

August 2, 2017

Kimberly Hallquist
Town Administrator
Town of New London
375 Main St.
New London, NH 03257

RE: Stahlman Office Building/proposed parking

Dear Ms. Hallquist,

Robert Stahlman would like to increase the number of parking spaces at the office building by 8.

Attached is the following information for the above referenced project:

1. (5) copies of the site plan, and (1) reduced copy, (the pdf will be e-mailed to you),
2. The Application for Site Plan Review and attached check list,
3. A signed letter of authorization from the owner,
4. The abutters list report,
5. A check for the application fee, \$277.00,
6. A copy of the Stormwater Drainage Analysis,
7. The Stormwater System Inspection and Maintenance Manual.

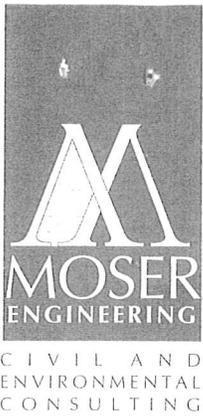
Thank you for your attention to this matter.

Don't hesitate to contact me, if you have any questions.

Sincerely,

Mark R. Moser, PE

RECEIVED
MAY 10 1964
U.S. DEPARTMENT OF AGRICULTURE
WASHINGTON, D.C.



STORMWATER DRAINAGE
ANALYSIS

FOR

STAHLMAN OFFICE BUILDING

NEW LONDON, NH

FOR

PROPOSED ADDITIONAL PARKING

prepared by

Mark R. Moser, PE

Date: July, 2017

Latest Revision:

POST OFFICE BOX 2165
HENNIKER, NH 03242
TEL: 603 / 428-6624
FAX: 603 / 428-6612

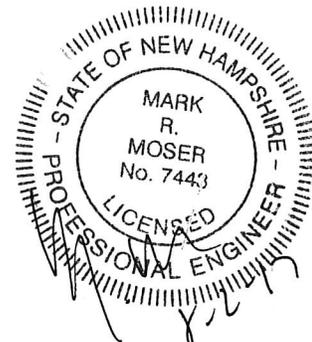


TABLE OF CONTENTS

- 1.0 INTRODUCTION
- 2.0 REPORT OBJECTIVES
- 3.0 RESULTS & DISCUSSION:
- 4.0 METHODOLOGY

ATTACHED MAPS:
NRCS SOIL SURVEY
OFF-SITE WATERSHED MAP
POST DEVELOPMENT, ON-SITE, WATERSHED MAP

APPENDICES

- APPENDIX A PRE-DEVELOPMENT ANALYSIS
- APPENDIX B: POST-DEVELOPMENT ANALYSIS
- APPENDIX C: POROUS ASPHALT PAVEMENT WORKSHEET

1.0 INTRODUCTION

This project involves the expansion of the existing parking lot by 8 spaces. In 2016 approval was granted for, and construction completed for 12 parking spaces along with an access road in order to serve the existing office building.

The objectives of the drainage design are to attenuate any increase in the peak stormwater discharge, provide treatment of runoff prior to discharge, and to provide groundwater recharge.

The above objectives will be accomplished with the use of pervious asphalt pavement.

2.0 REPORT OBJECTIVES

The purpose of this report is to describe the site's drainage, provide the pre and post-development drainage analysis, and computations for the design of suitable drainage structures for the project. Best management practices are specified during construction to control erosion. A pervious pavement will provide permanent stormwater treatment, recharge and peak flow attenuation.

3.0 RESULTS & DISCUSSION:

Stormwater runoff exits the property near the northeast lot corner at an existing culvert adjacent to Pleasant Street. This is considered the point of analysis for this study. The watershed consists of 5.8 acres, and includes the subject property, along with land extending easterly along Gould Road.

Below are the tabulated results for the project.

POINT OF ANALYSIS/NORTHEAST LOT CORNER:

| | Q2 (cfs) | Q10 | Q25 | Q100 |
|-----------------------|----------|-------|-------|-------|
| PRE-DEV. (5.836 ac.) | 5.14 | 11.04 | 14.64 | 22.64 |
| POST-DEV. (5.836 ac.) | 5.02 | 10.77 | 14.31 | 22.26 |

The proposed pavement and underlying aggregate has been designed to attenuate the peak flows, resulting in no net increase in discharges. Additionally, stormwater will be treated through a sand filter layer prior to infiltrating into the adjacent soil.

4.0 METHODOLOGY

Storm water discharges were estimated using the NRCS TR-20 model.

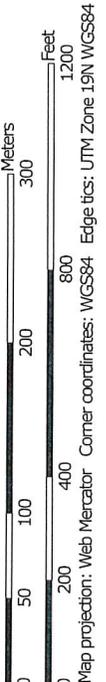
Computations were performed by software developed by HydroCAD Software Solutions, LLC, Chocorua, NH - HydroCAD v. 10-17.

WEB. SOIL SURVEY

Hydrologic Soil Group—Merrimack and Belknap Counties, New Hampshire



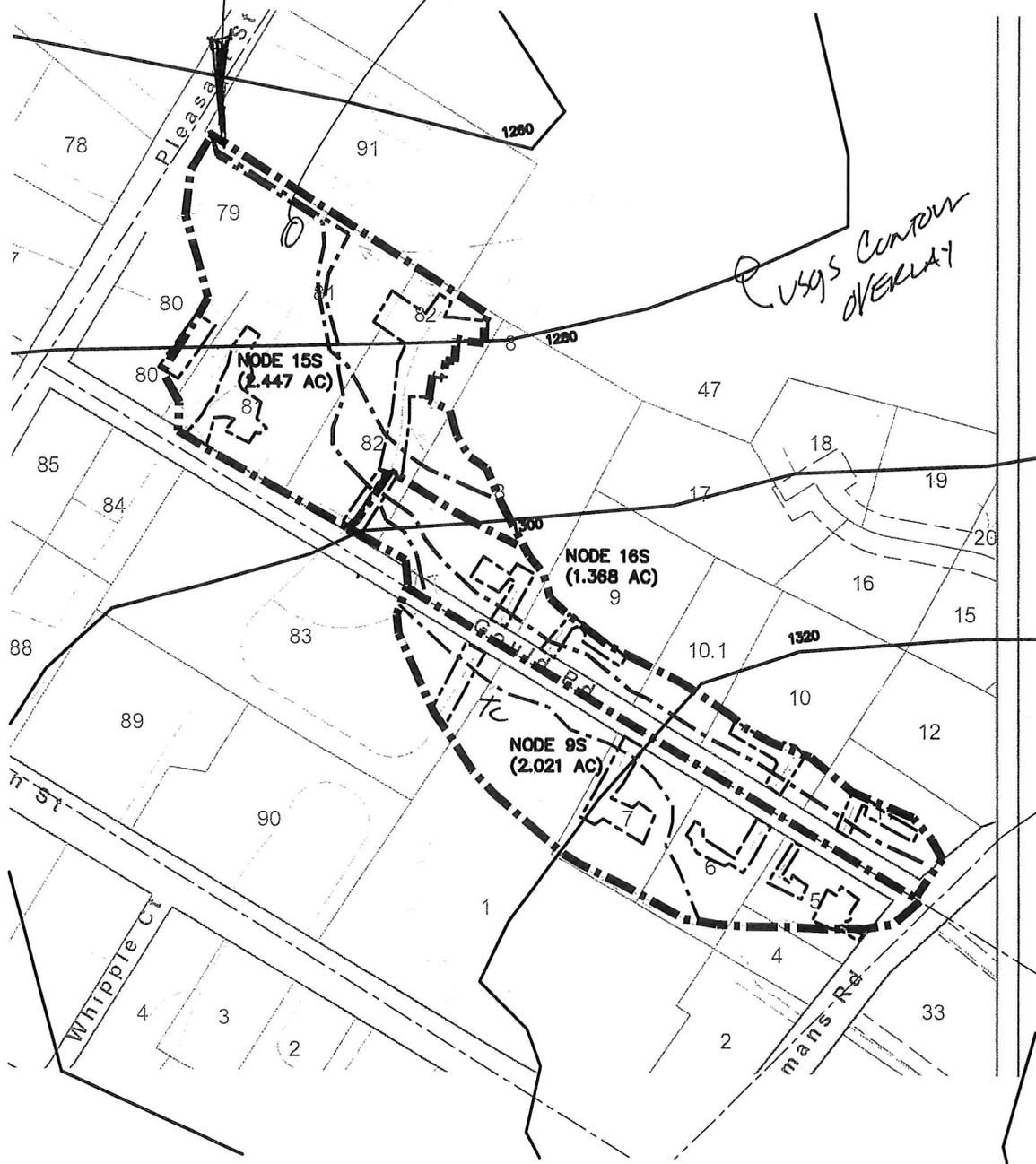
Map Scale: 1:4,450 if printed on A landscape (11" x 8.5") sheet.



OFF-SITE WATERSHED MAP
(1" = 200' ±)

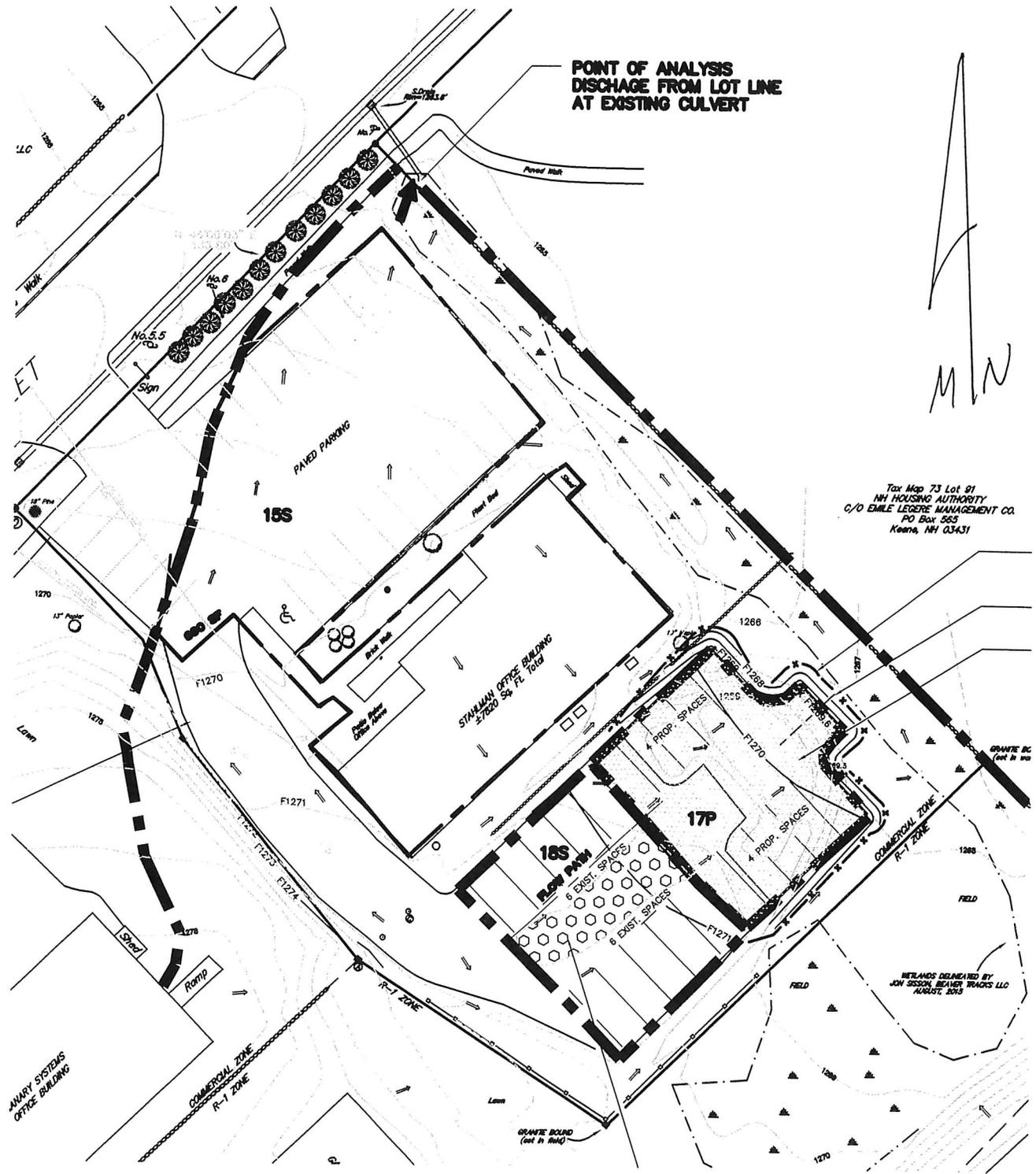
POINT OF ANALYSIS

SUBJECT LOT





ON-SITE - Post Development
 WATERSHED MAP
 SCALE: 1" = 40'



