGN POST DETAIL
NOT TO SCALE

NOTES:
1. ALL SIGNS AND PAVEMENT MARKINGS SHALL BE INSTALLED IN ACCORDANCE WITH THE CURRENT "MANUAL OON THE UNIFORM TRAFFIC CONTROL DEVICES".
2. ALL GUIDE SIGN SHALL BE BLACK LETTERING ON A WHITE BACKGROUND.
3. SIGNS WIDER THAN 30" SHALL USE TWO OR MORE POSTS.
4. SIGN POSTS AND MOUNTING SHALL BE CONSTRUCTED AS TO HOLD SIGNS IN A PROPER AND PERMANENT POSITION AND TO RESIST SWAYING IN THE WIND OR DISPLACEMENT BY VANDALISM.
5. POST AND HORIZONTAL BAR ARRANGEMENTS SHALL BE INSTALLED AS PER MANUFACTURERS INSTURCTIONS.



MUTCD R1-5

NOTES:
1. ALL SIGNS SHALL BE INSTALLED IN ACCORDANCE WITH THE CURRENT "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES".
2. SIGNS WIDER THAN 30" SHALL USE TWO OR MORE POSTS.
3. SIGN POSTS AND MOUNTING SHALL BE CONSTRUCTED AS TO HOLD SIGNS IN A PROPER AND PERMANENT POSITION AND TO RESIST SWAYING IN THE WIND OR DISPLACEMENT BY VANDALISM.

12 YIELD HERE TO PEDESTRIAN SIGN PANEL DETAIL
NOT TO SCALE

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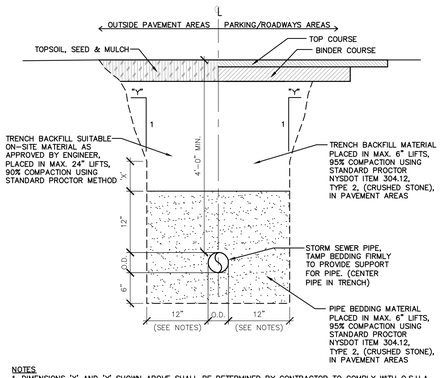
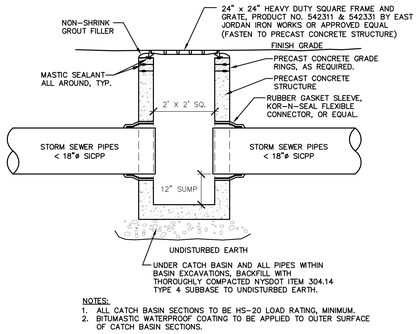
Proj. Number 2015-174
Drawing Number **CS-502**



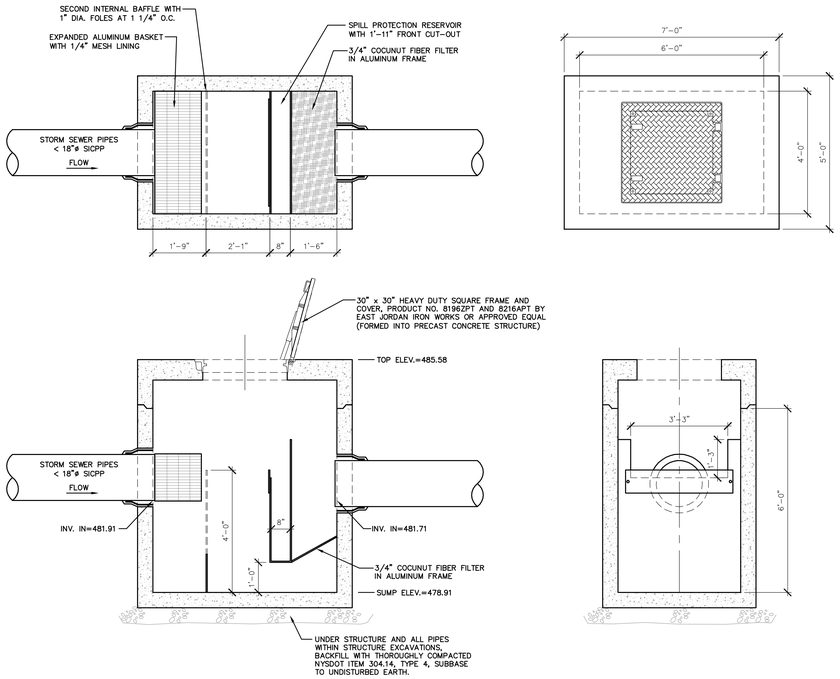
NOTES:
1. DIMENSIONS 'X' AND 'Y' SHOWN ABOVE SHALL BE DETERMINED BY CONTRACTOR TO COMPLY WITH O.S.H.A., NEW YORK STATE DEPARTMENT OF LABOR, NEW YORK STATE INDUSTRIAL CODE AND ALL OTHER APPLICABLE SAFETY STANDARDS.
2. SAFETY SHEETING OR TRENCH BOX MAY BE USED IN PLACE OF SLOPED TRENCH WALLS.
3. SHEETING, WHEN REQUIRED, TO BE CUT OFF AT LEAST 5 FEET BELOW STREET AND A MINIMUM OF 1 FOOT ABOVE TOP OF PIPE. WOOD SHEETING DRIVEN BELOW MID-DIAMETER OF THE PIPE SHALL BE LEFT IN PLACE. STEEL SHEETING DRIVEN BELOW MID-DIAMETER MAY BE WITHDRAWN IF APPROVED IN WRITING BY THE ENGINEER. FOR PVC PIPE ALL SHEETING DRIVEN BELOW MID-DIAMETER SHALL BE LEFT IN PLACE.
4. TRENCHES LOCATED WITHIN 5' OF ROAD SHOULDERS SHALL BE TREATED THE SAME AS UNDER PAVEMENT.

1 TYPICAL STORM SEWER TRENCH DETAIL
NOT TO SCALE

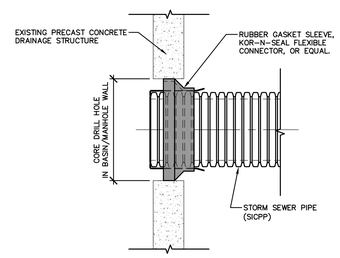


NOTES:
1. ALL CATCH BASIN SECTIONS TO BE HS-20 LOAD RATING, MINIMUM.
2. BITUMASTIC WATERPROOF COATING TO BE APPLIED TO OUTER SURFACE OF CATCH BASIN SECTIONS.

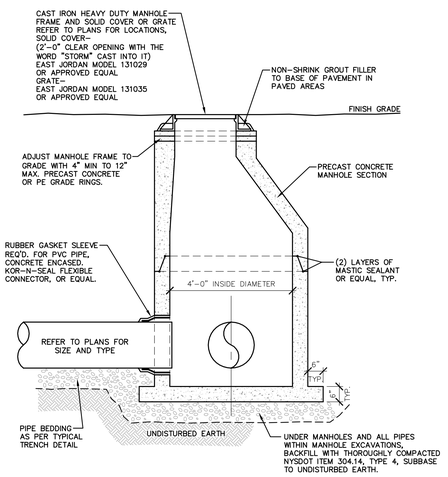
2 TYPICAL 2' x 2' SQ. CATCH BASIN DETAIL
NOT TO SCALE



5 STORMWATER WATER QUALITY VAULT #1 DETAIL
NOT TO SCALE

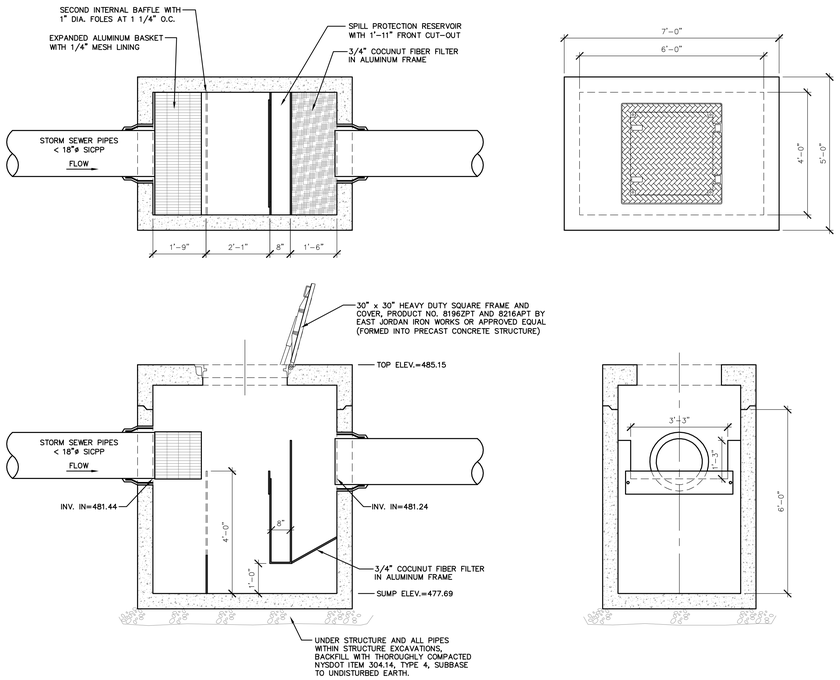


4 TYPICAL STORM SEWER CONNECTION DETAIL
NOT TO SCALE



TYPICAL PRECAST STORM SEWER MANHOLE NOTES:
1. CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 5,000 PSI AT 28 DAYS.
2. CONCRETE SHALL BE AIR ENTRAINED 5%-8%.
3. WALLS, FLOOR, TOP SLAB AND ACCESS COVERS SHALL BE DESIGNED IN ACCORDANCE WITH ASTM C890 (HS-20 LOAD).
4. REINFORCEMENT - ASTM A497/A615 GRADE 60.
5. ALL JOINTS SHALL BE SEALED SUCH THAT THE TANK IS WATERTIGHT WITH BUTYL SEALANT CS-102 ASTM C-990.
6. 2 COATS OF BITUMASTIC WATERPROOF COATING TO BE APPLIED TO OUTER SURFACE OF PRECAST CONCRETE STRUCTURES.
7. ALL MANHOLE COVERS SHALL HAVE THE WORDS "STORM" IN 2" LETTERS, CAST IN COVERS.
8. ALL MANHOLES SHALL BE 4'-0" I.D. UNLESS OTHERWISE NOTED.

3 TYPICAL STORM SEWER MANHOLE DETAIL
NOT TO SCALE



6 STORMWATER WATER QUALITY VAULT #2 DETAIL
NOT TO SCALE

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CANCER CENTER
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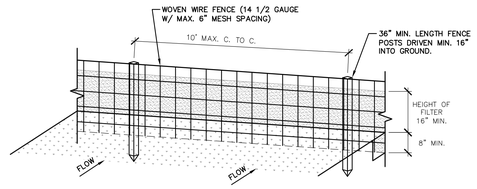
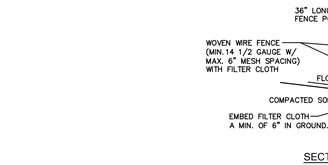
Number	Date	Issued For

STORM SEWER DETAILS

Date: 05/24/2016
Scale: AS NOTED
Proj. Number: 2015-174
Drawing Number: CG-500



PERSPECTIVE VIEW

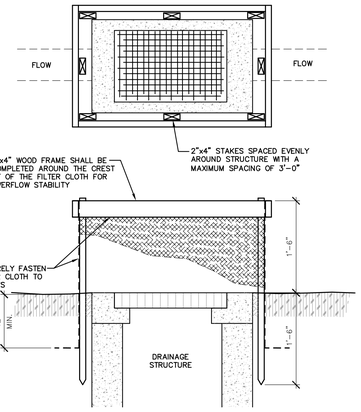


SECTION VIEW

CONSTRUCTION SPECIFICATIONS

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

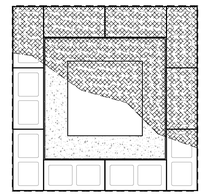
1 TYPICAL SILT FENCE DETAIL
NOT TO SCALE

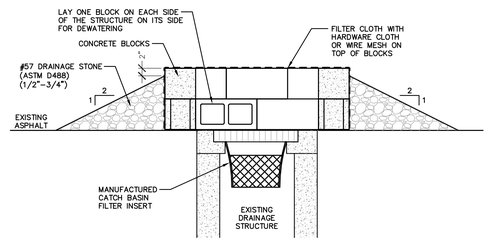


INSTALLATION NOTES:

1. FILTER CLOTH TO BE CUT FROM A ROLL TO ELIMINATED JOINTS. IF JOINTS ARE NEEDED THEY WILL BE OVERLAPPED TO THE NEXT STAKE.
2. STAKE SHALL BE 2"x4" AND A MINIMUM OF 36" LONG.
3. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REMOVED AT REGULAR INTERVALS.
4. FILTER CLOTH SHALL BE FILTER X, MIRAFI 100X, STABILINKA-T140N OR APPROVED EQUAL

2 TYPICAL INLET PROTECTION DETAIL
NOT TO SCALE





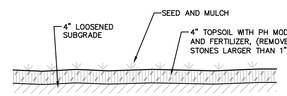
INSTALLATION NOTES:

1. FILTER CLOTH TO BE CUT FROM A ROLL TO ELIMINATED JOINTS.
2. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REMOVED AT REGULAR INTERVALS.
3. FILTER CLOTH SHALL BE FILTER X, MIRAFI 100X, STABILINKA-T140N OR APPROVED EQUAL
4. MANUFACTURED CATCH BASIN INSERT FILTER CAN BE USED INSIDE THE STRUCTURE INSTEAD OF USING AN ABOVE GRADE INLET PROTECTION

3 TYPICAL INLET PROTECTION DETAIL
NOT TO SCALE

EROSION AND SEDIMENT CONTROL NOTES:

1. PRIOR TO COMMENCING ANY EARTHWORK ACTIVITIES, ETC. AT THE SITE, THE CONTRACTOR SHALL FLAG THE WORK LIMITS AND SHALL INSTALL ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES (I.E. SILT FENCES, TREE PROTECTION/BARRIER FENCES, STABILIZED CONSTRUCTION ENTRANCES, STORM DRAIN SEDIMENT FILTERS, DRAINAGE DITCH SEDIMENT FILTERS, ETC.) INDICATED ON THE PROJECT DRAWINGS. TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES MUST BE CONSTRUCTED, STABILIZED, AND FUNCTIONAL BEFORE SITE DISTURBANCE BEGINS WITHIN THEIR TRIBUTARY AREAS, ONCE CONSTRUCTED, ALL MEASURES SHALL BE PROPERLY MAINTAINED AND/OR REPLACED AS NECESSARY AND THEN REMOVED FROM THE SITE ONCE VEGETATION AND PAVEMENT ARE IN PLACE.
2. EARTH DISTURBANCE SHALL BE LIMITED TO AREAS WHERE TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES ARE TO BE INSTALLED. ONCE ALL MEASURES ARE INSTALLED TO THE SATISFACTION OF THE ENGINEER, THE REMAINDER OF THE CLEARING AND GRADING ACTIVITIES SHALL COMMENCE.
3. ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE IN STRICT COMPLIANCE WITH THE "NEW YORK STATE STANDARDS AND SPECIFICATIONS FOR EROSION AND SEDIMENT CONTROL" CURRENT EDITION.
4. THE CONTRACTOR SHALL INSPECT AND MAINTAIN THE INTEGRITY AND FUNCTION OF ALL TEMPORARY EROSION CONTROL MEASURES THROUGHOUT THE DURATION OF THE DEVELOPMENT PROCESS. TO ASSURE PROPER FUNCTION, SILTATION BARRIERS SHALL BE MAINTAINED IN GOOD CONDITION AND REINFORCED, EXTENDED, REPAIRED OR REPLACED AS NECESSARY. WASHOUTS SHALL BE IMMEDIATELY REPAIRED, RE-SEEDED AND PROTECTED FROM FURTHER EROSION. ALL ACCUMULATED SEDIMENT SHALL BE REMOVED AND CONTAINED IN APPROPRIATE SPOIL AREAS. WATER SHALL BE APPLIED TO NEWLY SEEDED AREAS AS NEEDED UNTIL GRASS COVER IS WELL ESTABLISHED TO EFFECTIVELY CONTROL WIND EROSION. WATER SHALL BE APPLIED TO ALL EXPOSED SOILS AS NECESSARY UNTIL GROUND COVER IS PERMANENTLY ESTABLISHED.
5. THE STABILIZED CONSTRUCTION ENTRANCE, UTILIZED DURING CONSTRUCTION, SHALL BE MAINTAINED IN A CONDITION THAT SHALL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED, OR TRACKED ONTO PUBLIC RIGHTS-OF-WAY MUST BE REMOVED IMMEDIATELY. WHEELS SHALL BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTRANCE ONTO PUBLIC RIGHTS-OF-WAY. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH STONE AND WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVISE. PERIODIC INSPECTIONS AND NEEDED MAINTENANCE SHALL BE PROVIDED AFTER EACH RAIN EVENT.
6. THE INLET PROTECTION SHALL FUNCTION TO PREVENT SEDIMENT FROM ENTERING THE STORM DRAINS. THEY SHALL BE MAINTAINED IN GOOD CONDITION UNTIL FINAL VEGETATIVE COVER IS WELL ESTABLISHED.
7. AS MUCH AS IS PRACTICAL, EXISTING VEGETATION SHALL BE PRESERVED. FOLLOWING THE COMPLETION OF CONSTRUCTION ACTIVITIES IN ANY PORTION OF THE SITE, PERMANENT VEGETATION SHALL BE ESTABLISHED ON ALL EXPOSED SOILS.
8. IN SOME INSTANCES, ESTABLISHING VEGETATION WILL BE NECESSARILY DELAYED WHILE CONSTRUCTION IS IN PROGRESS. DURING THESE TIMES, SEDIMENT CONTROL MEASURES WILL BE EMPLOYED TO PREVENT SEDIMENT FROM LEAVING THE SITE. VEGETATION SHALL BE ESTABLISHED IN THESE AREAS AS SOON AS IT IS PRACTICAL.
9. SITE PREPARATION ACTIVITIES SHALL BE PLANNED TO MINIMIZE THE SCOPE AND DURATION OF SOIL DISRUPTION.
10. PERMANENT TRAFFIC CORRIDORS SHALL BE ESTABLISHED AND "ROUTES OF CONVENIENCE" SHALL BE AVOIDED. STABILIZED CONSTRUCTION ENTRANCES SHALL BE INSTALLED AT ALL POINTS OF ENTRY ONTO THE PROJECT SITE.
11. AREAS UNDERGOING GRADING AND WHERE WORK IS DELAYED OR COMPLETED AND WILL NOT BE REDISTURBED FOR 21 DAYS OR MORE SHALL BE STABILIZED WITH TEMPORARY OR PERMANENT VEGETATIVE COVER WITHIN 14 DAYS.
12. TOPSOIL AND FILL THAT IS TO REMAIN STOCKPILED ON-SITE FOR PERIODS GREATER THAN 30 DAYS SHALL BE STABILIZED BY SEEDING. PRIOR TO THE SEEDING OPERATION, THE STOCKPILED MATERIAL SHALL BE GRADED AS NEEDED AND FEASIBLE TO PERMIT THE USE OF CONVENTIONAL EQUIPMENT FOR SEEDBED PREPARATION, FERTILIZATION, SEEDING, MULCH APPLICATIONS AND MULCH ANCHORING.
13. SILT FENCES SHALL BE CONSTRUCTED AROUND ALL STOCKPILES OF FILL, TOPSOIL, AND EXCAVATED OVERBURDEN. SILT FENCES SHALL BE ANCHORED AND MAINTAINED IN GOOD CONDITION UNTIL SUCH TIME AS SAID STOCKPILES ARE REMOVED AND STOCKPILING AREAS ARE BROUGHT TO FINAL GRADE AND PERMANENTLY STABILIZED.
14. IN NO CASE SHALL ERODIBLE MATERIALS BE STOCKPILED WITHIN 25 FEET OF ANY DITCH STREAM OR OTHER SURFACE WATER BODY.
15. DAMAGE TO SURFACE WATERS RESULTING FROM EROSION AND SEDIMENTATION SHALL BE MINIMIZED BY STABILIZING DISTURBED AREAS AND BY REMOVING SEDIMENT FROM CONSTRUCTION SITE DISCHARGES.
16. CONSTRUCTION TRAFFIC SHALL NOT CROSS STREAMS OR DITCHES EXCEPT AT SUITABLE CROSSING FACILITIES, AND SHALL NOT OPERATE UNNECESSARILY WITHIN WATERWAYS OR DRAINAGE DITCHES.
17. NO SYNTHETIC EROSION CONTROL MATERIAL, FENCING OR MATTING SHALL BE PART OF THE PERMANENT INSTALLATION.
18. WHERE CONCENTRATED FLOWS ARE CREATED AS A RESULT OF CONSTRUCTION OPERATIONS, CHECK DAMS SHALL BE INSTALLED DEEMED NECESSARY.



NOTE:
PROVIDE SOIL TESTS WITH SEED, FERTILIZER AND MULCH RECOMMENDATIONS (ONE PER EACH 5 ACRES OF SEEDING AND MIN. ONE PER TOPSOIL STOCKPILE)

4 TYPICAL TOPSOIL REPLACEMENT DETAIL
NOT TO SCALE

SPECIFICATIONS:

SEED

A. TEMPORARY SEED SPECIES: STATE CERTIFIED SEED FROM GRASS SPECIES, AS FOLLOWS:
   1. PERENNIAL RYE, 100%
   2. ANNUAL RYE, 100%
   3. 'AROOSTOOK' WINTER RYE, 100%
B. GRASS/LAWN AREA SEED SPECIES: STATE-CERTIFIED SEED OF GRASS SPECIES, AS FOLLOWS:
   1. KENTUCKY BLUE GRASS: 40%
   2. CREEPING RED FESCUE GRASS: 25%
   3. PERENNIAL RYE: 15%
   4. TALL FESCUE OR SMOOTH BROMEGRASS: 20%

PLANTING MATERIALS

A. TOPSOIL: ASTM D 5268, PH RANGE OF 6.5 TO 7.5, A MINIMUM OF 6 PERCENT ORGANIC MATERIAL CONTENT AND A MAXIMUM OF 20 PERCENT; FREE OF STONES 1 INCH (25 MM) OR LARGER IN ANY DIMENSION AND OTHER EXTRANEOUS MATERIALS HARMFUL TO PLANT GROWTH; NOT LESS THAN 20 PERCENT FINE TEXTURED MATERIAL C PASSING THE NO. 200 SIEVE, AND NOT MORE THAN 15 PERCENT CLAY; CONTAIN LESS THAN 500 PPM SOLUBLE SALTS.
   1. TOPSOIL SOURCE: REUSE SURFACE SOIL STOCKPILED ON-SITE AND SUPPLEMENT WITH IMPORTED OR MANUFACTURED TOPSOIL FROM OFF-SITE SOURCES WHEN QUANTITIES OR QUALITY IS INSUFFICIENT. VERIFY SUITABILITY OF STOCKPILED SURFACE SOIL TO PRODUCE TOPSOIL.
   2. TOPSOIL SOURCE: AMEND EXISTING IN-PLACE SURFACE SOIL TO PRODUCE TOPSOIL. VERIFY SUITABILITY OF SURFACE SOIL TO PRODUCE TOPSOIL. SURFACE SOIL MAY BE SUPPLEMENTED WITH IMPORTED OR MANUFACTURED TOPSOIL FROM OFF-SITE SOURCES.
B. INORGANIC SOIL AMENDMENTS:
   1. LIME: ASTM C 602, CLASS T OR O, AGRICULTURAL LIMESTONE CONTAINING A MINIMUM 80 PERCENT CALCIUM CARBONATE EQUIVALENT.
C. ORGANIC SOIL AMENDMENTS
   1. COMPOST: WELL-COMPOSTED, STABLE, AND WEED-FREE ORGANIC MATTER, PH RANGE OF 5.5 TO 8.
   2. PEAT: SPHAGNUM PEAT MOSS, PARTIALLY DECOMPOSED, FINELY DIVIDED OR GRANULAR TEXTURE, WITH PH RANGE OF 3.4 TO 4.8
   3. PEAT: FINELY DIVIDED OR GRANULAR TEXTURE, WITH PH RANGE OF 6 TO 7.5, CONTAINING PARTIALLY DECOMPOSED MOSS PEAT, NATIVE PEAT, OR REED-SEDGE PEAT AND HAVING WATER-ABSORBING CAPACITY OF 1100 TO 2000 PERCENT.
D. FERTILIZER:
   1. COMMERCIAL FERTILIZER: COMMERCIAL-GRADE COMPLETE FERTILIZER OF NEUTRAL CHARACTER, CONSISTING OF FAST- AND SLOW-RELEASE NITROGEN, 50 PERCENT DERIVED FROM NATURALORGANIC SOURCES OF UREA FORMALDEHYDE, PHOSPHOROUS, AND POTASSIUM IN THE FOLLOWING COMPOSITION:COMPOSITION: 1 LB/1000 SQ. FT. (0.45 KG/92.9 SQ. M) OF ACTUAL NITROGEN, 4 PERCENT PHOSPHOROUS, AND 2 PERCENT POTASSIUM, BY WEIGHT.
   2. SLOW-RELEASE FERTILIZER: GRANULAR OR PELLETED FERTILIZER CONSISTING OF 50 PERCENT WATER-INSOLUBLE NITROGEN, PHOSPHORUS, AND POTASSIUM IN THE FOLLOWING COMPOSITION:
   3. COMPOSITION: 20 PERCENT NITROGEN, 10 PERCENT PHOSPHOROUS, AND 10 PERCENT POTASSIUM, BY WEIGHT.
E. MULCHES:
   1. STRAW MULCH: PROVIDE AIR-DRY, CLEAN, MILDEW- AND SEED-FREE, SALT HAY OR THRESHED STRAW OF WHEAT, RYE, OATS, OR BARLEY. PEAT MULCH MAY BE REQUIRED IF SEEDED LAWNS ARE SUBJECT TO HOT, DRY WEATHER OR DRYING WINDS WITHIN 30 DAYS OF PLANTING.
   2. PEAT MULCH: SPHAGNUM PEAT MOSS, PARTIALLY DECOMPOSED, FINELY DIVIDED OR GRANULAR TEXTURE, WITH PH RANGE OF 3.4 TO 4.8.
   3. PEAT MULCH: FINELY DIVIDED OR GRANULAR TEXTURE, WITH PH RANGE OF 6 TO 7.5, CONTAINING PARTIALLY DECOMPOSED MOSS PEAT, NATIVE PEAT, OR REED-SEDGE PEAT AND HAVING WATER-ABSORBING CAPACITY OF 1100 TO 2000 PERCENT.
   4. COMPOST MULCH: WELL-COMPOSTED, STABLE, AND WEED-FREE ORGANIC MATTER, PH RANGE OF 5.5 TO 8.
   5. UTILIZE MULCH ANCHORING METHOD OR MATERIAL AS REQUIRED BY NYS STANDARD SPECIFICATIONS FOR EROSION AND SEDIMENT CONTROL. (PEG & TWINE, MULCHING NETTING, WOOD CELLULOSE, TACKIFIER, OR MECHANICAL METHODS)

EXECUTION

LAWN PREPARATION

A. NEWLY GRADED SUBGRADES: LOOSEN SUBGRADE TO A MINIMUM DEPTH OF 4 INCHES (100 MM). REMOVE STONES LARGER THAN 1 INCH (25 MM) IN ANY DIMENSION AND STICKS, ROOTS, RUBBISH, AND OTHER EXTRANEOUS MATTER AND LEGALLY DISPOSE OF THEM OFF OWNER'S PROPERTY.
   1. APPLY SUPERPHOSPHATE FERTILIZER DIRECTLY TO SUBGRADE BEFORE LOOSENING.
   2. THOROUGHLY BLEND PLANTING SOIL MIX OFF-SITE BEFORE SPREADING OR SPREAD TOPSOIL, APPLY SOIL AMENDMENTS AND FERTILIZER ON SURFACE, AND THOROUGHLY BLEND PLANTING SOIL MIX.
   3. SPREAD PLANTING SOIL MIX TO A DEPTH OF 4 INCHES (150 MM) BUT NOT LESS THAN REQUIRED TO MEET FINISH GRADES AFTER LIGHT ROLLING AND NATURAL SETTLEMENT. DO NOT SPREAD IF PLANTING SOIL OR SUBGRADE IS FROZEN, MUDDY, OR EXCESSIVELY WET.
B. FINISH GRADING: GRADE PLANTING AREAS TO A SMOOTH, UNIFORM SURFACE PLANE WITH LOOSE, UNIFORMLY FINE TEXTURE. GRADE TO WITHIN PLUS OR MINUS 1/2 INCH (13 MM) OF FINISH ELEVATION. ROLL AND RAKE, REMOVE RIDGES, AND FILL DEPRESSIONS TO MEET FINISH GRADES. LIMIT FINE GRADING TO AREAS THAT CAN BE PLANTED IN THE IMMEDIATE FUTURE.
C. MOISTEN PREPARED LAWN AREAS BEFORE PLANTING IF SOIL IS DRY. WATER THOROUGHLY AND ALLOW SURFACE TO DRY BEFORE PLANTING. DO NOT CREATE MUDDY SOIL.
D. RESTORE AREAS IF ERODED OR OTHERWISE DISTURBED AFTER FINISH GRADING AND BEFORE PLANTING.

TEMPORARY EROSION AND SEDIMENTATION CONTROL

A. PROVIDE TEMPORARY EROSION AND SEDIMENTATION CONTROL MEASURES TO PREVENT SOIL EROSION AND DISCHARGE OF SOIL-BEARING WATER RUNOFF OR AIRBORNE DUST TO ADJACENT PROPERTIES AND WALKWAYS, ACCORDING TO A SEDIMENT AND EROSION CONTROL PLAN, SPECIFIC TO THE SITE THAT COMPLIES WITH NYS DEC SPDES GENERAL PERMIT FOR STORMWATER DISCHARGES FROM CONSTRUCTION ACTIVITY, GP-01-15-002.
B. THE OPERATOR SHALL INITIATE STABILIZATION MEASURES AS SOON AS PRACTICABLE IN PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITIES HAVE TEMPORARILY OR PERMANENTLY CEASED, BUT IN NO CASE MORE THEN 14 DAYS AFTER THE CONSTRUCTION ACTIVITY IN THAT PORTION OF THE SITE HAVE TEMPORARILY OR PERMANENTLY CEASED. THIS REQUIREMENT DOES NOT APPLY IN THE FOLLOWING INSTANCES:
   1. WHERE THE INITIATION OF STABILIZATION MEASURES BY THE 14TH DAY AFTER CONSTRUCTION ACTIVITY TEMPORARILY OR PERMANENTLY CEASED IS PRECLUDED BY SNOW COVER OR FROZEN GROUND CONDITIONS, STABILIZATION MEASURES SHALL BE INITIATED AS SOON AS PRACTICABLE:
C. SEED WITH 24 HOURS OF DISTURBANCE OR LOOSEN SCARIFY THE SOIL SURFACE PRIOR TO SEEDING.
D. SPRING, SUMMER OR EARLY FALL TEMPORARY SEEDING: ANNUAL OR PERENNIAL RYE GRASS AT A RATE OF 30 LBS/AC. (PERENNIAL RYE GRASS MUST BE UTILIZED WHERE FINAL GRADING ACTIVITIES WILL NOT BE COMPLETED UNTIL THE FOLLOWING SPRING.)
E. LATE FALL OR EARLY WINTER TEMPORARY SEEDING: CERTIFIED 'AROOSTOOK' WINTER RYE AT A RATE OF 100 LBS/AC.
F. MULCH HAY OR STRAW AT A RATE OF 2 TONS/ACRE (APPROXIMATELY 90 BALES PER ACRE). MULCH ANCHORING WILL BE REQUESTED WHERE WIND OR AREAS OF WATER ARE OF CONCERN. WOOD FIBER HYDROMULCH OR OTHER SPRAYABLE PRODUCTS APPROVED FOR EROSION CONTROL MAY BE USED IF APPLIED ACCORDING TO MANUFACTURERS SPECIFICATIONS.

PERMANENT SEEDING

A. SOWING RATES VARY WITH GRASS SPECIES AND MIXTURES.
B. SOW SEED AT THE RATE OF 6 LB/1000 SQ. FT. (250 LB/AC).
C. RAKE SEED LIGHTLY INTO TOP 1/8 INCH (3 MM) OF TOPSOIL. ROLL LIGHTLY, AND WATER WITH FINE SPRAY.
D. MULCH WITH STRAW AT A RATE OF 2 TONS/ACRE (APPROXIMATELY 90 BALES PER ACRE). MULCH ANCHORING WILL BE REQUESTED WHERE WIND OR AREAS OF WATER ARE OF CONCERN. WOOD FIBER HYDROMULCH OR OTHER SPRAYABLE PRODUCTS APPROVED FOR EROSION CONTROL MAY BE USED IF APPLIED ACCORDING TO MANUFACTURERS SPECIFICATIONS.

SATISFACTORY LAWNS

A. SATISFACTORY SEEDED LAWN: AT END OF MAINTENANCE PERIOD, A HEALTHY, UNIFORM, CLOSE STAND OF GRASS HAS BEEN ESTABLISHED, FREE OF WEEDS AND SURFACE IRREGULARITIES, WITH COVERAGE EXCEEDING 90 PERCENT OVER ANY 10 SQ. FT. (0.92 SQ. M) AND BARE SPOTS NOT EXCEEDING 5 BY 5 INCHES (125 BY 125 MM.)
B. VEGETATION SHALL BE ESTABLISHED AS SOON AFTER CONSTRUCTION AS POSSIBLE TO ENSURE PROTECTION FROM EROSION. IF RILLING OCCURS, REGRADE AND USE FABRIC OR JUTE MESH TO PROTECT AREA.
C. REESTABLISH LAWNS THAT DO NOT COMPLY WITH REQUIREMENTS AND CONTINUE MAINTENANCE UNTIL LAWNS ARE SATISFACTORY.

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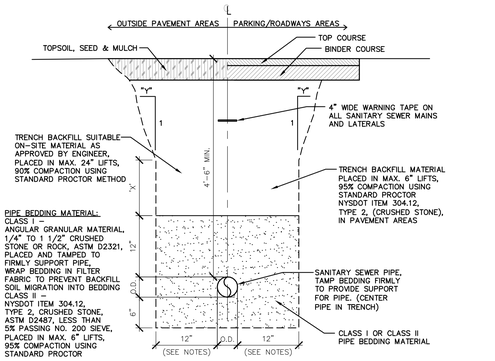
SAMARITAN HEALTH COMPREHENSIVE

CANCER CENTER
830 Washington Street
WATERTOWN, NY 13601

Number	Date	Issued For

EROSION AND SEDIMENT CONTROL DETAILS

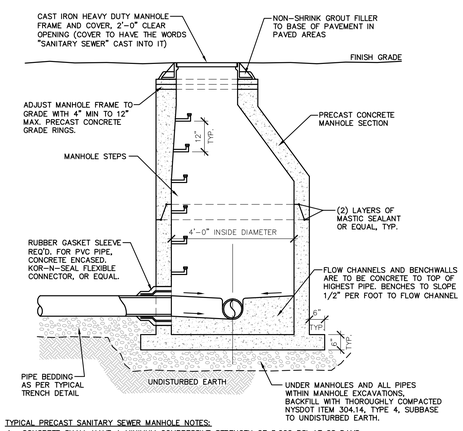
Date: 05/24/2016
Scale: AS NOTED
Proj. Number: 2015-174
Drawing Number: **CG-501**



NOTES

1. DIMENSIONS "X" AND "Y" SHOWN ABOVE SHALL BE DETERMINED BY CONTRACTOR TO COMPLY WITH O.S.H.A., NEW YORK STATE DEPARTMENT OF LABOR, NEW YORK STATE INDUSTRIAL CODE AND ALL OTHER APPLICABLE SAFETY STANDARDS.
2. SAFETY SHEETING OR TRENCH BOX MAY BE USED IN PLACE OF SLOPED TRENCH WALLS.
3. SHEETING, WHEN REQUIRED, TO BE CUT OFF AT LEAST 5 FEET BELOW STREET AND A MINIMUM OF 1 FOOT ABOVE TOP OF PIPE. WOOD SHEETING DRIVEN BELOW MID-DIAMETER OF THE PIPE SHALL BE LEFT IN PLACE. STEEL SHEETING DRIVEN BELOW MID-DIAMETER MAY BE WITHDRAWN IF APPROVED IN WRITING BY THE ENGINEER. FOR PVC PIPE ALL SHEETING DRIVEN BELOW MID-DIAMETER SHALL BE LEFT IN PLACE.
4. TRENCHES LOCATED WITHIN 5' OF ROAD SHOULDERS SHALL BE TREATED THE SAME AS UNDER PAVEMENT.
5. PIPE TO TRENCH WALL DISTANCE MAY BE REDUCED WHEN INSTALLED IN SAWCUT ROCK TRENCH.
6. PROVIDE WARNING TAPE AT ALL UNDERGROUND UTILITIES.

1 TYPICAL SANITARY SEWER TRENCH DETAIL
NOT TO SCALE



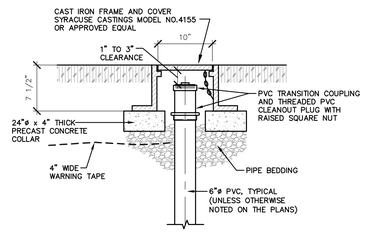
TYPICAL PRECAST SANITARY SEWER MANHOLE NOTES:

1. CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 5,000 PSI AT 28 DAYS.
2. CONCRETE SHALL BE AIR ENTRAINED 5%-8%.
3. WALLS, FLOOR, TOP SLAB AND ACCESS COVERS SHALL BE DESIGNED IN ACCORDANCE WITH ASTM C890 (HS-20 LOAD).
4. REINFORCEMENT - ASTM A497/A615 GRADE 60.
5. ALL JOINTS SHALL BE SEALED SUCH THAT THE TANK IS WATERTIGHT WITH BUTYL SEALANT CS-102 ASTM C-990.
6. 2 COATS OF BITUMASTIC WATERPROOF COATING TO BE APPLIED TO OUTER SURFACE OF PRECAST CONCRETE STRUCTURES.
7. ALL MANHOLE COVERS SHALL HAVE THE WORDS "SANITARY SEWER" IN 3" LETTERS, CAST IN COVERS.
8. ALL MANHOLES SHALL BE 4'-0" I.D. UNLESS OTHERWISE NOTED.

2 TYPICAL SANITARY SEWER MANHOLE DETAIL
NOT TO SCALE

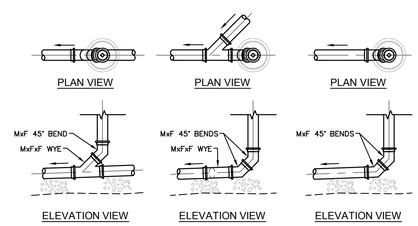
WATER MAIN / SANITARY SEWER DETAIL		
CONDITION	SCHEMATIC	REQUIREMENTS
I WATER LINE ABOVE SEWER LINE	WATER MORE THAN 18" SANITARY	A:) WATER LINE AND SEWER LINE PIPE LENGTHS TO BE CENTERED AT CROSSING. EACH PIPE LENGTH SHALL BE MIN. 20' MIN.
II WATER LINE ABOVE SEWER LINE	WATER MORE THAN 12" BUT LESS THAN 18" SANITARY	A:) WATER LINE AND SEWER LINE PIPE LENGTHS TO BE CENTERED AT CROSSING. EACH PIPE LENGTH SHALL BE MIN. 20' MIN. B:) SEWER LINE TO BE AWWA C900 WATER WORKS GRADE 150 PSI PRESSURE RATED PVC PIPE. PRESSURE TEST TO ENSURE WATER TIGHTNESS OR ENCASE SEWER LINE WITH CONCRETE FOR 10' MIN. EACH SIDE OF CROSSING. 6" MIN. AROUND BELL OF PIPE
III SEWER LINE ABOVE WATER LINE	SANITARY MORE THAN 18" - A LESS THAN 18" - B WATER	A:) WATER LINE AND SEWER LINE PIPE LENGTHS TO BE CENTERED AT CROSSING. EACH PIPE LENGTH SHALL BE MIN. 20' MIN. B:) SEWER LINE TO BE AWWA C900 WATER WORKS GRADE 150 PSI PRESSURE RATED PVC PIPE. PRESSURE TEST TO ENSURE WATER TIGHTNESS OR ENCASE SEWER LINE WITH CONCRETE FOR 10' MIN. EACH SIDE OF CROSSING. 6" MIN. AROUND BELL OF PIPE
NOTE: IN NO CASE SHALL PIPES BE CLOSER THAN 12" APART. DISTANCES SHOULD BE MEASURED BETWEEN OUTSIDE OF PIPES		

4 TYPICAL WATER / SEWER CROSSING DETAIL
NOT TO SCALE

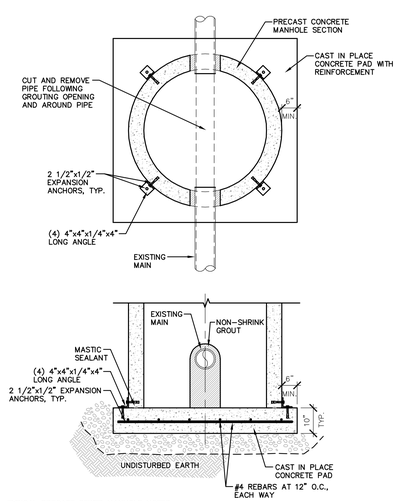


ELEVATION VIEW

2 TYPICAL CLEANOUT DETAIL
NOT TO SCALE



3 TYPICAL CLEANOUT CONFIGURATION DETAIL
NOT TO SCALE



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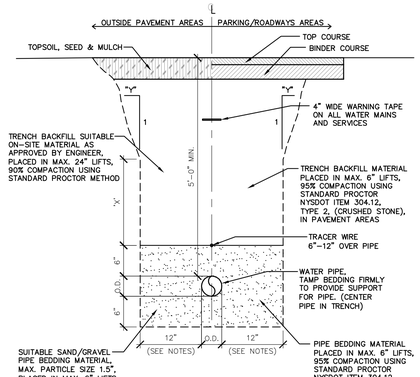
6. BITUMASTIC WATERPROOF COATING TO BE APPLIED TO OUTER SURFACE OF PRECAST CONCRETE STRUCTURES.
7. CAST IN PLACE CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 4,000 PSI AT 28 DAYS.
8. CONTRACTOR SHALL COORDINATE WITH CITY DPW SEWER DEPARTMENT PRIOR TO CONSTRUCTION OF THE "DOGHOUSE" MANHOLE.

5 TYPICAL "DOGHOUSE" MANHOLE DETAIL
NOT TO SCALE



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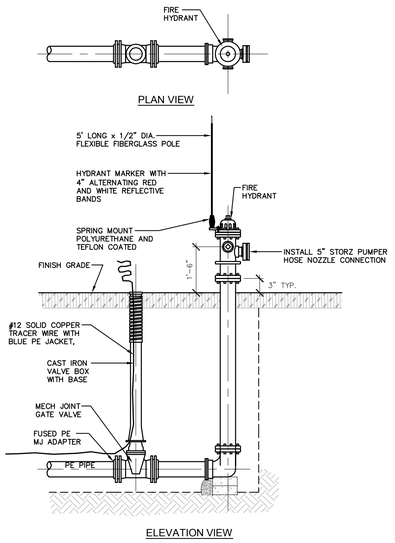
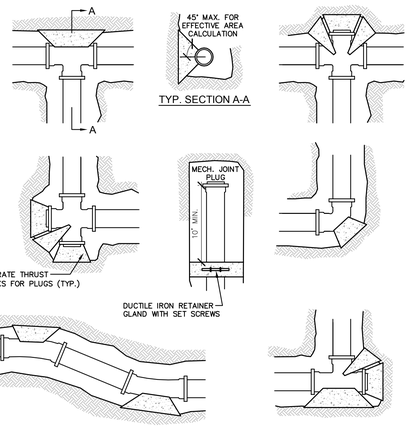
4. TRENCHES LOCATED WITHIN 5' OF ROAD SHOULDERS SHALL BE TREATED THE SAME AS UNDER PAVEMENT.
5. PIPE TO TRENCH WALL DISTANCE MAY BE REDUCED WHEN INSTALLED IN SAWCUT ROCK TRENCH.
6. PROVIDE WARNING TAPE AT ALL UNDERGROUND UTILITIES.
7. PROVIDE #12 SOLID COPPER TRACER WIRE WITH PE JACKET, COLOR CODED PER UTILITY (BLUE-WATER).

6 TYPICAL WATER TRENCH DETAIL
NOT TO SCALE



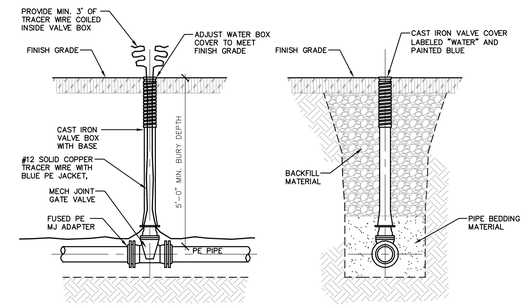
9 FIRE HYDRANT DETAIL
NOT TO SCALE



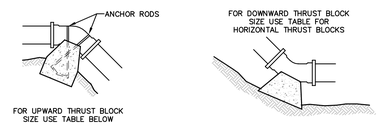
ANCHOR SCHEDULE

NOMINAL PIPE SIZE	150 P.S.I. HYDROSTATIC PRESSURE AGAINST UNDISTURBED SOIL, AT 2000 P.S.F. BRNG. CAPACITY					150 P.S.I. HYDROSTATIC PRESSURE AGAINST ROCK TRENCH, AT 10,000 P.S.F. BRNG. CAPACITY				
	MINIMUM REQUIRED BEARING AREA IN SQ. FT.					MINIMUM REQUIRED BEARING AREA IN SQ. FT.				
	11-1/4° BEND	22-1/2° BEND	45° BEND	90° BEND	PLUG OR TEE	11-1/4° BEND	22-1/2° BEND	45° BEND	90° BEND	PLUG OR TEE
4"	1.0	1.0	1.0	1.9	1.4	1.0	1.0	1.0	1.0	1.0
6"	1.0	1.1	2.1	4.0	2.8	1.0	1.0	1.0	1.0	1.0
8"	1.0	1.9	3.7	6.8	4.8	1.0	1.0	1.0	1.4	1.0
10"	1.4	2.8	5.6	10.3	7.3	1.0	1.0	1.1	2.1	1.5
12"	2.0	4.0	7.9	14.5	10.3	1.0	1.0	1.6	2.9	2.1
14"	2.7	5.4	10.6	19.5	13.8	1.0	1.1	2.1	3.9	2.8
16"	3.5	7.0	13.6	25.2	17.8	1.0	1.4	2.7	5.0	3.6
18"	4.4	8.7	17.1	31.7	22.4	1.0	1.7	3.4	6.3	4.5
20"	5.4	10.7	21.0	38.9	27.5	1.2	2.1	4.2	7.8	5.5
24"	7.7	15.3	30.0	55.5	39.2	1.5	3.1	6.0	11.1	7.8

7 TYPICAL HORIZONTAL THRUST BLOCK DETAIL
NOT TO SCALE
(DIP USE ONLY)



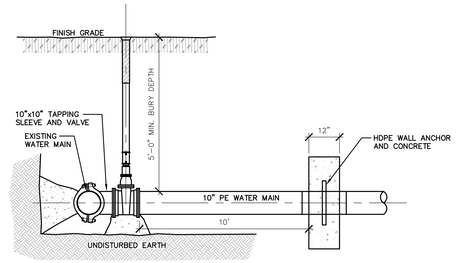
10 TYPICAL WATER SERVICE GATE VALVE AND BOX DETAIL
NOT TO SCALE



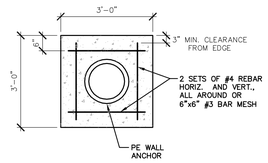
ANCHOR SCHEDULE

NOMINAL PIPE SIZE	150 P.S.I. HYDROSTATIC PRESSURE								
	11-1/4° BEND			22-1/2° BEND			45° BEND		
	CONCRETE VOLUME (CU. YDS.)	ANCHOR ROD (DIA.)	EMBED LENGTH	CONCRETE VOLUME (CU. YDS.)	ANCHOR ROD (DIA.)	EMBED LENGTH	CONCRETE VOLUME (CU. YDS.)	ANCHOR ROD (DIA.)	EMBED LENGTH
4"	0.2	3/8"	0.4	3/8"	3/8"	1'-2"	0.4	3/8"	1'-2"
6"	0.4	3/8"	0.7	3/8"	3/8"	1'-2"	0.7	3/8"	1'-2"
8"	0.8	3/8"	1.2	3/8"	3/8"	1'-2"	1.2	3/8"	1'-2"
10"	0.9	3/8"	1.7	3/8"	3/8"	1'-2"	1.7	3/8"	1'-2"
12"	1.3	3/8"	2.5	1/2"	3/8"	1'-6"	2.5	1/2"	1'-6"
14"	1.7	3/8"	3.3	1/2"	3/8"	1'-6"	3.3	1/2"	1'-6"
16"	2.2	3/8"	4.3	1/2"	3/8"	1'-6"	4.3	1/2"	1'-6"
18"	2.7	1/2"	5.4	5/8"	1/2"	2'-0"	5.4	5/8"	2'-0"
20"	3.3	1/2"	6.6	5/8"	1/2"	2'-0"	6.6	5/8"	2'-0"
24"	4.7	5/8"	9.4	3/4"	5/8"	2'-3"	9.4	3/4"	2'-3"

11 TYPICAL VERTICAL THRUST BLOCK DETAIL
NOT TO SCALE
(DIP USE ONLY)



8 TYPICAL TAPPING SLEEVE AND VALVE DETAIL
NOT TO SCALE



12 TYPICAL PE WALL ANCHOR DETAIL
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Number	Date	Issued For

WATER AND SANITARY SEWER DETAILS

Date
05/24/2016
Scale
AS NOTED
Proj. Number
2015-174
Drawing Number
CU-500

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SAMARITAN HEALTH

COMPREHENSIVE CANCER CENTER

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WATERTOWN, NY 13601

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Number	Date	Issued For
1	XX/XX/XXXX	ISSUED FOR -

P&Z SUBMISSION

SITE PLANTING

Date	Drawing Number
04/19/2016	L401
Scale: 1" = 20'	
Proj. Number: 15170.00	

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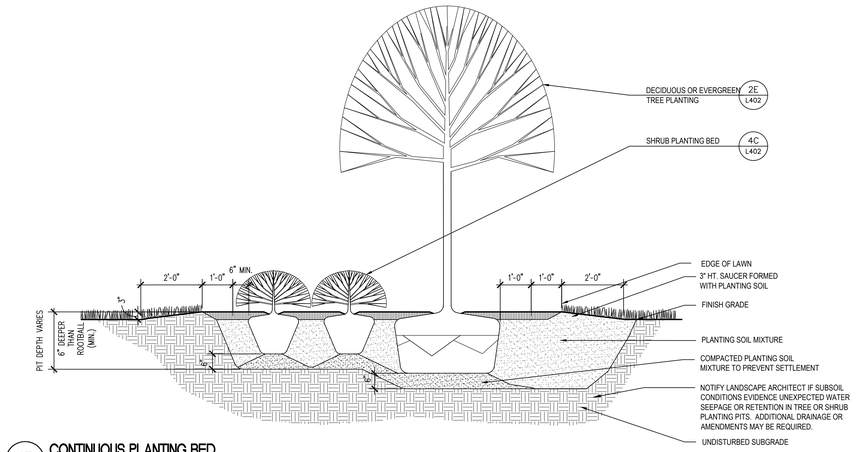
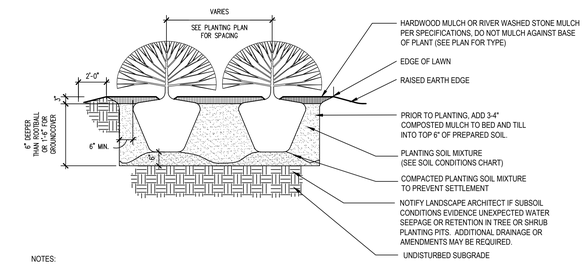
PLANT MATERIAL LIST

TREES	QTY	BOTANICAL NAME	COMMON NAME	CONT	CAL	SIZE	REMARKS
AC	3	AMELANCHIER CANADENSIS	SHADBLOW SERVICEBERRY MULTITRUNK	B & B	8-10` HT		MULTI-STEM SPECIMEN; MIN. 3 TRUNKS; DENSE FOLIAGE; WELL-BRANCHED; GOOD COLOR
AFA	2	ACER X FREEMANII `ARMSTRONG`	ARMSTRONG FREEMAN MAPLE	B & B	2"CAL		SINGLE, STRAIGHT TRUNK; DENSE FOLIAGE; WELL-BRANCHED; GOOD COLOR
AGA	2	AMELANCHIER X GRANDIFLORA `AUTUMN BRILLIANCE`	`AUTUMN BRILLIANCE` SERVICEBERRY	B & B	8-10` HT		MULTI-STEM; 3 TRUNK MIN.; DENSE FOLIAGE, WELL-BRANCHED; GOOD COLOR
CBF	3	CARPINUS BETULUS `FASTIGIATA`	PYRAMIDAL EUROPEAN HORNBEAN	B & B	2"CAL		SINGLE, STRAIGHT TRUNK; DENSE FOLIAGE, WELL-BRANCHED; GOOD COLOR
PO2	3	PICEA OMORIKA	SERBIAN SPRUCE	B & B	6-7` HT.		FULL TO GROUND; DENSE FOLIAGE; WELL-BRANCHED; GOOD COLOR; SLENDER PYRAMIDAL FORM
SRI	3	SYRINGA RETICULATA `IVORY SILK`	IVORY SILK JAPANESE TREE LILAC	B & B	2"CAL		SINGLE, STRAIGHT TRUNK; DENSE FOLIAGE; WELL-BRANCHED; GOOD COLOR
TCC	2	TILIA CORDATA `CORZAM`	CORINTHIAN LITTLELEAF LINDEN	B & B	2"CAL		SINGLE, STRAIGHT TRUNK; DENSE FOLIAGE; WELL-BRANCHED; GOOD COLOR

SHRUBS	QTY	BOTANICAL NAME	COMMON NAME	ROOT	MIN. SIZE	FIELD3	REMARKS
AP	3	AESCULUS PARVIFLORA	BOTTLEBRUSH BUCKEYE	#3 CONT.	24-30" HT.	24-30" SP.	WELL-ROOTED; HEALTHY STEMS; GOOD COLOR
CSF	12	CORNUS SERICEA `FARROW`	ARCTIC FIRE RED TWIG DOGWOOD	#3 CONT.	15-18" HT.	18-24" SP.	WELL-ROOTED; HEALTHY STEMS; GOOD COLOR
CSI	20	CORNUS SERICEA `ISANTI`	ISANTI REDOSIER DOGWOOD	#3 CONT.	18-24" HT.	18-24" SP.	WELL-ROOTED; HEALTHY STEMS; GOOD COLOR
FG2	17	FOTHERGILLA GARDENII	DWARF FOTHERGILLA	#3 CONT.	12-15" HT.	12-15" SP.	WELL-ROOTED; HEALTHY STEMS; GOOD COLOR
HKA	15	HYPERICUM KALMIANUM `AMES`	ST. JOHNS WORT	#3 CONT.	15-18" HT.	15-18" SP.	WELL-ROOTED; STURDY STEMS; GOOD COLOR
HPQ	11	HYDRANGEA PANICULATA `QUICK FIRE`	HYDRANGEA	#3 CONT.	18-24" HT.	18-24" SP.	WELL-ROOTED; HEALTHY STEMS; GOOD COLOR
IVR	8	ILEX VERTICILLATA `RED SPRITE`	RED SPRITE WINTERBERRY	#3 CONT.	15-18" HT.	15-18" SP.	WELL-ROOTED; HEALTHY STEMS; GOOD COLOR
IVS	37	ITEA VIRGINICA `LITTLE HENRY` TM	VIRGINIA SWEETSPIRE	#3 CONT.	12-15" HT.	12-15" SP.	WELL-ROOTED; HEALTHY STEMS; GOOD COLOR
MD	8	MICROBIOTA DECUSSATA	SIBERIAN CARPET CYPRESS	#3 CONT.	8-12" HT.	18-24" SP.	WELL-ROOTED; HEALTHY STEMS; GOOD COLOR
POC	3	PHYSOCARPUS OPULIFOLIUS `CENTER GLOW`	CENTER GLOW NINEBARK	#3 CONT.	18-24" HT.	18-24" SP.	WELL-ROOTED; HEALTHY STEMS; GOOD COLOR
RP	14	RHODODENDRON AZALEA `PJM`	AZALEA	#3 CONT.	18-24" HT.	18-24" SP.	WELL-ROOTED; HEALTHY STEMS; GOOD COLOR
SB	18	SYRINGA X `BAILBELLE` TM	TINKERBELLE LILAC	#3 CONT.	24-30" HT.	24-30" SP.	WELL-ROOTED; HEALTHY STEMS; GOOD COLOR



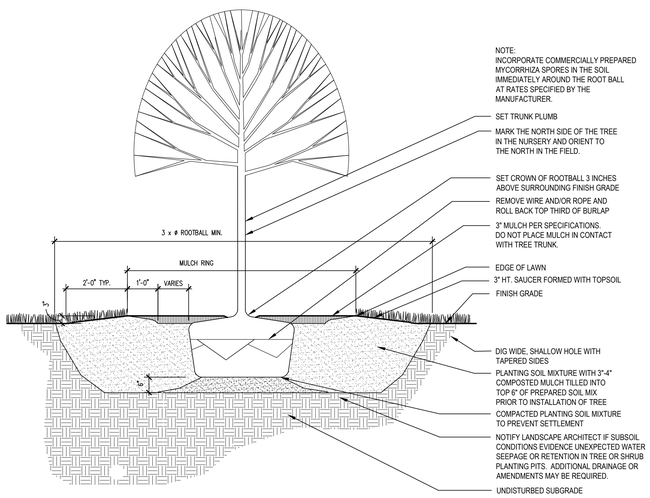
4B CONTINUOUS PLANTING BED
NOT TO SCALE



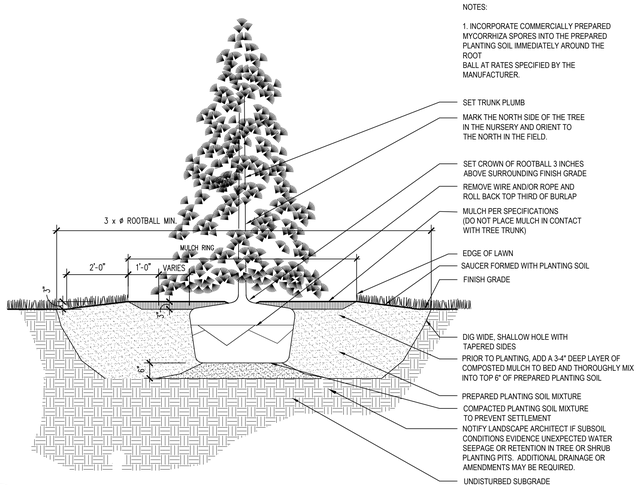
NOTES:

1. FOR CONTAINER GROWN SHRUBS, GENTLY PULL THE ROOTS OUT OF THE OUTER LAYER OF POTTING SOIL; THEN CUT OR PULL APART ANY ROOTS CIRCLING THE PERIMETER OF CONTAINER.
2. FOR B&B SHRUBS, FOLD BURLAP FROM TOP OF ROOT BALL DOWN TO GROUND.
3. INCORPORATE COMMERCIALLY PREPARED MYCORRHIZA SPORES IN THE SOIL IMMEDIATELY AROUND THE ROOT BALL AT RATES SPECIFIED BY THE MANUFACTURER.
4. CONFIRM THAT WATER DRAINS OUT OF THE SOIL DURING THE DESIGN PHASE, DESIGN ALTERNATIVE DRAINAGE SYSTEMS, AS REQUIRED.

4C SHRUB PLANTING BED
N.T.S.



2E DECIDUOUS TREE PLANTING
1/2" = 1'-0"



4E EVERGREEN TREE PLANTING
NOT TO SCALE

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SAMARITAN HEALTH

COMPREHENSIVE CANCER CENTER

830 Washington Street
WATERTOWN, NY 13601

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Number	Date	Issued For
1	XX/XX/XXXX	ISSUED FOR -

P&Z SUBMISSION

PLANTING DETAILS & PLANT MATERIAL LIST

Date 04/19/2016
Scale AS SHOWN
Proj. Number 15170.00
Drawing Number **L402**

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FLOOR PLAN GRAPHIC LEGEND

- NEW WALL CONSTRUCTION
- NEW MASONRY CONSTRUCTION
- EXISTING WALL CONSTRUCTION TO REMAIN
- FLOOR EXPANSION JOINT COVER; PROVIDE WALL EXPANSION JOINT COVER AT BOTH FACES OF EACH WALL INTERSECTED BY THE FLOOR EXPANSION JOINT COVER.

FLOOR PLAN GENERAL NOTES

1. REFER TO DWG. G101 FOR LIST OF TYPICAL ABBREVIATIONS AND TYPICAL ARCHITECTURAL GRAPHIC LEGENDS AND SYMBOLS.

2. REFER TO DWG. A601 FOR TYPICAL PARTITION TYPES AND DETAILS INDICATED. ALL PARTITIONS SHALL BE TYPE 1 U.O.N. ALL MASONRY PARTITIONS SHALL BE TYPE M8 U.O.N.

3. REFER TO THE FIRE SAFETY PLANS GC01 FOR LOCATIONS OF FIRE-RESISTANCE RATED PARTITIONS AND NON-FIRE-RESISTANCE RATED SMOKE PARTITIONS.

4. ALIGN PARTITIONS WITH COLUMN OR MULLION CENTERLINE, UNLESS OTHERWISE NOTED.

5. DIMENSIONS ARE FROM FACE OF WALL TO FACE OF WALL, (I.E. FACE OF GYPSUM BOARD OR MASONRY) OR FROM FACE OF EXISTING CONDITION OR FROM COLUMN CENTERLINE, UNLESS OTHERWISE NOTED. DIMENSIONS NOTED AS "CLEAR" SHALL BE FROM FINISH FACE TO FINISH FACE, (ie. FACE OF CERAMIC TILE TO FACE OF CERAMIC TILE). VERIFY ALL EXISTING DIMENSIONS IN THE FIELD.

6. ALL MASONRY DIMENSIONS, INDICATED "M.O.", ARE NOMINAL DIMENSIONS, UNLESS OTHERWISE NOTED. ACTUAL MASONRY OPENING DIMENSION = NOMINAL MASONRY OPENING DIMENSION + ONE MORTAR JOINT (I.E., 4'-0" M.O. = 4'-0" + 7" ACTUAL OPENING DIMENSION).

7. REFER TO PLAN ENLARGEMENTS FOR ADDITIONAL DIMENSIONS.

8. REFER TO DWG. A604 FOR DOOR AND FRAME DETAILS. PROVIDE MINIMUM 4-INCH CLEARANCE FROM FACE OF DOOR JAMB TO FACE OF ADJACENT WALL, UNLESS OTHERWISE NOTED.