**POINT OF ANALYSIS
 DISCHARGE FROM LOT LINE
 AT EXISTING CULVERT**

Tax Map 73 Lot 91
 NH HOUSING AUTHORITY
 C/O EMILE LOGISTE MANAGEMENT CO.
 PO Box 563
 Keene, NH 03431

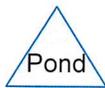
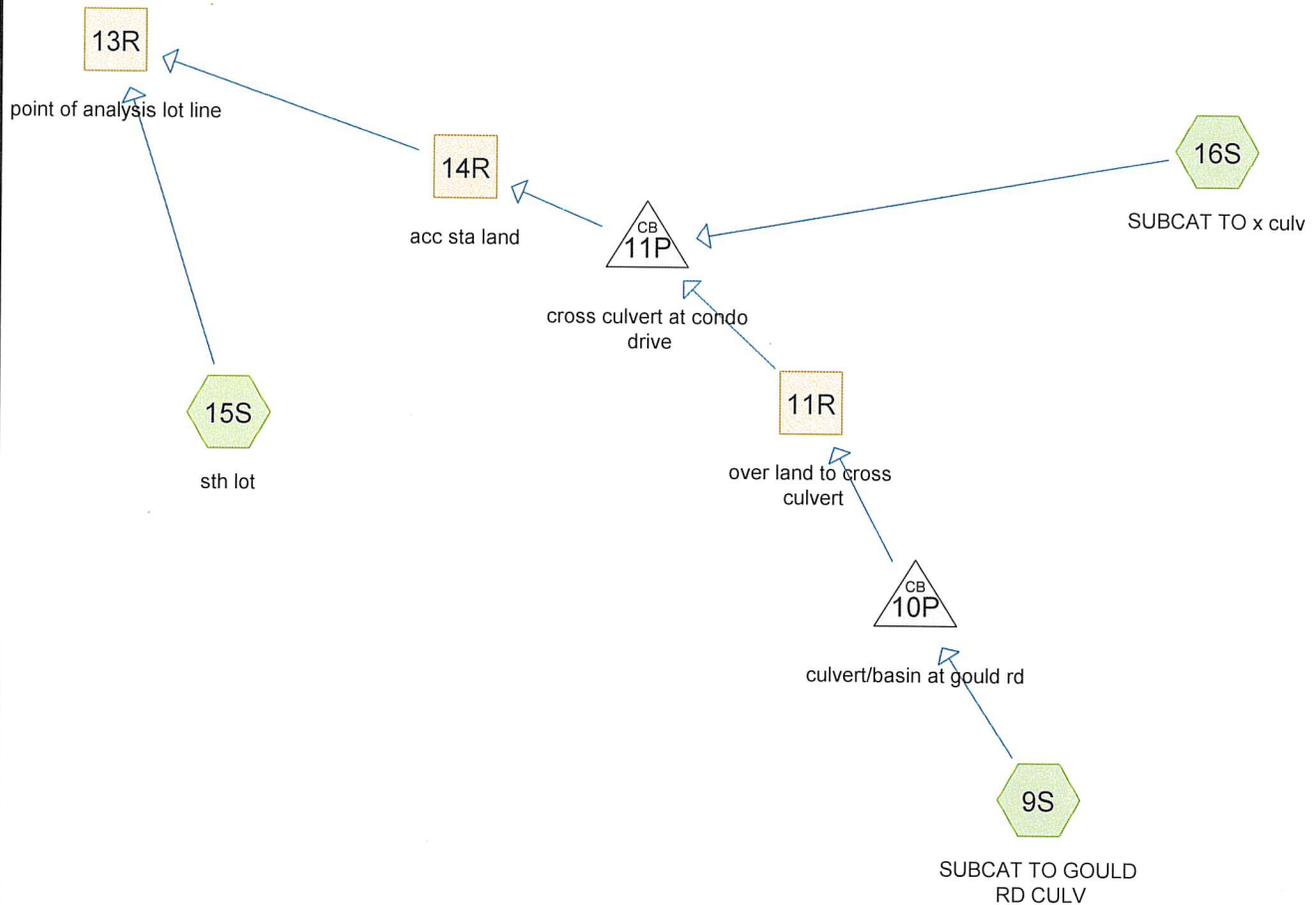
WETLANDS DELINEATED BY
 JOHN SUTTON BEAVER TRACKS LLC
 AUGUST, 2013

MN



APPENDIX A

PRE-DEVELOPMENT ANALYSIS



STAHLMAN_PRE DEV

Prepared by Moser Engineering

HydroCAD® 10.00-17 s/n 03664 © 2016 HydroCAD Software Solutions LLC

Area Listing (all nodes)

| Area (acres) | CN | Description (subcatchment-numbers) |
|-----------------|-----------|--|
| 4.364 | 74 | >75% Grass cover, Good, HSG C (9S, 15S, 16S) |
| 1.472 | 98 | Paved parking, HSG C (9S, 15S, 16S) |
| 5.836 | 80 | TOTAL AREA |

STAHLMAN_PRE DEV

Prepared by Moser Engineering

HydroCAD® 10.00-17 s/n 03664 © 2016 HydroCAD Software Solutions LLC

Soil Listing (all nodes)

| Area (acres) | Soil Group | Subcatchment Numbers |
|-----------------|---------------|-------------------------|
| 0.000 | HSG A | |
| 0.000 | HSG B | |
| 5.836 | HSG C | 9S, 15S, 16S |
| 0.000 | HSG D | |
| 0.000 | Other | |
| 5.836 | | TOTAL AREA |

STAHLMAN_PRE DEV

Type III 24-hr 10yr Rainfall=4.10"

Prepared by Moser Engineering

HydroCAD® 10.00-17 s/n 03664 © 2016 HydroCAD Software Solutions LLC

Page 4

Summary for Subcatchment 9S: SUBCAT TO GOULD RD CULV

Runoff = 3.79 cfs @ 12.19 hrs, Volume= 0.344 af, Depth= 2.04"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 3.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10yr Rainfall=4.10"

| Area (ac) | CN | Description |
|-----------|----|-------------------------------|
| 0.443 | 98 | Paved parking, HSG C |
| 1.578 | 74 | >75% Grass cover, Good, HSG C |
| 2.021 | 79 | Weighted Average |
| 1.578 | | 78.08% Pervious Area |
| 0.443 | | 21.92% Impervious Area |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|----------|---------------|---------------|-------------------|----------------|--|
| 8.3 | 100 | 0.0330 | 0.20 | | Sheet Flow, Grass: Short n= 0.150 P2= 3.00" |
| 5.3 | 460 | 0.0430 | 1.45 | | Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps |
| 13.6 | 560 | Total | | | |

Summary for Subcatchment 15S: sth lot

Runoff = 5.01 cfs @ 12.19 hrs, Volume= 0.450 af, Depth= 2.21"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 3.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10yr Rainfall=4.10"

| Area (ac) | CN | Description |
|-----------|----|-------------------------------|
| 0.663 | 98 | Paved parking, HSG C |
| 1.784 | 74 | >75% Grass cover, Good, HSG C |
| 2.447 | 81 | Weighted Average |
| 1.784 | | 72.91% Pervious Area |
| 0.663 | | 27.09% Impervious Area |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|----------|---------------|---------------|-------------------|----------------|--|
| 8.6 | 100 | 0.0300 | 0.19 | | Sheet Flow, Grass: Short n= 0.150 P2= 3.00" |
| 4.7 | 495 | 0.0620 | 1.74 | | Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps |
| 13.3 | 595 | Total | | | |

Summary for Subcatchment 16S: SUBCAT TO x culv

Runoff = 2.54 cfs @ 12.21 hrs, Volume= 0.242 af, Depth= 2.12"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 3.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10yr Rainfall=4.10"

| Area (ac) | CN | Description |
|-----------|----|-------------------------------|
| 0.366 | 98 | Paved parking, HSG C |
| 1.002 | 74 | >75% Grass cover, Good, HSG C |
| 1.368 | 80 | Weighted Average |
| 1.002 | | 73.25% Pervious Area |
| 0.366 | | 26.75% Impervious Area |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|----------|---------------|---------------|-------------------|----------------|-----------------------------------|
| 8.3 | 100 | 0.0330 | 0.20 | | Sheet Flow, |
| | | | | | Grass: Short n= 0.150 P2= 3.00" |
| 7.2 | 680 | 0.0500 | 1.57 | | Shallow Concentrated Flow, |
| | | | | | Short Grass Pasture Kv= 7.0 fps |
| 15.5 | 780 | Total | | | |

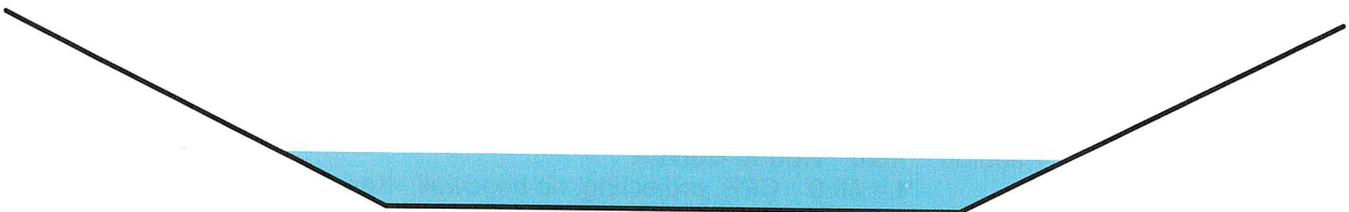
Summary for Reach 11R: over land to cross culvert

Inflow Area = 2.021 ac, 21.92% Impervious, Inflow Depth = 2.04" for 10yr event
 Inflow = 3.79 cfs @ 12.19 hrs, Volume= 0.344 af
 Outflow = 3.79 cfs @ 12.20 hrs, Volume= 0.344 af, Atten= 0%, Lag= 0.3 min

Routing by Dyn-Stor-Ind method, Time Span= 3.00-72.00 hrs, dt= 0.01 hrs / 7
 Max. Velocity= 3.76 fps, Min. Travel Time= 0.4 min
 Avg. Velocity = 1.18 fps, Avg. Travel Time= 1.4 min

Peak Storage= 101 cf @ 12.20 hrs
 Average Depth at Peak Storage= 0.28'
 Bank-Full Depth= 1.00' Flow Area= 5.0 sf, Capacity= 37.60 cfs

3.00' x 1.00' deep channel, n= 0.040 Earth, cobble bottom, clean sides
 Side Slope Z-value= 2.0 '/' Top Width= 7.00'
 Length= 100.0' Slope= 0.0700 '/'
 Inlet Invert= 1,303.00', Outlet Invert= 1,296.00'



Summary for Reach 13R: point of analysis lot line

Inflow Area = 5.836 ac, 25.22% Impervious, Inflow Depth = 2.13" for 10yr event
 Inflow = 11.04 cfs @ 12.21 hrs, Volume= 1.036 af
 Outflow = 11.04 cfs @ 12.21 hrs, Volume= 1.036 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 3.00-72.00 hrs, dt= 0.01 hrs / 7

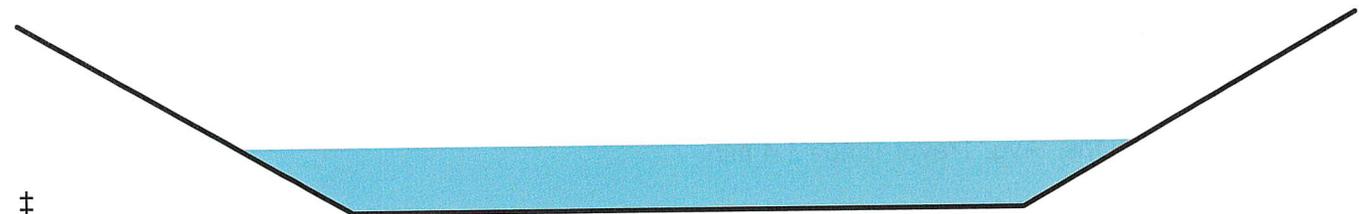
Summary for Reach 14R: acc sta land

Inflow Area = 3.389 ac, 23.87% Impervious, Inflow Depth = 2.08" for 10yr event
 Inflow = 6.32 cfs @ 12.20 hrs, Volume= 0.587 af
 Outflow = 6.20 cfs @ 12.23 hrs, Volume= 0.587 af, Atten= 2%, Lag= 1.6 min

Routing by Dyn-Stor-Ind method, Time Span= 3.00-72.00 hrs, dt= 0.01 hrs / 7
 Max. Velocity= 3.86 fps, Min. Travel Time= 2.4 min
 Avg. Velocity= 1.12 fps, Avg. Travel Time= 8.2 min

Peak Storage= 882 cf @ 12.23 hrs
 Average Depth at Peak Storage= 0.34'
 Bank-Full Depth= 1.00' Flow Area= 6.0 sf, Capacity= 42.05 cfs

4.00' x 1.00' deep channel, n= 0.040 Earth, cobble bottom, clean sides
 Side Slope Z-value= 2.0 '/' Top Width= 8.00'
 Length= 550.0' Slope= 0.0564 '/'
 Inlet Invert= 1,295.00', Outlet Invert= 1,264.00'



Summary for Pond 10P: culvert/basin at gould rd

Inflow Area = 2.021 ac, 21.92% Impervious, Inflow Depth = 2.04" for 10yr event
 Inflow = 3.79 cfs @ 12.19 hrs, Volume= 0.344 af
 Outflow = 3.79 cfs @ 12.19 hrs, Volume= 0.344 af, Atten= 0%, Lag= 0.0 min
 Primary = 3.79 cfs @ 12.19 hrs, Volume= 0.344 af

Routing by Dyn-Stor-Ind method, Time Span= 3.00-72.00 hrs, dt= 0.01 hrs / 7
 Peak Elev= 1,306.29' @ 12.19 hrs

| Device | Routing | Invert | Outlet Devices |
|--------|---------|-----------|---|
| #1 | Primary | 1,305.00' | 15.0" Round Culvert L= 40.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 1,305.00' / 1,304.00' S= 0.0250 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf |

Primary OutFlow Max=3.79 cfs @ 12.19 hrs HW=1,306.29' TW=1,303.28' (Dynamic Tailwater)
 ↑1=Culvert (Inlet Controls 3.79 cfs @ 3.09 fps)

Summary for Pond 11P: cross culvert at condo drive

Inflow Area = 3.389 ac, 23.87% Impervious, Inflow Depth = 2.08" for 10yr event
 Inflow = 6.32 cfs @ 12.20 hrs, Volume= 0.587 af
 Outflow = 6.32 cfs @ 12.20 hrs, Volume= 0.587 af, Atten= 0%, Lag= 0.0 min
 Primary = 6.32 cfs @ 12.20 hrs, Volume= 0.587 af

Routing by Dyn-Stor-Ind method, Time Span= 3.00-72.00 hrs, dt= 0.01 hrs / 7
 Peak Elev= 1,298.46' @ 12.20 hrs

| Device | Routing | Invert | Outlet Devices |
|--------|---------|-----------|---|
| #1 | Primary | 1,296.00' | 15.0" Round Culvert L= 40.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 1,296.00' / 1,295.00' S= 0.0250 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf |

Primary OutFlow Max=6.31 cfs @ 12.20 hrs HW=1,298.46' TW=1,295.34' (Dynamic Tailwater)
 ↑1=Culvert (Inlet Controls 6.31 cfs @ 5.14 fps)

STAHLMAN_PRE DEV

Type III 24-hr 50ry Rainfall=5.62"

Prepared by Moser Engineering

HydroCAD® 10.00-17 s/n 03664 © 2016 HydroCAD Software Solutions LLC

Page 8

Summary for Subcatchment 9S: SUBCAT TO GOULD RD CULV

Runoff = 6.22 cfs @ 12.19 hrs, Volume= 0.563 af, Depth= 3.34"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 3.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 50ry Rainfall=5.62"

| Area (ac) | CN | Description |
|-----------|----|-------------------------------|
| 0.443 | 98 | Paved parking, HSG C |
| 1.578 | 74 | >75% Grass cover, Good, HSG C |
| 2.021 | 79 | Weighted Average |
| 1.578 | | 78.08% Pervious Area |
| 0.443 | | 21.92% Impervious Area |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|----------|---------------|---------------|-------------------|----------------|--|
| 8.3 | 100 | 0.0330 | 0.20 | | Sheet Flow, Grass: Short n= 0.150 P2= 3.00" |
| 5.3 | 460 | 0.0430 | 1.45 | | Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps |
| 13.6 | 560 | Total | | | |

Summary for Subcatchment 15S: sth lot

Runoff = 8.02 cfs @ 12.18 hrs, Volume= 0.722 af, Depth= 3.54"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 3.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 50ry Rainfall=5.62"

| Area (ac) | CN | Description |
|-----------|----|-------------------------------|
| 0.663 | 98 | Paved parking, HSG C |
| 1.784 | 74 | >75% Grass cover, Good, HSG C |
| 2.447 | 81 | Weighted Average |
| 1.784 | | 72.91% Pervious Area |
| 0.663 | | 27.09% Impervious Area |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|----------|---------------|---------------|-------------------|----------------|--|
| 8.6 | 100 | 0.0300 | 0.19 | | Sheet Flow, Grass: Short n= 0.150 P2= 3.00" |
| 4.7 | 495 | 0.0620 | 1.74 | | Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps |
| 13.3 | 595 | Total | | | |

Summary for Subcatchment 16S: SUBCAT TO x culv

Runoff = 4.13 cfs @ 12.21 hrs, Volume= 0.392 af, Depth= 3.44"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 3.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 50ry Rainfall=5.62"

| Area (ac) | CN | Description |
|-----------|----|-------------------------------|
| 0.366 | 98 | Paved parking, HSG C |
| 1.002 | 74 | >75% Grass cover, Good, HSG C |
| 1.368 | 80 | Weighted Average |
| 1.002 | | 73.25% Pervious Area |
| 0.366 | | 26.75% Impervious Area |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|----------|---------------|---------------|-------------------|----------------|--|
| 8.3 | 100 | 0.0330 | 0.20 | | Sheet Flow, Grass: Short n= 0.150 P2= 3.00" |
| 7.2 | 680 | 0.0500 | 1.57 | | Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps |
| 15.5 | 780 | Total | | | |

Summary for Reach 11R: over land to cross culvert

Inflow Area = 2.021 ac, 21.92% Impervious, Inflow Depth = 3.34" for 50ry event
 Inflow = 6.22 cfs @ 12.19 hrs, Volume= 0.563 af
 Outflow = 6.22 cfs @ 12.19 hrs, Volume= 0.563 af, Atten= 0%, Lag= 0.2 min

Routing by Dyn-Stor-Ind method, Time Span= 3.00-72.00 hrs, dt= 0.01 hrs / 7
 Max. Velocity= 4.41 fps, Min. Travel Time= 0.4 min
 Avg. Velocity = 1.35 fps, Avg. Travel Time= 1.2 min

Peak Storage= 141 cf @ 12.19 hrs
 Average Depth at Peak Storage= 0.38'
 Bank-Full Depth= 1.00' Flow Area= 5.0 sf, Capacity= 37.60 cfs

3.00' x 1.00' deep channel, n= 0.040 Earth, cobble bottom, clean sides
 Side Slope Z-value= 2.0 ' / ' Top Width= 7.00'
 Length= 100.0' Slope= 0.0700 ' / '
 Inlet Invert= 1,303.00', Outlet Invert= 1,296.00'



Summary for Reach 13R: point of analysis lot line

Inflow Area = 5.836 ac, 25.22% Impervious, Inflow Depth = 3.45" for 50ry event
 Inflow = 17.97 cfs @ 12.20 hrs, Volume= 1.677 af
 Outflow = 17.97 cfs @ 12.20 hrs, Volume= 1.677 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 3.00-72.00 hrs, dt= 0.01 hrs / 7

Summary for Reach 14R: acc sta land

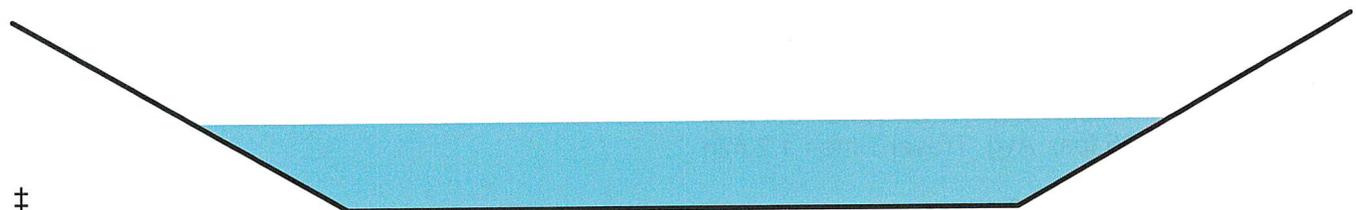
Inflow Area = 3.389 ac, 23.87% Impervious, Inflow Depth = 3.38" for 50ry event
 Inflow = 10.31 cfs @ 12.20 hrs, Volume= 0.955 af
 Outflow = 10.16 cfs @ 12.22 hrs, Volume= 0.955 af, Atten= 1%, Lag= 1.4 min

Routing by Dyn-Stor-Ind method, Time Span= 3.00-72.00 hrs, dt= 0.01 hrs / 7

Max. Velocity= 4.55 fps, Min. Travel Time= 2.0 min
 Avg. Velocity = 1.29 fps, Avg. Travel Time= 7.1 min

Peak Storage= 1,229 cf @ 12.22 hrs
 Average Depth at Peak Storage= 0.46'
 Bank-Full Depth= 1.00' Flow Area= 6.0 sf, Capacity= 42.05 cfs

4.00' x 1.00' deep channel, n= 0.040 Earth, cobble bottom, clean sides
 Side Slope Z-value= 2.0 ' / ' Top Width= 8.00'
 Length= 550.0' Slope= 0.0564 ' / '
 Inlet Invert= 1,295.00', Outlet Invert= 1,264.00'