9. REFER TO DWG. A701 FOR TYPICAL MOUNTING LOCATIONS AND HEIGHTS FOR TOILET ACCESSORIES, EQUIPMENT, WALL SPECIALTY DESIGNATIONS, VISUAL DISPLAY BOARDS, ETC.; TYPICAL TOILET ROOM ELEVATIONS AND TOILET ACCESSORY SCHEDULE.

10. REFER TO THE PROJECT MANUAL FOR THE DOOR AND FRAME SCHEDULE AND FINISH SCHEDULE.

11. PROVIDE FIRE-TREATED WOOD BLOCKING OR MINIMUM 0.0312-INCH THICK STEEL FLAT STRAP AND BACKING PLATE AT, BUT NOT LIMITED TO, THE FOLLOWING LOCATIONS: TOILET ACCESSORIES, CASEWORK, MILLWORK, DOOR WALL BUMPERS, AND ALL OTHER WALL MOUNTED EQUIPMENT OR DEVICES.

12. ALL EXISTING PARTITIONS INDICATED ON THE FIRE SAFETY PLANS TO BE SMOKE PARTITIONS, SMOKE BARRIERS, OR FIRE-RATED PARTITIONS THAT DO NOT CURRENTLY EXTEND TO UNDERSIDE OF FLOOR SLAB SHALL BE MODIFIED TO EXTEND TO SLAB AND SHALL COMPLY WITH DETAILS SHOWN FOR NEW PARTITIONS. ALL PENETRATIONS OR VOIDS SHALL BE SEALED SMOKE-TIGHT AND/OR BE FIRE-STOPPED AS REQUIRED.

13. REFER TO THE EQUIPMENT PLANS FOR VISUAL DISPLAY BOARD, RESIDENTIAL APPLIANCE, FIXED AUDITORIUM SEATING, PROJECTION SCREEN AND TOILET ACCESSORY LOCATIONS. REFER TO THE EQUIPMENT PLANS FOR EQUIPMENT LOCATIONS AND SCHEDULE.

14. REFER TO THE FINISH PLANS FOR FLOOR PATTERNS.

15. FLOOR PATCH AND FLOOR LEVELING: REPAIR EXISTING TOPPING SLAB AND CONCRETE FLOOR AT DEMOLITION OF WALLS AND AT ALL OTHER LOCATIONS AS REQUIRED. REFER TO DWG. AD101 FOR ADDITIONAL INFORMATION.

16. PATCHING TO MATCH EXISTING:
A) PROVIDE ALL OPENINGS REQUIRED FOR ALL TRADES AND PATCH TO MATCH EXISTING, AT EXISTING CONSTRUCTION ALTERED OR DISTURBED BY THE INSTALLATION, RELOCATION, OR REMOVAL OF HEATING, VENTILATING, AIR CONDITIONING, PLUMBING AND/OR ELECTRICAL EQUIPMENT AND DEVICES.
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C) PATCH ALL DEFECTS IN, AND FINISH TO MATCH EXISTING, ALL AREAS WHICH ARE TO RECEIVE NEW MATERIALS, FINISHES AND ITEMS CALLED FOR IN THE CONTRACT DOCUMENTS. PREPARE ALL EXISTING SURFACES TO RECEIVE NEW FINISHES AS REQUIRED.

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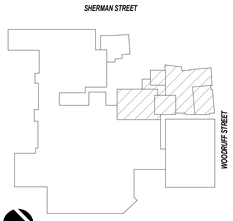
SAMARITAN HEALTH

COMPREHENSIVE CANCER CENTER

830 Washington Street,
WATERTOWN, NY 13601



KEYPLAN

Number	Date	Issued For
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FIRST FLOOR PLAN

Date
04/18/2016
Scale
1/8" = 1'-0"
Proj. Number
15170.00

Drawing Number
CCC A101

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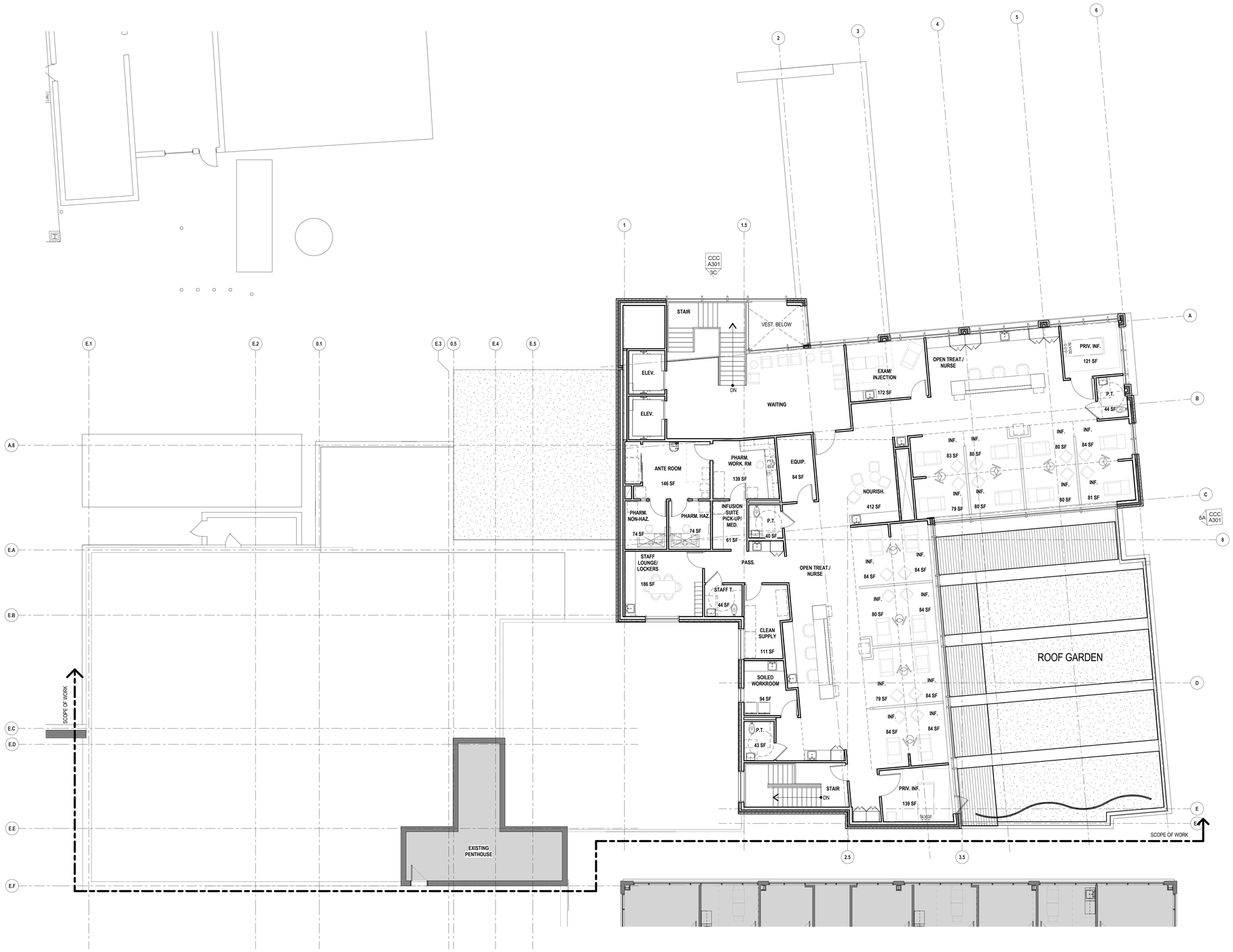

FLOOR PLAN GRAPHIC LEGEND

- NEW WALL CONSTRUCTION
- NEW MASONRY CONSTRUCTION
- EXISTING WALL CONSTRUCTION TO REMAIN
- FLOOR EXPANSION JOINT COVER; PROVIDE WALL EXPANSION JOINT COVER AT BOTH FACES OF EACH WALL INTERSECTED BY THE FLOOR EXPANSION JOINT COVER.

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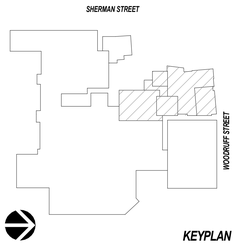

KEYPLAN

Number	Date	Issued For
		P&Z SUBMISSION

SECOND FLOOR PLAN

Date
04/18/2016
Scale
1/8" = 1'-0"
Proj. Number
15170.00

Drawing Number
CCC
A102

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5A BUILDING ELEVATIN - NORTH
1/8" = 1'-0"

GENERAL ELEVATION NOTES

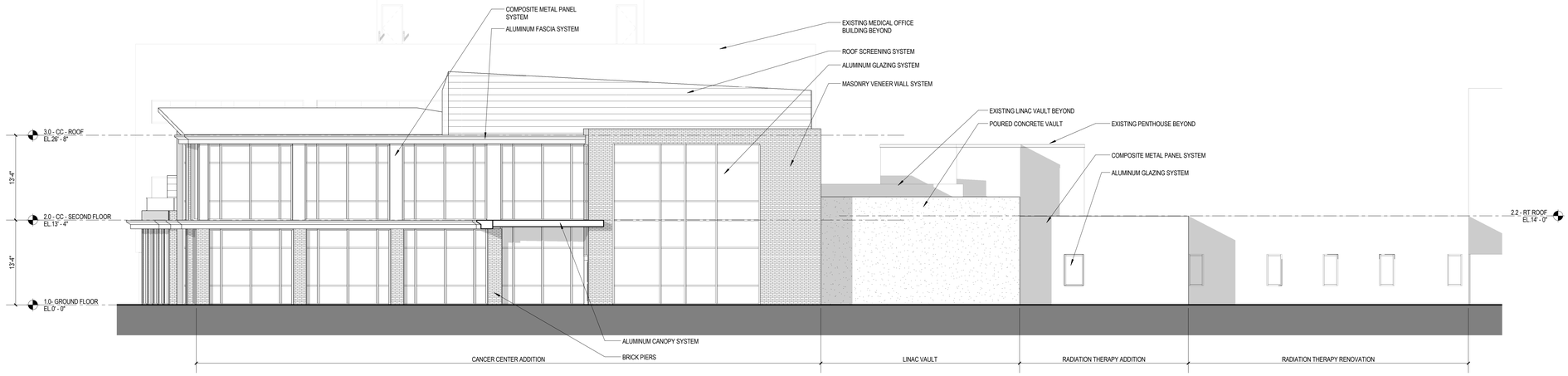
1. PROVIDE MASONRY VENEER EXPANSION JOINTS (MVEJ) @ 25'-0" MAX. O.C.. CONTROL JOINTS TO BE FILLED WITH MORTAR MATCHING SEALANT, BACKER ROD AND COMPRESSIBLE FILLER. SEE ELEVATIONS FOR MVEJ LOCATIONS. CONSULT ARCHITECT BEFORE ADDING OR MOVING LOCATION OF ANY MVEJ. CONSULT ARCHITECT FOR ANY CONDITION EXCEEDING 25'-0" OR EXCEEDING 10'-0" FROM CORNERS.

ELEVATION GRAPHIC LEGEND

M.V.E.J. - BRICK EXPANSION JOINT
O.R.D.O. - OVERFLOW ROOF DRAIN OUTLET (PER PLUMBING DRAWINGS)
H.B. - HOSE BIB (PER PLUMBING DRAWINGS)
S.C. - SECURITY CAMERA (PER TECHNOLOGY DRAWINGS)
L.F. - LIGHT FIXTURE (PER ELECTRICAL DRAWINGS)
L.S. - LOUD SPEAKER (PER TECHNOLOGY DRAWINGS)
E.O. - ELECTRICAL OUTLET, GFI (PER ELECTRICAL DRAWINGS)

- - - - MASONRY VENEER EXPANSION JOINT (MVEJ)

—— - RELIEVING ANGLE (PER STRUCTURAL)



3C BUILDING ELEVATION - EAST
1/8" = 1'-0"

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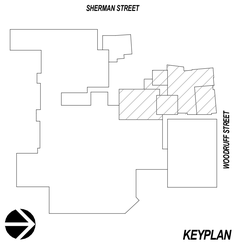

KEYPLAN

Number	Date	Issued For
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BUILDING ELEVATIONS

Date
04/18/2016
Scale
1/8" = 1'-0"
Proj. Number
15170.00

Drawing Number
CCC
A301

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PRELIMINARY ENGINEERING REPORT

SAMARITAN MEDICAL CENTER
2016-2018 EXPANSION PROJECTS
SHERMAN AND WOODRUFF STREET
CITY OF WATERTOWN
JEFFERSON COUNTY, NEW YORK

Owner: Samaritan Medical Center
830 Washington Street
Watertown, NY 13601

May 24, 2016

Matthew R. Morgia, P.E.
Civil Engineer

The above Engineer states that to the best of his knowledge, information and belief, the plans and specifications are in accordance with applicable requirements of New York State. It is a violation of New York State Law for any person, unless acting under the direction of a licensed professional engineer to alter this document in any way. If altered, such licensee shall affix his or her seal and the notation "altered by" followed by his or her signature, date, and a specific description of alteration.

Aubertine and Currier Architects, Engineers & Land Surveyors, PLLC
522 Bradley Street Watertown, New York 13601 TELE: (315) 782-2005 FAX: (315) 782-1472

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Appendices

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Soils Map
Soils Description

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Fire Flow Test Results

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Trip Generation Calculations
Pedestrian Traffic Study Report

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1.0 SITE AND PROJECT DESCRIPTIONS

1.1 Location

Samaritan Medical Center (SMC) is located within the City of Watertown and fronts on three city streets, with Washington Street on the east, Woodruff Street on the north and Sherman Street on the west. The site includes the main hospital building located on Tax Map Parcel No. 14-02-101-110 and a medical office building and parking garage located on Tax Map Parcel No. 14-02-101-120. These parcels are zoned HS – Health Services.

1.2 Project Description

Samaritan Medical Center is a 290 bed medical center that includes approximately 444,430 SF of gross floor area. The main hospital building was originally constructed in the 1970's. Throughout the years there has been numerous expansion, renovation and additions to the original building. The most recent expansions included the Patient Pavilion and Parking Garage.

The 2016-2018 expansions will include four projects, with construction scheduled to begin in the summer of 2016 and is anticipated to be completed by the end of the 2018 year. The projects include:

The Cancer Center Addition and Woodruff Street South Parking Area Reconstruction will be located off the northwest corner of the existing building, near the intersection of Woodruff Street and Sherman Street. This project will consists of 17,300 sf building addition and the reconstruction of approximately 33,600 sf of existing parking that will provide 70 parking spaces. Demolition of 2 houses and a garage will be required prior to the construction of the building addition and parking. Construction will also include the relocation of existing utilities around the proposed building addition footprint.

The Woodruff Street Northwest Parking Area Expansion is located on the northern side of Woodruff Street. This project will consist of expanding the existing parking area further west. Demolition of 3 houses and garages will be required prior to the construction of the parking area. Construction will include approximately 33,600 sf of new asphalt parking area along with expanding the existing storm sewer system, site lighting and landscaping. The existing parking area includes 192 parking spaces. Following expansion, the woodruff Street North parking area will provide 294 parking spaces.

The Women's and Children's Center Addition and Parking Area Reconstruction will be located off the west side of the existing building, near the intersection of Sherman Street and Pratt Street. This project will consists of 17,900 sf building addition and the reconstruction of approximately 27,200 sf of existing parking that will provide 53 parking spaces. Construction will also include the relocation of existing utilities around the proposed building addition footprint.

The Woodruff Street Northeast Parking Area is located on the northern side of Woodruff Street and at the intersection of Washington Street and Woodruff Street.

Demolition of 1 house and a garage will be required prior to the construction of the parking area. Construction will include approximately 9,000 sf of new asphalt parking storm sewer connection, site lighting and landscaping. Following construction the parking area will provide 27 parking spaces.

1.3 Site Topography

The project sites are relatively flat, pre-developed area with most of the runoff is primarily sheet flow to existing on-site drainage structures. Runoff is collected and conveyed thru the sites storm sewer piping system and to the City of Watertown's municipal storm sewer system located near the intersection of Sherman Street and Pratt Street. The existing sewer systems located along Washington Street, Woodruff Street and Sherman Street are combined sanitary sewer and storm water system.

The Cancer Center Addition and Parking Area Reconstruction area is relatively flat with pre-developed asphalt, concrete and gravel areas. Two underground stormwater detention areas are located under the existing asphalt parking area. The underground stormwater retention systems were constructed in 2000 and 2004 to treat runoff from the MRI Facility expansion and Woodruff Street North Parking Lot. An existing storm sewer system runs around the west side the existing building and bypasses the underground stormwater detention systems. This storm sewer system collects runoff from a portion of the site that is east of the existing building and from the parking garage.

The Woodruff Street Northwest Parking area is relatively flat and consists of houses, garages, driveways and lawn areas. There are not any visible drainage patterns across the project site.

The Women's and Children's Center Addition and Parking Area Reconstruction contain moderate slopes from the east to the west. The site is pre-developed asphalt and concrete areas. Runoff from this site is collected in a storm sewer system that flows to the City of Watertown's municipal storm sewer system located at the intersection of Sherman Street and Pratt Street. An existing storm sewer system bypasses the onsite storm sewer system and collects stormwater from other portions of the site.

The Woodruff Street Northeast Parking area is relatively flat and consists of a house, garage, an asphalt driveway, and stone parking areas. There are not any visible drainage patterns across the project site.

The developed area of the project is not located within a 100 year flood plain.

1.4 Soil Classification

The project site contains soil of Hydrologic group C/D. The native soil is silt loam. The following soil type is present within the project area.

Soil Symbol	Soil Name	Hydrologic Group
NoA	Niagara Silt Loam	C/D
Ur	Urban Land	C/D

A copy of the NRCS Web Soil Survey and Jefferson County Soils data are attached.

2.0 WATER FACILITIES

2.1 Existing Water Facilities

There are municipal water mains along Woodruff Street, Sherman Street and along the former Pratt Street. An existing 8" municipal water main is located along Woodruff Street. Two existing combined domestic water/fire services are connected to the Woodruff Street main. An 8" combined domestic water/fire service is located along the west side of the existing building and enters into the existing maintenance room located in the back of the hospital. A 6" combined domestic water/fire service enters into the north side of the existing medical office building.

2.2 Proposed Water Facilities

The Cancer Center Addition and Parking Area Reconstruction will require the relocation of the existing 8" combined domestic water/fire service to the existing maintenance room of the hospital. This will require 315 lf of combined domestic water/fire service to be installed from the municipal water main in Woodruff Street and reconnected back into the existing service near the existing maintenance room. Connection to the existing main and on-site combined domestic water/fire service will be via a tapping sleeve and valve. A remote FDC will be installed on the southside of Woodruff Street and 300 lf of 8" fire service line to connect to existing FDC #1 and #2. The existing fire hydrant located near the existing oxygen tanks will be replaced with a new valve and hydrant. The existing 8" combined domestic water/fire service will be utilized to service the proposed Cancer Center Addition. The service will enter along the north side of the Cancer Center addition, and include a FDC located along the building wall adjacent to Woodruff Street.

The Women's and Children's Center Addition and Parking Area Reconstruction will not require any new additional water service for this project. Water service to the building addition will be plumbed within the existing building.

No water services are proposed for the Woodruff Street Northwest Parking Expansion or Woodruff Street Northeast Parking projects.

2.3 Water Demand

The projected domestic water usage for the proposed Cancer Center Addition is generated with approximately 30 exam rooms is 5,250 gpd. Water usage is based upon the NYS DEC 2014 Design Standards for Wastewater Treatment Systems projected flow rates of 175 gpd per bed.

A fire flow test will be completed during the design of the addition's sprinkler system.

3.0 SANITARY SEWER FACILITIES

3.1 Existing Sanitary Sewer Facilities

There are municipal combined sewer mains within Woodruff Street, Washington Street and Sherman Street. A separate municipal sanitary sewer main is located at the intersection of Sherman Street and Pratt Street. An existing 10" municipal combined sewer main is located within Woodruff Street and flows east to west to Sherman Street, then flows north within Sherman Street. An existing 20" municipal combined sewer main is located within Washington Street and flows south to north. An existing 10" municipal combined sewer main is located within Sherman Street and flows south to north.

Two existing sanitary sewer laterals connect to the combined sewer mains along Woodruff Street. An existing 10" clay lateral from the medical office building exits the north side of the building and flows to a sewer manhole located in the center of Woodruff Street. An existing 10" PVC lateral runs along the west side of the medical office building and connects to the sewer main located in the center Woodruff Street. This connection is believed to be the main sewer connection for the majority of the Samaritan Medical Center. An existing sanitary sewer lateral connects to the sanitary sewer main located at the intersection of Sherman Street and Pratt Street. An existing 8" PVC lateral runs diagonal from the medical waste room located in the northwest corner of the building to a manhole located at the intersection of Sherman Street and Pratt Street.

3.2 Proposed Sanitary Sewer Facilities

The Cancer Center Addition and Parking Area Reconstruction will require the relocation of the existing 10" PVC main sanitary sewer lateral to Woodruff Street. Relocation is required to accommodate the Cancer Center Addition foundation. Construction of the new sewer lateral will include tying into the existing lateral within the corridor between the existing medical office building and the new Cancer Center Addition. The new lateral will be installed in the sidewalk corridor between the existing Medical Office Building and the Cancer Center Addition and connected to the existing combined sewer main located in the center of Woodruff Street. Connection to the main will be made with the installation of a precast concrete "doghouse" manhole, to enable uninterrupted service. The existing water service lateral running parallel to the sewer lateral is not active and has been shut-off at the valve located in the street.

The Women's and Children's Center Addition and Parking Area Reconstruction will require the relocation of the existing 8" PVC sanitary sewer lateral to the intersection of

Sherman Street and Pratt Street. Relocation is required to accommodate the Women's and Children's Center Addition and loading dock foundation. Construction will include the installation of three precast concrete manholes and 133 lf of 8" SDR-35 PVC pipe. Sewer flows from the medical waste room will be collected from the existing manhole located just outside the building and rerouted northwest, east and southwest around the loading dock addition. The new lateral will include the installation of three precast concrete manholes and 133 lf of 8" SDR-35 PVC pipe that will reconnect the existing lateral with a watertight connection at approximately 30 feet from the building addition. A new 6" SDR-35 PVC lateral will be installed from the new building addition and connect at one of the new manholes located near the connection to the existing lateral.

No sewer laterals are planned for the Woodruff Street Northwest Parking Expansion or Woodruff Street Northeast Parking projects.

3.3 Sewer Flows

The projected design flows for the proposed Cancer Center Addition is generated with approximately 30 exam rooms is 5,250 gpd. Sewer flows are based upon the NYS DEC 2014 Design Standards for Wastewater Treatment Systems projected flow rates of 175 gpd per bed.

4.0 STORMWATER FACILITIES

4.1 Existing Drainage

The Samaritan Medical Center complex has two points of discharge for stormwater into the City of Watertown's municipal system. The first discharge point is located on the east side of the site and connects to the City's 20" dia. municipal combined sanitary and storm sewer system within Washington Street. The Washington Street combined sanitary and storm sewer system will not receive any additional stormwater flows as a result of the four proposed projects included in the 2016-2018 expansion.

The second discharge point is in the southwest corner of the site and located near the intersection of Sherman Street and Pratt Street. This discharge point connects to the City's 10" dia. municipal storm sewer system on Pratt Street. The drainage areas for this discharge point includes flows from the Woodruff Street North parking area, Parking Garage, Medical Office Building parking area, portion of the existing Woodruff Street South parking area and the Sherman Street Parking Area.

Runoff from the Parking Garage and the Medical Office Building parking area are collected in drainage structures and piped directly to the discharge point located at the intersection of Sherman Street and Pratt Street, and bypass any stormwater management systems affected by the four proposed projects included in the 2016-2018 expansion.

Runoff from the existing Woodruff Street North Parking Area and a portion of the existing asphalt parking area on Woodruff Street South are collected in a series of drainage structures and storm piping, and discharge into underground stormwater

detention systems. Two existing underground stormwater detention basins (USWDB) are located in the Woodruff Street South parking area. One underground detention system was designed in 2000 by Plumley Engineering, P.C. and included runoff collection for an area of 0.29 acres. The second underground detention system was designed in 2004 by GYMO Architecture, Engineering and Land Surveying, P.C. and included runoff collection and management for an area of 4.14 acres. These underground detention systems were designed to provide quantity control management of the full future build-out of impervious areas to include the existing Woodruff Street North Parking Area, Woodruff Street Northwest Parking Expansion area and the Cancer Center Addition area and Woodruff Street South Parking Reconstruction area. These underground detention systems were designed in accordance with NYSDEC stormwater regulations at the time of design, and only included Water Quantity treatment measures.

Runoff from the existing Sherman Street parking area is collected in two (2) drainage structures and piped to an on-site storm manhole before discharging into the City's 10" dia. municipal storm sewer system with Pratt Street.

The existing site drainage and runoff conditions were analyzed utilizing the SCS Method. Two main design points, the Pratt Street Design Point and Woodruff Street Design Point, were determined for the expansion projects. The Pratt Street Deign Point which includes runoff from the Cancer Center Addition and Woodruff Street South Parking Area Reconstruction, Woodruff Street Northwest Parking Area Expansion, and the Women's and Children's Center Addition and Sherman Street Parking Reconstruction projects. The Woodruff Street Design Point only includes runoff from the Woodruff Street Northeast Parking Area project. Refer to Appendix 2 for HydroCAD calculations, drainage area maps, and discharge rates for the 1, 10 and 100 year storm events.

4.2 Proposed Drainage

Cancer Center Addition and Woodruff Street South Parking Reconstruction will include the construction of a proposed building addition and asphalt parking area and patient drop-off area. Existing asphalt and gravel parking area will be reconstructed and regraded but drainage patterns will not change drastically from existing. Stormwater runoff will sheet flow to either existing or proposed drainage structures and into the existing underground stormwater detention basins. Stormwater runoff from the westerly parking area will be collected by sheet flow in four (4) proposed drainage structures and piped into a NYSDEC verified proprietary stormwater management practice for Water Quality Volume (WQv) treatment WQv treatment is being provided to meet the NYS DEC required 75% WQv treatment for redeveloped sites. Discharges from the proprietary WQv treatment device will flow into the existing underground stormwater detention basin. Stormwater will then discharge from the underground stormwater detention basins to the existing 18" SICPP storm sewer pipe located west of the generator building, which flow southwest to the City storm sewer at Pratt and Sherman Streets.

Woodruff Street Northwest Parking Expansion includes the construction of a new asphalt parking area. Runoff from the existing Woodruff Street North parking area is collected via sheet flow into an existing storm sewer system that includes two (2) drainage

structures, storm manhole and piping before crossing Woodruff Street and into the existing underground stormwater detention basin. Stormwater runoff from the proposed parking area expansion will be collected by sheet flow by two (2) proposed drainage structures and piped into a NYSDEC verified proprietary stormwater management practice for Water Quality Volume (WQv) treatment. Discharges from the proprietary device will flow into the existing storm sewer system before crossing Woodruff Street and into the existing underground stormwater detention basin.

The proprietary treatment device will provide the required 75% WQv treatment for the redeveloped project area.

Women and Children's Center Addition and Sherman Street Parking Reconstruction will include the construction of a new building addition and asphalt parking area. Existing asphalt parking area will be reconstructed and regraded but drainage patterns will not change drastically from existing. Stormwater runoff will sheet flow to rain gardens located in curbed islands in the center of the parking area and to bioretention areas located along the westerly limits of the parking area. These two measures will provide required 25% Water Quality Volume (WQv) treatment for this portion of the redevelopment site. Remaining runoff will be collected by sheet flow by four (4) proposed drainage structures and piped to an on-site storm manhole before discharging into the City's 10" dia. municipal storm sewer system on Pratt Street.

Woodruff Street Northeast Parking will include the construction of a new asphalt parking lot and adjacent lawn area. Stormwater runoff from the proposed parking area will be collected by sheet flow by (1) proposed drainage structure and piped into the Woodruff Street combined sanitary and storm sewer system. The impervious area was reduced by 31% from the pre-development conditions to post-development conditions so no WQv or RRv treatment measures are required or provided.

A green roof located on the Cancer Center Building Addition provides required RRv treatment for the entire project site. The majority of impervious area within the four expansion projects is either undisturbed existing impervious or redeveloped impervious, neither of which require RRv treatment. The only new impervious area associated with the four Samaritan Medical Center Expansion Projects is located at the western end of the Woodruff Street Northwest Parking Expansion project.

The proposed site drainage and runoff conditions were analyzed utilizing the SCS Method. Two main design points, the Pratt Street Design Point and Woodruff Street Design Point, were determined for the expansion projects. Refer to Appendix 2 for HydroCAD calculations, drainage area maps, and discharge rates for the 1, 10 and 100 year storm events.

An overall development SWPPP has been prepared for the SMC 2016-2018 Expansion Projects. Please refer to the SWPPP for further calculations and information pertaining to stormwater treatment.

5.0 ROADS / DRIVEWAYS

5.1 Existing Roads / Driveways

The project site near the proposed Cancer Center Addition and Parking Area Reconstruction is accessed thru (7) entrance drives from the Woodruff Street and thru (2) entrance drives from Sherman Street. These entrance drives were created as the parking areas have been expanded over the years.

The Woodruff Street North Parking Area gains access from the Woodruff Street thru (2) existing entrance drives. The project site near the proposed Woodruff Street Northwest Parking Area Expansion is accessed from the Woodruff Street thru (3) residential entrance driveways from Woodruff Street. The 3 existing homes each have drives connecting to Woodruff Street

The project site near the proposed Women's and Children's Center Addition and Parking Area Reconstruction is accessed from an existing 40' wide commercial entrance drive from the former Pratt Street and an existing 23' wide entrance drive from Sherman Street.

The project site near the proposed Woodruff Street Northeast Parking Area is accessed from Woodruff Street thru a residential entrance driveway and a 55' wide gravel entrance to the site that is utilized as a construction staging area.

5.2 Proposed Roads / Driveways

The Cancer Center Addition and Woodruff Street South Parking Area Reconstruction will eliminate all the existing entrance drives along Woodruff Street and Sherman Street. A new 30' wide commercial entrance drive will be constructed to provide access for patient drop-off and parking and tractor trailer access to the central hospital core for deliveries.

The Woodruff Street Northwest Parking Area Expansion will eliminate the (3) residential entrance driveways from Woodruff Street. A new 24' wide taper entrance drive will be constructed to provide patient and employee access to the parking area.

The Women's and Children's Center Addition and Parking Area Reconstruction will utilize the existing access locations to the site. The existing 40' wide commercial entrance drive from the former Pratt Street will be reconstructed. The existing 23' wide entrance drive from Sherman Street will reconstructed and widened to 34' wide to provide tractor trailer access for deliveries.

The Woodruff Street Northeast Parking Area will eliminate the residential entrance driveway and the wide stone construction access to the site from Woodruff Street. A new 24' wide entrance drive will be constructed to provide patient and employee access to the parking area.

6.0 PARKING

6.1 Existing Parking

An overall parking analysis was performed for the entire Samaritan Medical Campus. Site visits were conducted to verify the existing parking count of parking spaces of all on-site parking and all adjoining Samaritan Medical Center properties containing parking. The existing parking space count is 1,183 total parking spaces and 46 ADA handicapped parking spaces.

Parking space requirements per City of Watertown Zoning Section 310-47 for "hospitals" are, 1 space is required for each 2 beds, plus 5 spaces for each 1,000 square feet of floor spaces dedicated to other principal or accessory uses. The parking space requirements for "nursing homes" are, 1 space is required for each 3 beds. Samaritan Medical Center is a 290 bed count facility with 444,429 sf of gross square footage. Square footage areas dedicated for bed count spaces and other non-bed areas such as storage and mechanical areas were deducted from the gross square footage. The net square footage for other principal and accessory use areas is 181,500 sf. Samaritan Keep Home Center is a 272 bed count facility.

The existing parking spaces required based upon the City Zoning requirements equals 1,145 total spaces. The existing conditions leave an excess of 38 total parking spaces. Refer to Parking Requirements Data in Appendix 3.

6.2 Proposed Parking

Cancer Center Addition and the Women's and Children's Addition will add gross square footage to the hospital but the bed count does not increase. The Cancer Center Addition includes 16,122 sf and the Women's and Children's addition includes 19,035 sf.

The Cancer Center Addition includes 17,300 sf of additional gross square footage but 2,220 sf can be deducted for storage and mechanical areas. The net square footage equals 15,080 sf and will require 75 additional parking spaces. The Woodruff Street South Parking Area Reconstruction will reduce the total parking spaces from 125 to 70 spaces.

The Women's and Children's Center Addition includes 19,035 sf of additional gross square footage but 17,744 sf can be deducted for dedicated bed space and storage and mechanical areas. The net square footage equals 1,291 sf and will require 6 additional parking spaces. The Sherman Street South Parking Area Reconstruction will reduce the total parking spaces from 78 to 53 spaces.

The proposed parking spaces required following the construction of the Cancer Center Addition and the Women's and Children's Addition, based upon the City Zoning requirements equals 1,227 total spaces. The Woodruff Street Northwest Parking Area Expansion and the Woodruff Street Northeast Parking Area projects are being proposed to replace the parking spaces lost for during the construction of the Cancer Center Addition and the Women's and Children's Addition and to meet the City's Parking Requirements.

The Woodruff Street Northwest Parking Area Expansion will provide additional parking spaces to the 192 parking spaces in the existing Woodruff Street North parking area. Following construction, the total parking spaces provided in that parking area will

equal 294 spaces.

The Woodruff Street Northeast Parking Area will provide new parking that will include 27 spaces.

The total parking spaces proposed will be 1,230 spaces. This will meet the parking requirements, per City Zoning.

6.3 Traffic Impacts

Trip generation calculations were not performed for this project. Samaritan Medical Center is a 290 bed medical facility. The bed count will not be increased as a result or the proposed building additions.

Trip generation calculations were performed utilizing data from the ITE Trip Generation Manual, 7th Edition. The resulting anticipated trips are based upon bed count and the trip count should not be impacted by the proposed additions to the existing building.

The weekday AM Peak Hour generates approximately 233 trips/hour entering and 126 trips/hour exiting. The weekday PM Peak Hour generates approximately 163 trips/hour entering and 255 trips/hour exiting.

The Saturday Peak Hour generates approximately 136 trips/hour entering and 154 trips/hour exiting. The Sunday Peak Hour generates approximately 134 trips/hour entering and 165 trips/hour exiting.

7.0 PRIVATE UTILITIES

7.1 Gas, Electric, Telephone and Cable

There are existing electric, gas, cable, and telephone services to the existing building. No new services are proposed as part of any of these projects, at this time. Services may need to get re-routed onsite or will be completed within the building.

8.0 LIGHTING

8.1 Existing Site Lighting

The existing site lighting for the project site near the proposed Cancer Center Addition and Parking Area Reconstruction is provided by (5) pole mounted fixtures and some building mounted wall packs.

The existing site lighting for the Woodruff Street North Parking Area is provided by (6) pole mounted fixtures located in the middle rows of parking. Two pole mounted fixtures are also located along the easterly and westerly limits of the existing parking area. Residential light fixtures are located on the houses and garages of the project site for the proposed Woodruff Street Northwest Parking Area Expansion. The existing site lighting for the project site near the proposed Women's and Children's Center Addition and Parking Area Reconstruction is provided by building mounted wall packs.

There is no existing site lighting for the project site near the proposed Woodruff Street Northwest Parking Area.

8.2 Proposed Site Lighting

The Cancer Center Addition and Woodruff Street SouthParking Area Reconstruction will eliminate the (5) existing pole mounted fixtures and the building mounted wall packs. New site lighting will be provided with (4) new light poles. Two new light poles will be located in the westerly parking area. The poles will be located in the painted islands. The LED-1fixtures (LED-1) will include (2) 107 watt LED cutoff fixtures mounted back to back. Two new light poles will be located around the patient drop-off area and entrance drive. A new light fixture will be located near the entrance drive off Woodruff Street and one near the electrical cabinets on the south side of the drop-off loop. The LED-2 light fixtures will include (1) 213 watt LED cutoff fixture with a spill control shield. The spill control shield will limit light spillage to the south as not to exceed 0.5 foot candles across a property line.

The Woodruff Street Northwest Parking Area Expansion will eliminate the (2) existing pole mounted fixtures located along the westerly limits of the existing parking area. New site lighting will be provided with (4) new light poles. The poles will be located along the painted center stall of the two center rows of parking. The LED-1 fixtures will include (2) 107 watt LED fixtures mounted back to back. These light fixtures will provide lighting for the entire parking area expansion and will not exceed 0.5 footcandles across a property lines.

The Women's and Children's Center Addition and Parking Area Reconstruction will eliminate the existing building mounted wall packs. New site lighting will be provided with (3) new light poles. Two new light poles will be located in the curbed center islands. The LA-V fixtures will include (1) 213 watt LED fixture. One new pole will be located along the northerly limits of the parking area. Four new light poles will be located around the patient drop-off area and entrance drive. The LA-IIH light fixtures will include (1) 157 watt LED fixture with a spill control shield. The spill control shield will limit light spillage to the north so as not exceed 0.5 footcandles across a property line.

New site lighting for the Woodruff Street Northeast Parking Area will be provided with (2) new light poles. The poles will be located along southerly and northerly limits of the new parking area. The LED-3 light fixtures will include (1) 107 watt LED current fixture with a spill control shield. The spill control shield will limit light spillage to the north and south as not exceed 0.5 footcandles across a property line.

9.0 LANDSCAPING

9.1 Existing Landscaping

None of the existing project sites include any substantial landscaping. There are a few small trees along street margins of Woodruff Street and Sherman Street. Most of these trees will likely be able to remain. There are a few medium deciduous and coniferous trees in the backyards of a couple of the lots on Woodruff Street. Most of these trees will need to be removed as part of the construction of the new parking areas.

9.2 Proposed Landscaping

Landscaping will be provided for the Woodruff Street South Parking Area in the buffer area along the street margins of Woodruff Street and Sherman Street. Trees will be selected from the City Guidelines and will include at a minimum, a large deciduous tree at 40' o.c. or small to medium trees at 20' o.c. and shrubs placed between the trees to provide screening from the parking areas. Existing underground stormwater detention systems and utilities on the site, restrict the ability to place additional trees internal of the site.

Landscaping will be provided for the Woodruff Street Northwest Parking Area Expansion in the buffer area along the street margin of Woodruff Street. Small to medium trees will be placed in the curbed area at the entrance drives. Shrubs will be installed in the 4'-2" wide buffer along the street margin, to provide screening from the parking areas.

Landscaping will be provided for the Sherman Street Parking reconstruction area near the Women's and Children's Center Addition in the buffer area along the street margin of Sherman Street. Small to medium trees at 20' o.c. and shrubs placed between the trees to provide screening from the parking areas. Rain gardens and Biorentention will include additional plantings along the street margin and in the internal curb islands.

Landscaping will be provided for the Woodruff Street Northeast Parking Area in the buffer areas along the street margins of Woodruff Street and Washington Street. Small to medium trees at 20' o.c. and shrubs placed between the trees along Washington Street, to provide screening from the parking areas. One large deciduous tree will be installed at the northeast corner of the site, near the street margin. Shrubs will be installed in the 4'-2" wide buffer along the street margin of Woodruff Street, to provide screening from the parking areas. Additional landscaping will be placed along the northerly property line to provide a buffer between the parking and access drive on the adjacent property.

Sincerely,
Aubertine and Currier Architects, Engineers & Land Surveyors, P.L.L.C.

Matthew R. Morgia, P.E.
Civil Engineer

APPENDIX #1

LOCATION MAP
CITY OF WATERTOWN ZONING MAP
SOILS MAP
SOILS DESCRIPTION

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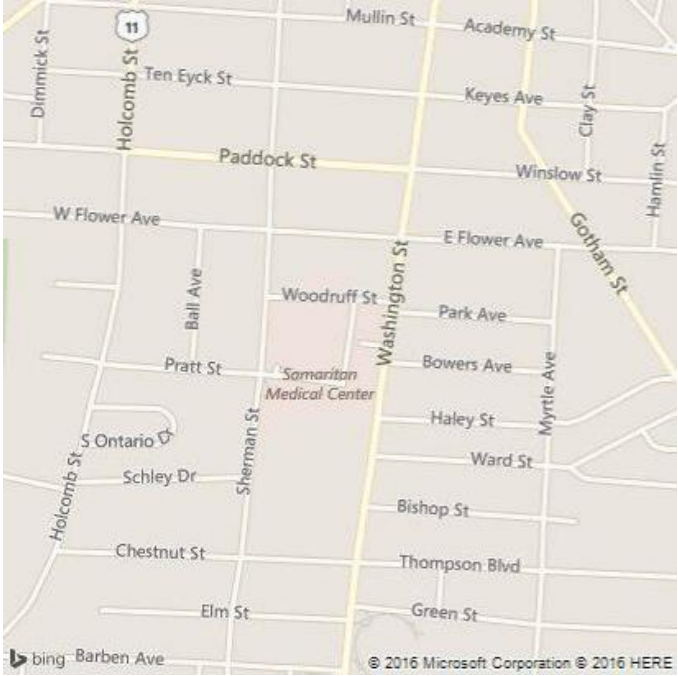
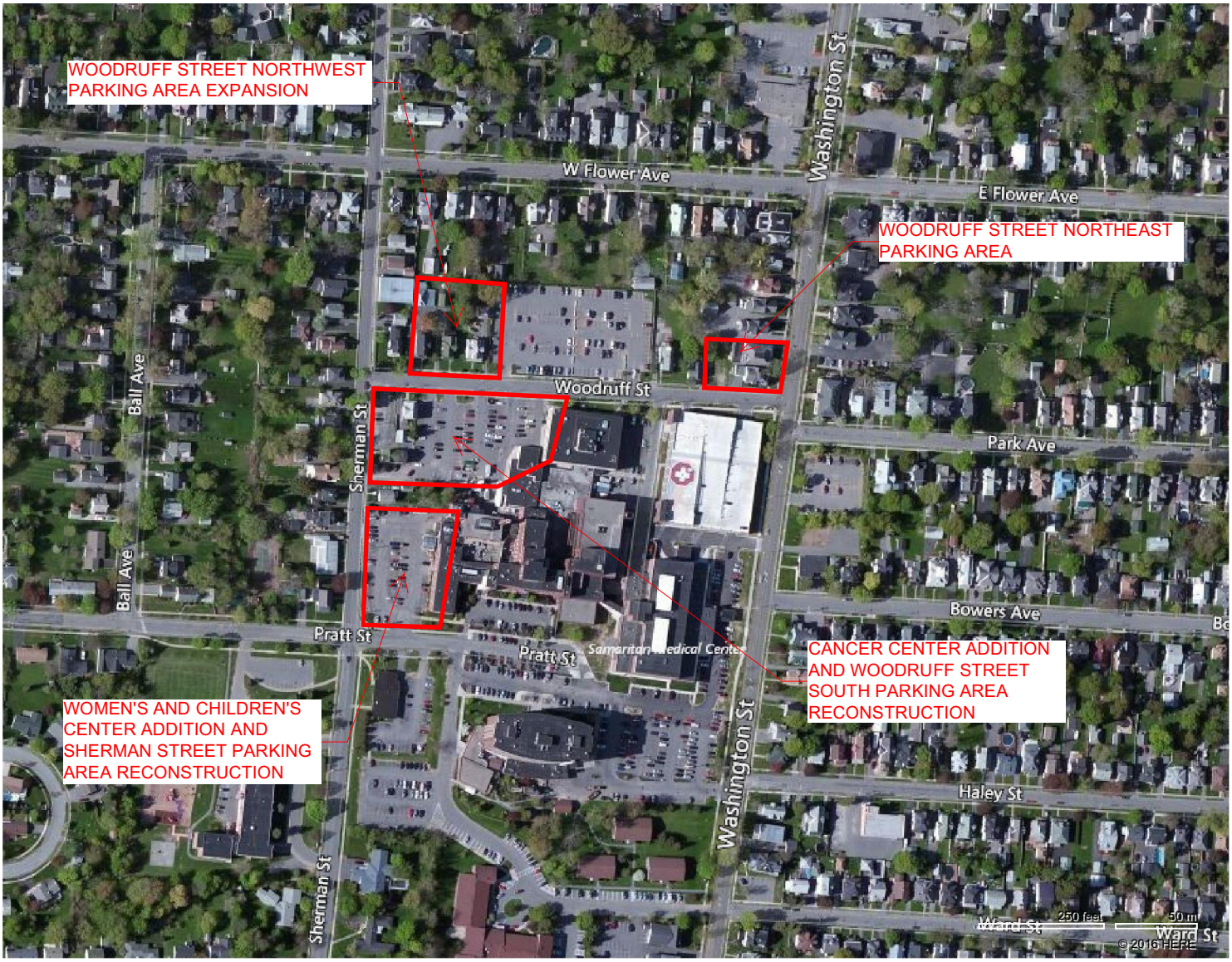
bing maps

Notes

Samaritan Medical Center
830 Washington Street
Watertown NY 13601





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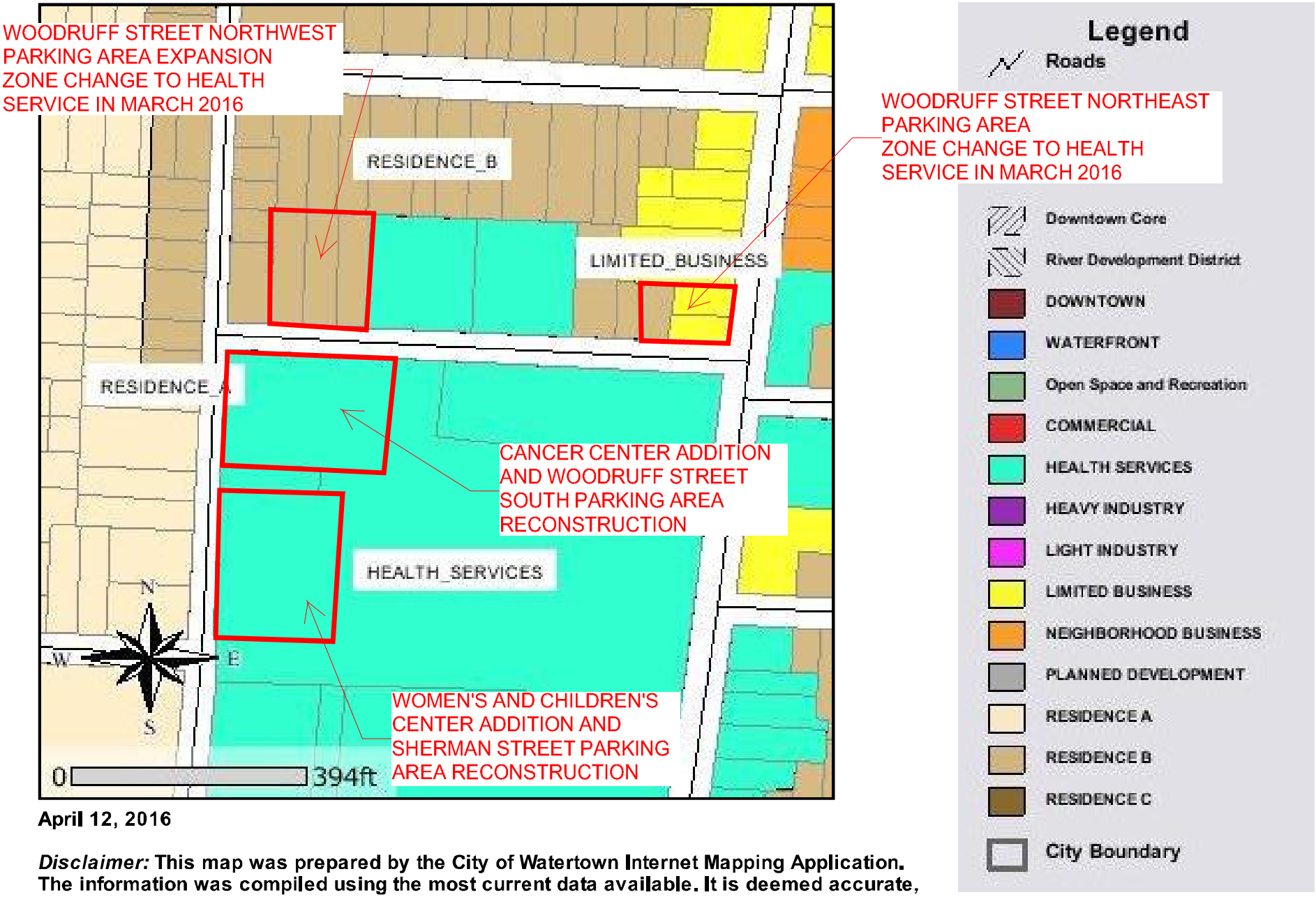

April 12, 2016

Disclaimer: **This map was prepared by the City of Watertown Internet Mapping Application. The information was compiled using the most current data available. It is deemed accurate,**

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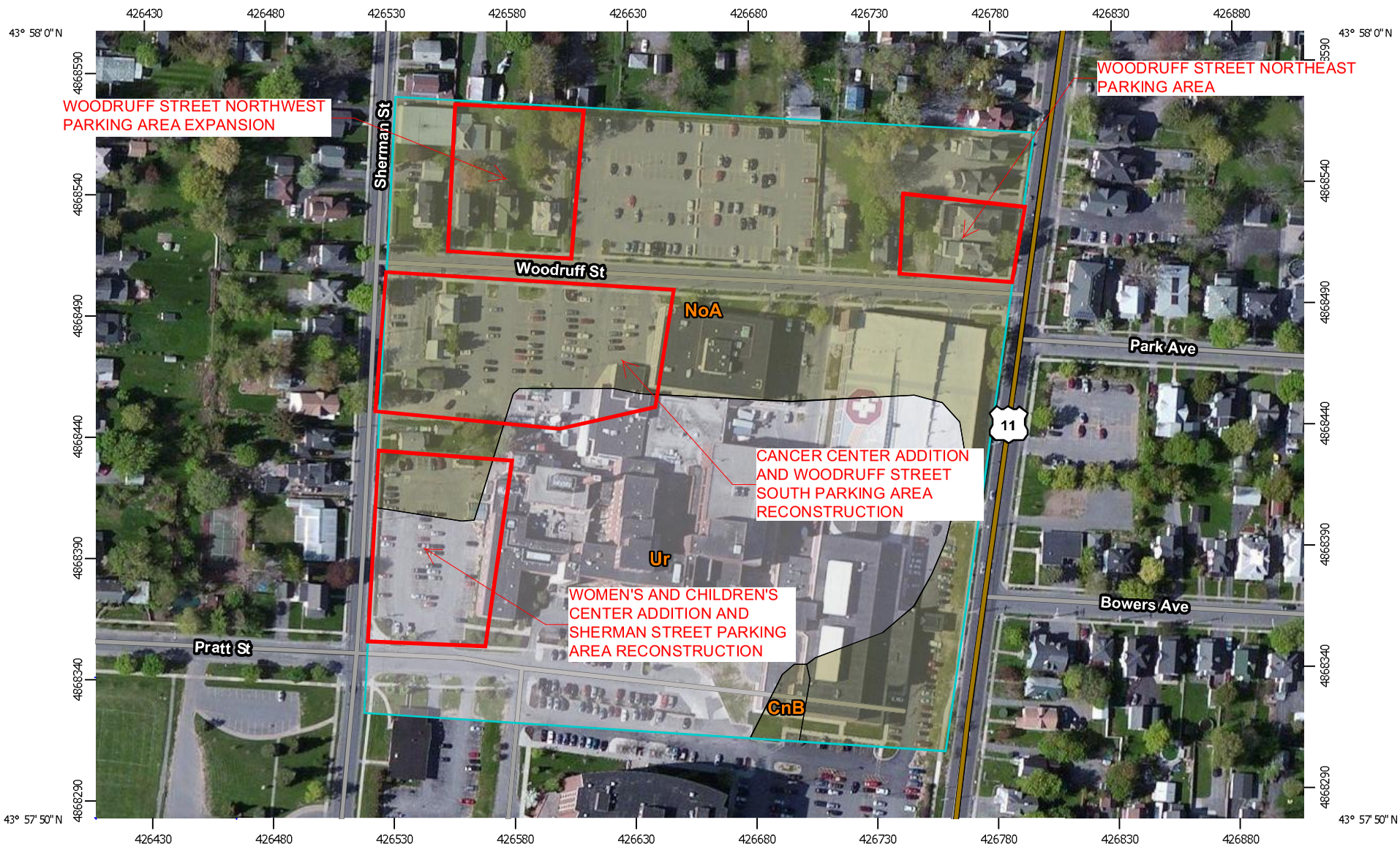
Hydrologic Soil Group—Jefferson County, New York
(Samaritan)



Map Scale: 1:2,290 if printed on A landscape (11" x 8.5") sheet.

N

Meters: 0 30 60 120 180

Feet: 0 100 200 400 600

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

MAP LEGEND

Area of Interest (AOI)

Area of Interest (AOI)

Soils

Soil Rating Polygons

- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Soil Rating Lines

- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Soil Rating Points

- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Water Features

Streams and Canals

Transportation

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

Background

Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:15,800.

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: Jefferson County, New York
Survey Area Data: Version 12, Sep 21, 2015

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

Date(s) aerial images were photographed: May 11, 2011—Jul 2, 2011

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

Hydrologic Soil Group

Hydrologic Soil Group— Summary by Map Unit — Jefferson County, New York (NY045)				
Map unit symbol	**Map unit name**	**Rating**	**Acres in AOI**	**Percent of AOI**
CnB	Collamer silt loam, 3 to 8 percent slopes	C/D	0.1	0.7%
NoA	Niagara silt loam, 0 to 3 percent slopes	C/D	9.1	56.8%
Ur	Urban land		6.8	42.5%
Totals for Area of Interest			**16.0**	**100.0%**

Description

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.

Rating Options

Aggregation Method: Dominant Condition

Component Percent Cutoff: *None Specified*

Tie-break Rule: Higher

APPENDIX #2

SANITARY SEWER DESIGN CALCULATIONS
HYDROLOGIC AND HYDRAILIC ANALYSIS
FIRE FLOW TEST RESULTS

Aubertine and Currier Architects, Engineers & Land Surveyors, PLLC
522 Bradley Street Watertown, New York 13601 TELE: (315) 782-2005 FAX: (315) 782-1472

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WATERTOWN, NY 13601
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www.AubertineCurrier.com

CALCULATION SHEET

Project Number: 2015-174 Date: 4/13/2016
Project Name: CANCER CENTER ADD Page: 1 Of: 1
Location: SMC 830 WASHINGTON ST. Calc'd By: TRT

SANITARY SEWER DESIGN CALCULATIONS

PER DEC 2014 DESIGN STANDARDS FOR WASTEWATER TREATMENT SYSTEMS

CANCER CENTER ADDITION (7,300 SF ADDITION)

APPROX 30 EXAM ROOMS

HOSPITALS (PER BED) 175 GPD (PER DEC)

30 BEDS x 175 GPD = 5,250 GPD

Campgrounds

Type of Use	*Unit*	*Gallons per Day*
Day Camp	Per Person	15
	Add for Shower	5
	Add for Lunch	5
Campground	Per Unsewered Site[18]	55(includes showers)
	Per Sewered Site – with water hookups	100
	Per Sewered Site – without water hookups	55
Campground Day Use	Per Person	5
Dumping Station [19]	Per Unsewered Site	10
	Per Sewered Site	5

Institutional

Type of Use	*Unit*	*Gallons per Day*
Assisted Living Facility/Complex	Per Bed[20,21] – add 10 gpd for in room kitchen	110/130/150
Group Home (residential-style building)	Per Bed[20] - add 150 gpd per house for garbage grinder	110/130/150
Nursing Home (hospital care)	Per Bed[20,21]	175
Hospital	Per Bed[20,21]	175
	Per Outpatient	30
Church	Per Seat[20]	3
Church Hall/Fire Hall	Per Seat[21]	10

[18] Additional wastewater flow due to food service or laundry shall be accounted for. Structures available for overnight occupancy other than those meeting the definition of a camping unit shall be based on 150 gpd / unit for design flow purposes, pursuant to NYSDOH – *Chapter 1 State Sanitary Code Subpart 7-3 Campgrounds.*

[19] The addition of flow for dump station sewage may be prorated by using an estimated percentage of sites suited for RV use based on historical data. No reduction for low flow fixture usage should be applied here.

[20] Add 15 gpd per employee

[21] Add for Food Service (e.g. 24-hour restaurant; refer to Food Service Operations Table)

Library/ Museum	Per Patron[20,21]	5
Public Park	Per Person (toilet only)	5
Prison / Jail	Per Inmate[20,21]	150
School – Day	Per Student	10
- or -	Elem./ Jr. High / Sr. High	7 / 9 / 12
- and -	Add for meals / showers	5 / 5
School Boarding	Per Student[20,21]	75

Commercial

Type of Use	*Unit*	*Gallons per Day*
Airport/Bus/Rail Terminal	Per Passenger[22] Per Toilet	5 400
Barber Shop / Beauty Salon	Per Station without and with hair care sink	50/ 200
Bowling Alley	Per Lane [22,23]	75
Bed & Breakfast	Per Room (see note under Residential)	110/130/150
Casino	Per Employee/shift plus Per Sq. Ft. for non-lodging customer use	15 0.3
Country Clubs & Golf Courses	Per Round of Golf [21,22] (add for bar, banquet, shower or pool facilities and golf tournaments)	20
Concert Hall / Arena / Assembly Hall / Theater / Stadium / Skating Rink	Per Seat [21,22]	5
Day Care	Per Child [21]	20
Doctors Office	Per Doctor	250
Dog / Pet Grooming	Per Station	500
Also see Kennel and Veterinary Office below.		
Dentist	Per Chair[24]	250

[22] Add 15 gpd per employee/shift

[23] Add for Food Service (e.g. 24 hour restaurant; refer to Food Service Operations Table)

[24] Dental offices must recycle mercury amalgam instead of washing it down the drain. NYSDEC's website has

Drive-In Theater	Per Car Space [25]	5
Factory / Distribution Warehouse	Per Employee/shift; add for showers	15 10
Fairgrounds	Per Visitor [25]	5
Health Club	Per Patron	20
Highway Rest Area	Per Traveler[25] Per Dump Station Vehicle	5 7
Hotel	Per Sleeping Unit [25] add for banquet hall, night club, pool/spa, theatre, etc.	110/130/150
Kennel	Per Kennel/Run/Cage	50
Laundromat	Per Machine	580
Marina	Per Slip [25] with shore side restroom facilities including shower; add per slip for dump station	20 7
Migrant Worker Housing	Per Person	50
Motel	Per Sleeping Unit; add for in-room kitchen; add for in-room jacuzzi/spa	110/130/150 10 20
Office Building	Per Employee[25]; add for showers	15 5
Service station/Convenience store	Per Toilet[25]	400
Shopping Center / Grocery Store / Department Store	Per Sq. Ft. [25,26]; add for deli, bakery, butcher	0.1
Swimming Pool / Bath House	Per Swimmer	10
Veterinary Office	Per Veterinarian	200

guidance referencing the 2002 law.

[25] Add for Food Service (e.g. 24-hour restaurant; refer to Food Service Operations Table)

[26] Add 15 gpd per employee/shift

Food Service Operations[27]

Type of Use	*Unit*	*Gallons per Day*
Ordinary Restaurant	Per Seat	35
24-Hour Restaurant	Per Seat (for cafeterias: pro rate flow in proportion to the hours)	50
Fast Food Restaurant	Per Seat	25
	Per Drive-Up Window	500
Lounge, Bar	Per Seat	20
Drive-In	Per Car Space	50
Banquet Hall	Per Seat	10
Restaurant along Freeway	Per Seat	75

B.6.c Infiltration, Inflow, Non-Sanitary and Prohibited Flows

Cooling water, roof drains, footing, sump and basement floor drains should not be discharged to the treatment system. Clean water from ice machines, water cooled refrigerators or coolers should also be excluded. Undetected leaks from plumbing fixtures, typically toilets and faucets, can waste significant amounts of water and subsequently increase the volume of wastewater to be treated. Simple repairs and routine operation and maintenance of plumbing fixtures can save water and increase the efficiency of wastewater treatment system.

Similarly, leaking sewer joints, pipe tank seals, tank riser seals, cracks in treatment tanks and manhole covers that are not watertight can be significant sources of infiltration of the system. These extraneous flows can cause periodic hydraulic overloads and affect treatment performance which can lead to system failure. Exfiltration from the system can have a negative impact on groundwater quality.

The discharge of swimming pool filter backwash wastewater should not be directed to a septic tank

[27] Garbage grinder use should be evaluated in the design phase of the project and accounted for in tank sizing per Section D.6 Septic Tanks.

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EXISTING VS. PROPOSED RUNOFF COMPARISON
SMC 2016-2018 EXPANSION PROJECTS

24 HOUR STORM EVENT PEAK DISCHARGE - (CFS)						
DRAINAGE AREAS	EXIST. 1 YR	PROP. 1 YR	EXIST. 10 YR	PROP. 10 YR	EXIST. 100 YR	PROP. 100 YR
1	-	3.23	-	5.70	-	9.75
1 - PARKING LOT	2.33	-	4.21	-	7.29	-
1 - RESIDENTIAL	0.40	-	1.03	-	2.19	-
2 - P LOT WEST	0.75	1.14	1.28	2.23	2.14	4.02
2 - P LOT EAST	0.97	0.74	1.83	1.40	3.25	2.50
2 - P LOT MRI	0.38	-	0.64	-	1.07	-
2 - RESIDENTIAL	0.59	-	1.16	-	2.09	-
USWDB WEST	0.65	-	0.95	-	3.30	-
USWDB MRI	0.21	-	0.28	-	0.37	-
USWDB COMBINED	-	0.65	-	1.51	-	7.19
MOB & PARKING GARAGE	3.20	3.20	5.67	5.67	9.69	9.69
3	1.75	1.75	3.24	3.24	5.67	5.67
Bioretention Areas	-	1.74	-	3.01	-	5.42
4	0.67	0.41	1.26	0.89	2.23	1.70
DESIGN POINT, PRATT ST	**6.69**	**5.19**	**12.19**	**9.57**	**21.18**	**17.98**
DESIGN POINT, WOODRUFF ST	**0.67**	**0.41**	**1.26**	**0.89**	**2.23**	**1.70**

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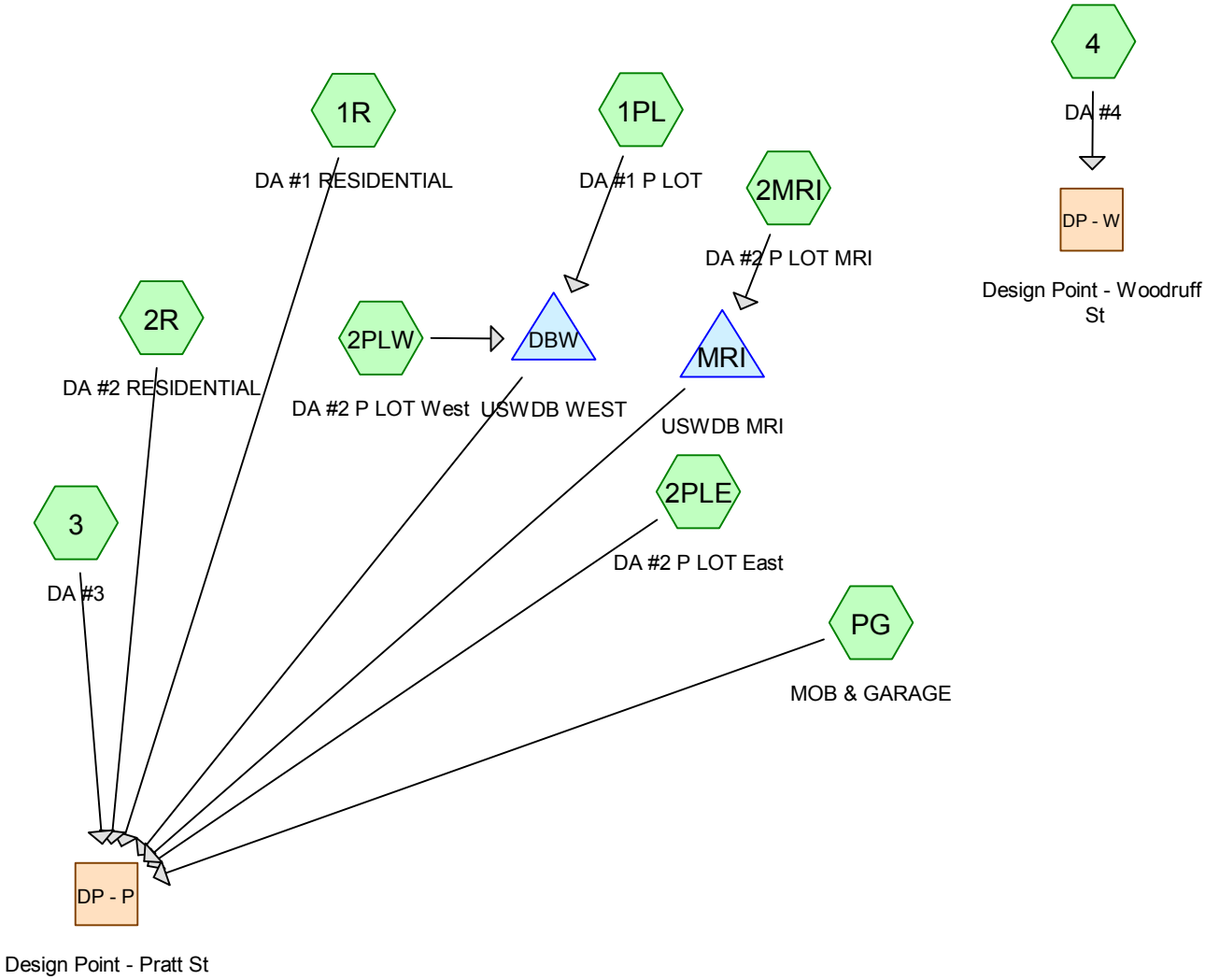
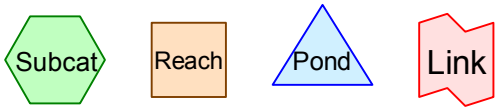




Routing Diagram for 2015-174 Existing
Prepared by Microsoft, Printed 5/24/2016
HydroCAD® 10.00-14 s/n 03261 © 2015 HydroCAD Software Solutions LLC

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.580	96	Gravel surface, HSG C (1R, 2R, 4)
1.080	71	Meadow, non-grazed, HSG C (1PL, 1R, 2PLE, 2R, 3, 4, PG)
3.350	98	Paved parking and Buildings, HSG C (1PL, 2MRI, 2PLE, 2PLW, 2R, 3, 4)
2.080	98	Paved parking, HSG C (1R, PG)
7.090	**94**	**TOTAL AREA**

Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.000	HSG A	
0.000	HSG B	
7.090	HSG C	1PL, 1R, 2MRI, 2PLE, 2PLW, 2R, 3, 4, PG
0.000	HSG D	
0.000	Other	
7.090		**TOTAL AREA**

Ground Covers (all nodes)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
0.000	0.000	0.580	0.000	0.000	0.580	Gravel surface	1R, 2R, 4
0.000	0.000	1.080	0.000	0.000	1.080	Meadow, non-grazed	1PL, 1R, 2PLE, 2R, 3, 4, PG
0.000	0.000	2.080	0.000	0.000	2.080	Paved parking	1R, PG
0.000	0.000	3.350	0.000	0.000	3.350	Paved parking and Buildings	1PL, 2MRI, 2PLE, 2PLW, 2R, 3, 4
0.000	**0.000**	**7.090**	**0.000**	**0.000**	**7.090**	**TOTAL AREA**	

Pipe Listing (all nodes)

Line#	Node Number	In-Invert (feet)	Out-Invert (feet)	Length (feet)	Slope (ft/ft)	n	Diam/Width (inches)	Height (inches)	Inside-Fill (inches)
1	1PL	0.00	0.00	310.0	0.0025	0.010	18.0	0.0	0.0
2	DBW	480.65	480.77	38.4	-0.0031	0.010	18.0	0.0	0.0
3	MRI	481.91	481.27	12.0	0.0533	0.013	15.0	0.0	0.0

Time span=0.10-24.00 hrs, dt=0.10 hrs, 240 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1PL: DA #1 P LOT Runoff Area=1.480 ac 89.86% Impervious Runoff Depth>1.48"
Flow Length=442' Tc=15.0 min CN=95 Runoff=2.33 cfs 0.183 af

Subcatchment 1R: DA #1 RESIDENTIAL Runoff Area=0.710 ac 25.35% Impervious Runoff Depth>0.69"
Flow Length=65' Tc=26.1 min CN=83 Runoff=0.40 cfs 0.041 af

Subcatchment 2MRI: DA #2 P LOT MRI Runoff Area=0.190 ac 100.00% Impervious Runoff Depth>1.77"
Flow Length=30' Tc=9.5 min CN=98 Runoff=0.38 cfs 0.028 af

Subcatchment 2PLE: DA #2 P LOT East Runoff Area=0.620 ac 80.65% Impervious Runoff Depth>1.31"
Flow Length=106' Tc=11.7 min CN=93 Runoff=0.97 cfs 0.068 af

Subcatchment 2PLW: DA #2 P LOT West Runoff Area=0.380 ac 100.00% Impervious Runoff Depth>1.77"
Flow Length=50' Tc=9.5 min CN=98 Runoff=0.75 cfs 0.056 af

Subcatchment 2R: DA #2 RESIDENTIAL Runoff Area=0.430 ac 32.56% Impervious Runoff Depth>1.23"
Flow Length=73' Tc=14.0 min CN=92 Runoff=0.59 cfs 0.044 af

Subcatchment 3: DA #3 Runoff Area=0.900 ac 83.33% Impervious Runoff Depth>1.40"
Flow Length=70' Slope=0.0100 '/' Tc=5.3 min CN=94 Runoff=1.75 cfs 0.105 af

Subcatchment 4: DA #4 Runoff Area=0.340 ac 17.65% Impervious Runoff Depth>1.31"
Flow Length=66' Slope=0.0120 '/' Tc=4.2 min CN=93 Runoff=0.67 cfs 0.037 af

Subcatchment PG: MOB & GARAGE Runoff Area=2.040 ac 93.14% Impervious Runoff Depth>1.57"
Flow Length=50' Slope=0.0150 '/' Tc=16.5 min CN=96 Runoff=3.20 cfs 0.267 af

Reach DP - P: Design Point - Pratt St Inflow=6.69 cfs 0.768 af
Outflow=6.69 cfs 0.768 af

Reach DP - W: Design Point - Woodruff St Inflow=0.67 cfs 0.037 af
Outflow=0.67 cfs 0.037 af

Pond DBW: USWDB WEST Peak Elev=481.44' Storage=5,240 cf Inflow=3.04 cfs 0.239 af
Outflow=0.65 cfs 0.215 af

Pond MRI: USWDB MRI Peak Elev=482.32' Storage=0.005 af Inflow=0.38 cfs 0.028 af
Outflow=0.21 cfs 0.028 af

Total Runoff Area = 7.090 ac Runoff Volume = 0.829 af Average Runoff Depth = 1.40"
23.41% Pervious = 1.660 ac 76.59% Impervious = 5.430 ac

Summary for Subcatchment 1PL: DA #1 P LOT

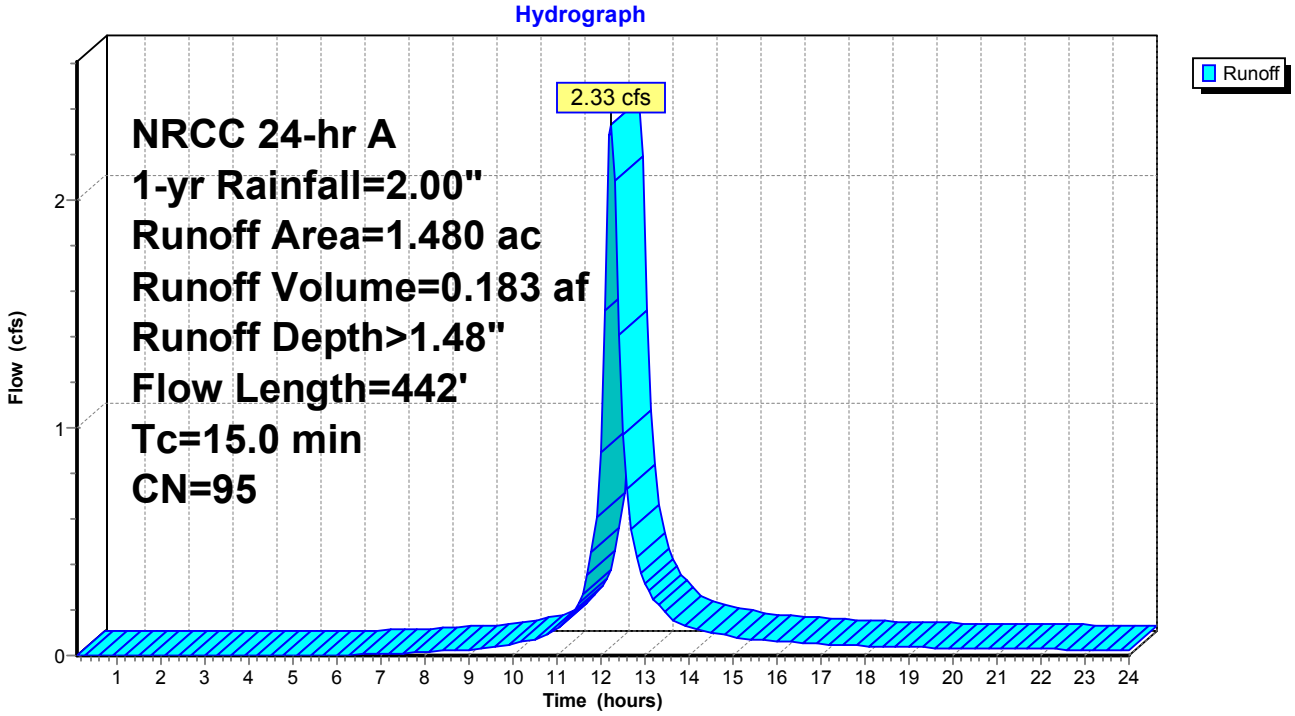
Runoff = 2.33 cfs @ 12.23 hrs, Volume= 0.183 af, Depth> 1.48"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.10-24.00 hrs, dt= 0.10 hrs
NRCC 24-hr A 1-yr Rainfall=2.00"

	Area (ac)	CN	Description
	0.150	71	Meadow, non-grazed, HSG C
*	1.330	98	Paved parking and Buildings, HSG C
	1.480	95	Weighted Average
	0.150		10.14% Pervious Area
	1.330		89.86% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.9	27	0.0100	0.04		**Sheet Flow, Lawn** Grass: Bermuda n= 0.410 P2= 2.33"
1.5	73	0.0100	0.84		**Sheet Flow, Parking Area** Smooth surfaces n= 0.011 P2= 2.33"
0.3	32	0.0100	2.03		**Shallow Concentrated Flow, Parking Lot** Paved Kv= 20.3 fps
1.3	310	0.0025	3.86	6.83	**Pipe Channel, Storm Sewer** 18.0" Round Area= 1.8 sf Perim= 4.7' r= 0.38' n= 0.010 PVC, smooth interior
15.0	442	Total			

Subcatchment 1PL: DA #1 P LOT



Summary for Subcatchment 1R: DA #1 RESIDENTIAL

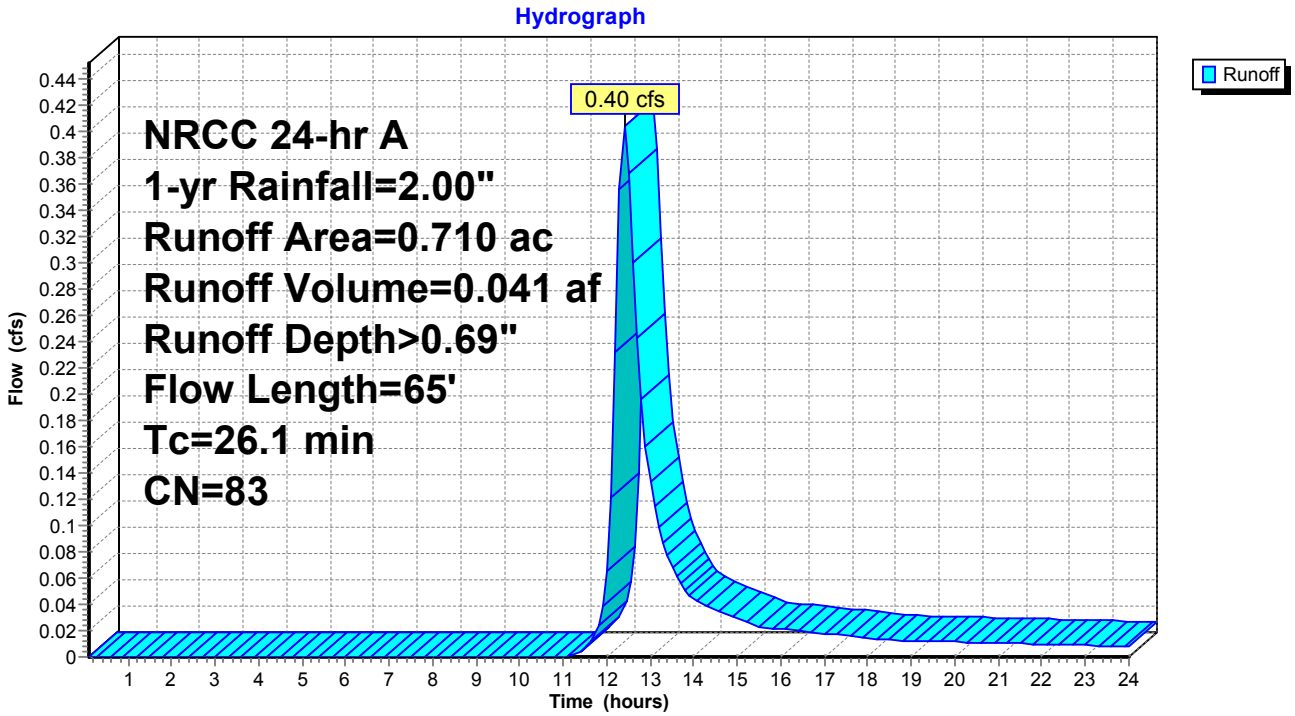
Runoff = 0.40 cfs @ 12.41 hrs, Volume= 0.041 af, Depth> 0.69"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.10-24.00 hrs, dt= 0.10 hrs
NRCC 24-hr A 1-yr Rainfall=2.00"

Area (ac)	CN	Description
0.390	71	Meadow, non-grazed, HSG C
0.140	96	Gravel surface, HSG C
0.180	98	Paved parking, HSG C
0.710	83	Weighted Average
0.530		74.65% Pervious Area
0.180		25.35% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
25.7	50	0.0050	0.03		**Sheet Flow, Lawn** Grass: Bermuda n= 0.410 P2= 2.33"
0.4	15	0.0100	0.61		**Sheet Flow, Paved Surfaces** Smooth surfaces n= 0.011 P2= 2.33"
26.1	65	Total			

Subcatchment 1R: DA #1 RESIDENTIAL



Summary for Subcatchment 2MRI: DA #2 P LOT MRI

[49] Hint: Tc<2dt may require smaller dt

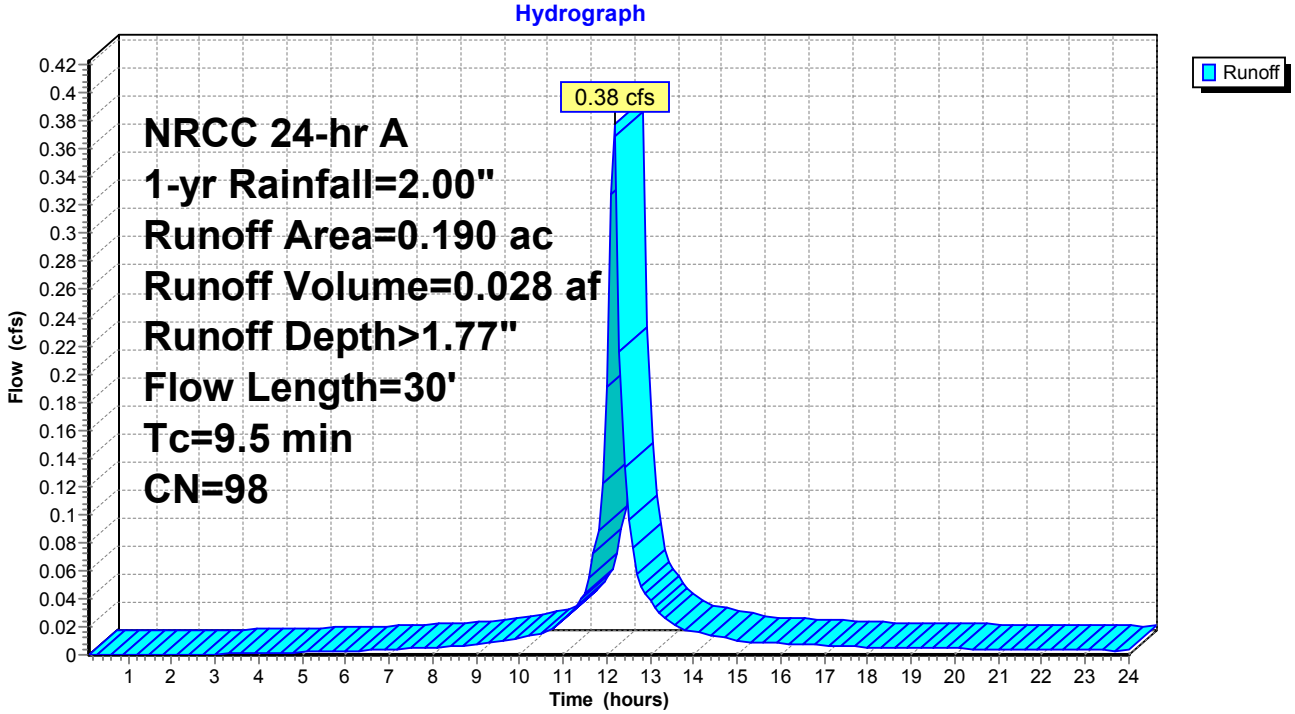
Runoff = 0.38 cfs @ 12.17 hrs, Volume= 0.028 af, Depth> 1.77"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.10-24.00 hrs, dt= 0.10 hrs
NRCC 24-hr A 1-yr Rainfall=2.00"

Area (ac)	CN	Description
0.190	98	Paved parking and Buildings, HSG C
0.190		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.3	20	0.0100	0.04		**Sheet Flow, Lawn** Grass: Bermuda n= 0.410 P2= 2.33"
0.2	10	0.0210	0.76		**Sheet Flow, Asphalt** Smooth surfaces n= 0.011 P2= 2.33"
9.5	30	Total			

Subcatchment 2MRI: DA #2 P LOT MRI



Summary for Subcatchment 2PLE: DA #2 P LOT East

[49] Hint: Tc<2dt may require smaller dt

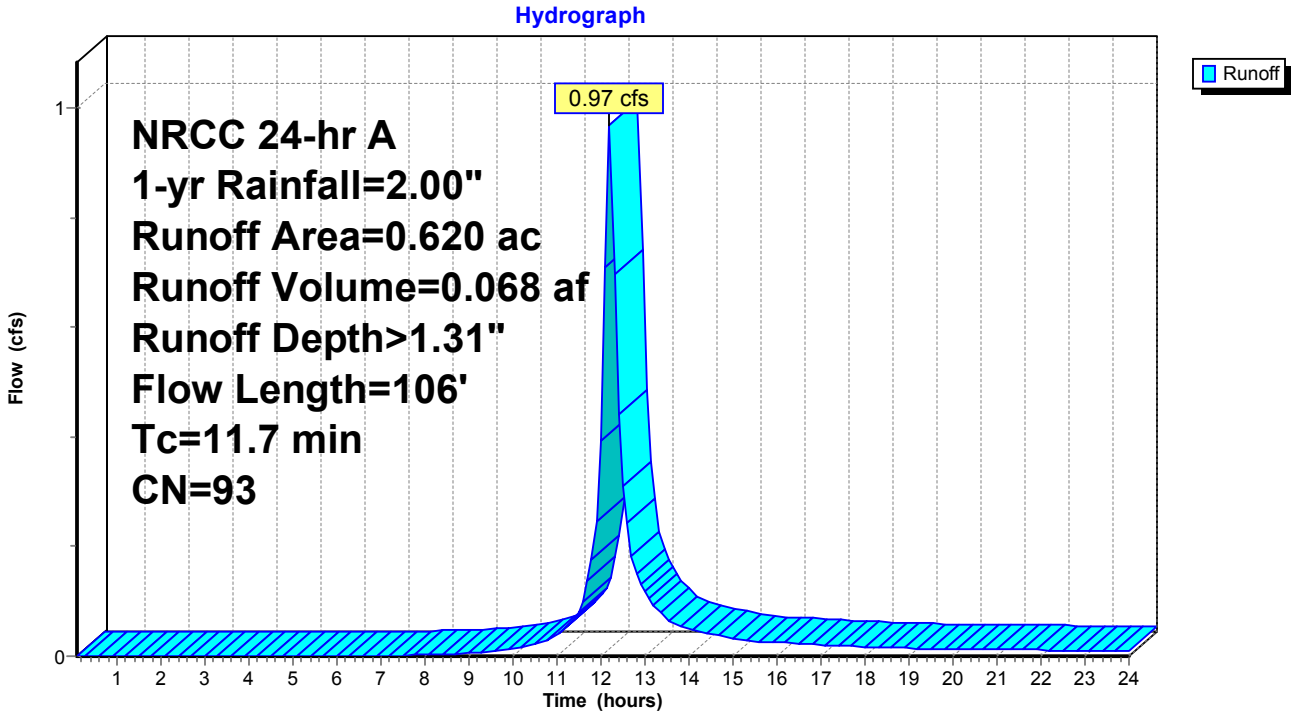
Runoff = 0.97 cfs @ 12.20 hrs, Volume= 0.068 af, Depth> 1.31"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.10-24.00 hrs, dt= 0.10 hrs
NRCC 24-hr A 1-yr Rainfall=2.00"

Area (ac)	CN	Description
0.120	71	Meadow, non-grazed, HSG C
0.500	98	Paved parking and Buildings, HSG C
0.620	93	Weighted Average
0.120		19.35% Pervious Area
0.500		80.65% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.5	23	0.0100	0.04		**Sheet Flow, Lawn** Grass: Bermuda n= 0.410 P2= 2.33"
1.2	83	0.0210	1.15		**Sheet Flow, Asphalt** Smooth surfaces n= 0.011 P2= 2.33"
11.7	106	Total			

Subcatchment 2PLE: DA #2 P LOT East



Summary for Subcatchment 2PLW: DA #2 P LOT West

[49] Hint: Tc<2dt may require smaller dt

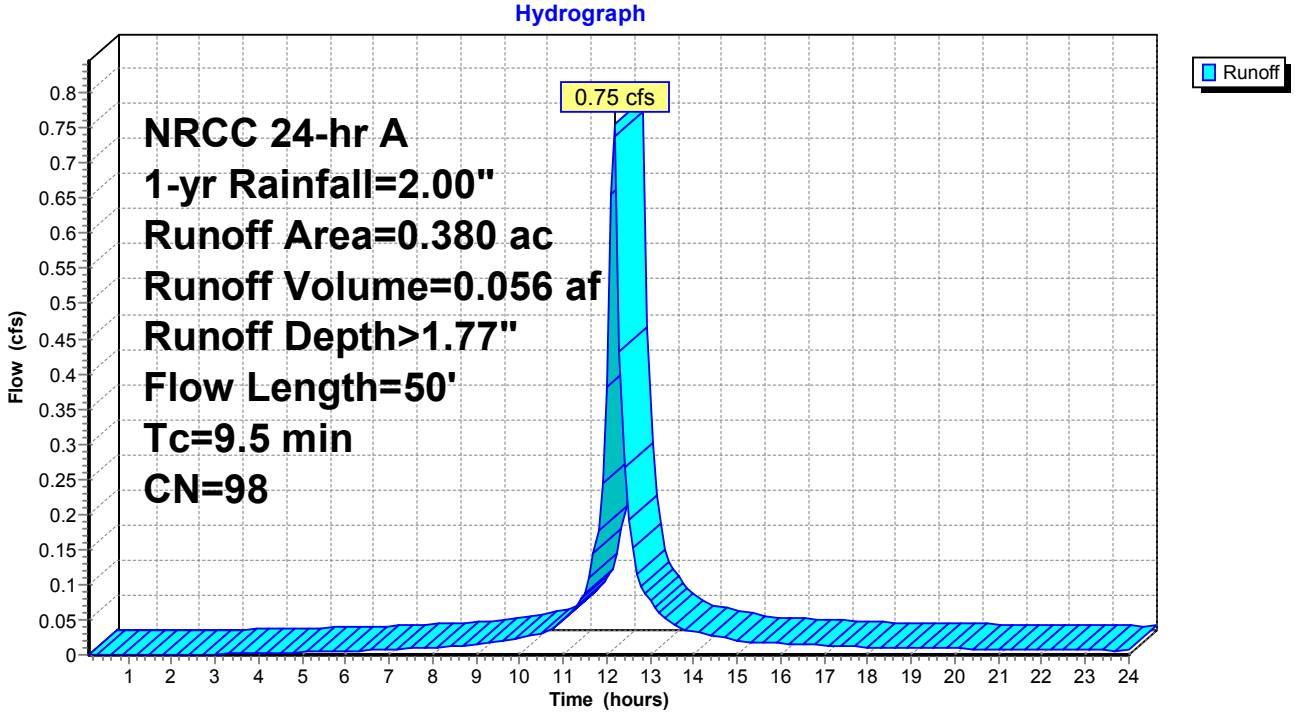
Runoff = 0.75 cfs @ 12.17 hrs, Volume= 0.056 af, Depth> 1.77"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.10-24.00 hrs, dt= 0.10 hrs
NRCC 24-hr A 1-yr Rainfall=2.00"

Area (ac)	CN	Description
0.380	98	Paved parking and Buildings, HSG C
0.380		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.3	20	0.0100	0.04		**Sheet Flow, Lawn** Grass: Bermuda n= 0.410 P2= 2.33"
0.2	30	0.0200	2.87		**Shallow Concentrated Flow, Asphalt** Paved Kv= 20.3 fps
9.5	50	Total			

Subcatchment 2PLW: DA #2 P LOT West



Summary for Subcatchment 2R: DA #2 RESIDENTIAL

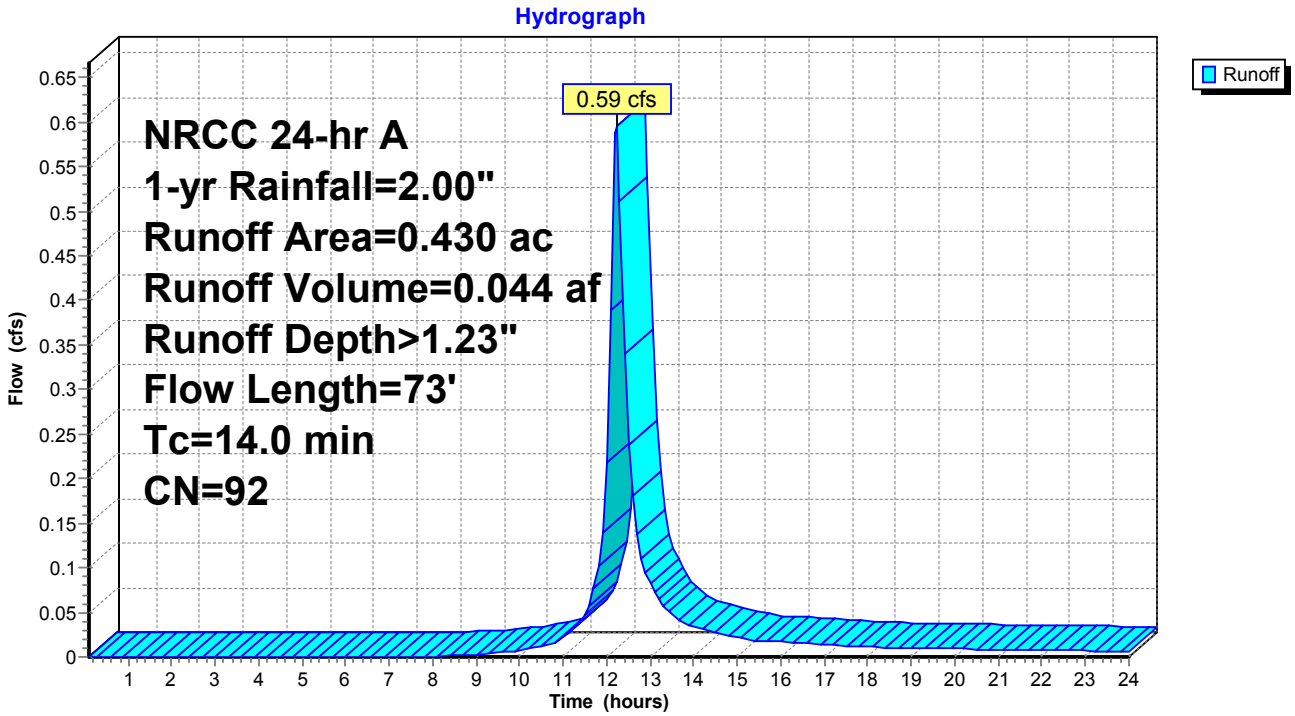
Runoff = 0.59 cfs @ 12.22 hrs, Volume= 0.044 af, Depth> 1.23"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.10-24.00 hrs, dt= 0.10 hrs
NRCC 24-hr A 1-yr Rainfall=2.00"

Area (ac)	CN	Description
0.080	71	Meadow, non-grazed, HSG C
0.210	96	Gravel surface, HSG C
0.140	98	Paved parking and Buildings, HSG C
0.430	92	Weighted Average
0.290		67.44% Pervious Area
0.140		32.56% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.3	20	0.0050	0.03		**Sheet Flow, Lawn Area** Grass: Bermuda n= 0.410 P2= 2.33"
1.7	53	0.0750	0.52		**Sheet Flow, Gravel Parking Area** n= 0.050 P2= 2.33"
14.0	73	Total			

Subcatchment 2R: DA #2 RESIDENTIAL



Summary for Subcatchment 3: DA #3

[49] Hint: Tc<2dt may require smaller dt

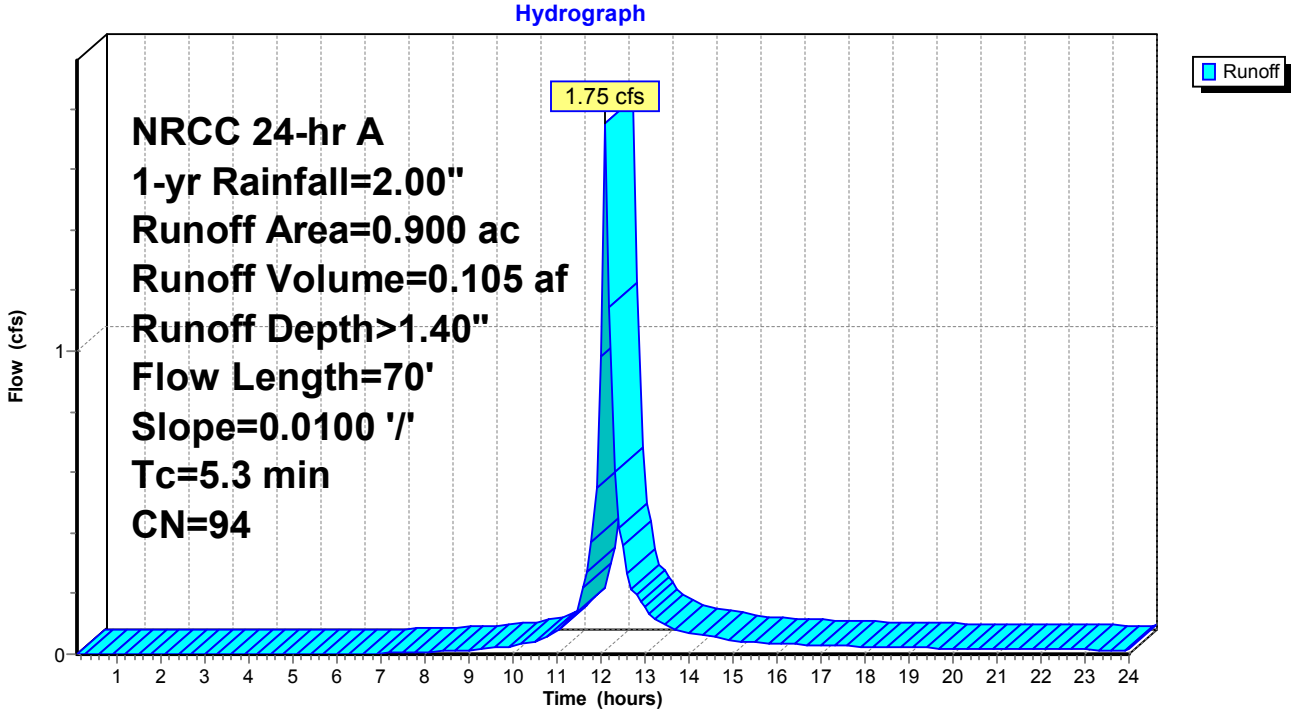
Runoff = 1.75 cfs @ 12.11 hrs, Volume= 0.105 af, Depth> 1.40"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.10-24.00 hrs, dt= 0.10 hrs
NRCC 24-hr A 1-yr Rainfall=2.00"

Area (ac)	CN	Description
0.150	71	Meadow, non-grazed, HSG C
0.750	98	Paved parking and Buildings, HSG C
0.900	94	Weighted Average
0.150		16.67% Pervious Area
0.750		83.33% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.8	15	0.0100	0.05		**Sheet Flow, Lawn** Grass: Dense n= 0.240 P2= 2.33"
0.5	55	0.0100	2.03		**Shallow Concentrated Flow, Parking Lot** Paved Kv= 20.3 fps
5.3	70	Total			

Subcatchment 3: DA #3



Summary for Subcatchment 4: DA #4

[49] Hint: Tc<2dt may require smaller dt

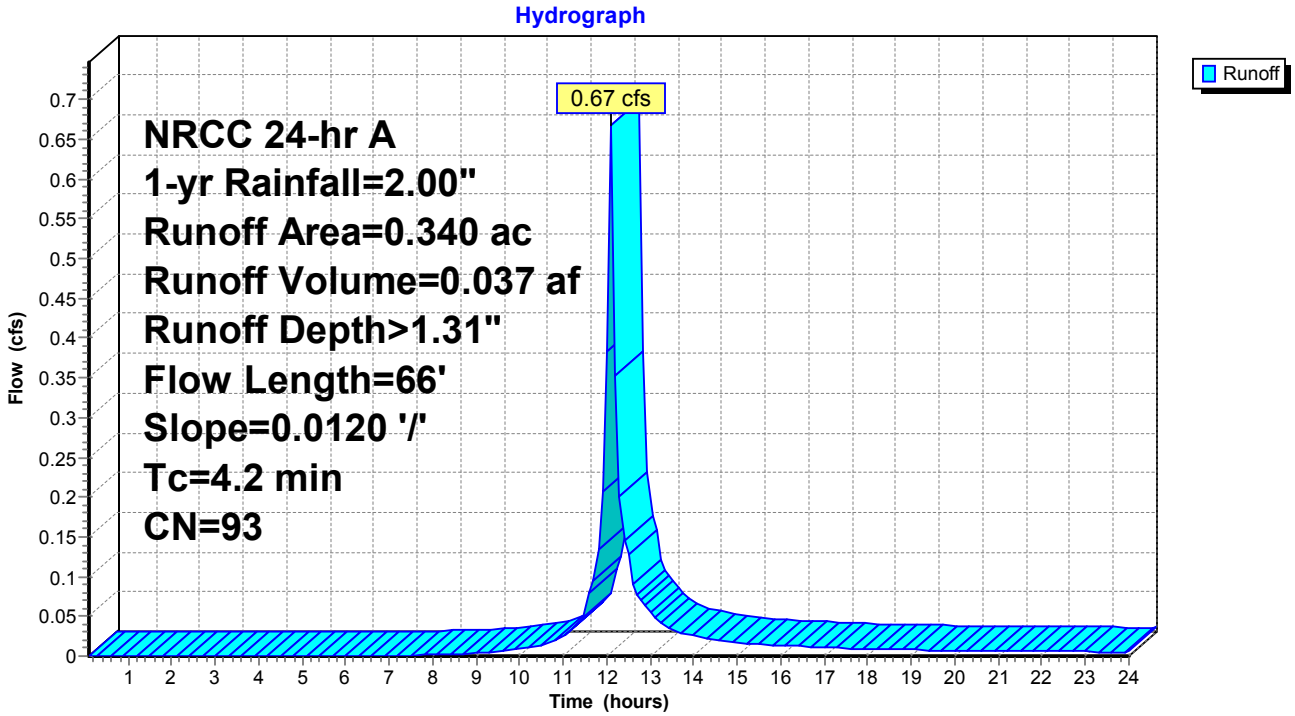
Runoff = 0.67 cfs @ 12.10 hrs, Volume= 0.037 af, Depth> 1.31"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.10-24.00 hrs, dt= 0.10 hrs
NRCC 24-hr A 1-yr Rainfall=2.00"

Area (ac)	CN	Description
0.050	71	Meadow, non-grazed, HSG C
0.230	96	Gravel surface, HSG C
0.060	98	Paved parking and Buildings, HSG C
0.340	93	Weighted Average
0.280		82.35% Pervious Area
0.060		17.65% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.2	66	0.0120	0.26		**Sheet Flow, Gravel** n= 0.050 P2= 2.33"

Subcatchment 4: DA #4



Summary for Subcatchment PG: MOB & GARAGE

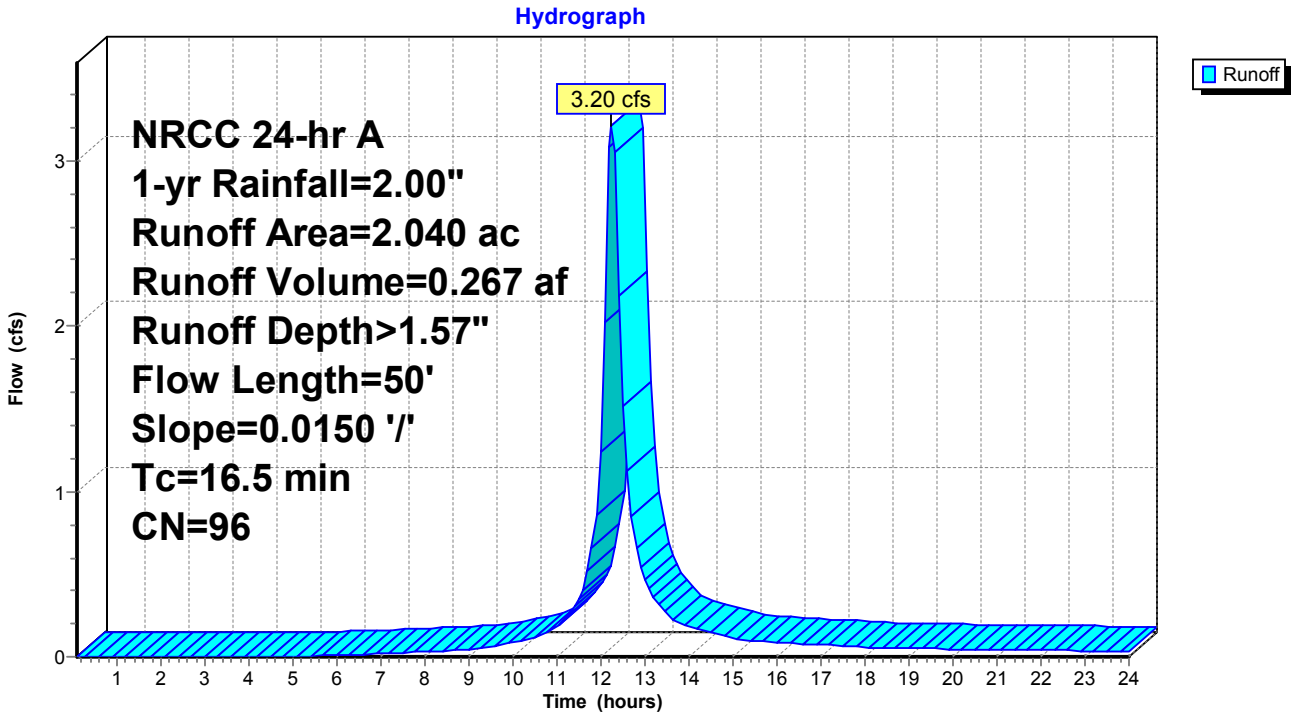
Runoff = 3.20 cfs @ 12.25 hrs, Volume= 0.267 af, Depth> 1.57"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.10-24.00 hrs, dt= 0.10 hrs
NRCC 24-hr A 1-yr Rainfall=2.00"

Area (ac)	CN	Description
0.140	71	Meadow, non-grazed, HSG C
1.900	98	Paved parking, HSG C
2.040	96	Weighted Average
0.140		6.86% Pervious Area
1.900		93.14% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.5	50	0.0150	0.05		**Sheet Flow, Lawn Area** Grass: Bermuda n= 0.410 P2= 2.33"

Subcatchment PG: MOB & GARAGE



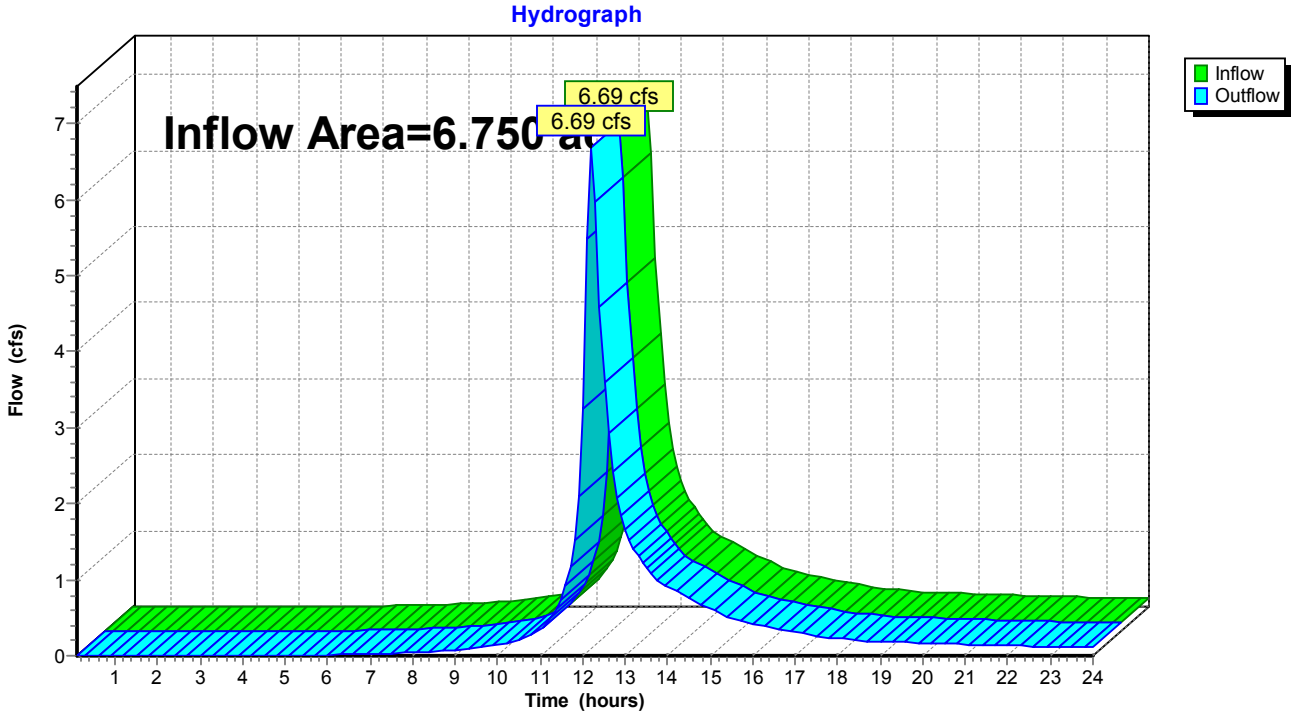
Summary for Reach DP - P: Design Point - Pratt St

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 6.750 ac, 79.56% Impervious, Inflow Depth > 1.36" for 1-yr event
Inflow = 6.69 cfs @ 12.21 hrs, Volume= 0.768 af
Outflow = 6.69 cfs @ 12.21 hrs, Volume= 0.768 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.10-24.00 hrs, dt= 0.10 hrs

Reach DP - P: Design Point - Pratt St



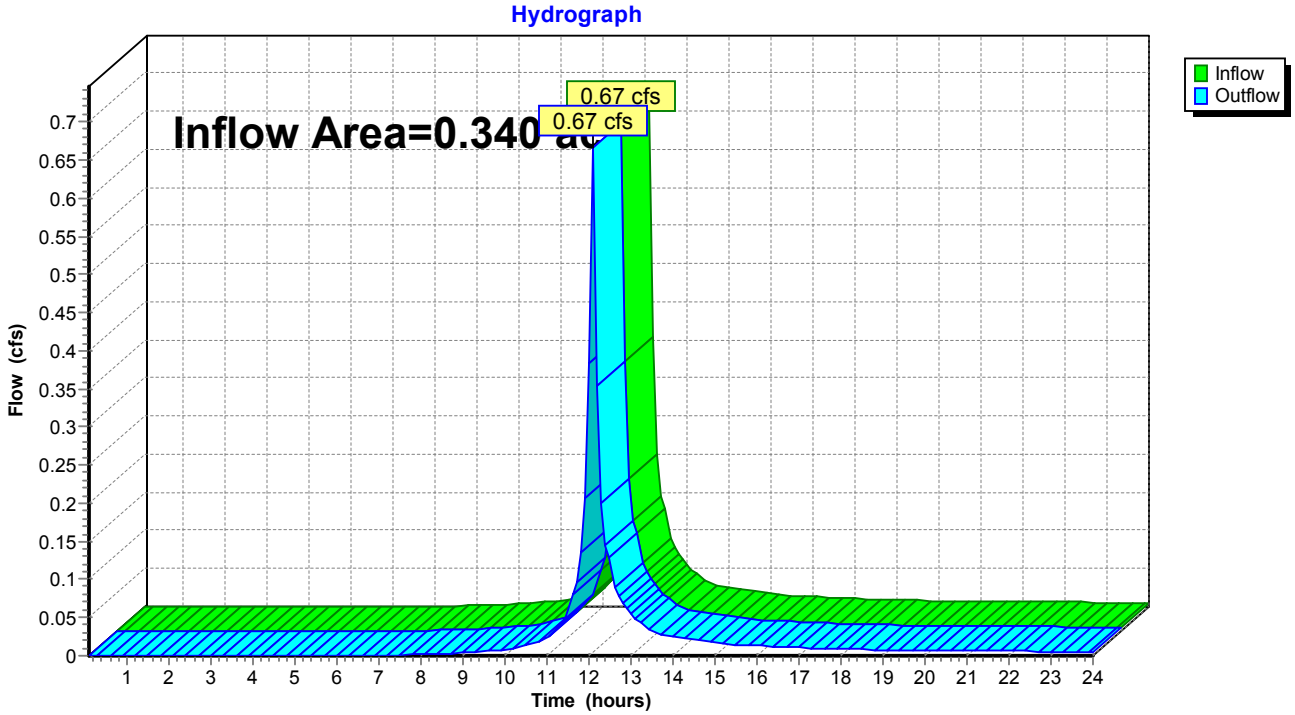
Summary for Reach DP - W: Design Point - Woodruff St

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 0.340 ac, 17.65% Impervious, Inflow Depth > 1.31" for 1-yr event
Inflow = 0.67 cfs @ 12.10 hrs, Volume= 0.037 af
Outflow = 0.67 cfs @ 12.10 hrs, Volume= 0.037 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.10-24.00 hrs, dt= 0.10 hrs

Reach DP - W: Design Point - Woodruff St



Summary for Pond DBW: USWDB WEST

Inflow Area = 1.860 ac, 91.94% Impervious, Inflow Depth > 1.54" for 1-yr event
Inflow = 3.04 cfs @ 12.21 hrs, Volume= 0.239 af
Outflow = 0.65 cfs @ 12.72 hrs, Volume= 0.215 af, Atten= 79%, Lag= 30.6 min
Primary = 0.65 cfs @ 12.72 hrs, Volume= 0.215 af

Routing by Stor-Ind method, Time Span= 0.10-24.00 hrs, dt= 0.10 hrs
Peak Elev= 481.44' @ 12.72 hrs Surf.Area= 8,205 sf Storage= 5,240 cf

Plug-Flow detention time= 149.8 min calculated for 0.215 af (90% of inflow)
Center-of-Mass det. time= 104.3 min (894.8 - 790.6)

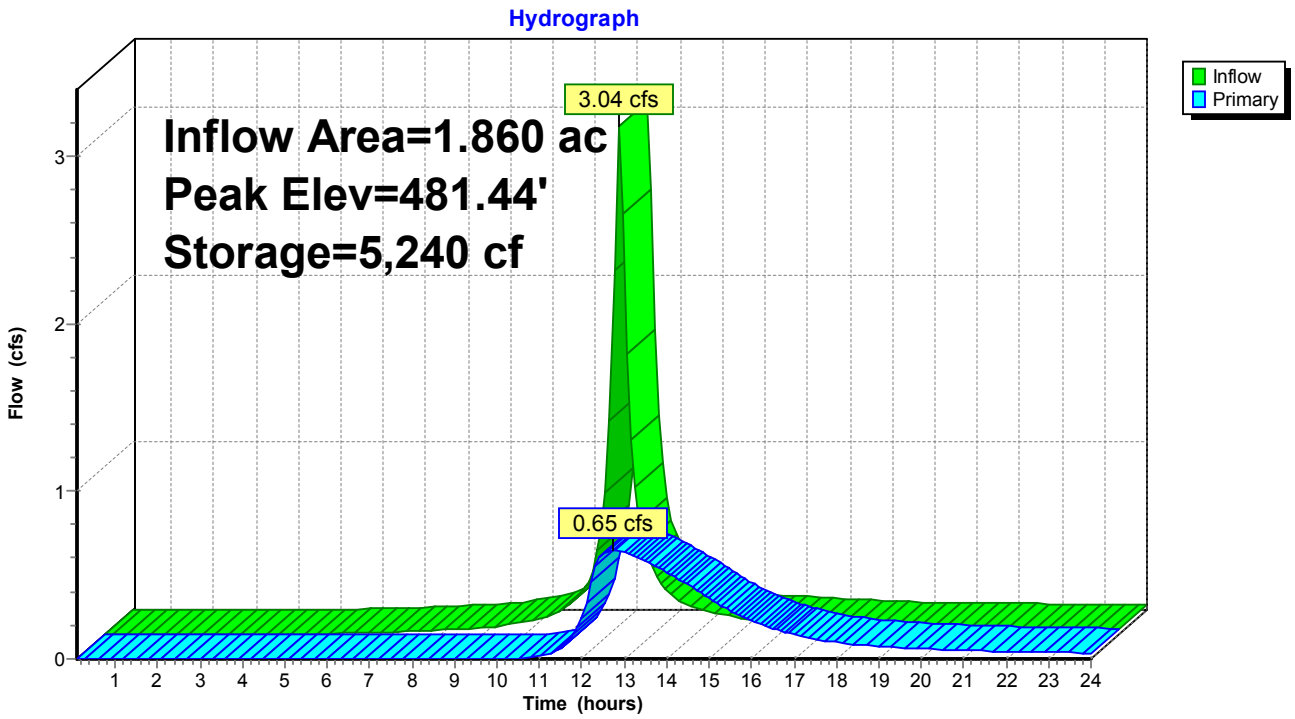
Volume	Invert	Avail.Storage	Storage Description
#1	480.60'	6,126 cf	**24.0" Round Pipe Storage** x 15 L= 130.0'
#2	479.62'	1,357 cf	**Custom Stage Data (Prismatic)** Listed below
#3	480.60'	377 cf	**24.0" Round Pipe Storage** x 2 L= 60.0'
		7,861 cf	x 2.00 = 15,721 cf Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
479.62	0	0	0
479.63	16	0	0
484.39	16	76	76
484.40	20	0	76
485.00	4,250	1,281	1,357

Device	Routing	Invert	Outlet Devices
#1	Primary	480.77'	**18.0" Round Culvert** L= 38.4' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 480.65' / 480.77' S= -0.0031 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 1.77 sf
#2	Device 1	480.72'	**6.0" Vert. Orifice/Grate** C= 0.600
#3	Device 1	483.63'	**0.5' long Sharp-Crested Rectangular Weir** 2 End Contraction(s) 0.5' Crest Height

Primary OutFlow Max=0.65 cfs @ 12.72 hrs HW=481.44' (Free Discharge)
└─**1=Culvert** (Passes 0.65 cfs of 1.49 cfs potential flow)
  ├─**2=Orifice/Grate** (Orifice Controls 0.65 cfs @ 3.30 fps)
  └─**3=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond DBW: USWDB WEST



Summary for Pond MRI: USWDB MRI

Inflow Area = 0.190 ac,100.00% Impervious, Inflow Depth > 1.77" for 1-yr event
Inflow = 0.38 cfs @ 12.17 hrs, Volume= 0.028 af
Outflow = 0.21 cfs @ 12.33 hrs, Volume= 0.028 af, Atten= 45%, Lag= 9.3 min
Primary = 0.21 cfs @ 12.33 hrs, Volume= 0.028 af

Routing by Stor-Ind method, Time Span= 0.10-24.00 hrs, dt= 0.10 hrs / 2
Peak Elev= 482.32' @ 12.33 hrs Surf.Area= 0.023 ac Storage= 0.005 af

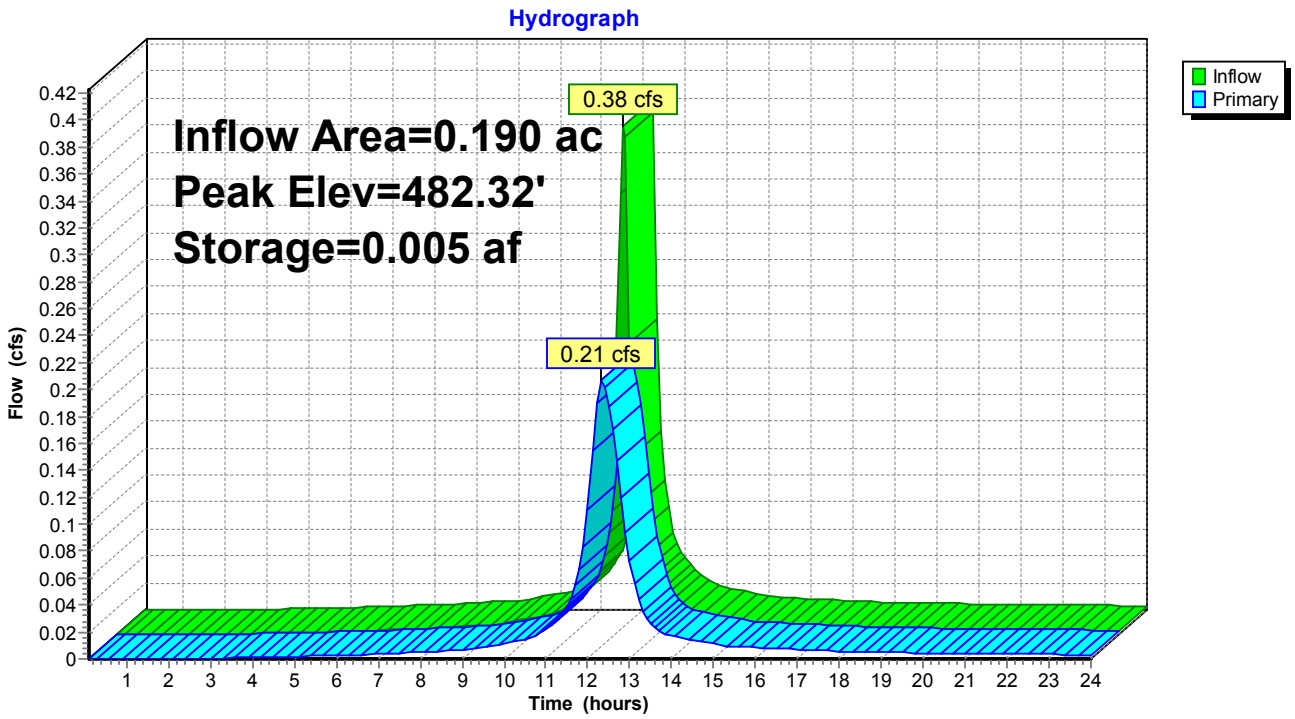
Plug-Flow detention time= 8.6 min calculated for 0.028 af (100% of inflow)
Center-of-Mass det. time= 8.3 min (776.1 - 767.7)

Volume	Invert	Avail.Storage	Storage Description
#1	481.91'	0.053 af	**24.0" Round Pipe Storage** x 6 L= 122.0' S= 0.0020 '/'

Device	Routing	Invert	Outlet Devices
#1	Primary	481.91'	**15.0" Round Culvert** L= 12.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 481.91' / 481.27' S= 0.0533 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf
#2	Device 1	481.91'	**4.0" Vert. Orifice/Grate** C= 0.600
#3	Device 1	483.91'	**0.5' long Sharp-Crested Rectangular Weir** 2 End Contraction(s) 0.5' Crest Height

Primary OutFlow Max=0.20 cfs @ 12.33 hrs HW=482.31' (Free Discharge)
└─**1=Culvert** (Passes 0.20 cfs of 0.74 cfs potential flow)
  ├─**2=Orifice/Grate** (Orifice Controls 0.20 cfs @ 2.34 fps)
  └─**3=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond MRI: USWDB MRI



Time span=0.10-24.00 hrs, dt=0.10 hrs, 240 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1PL: DA #1 P LOT Runoff Area=1.480 ac 89.86% Impervious Runoff Depth>2.77"
Flow Length=442' Tc=15.0 min CN=95 Runoff=4.21 cfs 0.341 af

Subcatchment 1R: DA #1 RESIDENTIAL Runoff Area=0.710 ac 25.35% Impervious Runoff Depth>1.71"
Flow Length=65' Tc=26.1 min CN=83 Runoff=1.03 cfs 0.101 af

Subcatchment 2MRI: DA #2 P LOT MRI Runoff Area=0.190 ac 100.00% Impervious Runoff Depth>3.09"
Flow Length=30' Tc=9.5 min CN=98 Runoff=0.64 cfs 0.049 af

Subcatchment 2PLE: DA #2 P LOT East Runoff Area=0.620 ac 80.65% Impervious Runoff Depth>2.57"
Flow Length=106' Tc=11.7 min CN=93 Runoff=1.83 cfs 0.133 af

Subcatchment 2PLW: DA #2 P LOT West Runoff Area=0.380 ac 100.00% Impervious Runoff Depth>3.09"
Flow Length=50' Tc=9.5 min CN=98 Runoff=1.28 cfs 0.098 af

Subcatchment 2R: DA #2 RESIDENTIAL Runoff Area=0.430 ac 32.56% Impervious Runoff Depth>2.47"
Flow Length=73' Tc=14.0 min CN=92 Runoff=1.16 cfs 0.088 af

Subcatchment 3: DA #3 Runoff Area=0.900 ac 83.33% Impervious Runoff Depth>2.67"
Flow Length=70' Slope=0.0100 '/' Tc=5.3 min CN=94 Runoff=3.24 cfs 0.200 af

Subcatchment 4: DA #4 Runoff Area=0.340 ac 17.65% Impervious Runoff Depth>2.57"
Flow Length=66' Slope=0.0120 '/' Tc=4.2 min CN=93 Runoff=1.26 cfs 0.073 af

Subcatchment PG: MOB & GARAGE Runoff Area=2.040 ac 93.14% Impervious Runoff Depth>2.87"
Flow Length=50' Slope=0.0150 '/' Tc=16.5 min CN=96 Runoff=5.67 cfs 0.488 af

Reach DP - P: Design Point - Pratt St Inflow=12.19 cfs 1.472 af
Outflow=12.19 cfs 1.472 af

Reach DP - W: Design Point - Woodruff St Inflow=1.26 cfs 0.073 af
Outflow=1.26 cfs 0.073 af

Pond DBW: USWDB WEST Peak Elev=481.98' Storage=9,637 cf Inflow=5.42 cfs 0.439 af
Outflow=0.95 cfs 0.412 af

Pond MRI: USWDB MRI Peak Elev=482.52' Storage=0.010 af Inflow=0.64 cfs 0.049 af
Outflow=0.28 cfs 0.049 af

Total Runoff Area = 7.090 ac Runoff Volume = 1.572 af Average Runoff Depth = 2.66"
23.41% Pervious = 1.660 ac 76.59% Impervious = 5.430 ac