Summary for Pond 10P: culvert/basin at gould rd

Inflow Area = 2.021 ac, 21.92% Impervious, Inflow Depth = 3.34" for 50ry event
 Inflow = 6.22 cfs @ 12.19 hrs, Volume= 0.563 af
 Outflow = 6.22 cfs @ 12.19 hrs, Volume= 0.563 af, Atten= 0%, Lag= 0.0 min
 Primary = 6.22 cfs @ 12.19 hrs, Volume= 0.563 af

Routing by Dyn-Stor-Ind method, Time Span= 3.00-72.00 hrs, dt= 0.01 hrs / 7

Peak Elev= 1,307.40' @ 12.19 hrs

| Device | Routing | Invert | Outlet Devices |
|--------|---------|-----------|---|
| #1 | Primary | 1,305.00' | 15.0" Round Culvert L= 40.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 1,305.00' / 1,304.00' S= 0.0250 ' / ' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf |

Primary OutFlow Max=6.22 cfs @ 12.19 hrs HW=1,307.40' TW=1,303.38' (Dynamic Tailwater)
 ↑1=Culvert (Inlet Controls 6.22 cfs @ 5.06 fps)

Summary for Pond 11P: cross culvert at condo drive

Inflow Area = 3.389 ac, 23.87% Impervious, Inflow Depth = 3.38" for 50ry event
 Inflow = 10.31 cfs @ 12.20 hrs, Volume= 0.955 af
 Outflow = 10.31 cfs @ 12.20 hrs, Volume= 0.955 af, Atten= 0%, Lag= 0.0 min
 Primary = 10.31 cfs @ 12.20 hrs, Volume= 0.955 af

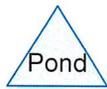
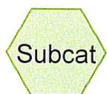
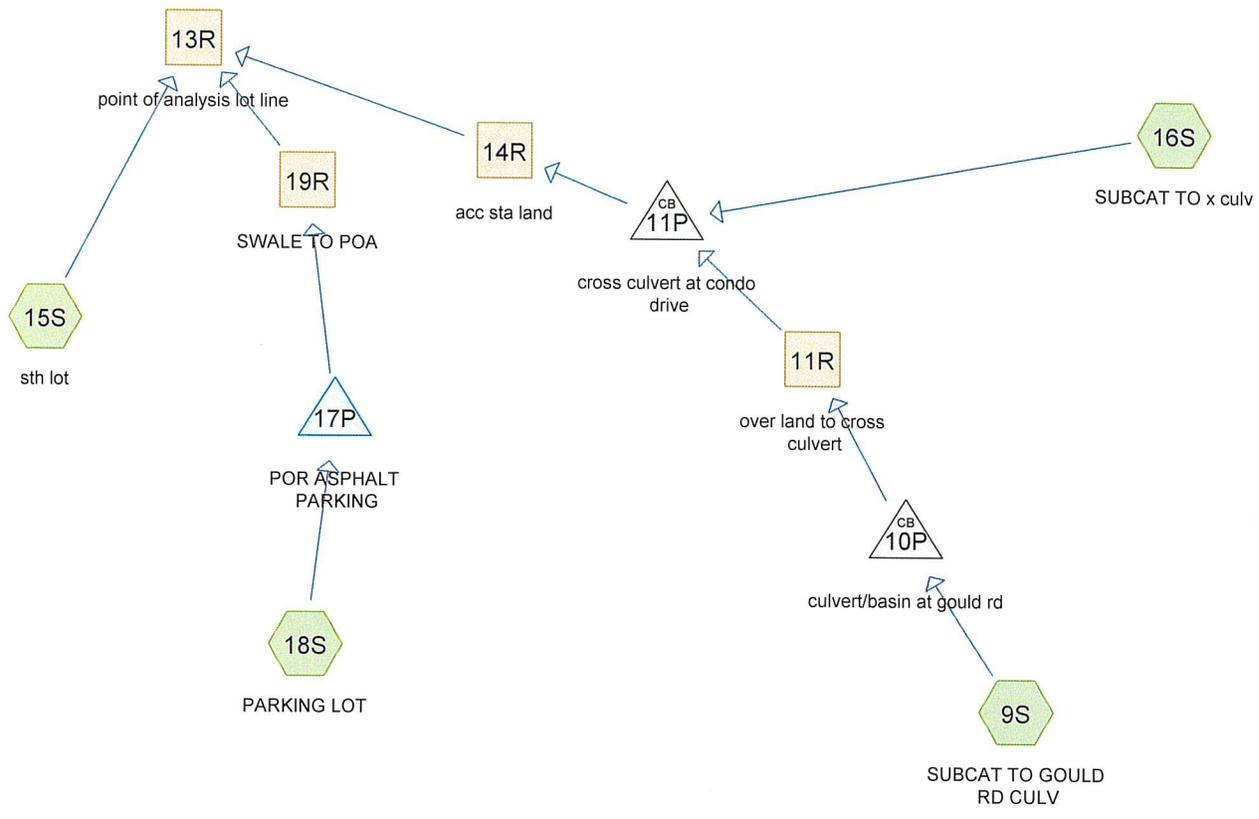
Routing by Dyn-Stor-Ind method, Time Span= 3.00-72.00 hrs, dt= 0.01 hrs / 7
 Peak Elev= 1,301.51' @ 12.20 hrs

| Device | Routing | Invert | Outlet Devices |
|--------|---------|-----------|---|
| #1 | Primary | 1,296.00' | 15.0" Round Culvert L= 40.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 1,296.00' / 1,295.00' S= 0.0250 ' / ' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf |

Primary OutFlow Max=10.30 cfs @ 12.20 hrs HW=1,301.50' TW=1,295.45' (Dynamic Tailwater)
 ↑1=Culvert (Inlet Controls 10.30 cfs @ 8.40 fps)

APPENDIX B:

POST-DEVELOPMENT ANALYSIS



Routing Diagram for STAHLMAN_POST DEV2017_W POR ASHP
 Prepared by Moser Engineering
 HydroCAD® 10.00-17 s/n 03664 © 2016 HydroCAD Software Solutions LLC

STAHLMAN_POST DEV2017_W POR ASHP

Prepared by Moser Engineering

HydroCAD® 10.00-17 s/n 03664 © 2016 HydroCAD Software Solutions LLC

Page 2

Area Listing (all nodes)

| Area (acres) | CN | Description (subcatchment-numbers) |
|-----------------|-----------|--|
| 4.176 | 74 | >75% Grass cover, Good, HSG C (9S, 15S, 16S) |
| 0.066 | 40 | POR ASPHALT (18S) |
| 1.594 | 98 | Paved parking, HSG C (9S, 15S, 16S, 18S) |
| 5.836 | 80 | TOTAL AREA |

STAHLMAN_POST DEV2017_W POR ASHP

Prepared by Moser Engineering

HydroCAD® 10.00-17 s/n 03664 © 2016 HydroCAD Software Solutions LLC

Soil Listing (all nodes)

| Area (acres) | Soil Group | Subcatchment Numbers |
|-----------------|---------------|-------------------------|
| 0.000 | HSG A | |
| 0.000 | HSG B | |
| 5.770 | HSG C | 9S, 15S, 16S, 18S |
| 0.000 | HSG D | |
| 0.066 | Other | 18S |
| 5.836 | | TOTAL AREA |

Summary for Subcatchment 9S: SUBCAT TO GOULD RD CULV

Runoff = 3.79 cfs @ 12.19 hrs, Volume= 0.344 af, Depth= 2.04"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 3.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10yr Rainfall=4.10"

| Area (ac) | CN | Description |
|-----------|----|-------------------------------|
| 0.443 | 98 | Paved parking, HSG C |
| 1.578 | 74 | >75% Grass cover, Good, HSG C |
| 2.021 | 79 | Weighted Average |
| 1.578 | | 78.08% Pervious Area |
| 0.443 | | 21.92% Impervious Area |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|----------|---------------|---------------|-------------------|----------------|--|
| 8.3 | 100 | 0.0330 | 0.20 | | Sheet Flow, Grass: Short n= 0.150 P2= 3.00" |
| 5.3 | 460 | 0.0430 | 1.45 | | Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps |
| 13.6 | 560 | Total | | | |

Summary for Subcatchment 15S: sth lot

Runoff = 4.74 cfs @ 12.19 hrs, Volume= 0.425 af, Depth= 2.21"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 3.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10yr Rainfall=4.10"

| Area (ac) | CN | Description |
|-----------|----|-------------------------------|
| 0.717 | 98 | Paved parking, HSG C |
| 1.596 | 74 | >75% Grass cover, Good, HSG C |
| 2.313 | 81 | Weighted Average |
| 1.596 | | 69.00% Pervious Area |
| 0.717 | | 31.00% Impervious Area |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|----------|---------------|---------------|-------------------|----------------|--|
| 8.6 | 100 | 0.0300 | 0.19 | | Sheet Flow, Grass: Short n= 0.150 P2= 3.00" |
| 4.7 | 495 | 0.0620 | 1.74 | | Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps |
| 13.3 | 595 | Total | | | |

Summary for Subcatchment 16S: SUBCAT TO x culv

Runoff = 2.54 cfs @ 12.21 hrs, Volume= 0.242 af, Depth= 2.12"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 3.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10yr Rainfall=4.10"

| Area (ac) | CN | Description |
|-----------|----|-------------------------------|
| 0.366 | 98 | Paved parking, HSG C |
| 1.002 | 74 | >75% Grass cover, Good, HSG C |
| 1.368 | 80 | Weighted Average |
| 1.002 | | 73.25% Pervious Area |
| 0.366 | | 26.75% Impervious Area |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|----------|---------------|---------------|-------------------|----------------|-----------------------------------|
| 8.3 | 100 | 0.0330 | 0.20 | | Sheet Flow, |
| 7.2 | 680 | 0.0500 | 1.57 | | Grass: Short n= 0.150 P2= 3.00" |
| | | | | | Shallow Concentrated Flow, |
| | | | | | Short Grass Pasture Kv= 7.0 fps |
| 15.5 | 780 | Total | | | |

Summary for Subcatchment 18S: PARKING LOT

Runoff = 0.24 cfs @ 12.02 hrs, Volume= 0.015 af, Depth= 1.33"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 3.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10yr Rainfall=4.10"

| Area (ac) | CN | Description |
|-----------|----|------------------------|
| 0.068 | 98 | Paved parking, HSG C |
| * 0.066 | 40 | POR ASPHALT |
| 0.134 | 69 | Weighted Average |
| 0.066 | | 49.25% Pervious Area |
| 0.068 | | 50.75% Impervious Area |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|----------|---------------|---------------|-------------------|----------------|------------------------------------|
| 0.8 | 55 | 0.0200 | 1.18 | | Sheet Flow, |
| | | | | | Smooth surfaces n= 0.011 P2= 3.00" |

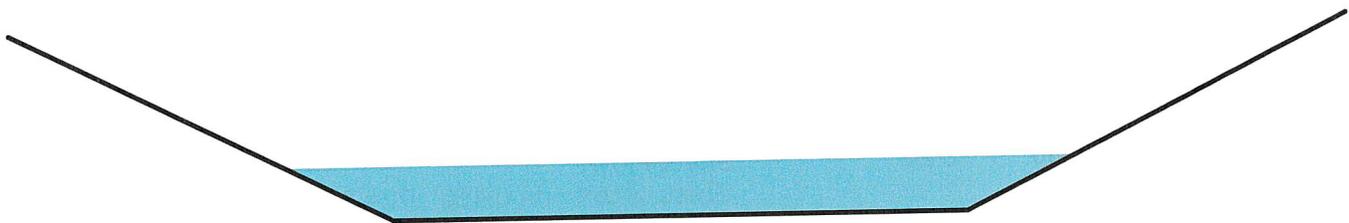
Summary for Reach 11R: over land to cross culvert