Summary for Subcatchment 1PL: DA #1 P LOT

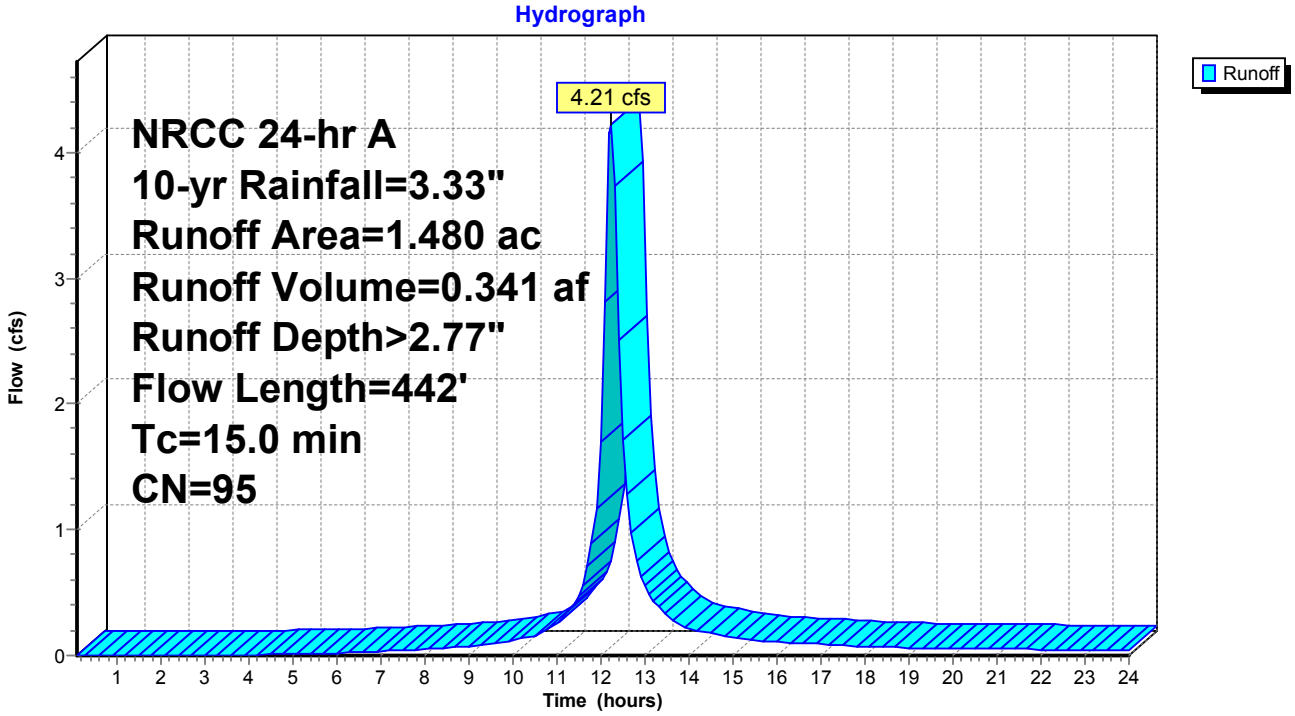
Runoff = 4.21 cfs @ 12.23 hrs, Volume= 0.341 af, Depth> 2.77"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.10-24.00 hrs, dt= 0.10 hrs
NRCC 24-hr A 10-yr Rainfall=3.33"

	Area (ac)	CN	Description
	0.150	71	Meadow, non-grazed, HSG C
*	1.330	98	Paved parking and Buildings, HSG C
	1.480	95	Weighted Average
	0.150		10.14% Pervious Area
	1.330		89.86% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.9	27	0.0100	0.04		**Sheet Flow, Lawn** Grass: Bermuda n= 0.410 P2= 2.33"
1.5	73	0.0100	0.84		**Sheet Flow, Parking Area** Smooth surfaces n= 0.011 P2= 2.33"
0.3	32	0.0100	2.03		**Shallow Concentrated Flow, Parking Lot** Paved Kv= 20.3 fps
1.3	310	0.0025	3.86	6.83	**Pipe Channel, Storm Sewer** 18.0" Round Area= 1.8 sf Perim= 4.7' r= 0.38' n= 0.010 PVC, smooth interior
15.0	442	Total			

Subcatchment 1PL: DA #1 P LOT



Summary for Subcatchment 1R: DA #1 RESIDENTIAL

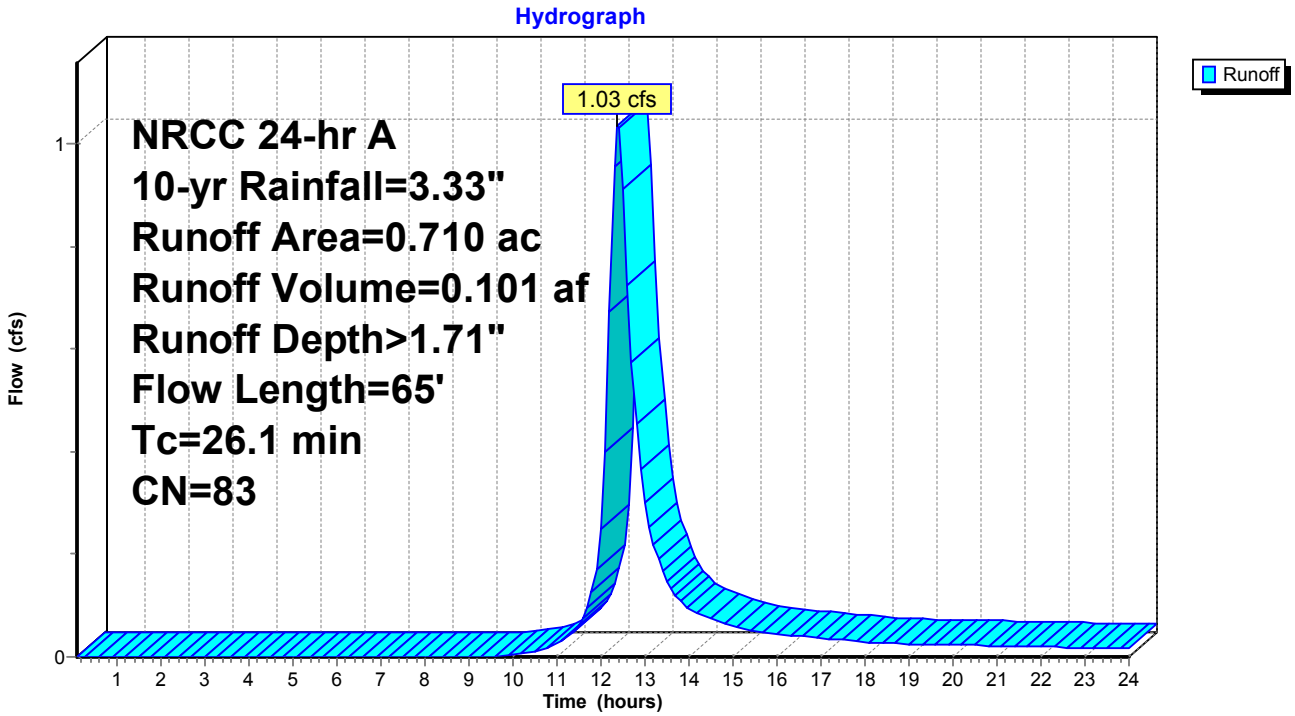
Runoff = 1.03 cfs @ 12.39 hrs, Volume= 0.101 af, Depth> 1.71"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.10-24.00 hrs, dt= 0.10 hrs
NRCC 24-hr A 10-yr Rainfall=3.33"

Area (ac)	CN	Description
0.390	71	Meadow, non-grazed, HSG C
0.140	96	Gravel surface, HSG C
0.180	98	Paved parking, HSG C
0.710	83	Weighted Average
0.530		74.65% Pervious Area
0.180		25.35% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
25.7	50	0.0050	0.03		**Sheet Flow, Lawn** Grass: Bermuda n= 0.410 P2= 2.33"
0.4	15	0.0100	0.61		**Sheet Flow, Paved Surfaces** Smooth surfaces n= 0.011 P2= 2.33"
26.1	65	Total			

Subcatchment 1R: DA #1 RESIDENTIAL



Summary for Subcatchment 2MRI: DA #2 P LOT MRI

[49] Hint: Tc<2dt may require smaller dt

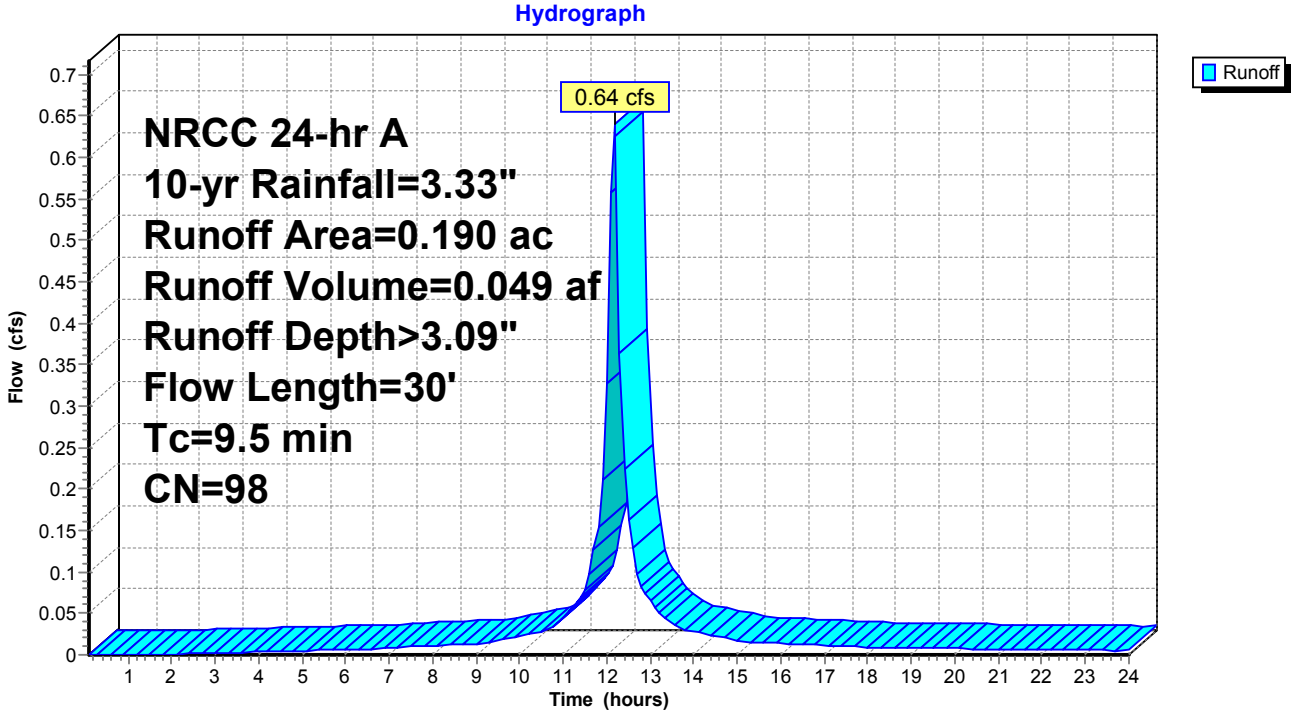
Runoff = 0.64 cfs @ 12.17 hrs, Volume= 0.049 af, Depth> 3.09"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.10-24.00 hrs, dt= 0.10 hrs
NRCC 24-hr A 10-yr Rainfall=3.33"

Area (ac)	CN	Description
0.190	98	Paved parking and Buildings, HSG C
0.190		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.3	20	0.0100	0.04		**Sheet Flow, Lawn** Grass: Bermuda n= 0.410 P2= 2.33"
0.2	10	0.0210	0.76		**Sheet Flow, Asphalt** Smooth surfaces n= 0.011 P2= 2.33"
9.5	30	Total			

Subcatchment 2MRI: DA #2 P LOT MRI



Summary for Subcatchment 2PLE: DA #2 P LOT East

[49] Hint: Tc<2dt may require smaller dt

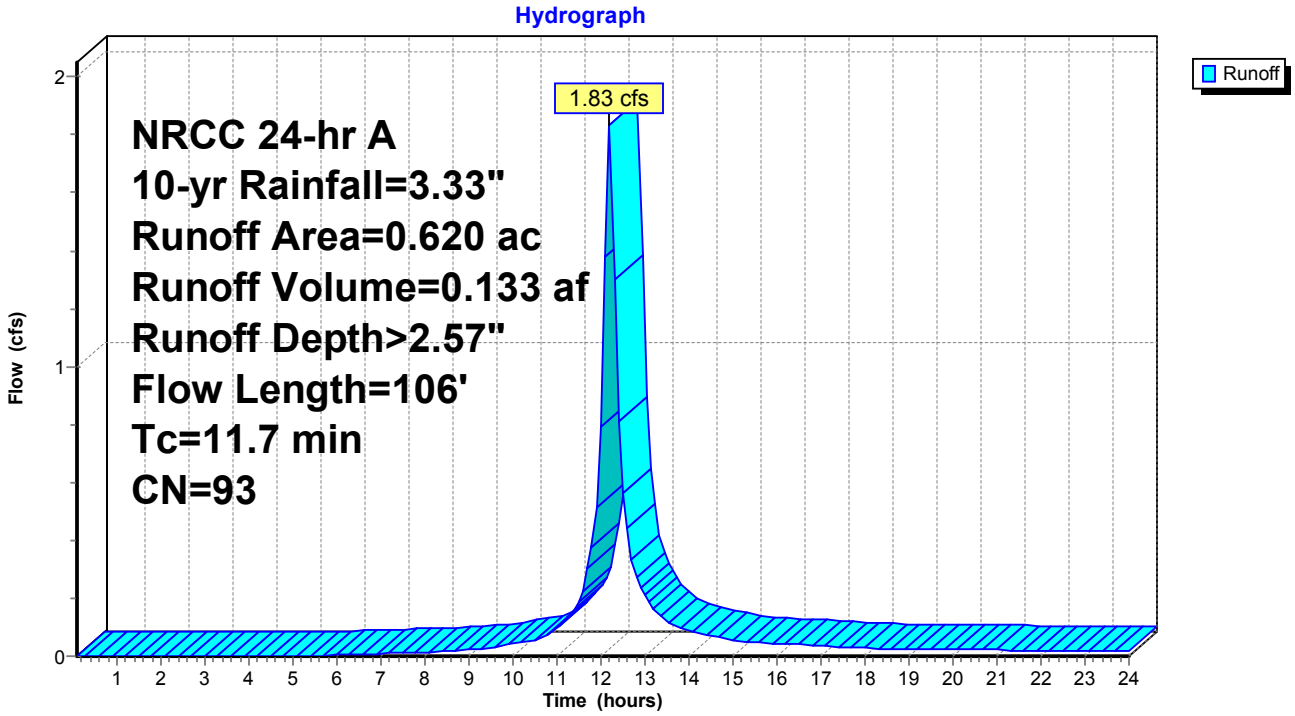
Runoff = 1.83 cfs @ 12.20 hrs, Volume= 0.133 af, Depth> 2.57"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.10-24.00 hrs, dt= 0.10 hrs
NRCC 24-hr A 10-yr Rainfall=3.33"

Area (ac)	CN	Description
0.120	71	Meadow, non-grazed, HSG C
0.500	98	Paved parking and Buildings, HSG C
0.620	93	Weighted Average
0.120		19.35% Pervious Area
0.500		80.65% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.5	23	0.0100	0.04		**Sheet Flow, Lawn** Grass: Bermuda n= 0.410 P2= 2.33"
1.2	83	0.0210	1.15		**Sheet Flow, Asphalt** Smooth surfaces n= 0.011 P2= 2.33"
11.7	106	Total			

Subcatchment 2PLE: DA #2 P LOT East



Summary for Subcatchment 2PLW: DA #2 P LOT West

[49] Hint: Tc<2dt may require smaller dt

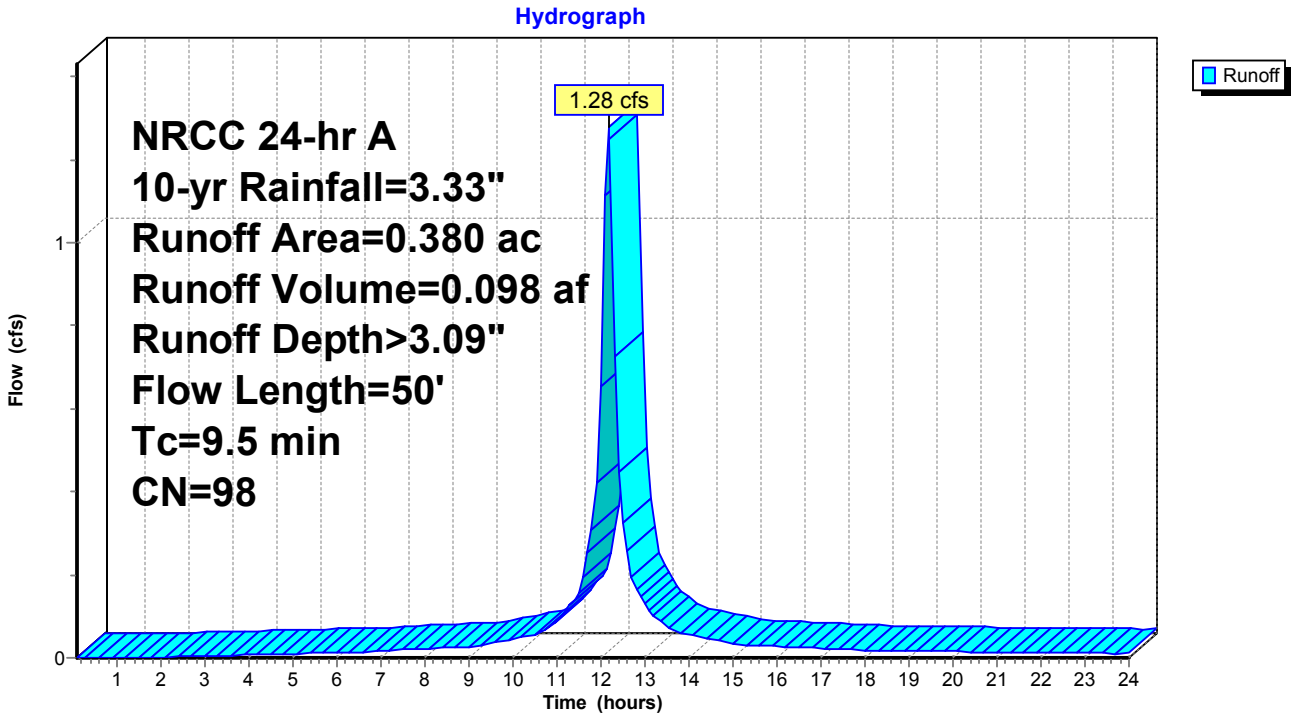
Runoff = 1.28 cfs @ 12.17 hrs, Volume= 0.098 af, Depth> 3.09"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.10-24.00 hrs, dt= 0.10 hrs
NRCC 24-hr A 10-yr Rainfall=3.33"

Area (ac)	CN	Description
0.380	98	Paved parking and Buildings, HSG C
0.380		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.3	20	0.0100	0.04		**Sheet Flow, Lawn** Grass: Bermuda n= 0.410 P2= 2.33"
0.2	30	0.0200	2.87		**Shallow Concentrated Flow, Asphalt** Paved Kv= 20.3 fps
9.5	50	Total			

Subcatchment 2PLW: DA #2 P LOT West



Summary for Subcatchment 2R: DA #2 RESIDENTIAL

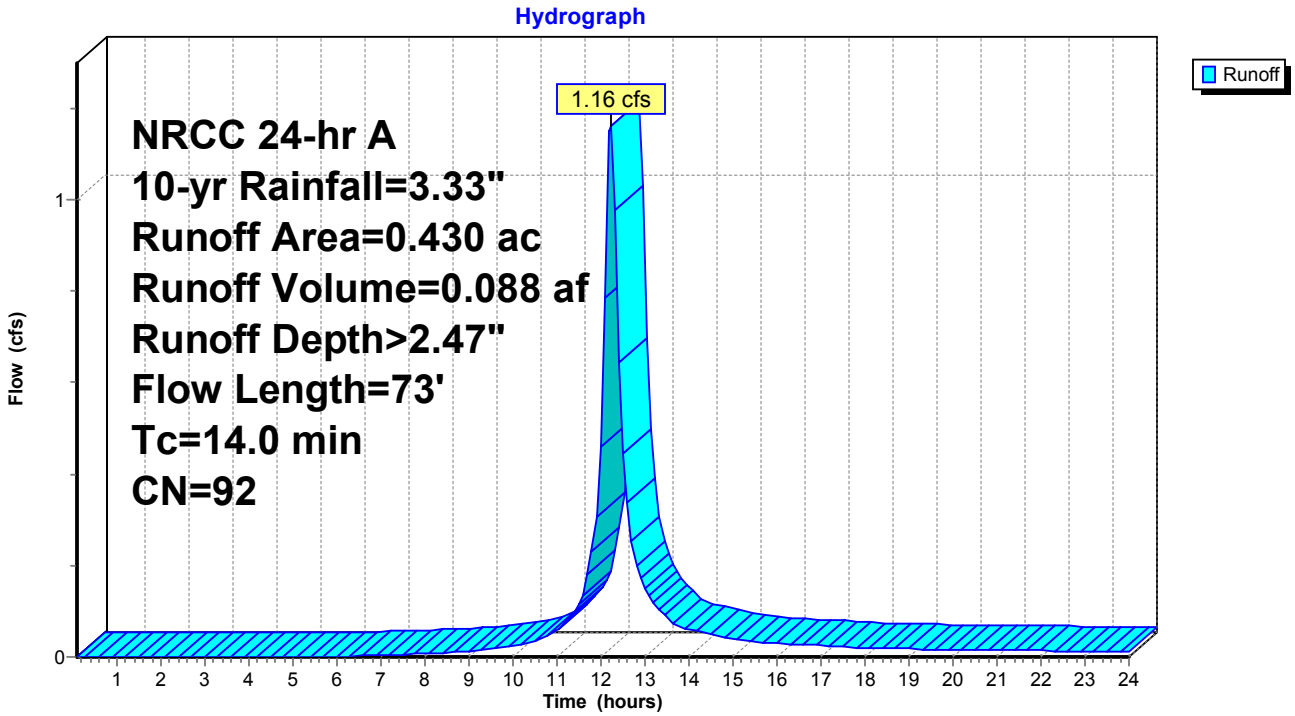
Runoff = 1.16 cfs @ 12.22 hrs, Volume= 0.088 af, Depth> 2.47"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.10-24.00 hrs, dt= 0.10 hrs
NRCC 24-hr A 10-yr Rainfall=3.33"

Area (ac)	CN	Description
0.080	71	Meadow, non-grazed, HSG C
0.210	96	Gravel surface, HSG C
0.140	98	Paved parking and Buildings, HSG C
0.430	92	Weighted Average
0.290		67.44% Pervious Area
0.140		32.56% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.3	20	0.0050	0.03		**Sheet Flow, Lawn Area** Grass: Bermuda n= 0.410 P2= 2.33"
1.7	53	0.0750	0.52		**Sheet Flow, Gravel Parking Area** n= 0.050 P2= 2.33"
14.0	73	Total			

Subcatchment 2R: DA #2 RESIDENTIAL



Summary for Subcatchment 3: DA #3

[49] Hint: Tc<2dt may require smaller dt

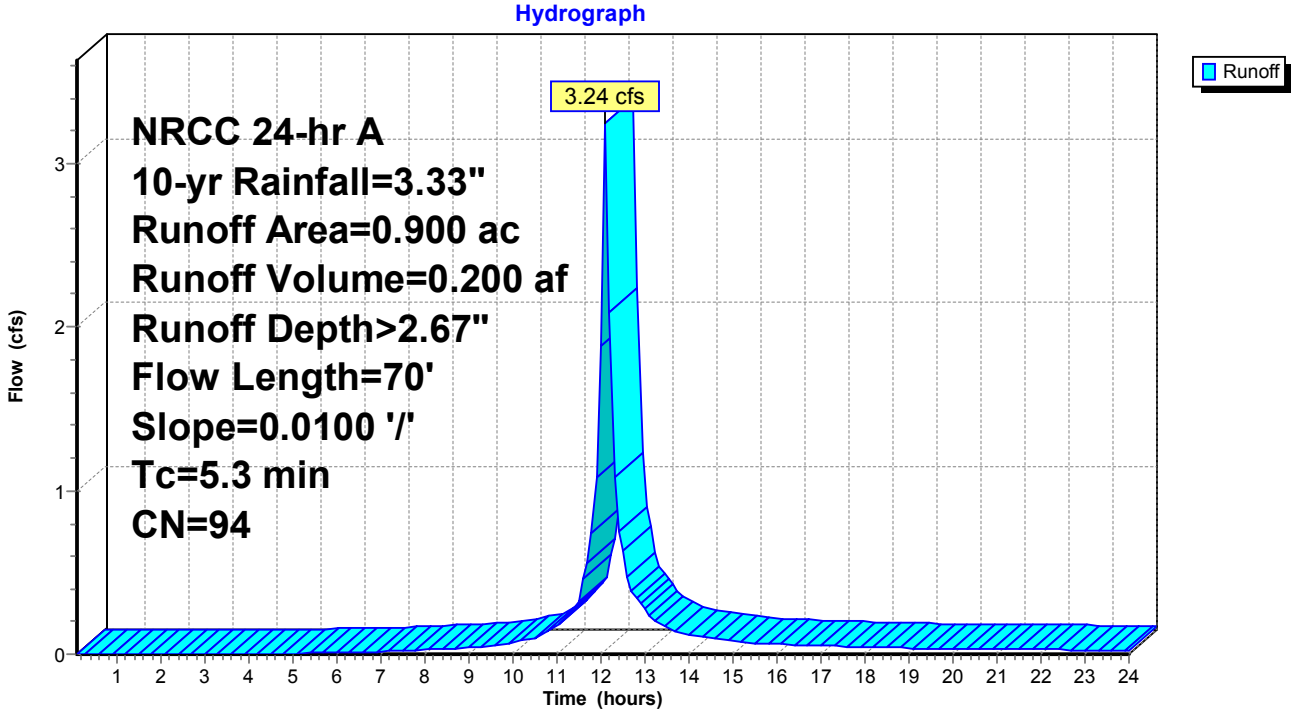
Runoff = 3.24 cfs @ 12.10 hrs, Volume= 0.200 af, Depth> 2.67"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.10-24.00 hrs, dt= 0.10 hrs
NRCC 24-hr A 10-yr Rainfall=3.33"

Area (ac)	CN	Description
0.150	71	Meadow, non-grazed, HSG C
0.750	98	Paved parking and Buildings, HSG C
0.900	94	Weighted Average
0.150		16.67% Pervious Area
0.750		83.33% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.8	15	0.0100	0.05		**Sheet Flow, Lawn** Grass: Dense n= 0.240 P2= 2.33"
0.5	55	0.0100	2.03		**Shallow Concentrated Flow, Parking Lot** Paved Kv= 20.3 fps
5.3	70	Total			

Subcatchment 3: DA #3



Summary for Subcatchment 4: DA #4

[49] Hint: Tc<2dt may require smaller dt

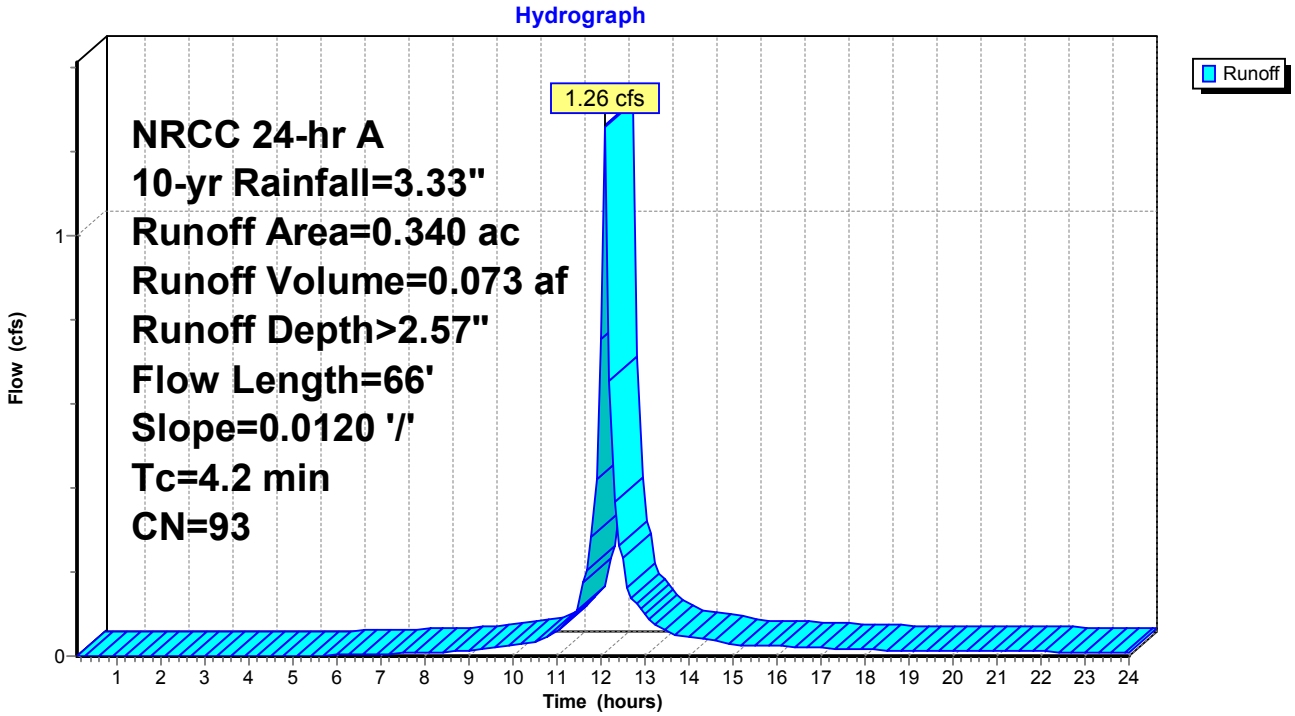
Runoff = 1.26 cfs @ 12.10 hrs, Volume= 0.073 af, Depth> 2.57"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.10-24.00 hrs, dt= 0.10 hrs
NRCC 24-hr A 10-yr Rainfall=3.33"

Area (ac)	CN	Description
0.050	71	Meadow, non-grazed, HSG C
0.230	96	Gravel surface, HSG C
0.060	98	Paved parking and Buildings, HSG C
0.340	93	Weighted Average
0.280		82.35% Pervious Area
0.060		17.65% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.2	66	0.0120	0.26		**Sheet Flow, Gravel** n= 0.050 P2= 2.33"

Subcatchment 4: DA #4



Summary for Subcatchment PG: MOB & GARAGE

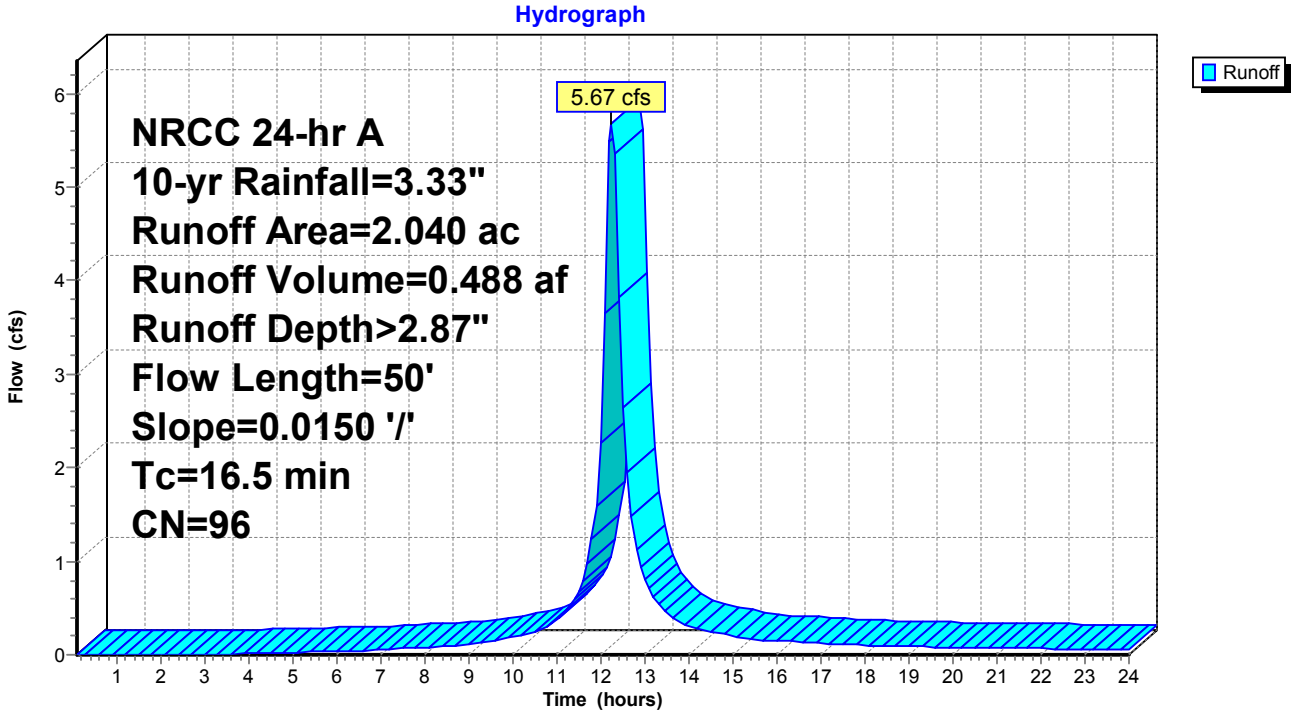
Runoff = 5.67 cfs @ 12.24 hrs, Volume= 0.488 af, Depth> 2.87"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.10-24.00 hrs, dt= 0.10 hrs
NRCC 24-hr A 10-yr Rainfall=3.33"

Area (ac)	CN	Description
0.140	71	Meadow, non-grazed, HSG C
1.900	98	Paved parking, HSG C
2.040	96	Weighted Average
0.140		6.86% Pervious Area
1.900		93.14% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.5	50	0.0150	0.05		**Sheet Flow, Lawn Area** Grass: Bermuda n= 0.410 P2= 2.33"

Subcatchment PG: MOB & GARAGE



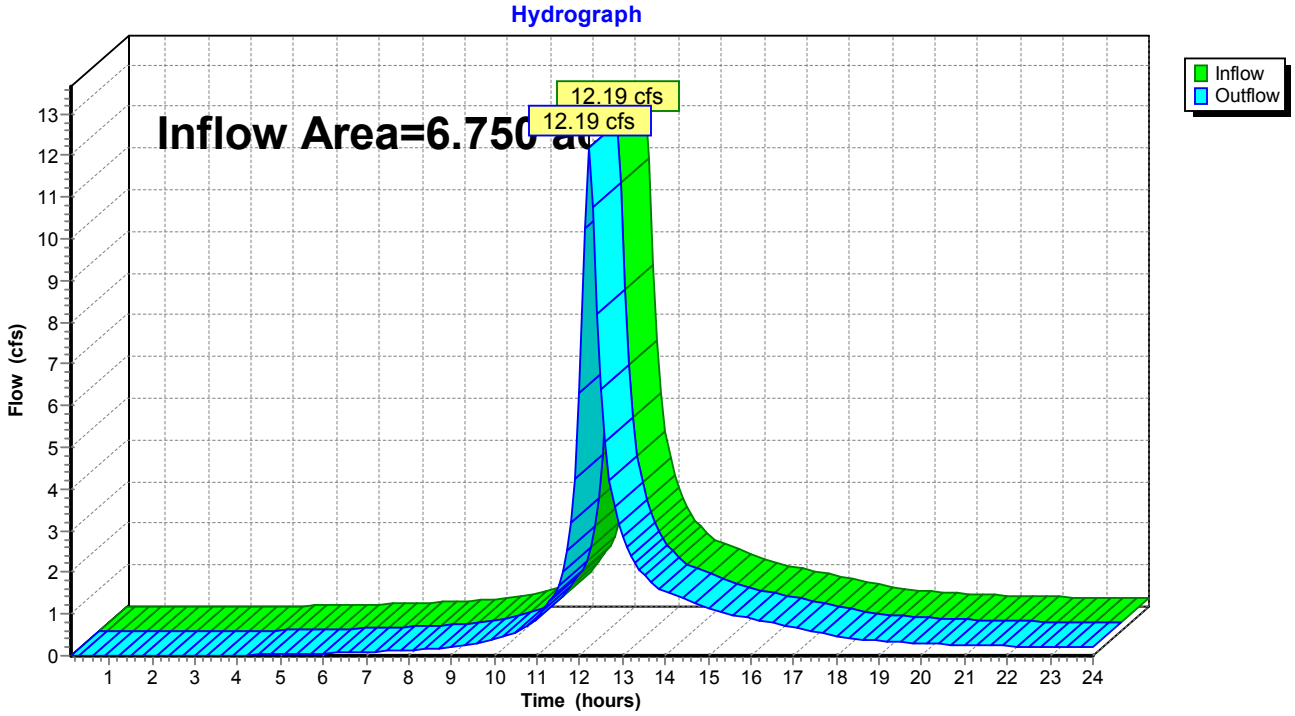
Summary for Reach DP - P: Design Point - Pratt St

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 6.750 ac, 79.56% Impervious, Inflow Depth > 2.62" for 10-yr event
Inflow = 12.19 cfs @ 12.21 hrs, Volume= 1.472 af
Outflow = 12.19 cfs @ 12.21 hrs, Volume= 1.472 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.10-24.00 hrs, dt= 0.10 hrs

Reach DP - P: Design Point - Pratt St



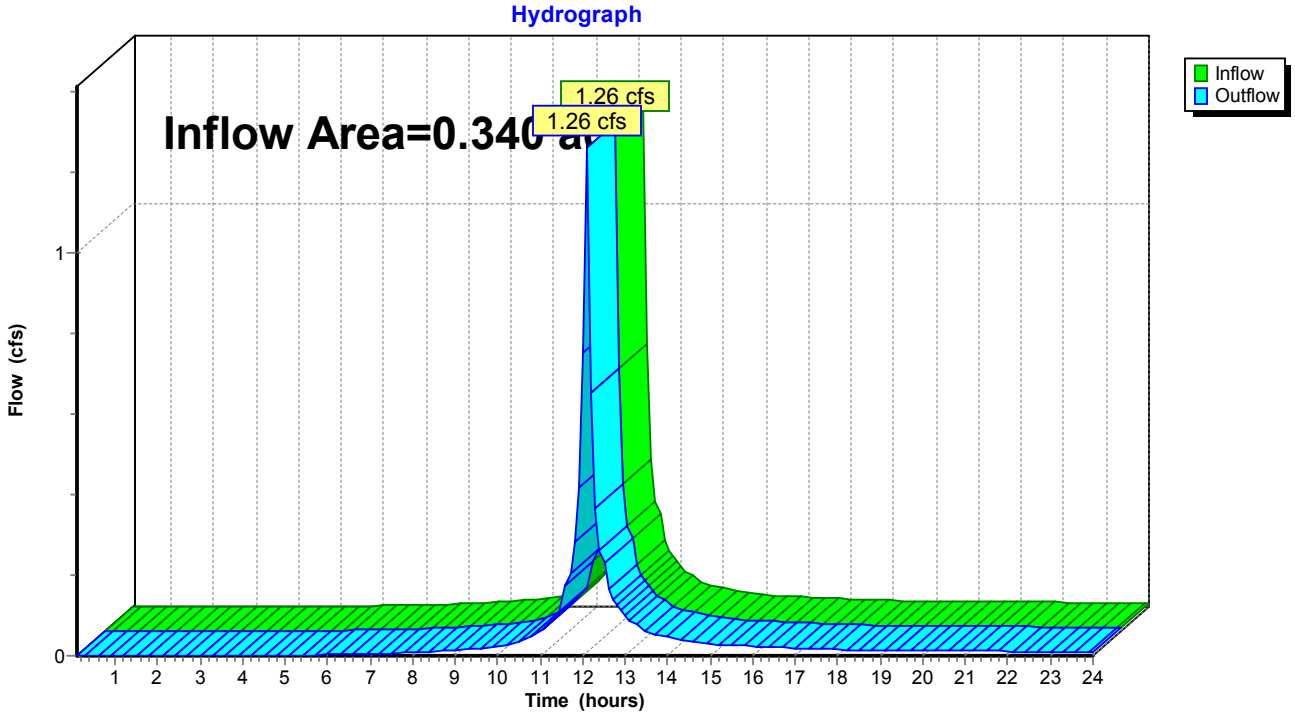
Summary for Reach DP - W: Design Point - Woodruff St

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 0.340 ac, 17.65% Impervious, Inflow Depth > 2.57" for 10-yr event
Inflow = 1.26 cfs @ 12.10 hrs, Volume= 0.073 af
Outflow = 1.26 cfs @ 12.10 hrs, Volume= 0.073 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.10-24.00 hrs, dt= 0.10 hrs

Reach DP - W: Design Point - Woodruff St



Summary for Pond DBW: USWDB WEST

Inflow Area = 1.860 ac, 91.94% Impervious, Inflow Depth > 2.83" for 10-yr event
Inflow = 5.42 cfs @ 12.21 hrs, Volume= 0.439 af
Outflow = 0.95 cfs @ 12.80 hrs, Volume= 0.412 af, Atten= 82%, Lag= 35.2 min
Primary = 0.95 cfs @ 12.80 hrs, Volume= 0.412 af

Routing by Stor-Ind method, Time Span= 0.10-24.00 hrs, dt= 0.10 hrs
Peak Elev= 481.98' @ 12.80 hrs Surf.Area= 7,695 sf Storage= 9,637 cf

Plug-Flow detention time= 153.1 min calculated for 0.410 af (93% of inflow)
Center-of-Mass det. time= 121.6 min (898.9 - 777.3)

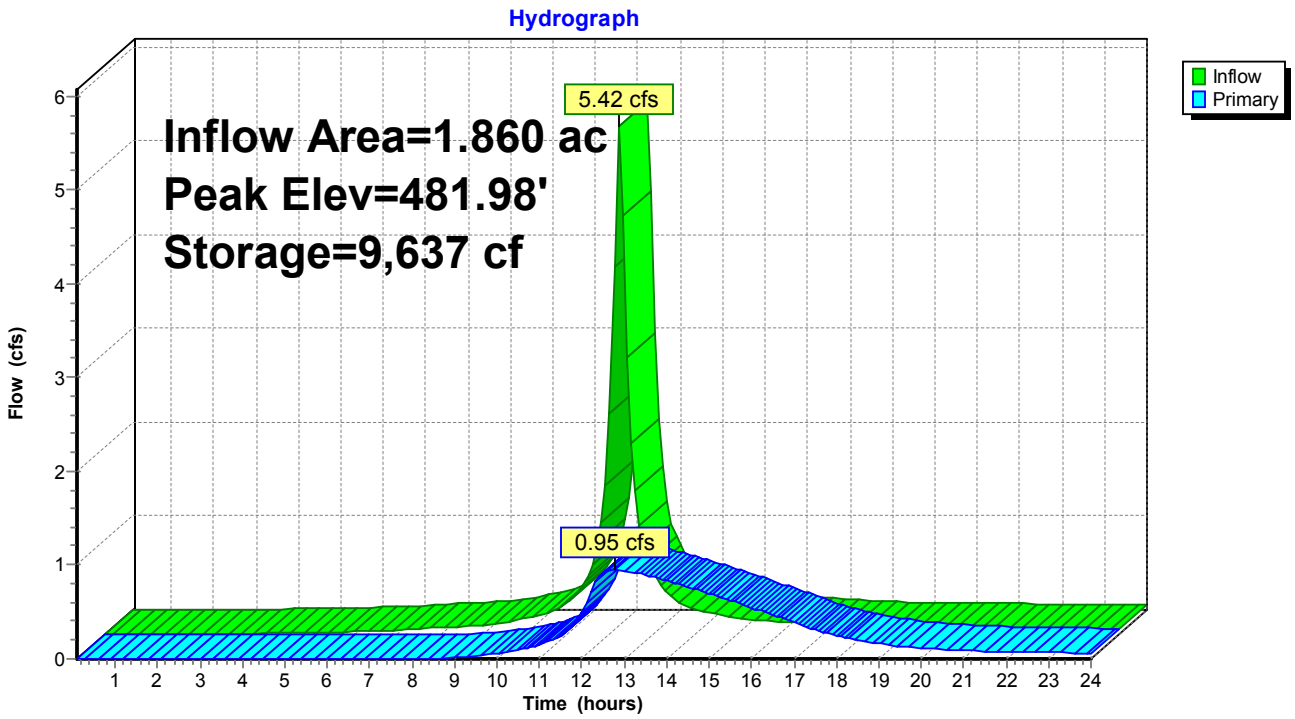
Volume	Invert	Avail.Storage	Storage Description
#1	480.60'	6,126 cf	**24.0" Round Pipe Storage** x 15 L= 130.0'
#2	479.62'	1,357 cf	**Custom Stage Data (Prismatic)** Listed below
#3	480.60'	377 cf	**24.0" Round Pipe Storage** x 2 L= 60.0'
		7,861 cf	x 2.00 = 15,721 cf Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
479.62	0	0	0
479.63	16	0	0
484.39	16	76	76
484.40	20	0	76
485.00	4,250	1,281	1,357

Device	Routing	Invert	Outlet Devices
#1	Primary	480.77'	**18.0" Round Culvert** L= 38.4' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 480.65' / 480.77' S= -0.0031 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 1.77 sf
#2	Device 1	480.72'	**6.0" Vert. Orifice/Grate** C= 0.600
#3	Device 1	483.63'	**0.5' long Sharp-Crested Rectangular Weir** 2 End Contraction(s) 0.5' Crest Height

Primary OutFlow Max=0.95 cfs @ 12.80 hrs HW=481.98' (Free Discharge)
└─**1=Culvert** (Passes 0.95 cfs of 3.85 cfs potential flow)
  ├─**2=Orifice/Grate** (Orifice Controls 0.95 cfs @ 4.84 fps)
  └─**3=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond DBW: USWDB WEST



Summary for Pond MRI: USWDB MRI

Inflow Area = 0.190 ac,100.00% Impervious, Inflow Depth > 3.09" for 10-yr event
Inflow = 0.64 cfs @ 12.17 hrs, Volume= 0.049 af
Outflow = 0.28 cfs @ 12.37 hrs, Volume= 0.049 af, Atten= 56%, Lag= 11.7 min
Primary = 0.28 cfs @ 12.37 hrs, Volume= 0.049 af

Routing by Stor-Ind method, Time Span= 0.10-24.00 hrs, dt= 0.10 hrs / 2
Peak Elev= 482.52' @ 12.37 hrs Surf.Area= 0.029 ac Storage= 0.010 af

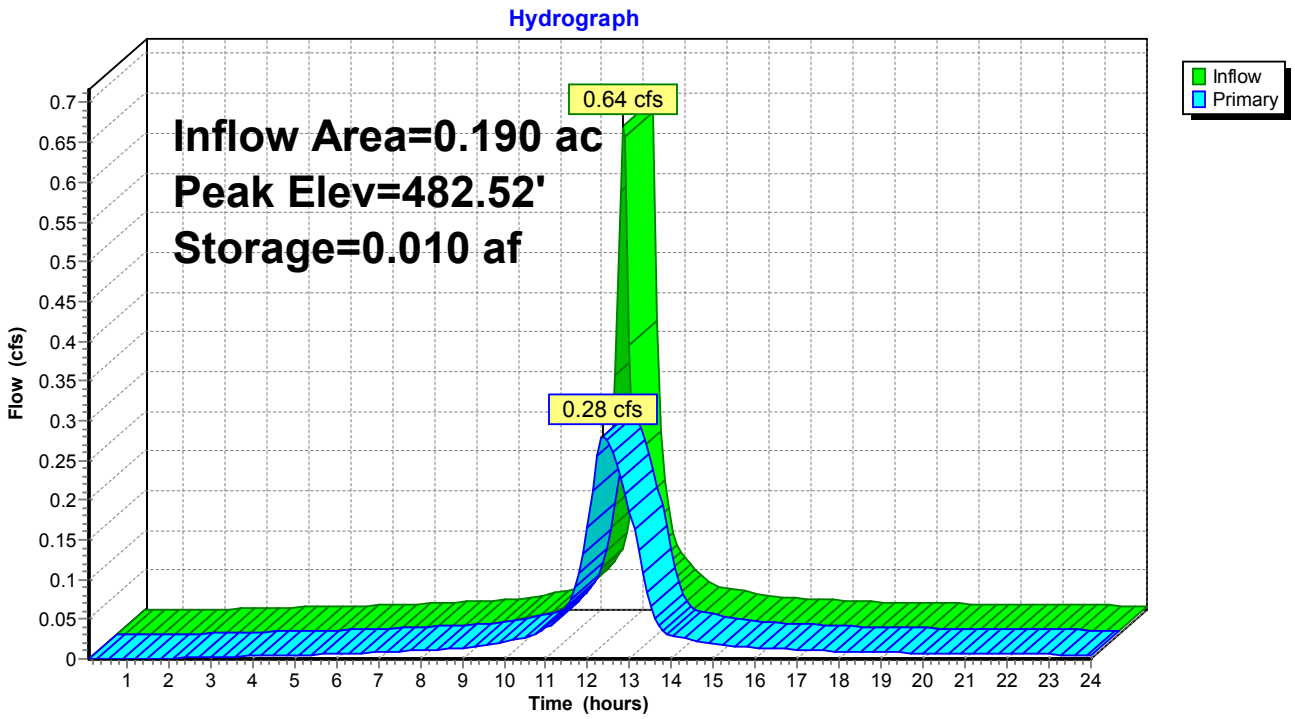
Plug-Flow detention time= 12.6 min calculated for 0.049 af (100% of inflow)
Center-of-Mass det. time= 12.2 min (769.2 - 757.0)

Volume	Invert	Avail.Storage	Storage Description
#1	481.91'	0.053 af	**24.0" Round Pipe Storage** x 6 L= 122.0' S= 0.0020 '/'

Device	Routing	Invert	Outlet Devices
#1	Primary	481.91'	**15.0" Round Culvert** L= 12.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 481.91' / 481.27' S= 0.0533 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf
#2	Device 1	481.91'	**4.0" Vert. Orifice/Grate** C= 0.600
#3	Device 1	483.91'	**0.5' long Sharp-Crested Rectangular Weir** 2 End Contraction(s) 0.5' Crest Height

Primary OutFlow Max=0.28 cfs @ 12.37 hrs HW=482.52' (Free Discharge)
└─**1=Culvert** (Passes 0.28 cfs of 1.56 cfs potential flow)
  ├─**2=Orifice/Grate** (Orifice Controls 0.28 cfs @ 3.19 fps)
  └─**3=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond MRI: USWDB MRI



Time span=0.10-24.00 hrs, dt=0.10 hrs, 240 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1PL: DA #1 P LOT Runoff Area=1.480 ac 89.86% Impervious Runoff Depth>4.95"
Flow Length=442' Tc=15.0 min CN=95 Runoff=7.29 cfs 0.610 af

Subcatchment 1R: DA #1 RESIDENTIAL Runoff Area=0.710 ac 25.35% Impervious Runoff Depth>3.65"
Flow Length=65' Tc=26.1 min CN=83 Runoff=2.19 cfs 0.216 af

Subcatchment 2MRI: DA #2 P LOT MRI Runoff Area=0.190 ac 100.00% Impervious Runoff Depth>5.30"
Flow Length=30' Tc=9.5 min CN=98 Runoff=1.07 cfs 0.084 af

Subcatchment 2PLE: DA #2 P LOT East Runoff Area=0.620 ac 80.65% Impervious Runoff Depth>4.72"
Flow Length=106' Tc=11.7 min CN=93 Runoff=3.25 cfs 0.244 af

Subcatchment 2PLW: DA #2 P LOT West Runoff Area=0.380 ac 100.00% Impervious Runoff Depth>5.30"
Flow Length=50' Tc=9.5 min CN=98 Runoff=2.14 cfs 0.168 af

Subcatchment 2R: DA #2 RESIDENTIAL Runoff Area=0.430 ac 32.56% Impervious Runoff Depth>4.61"
Flow Length=73' Tc=14.0 min CN=92 Runoff=2.09 cfs 0.165 af

Subcatchment 3: DA #3 Runoff Area=0.900 ac 83.33% Impervious Runoff Depth>4.84"
Flow Length=70' Slope=0.0100 '/' Tc=5.3 min CN=94 Runoff=5.67 cfs 0.363 af

Subcatchment 4: DA #4 Runoff Area=0.340 ac 17.65% Impervious Runoff Depth>4.73"
Flow Length=66' Slope=0.0120 '/' Tc=4.2 min CN=93 Runoff=2.23 cfs 0.134 af

Subcatchment PG: MOB & GARAGE Runoff Area=2.040 ac 93.14% Impervious Runoff Depth>5.06"
Flow Length=50' Slope=0.0150 '/' Tc=16.5 min CN=96 Runoff=9.69 cfs 0.860 af

Reach DP - P: Design Point - Pratt St Inflow=21.18 cfs 2.678 af
Outflow=21.18 cfs 2.678 af

Reach DP - W: Design Point - Woodruff St Inflow=2.23 cfs 0.134 af
Outflow=2.23 cfs 0.134 af

Pond DBW: USWDB WEST Peak Elev=484.82' Storage=14,963 cf Inflow=9.32 cfs 0.778 af
Outflow=3.30 cfs 0.746 af

Pond MRI: USWDB MRI Peak Elev=482.86' Storage=0.021 af Inflow=1.07 cfs 0.084 af
Outflow=0.37 cfs 0.084 af

Total Runoff Area = 7.090 ac Runoff Volume = 2.844 af Average Runoff Depth = 4.81"
23.41% Pervious = 1.660 ac 76.59% Impervious = 5.430 ac

Summary for Subcatchment 1PL: DA #1 P LOT

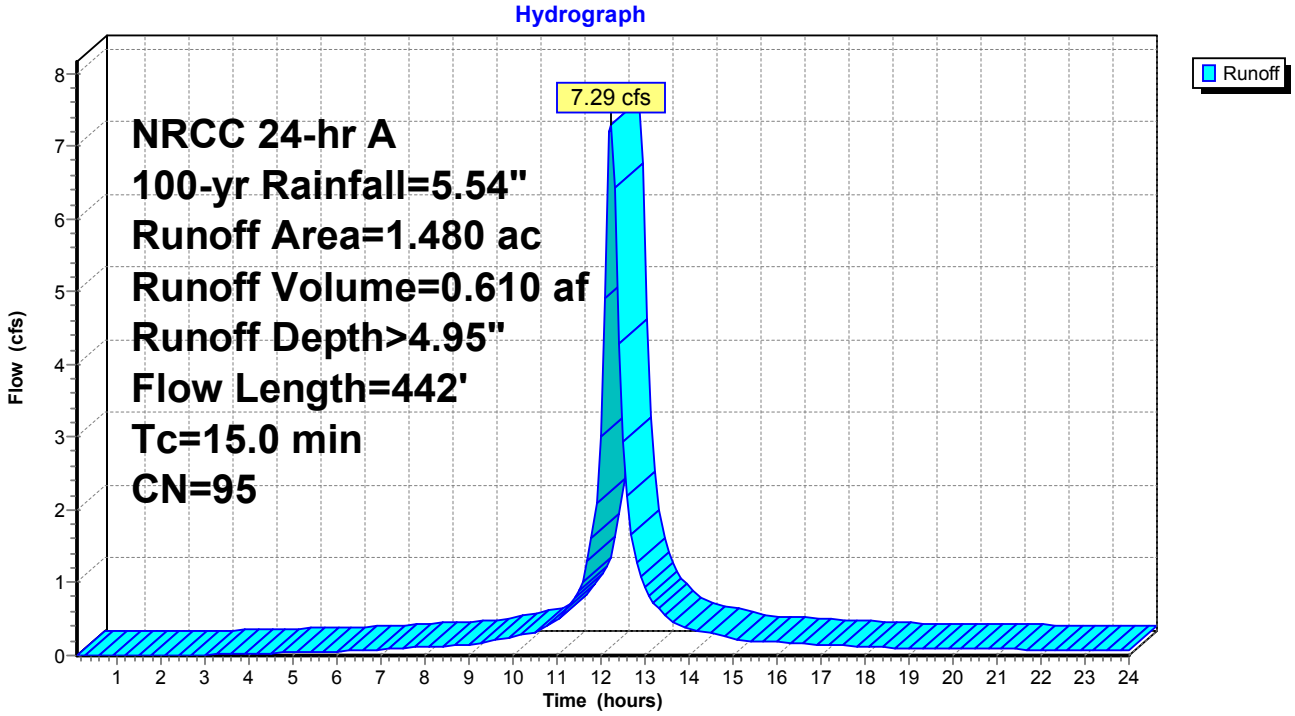
Runoff = 7.29 cfs @ 12.22 hrs, Volume= 0.610 af, Depth> 4.95"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.10-24.00 hrs, dt= 0.10 hrs
NRCC 24-hr A 100-yr Rainfall=5.54"

	Area (ac)	CN	Description
	0.150	71	Meadow, non-grazed, HSG C
*	1.330	98	Paved parking and Buildings, HSG C
	1.480	95	Weighted Average
	0.150		10.14% Pervious Area
	1.330		89.86% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.9	27	0.0100	0.04		**Sheet Flow, Lawn** Grass: Bermuda n= 0.410 P2= 2.33"
1.5	73	0.0100	0.84		**Sheet Flow, Parking Area** Smooth surfaces n= 0.011 P2= 2.33"
0.3	32	0.0100	2.03		**Shallow Concentrated Flow, Parking Lot** Paved Kv= 20.3 fps
1.3	310	0.0025	3.86	6.83	**Pipe Channel, Storm Sewer** 18.0" Round Area= 1.8 sf Perim= 4.7' r= 0.38' n= 0.010 PVC, smooth interior
15.0	442	Total			

Subcatchment 1PL: DA #1 P LOT



Summary for Subcatchment 1R: DA #1 RESIDENTIAL

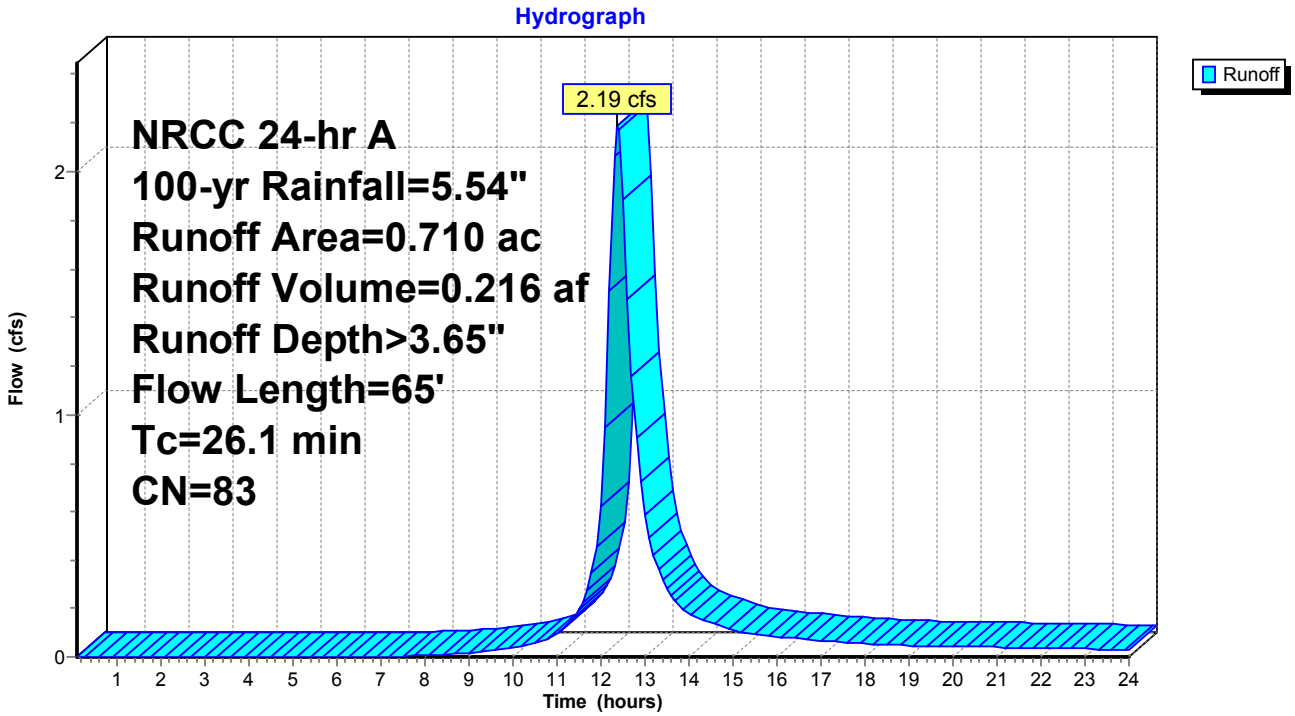
Runoff = 2.19 cfs @ 12.38 hrs, Volume= 0.216 af, Depth> 3.65"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.10-24.00 hrs, dt= 0.10 hrs
NRCC 24-hr A 100-yr Rainfall=5.54"

Area (ac)	CN	Description
0.390	71	Meadow, non-grazed, HSG C
0.140	96	Gravel surface, HSG C
0.180	98	Paved parking, HSG C
0.710	83	Weighted Average
0.530		74.65% Pervious Area
0.180		25.35% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
25.7	50	0.0050	0.03		**Sheet Flow, Lawn** Grass: Bermuda n= 0.410 P2= 2.33"
0.4	15	0.0100	0.61		**Sheet Flow, Paved Surfaces** Smooth surfaces n= 0.011 P2= 2.33"
26.1	65	Total			

Subcatchment 1R: DA #1 RESIDENTIAL



Summary for Subcatchment 2MRI: DA #2 P LOT MRI

[49] Hint: Tc<2dt may require smaller dt

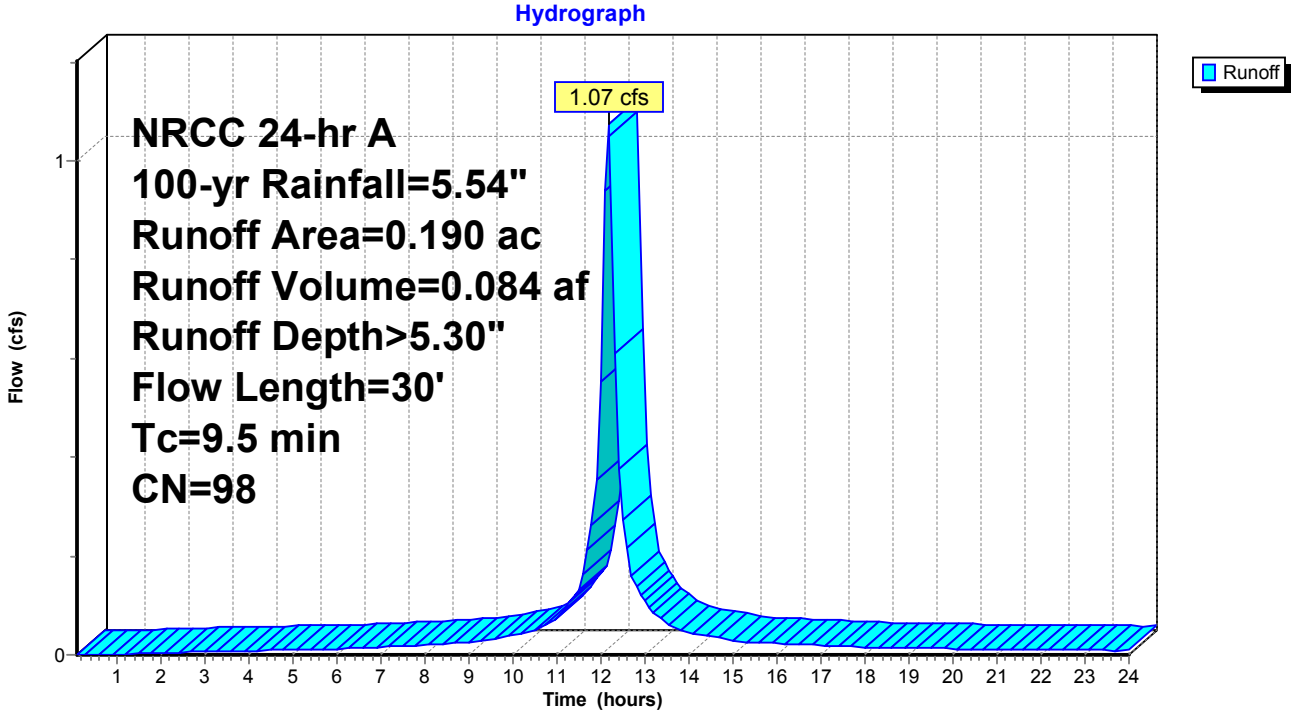
Runoff = 1.07 cfs @ 12.17 hrs, Volume= 0.084 af, Depth> 5.30"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.10-24.00 hrs, dt= 0.10 hrs
NRCC 24-hr A 100-yr Rainfall=5.54"