Inflow Area = 2.021 ac, 21.92% Impervious, Inflow Depth = 2.04" for 10yr event
 Inflow = 3.79 cfs @ 12.19 hrs, Volume= 0.344 af
 Outflow = 3.79 cfs @ 12.20 hrs, Volume= 0.344 af, Atten= 0%, Lag= 0.3 min

Routing by Dyn-Stor-Ind method, Time Span= 3.00-72.00 hrs, dt= 0.01 hrs / 7
Max. Velocity= 3.76 fps, Min. Travel Time= 0.4 min
Avg. Velocity = 1.18 fps, Avg. Travel Time= 1.4 min

Peak Storage= 101 cf @ 12.20 hrs
Average Depth at Peak Storage= 0.28'
Bank-Full Depth= 1.00' Flow Area= 5.0 sf, Capacity= 37.60 cfs

3.00' x 1.00' deep channel, n= 0.040 Earth, cobble bottom, clean sides
Side Slope Z-value= 2.0 '/' Top Width= 7.00'
Length= 100.0' Slope= 0.0700 '/'
Inlet Invert= 1,303.00', Outlet Invert= 1,296.00'



Summary for Reach 13R: point of analysis lot line

| | |
|---------------|--|
| Inflow Area = | 5.836 ac, 27.31% Impervious, Inflow Depth = 2.08" for 10yr event |
| Inflow = | 10.77 cfs @ 12.21 hrs, Volume= 1.012 af |
| Outflow = | 10.77 cfs @ 12.21 hrs, Volume= 1.012 af, Atten= 0%, Lag= 0.0 min |

Routing by Dyn-Stor-Ind method, Time Span= 3.00-72.00 hrs, dt= 0.01 hrs / 7

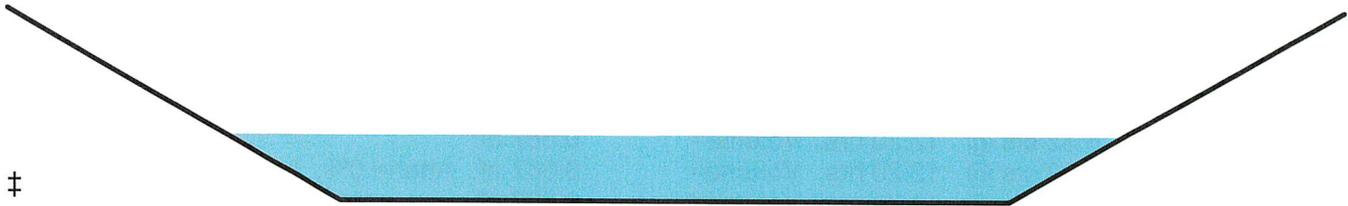
Summary for Reach 14R: acc sta land

| | |
|---------------|--|
| Inflow Area = | 3.389 ac, 23.87% Impervious, Inflow Depth = 2.08" for 10yr event |
| Inflow = | 6.32 cfs @ 12.20 hrs, Volume= 0.587 af |
| Outflow = | 6.20 cfs @ 12.23 hrs, Volume= 0.587 af, Atten= 2%, Lag= 1.6 min |

Routing by Dyn-Stor-Ind method, Time Span= 3.00-72.00 hrs, dt= 0.01 hrs / 7
Max. Velocity= 3.86 fps, Min. Travel Time= 2.4 min
Avg. Velocity = 1.12 fps, Avg. Travel Time= 8.2 min

Peak Storage= 882 cf @ 12.23 hrs
Average Depth at Peak Storage= 0.34'
Bank-Full Depth= 1.00' Flow Area= 6.0 sf, Capacity= 42.05 cfs

4.00' x 1.00' deep channel, n= 0.040 Earth, cobble bottom, clean sides
Side Slope Z-value= 2.0 '/' Top Width= 8.00'
Length= 550.0' Slope= 0.0564 '/'
Inlet Invert= 1,295.00', Outlet Invert= 1,264.00'



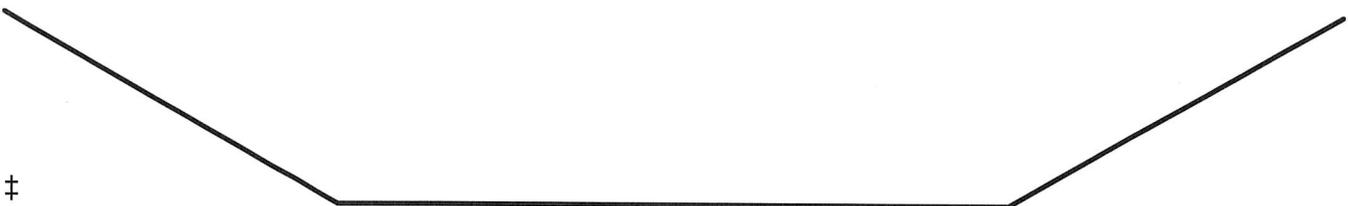
Summary for Reach 19R: SWALE TO POA

Inflow Area = 0.134 ac, 50.75% Impervious, Inflow Depth = 0.00" for 10yr event
 Inflow = 0.00 cfs @ 3.00 hrs, Volume= 0.000 af
 Outflow = 0.00 cfs @ 3.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 3.00-72.00 hrs, dt= 0.01 hrs / 7
 Max. Velocity= 0.00 fps, Min. Travel Time= 0.0 min
 Avg. Velocity = 0.00 fps, Avg. Travel Time= 0.0 min

Peak Storage= 0 cf @ 3.00 hrs
 Average Depth at Peak Storage= 0.00'
 Bank-Full Depth= 1.00' Flow Area= 6.0 sf, Capacity= 21.97 cfs

4.00' x 1.00' deep channel, n= 0.040 Earth, cobble bottom, clean sides
 Side Slope Z-value= 2.0 '/' Top Width= 8.00'
 Length= 195.0' Slope= 0.0154 '/'
 Inlet Invert= 1,267.00', Outlet Invert= 1,264.00'



Summary for Pond 10P: culvert/basin at gould rd

Inflow Area = 2.021 ac, 21.92% Impervious, Inflow Depth = 2.04" for 10yr event
 Inflow = 3.79 cfs @ 12.19 hrs, Volume= 0.344 af
 Outflow = 3.79 cfs @ 12.19 hrs, Volume= 0.344 af, Atten= 0%, Lag= 0.0 min
 Primary = 3.79 cfs @ 12.19 hrs, Volume= 0.344 af

Routing by Dyn-Stor-Ind method, Time Span= 3.00-72.00 hrs, dt= 0.01 hrs / 7
 Peak Elev= 1,306.29' @ 12.19 hrs

| Device | Routing | Invert | Outlet Devices |
|--------|---------|-----------|---|
| #1 | Primary | 1,305.00' | 15.0" Round Culvert L= 40.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 1,305.00' / 1,304.00' S= 0.0250 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf |

Primary OutFlow Max=3.79 cfs @ 12.19 hrs HW=1,306.29' TW=1,303.28' (Dynamic Tailwater)
 ←1=Culvert (Inlet Controls 3.79 cfs @ 3.09 fps)

Summary for Pond 11P: cross culvert at condo drive

Inflow Area = 3.389 ac, 23.87% Impervious, Inflow Depth = 2.08" for 10yr event
 Inflow = 6.32 cfs @ 12.20 hrs, Volume= 0.587 af
 Outflow = 6.32 cfs @ 12.20 hrs, Volume= 0.587 af, Atten= 0%, Lag= 0.0 min
 Primary = 6.32 cfs @ 12.20 hrs, Volume= 0.587 af

Routing by Dyn-Stor-Ind method, Time Span= 3.00-72.00 hrs, dt= 0.01 hrs / 7
 Peak Elev= 1,298.46' @ 12.20 hrs

| Device | Routing | Invert | Outlet Devices |
|--------|---------|-----------|--|
| #1 | Primary | 1,296.00' | 15.0" Round Culvert L= 40.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 1,296.00' / 1,295.00' S= 0.0250 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf |

Primary OutFlow Max=6.31 cfs @ 12.20 hrs HW=1,298.46' TW=1,295.34' (Dynamic Tailwater)
 ↑**1=Culvert** (Inlet Controls 6.31 cfs @ 5.14 fps)

Summary for Pond 17P: POR ASPHALT PARKING

Inflow Area = 0.134 ac, 50.75% Impervious, Inflow Depth = 1.33" for 10yr event
 Inflow = 0.24 cfs @ 12.02 hrs, Volume= 0.015 af
 Outflow = 0.02 cfs @ 11.66 hrs, Volume= 0.015 af, Atten= 92%, Lag= 0.0 min
 Discarded = 0.02 cfs @ 11.66 hrs, Volume= 0.015 af
 Primary = 0.00 cfs @ 3.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 3.00-72.00 hrs, dt= 0.01 hrs / 7
 Peak Elev= 1,268.20' @ 13.37 hrs Surf.Area= 1,576 sf Storage= 231 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
 Center-of-Mass det. time= 106.7 min (963.8 - 857.1)

| Volume | Invert | Avail.Storage | Storage Description |
|--------|-----------|---------------|--|
| #1 | 1,267.50' | 961 cf | Custom Stage Data (Prismatic) Listed below (Recalc) 2,403 cf Overall x 40.0% Voids |

| Elevation (feet) | Surf.Area (sq-ft) | Inc.Store (cubic-feet) | Cum.Store (cubic-feet) |
|------------------|-------------------|------------------------|------------------------|
| 1,267.50 | 10 | 0 | 0 |
| 1,268.00 | 1,200 | 303 | 303 |
| 1,268.50 | 2,150 | 838 | 1,140 |
| 1,269.00 | 2,900 | 1,263 | 2,403 |

| Device | Routing | Invert | Outlet Devices |
|--------|-----------|-----------|---|
| #1 | Discarded | 1,267.50' | 0.02 cfs Exfiltration at all elevations |
| #2 | Primary | 1,268.10' | 4.0" Vert. Orifice/Grate X 0.00 C= 0.600 |

Discarded OutFlow Max=0.02 cfs @ 11.66 hrs HW=1,267.52' (Free Discharge)

↑**1=Exfiltration** (Exfiltration Controls 0.02 cfs)

Primary OutFlow Max=0.00 cfs @ 3.00 hrs HW=1,267.50' TW=1,267.00' (Dynamic Tailwater)

↑**2=Orifice/Grate** (Controls 0.00 cfs)

Summary for Subcatchment 9S: SUBCAT TO GOULD RD CULV

Runoff = 6.22 cfs @ 12.19 hrs, Volume= 0.563 af, Depth= 3.34"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 3.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 50ry Rainfall=5.62"

| Area (ac) | CN | Description |
|-----------|----|-------------------------------|
| 0.443 | 98 | Paved parking, HSG C |
| 1.578 | 74 | >75% Grass cover, Good, HSG C |
| 2.021 | 79 | Weighted Average |
| 1.578 | | 78.08% Pervious Area |
| 0.443 | | 21.92% Impervious Area |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|----------|---------------|---------------|-------------------|----------------|--|
| 8.3 | 100 | 0.0330 | 0.20 | | Sheet Flow, Grass: Short n= 0.150 P2= 3.00" |
| 5.3 | 460 | 0.0430 | 1.45 | | Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps |
| 13.6 | 560 | Total | | | |

Summary for Subcatchment 15S: sth lot

Runoff = 7.58 cfs @ 12.18 hrs, Volume= 0.682 af, Depth= 3.54"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 3.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 50ry Rainfall=5.62"

| Area (ac) | CN | Description |
|-----------|----|-------------------------------|
| 0.717 | 98 | Paved parking, HSG C |
| 1.596 | 74 | >75% Grass cover, Good, HSG C |
| 2.313 | 81 | Weighted Average |
| 1.596 | | 69.00% Pervious Area |
| 0.717 | | 31.00% Impervious Area |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|----------|---------------|---------------|-------------------|----------------|--|
| 8.6 | 100 | 0.0300 | 0.19 | | Sheet Flow, Grass: Short n= 0.150 P2= 3.00" |
| 4.7 | 495 | 0.0620 | 1.74 | | Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps |
| 13.3 | 595 | Total | | | |