Area (ac)	CN	Description
0.190	98	Paved parking and Buildings, HSG C
0.190		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.3	20	0.0100	0.04		**Sheet Flow, Lawn** Grass: Bermuda n= 0.410 P2= 2.33"
0.2	10	0.0210	0.76		**Sheet Flow, Asphalt** Smooth surfaces n= 0.011 P2= 2.33"
9.5	30	Total			

Subcatchment 2MRI: DA #2 P LOT MRI



Summary for Subcatchment 2PLE: DA #2 P LOT East

[49] Hint: Tc<2dt may require smaller dt

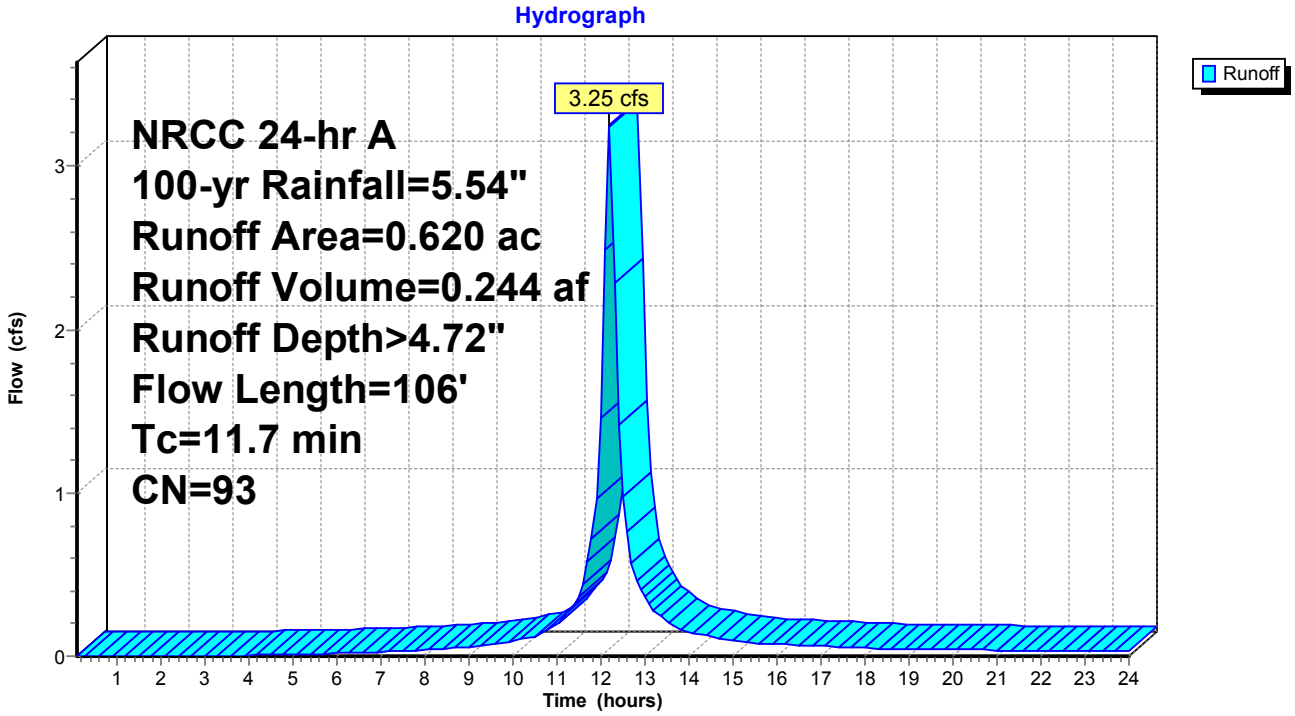
Runoff = 3.25 cfs @ 12.19 hrs, Volume= 0.244 af, Depth> 4.72"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.10-24.00 hrs, dt= 0.10 hrs
NRCC 24-hr A 100-yr Rainfall=5.54"

Area (ac)	CN	Description
0.120	71	Meadow, non-grazed, HSG C
0.500	98	Paved parking and Buildings, HSG C
0.620	93	Weighted Average
0.120		19.35% Pervious Area
0.500		80.65% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.5	23	0.0100	0.04		**Sheet Flow, Lawn** Grass: Bermuda n= 0.410 P2= 2.33"
1.2	83	0.0210	1.15		**Sheet Flow, Asphalt** Smooth surfaces n= 0.011 P2= 2.33"
11.7	106	Total			

Subcatchment 2PLE: DA #2 P LOT East



Summary for Subcatchment 2PLW: DA #2 P LOT West

[49] Hint: Tc<2dt may require smaller dt

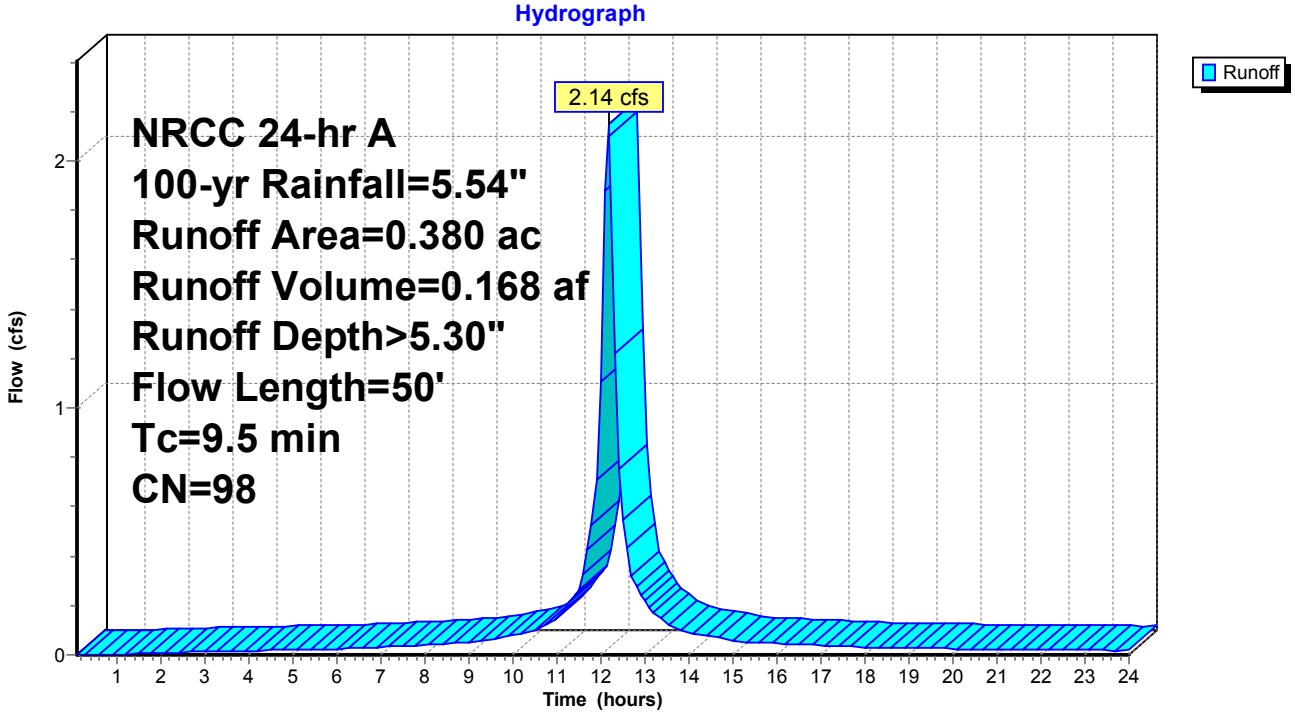
Runoff = 2.14 cfs @ 12.17 hrs, Volume= 0.168 af, Depth> 5.30"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.10-24.00 hrs, dt= 0.10 hrs
NRCC 24-hr A 100-yr Rainfall=5.54"

Area (ac)	CN	Description
0.380	98	Paved parking and Buildings, HSG C
0.380		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.3	20	0.0100	0.04		**Sheet Flow, Lawn** Grass: Bermuda n= 0.410 P2= 2.33"
0.2	30	0.0200	2.87		**Shallow Concentrated Flow, Asphalt** Paved Kv= 20.3 fps
9.5	50	Total			

Subcatchment 2PLW: DA #2 P LOT West



Summary for Subcatchment 2R: DA #2 RESIDENTIAL

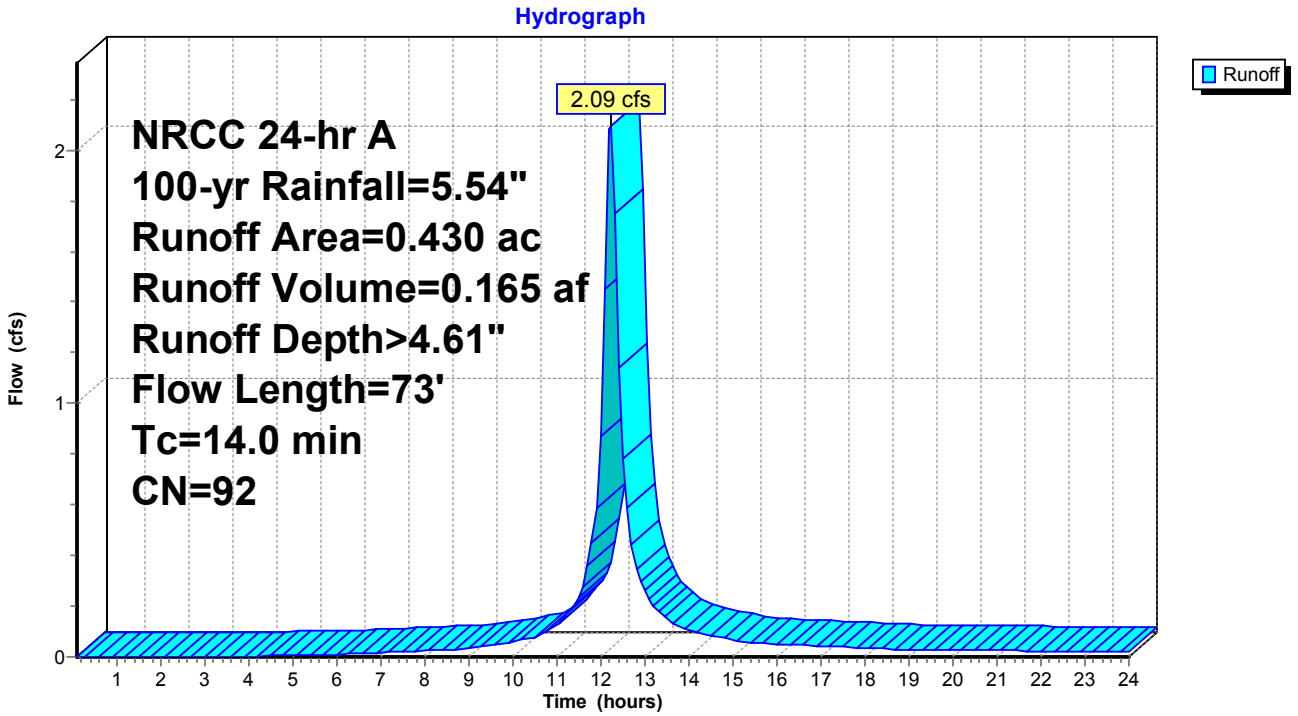
Runoff = 2.09 cfs @ 12.22 hrs, Volume= 0.165 af, Depth> 4.61"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.10-24.00 hrs, dt= 0.10 hrs
NRCC 24-hr A 100-yr Rainfall=5.54"

Area (ac)	CN	Description
0.080	71	Meadow, non-grazed, HSG C
0.210	96	Gravel surface, HSG C
0.140	98	Paved parking and Buildings, HSG C
0.430	92	Weighted Average
0.290		67.44% Pervious Area
0.140		32.56% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.3	20	0.0050	0.03		**Sheet Flow, Lawn Area** Grass: Bermuda n= 0.410 P2= 2.33"
1.7	53	0.0750	0.52		**Sheet Flow, Gravel Parking Area** n= 0.050 P2= 2.33"
14.0	73	Total			

Subcatchment 2R: DA #2 RESIDENTIAL



Summary for Subcatchment 3: DA #3

[49] Hint: Tc<2dt may require smaller dt

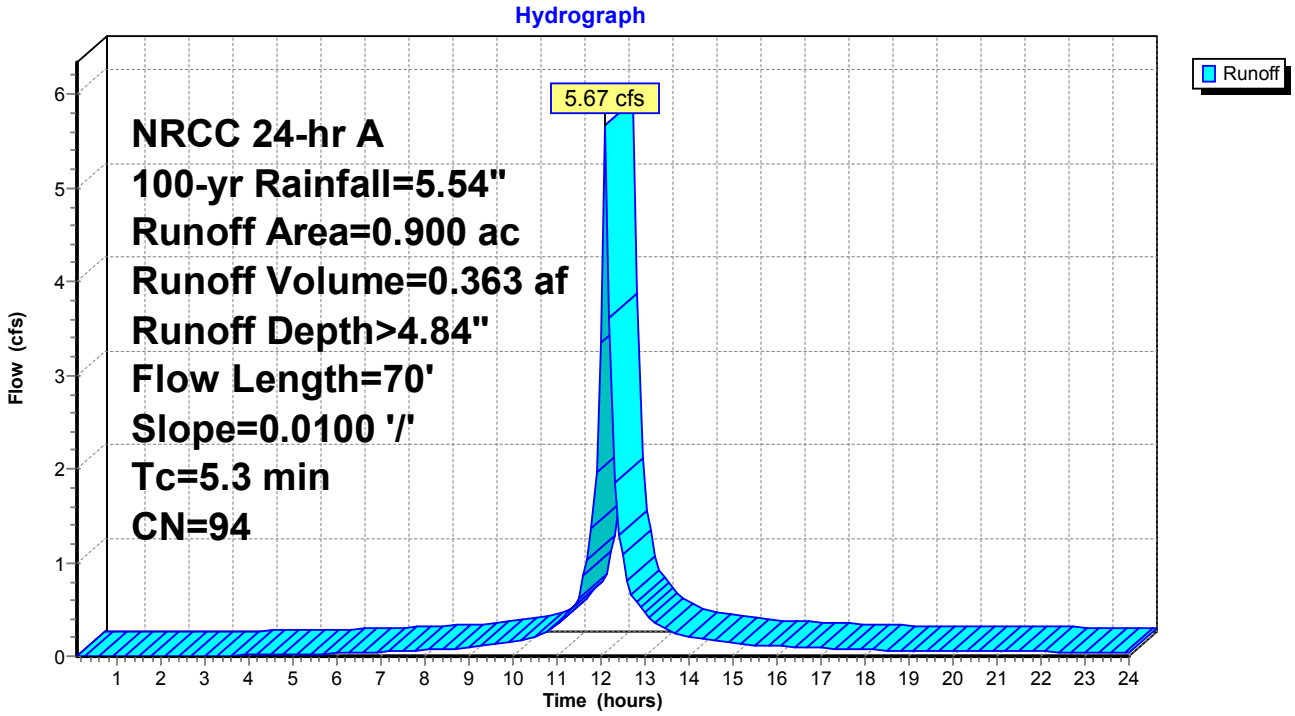
Runoff = 5.67 cfs @ 12.10 hrs, Volume= 0.363 af, Depth> 4.84"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.10-24.00 hrs, dt= 0.10 hrs
NRCC 24-hr A 100-yr Rainfall=5.54"

Area (ac)	CN	Description
0.150	71	Meadow, non-grazed, HSG C
0.750	98	Paved parking and Buildings, HSG C
0.900	94	Weighted Average
0.150		16.67% Pervious Area
0.750		83.33% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.8	15	0.0100	0.05		**Sheet Flow, Lawn** Grass: Dense n= 0.240 P2= 2.33"
0.5	55	0.0100	2.03		**Shallow Concentrated Flow, Parking Lot** Paved Kv= 20.3 fps
5.3	70	Total			

Subcatchment 3: DA #3



Summary for Subcatchment 4: DA #4

[49] Hint: Tc<2dt may require smaller dt

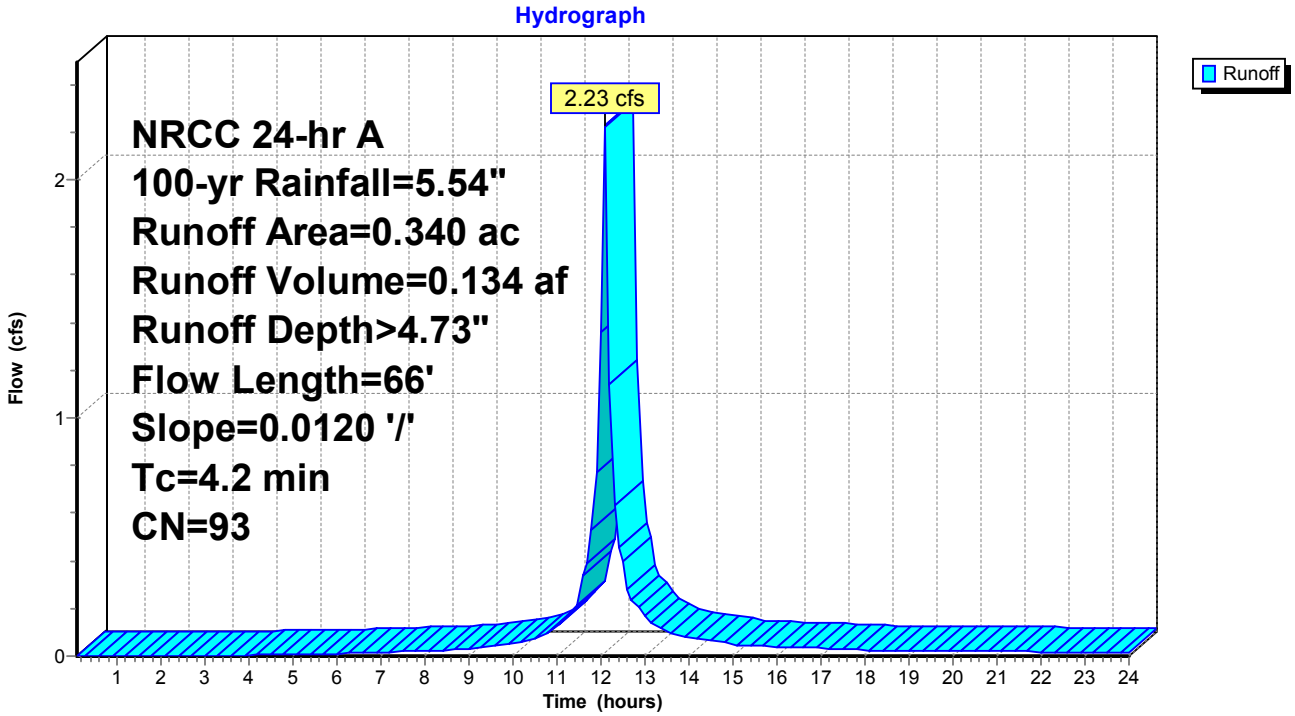
Runoff = 2.23 cfs @ 12.09 hrs, Volume= 0.134 af, Depth> 4.73"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.10-24.00 hrs, dt= 0.10 hrs
NRCC 24-hr A 100-yr Rainfall=5.54"

Area (ac)	CN	Description
0.050	71	Meadow, non-grazed, HSG C
0.230	96	Gravel surface, HSG C
0.060	98	Paved parking and Buildings, HSG C
0.340	93	Weighted Average
0.280		82.35% Pervious Area
0.060		17.65% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.2	66	0.0120	0.26		**Sheet Flow, Gravel** n= 0.050 P2= 2.33"

Subcatchment 4: DA #4



Summary for Subcatchment PG: MOB & GARAGE

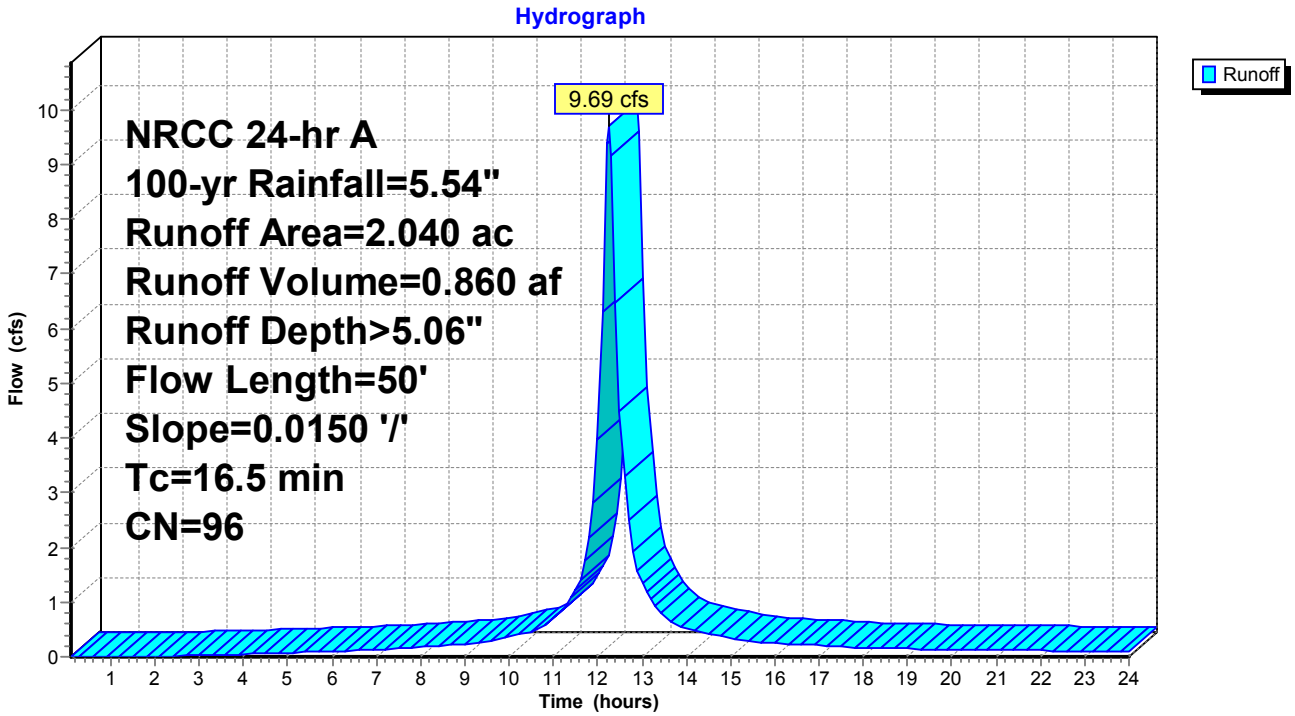
Runoff = 9.69 cfs @ 12.24 hrs, Volume= 0.860 af, Depth> 5.06"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.10-24.00 hrs, dt= 0.10 hrs
NRCC 24-hr A 100-yr Rainfall=5.54"

Area (ac)	CN	Description
0.140	71	Meadow, non-grazed, HSG C
1.900	98	Paved parking, HSG C
2.040	96	Weighted Average
0.140		6.86% Pervious Area
1.900		93.14% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.5	50	0.0150	0.05		**Sheet Flow, Lawn Area** Grass: Bermuda n= 0.410 P2= 2.33"

Subcatchment PG: MOB & GARAGE



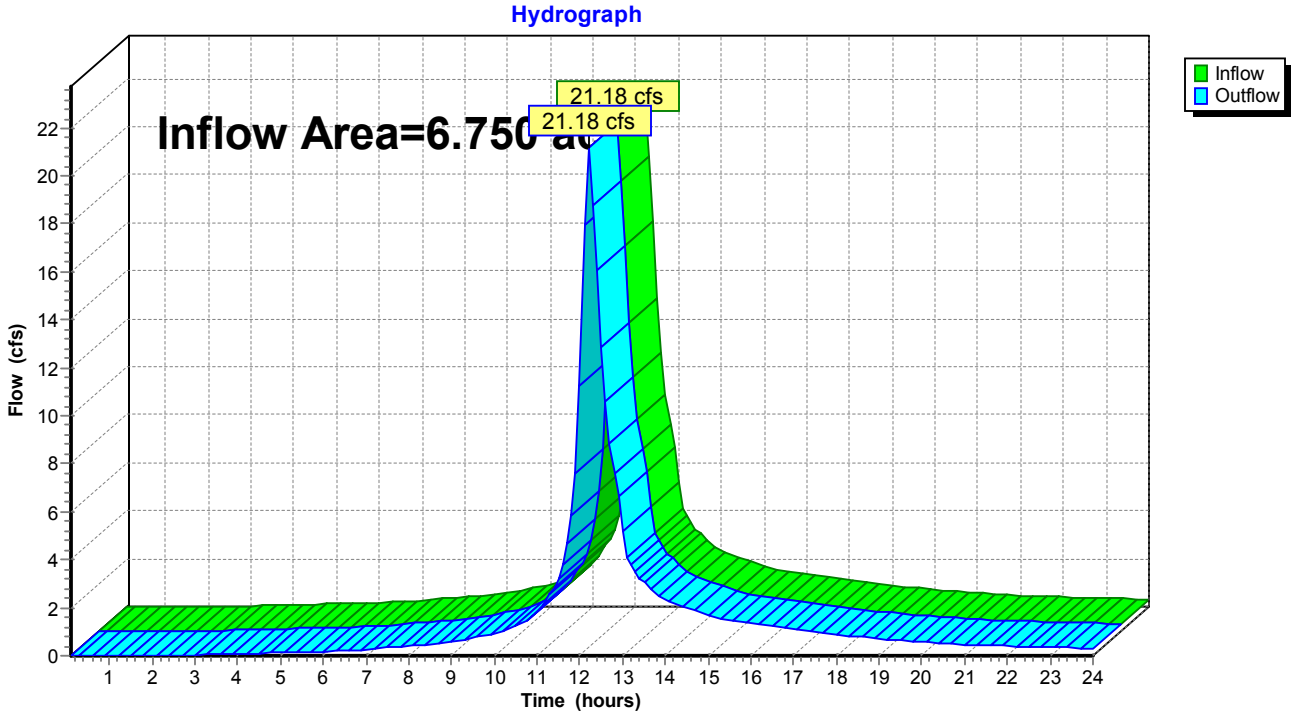
Summary for Reach DP - P: Design Point - Pratt St

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 6.750 ac, 79.56% Impervious, Inflow Depth > 4.76" for 100-yr event
Inflow = 21.18 cfs @ 12.21 hrs, Volume= 2.678 af
Outflow = 21.18 cfs @ 12.21 hrs, Volume= 2.678 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.10-24.00 hrs, dt= 0.10 hrs

Reach DP - P: Design Point - Pratt St



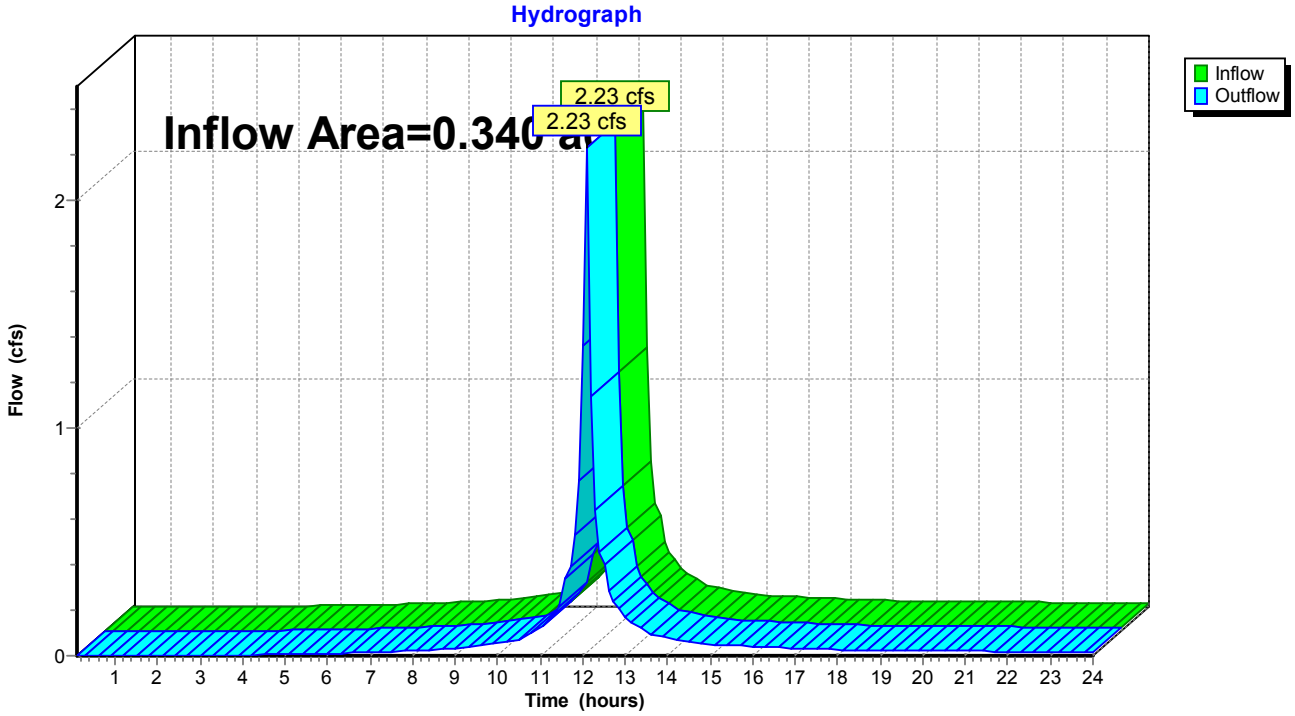
Summary for Reach DP - W: Design Point - Woodruff St

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 0.340 ac, 17.65% Impervious, Inflow Depth > 4.73" for 100-yr event
Inflow = 2.23 cfs @ 12.09 hrs, Volume= 0.134 af
Outflow = 2.23 cfs @ 12.09 hrs, Volume= 0.134 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.10-24.00 hrs, dt= 0.10 hrs

Reach DP - W: Design Point - Woodruff St



Summary for Pond DBW: USWDB WEST

Inflow Area = 1.860 ac, 91.94% Impervious, Inflow Depth > 5.02" for 100-yr event
Inflow = 9.32 cfs @ 12.21 hrs, Volume= 0.778 af
Outflow = 3.30 cfs @ 12.53 hrs, Volume= 0.746 af, Atten= 65%, Lag= 19.3 min
Primary = 3.30 cfs @ 12.53 hrs, Volume= 0.746 af

Routing by Stor-Ind method, Time Span= 0.10-24.00 hrs, dt= 0.10 hrs
Peak Elev= 484.82' @ 12.50 hrs Surf.Area= 5,998 sf Storage= 14,963 cf

Plug-Flow detention time= 138.3 min calculated for 0.743 af (95% of inflow)
Center-of-Mass det. time= 115.4 min (881.3 - 765.9)

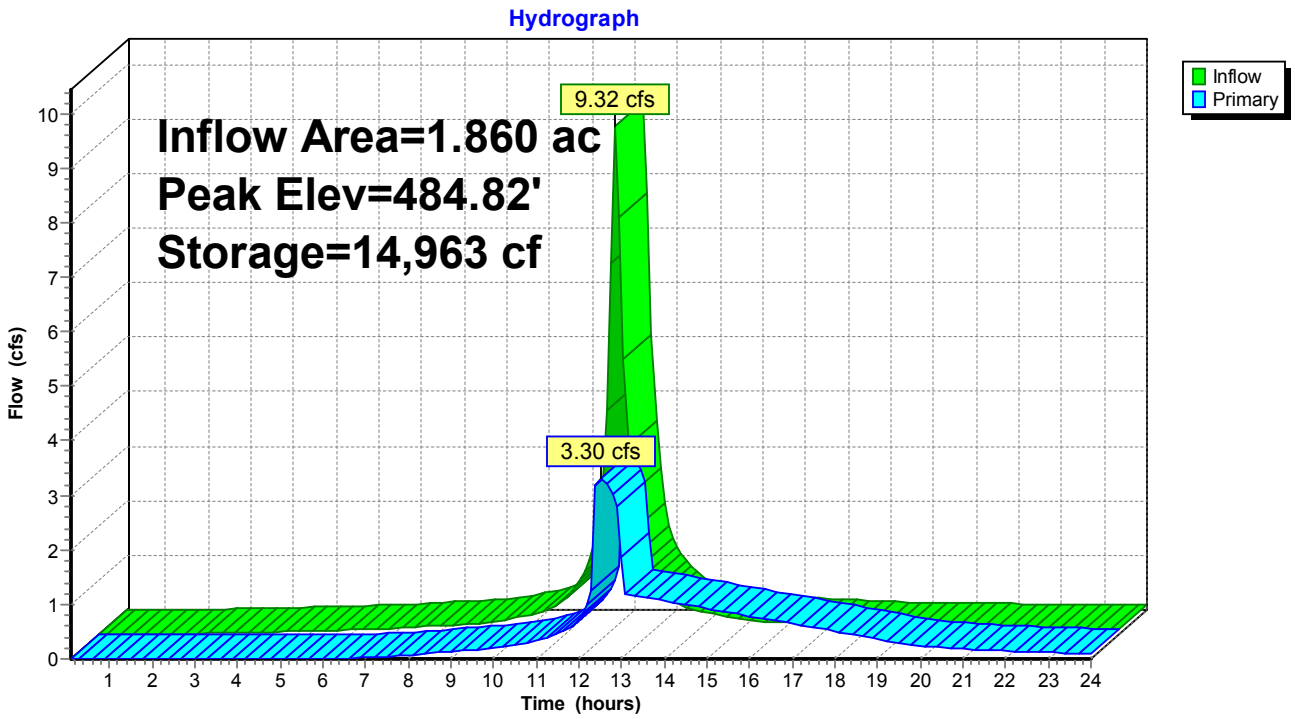
Volume	Invert	Avail.Storage	Storage Description
#1	480.60'	6,126 cf	**24.0" Round Pipe Storage** x 15 L= 130.0'
#2	479.62'	1,357 cf	**Custom Stage Data (Prismatic)** Listed below
#3	480.60'	377 cf	**24.0" Round Pipe Storage** x 2 L= 60.0'
		7,861 cf	x 2.00 = 15,721 cf Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
479.62	0	0	0
479.63	16	0	0
484.39	16	76	76
484.40	20	0	76
485.00	4,250	1,281	1,357

Device	Routing	Invert	Outlet Devices
#1	Primary	480.77'	**18.0" Round Culvert** L= 38.4' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 480.65' / 480.77' S= -0.0031 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 1.77 sf
#2	Device 1	480.72'	**6.0" Vert. Orifice/Grate** C= 0.600
#3	Device 1	483.63'	**0.5' long Sharp-Crested Rectangular Weir** 2 End Contraction(s) 0.5' Crest Height

Primary OutFlow Max=3.29 cfs @ 12.53 hrs HW=484.82' (Free Discharge)
└─**1=Culvert** (Passes 3.29 cfs of 12.20 cfs potential flow)
  ├─**2=Orifice/Grate** (Orifice Controls 1.85 cfs @ 9.44 fps)
  └─**3=Sharp-Crested Rectangular Weir** (Weir Controls 1.43 cfs @ 4.60 fps)

Pond DBW: USWDB WEST



Summary for Pond MRI: USWDB MRI

Inflow Area = 0.190 ac,100.00% Impervious, Inflow Depth > 5.30" for 100-yr event
Inflow = 1.07 cfs @ 12.17 hrs, Volume= 0.084 af
Outflow = 0.37 cfs @ 12.42 hrs, Volume= 0.084 af, Atten= 65%, Lag= 15.1 min
Primary = 0.37 cfs @ 12.42 hrs, Volume= 0.084 af

Routing by Stor-Ind method, Time Span= 0.10-24.00 hrs, dt= 0.10 hrs / 2
Peak Elev= 482.86' @ 12.42 hrs Surf.Area= 0.033 ac Storage= 0.021 af

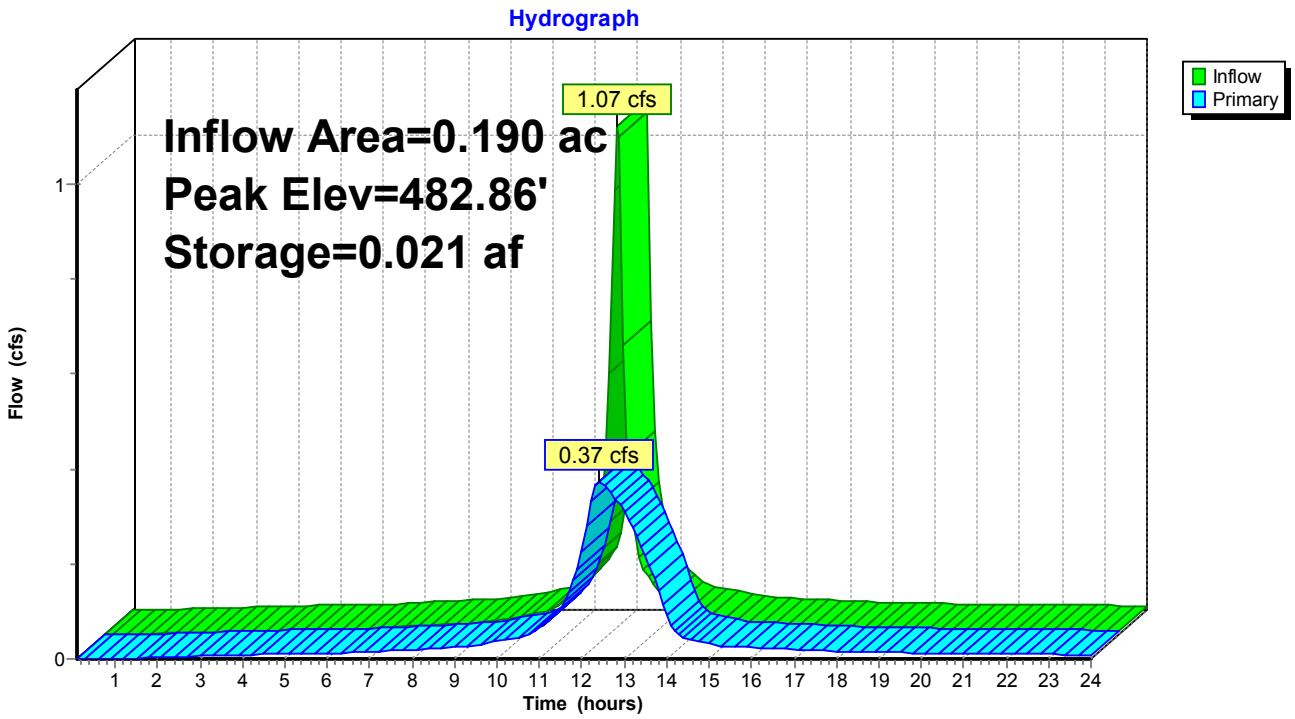
Plug-Flow detention time= 19.0 min calculated for 0.084 af (100% of inflow)
Center-of-Mass det. time= 18.6 min (767.1 - 748.5)

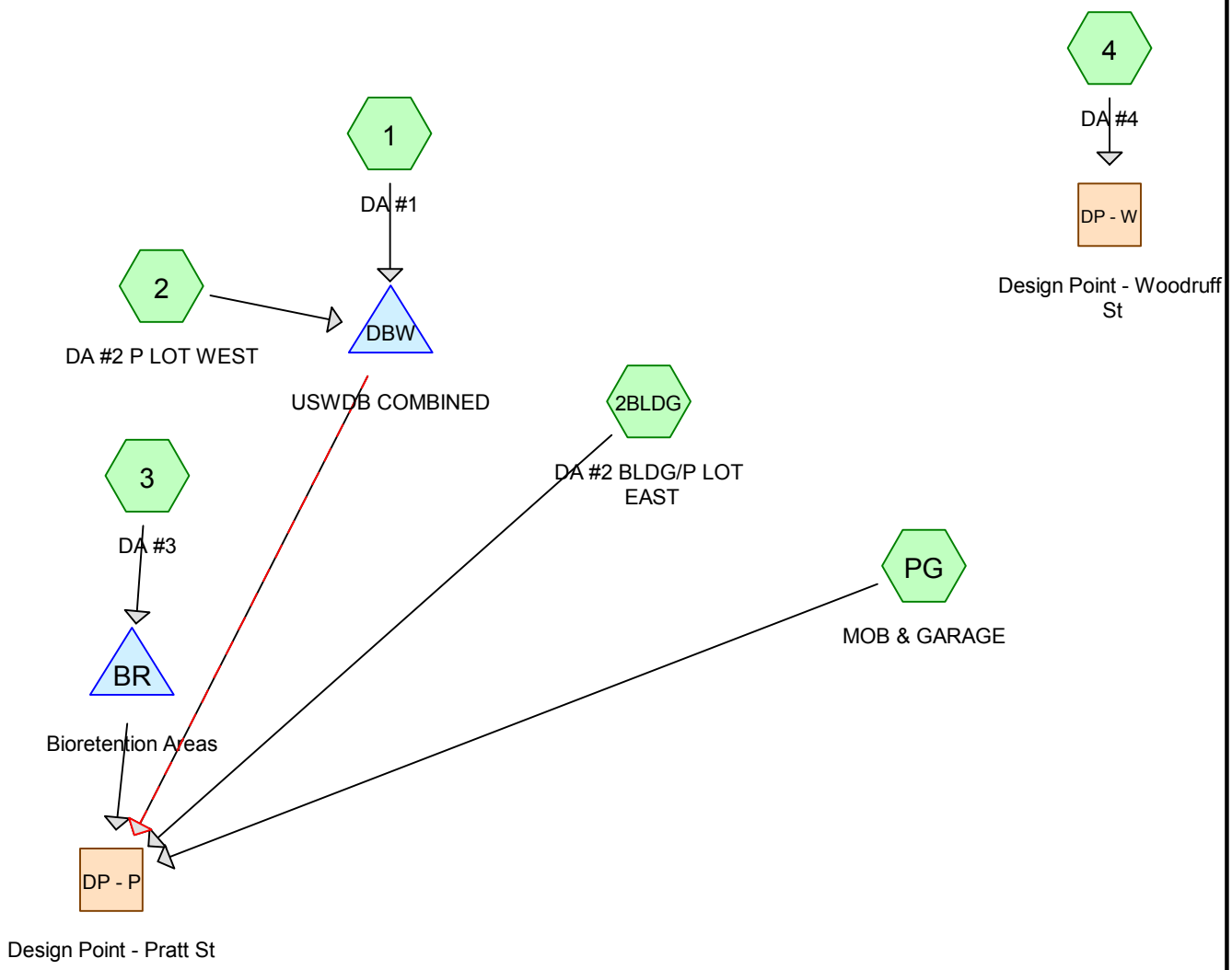
Volume	Invert	Avail.Storage	Storage Description
#1	481.91'	0.053 af	**24.0" Round Pipe Storage** x 6 L= 122.0' S= 0.0020 '/'

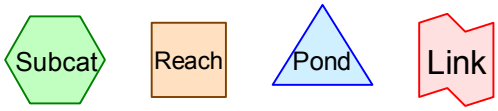
Device	Routing	Invert	Outlet Devices
#1	Primary	481.91'	**15.0" Round Culvert** L= 12.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 481.91' / 481.27' S= 0.0533 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf
#2	Device 1	481.91'	**4.0" Vert. Orifice/Grate** C= 0.600
#3	Device 1	483.91'	**0.5' long Sharp-Crested Rectangular Weir** 2 End Contraction(s) 0.5' Crest Height

Primary OutFlow Max=0.37 cfs @ 12.42 hrs HW=482.86' (Free Discharge)
└─**1=Culvert** (Passes 0.37 cfs of 3.30 cfs potential flow)
  ├─**2=Orifice/Grate** (Orifice Controls 0.37 cfs @ 4.25 fps)
  └─**3=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond MRI: USWDB MRI







Routing Diagram for 2015-174 Proposed
Prepared by Microsoft, Printed 5/24/2016
HydroCAD® 10.00-14 s/n 03261 © 2015 HydroCAD Software Solutions LLC

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.930	71	Meadow, non-grazed, HSG C (1, 2, 2BLDG, 3, 4, PG)
4.050	98	Paved parking and Buildings, HSG C (1, 2, 2BLDG, 3)
1.900	98	Paved parking, HSG C (PG)
0.210	98	Water Surface, HSG C (4)
7.090	**94**	**TOTAL AREA**

Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.000	HSG A	
0.000	HSG B	
7.090	HSG C	1, 2, 2BLDG, 3, 4, PG
0.000	HSG D	
0.000	Other	
7.090		**TOTAL AREA**

Ground Covers (all nodes)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
0.000	0.000	0.930	0.000	0.000	0.930	Meadow, non-grazed	1, 2, 2BLDG, 3, 4, PG
0.000	0.000	1.900	0.000	0.000	1.900	Paved parking	PG
0.000	0.000	4.050	0.000	0.000	4.050	Paved parking and Buildings	1, 2, 2BLDG, 3
0.000	0.000	0.210	0.000	0.000	0.210	Water Surface	4
0.000	**0.000**	**7.090**	**0.000**	**0.000**	**7.090**	**TOTAL AREA**	

Pipe Listing (all nodes)

Line#	Node Number	In-Invert (feet)	Out-Invert (feet)	Length (feet)	Slope (ft/ft)	n	Diam/Width (inches)	Height (inches)	Inside-Fill (inches)
1	1	0.00	0.00	398.0	0.0025	0.010	18.0	0.0	0.0
2	2BLDG	0.00	0.00	156.0	0.0050	0.013	15.0	0.0	0.0
3	BR	479.25	479.10	15.0	0.0100	0.013	18.0	0.0	0.0
4	DBW	480.65	480.77	38.4	-0.0031	0.010	18.0	0.0	0.0
5	DBW	481.91	481.27	12.0	0.0533	0.013	15.0	0.0	0.0

Time span=0.10-24.00 hrs, dt=0.10 hrs, 240 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1: DA #1 Runoff Area=2.190 ac 91.32% Impervious Runoff Depth>1.57"
Flow Length=530' Tc=19.6 min CN=96 Runoff=3.23 cfs 0.287 af

Subcatchment 2: DA #2 P LOT WEST Runoff Area=0.950 ac 78.95% Impervious Runoff Depth>1.23"
Flow Length=86' Tc=19.8 min CN=92 Runoff=1.14 cfs 0.098 af

Subcatchment 2BLDG: DA #2 BLDG/P LOT Runoff Area=0.670 ac 82.09% Impervious Runoff Depth>1.31"
Flow Length=206' Slope=0.0050 '/' Tc=26.4 min CN=93 Runoff=0.74 cfs 0.073 af

Subcatchment 3: DA #3 Runoff Area=0.900 ac 83.33% Impervious Runoff Depth>1.40"
Flow Length=70' Slope=0.0100 '/' Tc=5.3 min CN=94 Runoff=1.75 cfs 0.105 af

Subcatchment 4: DA #4 Runoff Area=0.340 ac 61.76% Impervious Runoff Depth>0.96"
Flow Length=80' Slope=0.0100 '/' Tc=9.9 min CN=88 Runoff=0.41 cfs 0.027 af

Subcatchment PG: MOB & GARAGE Runoff Area=2.040 ac 93.14% Impervious Runoff Depth>1.57"
Flow Length=50' Slope=0.0150 '/' Tc=16.5 min CN=96 Runoff=3.20 cfs 0.267 af

Reach DP - P: Design Point - Pratt St Inflow=5.19 cfs 0.801 af
Outflow=5.19 cfs 0.801 af

Reach DP - W: Design Point - Woodruff St Inflow=0.41 cfs 0.027 af
Outflow=0.41 cfs 0.027 af

Pond BR: Bioretention Areas Peak Elev=480.03' Storage=8 cf Inflow=1.75 cfs 0.105 af
18.0" Round Culvert n=0.013 L=15.0' S=0.0100 '/' Outflow=1.74 cfs 0.105 af

Pond DBW: USWDB COMBINED Peak Elev=481.92' Storage=9,145 cf Inflow=4.37 cfs 0.384 af
Primary=0.65 cfs 0.356 af Secondary=0.00 cfs 0.000 af Outflow=0.65 cfs 0.356 af

Total Runoff Area = 7.090 ac Runoff Volume = 0.856 af Average Runoff Depth = 1.45"
13.12% Pervious = 0.930 ac 86.88% Impervious = 6.160 ac

Summary for Subcatchment 1: DA #1

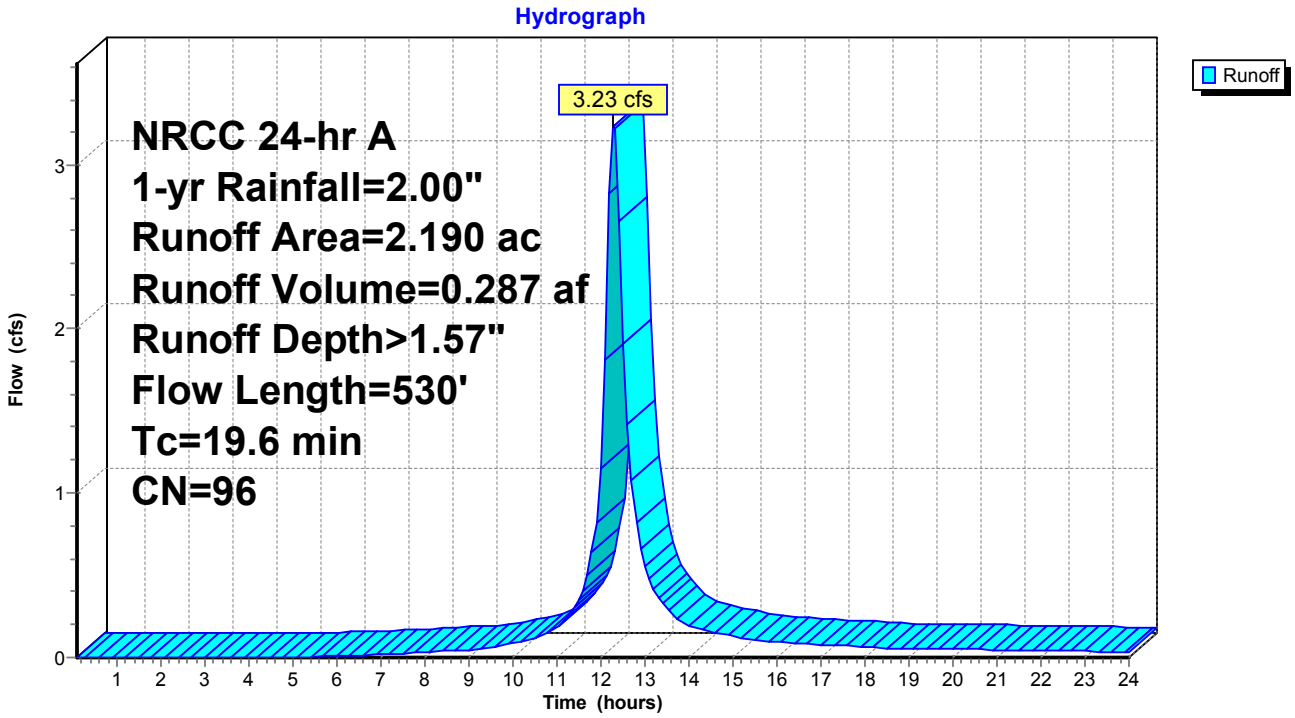
Runoff = 3.23 cfs @ 12.29 hrs, Volume= 0.287 af, Depth> 1.57"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.10-24.00 hrs, dt= 0.10 hrs
NRCC 24-hr A 1-yr Rainfall=2.00"

	Area (ac)	CN	Description
	0.190	71	Meadow, non-grazed, HSG C
*	2.000	98	Paved parking and Buildings, HSG C
	2.190	96	Weighted Average
	0.190		8.68% Pervious Area
	2.000		91.32% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.7	27	0.0050	0.03		**Sheet Flow, Lawn** Grass: Bermuda n= 0.410 P2= 2.33"
1.9	73	0.0050	0.63		**Sheet Flow, Parking Lot** Smooth surfaces n= 0.011 P2= 2.33"
0.3	32	0.0100	2.03		**Shallow Concentrated Flow, Parking Lot** Paved Kv= 20.3 fps
1.7	398	0.0025	3.86	6.83	**Pipe Channel, Storm Sewer** 18.0" Round Area= 1.8 sf Perim= 4.7' r= 0.38' n= 0.010 PVC, smooth interior
19.6	530	Total			

Subcatchment 1: DA #1



Summary for Subcatchment 2: DA #2 P LOT WEST

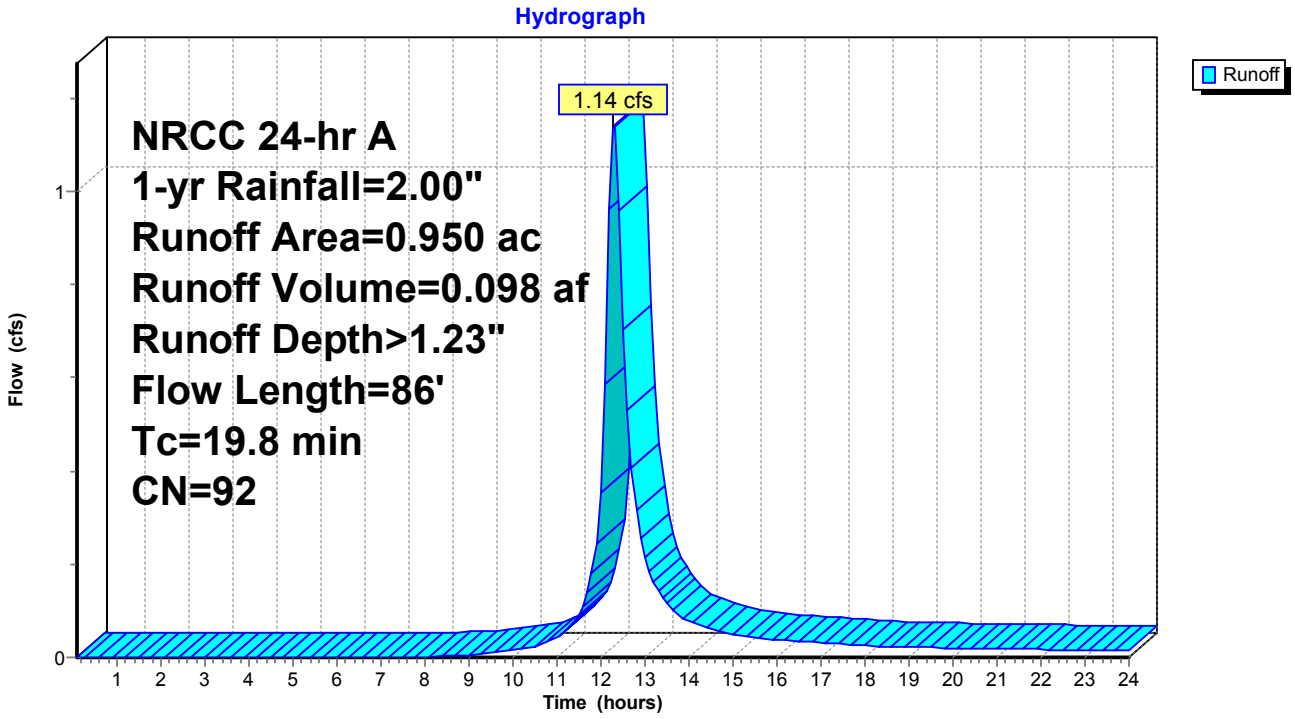
Runoff = 1.14 cfs @ 12.30 hrs, Volume= 0.098 af, Depth> 1.23"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.10-24.00 hrs, dt= 0.10 hrs
NRCC 24-hr A 1-yr Rainfall=2.00"

	Area (ac)	CN	Description
	0.200	71	Meadow, non-grazed, HSG C
*	0.750	98	Paved parking and Buildings, HSG C
	0.950	92	Weighted Average
	0.200		21.05% Pervious Area
	0.750		78.95% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
19.3	43	0.0075	0.04		**Sheet Flow, Lawn** Grass: Bermuda n= 0.410 P2= 2.33"
0.5	43	0.0400	1.31		**Sheet Flow, Asphalt** Smooth surfaces n= 0.011 P2= 2.33"
19.8	86	Total			

Subcatchment 2: DA #2 P LOT WEST



Summary for Subcatchment 2BLDG: DA #2 BLDG/P LOT EAST

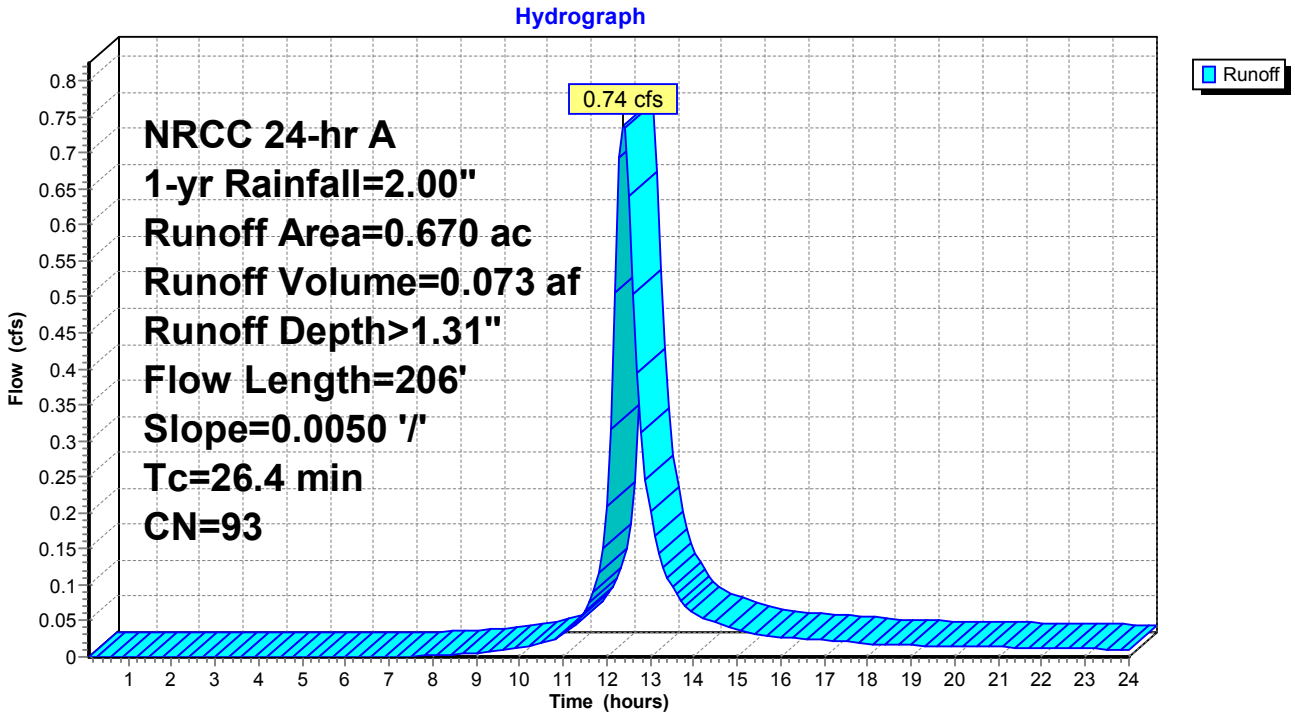
Runoff = 0.74 cfs @ 12.38 hrs, Volume= 0.073 af, Depth> 1.31"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.10-24.00 hrs, dt= 0.10 hrs
NRCC 24-hr A 1-yr Rainfall=2.00"

Area (ac)	CN	Description
0.120	71	Meadow, non-grazed, HSG C
0.550	98	Paved parking and Buildings, HSG C
0.670	93	Weighted Average
0.120		17.91% Pervious Area
0.550		82.09% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
25.7	50	0.0050	0.03		**Sheet Flow, Lawn** Grass: Bermuda n= 0.410 P2= 2.33"
0.7	156	0.0050	3.72	4.57	**Pipe Channel, Storm Sewer** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.013 Corrugated PE, smooth interior
26.4	206	Total			

Subcatchment 2BLDG: DA #2 BLDG/P LOT EAST



Summary for Subcatchment 3: DA #3

[49] Hint: Tc<2dt may require smaller dt

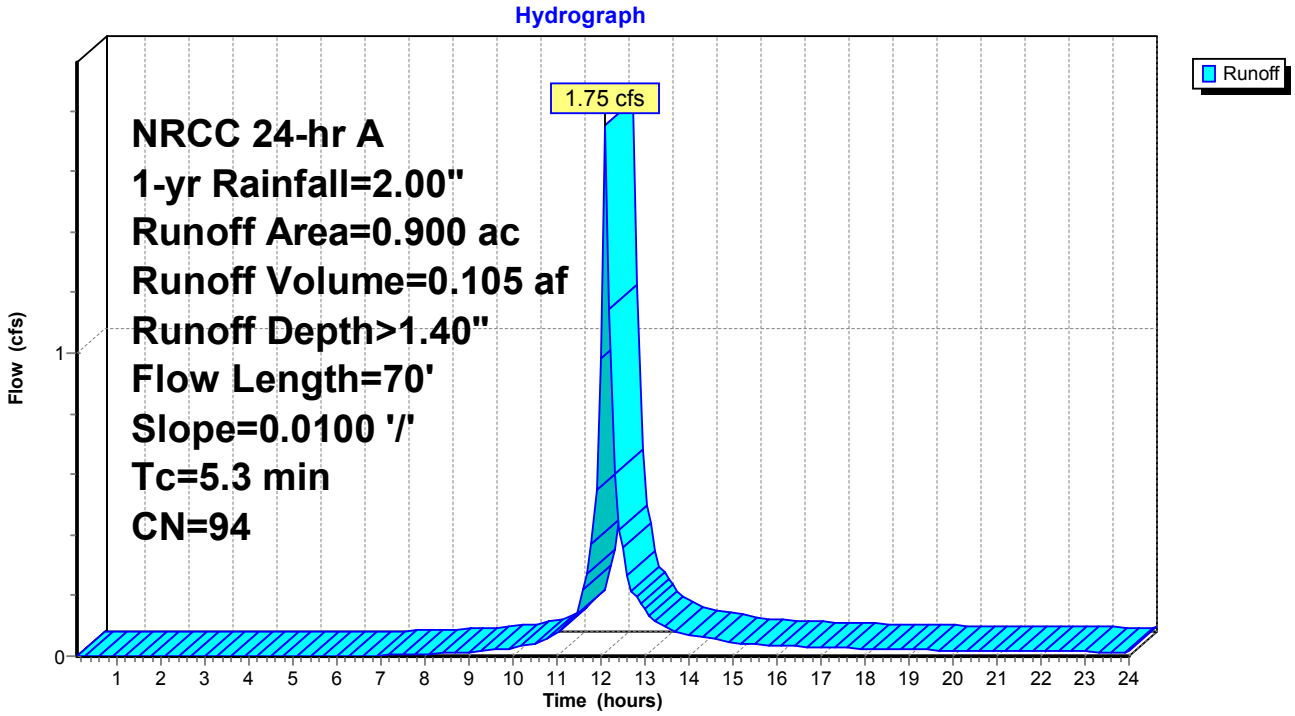
Runoff = 1.75 cfs @ 12.11 hrs, Volume= 0.105 af, Depth> 1.40"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.10-24.00 hrs, dt= 0.10 hrs
NRCC 24-hr A 1-yr Rainfall=2.00"