Summary for Subcatchment 16S: SUBCAT TO x culv

Runoff = 4.13 cfs @ 12.21 hrs, Volume= 0.392 af, Depth= 3.44"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 3.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 50ry Rainfall=5.62"

| Area (ac) | CN | Description |
|-----------|----|-------------------------------|
| 0.366 | 98 | Paved parking, HSG C |
| 1.002 | 74 | >75% Grass cover, Good, HSG C |
| 1.368 | 80 | Weighted Average |
| 1.002 | | 73.25% Pervious Area |
| 0.366 | | 26.75% Impervious Area |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|----------|---------------|---------------|-------------------|----------------|--|
| 8.3 | 100 | 0.0330 | 0.20 | | Sheet Flow, Grass: Short n= 0.150 P2= 3.00" |
| 7.2 | 680 | 0.0500 | 1.57 | | Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps |
| 15.5 | 780 | Total | | | |

Summary for Subcatchment 18S: PARKING LOT

Runoff = 0.45 cfs @ 12.01 hrs, Volume= 0.027 af, Depth= 2.42"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 3.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 50ry Rainfall=5.62"

| Area (ac) | CN | Description |
|-----------|----|------------------------|
| 0.068 | 98 | Paved parking, HSG C |
| * 0.066 | 40 | POR ASPHALT |
| 0.134 | 69 | Weighted Average |
| 0.066 | | 49.25% Pervious Area |
| 0.068 | | 50.75% Impervious Area |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|----------|---------------|---------------|-------------------|----------------|--|
| 0.8 | 55 | 0.0200 | 1.18 | | Sheet Flow, Smooth surfaces n= 0.011 P2= 3.00" |

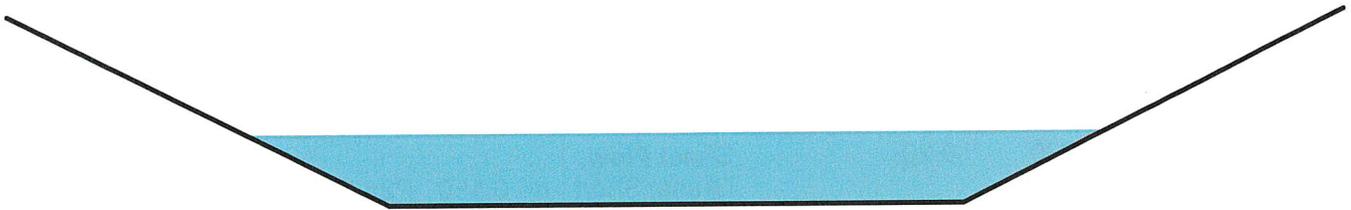
Summary for Reach 11R: over land to cross culvert

Inflow Area = 2.021 ac, 21.92% Impervious, Inflow Depth = 3.34" for 50ry event
 Inflow = 6.22 cfs @ 12.19 hrs, Volume= 0.563 af
 Outflow = 6.22 cfs @ 12.19 hrs, Volume= 0.563 af, Atten= 0%, Lag= 0.2 min

Routing by Dyn-Stor-Ind method, Time Span= 3.00-72.00 hrs, dt= 0.01 hrs / 7
Max. Velocity= 4.41 fps, Min. Travel Time= 0.4 min
Avg. Velocity = 1.35 fps, Avg. Travel Time= 1.2 min

Peak Storage= 141 cf @ 12.19 hrs
Average Depth at Peak Storage= 0.38'
Bank-Full Depth= 1.00' Flow Area= 5.0 sf, Capacity= 37.60 cfs

3.00' x 1.00' deep channel, n= 0.040 Earth, cobble bottom, clean sides
Side Slope Z-value= 2.0 '/' Top Width= 7.00'
Length= 100.0' Slope= 0.0700 '/'
Inlet Invert= 1,303.00', Outlet Invert= 1,296.00'



Summary for Reach 13R: point of analysis lot line

| | | |
|---------------|---|-----------------------------------|
| Inflow Area = | 5.836 ac, 27.31% Impervious, Inflow Depth = 3.37" | for 50ry event |
| Inflow = | 17.54 cfs @ 12.20 hrs, Volume= | 1.637 af |
| Outflow = | 17.54 cfs @ 12.20 hrs, Volume= | 1.637 af, Atten= 0%, Lag= 0.0 min |

Routing by Dyn-Stor-Ind method, Time Span= 3.00-72.00 hrs, dt= 0.01 hrs / 7

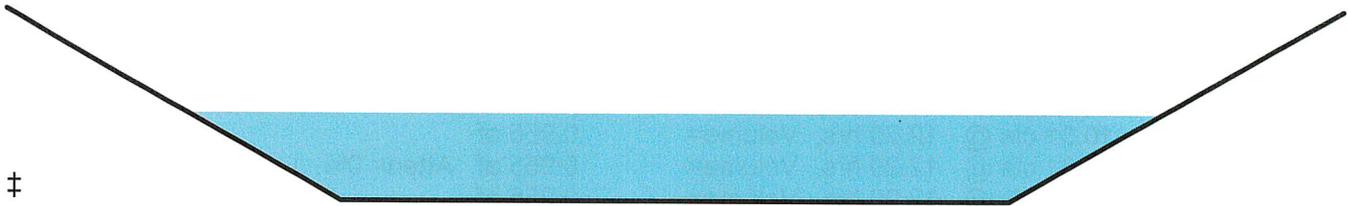
Summary for Reach 14R: acc sta land

| | | |
|---------------|---|-----------------------------------|
| Inflow Area = | 3.389 ac, 23.87% Impervious, Inflow Depth = 3.38" | for 50ry event |
| Inflow = | 10.31 cfs @ 12.20 hrs, Volume= | 0.955 af |
| Outflow = | 10.16 cfs @ 12.22 hrs, Volume= | 0.955 af, Atten= 1%, Lag= 1.4 min |

Routing by Dyn-Stor-Ind method, Time Span= 3.00-72.00 hrs, dt= 0.01 hrs / 7
Max. Velocity= 4.55 fps, Min. Travel Time= 2.0 min
Avg. Velocity = 1.29 fps, Avg. Travel Time= 7.1 min

Peak Storage= 1,229 cf @ 12.22 hrs
Average Depth at Peak Storage= 0.46'
Bank-Full Depth= 1.00' Flow Area= 6.0 sf, Capacity= 42.05 cfs

4.00' x 1.00' deep channel, n= 0.040 Earth, cobble bottom, clean sides
Side Slope Z-value= 2.0 '/' Top Width= 8.00'
Length= 550.0' Slope= 0.0564 '/'
Inlet Invert= 1,295.00', Outlet Invert= 1,264.00'



Summary for Reach 19R: SWALE TO POA

Inflow Area = 0.134 ac, 50.75% Impervious, Inflow Depth = 0.00" for 50ry event
 Inflow = 0.00 cfs @ 3.00 hrs, Volume= 0.000 af
 Outflow = 0.00 cfs @ 3.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 3.00-72.00 hrs, dt= 0.01 hrs / 7
 Max. Velocity= 0.00 fps, Min. Travel Time= 0.0 min
 Avg. Velocity = 0.00 fps, Avg. Travel Time= 0.0 min

Peak Storage= 0 cf @ 3.00 hrs
 Average Depth at Peak Storage= 0.00'
 Bank-Full Depth= 1.00' Flow Area= 6.0 sf, Capacity= 21.97 cfs

4.00' x 1.00' deep channel, n= 0.040 Earth, cobble bottom, clean sides
 Side Slope Z-value= 2.0 '/' Top Width= 8.00'
 Length= 195.0' Slope= 0.0154 '/'
 Inlet Invert= 1,267.00', Outlet Invert= 1,264.00'



Summary for Pond 10P: culvert/basin at gould rd

Inflow Area = 2.021 ac, 21.92% Impervious, Inflow Depth = 3.34" for 50ry event
 Inflow = 6.22 cfs @ 12.19 hrs, Volume= 0.563 af
 Outflow = 6.22 cfs @ 12.19 hrs, Volume= 0.563 af, Atten= 0%, Lag= 0.0 min
 Primary = 6.22 cfs @ 12.19 hrs, Volume= 0.563 af

Routing by Dyn-Stor-Ind method, Time Span= 3.00-72.00 hrs, dt= 0.01 hrs / 7
 Peak Elev= 1,307.40' @ 12.19 hrs

| Device | Routing | Invert | Outlet Devices |
|--------|---------|-----------|---|
| #1 | Primary | 1,305.00' | 15.0" Round Culvert L= 40.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 1,305.00' / 1,304.00' S= 0.0250 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf |

Primary OutFlow Max=6.22 cfs @ 12.19 hrs HW=1,307.40' TW=1,303.38' (Dynamic Tailwater)
 ←1=Culvert (Inlet Controls 6.22 cfs @ 5.06 fps)

Summary for Pond 11P: cross culvert at condo drive

Inflow Area = 3.389 ac, 23.87% Impervious, Inflow Depth = 3.38" for 50ry event
 Inflow = 10.31 cfs @ 12.20 hrs, Volume= 0.955 af
 Outflow = 10.31 cfs @ 12.20 hrs, Volume= 0.955 af, Atten= 0%, Lag= 0.0 min
 Primary = 10.31 cfs @ 12.20 hrs, Volume= 0.955 af

Routing by Dyn-Stor-Ind method, Time Span= 3.00-72.00 hrs, dt= 0.01 hrs / 7
 Peak Elev= 1,301.51' @ 12.20 hrs

| Device | Routing | Invert | Outlet Devices |
|--------|---------|-----------|---|
| #1 | Primary | 1,296.00' | 15.0" Round Culvert L= 40.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 1,296.00' / 1,295.00' S= 0.0250 ' / Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf |

Primary OutFlow Max=10.30 cfs @ 12.20 hrs HW=1,301.50' TW=1,295.45' (Dynamic Tailwater)
 ↑**1=Culvert** (Inlet Controls 10.30 cfs @ 8.40 fps)

Summary for Pond 17P: POR ASPHALT PARKING

Inflow Area = 0.134 ac, 50.75% Impervious, Inflow Depth = 2.42" for 50ry event
 Inflow = 0.45 cfs @ 12.01 hrs, Volume= 0.027 af
 Outflow = 0.02 cfs @ 11.43 hrs, Volume= 0.027 af, Atten= 96%, Lag= 0.0 min
 Discarded = 0.02 cfs @ 11.43 hrs, Volume= 0.027 af
 Primary = 0.00 cfs @ 3.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 3.00-72.00 hrs, dt= 0.01 hrs / 7
 Peak Elev= 1,268.63' @ 15.07 hrs Surf.Area= 2,350 sf Storage= 576 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
 Center-of-Mass det. time= 296.2 min (1,135.3 - 839.1)

| Volume | Invert | Avail.Storage | Storage Description |
|--------|-----------|---------------|--|
| #1 | 1,267.50' | 961 cf | Custom Stage Data (Prismatic) Listed below (Recalc) 2,403 cf Overall x 40.0% Voids |

| Elevation (feet) | Surf.Area (sq-ft) | Inc.Store (cubic-feet) | Cum.Store (cubic-feet) |
|------------------|-------------------|------------------------|------------------------|
| 1,267.50 | 10 | 0 | 0 |
| 1,268.00 | 1,200 | 303 | 303 |
| 1,268.50 | 2,150 | 838 | 1,140 |
| 1,269.00 | 2,900 | 1,263 | 2,403 |

| Device | Routing | Invert | Outlet Devices |
|--------|-----------|-----------|---|
| #1 | Discarded | 1,267.50' | 0.02 cfs Exfiltration at all elevations |
| #2 | Primary | 1,268.10' | 4.0" Vert. Orifice/Grate X 0.00 C= 0.600 |

Discarded OutFlow Max=0.02 cfs @ 11.43 hrs HW=1,267.52' (Free Discharge)

↑1=Exfiltration (Exfiltration Controls 0.02 cfs)

Primary OutFlow Max=0.00 cfs @ 3.00 hrs HW=1,267.50' TW=1,267.00' (Dynamic Tailwater)

↑2=Orifice/Grate (Controls 0.00 cfs)

APPENDIX C:

POROUS PAVEMENT WORKSHEET

FILTRATION PRACTICE DESIGN CRITERIA (Env-Wq 1508.06)

Type/Node Name: _____

POROUS PAVEMENT

Enter the type of filtration practice (e.g., bioretention system) and the node name in the drainage analysis, if applicable

| | | | |
|----------|----------|--|------------|
| | | Have you reviewed the restrictions on unlined systems outlined in Env-Wq 1508.06(b)? | |
| 0.13 | ac | A = Area draining to the practice ¹ | |
| 0.13 | ac | A _I = Impervious area draining to the practice | |
| 1.00 | decimal | I = percent impervious area draining to the practice, in decimal form | |
| 0.95 | unitless | R _v = Runoff coefficient = 0.05 + (0.9 x I) | |
| 0.13 | ac-in | WQV = 1" x R _v x A | |
| 462 | cf | WQV conversion (ac-in x 43,560 sf/ac x 1ft/12") | |
| 116 | cf | 25% x WQV (check calc for sediment forebay volume) | |
| 347 | cf | 75% x WQV (check calc for surface sand filter volume) | |
| | | Method of Pretreatment? (not required for clean or roof runoff) | |
| | cf | V _{SED} = sediment forebay volume, if used for pretreatment | ← ≥ 25%WQV |
| 2,774 | sf | A _{SA} = surface area of the practice | |
| 0.30 | iph | I _{DESIGN} = design infiltration rate ² | |
| n/a | Yes/No | If I _{DESIGN} is < 0.50 iph, has an underdrain been provided? | |
| 6.7 | hours | T _{DRAIN} = drain time = V / (A _{SA} * I _{DESIGN}) | ← ≤ 72-hrs |
| 1,267.93 | feet | E _{FC} = elevation of the bottom of the filter course material | |
| \ | feet | E _{UD} = invert elevation of the underdrain (UD), if applicable | |
| 1,267.33 | feet | E _{BTM} = elevation of the bottom of the practice (i.e., bottom of the stone reservoir). | |
| 1,266.80 | feet | E _{SHWT} = elevation of SHWT (if none found, enter the lowest elevation of the test pit) | |
| | feet | E _{ROCK} = elevation of bedrock (if none found, enter the lowest elevation of the test pit) | |
| #VALUE! | feet | D _{FC to UD} = depth to UD from the bottom of the filter course ³ | ← ≥ 1' |
| 1,267.93 | feet | D _{FC to ROCK} = depth to bedrock from the bottom of the filter course ³ | ← ≥ 1' |
| 1.13 | feet | D _{FC to SHWT} = depth to SHWT from the bottom of the filter course ³ | ← ≥ 1' |
| 0.53 | feet | D _{BTM to SHWT} = depth to SHWT from the bottom of the practice ³ | ← ≥ 2' |
| 1,268.20 | ft | Peak elevation of the 10-year storm event (infiltration can be used in analysis) | |
| 1,269.60 | ft | Elevation of the top of the practice | |
| YES | | 10 peak elevation ≤ Elevation of the top of the practice | ← yes |

If a surface sand filter is proposed:

| | | | |
|-------|--------|--|------------|
| YES | ac | Drainage Area check. | ← < 10 ac |
| | cf | V = volume of storage ^{4,5} (attach a stage-storage table) | ← ≥ 75%WQV |
| | inches | D _{FC} = filter course thickness | ← 18" |
| Sheet | | Note what sheet in the plan set contains the filter course specification | |
| | Yes/No | Access grate provided? | ← yes |
| | | The filter shall not be covered in grass. What is covering the filter? | |

If an underground sand filter is proposed:

| | | | |
|-------|--------|--|------------|
| YES | ac | Drainage Area check. | ← < 10 ac |
| | cf | V = volume of storage ^{4,5} (attach a stage-storage table) | ← ≥ 75%WQV |
| | inches | D _{FC} = filter course thickness | ← 24" |
| Sheet | | Note what sheet in the plan set contains the filter course specification | |
| | Yes/No | Access grate provided? | ← yes |

APPENDIX E
APPLICATION FOR SITE PLAN REVIEW
MULTI-FAMILY RESIDENTIAL & NON-RESIDENTIAL USES

PLANNING BOARD
NEW LONDON, NH

DATE APPLICATION FILED: _____

APPLICATION FOR:

- Phase I: Concept Site Plan Review
 Phase II: Preliminary Site Plan Review
 Phase III: Final Site Plan Review

NAME OF APPLICANT: Robert L. Stahlman

ADDRESS: PO Box 84, Wilmot, NH 03287

DAYTIME PHONE NUMBER: 677-0119 FAX: _____

NAME OF PROPERTY OWNER: _____
(If other than applicant)

ADDRESS: _____

DAYTIME PHONE NUMBER: _____ FAX: _____

LOCATION OF PROPERTY: ⁷⁴ Pleasant St.

TAX MAP/Lot: 84, lot 79 ZONE DISTRICT: Commercial

DESCRIPTION OF USE(S) OF BUILDINGS & LAND: existing office building

WATER SERVICE: New London/Springfield Water Precinct On-site Water Well

Other: _____

SEWER SERVICE: New London Wastewater On-site Septic System

ROAD(S) PROVIDING ACCESS: Town Road

State Highway

The Zoning Administrator or Land Use Coordinator can assist applicants to identify whether the following natural resource areas will be affected and in which sub-watershed the property is located.

SHORELAND OR SHORELAND BUFFER IMPACTED? Yes No

WETLAND OR WETLAND BUFFER IMPACTED? Yes No

LETTER OF AUTHORIZATION

FROM:

Robert Stahlamn, Trustee
Robert L. Stahlman Rev. Trust
PO Box 84
Wilmot, NH 03287

Mark Moser, PE is authorized to act as agent in matters pertaining to the Site Plan Review Application associated with the proposed parking lot expansion. This letter is required as part of the application process.

Robert L. Stahlman 7-31-17
Robert Stahlman, Trustee date

MA

APPENDIX F: MULTI-FAMILY RESIDENTIAL & NON-RESIDENTIAL USES PRELIMINARY
 SITE PLAN REVIEW CHECKLIST of APPLICATION REQUIREMENTS

| # | Application Requirement | Submitted | Not Applicable | Waived by PB |
|-----|--|-----------|----------------|--------------|
| 2.a | Application Form | | | |
| 2.b | Letter of Authorization | | | |
| 2.c | Abutters List | | | |
| 2.d | Application Fee | | | |
| 2.e | Waiver Requests in Writing | | | |
| 2.f | Site Plan Maps - # as directed by Town Planner | | | |
| 1 | Estimated area & distances & directions of boundaries | | | |
| 2 | Name(s) of owner(s) of record | | | |
| 3 | Abutters list | | | |
| 4 | Site location map | | | |
| 5 | North point, graphic scale, date of preparation & revisions | | | |
| 6 | Zone District(s) lines of demarcation | | | |
| 7 | Name, address & seal of person or firm preparing plans | | | |
| 8 | Preliminary plan of existing & proposed structures | | | |
| 9 | Existing structures - photos from all sides | | | |
| 10 | Proposed structures - architectural style concept & exterior for all proposed buildings & additions building materials | | | |
| 11 | General topography & steep slope areas | | | |
| 12 | Direction of flow of surface water | | | |
| 13 | Groundwater & surface water resources | | | |
| 14 | Rock outcroppings & depth to ledge | | | |
| 15 | Preliminary plan for streets, driveways, parking & sidewalks | | | |
| 16 | Preliminary wastewater treatment plans | | | |
| 17 | Preliminary landscaping plan | | | |
| 18 | Preliminary plans for domestic water supply | | | |
| 19 | Preliminary fire protection plan | | | |
| 20 | Existing & preliminary proposed utility plan | | | |
| 21 | Preliminary outdoor lighting plan | | | |
| 22 | Preliminary sign plan | | | |
| 23 | Preliminary plan for managing surface water drainage | | | |
| 24 | Prelim. erosion & sediment control plan during & after construction | | | |
| 25 | Prelim. plan of the ROW & traveled surface of fronting streets | | | |
| 26 | Preliminary snow storage plan | | | |
| 27 | Preliminary plan for solid waste disposal facility | | | |
| 28 | Prelim. plan for outdoor storage/display of materials/merchandise | | | |
| 29 | Executive Summary to include: | | | |
| a | Hours & days of operation | | | |
| b | Estimate of normal business traffic | | | |
| c | Description of proposed use(s) | | | |
| d | Number of employees | | | |
| e | Any unusual demand for utility service | | | |

(Need letter of authorization from property owner)

Town of New London
Site Plan Review Regulations
As Amended December 1, 2015

| | | | | |
|----|---|--|--|--|
| | f | Additional information to clarify proposal | | |
| 30 | | Special impact studies required by PB | | |

NOTE #1: The numbering of this checklist corresponds with the numbering in the Site Plan Review Regulations for a Preliminary Site Plan Review Application.

NOTE #2: The SPR Regulations must be consulted for the details of the items contained in this checklist.

APPENDIX G - MULTI-FAMILY RESIDENTIAL & NON-RESIDENTIAL USES
 FINAL SITE PLAN REVIEW CHECKLIST of APPLICATION REQUIREMENTS

| # | Application Requirement | Submitted | Not Applicable | Waived by PB |
|-----|--|-----------|----------------|--------------|
| 2.a | Application Form | X | | |
| 2.b | Letter of Authorization | X | | |
| 2.c | Abutters List | X | | |
| 2.d | Application Fee | X | | |
| 2.c | Waiver Requests in Writing | | X | |
| 2.f | Site Plan Maps - # as directed by Town Planner | X | | |
| 1 | Boundary survey & lot area | X | | |
| 2 | Site location map | X | | |
| 3 | Name(s) of owner(s) of record | X | | |
| 4 | Abutting landowners within 200 feet of the property line | X | | |
| 5 | North point, graphic scale, date of preparation & revisions | X | | |
| 6 | Zone District(s) lines of demarcation | X | | |
| 7 | Name, address & seal of person or firm preparing plans | X | | |
| 8 | Shape, size & location of existing & proposed structures | X | | |
| 9 | Existing structures - photos from all sides | | X | |
| 10 | Proposed structures - conceptual floor plans & elevations | | X | |
| 11 | Topography at 2' intervals & steep slope areas existing & proposed grades & drainage systems | X | | |
| 12 | Groundwater & surface water resources | X | | |
| 13 | Rock outcroppings & depth to ledge | | X | |
| 14 | Final plan for streets, driveways, parking spaces, & sidewalks | | X | |
| 15 | Final wastewater treatment plans | | X | |
| 16 | Final landscaping plan | X | | |
| 17 | Final plans for domestic water supply | | X | |
| 18 | Final fire protection plan | | X | |
| 19 | Existing & final proposed utility plan | X | | |
| 20 | Final outdoor lighting plan | X | | |
| 21 | Final sign plan | | X | |
| 22 | Final plan for managing surface water drainage | X | | |
| 23 | Final erosion & sediment control plan during & after construction | X | | |
| 24 | Final plan of the ROW & traveled surface of all fronting streets | | X | |
| 25 | Final snow storage plan | X | | |
| 26 | Final plan for solid waste disposal facility | | X | |
| 27 | Final plan for outdoor storage/display of materials/merchandise | | X | |
| 28 | Executive summary | | | |
| a | Hours & days of operation | | | |
| b | Estimate of normal business traffic | | | |
| c | Description of proposed use(s) | | | |
| d | Number of employees | | | |
| e | Any unusual demand for utility service | | | |
| f | Additional information to clarify proposal | * | | |
| 30 | Special impact studies required by PB | | | |

* Stormwater Maint. & Inspection
 Manual
 & Drainage Study

Town of New London
Site Plan Review Regulations
As Amended December 1, 2015

NOTE #1: The numbering of this checklist corresponds with the numbering in the Site Plan Review Regulations for a Final Site Plan Review Application.