Area (ac)	CN	Description
0.150	71	Meadow, non-grazed, HSG C
0.750	98	Paved parking and Buildings, HSG C
0.900	94	Weighted Average
0.150		16.67% Pervious Area
0.750		83.33% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.8	15	0.0100	0.05		**Sheet Flow, Lawn** Grass: Dense n= 0.240 P2= 2.33"
0.5	55	0.0100	2.03		**Shallow Concentrated Flow, Parking Lot** Paved Kv= 20.3 fps
5.3	70	Total			

Subcatchment 3: DA #3



Summary for Subcatchment 4: DA #4

[49] Hint: Tc<2dt may require smaller dt

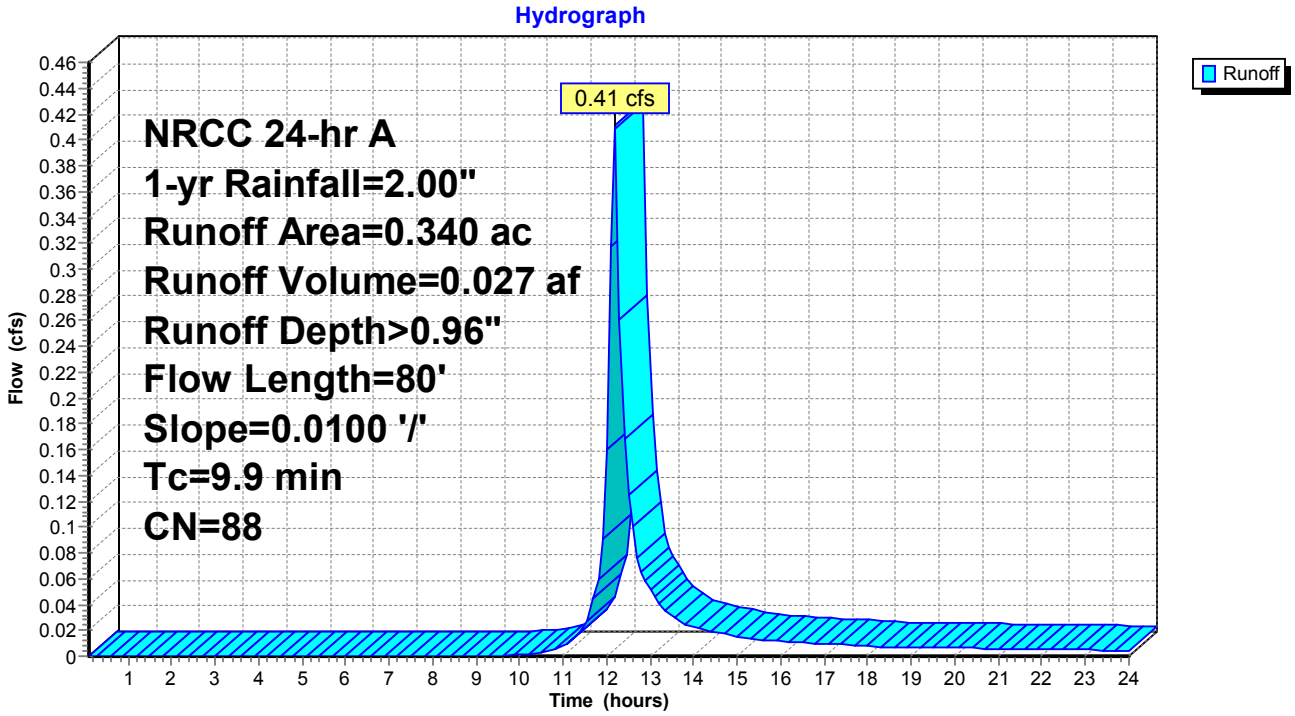
Runoff = 0.41 cfs @ 12.19 hrs, Volume= 0.027 af, Depth> 0.96"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.10-24.00 hrs, dt= 0.10 hrs
NRCC 24-hr A 1-yr Rainfall=2.00"

Area (ac)	CN	Description
0.130	71	Meadow, non-grazed, HSG C
0.210	98	Water Surface, HSG C
0.340	88	Weighted Average
0.130		38.24% Pervious Area
0.210		61.76% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.5	35	0.0100	0.06		**Sheet Flow, Lawn** Grass: Dense n= 0.240 P2= 2.33"
0.4	45	0.0100	2.03		**Shallow Concentrated Flow, Parking Lot** Paved Kv= 20.3 fps
9.9	80	Total			

Subcatchment 4: DA #4



Summary for Subcatchment PG: MOB & GARAGE

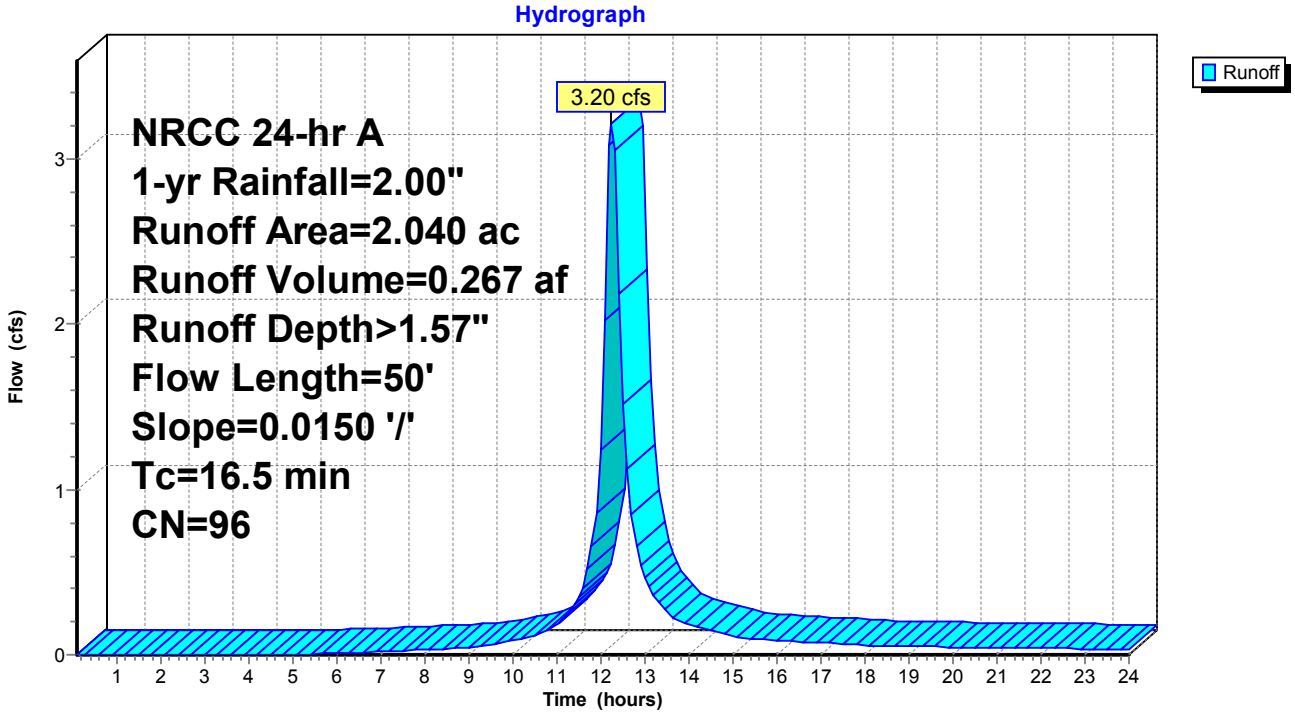
Runoff = 3.20 cfs @ 12.25 hrs, Volume= 0.267 af, Depth> 1.57"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.10-24.00 hrs, dt= 0.10 hrs
NRCC 24-hr A 1-yr Rainfall=2.00"

Area (ac)	CN	Description
0.140	71	Meadow, non-grazed, HSG C
1.900	98	Paved parking, HSG C
2.040	96	Weighted Average
0.140		6.86% Pervious Area
1.900		93.14% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.5	50	0.0150	0.05		**Sheet Flow, Lawn Area** Grass: Bermuda n= 0.410 P2= 2.33"

Subcatchment PG: MOB & GARAGE



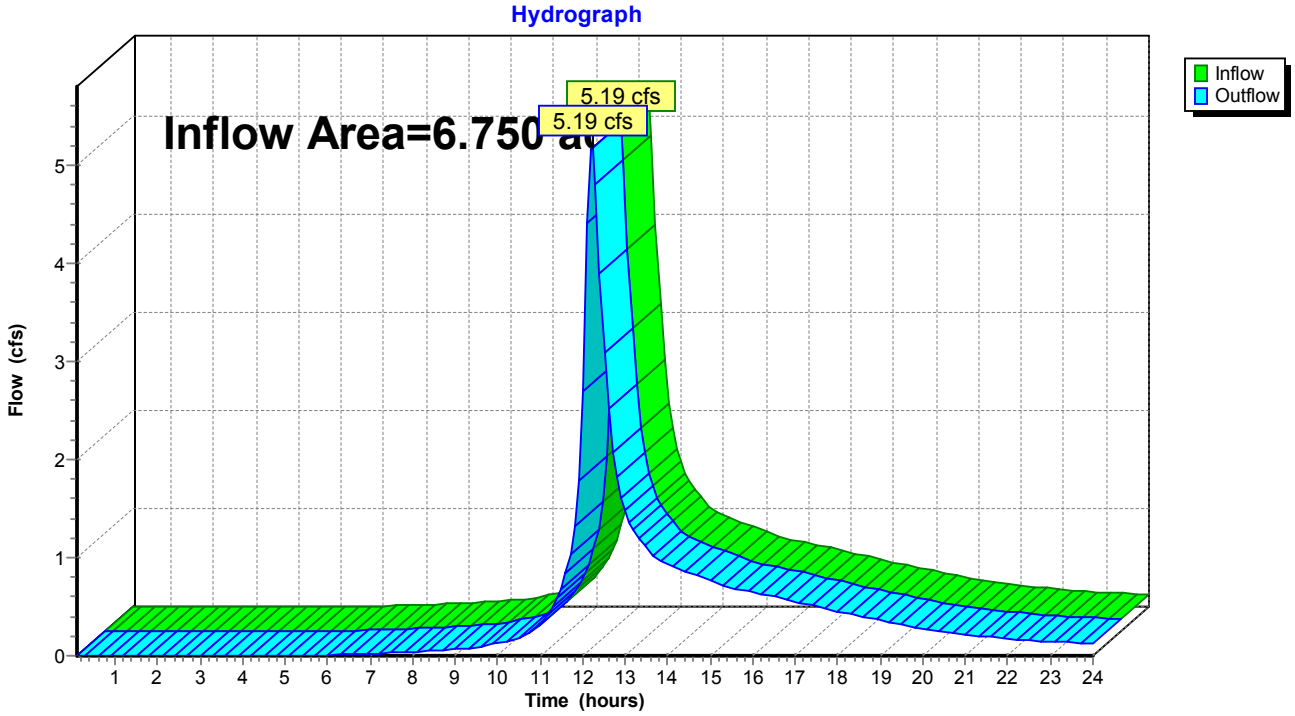
Summary for Reach DP - P: Design Point - Pratt St

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 6.750 ac, 88.15% Impervious, Inflow Depth > 1.42" for 1-yr event
Inflow = 5.19 cfs @ 12.22 hrs, Volume= 0.801 af
Outflow = 5.19 cfs @ 12.22 hrs, Volume= 0.801 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.10-24.00 hrs, dt= 0.10 hrs

Reach DP - P: Design Point - Pratt St



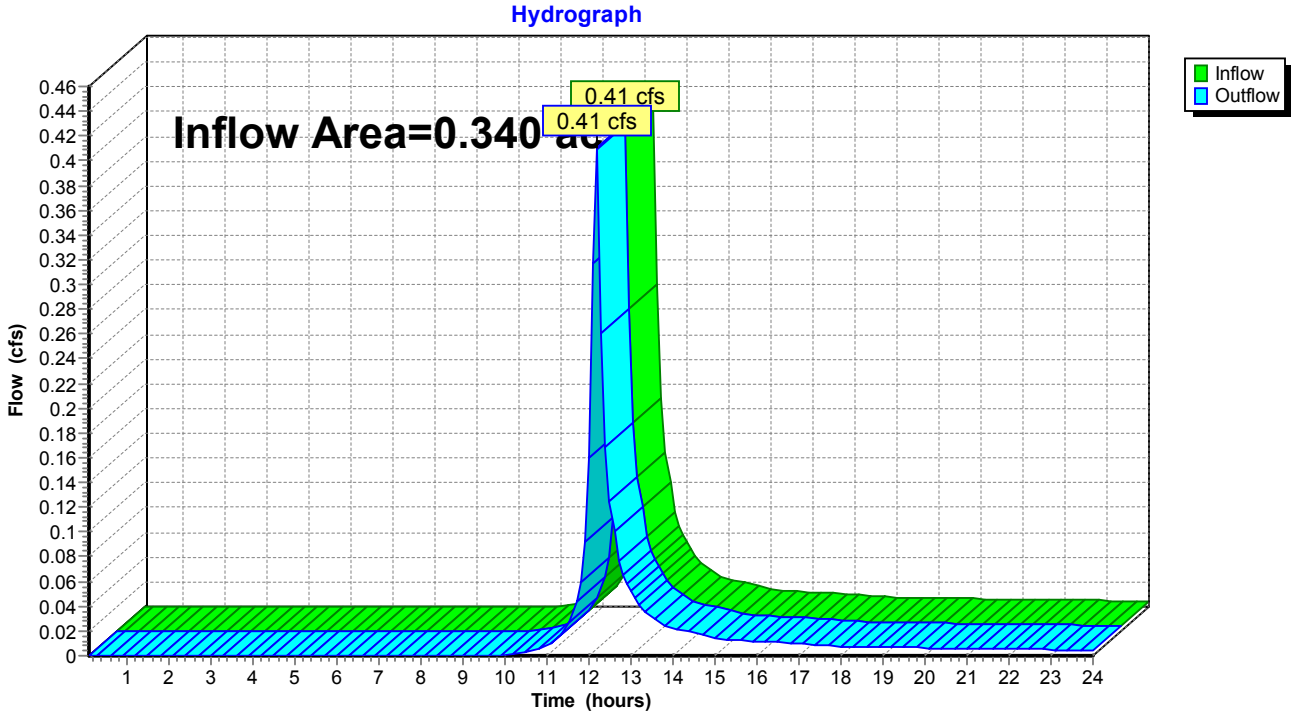
Summary for Reach DP - W: Design Point - Woodruff St

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 0.340 ac, 61.76% Impervious, Inflow Depth > 0.96" for 1-yr event
Inflow = 0.41 cfs @ 12.19 hrs, Volume= 0.027 af
Outflow = 0.41 cfs @ 12.19 hrs, Volume= 0.027 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.10-24.00 hrs, dt= 0.10 hrs

Reach DP - W: Design Point - Woodruff St



Summary for Pond BR: Bioretention Areas

[85] Warning: Oscillations may require smaller dt or Finer Routing (severity=1)

Inflow Area =	0.900 ac, 83.33% Impervious, Inflow Depth > 1.40" for 1-yr event				
Inflow =	1.75 cfs @	12.11 hrs,	Volume=	0.105 af	
Outflow =	1.74 cfs @	12.11 hrs,	Volume=	0.105 af,	Atten= 1%, Lag= 0.1 min
Primary =	1.74 cfs @	12.11 hrs,	Volume=	0.105 af	

Routing by Stor-Ind method, Time Span= 0.10-24.00 hrs, dt= 0.10 hrs
Peak Elev= 480.03' @ 12.11 hrs Surf.Area= 0 sf Storage= 8 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 0.1 min (795.8 - 795.7)

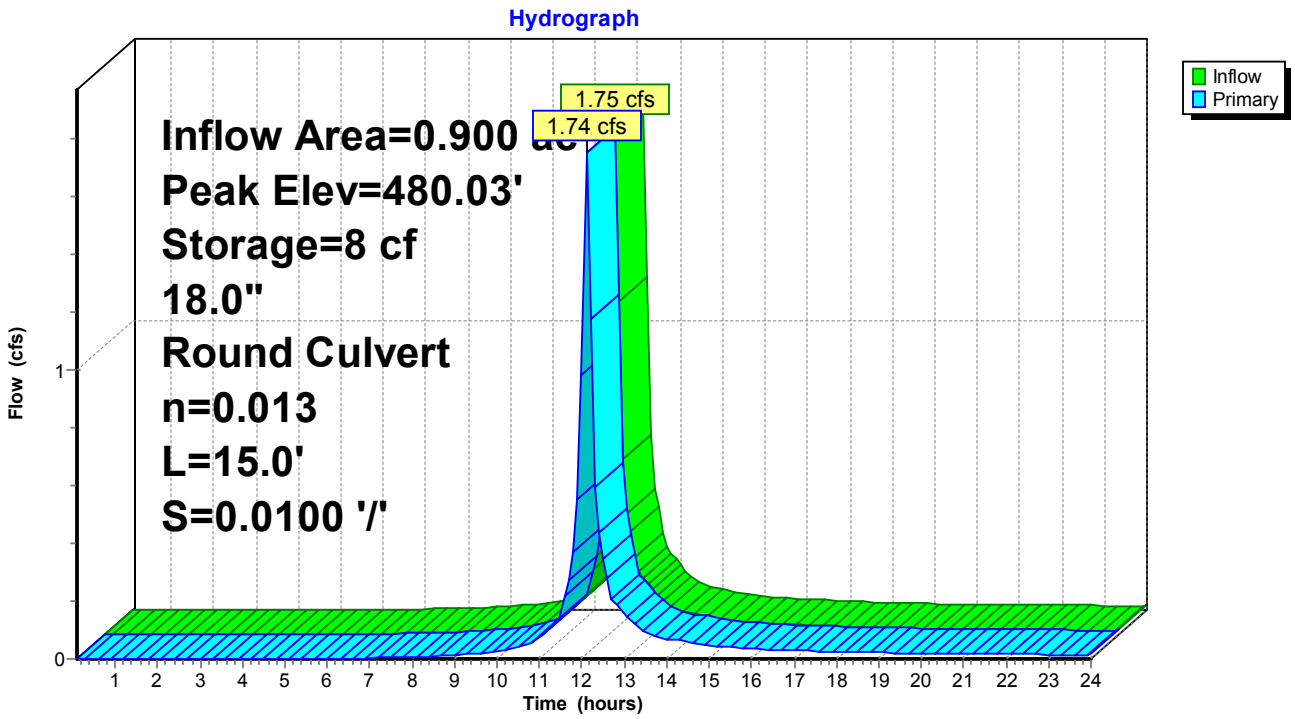
Volume	Invert	Avail.Storage	Storage Description
#1	480.00'	912 cf	**Custom Stage Data** Listed below

Elevation (feet)	Cum.Store (cubic-feet)
480.00	0
483.86	912

Device	Routing	Invert	Outlet Devices
#1	Primary	479.25'	**18.0" Round Culvert** L= 15.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 479.25' / 479.10' S= 0.0100 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf

Primary OutFlow Max=2.02 cfs @ 12.11 hrs HW=480.03' (Free Discharge)
└**1=Culvert** (Barrel Controls 2.02 cfs @ 3.15 fps)

Pond BR: Bioretention Areas



Summary for Pond DBW: USWDB COMBINED

Inflow Area = 3.140 ac, 87.58% Impervious, Inflow Depth > 1.47" for 1-yr event
Inflow = 4.37 cfs @ 12.29 hrs, Volume= 0.384 af
Outflow = 0.65 cfs @ 13.12 hrs, Volume= 0.356 af, Atten= 85%, Lag= 49.4 min
Primary = 0.65 cfs @ 13.12 hrs, Volume= 0.356 af
Secondary = 0.00 cfs @ 13.11 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.10-24.00 hrs, dt= 0.10 hrs
Peak Elev= 481.92' @ 13.12 hrs Surf.Area= 7,894 sf Storage= 9,145 cf

Plug-Flow detention time= 193.1 min calculated for 0.356 af (93% of inflow)
Center-of-Mass det. time= 156.6 min (957.0 - 800.4)

Volume	Invert	Avail.Storage	Storage Description
#1	480.60'	6,126 cf	**24.0" Round Pipe Storage** x 15 L= 130.0'
#2	480.60'	377 cf	**24.0" Round Pipe Storage** x 2 L= 60.0'
#3	481.91'	2,300 cf	**24.0" Round Pipe Storage** x 6 L= 122.0' S= 0.0020 '/'
#4	479.62'	2,562 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)
		11,365 cf	x 2.00 = 22,730 cf Total Available Storage

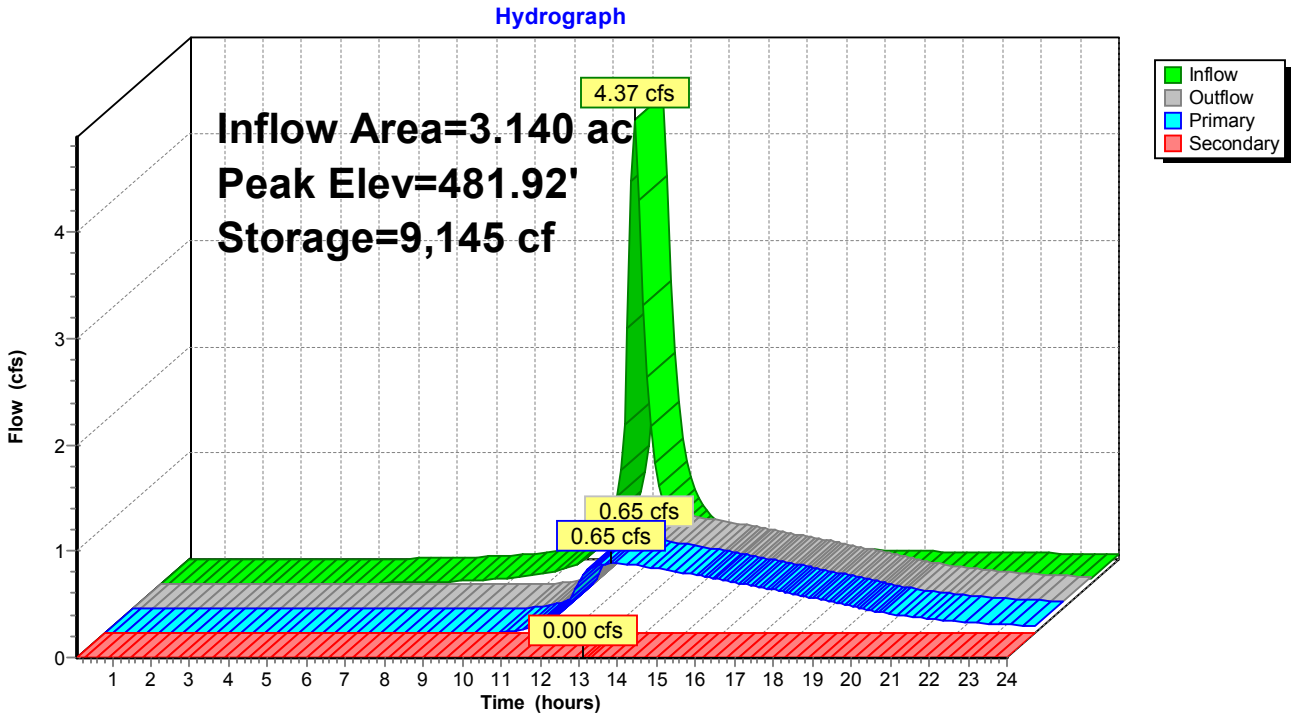
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
479.62	0	0	0
479.63	16	0	0
484.39	16	76	76
484.40	20	0	76
485.50	4,500	2,486	2,562

Device	Routing	Invert	Outlet Devices
#1	Primary	480.77'	**18.0" Round Culvert** L= 38.4' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 480.65' / 480.77' S= -0.0031 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 1.77 sf
#2	Secondary	481.91'	**15.0" Round Culvert** L= 12.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 481.91' / 481.27' S= 0.0533 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf
#3	Device 1	480.72'	**5.0" Vert. Orifice/Grate** C= 0.600
#4	Device 1	483.63'	**0.5' long Sharp-Crested Rectangular Weir** 2 End Contraction(s) 0.5' Crest Height
#5	Device 2	481.91'	**4.0" Vert. Orifice/Grate** C= 0.600
#6	Device 2	483.91'	**0.5' long Sharp-Crested Rectangular Weir** 2 End Contraction(s) 0.5' Crest Height

Primary OutFlow Max=0.65 cfs @ 13.12 hrs HW=481.92' (Free Discharge)
└─**1=Culvert** (Passes 0.65 cfs of 3.55 cfs potential flow)
  ├─**3=Orifice/Grate** (Orifice Controls 0.65 cfs @ 4.78 fps)
  └─**4=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)

Secondary OutFlow Max=0.00 cfs @ 13.11 hrs HW=481.92' (Free Discharge)
└─**2=Culvert** (Passes 0.00 cfs of 0.00 cfs potential flow)
  ├─**5=Orifice/Grate** (Orifice Controls 0.00 cfs @ 0.25 fps)
  └─**6=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond DBW: USWDB COMBINED



Time span=0.10-24.00 hrs, dt=0.10 hrs, 240 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1: DA #1 Runoff Area=2.190 ac 91.32% Impervious Runoff Depth>2.87"
Flow Length=530' Tc=19.6 min CN=96 Runoff=5.70 cfs 0.524 af

Subcatchment 2: DA #2 P LOT WEST Runoff Area=0.950 ac 78.95% Impervious Runoff Depth>2.47"
Flow Length=86' Tc=19.8 min CN=92 Runoff=2.23 cfs 0.195 af

Subcatchment 2BLDG: DA #2 BLDG/P LOT Runoff Area=0.670 ac 82.09% Impervious Runoff Depth>2.56"
Flow Length=206' Slope=0.0050 '/' Tc=26.4 min CN=93 Runoff=1.40 cfs 0.143 af

Subcatchment 3: DA #3 Runoff Area=0.900 ac 83.33% Impervious Runoff Depth>2.67"
Flow Length=70' Slope=0.0100 '/' Tc=5.3 min CN=94 Runoff=3.24 cfs 0.200 af

Subcatchment 4: DA #4 Runoff Area=0.340 ac 61.76% Impervious Runoff Depth>2.11"
Flow Length=80' Slope=0.0100 '/' Tc=9.9 min CN=88 Runoff=0.89 cfs 0.060 af

Subcatchment PG: MOB & GARAGE Runoff Area=2.040 ac 93.14% Impervious Runoff Depth>2.87"
Flow Length=50' Slope=0.0150 '/' Tc=16.5 min CN=96 Runoff=5.67 cfs 0.488 af

Reach DP - P: Design Point - Pratt St Inflow=9.57 cfs 1.510 af
Outflow=9.57 cfs 1.510 af

Reach DP - W: Design Point - Woodruff St Inflow=0.89 cfs 0.060 af
Outflow=0.89 cfs 0.060 af

Pond BR: Bioretention Areas Peak Elev=480.24' Storage=57 cf Inflow=3.24 cfs 0.200 af
18.0" Round Culvert n=0.013 L=15.0' S=0.0100 '/' Outflow=3.01 cfs 0.200 af

Pond DBW: USWDB COMBINED Peak Elev=483.38' Storage=16,433 cf Inflow=7.93 cfs 0.719 af
Primary=1.03 cfs 0.594 af Secondary=0.48 cfs 0.085 af Outflow=1.51 cfs 0.679 af

Total Runoff Area = 7.090 ac Runoff Volume = 1.610 af Average Runoff Depth = 2.73"
13.12% Pervious = 0.930 ac 86.88% Impervious = 6.160 ac

Summary for Subcatchment 1: DA #1

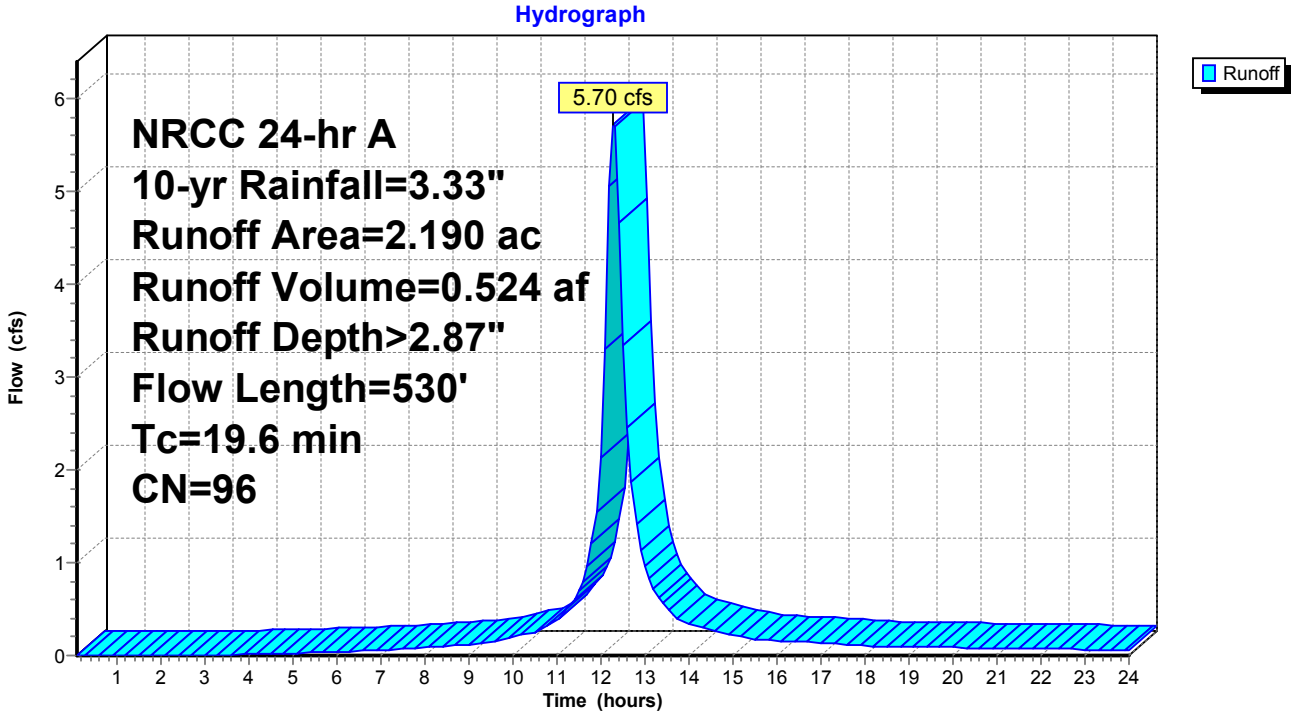
Runoff = 5.70 cfs @ 12.29 hrs, Volume= 0.524 af, Depth> 2.87"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.10-24.00 hrs, dt= 0.10 hrs
NRCC 24-hr A 10-yr Rainfall=3.33"

	Area (ac)	CN	Description
	0.190	71	Meadow, non-grazed, HSG C
*	2.000	98	Paved parking and Buildings, HSG C
	2.190	96	Weighted Average
	0.190		8.68% Pervious Area
	2.000		91.32% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.7	27	0.0050	0.03		**Sheet Flow, Lawn** Grass: Bermuda n= 0.410 P2= 2.33"
1.9	73	0.0050	0.63		**Sheet Flow, Parking Lot** Smooth surfaces n= 0.011 P2= 2.33"
0.3	32	0.0100	2.03		**Shallow Concentrated Flow, Parking Lot** Paved Kv= 20.3 fps
1.7	398	0.0025	3.86	6.83	**Pipe Channel, Storm Sewer** 18.0" Round Area= 1.8 sf Perim= 4.7' r= 0.38' n= 0.010 PVC, smooth interior
19.6	530	Total			

Subcatchment 1: DA #1



Summary for Subcatchment 2: DA #2 P LOT WEST

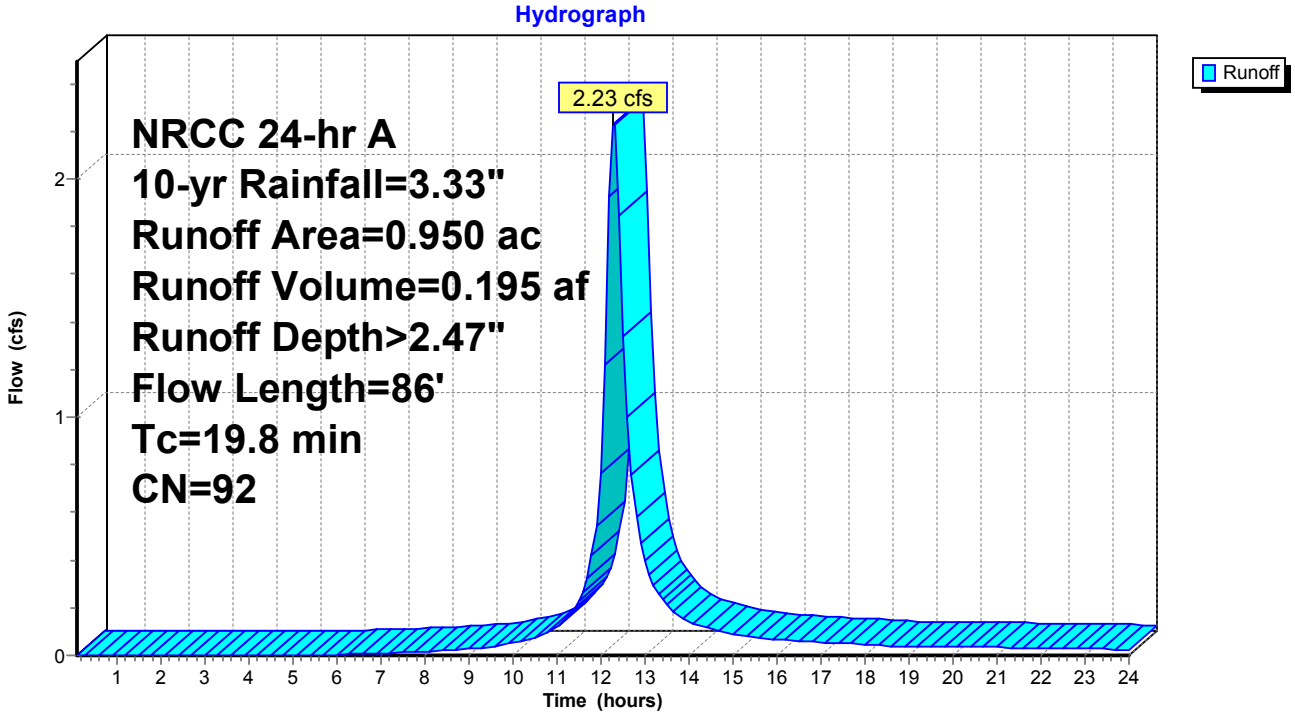
Runoff = 2.23 cfs @ 12.29 hrs, Volume= 0.195 af, Depth> 2.47"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.10-24.00 hrs, dt= 0.10 hrs
NRCC 24-hr A 10-yr Rainfall=3.33"

	Area (ac)	CN	Description
	0.200	71	Meadow, non-grazed, HSG C
*	0.750	98	Paved parking and Buildings, HSG C
	0.950	92	Weighted Average
	0.200		21.05% Pervious Area
	0.750		78.95% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
19.3	43	0.0075	0.04		**Sheet Flow, Lawn** Grass: Bermuda n= 0.410 P2= 2.33"
0.5	43	0.0400	1.31		**Sheet Flow, Asphalt** Smooth surfaces n= 0.011 P2= 2.33"
19.8	86	Total			

Subcatchment 2: DA #2 P LOT WEST



Summary for Subcatchment 2BLDG: DA #2 BLDG/P LOT EAST

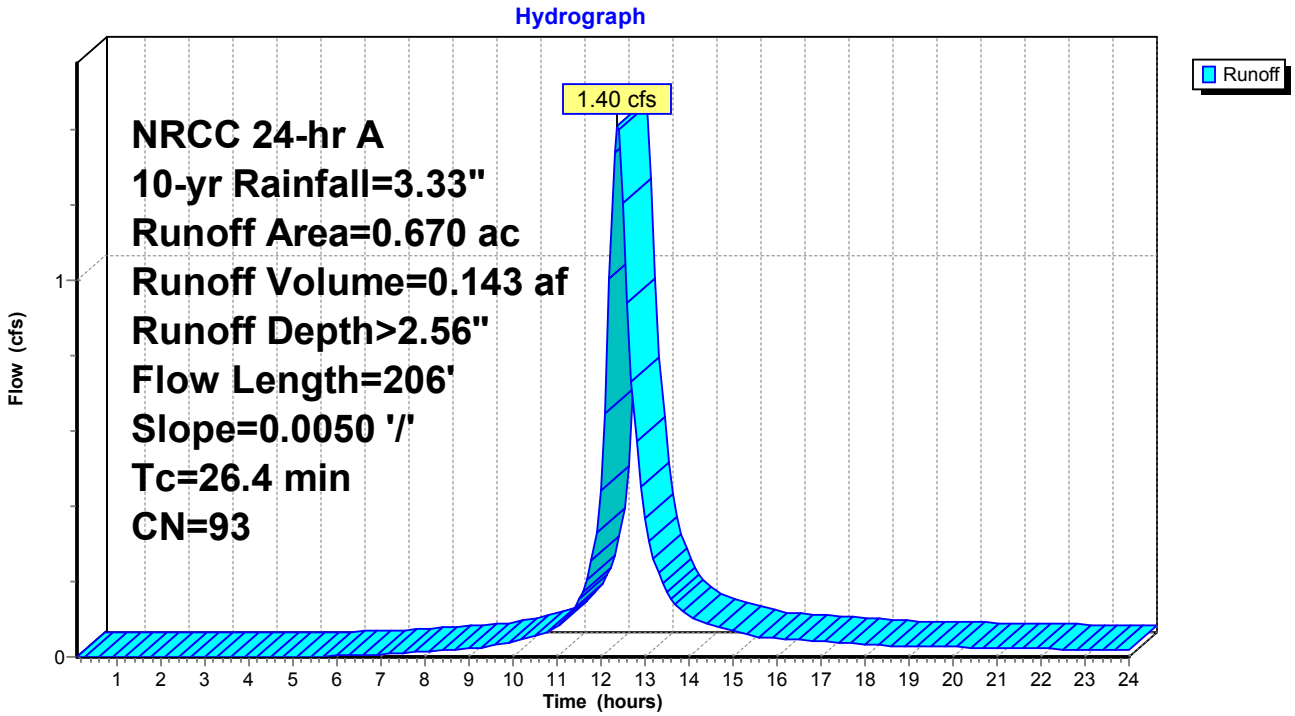
Runoff = 1.40 cfs @ 12.37 hrs, Volume= 0.143 af, Depth> 2.56"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.10-24.00 hrs, dt= 0.10 hrs
NRCC 24-hr A 10-yr Rainfall=3.33"

Area (ac)	CN	Description
0.120	71	Meadow, non-grazed, HSG C
0.550	98	Paved parking and Buildings, HSG C
0.670	93	Weighted Average
0.120		17.91% Pervious Area
0.550		82.09% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
25.7	50	0.0050	0.03		**Sheet Flow, Lawn** Grass: Bermuda n= 0.410 P2= 2.33"
0.7	156	0.0050	3.72	4.57	**Pipe Channel, Storm Sewer** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.013 Corrugated PE, smooth interior
26.4	206	Total			

Subcatchment 2BLDG: DA #2 BLDG/P LOT EAST



Summary for Subcatchment 3: DA #3

[49] Hint: Tc<2dt may require smaller dt

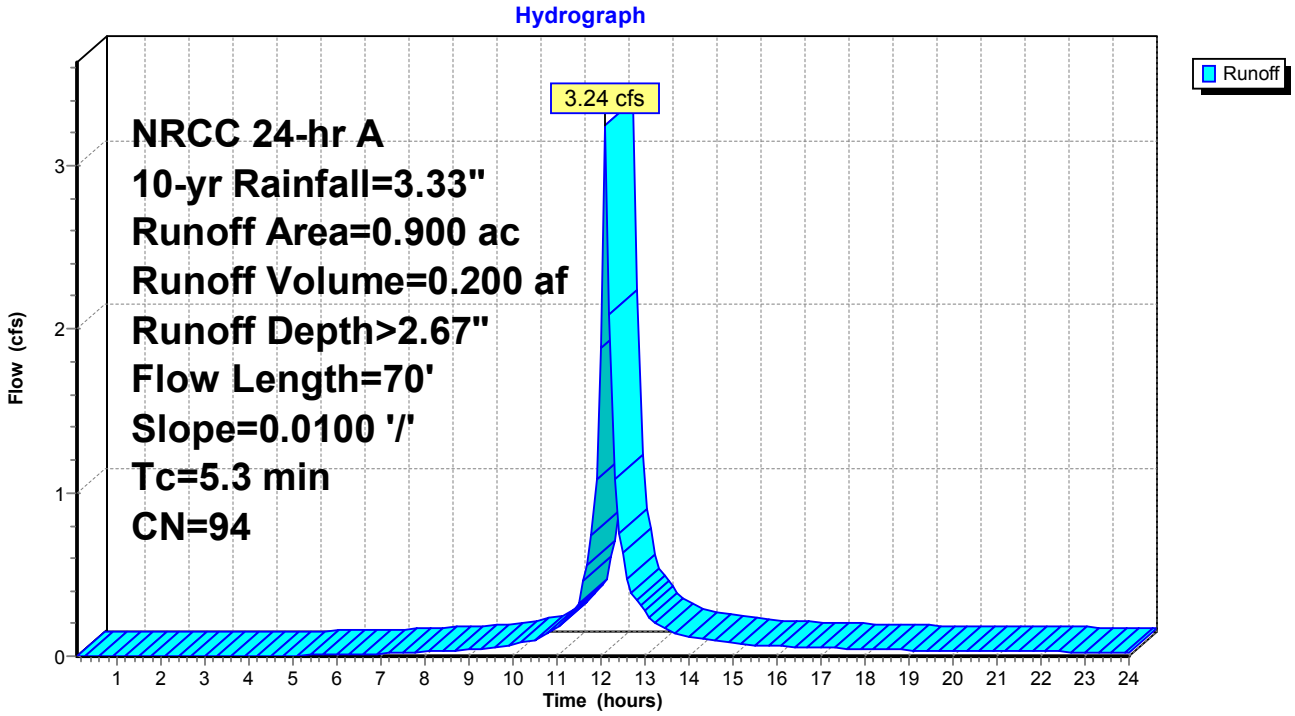
Runoff = 3.24 cfs @ 12.10 hrs, Volume= 0.200 af, Depth> 2.67"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.10-24.00 hrs, dt= 0.10 hrs
NRCC 24-hr A 10-yr Rainfall=3.33"

Area (ac)	CN	Description
0.150	71	Meadow, non-grazed, HSG C
0.750	98	Paved parking and Buildings, HSG C
0.900	94	Weighted Average
0.150		16.67% Pervious Area
0.750		83.33% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.8	15	0.0100	0.05		**Sheet Flow, Lawn** Grass: Dense n= 0.240 P2= 2.33"
0.5	55	0.0100	2.03		**Shallow Concentrated Flow, Parking Lot** Paved Kv= 20.3 fps
5.3	70	Total			

Subcatchment 3: DA #3



Summary for Subcatchment 4: DA #4

[49] Hint: Tc<2dt may require smaller dt

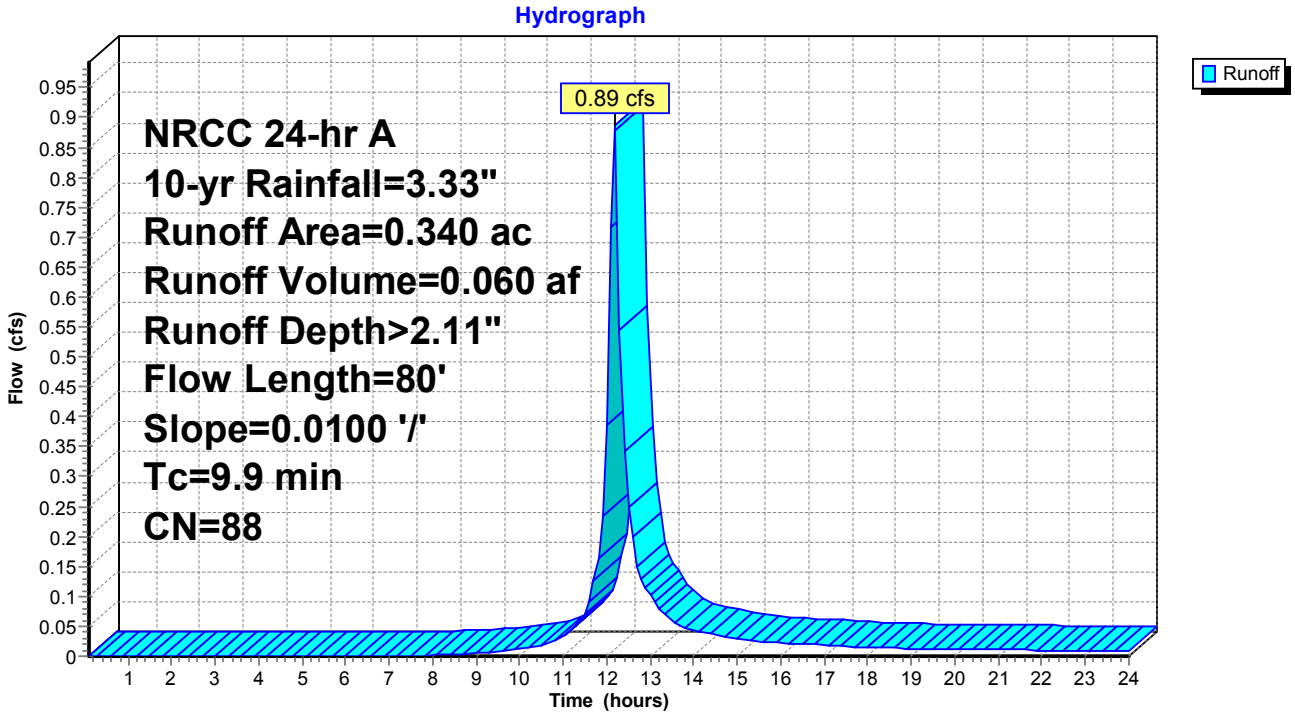
Runoff = 0.89 cfs @ 12.18 hrs, Volume= 0.060 af, Depth> 2.11"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.10-24.00 hrs, dt= 0.10 hrs
NRCC 24-hr A 10-yr Rainfall=3.33"

Area (ac)	CN	Description
0.130	71	Meadow, non-grazed, HSG C
0.210	98	Water Surface, HSG C
0.340	88	Weighted Average
0.130		38.24% Pervious Area
0.210		61.76% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.5	35	0.0100	0.06		**Sheet Flow, Lawn** Grass: Dense n= 0.240 P2= 2.33"
0.4	45	0.0100	2.03		**Shallow Concentrated Flow, Parking Lot** Paved Kv= 20.3 fps
9.9	80	Total			

Subcatchment 4: DA #4



Summary for Subcatchment PG: MOB & GARAGE

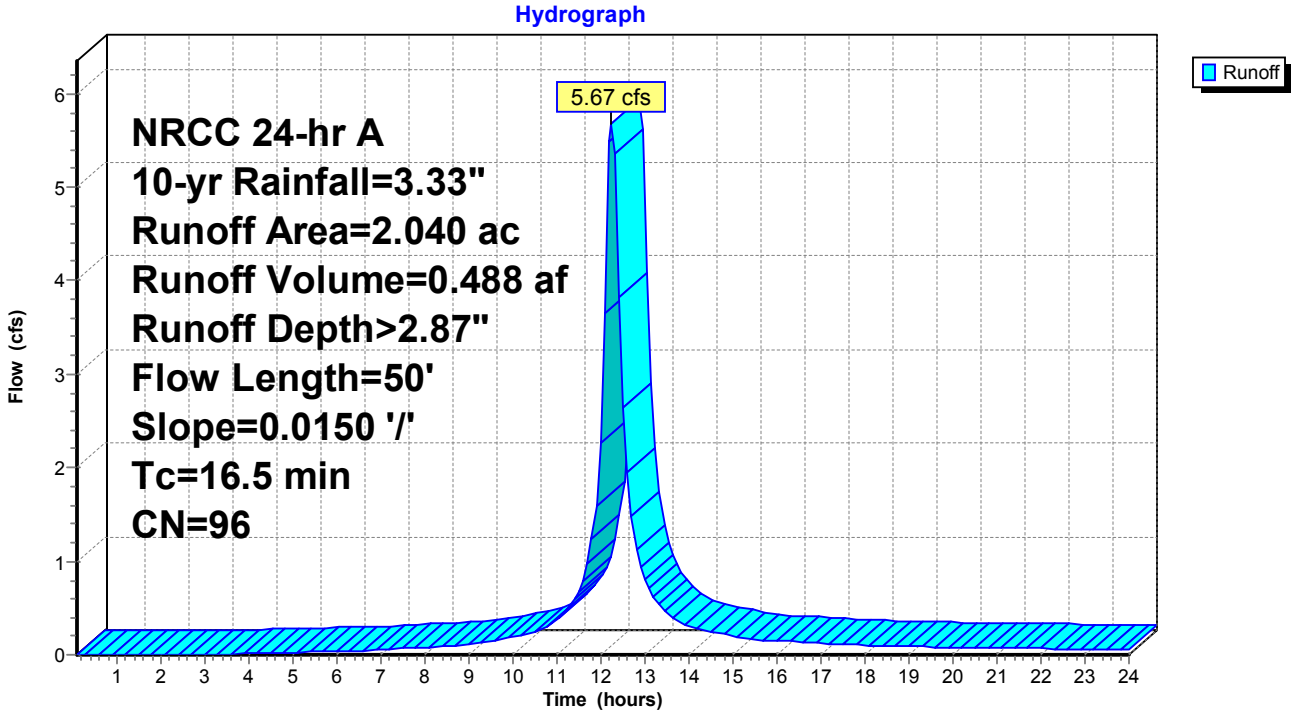
Runoff = 5.67 cfs @ 12.24 hrs, Volume= 0.488 af, Depth> 2.87"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.10-24.00 hrs, dt= 0.10 hrs
NRCC 24-hr A 10-yr Rainfall=3.33"

Area (ac)	CN	Description
0.140	71	Meadow, non-grazed, HSG C
1.900	98	Paved parking, HSG C
2.040	96	Weighted Average
0.140		6.86% Pervious Area
1.900		93.14% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.5	50	0.0150	0.05		**Sheet Flow, Lawn Area** Grass: Bermuda n= 0.410 P2= 2.33"

Subcatchment PG: MOB & GARAGE



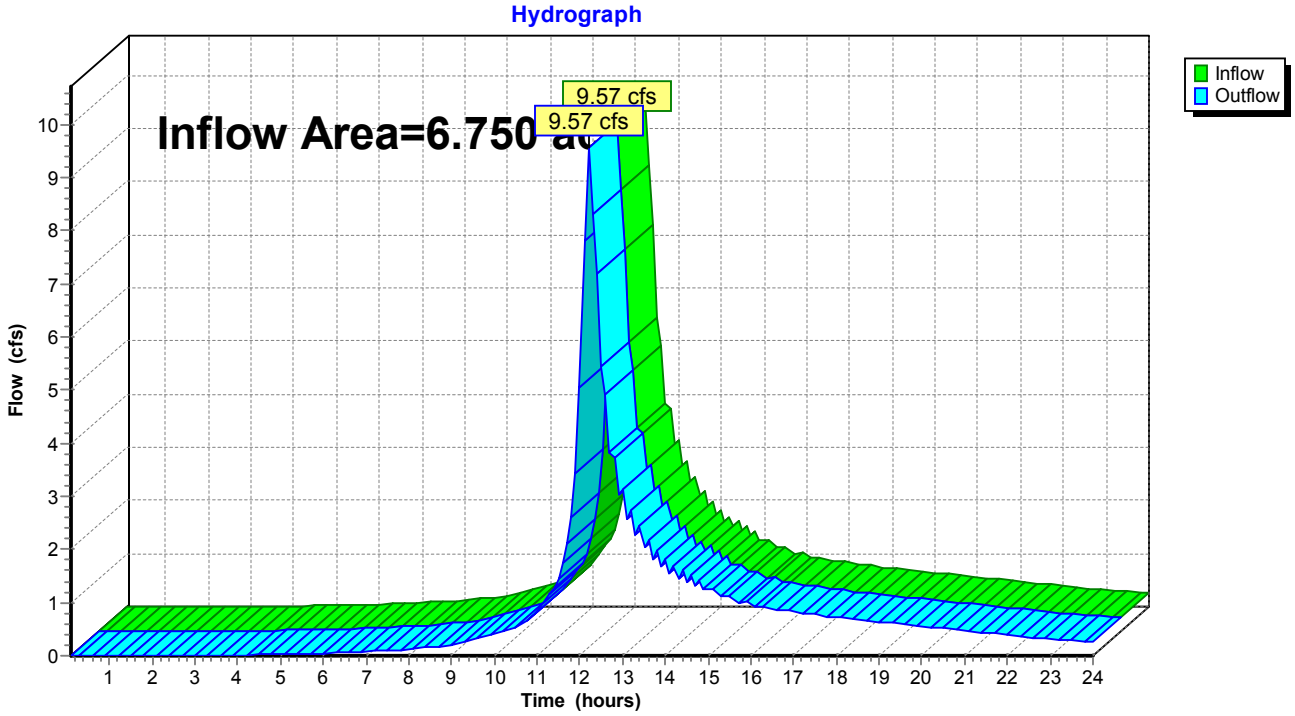
Summary for Reach DP - P: Design Point - Pratt St

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 6.750 ac, 88.15% Impervious, Inflow Depth > 2.68" for 10-yr event
Inflow = 9.57 cfs @ 12.21 hrs, Volume= 1.510 af
Outflow = 9.57 cfs @ 12.21 hrs, Volume= 1.510 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.10-24.00 hrs, dt= 0.10 hrs

Reach DP - P: Design Point - Pratt St



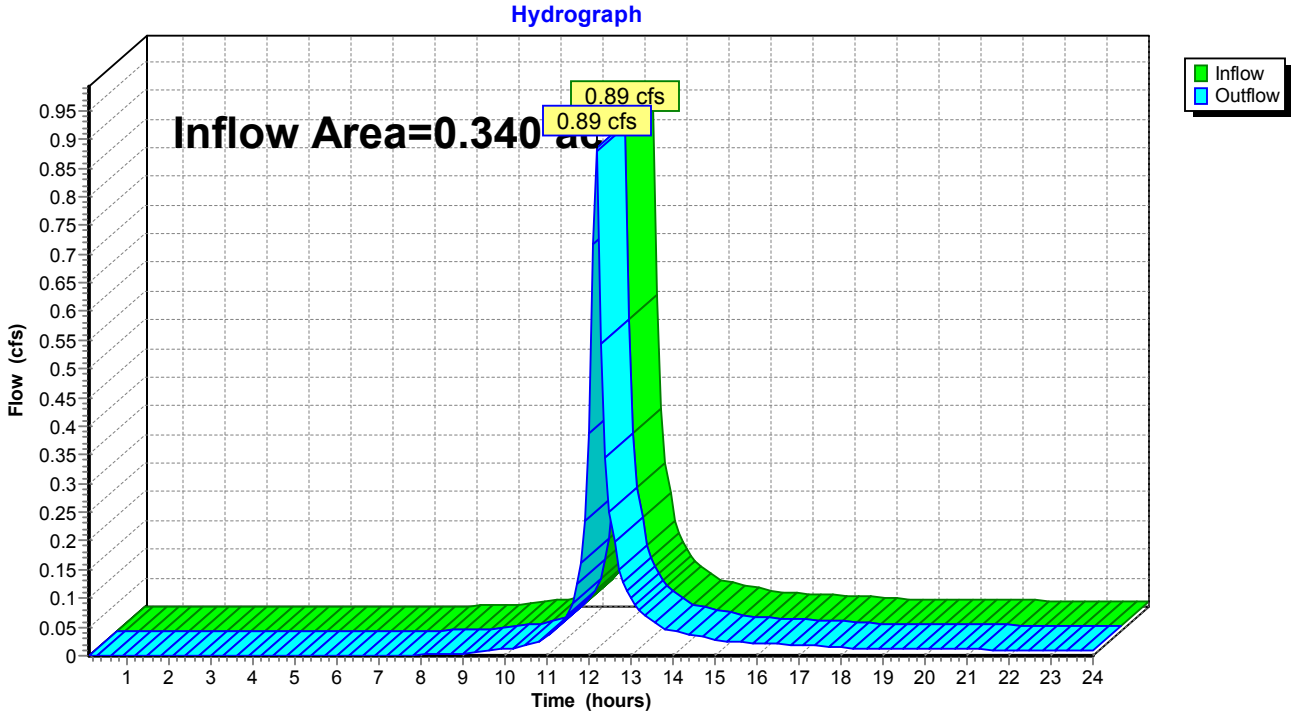
Summary for Reach DP - W: Design Point - Woodruff St

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 0.340 ac, 61.76% Impervious, Inflow Depth > 2.11" for 10-yr event
Inflow = 0.89 cfs @ 12.18 hrs, Volume= 0.060 af
Outflow = 0.89 cfs @ 12.18 hrs, Volume= 0.060 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.10-24.00 hrs, dt= 0.10 hrs

Reach DP - W: Design Point - Woodruff St



Summary for Pond BR: Bioretention Areas

[85] Warning: Oscillations may require smaller dt or Finer Routing (severity=33)

Inflow Area = 0.900 ac, 83.33% Impervious, Inflow Depth > 2.67" for 10-yr event
Inflow = 3.24 cfs @ 12.10 hrs, Volume= 0.200 af
Outflow = 3.01 cfs @ 12.12 hrs, Volume= 0.200 af, Atten= 7%, Lag= 0.9 min
Primary = 3.01 cfs @ 12.12 hrs, Volume= 0.200 af

Routing by Stor-Ind method, Time Span= 0.10-24.00 hrs, dt= 0.10 hrs
Peak Elev= 480.24' @ 12.12 hrs Surf.Area= 0 sf Storage= 57 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 0.1 min (780.6 - 780.4)

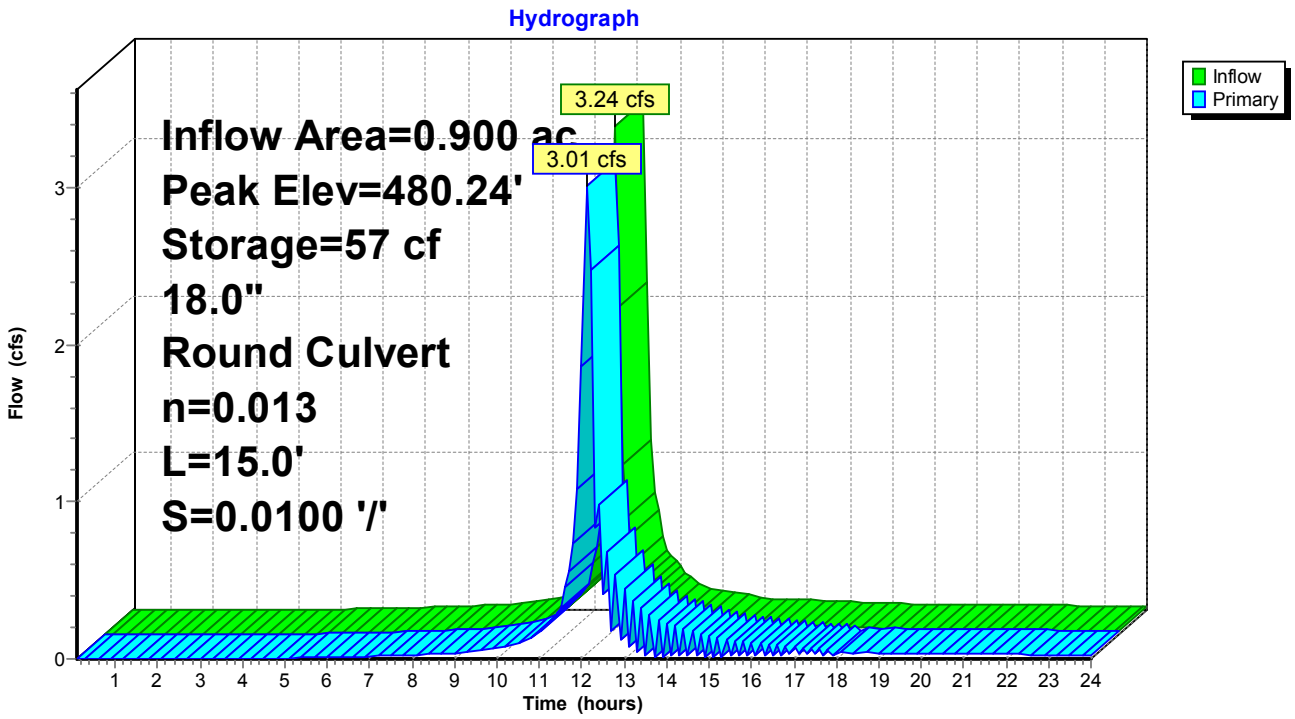
Volume	Invert	Avail.Storage	Storage Description
#1	480.00'	912 cf	**Custom Stage Data** Listed below

Elevation (feet)	Cum.Store (cubic-feet)
480.00	0
483.86	912

Device	Routing	Invert	Outlet Devices
#1	Primary	479.25'	**18.0" Round Culvert** L= 15.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 479.25' / 479.10' S= 0.0100 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf

Primary OutFlow Max=2.89 cfs @ 12.12 hrs HW=480.22' (Free Discharge)
└**1=Culvert** (Barrel Controls 2.89 cfs @ 3.40 fps)

Pond BR: Bioretention Areas



Summary for Pond DBW: USWDB COMBINED

Inflow Area = 3.140 ac, 87.58% Impervious, Inflow Depth > 2.75" for 10-yr event
Inflow = 7.93 cfs @ 12.29 hrs, Volume= 0.719 af
Outflow = 1.51 cfs @ 12.94 hrs, Volume= 0.679 af, Atten= 81%, Lag= 39.1 min
Primary = 1.03 cfs @ 12.94 hrs, Volume= 0.594 af
Secondary = 0.48 cfs @ 12.94 hrs, Volume= 0.085 af

Routing by Stor-Ind method, Time Span= 0.10-24.00 hrs, dt= 0.10 hrs
Peak Elev= 483.38' @ 12.94 hrs Surf.Area= 2,763 sf Storage= 16,433 cf

Plug-Flow detention time= 191.1 min calculated for 0.676 af (94% of inflow)
Center-of-Mass det. time= 161.8 min (948.3 - 786.5)

Volume	Invert	Avail.Storage	Storage Description
#1	480.60'	6,126 cf	**24.0" Round Pipe Storage** x 15 L= 130.0'
#2	480.60'	377 cf	**24.0" Round Pipe Storage** x 2 L= 60.0'
#3	481.91'	2,300 cf	**24.0" Round Pipe Storage** x 6 L= 122.0' S= 0.0020 '/'
#4	479.62'	2,562 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)
		11,365 cf	x 2.00 = 22,730 cf Total Available Storage

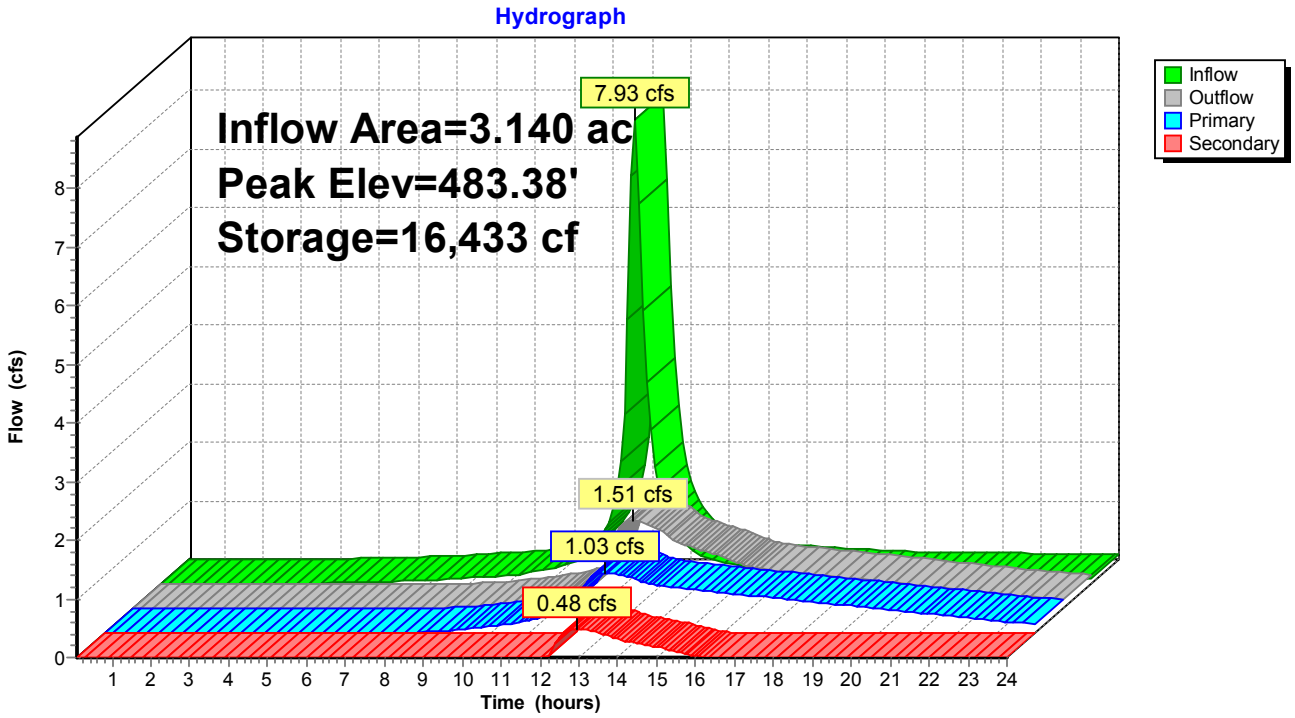
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
479.62	0	0	0
479.63	16	0	0
484.39	16	76	76
484.40	20	0	76
485.50	4,500	2,486	2,562

Device	Routing	Invert	Outlet Devices
#1	Primary	480.77'	**18.0" Round Culvert** L= 38.4' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 480.65' / 480.77' S= -0.0031 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 1.77 sf
#2	Secondary	481.91'	**15.0" Round Culvert** L= 12.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 481.91' / 481.27' S= 0.0533 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf
#3	Device 1	480.72'	**5.0" Vert. Orifice/Grate** C= 0.600
#4	Device 1	483.63'	**0.5' long Sharp-Crested Rectangular Weir** 2 End Contraction(s) 0.5' Crest Height
#5	Device 2	481.91'	**4.0" Vert. Orifice/Grate** C= 0.600
#6	Device 2	483.91'	**0.5' long Sharp-Crested Rectangular Weir** 2 End Contraction(s) 0.5' Crest Height

Primary OutFlow Max=1.03 cfs @ 12.94 hrs HW=483.38' (Free Discharge)
└─**1=Culvert** (Passes 1.03 cfs of 9.16 cfs potential flow)
  ├─**3=Orifice/Grate** (Orifice Controls 1.03 cfs @ 7.54 fps)
  └─**4=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)

Secondary OutFlow Max=0.48 cfs @ 12.94 hrs HW=483.38' (Free Discharge)
└─**2=Culvert** (Passes 0.48 cfs of 5.43 cfs potential flow)
  ├─**5=Orifice/Grate** (Orifice Controls 0.48 cfs @ 5.50 fps)
  └─**6=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond DBW: USWDB COMBINED



Time span=0.10-24.00 hrs, dt=0.10 hrs, 240 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1: DA #1 Runoff Area=2.190 ac 91.32% Impervious Runoff Depth>5.06"
Flow Length=530' Tc=19.6 min CN=96 Runoff=9.75 cfs 0.923 af

Subcatchment 2: DA #2 P LOT WEST Runoff Area=0.950 ac 78.95% Impervious Runoff Depth>4.61"
Flow Length=86' Tc=19.8 min CN=92 Runoff=4.02 cfs 0.365 af

Subcatchment 2BLDG: DA #2 BLDG/P LOT Runoff Area=0.670 ac 82.09% Impervious Runoff Depth>4.71"
Flow Length=206' Slope=0.0050 '/' Tc=26.4 min CN=93 Runoff=2.50 cfs 0.263 af

Subcatchment 3: DA #3 Runoff Area=0.900 ac 83.33% Impervious Runoff Depth>4.84"
Flow Length=70' Slope=0.0100 '/' Tc=5.3 min CN=94 Runoff=5.67 cfs 0.363 af

Subcatchment 4: DA #4 Runoff Area=0.340 ac 61.76% Impervious Runoff Depth>4.18"
Flow Length=80' Slope=0.0100 '/' Tc=9.9 min CN=88 Runoff=1.70 cfs 0.118 af

Subcatchment PG: MOB & GARAGE Runoff Area=2.040 ac 93.14% Impervious Runoff Depth>5.06"
Flow Length=50' Slope=0.0150 '/' Tc=16.5 min CN=96 Runoff=9.69 cfs 0.860 af

Reach DP - P: Design Point - Pratt St Inflow=17.98 cfs 2.710 af
Outflow=17.98 cfs 2.710 af

Reach DP - W: Design Point - Woodruff St Inflow=1.70 cfs 0.118 af
Outflow=1.70 cfs 0.118 af

Pond BR: Bioretention Areas Peak Elev=480.70' Storage=165 cf Inflow=5.67 cfs 0.363 af
18.0" Round Culvert n=0.013 L=15.0' S=0.0100 '/' Outflow=5.42 cfs 0.363 af

Pond DBW: USWDB COMBINED Peak Elev=485.44' Storage=22,242 cf Inflow=13.77 cfs 1.288 af
Primary=4.28 cfs 0.952 af Secondary=2.91 cfs 0.271 af Outflow=7.19 cfs 1.223 af

Total Runoff Area = 7.090 ac Runoff Volume = 2.892 af Average Runoff Depth = 4.90"
13.12% Pervious = 0.930 ac 86.88% Impervious = 6.160 ac

Summary for Subcatchment 1: DA #1

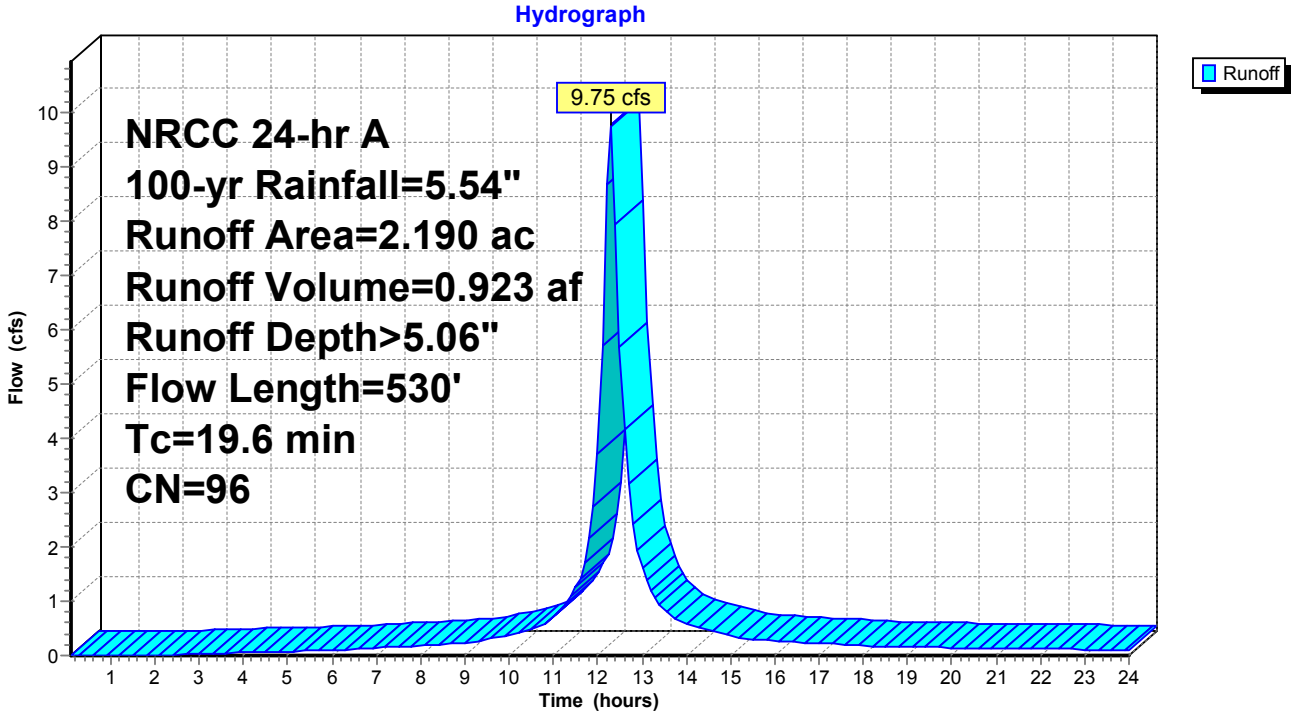
Runoff = 9.75 cfs @ 12.29 hrs, Volume= 0.923 af, Depth> 5.06"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.10-24.00 hrs, dt= 0.10 hrs
NRCC 24-hr A 100-yr Rainfall=5.54"

	Area (ac)	CN	Description
	0.190	71	Meadow, non-grazed, HSG C
*	2.000	98	Paved parking and Buildings, HSG C
	2.190	96	Weighted Average
	0.190		8.68% Pervious Area
	2.000		91.32% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.7	27	0.0050	0.03		**Sheet Flow, Lawn** Grass: Bermuda n= 0.410 P2= 2.33"
1.9	73	0.0050	0.63		**Sheet Flow, Parking Lot** Smooth surfaces n= 0.011 P2= 2.33"
0.3	32	0.0100	2.03		**Shallow Concentrated Flow, Parking Lot** Paved Kv= 20.3 fps
1.7	398	0.0025	3.86	6.83	**Pipe Channel, Storm Sewer** 18.0" Round Area= 1.8 sf Perim= 4.7' r= 0.38' n= 0.010 PVC, smooth interior
19.6	530	Total			

Subcatchment 1: DA #1



Summary for Subcatchment 2: DA #2 P LOT WEST

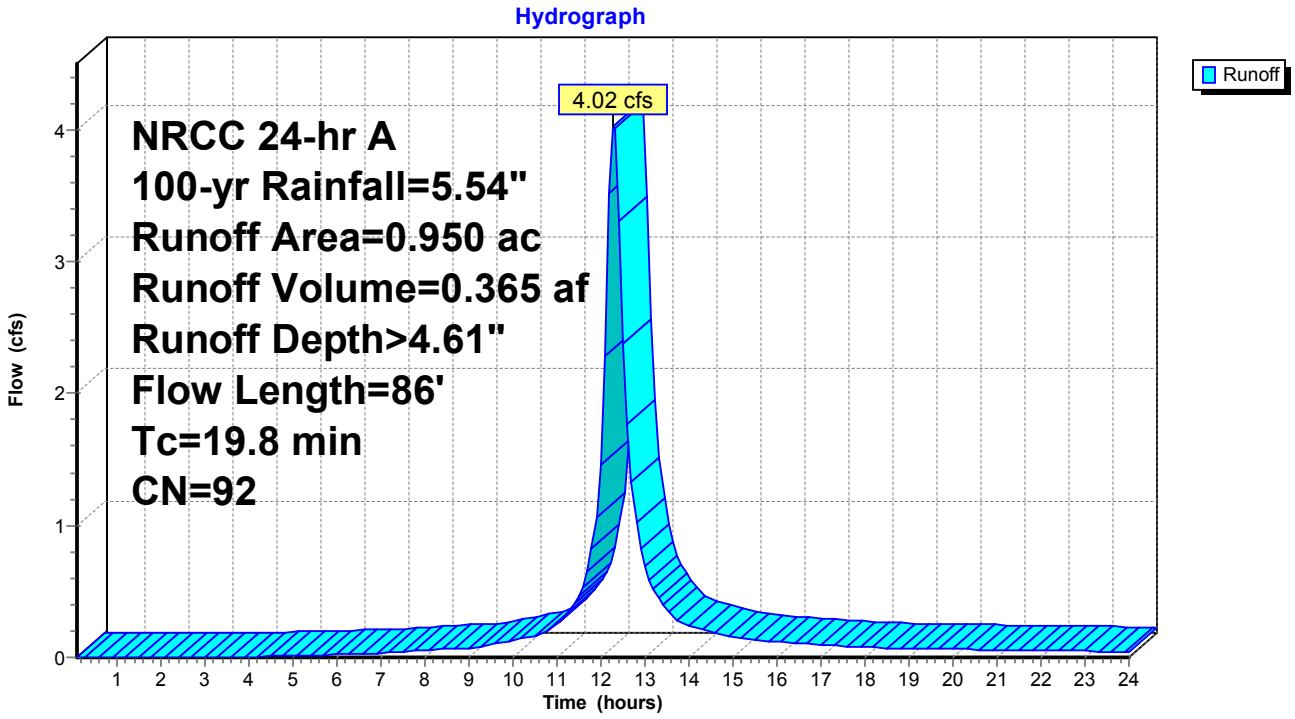
Runoff = 4.02 cfs @ 12.29 hrs, Volume= 0.365 af, Depth> 4.61"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.10-24.00 hrs, dt= 0.10 hrs
NRCC 24-hr A 100-yr Rainfall=5.54"

	Area (ac)	CN	Description
	0.200	71	Meadow, non-grazed, HSG C
*	0.750	98	Paved parking and Buildings, HSG C
	0.950	92	Weighted Average
	0.200		21.05% Pervious Area
	0.750		78.95% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
19.3	43	0.0075	0.04		**Sheet Flow, Lawn** Grass: Bermuda n= 0.410 P2= 2.33"
0.5	43	0.0400	1.31		**Sheet Flow, Asphalt** Smooth surfaces n= 0.011 P2= 2.33"
19.8	86	Total			

Subcatchment 2: DA #2 P LOT WEST



Summary for Subcatchment 2BLDG: DA #2 BLDG/P LOT EAST

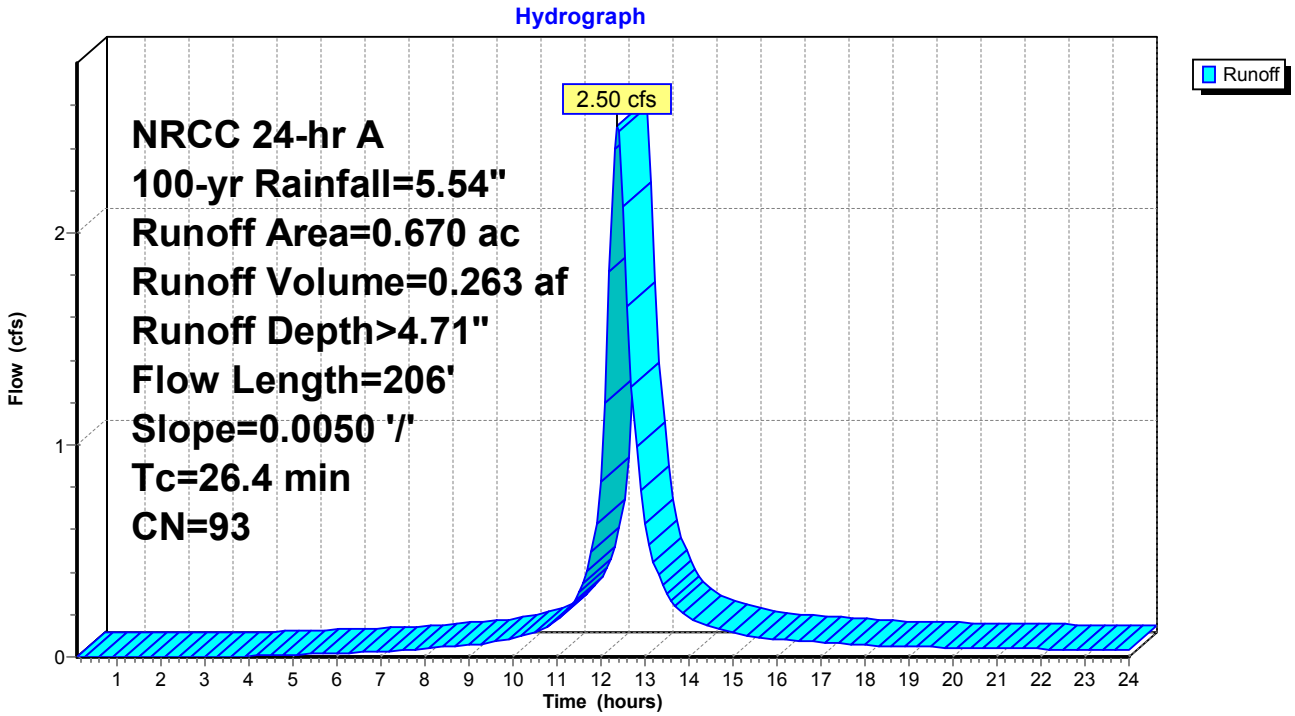
Runoff = 2.50 cfs @ 12.37 hrs, Volume= 0.263 af, Depth> 4.71"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.10-24.00 hrs, dt= 0.10 hrs
NRCC 24-hr A 100-yr Rainfall=5.54"

Area (ac)	CN	Description
0.120	71	Meadow, non-grazed, HSG C
0.550	98	Paved parking and Buildings, HSG C
0.670	93	Weighted Average
0.120		17.91% Pervious Area
0.550		82.09% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
25.7	50	0.0050	0.03		**Sheet Flow, Lawn** Grass: Bermuda n= 0.410 P2= 2.33"
0.7	156	0.0050	3.72	4.57	**Pipe Channel, Storm Sewer** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.013 Corrugated PE, smooth interior
26.4	206	Total			

Subcatchment 2BLDG: DA #2 BLDG/P LOT EAST



Summary for Subcatchment 3: DA #3

[49] Hint: Tc<2dt may require smaller dt

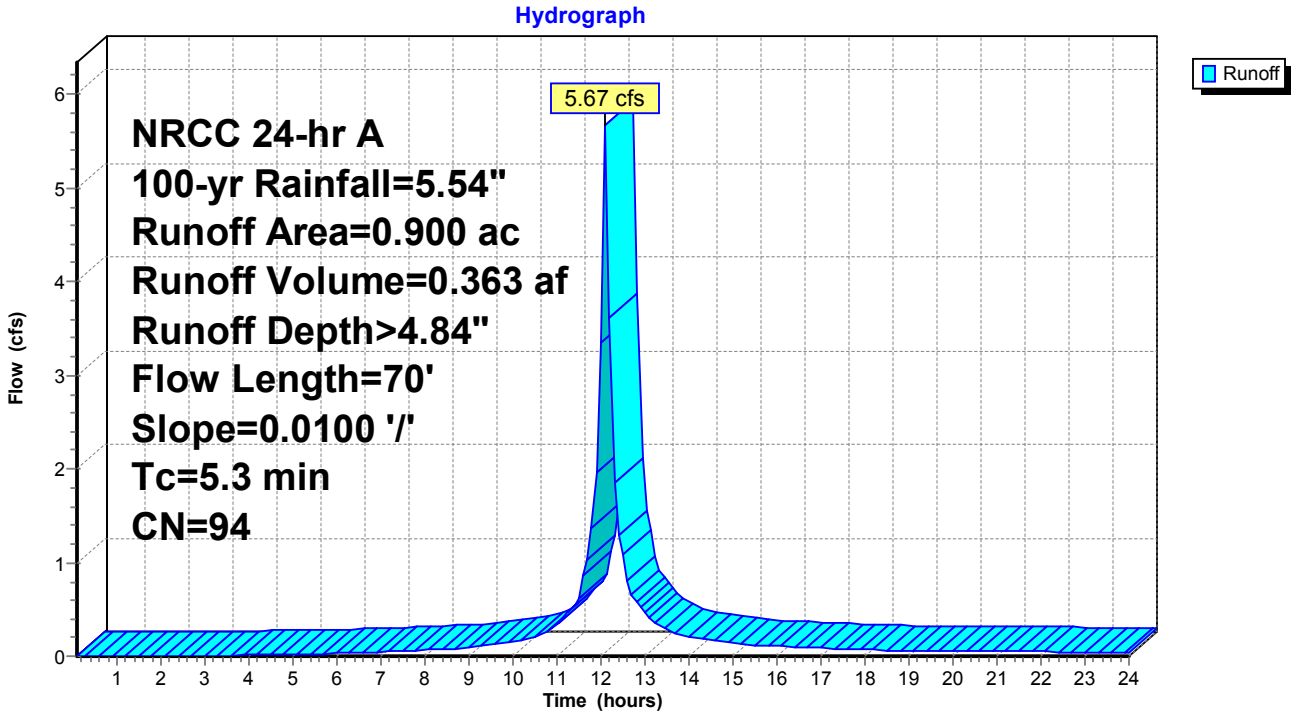
Runoff = 5.67 cfs @ 12.10 hrs, Volume= 0.363 af, Depth> 4.84"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.10-24.00 hrs, dt= 0.10 hrs
NRCC 24-hr A 100-yr Rainfall=5.54"

Area (ac)	CN	Description
0.150	71	Meadow, non-grazed, HSG C
0.750	98	Paved parking and Buildings, HSG C
0.900	94	Weighted Average
0.150		16.67% Pervious Area
0.750		83.33% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.8	15	0.0100	0.05		**Sheet Flow, Lawn** Grass: Dense n= 0.240 P2= 2.33"
0.5	55	0.0100	2.03		**Shallow Concentrated Flow, Parking Lot** Paved Kv= 20.3 fps
5.3	70	Total			

Subcatchment 3: DA #3



Summary for Subcatchment 4: DA #4

[49] Hint: Tc<2dt may require smaller dt

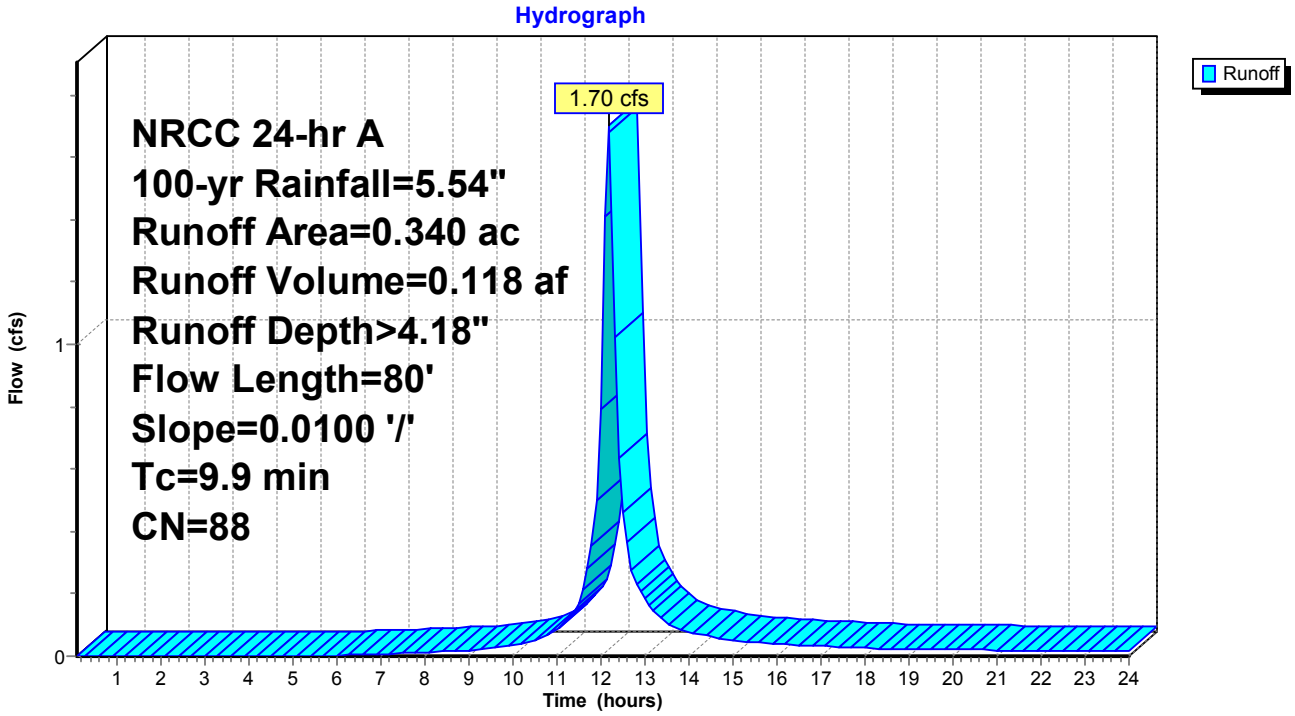
Runoff = 1.70 cfs @ 12.18 hrs, Volume= 0.118 af, Depth> 4.18"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.10-24.00 hrs, dt= 0.10 hrs
NRCC 24-hr A 100-yr Rainfall=5.54"

Area (ac)	CN	Description
0.130	71	Meadow, non-grazed, HSG C
0.210	98	Water Surface, HSG C
0.340	88	Weighted Average
0.130		38.24% Pervious Area
0.210		61.76% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.5	35	0.0100	0.06		**Sheet Flow, Lawn** Grass: Dense n= 0.240 P2= 2.33"
0.4	45	0.0100	2.03		**Shallow Concentrated Flow, Parking Lot** Paved Kv= 20.3 fps
9.9	80	Total			

Subcatchment 4: DA #4



Summary for Subcatchment PG: MOB & GARAGE

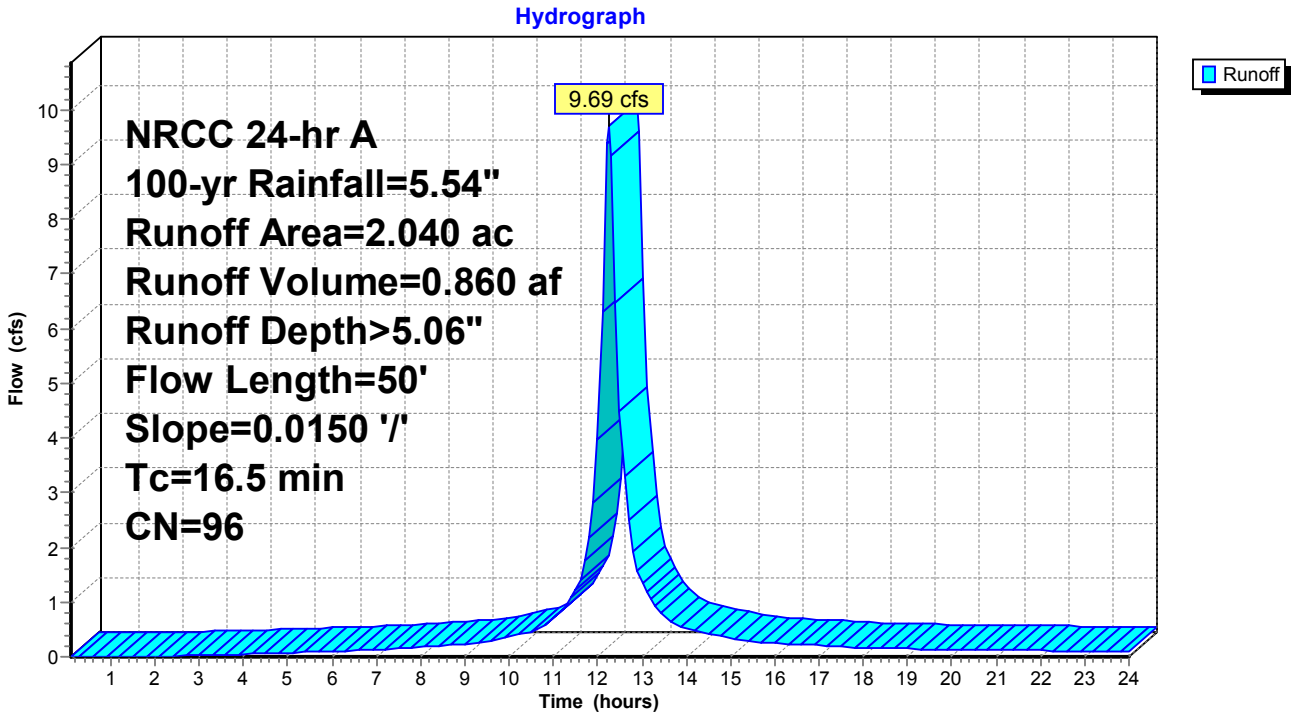
Runoff = 9.69 cfs @ 12.24 hrs, Volume= 0.860 af, Depth> 5.06"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.10-24.00 hrs, dt= 0.10 hrs
NRCC 24-hr A 100-yr Rainfall=5.54"

Area (ac)	CN	Description
0.140	71	Meadow, non-grazed, HSG C
1.900	98	Paved parking, HSG C
2.040	96	Weighted Average
0.140		6.86% Pervious Area
1.900		93.14% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.5	50	0.0150	0.05		**Sheet Flow, Lawn Area** Grass: Bermuda n= 0.410 P2= 2.33"

Subcatchment PG: MOB & GARAGE



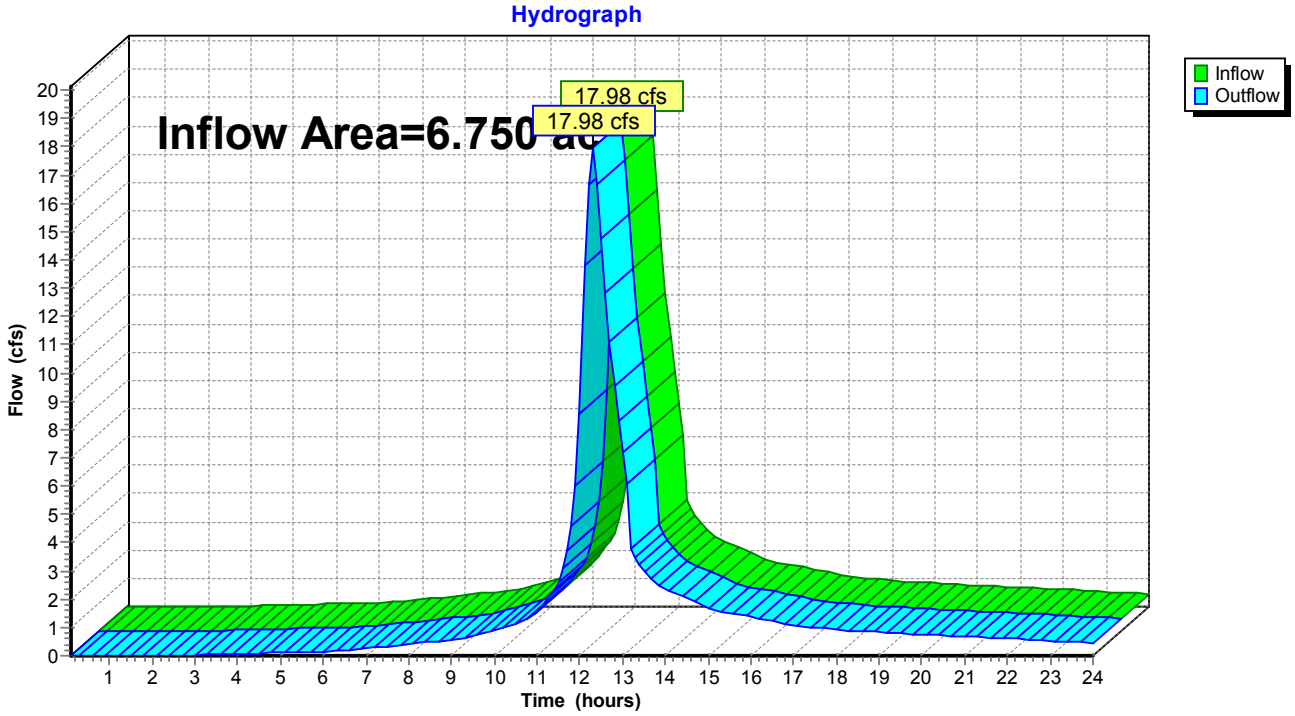
Summary for Reach DP - P: Design Point - Pratt St

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 6.750 ac, 88.15% Impervious, Inflow Depth > 4.82" for 100-yr event
Inflow = 17.98 cfs @ 12.30 hrs, Volume= 2.710 af
Outflow = 17.98 cfs @ 12.30 hrs, Volume= 2.710 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.10-24.00 hrs, dt= 0.10 hrs

Reach DP - P: Design Point - Pratt St



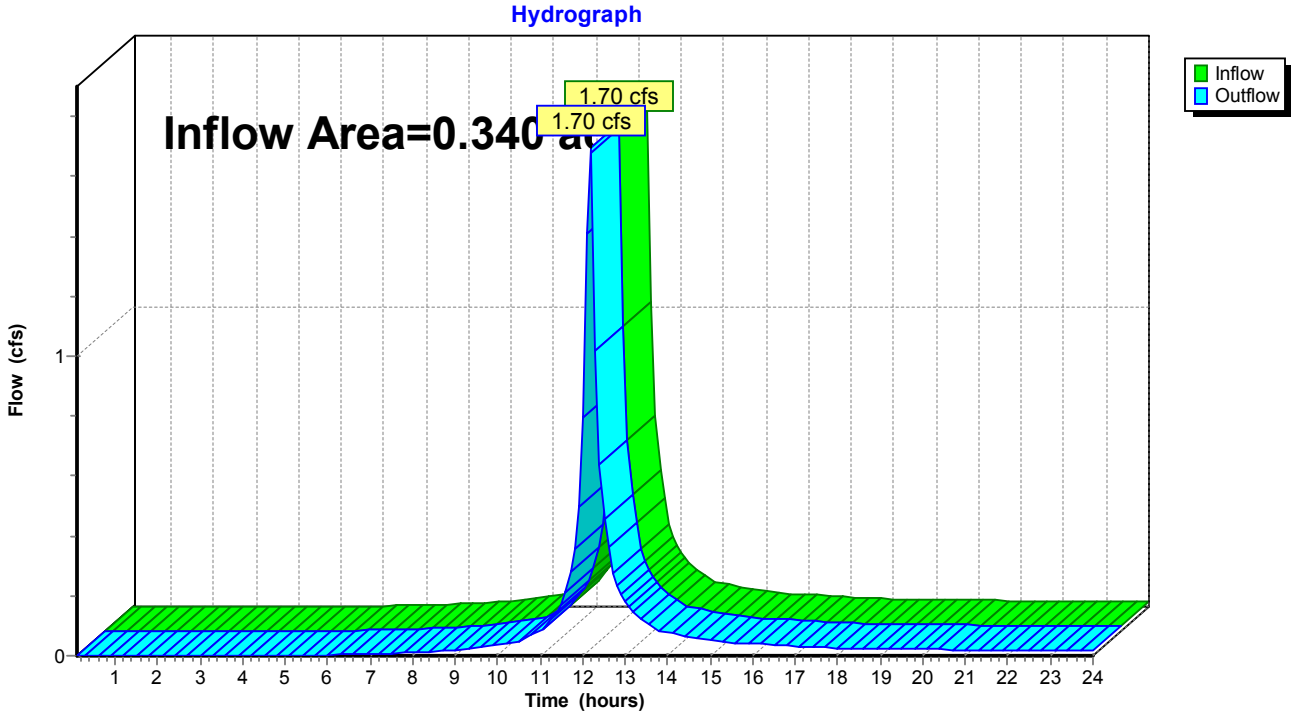
Summary for Reach DP - W: Design Point - Woodruff St

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 0.340 ac, 61.76% Impervious, Inflow Depth > 4.18" for 100-yr event
Inflow = 1.70 cfs @ 12.18 hrs, Volume= 0.118 af
Outflow = 1.70 cfs @ 12.18 hrs, Volume= 0.118 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.10-24.00 hrs, dt= 0.10 hrs

Reach DP - W: Design Point - Woodruff St



Summary for Pond BR: Bioretention Areas

Inflow Area = 0.900 ac, 83.33% Impervious, Inflow Depth > 4.84" for 100-yr event
Inflow = 5.67 cfs @ 12.10 hrs, Volume= 0.363 af
Outflow = 5.42 cfs @ 12.12 hrs, Volume= 0.363 af, Atten= 4%, Lag= 0.8 min
Primary = 5.42 cfs @ 12.12 hrs, Volume= 0.363 af

Routing by Stor-Ind method, Time Span= 0.10-24.00 hrs, dt= 0.10 hrs
Peak Elev= 480.70' @ 12.12 hrs Surf.Area= 0 sf Storage= 165 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 0.2 min (767.3 - 767.1)

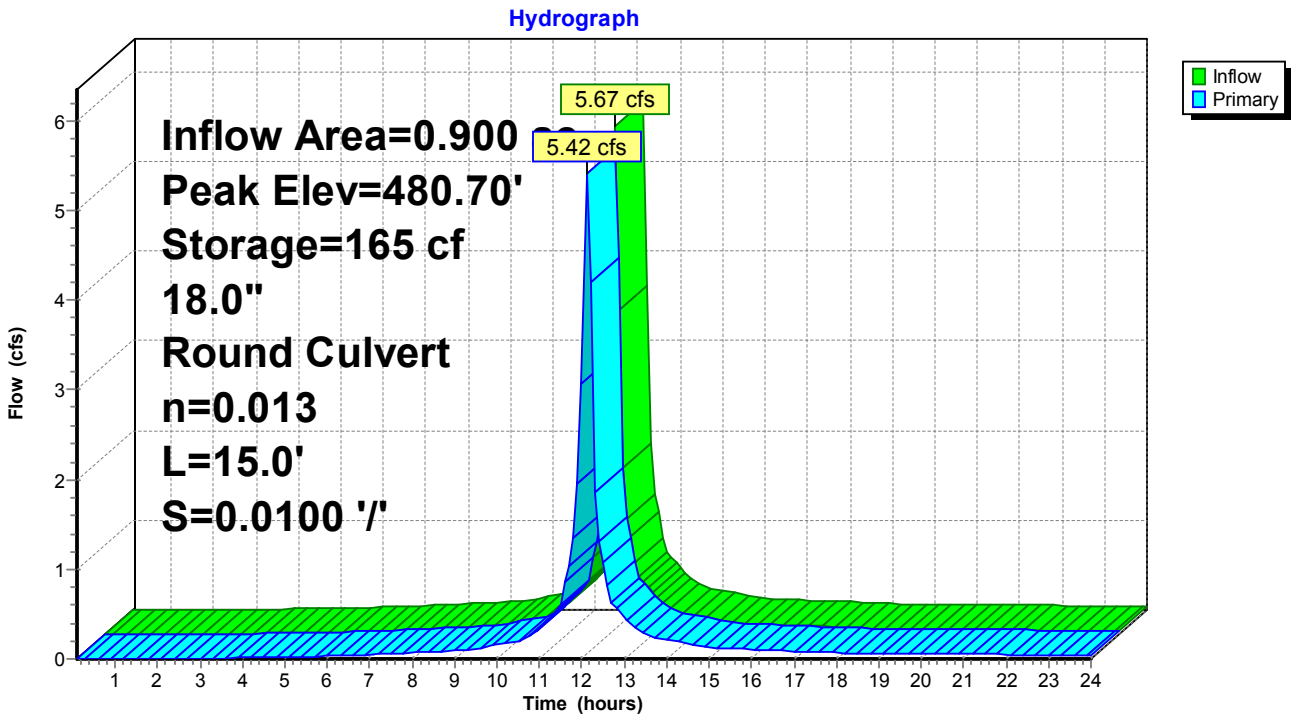
Volume	Invert	Avail.Storage	Storage Description
#1	480.00'	912 cf	**Custom Stage Data** Listed below

Elevation (feet)	Cum.Store (cubic-feet)
480.00	0
483.86	912

Device	Routing	Invert	Outlet Devices
#1	Primary	479.25'	**18.0" Round Culvert** L= 15.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 479.25' / 479.10' S= 0.0100 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf

Primary OutFlow Max=5.18 cfs @ 12.12 hrs HW=480.66' (Free Discharge)
└**1=Culvert** (Barrel Controls 5.18 cfs @ 3.90 fps)

Pond BR: Bioretention Areas



Summary for Pond DBW: USWDB COMBINED

Inflow Area = 3.140 ac, 87.58% Impervious, Inflow Depth > 4.92" for 100-yr event
Inflow = 13.77 cfs @ 12.29 hrs, Volume= 1.288 af
Outflow = 7.19 cfs @ 12.55 hrs, Volume= 1.223 af, Atten= 48%, Lag= 15.5 min
Primary = 4.28 cfs @ 12.55 hrs, Volume= 0.952 af
Secondary = 2.91 cfs @ 12.55 hrs, Volume= 0.271 af

Routing by Stor-Ind method, Time Span= 0.10-24.00 hrs, dt= 0.10 hrs
Peak Elev= 485.44' @ 12.55 hrs Surf.Area= 8,546 sf Storage= 22,242 cf

Plug-Flow detention time= 141.6 min calculated for 1.223 af (95% of inflow)
Center-of-Mass det. time= 114.4 min (888.8 - 774.4)

Volume	Invert	Avail.Storage	Storage Description
#1	480.60'	6,126 cf	**24.0" Round Pipe Storage** x 15 L= 130.0'
#2	480.60'	377 cf	**24.0" Round Pipe Storage** x 2 L= 60.0'
#3	481.91'	2,300 cf	**24.0" Round Pipe Storage** x 6 L= 122.0' S= 0.0020 '/'
#4	479.62'	2,562 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)
		11,365 cf	x 2.00 = 22,730 cf Total Available Storage

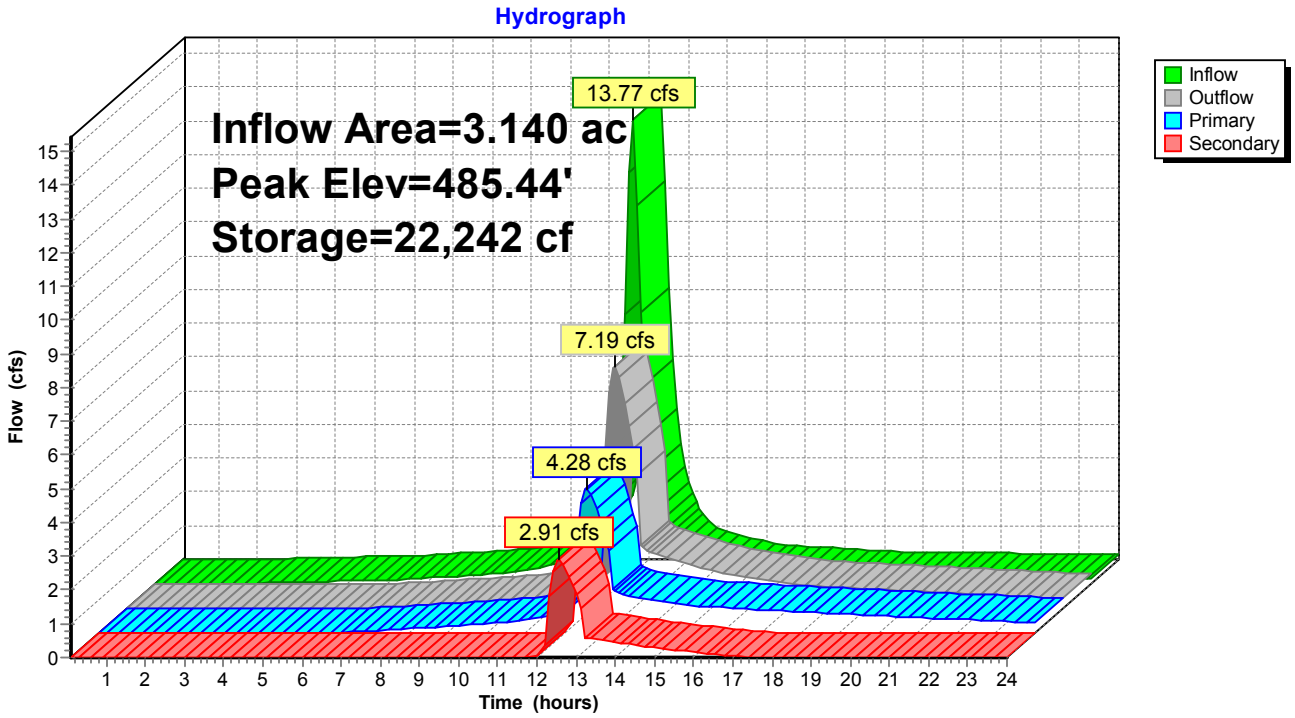
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
479.62	0	0	0
479.63	16	0	0
484.39	16	76	76
484.40	20	0	76
485.50	4,500	2,486	2,562

Device	Routing	Invert	Outlet Devices
#1	Primary	480.77'	**18.0" Round Culvert** L= 38.4' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 480.65' / 480.77' S= -0.0031 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 1.77 sf
#2	Secondary	481.91'	**15.0" Round Culvert** L= 12.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 481.91' / 481.27' S= 0.0533 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf
#3	Device 1	480.72'	**5.0" Vert. Orifice/Grate** C= 0.600
#4	Device 1	483.63'	**0.5' long Sharp-Crested Rectangular Weir** 2 End Contraction(s) 0.5' Crest Height
#5	Device 2	481.91'	**4.0" Vert. Orifice/Grate** C= 0.600
#6	Device 2	483.91'	**0.5' long Sharp-Crested Rectangular Weir** 2 End Contraction(s) 0.5' Crest Height

Primary OutFlow Max=4.23 cfs @ 12.55 hrs HW=485.43' (Free Discharge)
└─**1=Culvert** (Passes 4.23 cfs of 13.28 cfs potential flow)
  ├─**3=Orifice/Grate** (Orifice Controls 1.39 cfs @ 10.21 fps)
  └─**4=Sharp-Crested Rectangular Weir** (Weir Controls 2.84 cfs @ 6.31 fps)

Secondary OutFlow Max=2.86 cfs @ 12.55 hrs HW=485.43' (Free Discharge)
└─**2=Culvert** (Passes 2.86 cfs of 10.05 cfs potential flow)
  ├─**5=Orifice/Grate** (Orifice Controls 0.77 cfs @ 8.81 fps)
  └─**6=Sharp-Crested Rectangular Weir** (Weir Controls 2.10 cfs @ 5.52 fps)

Pond DBW: USWDB COMBINED



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HYDRANT FLOW TEST REPORT

Location Woodruff Street South (Test #1) Date 05/17/2016

Test made by Matt Morgia and Tim Titus Time 8:17 am

Representative of Aubertine and Currier PLLC

Witness Dave O'brien (City of Watertown)

Purpose of Test Fire Flow Test of water service entering near FDC #1 located near the SMC Maintenance Room

Consumption rate during test 1115

If pumps affected test, indicate pumps operating n/a

Flow Hydrants	A_1	A_2	A_3	A_4	
Elevation	485.5				
Size Nozzle	2 1/2"				
Pitot Reading	1115				
Discharge Coefficient	1x				**TOTAL GPM**
gpm	1115				1115

Static B 63 psi Residual B 54 psi

Elevation 486.5 ft

Projected results: @20 psi residual 2,670 gpm or @ _____ psi residual _____ gpm

Remarks: Flow hydrant is located on SMC property near Oxygen tank. Static/Residual hydrant is located along Woodruff Street north of Medical Office building.

Location map: Show sizes and distances to next cross-connected line. Show valves and hydrant branch size. Indicate north. Show flowing hydrants and label as A_1, A_2, A_3, A_4. Show location of static and residual and label as **B**.

Indicate **B**: Hydrant ☑ Sprinkler ☐ Other (identify) _____

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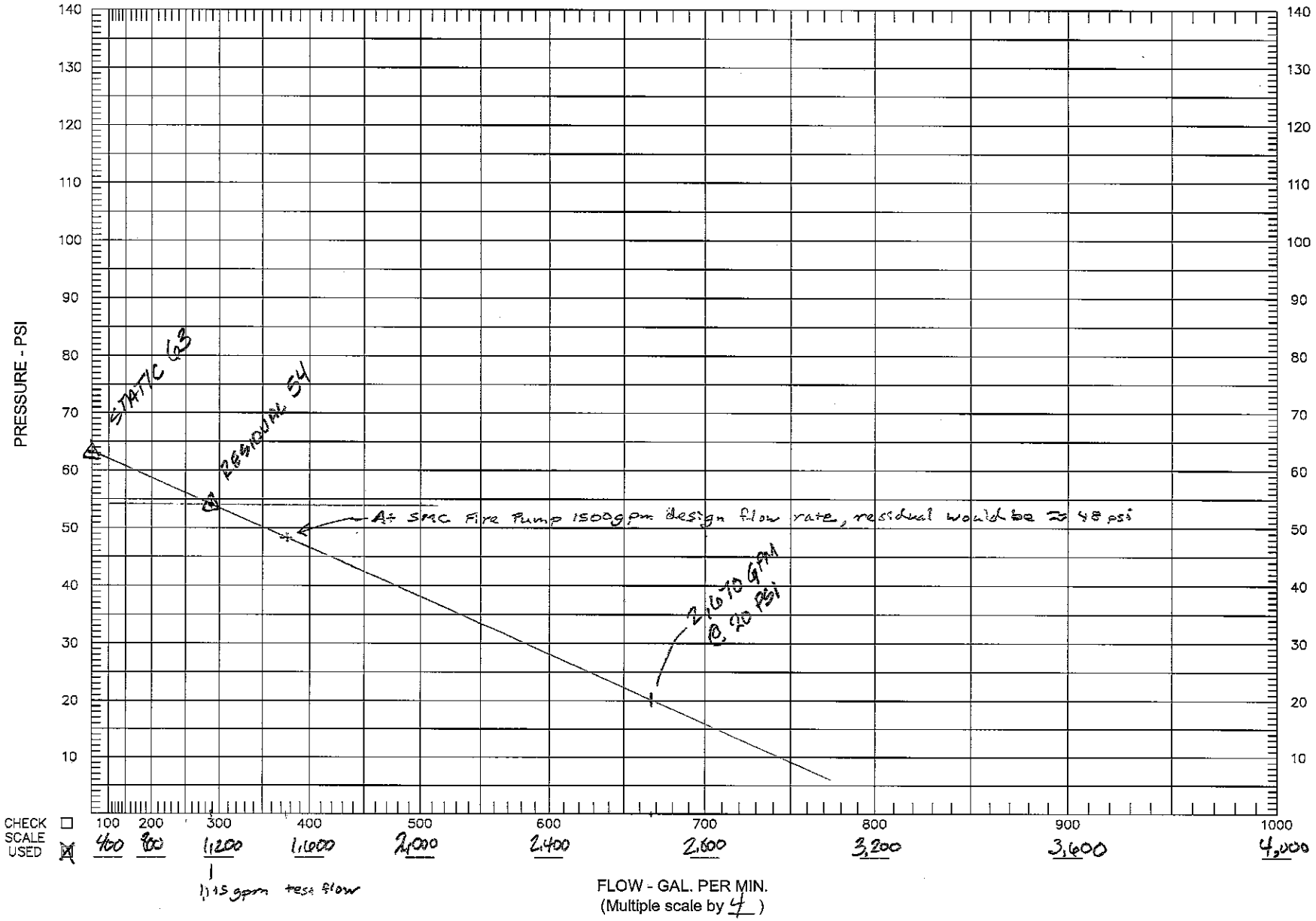
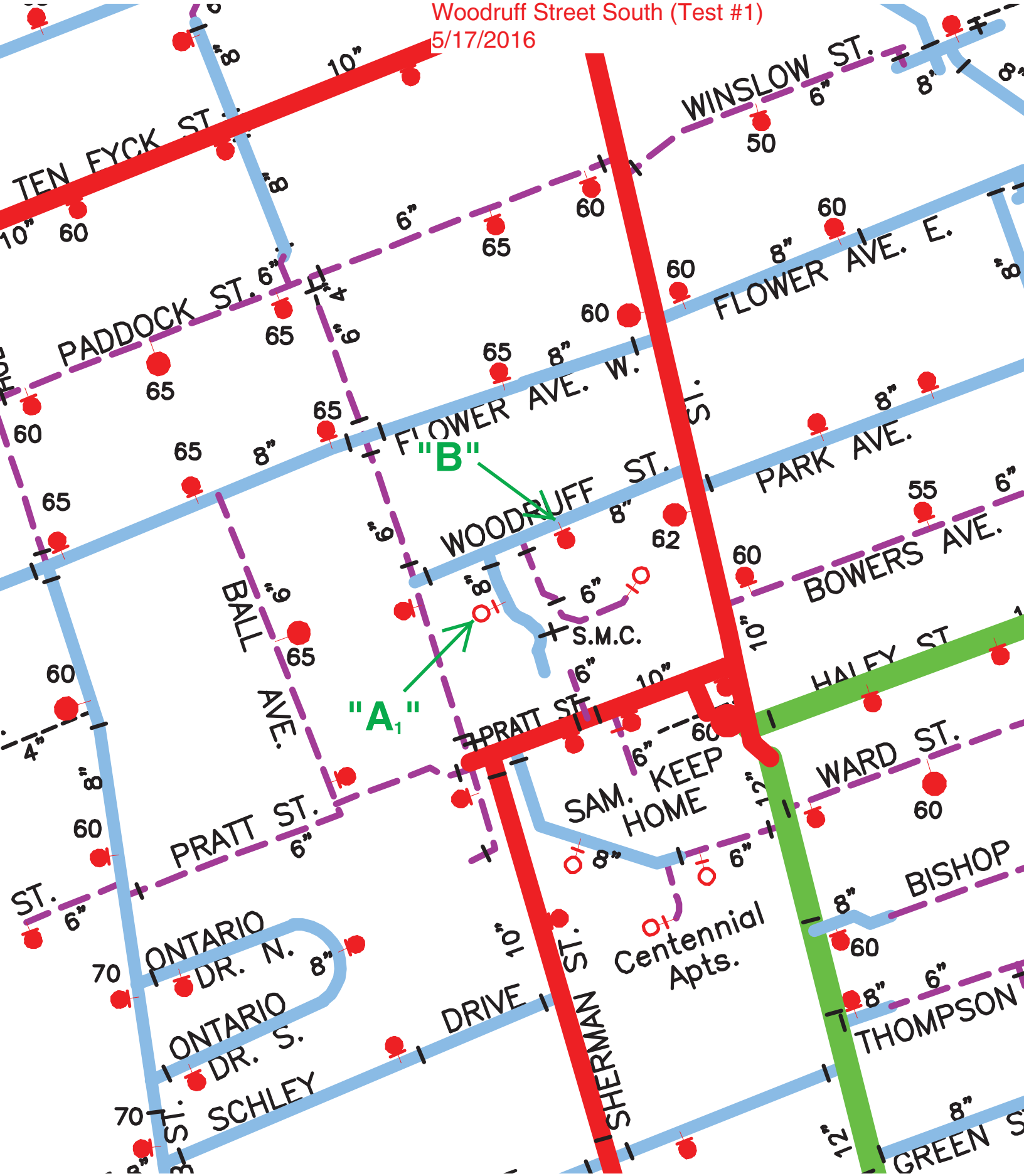
Fax: 315-782-1472
Web: www.aubertinecurrier.com

Project No. 2015-174
Project Name. SAMARITAN MEDICAL CENTER
Date 5/17/2016 Time 8:17 AM
Hydrant Test #1 WOODRUFF STREET SOUTH



Woodruff Street South (Test #1)
5/17/2016



HYDRANT FLOW TEST REPORT

Location Woodruff Street South (Test #2) Date 05/17/2016

Test made by Matt Morgia and Tim Titus Time 8:30 am

Representative of Aubertine and Currier PLLC

Witness Dave O'brien (City of Watertown)

Purpose of Test Fire Flow Test of FDC #1 located near the SMC Maintenance Room

Consumption rate during test 1650

If pumps affected test, indicate pumps operating n/a

Flow Hydrants	A_1	A_2	A_3	A_4	
Elevation	485.5	487.0			
Size Nozzle	2 1/2"	2 1/2"			
Pitot Reading	950	700			
Discharge Coefficient	1x	1x			**TOTAL GPM**
gpm	950	700			1650

Static B 63 psi Residual B 39 psi

Elevation 486.5 ft

Projected results: @20 psi residual 2,220 gpm or @ _____ psi residual _____gpm

Remarks: Flow hydrant A1 is located on SMC property near Oxygen tank. Flow hydrant A2 is located along Woodruff Street between Medical Office Building and Parking Garage.

Static/Residual hydrant is located along Woodruff Street north of Medical Office Building

Location map: Show sizes and distances to next cross-connected line. Show valves and hydrant branch size. Indicate north. Show flowing hydrants and label as A_1, A_2, A_3, A_4. Show location of static and residual and label as **B**.

Indicate **B**: Hydrant ☑ Sprinkler ☐ Other (identify) _____

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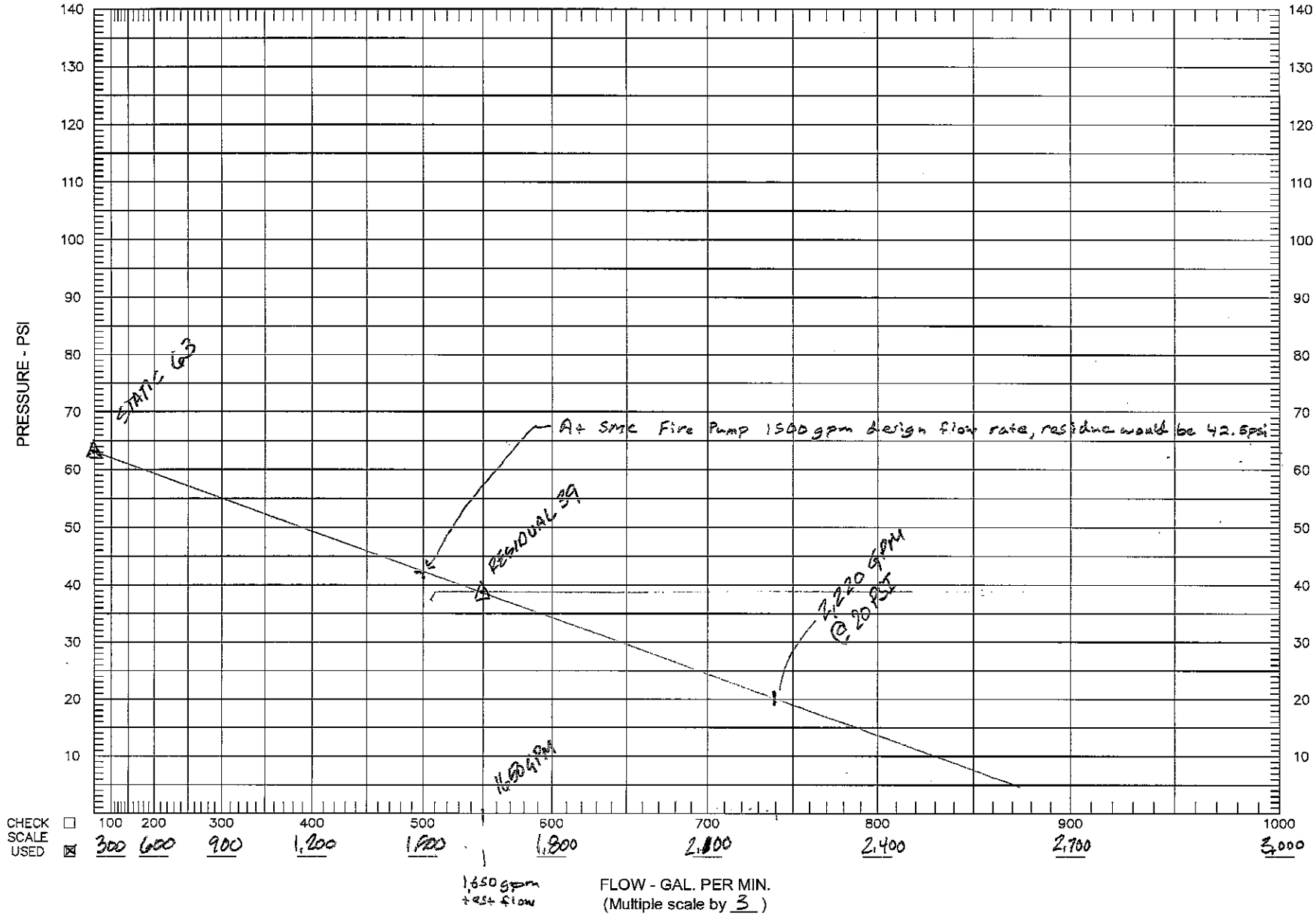
Project No. 2015-174

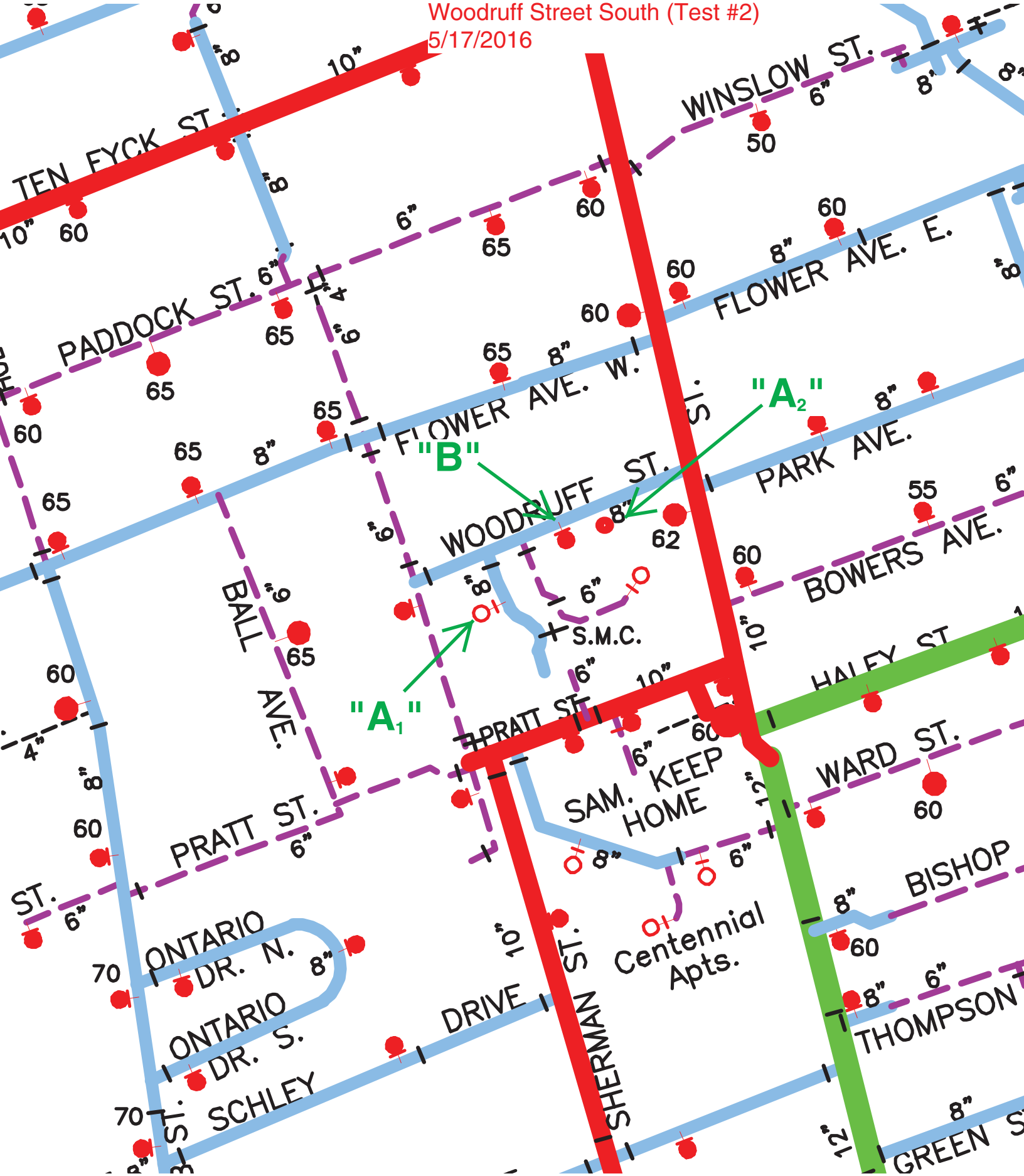
Project Name. SAMARITAN MEDICAL CENTER

Date 5/17/2016 Time 8:30 AM

Hydrant Test #2 WOODRUFF STREET SOUTH



Woodruff Street South (Test #2)
5/17/2016



HYDRANT FLOW TEST REPORT

Location Sherman Street West (Test #3) Date 05/17/2016

Test made by Matt Morgia and Tim Titus Time 8:50 am

Representative of Aubertine and Currier PLLC

Witness Dave O'brien (City of Watertown), Mark Cote, (SMC)

Purpose of Test Fire Flow Test Along Sherman Street

Consumption rate during test 1095

If pumps affected test, indicate pumps operating n/a

Flow Hydrants	A_1	A_2	A_3	A_4	
Elevation	484.5				
Size Nozzle	2 1/2"				
Pitot Reading	1095				
Discharge Coefficient	1x				**TOTAL GPM**
gpm	1095				1095

Static B 63 psi Residual B 58 psi

Elevation 486.5 ft

Projected results: @20 psi residual 3,340 gpm or @ _____ psi residual _____gpm

Remarks: An appropriate static/residual hydrant test location was not available. The static/residual hydrant utilized is not able to provide accurate results for interpolation of Sherman Street system strength.

Location map: Show sizes and distances to next cross-connected line. Show valves and hydrant branch size. Indicate north. Show flowing hydrants and label as A_1, A_2, A_3, A_4. Show location of static and residual and label as **B**.

Indicate **B**: Hydrant ☑ Sprinkler ☐ Other (identify) _____

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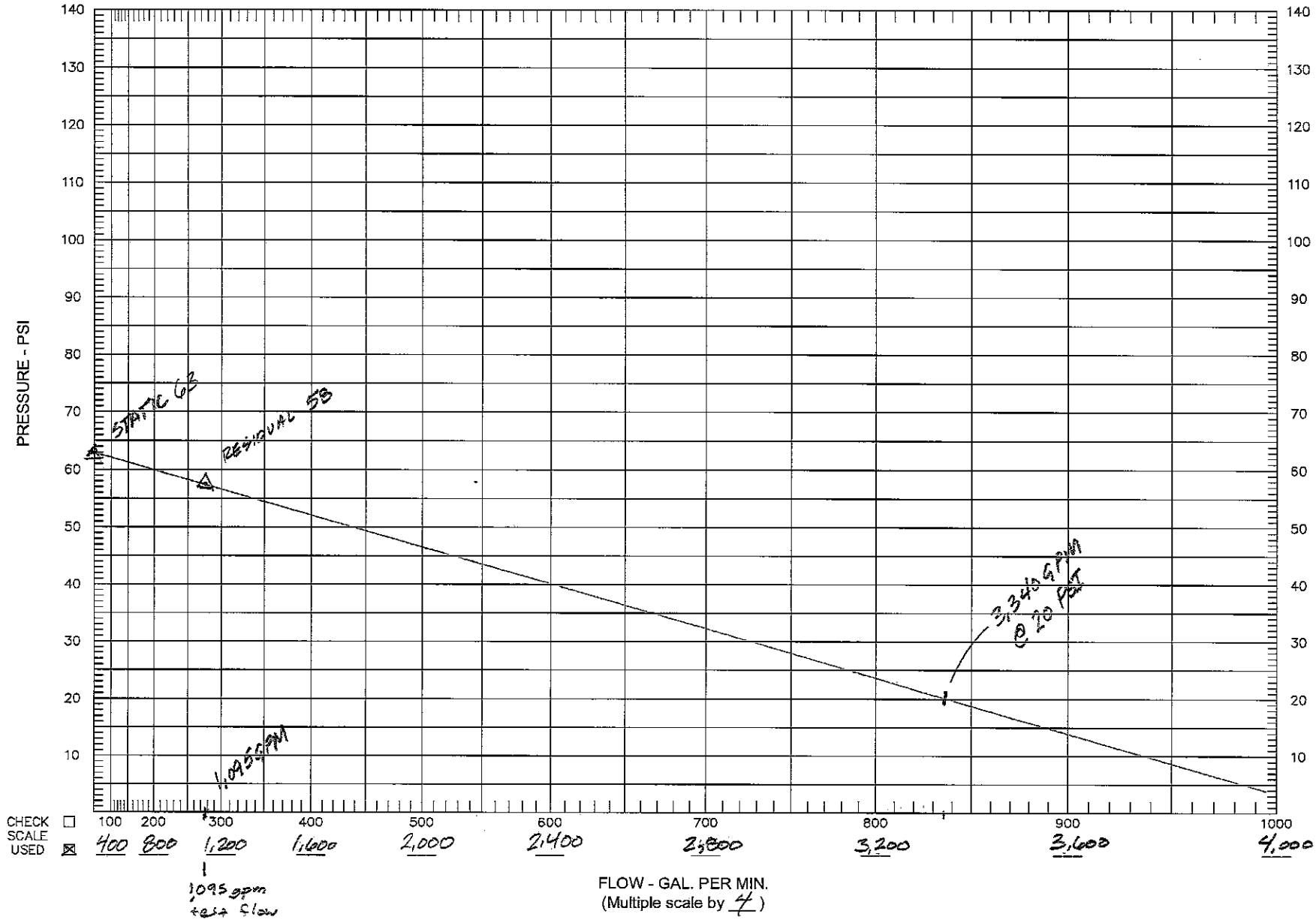
Project No. 2015-174
Project Name. SAMARITAN MEDICAL CENTER
Date 5/17/2016 Time 8:50 AM
Hydrant Test #3 SHERMAN STREET WEST



Sherman Street West (Test #3)
5/17/2016

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APPENDIX #3

PARKING CALCULATIONS
TRIP GENERATION CALCULATIONS
PEDESTRIAN TRAFIC STUDY REPORT

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March 24, 2016

SAMARITAN MEDICAL CENTER

PARKING REQUIREMENTS

Existing Conditions

BUILDING	FLOOR	GROSS AREA (sf)	GROSS BED AREA (sf)	NON-BED STORAGE and MECHANICAL (sf)	NET NON-BED AREA (sf)
Existing Medical Center					
Infusion	First Floor	92,050	700	22,860	68,490
Inpatient Mental Health	Second Floor	57,159	12,025	8,555	36,579
Post Partum/Pediatrics, Neonatal, LDR and C-Section Suite	Third Floor	39,455	38,406		1,049
Medical/Surgical Suite, Pratt/Acute Rehabilitation Unit	Fourth Floor	29,489	24,545	300	4,644
Sleep Lab, Orthopedic Patient Lab	Fifth Floor	26,575	16,732	1,627	8,216
	Sixth Floor	12,673			12,673
	Seventh Floor	4,933			4,933
	Eighth Floor	1,719			1,719
	Utility and Storage (Floors 6,7 & 8)			7,796	-7,796
	Elevator/HVAC Chases (SMC Main, Floors 1-7)			3,163	-3,163
	Elevator/HVAC Chases (SMC Pratt, Floors 1-6)			3,588	-3,588
	Sub-total	**264,053**	**92,408**	**47,889**	**123,756**
Medical Office Building					
	First Floor	14,033			14,033
	Second Floor	15,703			15,703
	Third Floor	15,703			15,703
	Elevator/HVAC Chases (MOB, Floors 1-3)			911	-911
	Utility and Storage (MOB, Floors 1-3)			2,972	-2,972
	Sub-total	**45,439**	**0**	**3,883**	**41,556**
Patient Pavillion					
Emergency Room	First Floor	41,743	19,436	2,672	19,635
Operating Suite	Second Floor	40,514	36,072		4,442
Progressive Care Unit, Intensive Care Unit	Third Floor	22,212	18,904		3,308
Medical/Surgical Unit	Fourth Floor	21,519	21,080		439
	Fifth Floor	1,503		1,503	0
	Elevator (Pavilion, Floors 1-2)			1,094	-1,094
	Elevator/HVAC Chases (Pavillion, Floors 3-4)			1,211	-1,211
	Pavilion Lobby (1st and 2nd Floor)			5,281	-5,281
	Sub-total	**127,491**	**95,492**	**11,761**	**20,238**
Interconnector Link					
	First Floor			4,439	-4,439
	Second Floor			5,707	-5,707
	Sub-total	**0**	**0**	**10,146**	**-10,146**
Samaritan (Pratt St. Building)					
	First Floor	3,723		500	3,223
	Second Floor	3,723		500	3,223
	Sub-total	**7,446**	**0**	**1,000**	**6,446**
	Total	**444,429**	**187,900**	**74,679**	**181,850**

Spaces Required by Square Footage	**181,850 sf at 5 spaces /1,000 sf=**	**909**	**Spaces Required**
Spaces Required by Bed Count(Samitan Medical Center)	**290 beds at 1 spaces / 2 beds=**	**145**	**Spaces Required**
Spaces Required by Bed Count(Samitan Keep)	**272 beds at 1 spaces / 3 beds=**	**91**	**Spaces Required**
	Pre-2016 Expansion Parking Spaces Required	**1,145**	**TOTAL SPACES REQ.**
	Existing Parking Spaces Provided	**1,183**	**Spaces**
	Net Excess Parking Spaces	**38**	**Spaces**

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May 24, 2016

SAMARITAN MEDICAL CENTER

PARKING REQUIREMENTS

Proposed Additions

BUILDING	FLOOR	GROSS AREA (sf)	GROSS BED AREA (sf)	NON-BED STORAGE and MECHANICAL (sf)	NET NON-BED AREA (sf)
Women's and Children's Addition					
	First Floor	5,500		4,289	1,211
Inpatient Mental Health Exp.	Second Floor	5,500	4,500	850	150
Post Partum Exp.	Third Floor	4,500	4,500		0
	Fourth Floor	1,814		1,450	364
	Elevator Cores (Floors 1-3)			434	-434
	Pent Add. (SMC-6th Floor)	1,721		1,721	0
	Sub-total	**19,035**	**9,000**	**8,744**	**1,291**
Cancer Center Addition/Renovation					
	First Floor	10,750		1,320	9,430
	Second Floor	6,550		900	5,650
	Sub-total	**17,300**	**0**	**2,220**	**15,080**
	Total	**36,335**	**9,000**	**10,964**	**16,371**

Spaces Required by Square Footage (Women's and Children's Addition)	**1,291 sf at 5 spaces /1,000 sf=**	**6**	**Spaces Required**
Spaces Required by Square Footage (Cancer Center Add.)	**15,080 sf at 5 spaces /1,000 sf=**	**75**	**Spaces Required**
	Post-2016 Expansion Additional Parking Spaces Required	**82**	**Spaces**
	Pre-2016 Expansion Parking Spaces Required	**1,145**	**Spaces**
	Post-2016 Expansion Parking Spaces Required	**1,227**	**TOTAL SPACES REQ.**
	Existing Parking Spaces Provided	**1,183**	**Spaces**
	Net Deficient Parking Spaces	**-44**	**Spaces**
	Proposed Parking Spaces Provided	**1,230**	**Spaces**
	Net Excess Parking Spaces	**3**	**Spaces**

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March 24, 2016

SAMARITAN MEDICAL CENTER

Bed Space Count

AREAS	LOCATION	FLOOR	BED COUNT	EXISTING SQUARE FOOTAGE	POST 2016 EXPANSION SQUARE FOOTAGE
Emergency Room	Pavilion	1st	41	19,436	19,436
Operation Suite	Pavilion	2nd	42	36,072	36,072
Progressive Care Unit	Pavilion	3rd	21	13,809	13,809
Intensive Care Unit	Pavilion	3rd	10	5,095	5,095
Medical/Surgical Unit	Pavilion	4th	38	21,080	21,080
Infusion	SMC	1st	4	700	700
Inpatient Mental Health	SMC	2nd (*)	34	12,025	16,525
Post Partum and Pediatrics	SMC	3rd (*)	32	20,986	25,486
Neonatal	SMC	3rd	12	3,390	3,390
LDR and C-Section Suite	SMC	3rd	8	14,030	14,030
Medical/Surgical Unit	SMC	4th	12	11,209	11,209
Pratt/Acute Rehabilitaion Unit	SMC	4th	11	13,336	13,336
Sleep Lab	SMC	5th	6	4,970	4,970
Orthopedic Patient Unit	SMC	5th	19	11,762	11,762
		TOTAL	**290**	**187,900**	**196,900**

(*) Women's and Children's Addition

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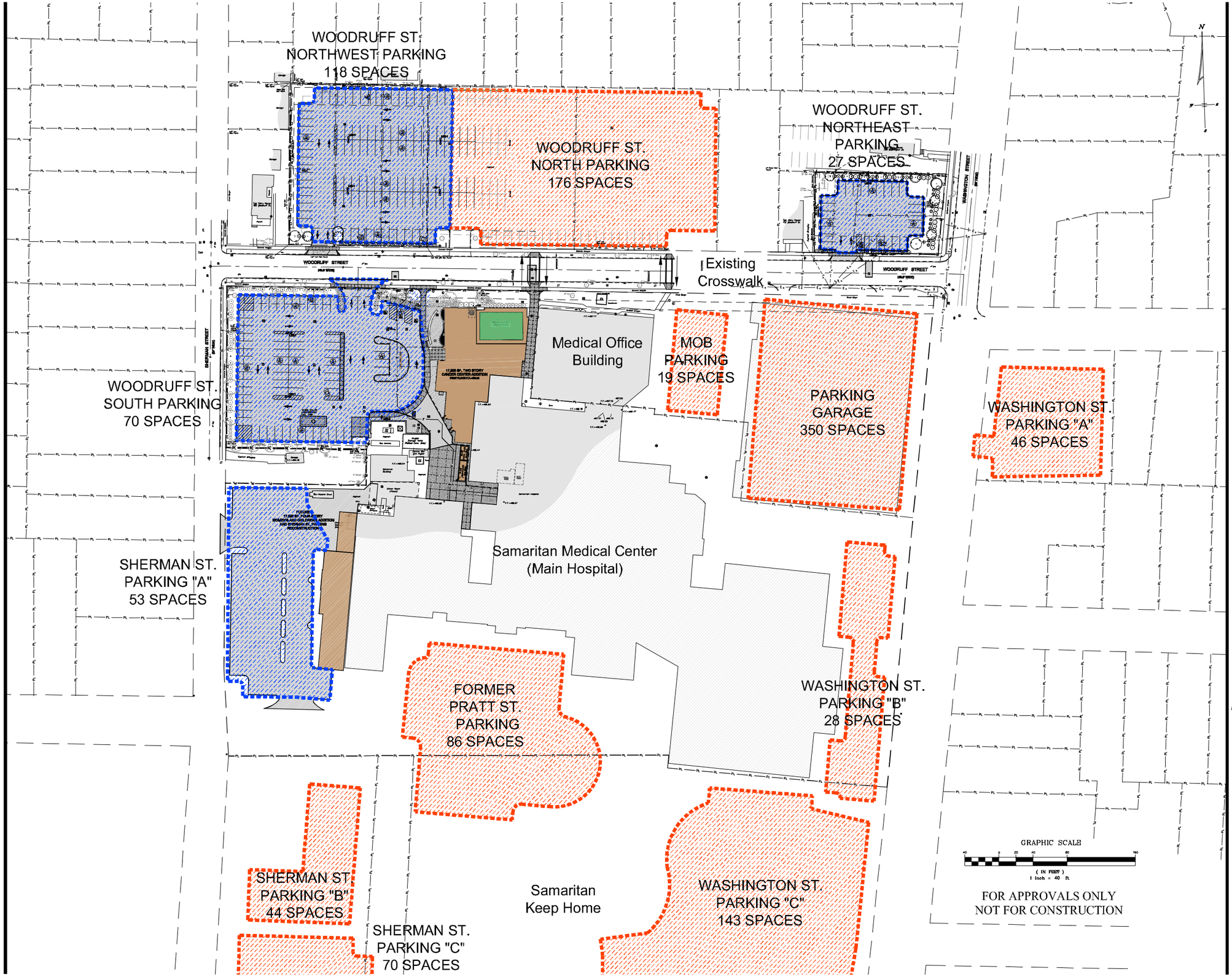

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SAMARITAN HEALTH COMPREHENSIVE

CANCER CENTER
830 Washington Street
WATERTOWN, NY 13601

Number	Date	Issued For
1	XXXXXXX	ISSUED FOR -

OVERALL SITE DEVELOPMENT PLAN

Date
05/24/2016
Scale
AS NOTED
Proj. Number
2015-174

Drawing Number
CS-100

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May 24, 2016

SAMARITAN MEDICAL CENTER

PARKING SPACES

DESCRIPTION	AREA	EXISTING SPACES	PROPOSED SPACES
Parking Garage		350	350
Washington Street	A	46	46
	B	28	28
	C	145	143 *
Sherman Street	A	78	53
	B	44	44
	C	70	70
MOB Parking		19	19
Woodruff Street North		192	294
Woodruff Street South		125	70
Former Pratt Street		86	86
Washington/Woodruff St. Int.			27
	TOTAL	**1,183**	**1,230**

* Two SMC Dumpsters (1 trash, 1 recycling) relocated to Sam Keep Home, and will utilize two existing parking spaces

HANDICAPPED PARKING SPACES

DESCRIPTION	AREA	REQUIRED # OF SPACES	EXISTING/PROPOSED HANDICAPPED SPACES
Parking Garage		8	12
Washington Street	A	2	0
	B	2	6
	C	5	4
Sherman Street	A	3	5
	B	2	0
	C	3	4
MOB Parking		1	4
Woodruff Street North		7	4
Woodruff Street South		3	3
Former Pratt Street		4	4
Washington/Woodruff St. Int.		2	0
	TOTAL	**42**	**46**

Proposed changes as a result of the 2016-2018 Expansions

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AUBERTINE and CURRIER
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CALCULATION SHEET

Project Number: 2015-174 Date: 4/12/2016
Project Name: SAMARITAN MEDICAL Page: 1 Of: 1
Location: CANCER CENTER ADDITION & WOMEN'S AND CHILDREN'S CENTER ADDITION Calc'd By: TFT

TRAFFIC GENERATION CALCULATIONS
TRIP GENERATION - ITE 7TH EDITION

290 BED MEDICAL FACILITY
EXISTING FACILITY = 444,430 SF (GROSS)
EXISTING FACILITY WITH PROPOSED ADDITIONS = 480,360 SF

- LAND USE - HOSPITAL (610)

WEEKDAY, AM PEAK HOUR
AVG RATE = 1.24 PER BED
65% ENTERING, 35% EXITING
290 x 1.24 = 359.6 TRIPS/HR
233 ENTERING, 126 EXITING

WEEKDAY, PM PEAK HOUR
AVG RATE = 1.44 PER BED
39% ENTERING, 61% EXITING
290 x 1.44 = 417.6 TRIPS/HR
163 ENTERING, 255 EXITING

SATURDAY, PEAK HOUR
AVG. RATE = 1.00 PER BED
47% ENTERING, 53% EXITING
290 x 1.00 = 290.0 TRIPS/HR
136 ENTERING, 154 EXITING

SUNDAY, PEAK HOUR
AVG RATE = 1.03 PER BED
45% ENTERING, 55% EXITING
290 x 1.03 = 298.7 TRIPS/HR
134 ENTERING, 165 EXITING

Hospital
(610)

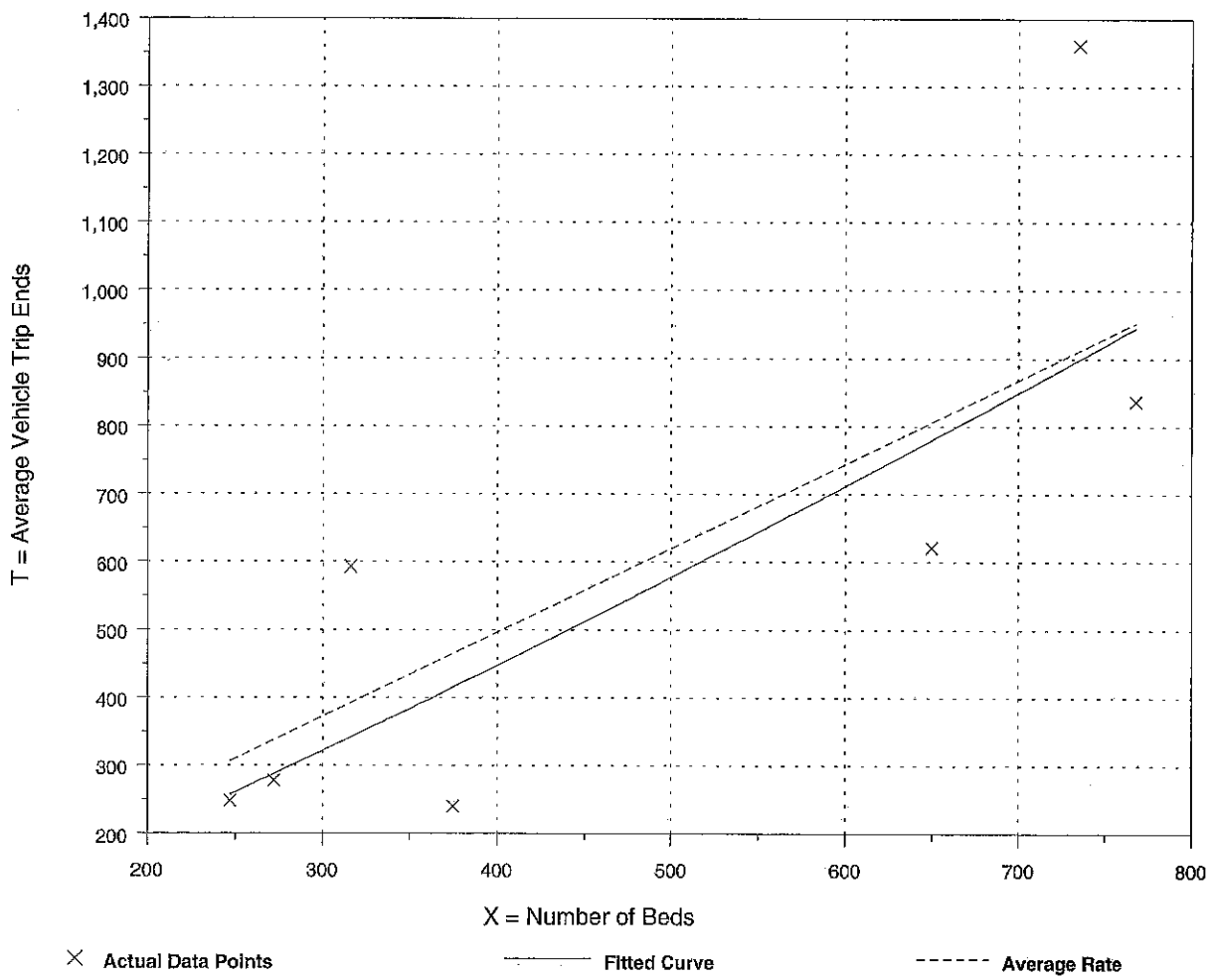
Average Vehicle Trip Ends vs: Beds
On a: Weekday,
A.M. Peak Hour of Generator

Number of Studies: 7
Average Number of Beds: 480
Directional Distribution: 65% entering, 35% exiting

Trip Generation per Bed

Average Rate	Range of Rates	Standard Deviation
1.24	0.64 - 1.88	1.20

Data Plot and Equation



Fitted Curve Equation: Ln(T) = 1.15 Ln(X) - 0.76 **R^2 = 0.69**

Hospital
(610)

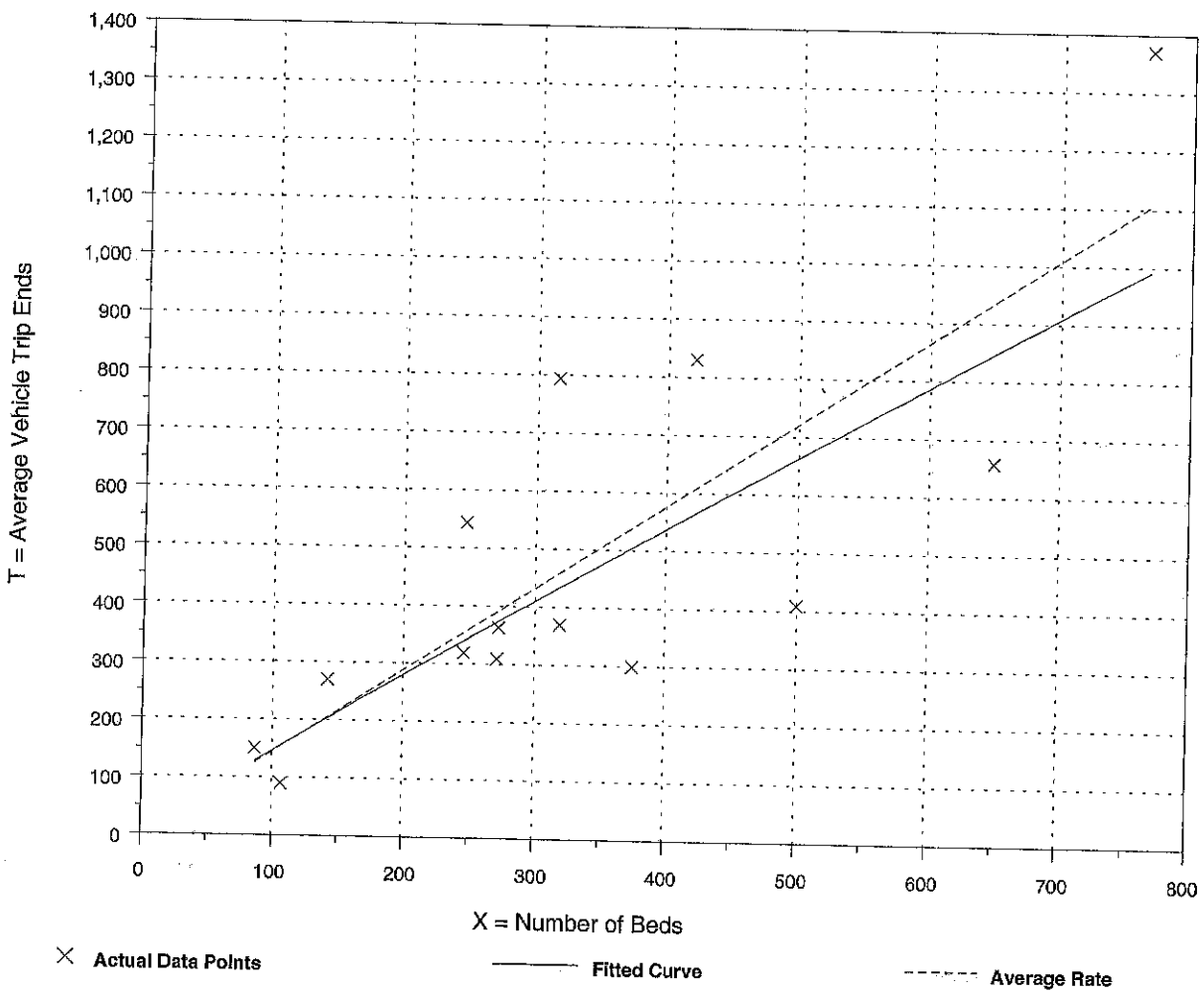
Average Vehicle Trip Ends vs: Beds
On a: Weekday,
P.M. Peak Hour of Generator

Number of Studies: 14
Average Number of Beds: 337
Directional Distribution: 39% entering, 61% exiting

Trip Generation per Bed

Average Rate	Range of Rates	Standard Deviation
1.44	0.80 - 2.51	1.31

Data Plot and Equation



Fitted Curve Equation: Ln(T) = 0.94 Ln(X) + 0.66

R^2 = 0.71

Hospital
(610)

Average Vehicle Trip Ends vs: Beds
On a: Saturday,
Peak Hour of Generator

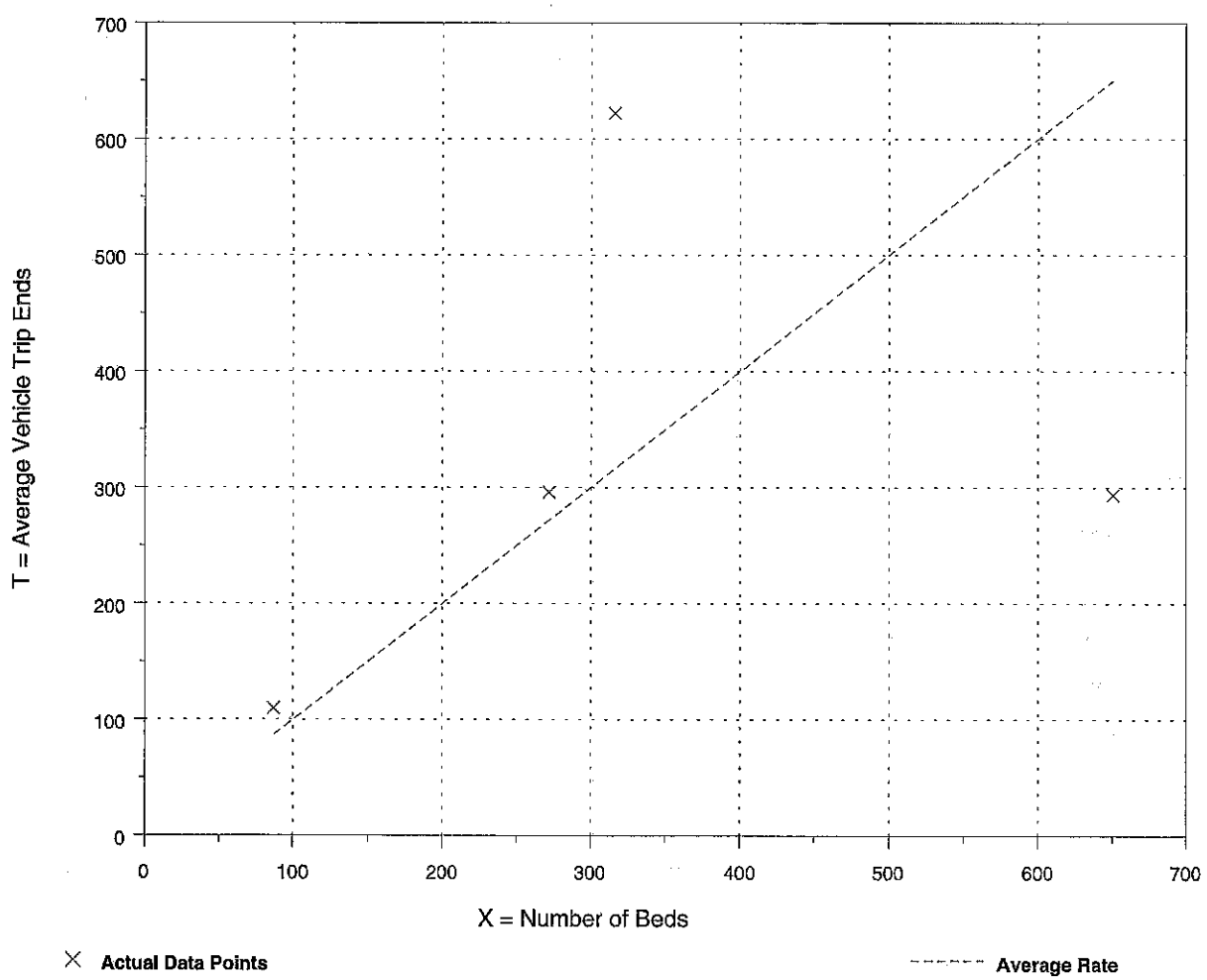
Number of Studies: 4
Average Number of Beds: 331
Directional Distribution: 47% entering, 53% exiting

Trip Generation per Bed

Average Rate	Range of Rates	Standard Deviation
1.00	0.45 - 1.97	1.17

Data Plot and Equation

Caution - Use Carefully - Small Sample Size



Fitted Curve Equation: Not given

R^2 = ****

Hospital
(610)

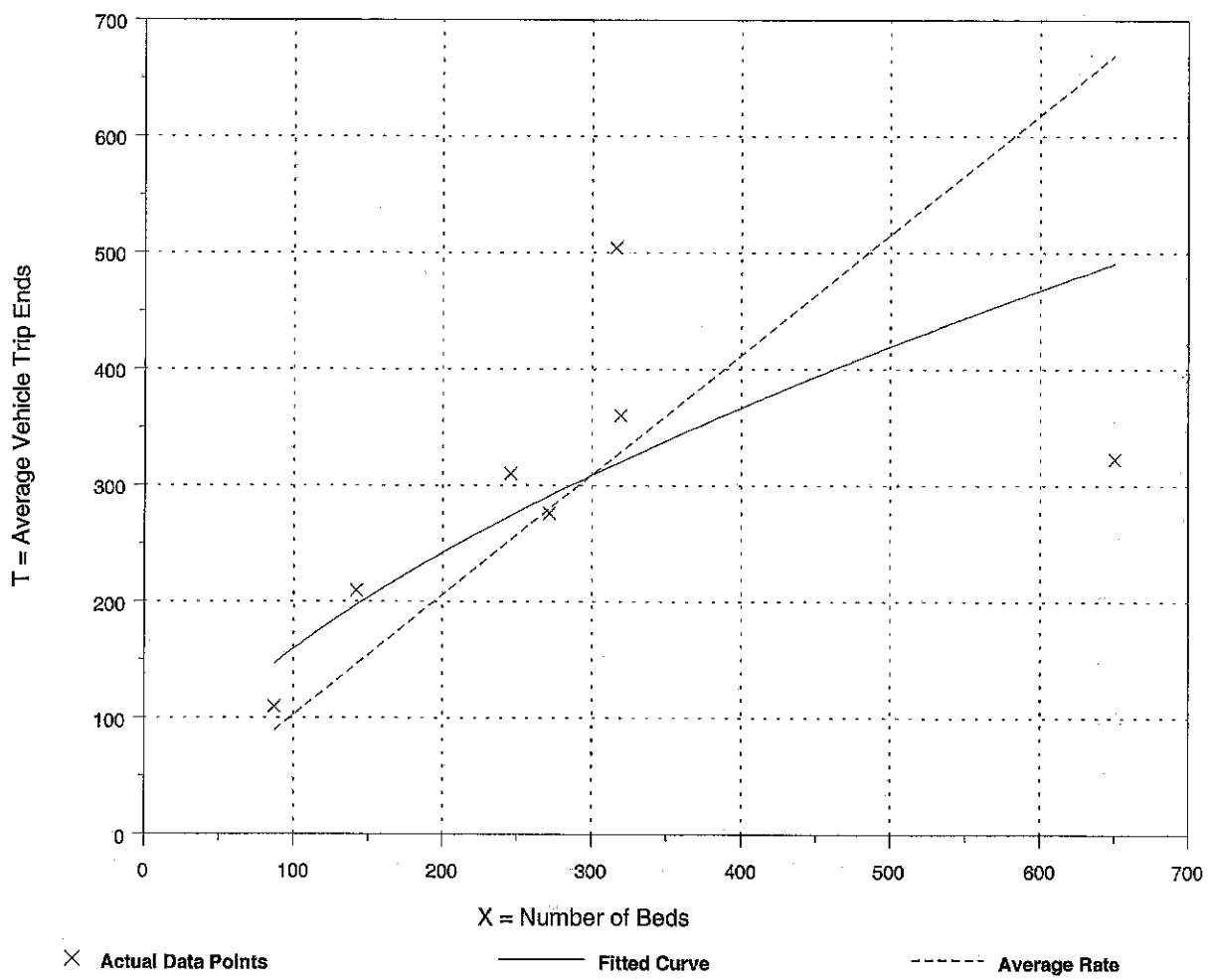
Average Vehicle Trip Ends vs: Beds
On a: Sunday,
Peak Hour of Generator

Number of Studies: 7
Average Number of Beds: 290
Directional Distribution: 45% entering, 55% exiting

Trip Generation per Bed

Average Rate	Range of Rates	Standard Deviation
1.03	0.50 - 1.59	1.09

Data Plot and Equation



Fitted Curve Equation: Ln(T) = 0.60 Ln(X) + 2.31 $R^2 = 0.64$

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May 15, 2016

Aubertine and Currier Architects, Engineers, & Land Surveyors, PLLC
522 Bradley Street
Watertown, NY 13601

Attn: Mr. Matthew Morgia, P.E.

Re: Pedestrian Study – Samaritan Medical Center – Woodruff Street Pedestrian Crossing Watertown, NY

Dear Mr. Morgia:

I have completed my review of the pedestrian operations associated with the Samaritan Medical Center (SMC) and the Woodruff Street North Parking Lot in Watertown, NY. This letter summarizes the work completed in this review as well as my findings/recommendations.

Project Understanding

The SMC has an existing 176 space parking lot on the north side of Woodruff Street that is primarily used by staff, although patients may use spaces also if available. While there are no painted crosswalks on Woodruff Street for people to cross between the parking lot and the SMC, there are existing pedestrian ramps to cross to the eastern side of the medical office building (MOB) at the east parking lot driveway. These ramps are associated with a temporary crossing that was permitted a number of years ago, which were never removed. The SMC has estimated that roughly half of the people using the parking lot are using this existing crossing location with the other half crossing at various locations on Woodruff Street near the western side of the MOB to access services staff entrance.

The SMC has a planned Cancer Center to the west of the MOB which will further attract people crossing at the western side of the MOB to access the staff entrance at the rear of the Cancer Center building. There is also a 118 space parking expansion planned to the Woodruff Street lot to the west of the existing lot.

An overall site development plan, prepared by Aubertine and Currier Architects, Engineers and Land Surveyors, PLLC, dated April 19th, 2016, has been attached. This plan shows a proposed additional pedestrian crossing at the west side of the MOB.

Data Collection

Site visits were conducted on Wednesday, May 11th, 2016 to collect the following:

- Traffic Volume Counts – Traffic turning movement counts were collected at both the east and west parking lot driveways between 6:15-8:15 am and 3:15-5:15pm as these periods were identified by the SMC has peak "turnover" times for staff.

- Pedestrian Volumes – Pedestrian volumes crossing Woodruff Street between the parking lot and the SMC were recorded throughout the count periods.

Re: Pedestrian Study – Samaritan Medical Center – Woodruff Street Pedestrian Crossing Watertown, NY

- Woodruff Street Gap Data – Woodruff Street is approximately 30 feet wide. With an average pedestrian walking speed of 3.5 feet per second, a person needs approximately 8-9 seconds to cross Woodruff Street safely. Gaps in traffic on Woodruff Street between the two existing driveways were collected during the traffic count periods to identify the number of gaps available for pedestrians to safely cross Woodruff Street.

- Geometric Information – Data such as roadway width, speed limits and control signage was collected in the area of the parking lot.

2016 Existing Operations

Based on traffic and pedestrian counts collected, the peak hours were identified as follows:

Morning Peak Hour – 6:45am to 7:45am
Afternoon Peak Hour – 3:45pm to 4:45pm

The 2016 existing vehicular and pedestrian traffic volumes observed during the peak hours are shown in the attached Figure 1. In general, traffic volumes are relatively low on Woodruff Street with less than 100 vehicles observed in either direction during both peak hours. There were approximately 60-70 vehicles entering the Woodruff Street North Parking Lot during the morning peak hour and exiting during the afternoon peak hour.

There were 98 pedestrians observed crossing Woodruff Street during the morning peak hour and 72 pedestrians observed during the afternoon peak hour. Pedestrians were identified to be crossing Woodruff Street at three primary locations, the existing crossing location near the east driveway (42 in the morning and 36 in the afternoon), at the western driveway location (42 in the morning and 18 in the afternoon), and through the landscaped median at the west side of the MOB (14 in the morning and 18 in the afternoon).

The results of the gap analysis indicate that there are approximately 15-20 available gaps in traffic of 9 seconds or longer on Woodruff Street during each 15 minute interval for a total of more than 60 available gaps during each peak hour. This shows that there is at least one available gap per minute to safely cross Woodruff Street without vehicular conflict. It is also noted that regardless of where pedestrians looked to cross Woodruff Street, motorists almost universally yielded to let them cross. The gap data is attached.

Given the relatively low traffic volumes, excess of available gaps, and lack of defined pedestrian crossings on Woodruff Street, pedestrians are crossing at the most convenient locations. Since the driveways provide a clear connection from the parking lot to the street, the majority of pedestrians are using whichever location that corresponds to the side of the MOB that they are walking to/from. Some pedestrians are not willing to walk to the west driveway, so they cut through the landscaping to access the west side of the MOB.

Projected Operations with Cancer Center and Expanded Parking

In addition to the proposed Cancer Center to the west of the MOB, the SMC is proposing the Woodruff Northwest Parking Lot, which will add 118 parking spaces on the north side of Woodruff Street, interconnected to the existing parking lot. This represents an approximate 67% increase in available parking on the north side

Re: Pedestrian Study – Samaritan Medical Center – Woodruff Street Pedestrian Crossing Watertown, NY

of the Woodruff Street. Given the increase in parking, it is assumed that both the vehicular traffic and pedestrian traffic associated with the north side parking will also increase by approximately 67%.

Figure 2 shows the estimated traffic and pedestrian volumes associated with the Woodruff Street North and Northwest Parking Lots after the expansion. With a third access driveway to parking area, it is assumed that all vehicular traffic will redistribute with approximately 50% using the driveway closest to their origin/destination and 25% using each of the other two driveways. With the increase in pedestrian traffic all located at the west end of the parking lot, there is no change to the existing volumes crossing at the east driveway expected. The additional pedestrian traffic is expected to be split with 90% crossing at the existing west driveway and 10% crossing through the landscaping at the west side of the MOB.

Recommendations

It is generally recommended that pedestrian crossings be provided at intersections to increase awareness for both motorists and pedestrians alike. Given that 50%-75% of the project pedestrian traffic will be crossing at or near the existing west parking lot driveway after the expansion, a second pedestrian crossing is recommended at this location. With 30-40 pedestrians using the existing crossing at the east driveway, this crossing should also remain.

To promote both safety and the use of the designated crossing locations, it is recommended that pedestrian crosswalks and warning signage be installed at both locations. Based on the gap data, signalized crossings or flashing beacons are not warranted or necessary at either location.

Conclusions

Traffic volumes are generally low on Woodruff Street, which result in pedestrians crossing at various locations based largely on convenience. With the proposed Cancer Center and parking expansion, pedestrian traffic crossing at the existing west driveway is expected to increase significantly. The end result is expected to be 30-40 pedestrians crossing at the eastern driveway and 80-120 pedestrians crossing at the west driveway during the peak hours. Striped crosswalks and pedestrian crossing signage should be provided at both the existing east and west driveways to better define crossing locations for both pedestrians and motorists. This will provide safer overall operations at the Samaritan Medical Center.

Thank you for the continued opportunity to provide traffic engineering services for Aubertine and Currier. If you have any questions or need additional information, please call.

Sincerely,

Gordon T. Stansbury, P.E., P.T.O.E.
GTS Consulting

Attachments Overall Site Development Plan
Figures 1-3
Gap Data

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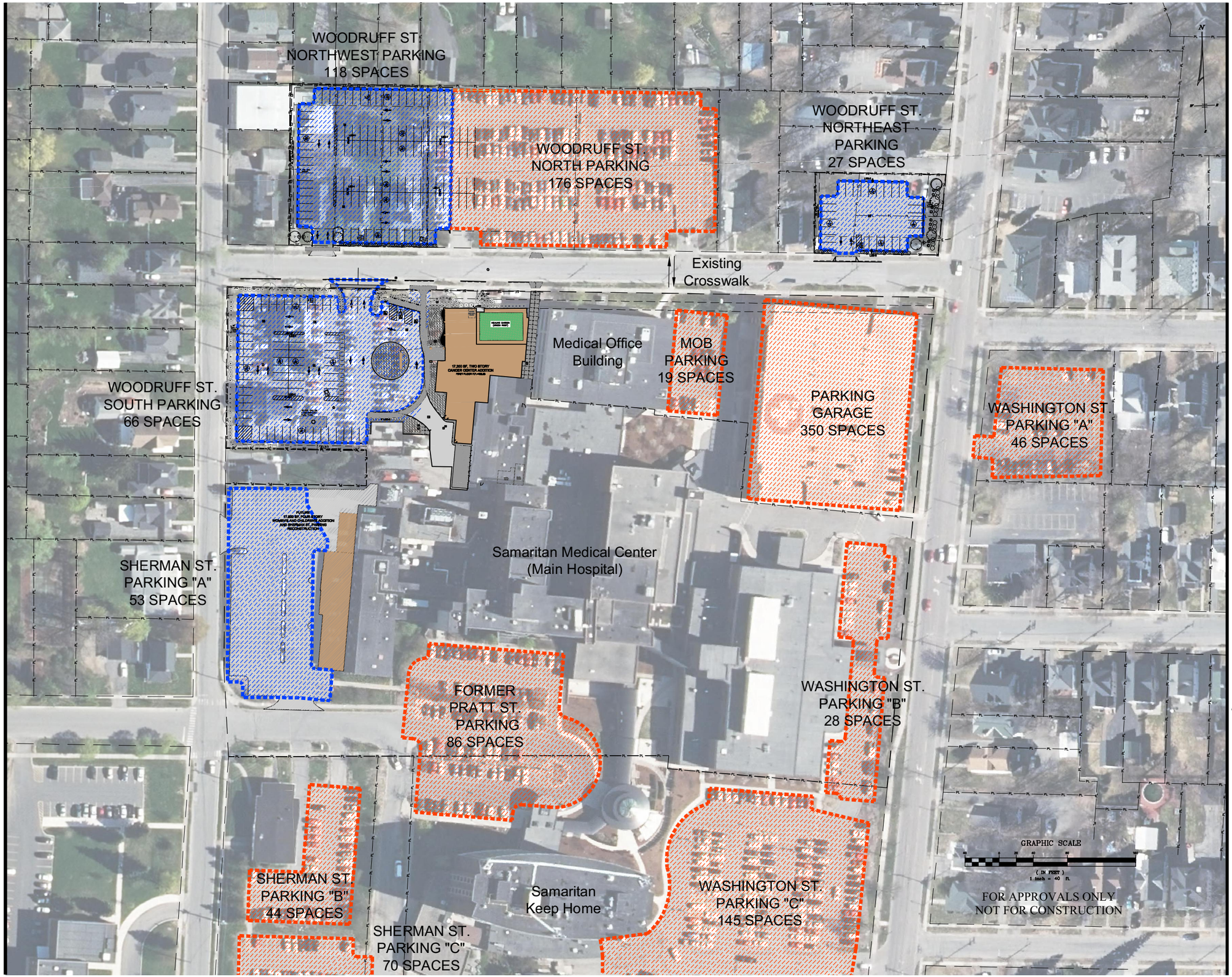

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MRM

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SAMARITAN HEALTH COMPREHENSIVE

CANCER CENTER
830 Washington Street
WATERTOWN, NY 13601

Number	Date	Issued For
1	XXXXXXX	ISSUED FOR -

OVERALL SITE DEVELOPMENT PLAN

Date
04/19/2016
Scale
AS NOTED
Proj. Number
2015-174

Drawing Number
CS-100

Z:\Projects\2015\2015-174 SLAM Collaborative- SMC Woodruff St North and South Parking Lots\dwg\2015-174 Site.dwg May 04, 2016 - 9:26 AM

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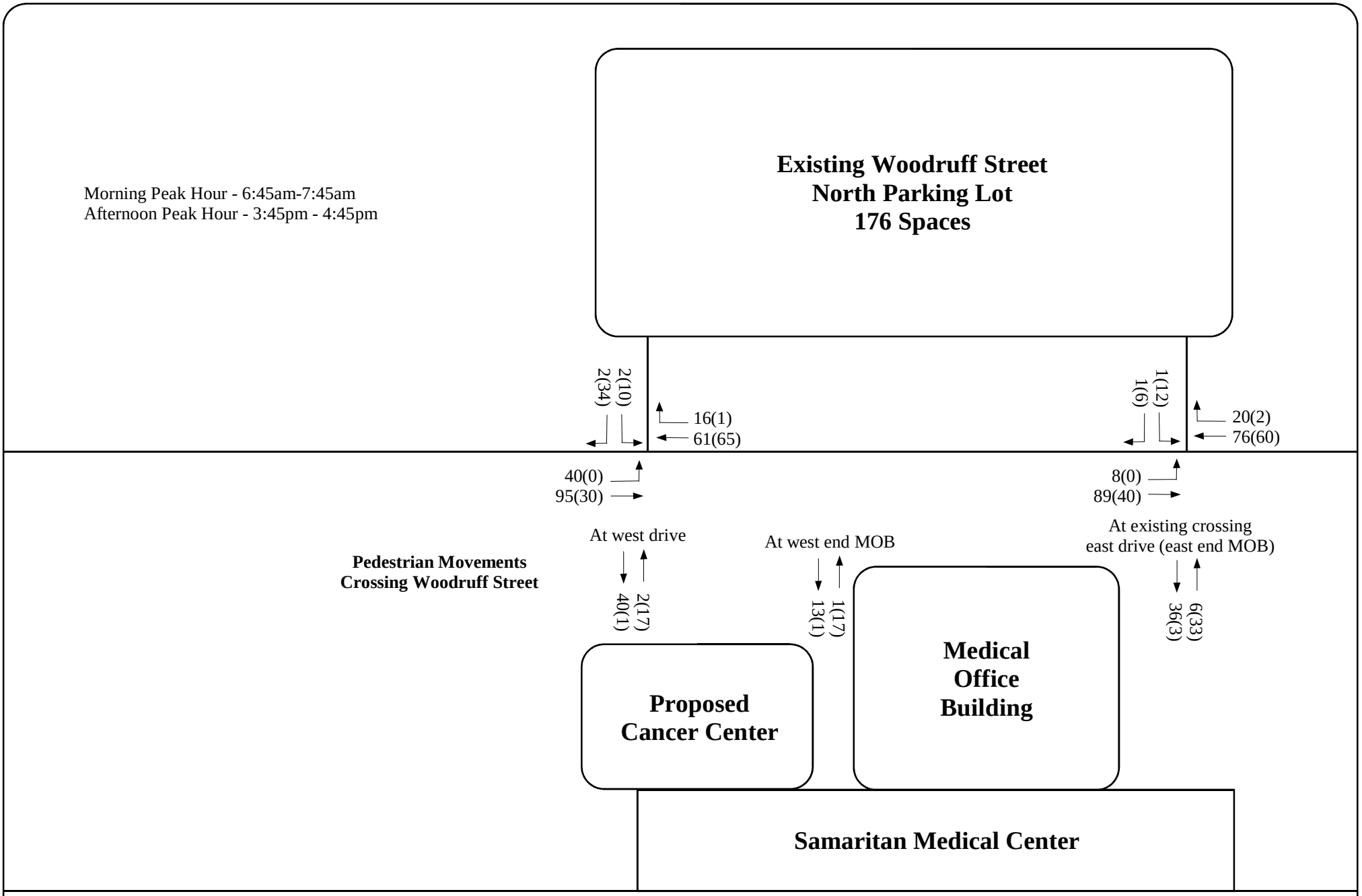

Samiritan Medical Center - Woodruff Street Pedestrian Crossing Review

2016 Existing Vehicle and Pedestrian Volumes - Woodruff Street North Parking Lot
Morning (Afternoon) Peak Hours

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W E

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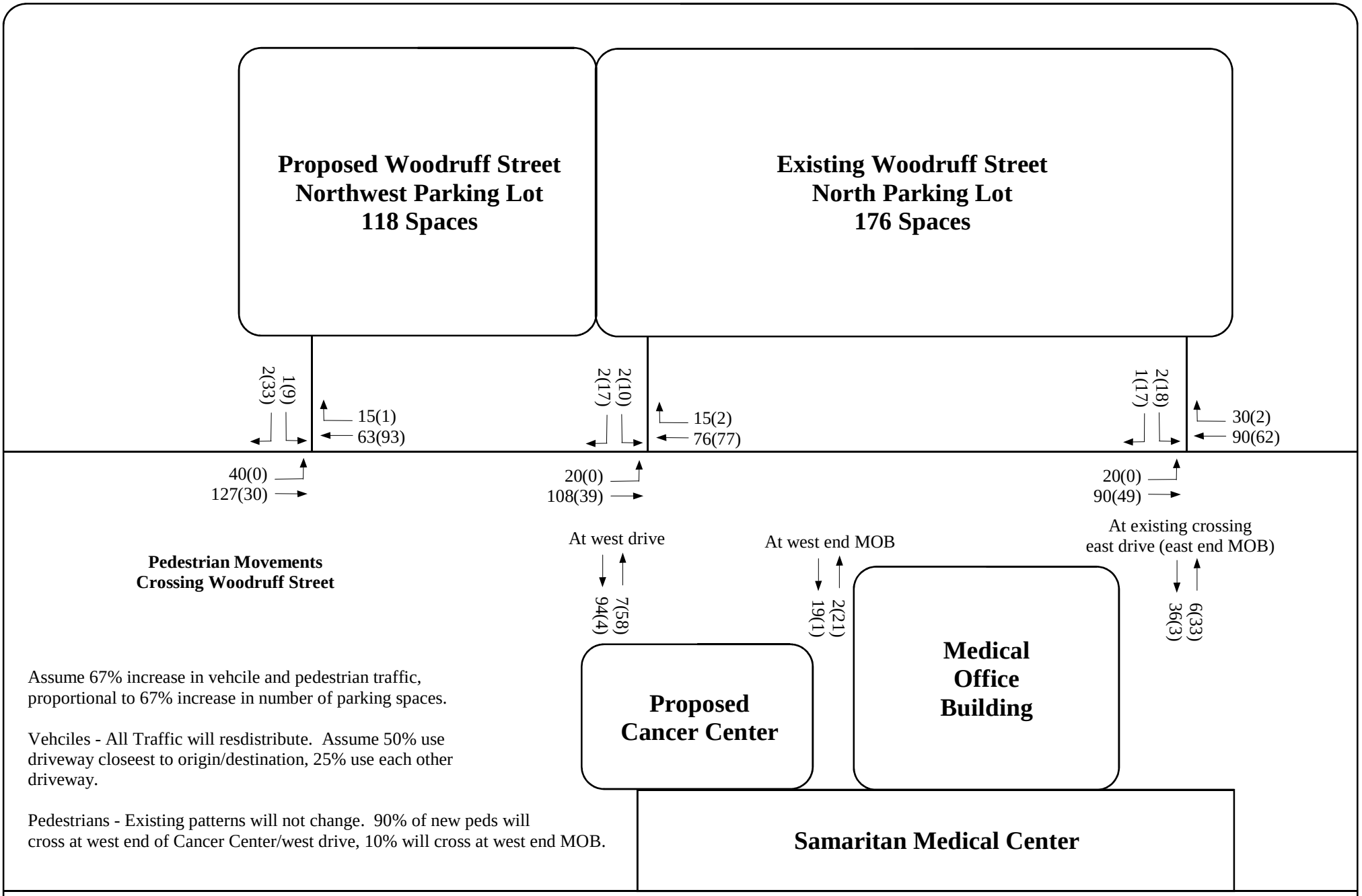
Figure 1



Samiritan Medical Center - Woodruff Street Pedestrian Crossing Review

Projeced Vehicle and Pedestrian Volumes - Woodruff Street North Parking Lot(s) - Without Defined Crossing(s)
Morning (Afternoon) Peak Hours

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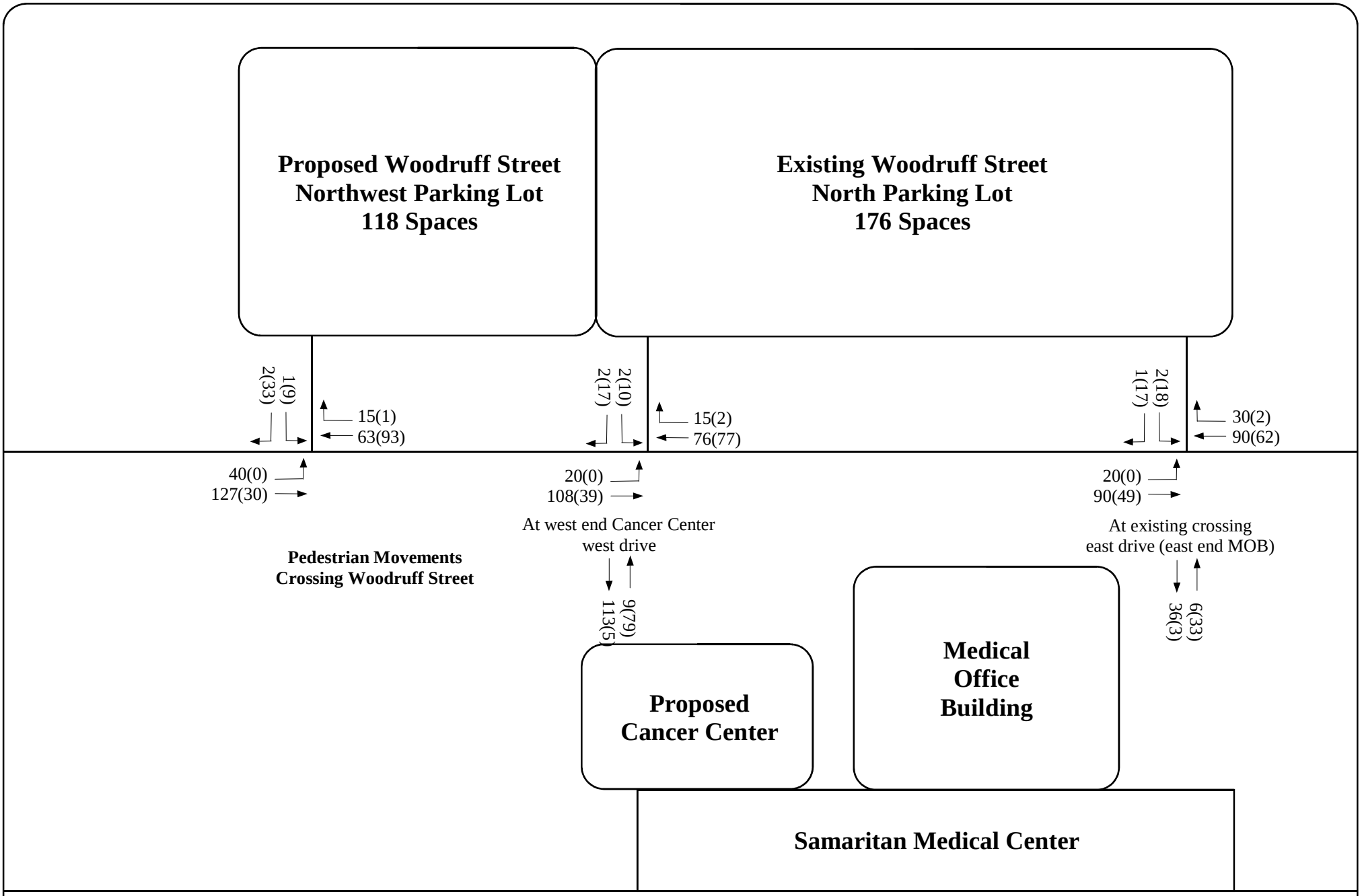
Figure 2



Samiritan Medical Center - Woodruff Street Pedestrian Crossing Review

Projeced Vehicle and Pedestrian Volumes - Woodruff Street North Parking Lot(s) - With Defined Crossing at Each Side of MOB
Morning (Afternoon) Peak Hours

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Figure 3

Intersection Gap Study

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Project: Samaritan Medical Center - Woodruff Street Pedestrian Crossing Review
Date: 5/11/2016

Location: Woodruff Street
Movement: Pedestrians Crossing between Parking and the M.O.B.

Time Interval		8-9 sec x 1	10-13 sec x 2	14-17 sec x 3	18-19 sec x 4	20-23 sec x 5	24-25 sec x 6	26-29 sec x 7	>29 sec x 8	Interval Total	Hour Total
Morning Peak											
6:45-7:00am	# of Gaps	4	4	8	1	2	1	1	0	21	
7:00-7:15am	# of Gaps	3	6	2	2	4	1	1	1	20	
7:15-7:30am	# of Gaps	3	3	3	2	1	0	4	0	16	
7:30-7:45am	# of Gaps	4	4	4	3	1	1	3	1	21	78
Evening Peak											
3:45-4:00pm	# of Gaps	2	2	8	0	2	2	1	3	20	
4:00-4:15m	# of Gaps	0	3	1	2	1	0	3	3	13	
4:15-4:30pm	# of Gaps	2	5	3	2	0	2	3	2	19	
4:30-4:45pm	# of Gaps	1	1	2	1	1	1	2	3	12	64