NOTE #2: The Site Plan Review Regulations need to be consulted for the details of the items contained in this checklist.

APPENDIX II
SUGGESTED FORM OF ACCEPTABLE IRREVOCABLE LETTER OF CREDIT

Board of Selectmen
Town of New London
New London Town Offices
375 Main Street
New London, N.H. 03257

Dear Town Officials:

RE: _____ Site Plan

By this document, the _____ Bank (hereinafter "issuer") hereby issues an irrevocable letter of credit in the amount of \$ _____ to the Town of New London on behalf of _____ (hereinafter "developer"). This irrevocable letter of credit is issued to guaranty completion of all improvements required by the New London Planning Board and the Town of New London Site Plan Review Regulations in conjunction with a site plan entitled "_____", dated _____, prepared by _____, and approved by the New London Planning Board on _____.

It is understood that the improvements guaranteed by this irrevocable letter of credit include but are not limited to the following:

- 1.
- 2.
- 3.

It is agreed and understood by the issuer of this letter of credit that it shall be issued for a period of _____ months. If all improvements guaranteed by this letter of credit are not completed by _____ (date) and if an Certificate of Occupancy Permit indicating completion of all improvements has not been issued by the Town of New London Board of Selectmen, then this letter of credit shall be automatically considered to have been called and without further action by the Town of New London or its Board of Selectmen, the _____ Bank shall forward a check in the amount of \$ _____ to the Treasurer of the Town of New London. The funds so forwarded to the Town Treasurer shall be used exclusively for the purpose of completing the improvements which are guaranteed by this letter of credit. Any funds not needed by the Town to complete improvements required by the site plan referred to above shall be returned to the _____ Bank.

(Signature of Bank Official)

Date: _____

I have read this letter of credit and agree to its terms.

(Signature of Developer)



Stahlman Office Building

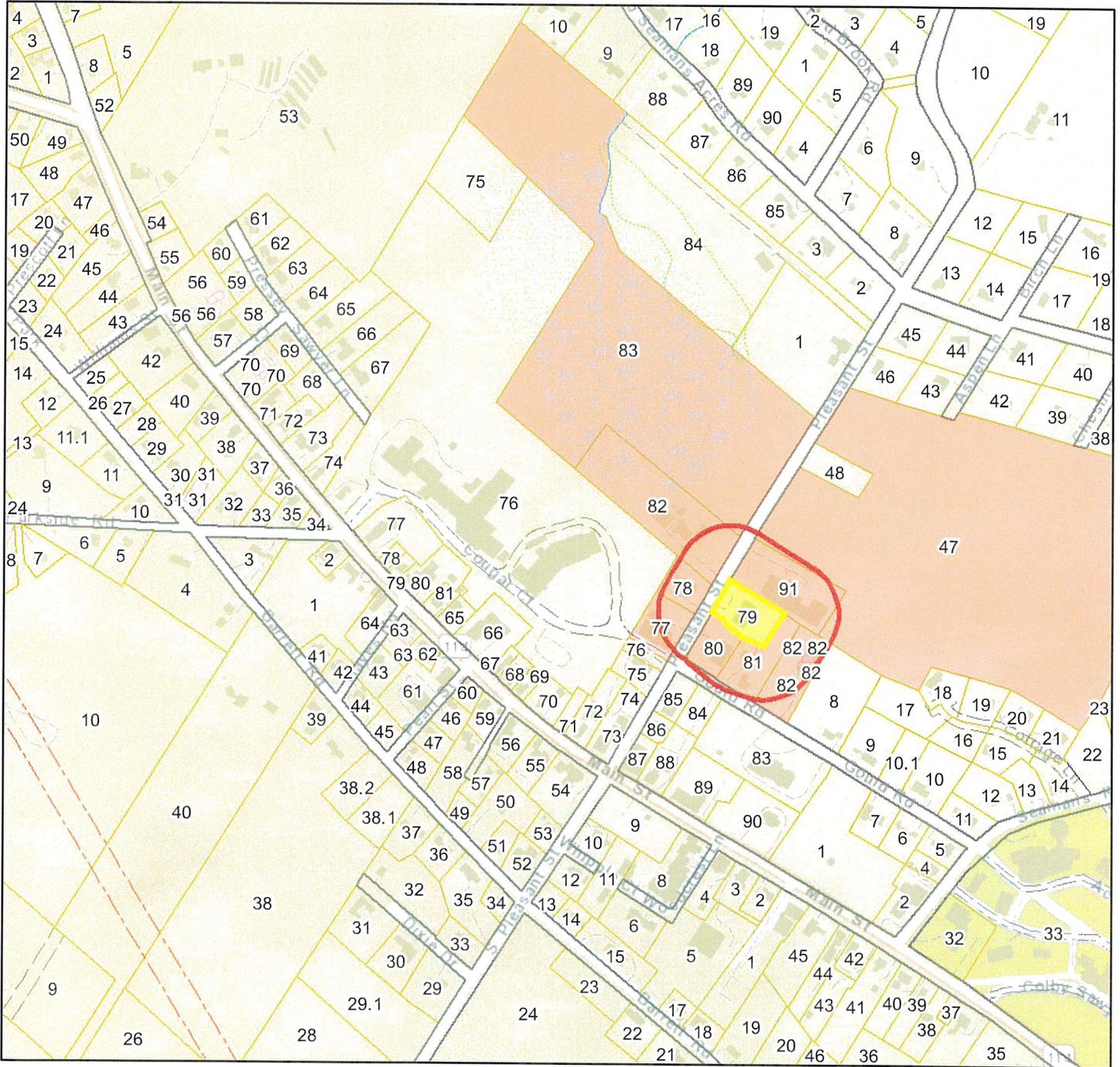
New London, NH



August 2, 2017

1 inch = 537 Feet

www.cai-tech.com



| | | | | | |
|--|--------------|--|-------------|--|----------------------|
| | COMMON | | WATER-P | | UTILITY |
| | PROPERTYLINE | | DW | | WETLAND |
| | ROAD | | ROAD-PVT-RW | | New London Condos |
| | ROAD-PVT | | RW | | New London Buildings |

Data shown on this map is provided for planning and informational purposes only. The municipality and CAI Technologies are not responsible for any use for other purposes or misuse or misrepresentation of this map.



200 foot Abutters List Report

Tri Town, NH
August 02, 2017

Subject Property:

Abutters:

Parcel Number: NewL-073-082-000
CAMA Number: NewL-073-082-000
Property Address: 91 PLEASANT STREET

Mailing Address: WFK ICE HOUSE FOUNDATION INC
PO BOX 299
NEW LONDON, NH 03257

Parcel Number: NewL-073-083-000
CAMA Number: NewL-073-083-000
Property Address: PLEASANT STREET

Mailing Address: TOWN OF NEW LONDON
375 MAIN STREET
NEW LONDON, NH 03257

Parcel Number: NewL-073-091-000
CAMA Number: NewL-073-091-000
Property Address: 92 PLEASANT STREET

Mailing Address: NEW LONDON HOUSING ASSOCIATION
C/O EMILE LEGERE MGMT CO
PO BOX 565
KEENE, NH 03431-0565

Parcel Number: NewL-074-047-000
CAMA Number: NewL-074-047-000
Property Address: PLEASANT STREET

Mailing Address: TOWN OF NEW LONDON
375 MAIN STREET
NEW LONDON, NH 03257

Parcel Number: NewL-084-077-000
CAMA Number: NewL-084-077-000
Property Address: 59 PLEASANT STREET

Mailing Address: BERGER JEANINE W TRUST BERGER
JEANINE W TRUSTEE
PO BOX 380
NEW LONDON, NH 03257-0380

Parcel Number: NewL-084-078-000
CAMA Number: NewL-084-078-000
Property Address: 71 PLEASANT STREET

Mailing Address: CAMPBELL GAVIN HOLDINGS LLC
PO BOX 156
NEW LONDON, NH 03257

Parcel Number: NewL-084-080-000
CAMA Number: NewL-084-080-000
Property Address: 5 GOULD ROAD

Mailing Address: CANARY SYSTEMS INC.
PO BOX 2155
NEW LONDON, NH 03257

Parcel Number: NewL-084-081-000
CAMA Number: NewL-084-081-000
Property Address: 21 GOULD ROAD

Mailing Address: GREANEY DONALD & ELAINE
2 MILL STREET EXTENSION
GROVELAND, MA 01834

Parcel Number: NewL-084-082-000
CAMA Number: NewL-084-082-000
Property Address: GOULD ROAD

Mailing Address: VILLAGE HOUSE CONDOMINIUMS
PO BOX 546
NEW LONDON, NH 03257

Parcel Number: NewL-084-082-000
CAMA Number: NewL-084-082-001
Property Address: 41 GOULD ROAD

Mailing Address: MCPADDEN MARGARET REVOCABLE
TRUST MARGARET MCPADDEN
TRUSTEE
PO BOX 1116
NEW LONDON, NH 03257

Parcel Number: NewL-084-082-000
CAMA Number: NewL-084-082-002
Property Address: 41 GOULD ROAD

Mailing Address: LAMBERT DEBORAH
PO BOX 1645
NEW LONDON, NH 03257



www.cai-tech.com

Data shown on this report is provided for planning and informational purposes only. The municipality and CAI Technologies are not responsible for any use for other purposes or misuse or misrepresentation of this report.



200 foot Abutters List Report

Tri Town, NH
August 02, 2017

Parcel Number: NewL-084-082-000
CAMA Number: NewL-084-082-003
Property Address: 41 GOULD ROAD #3

Mailing Address: RITACCO ANTHONY & STELLA
PO BOX 777
NEW LONDON, NH 03257

Parcel Number: NewL-084-082-000
CAMA Number: NewL-084-082-004
Property Address: 41 GOULD ROAD #4

Mailing Address: CANUTO PIERO
PO BOX 66
WILMOT, NH 03287

RECORD ENGINEER:

MARK MOSER, PE
MOSER ENGINEERING
PO BOX 2165
HENNIKER, NH 03242

RECORD SURVEYOR:

CLAYTON PLATT, LLS
PENNYROYAL HILL LAND SURVEYING &
FORESTRY, LLC
418 PINE HILL ROAD
CROYDON, NH 03773

RECORD WETLAND SCIENTIST:

JON SISSON
BEAVER TRACKS, LLC
21 HALE HILL ROAD
SWANZEY, NH 03446



www.cai-tech.com

Data shown on this report is provided for planning and informational purposes only. The municipality and CAI Technologies are not responsible for any use for other purposes or misuse or misrepresentation of this report.

8/2/2017

Page 2 of 2

STORMWATER SYSTEM
INSPECTION AND MAINTENANCE MANUAL

STAHLMAN OFFICE BUILDING-PARKING LOT
(REAR OF BUILDING)

NEW LONDON, NH

The drainage improvements proposed include porous asphalt pavement.

In order to assure the long term functionality of this system, inspections shall be performed in accordance with this document.

The landowner is responsible for implementing the requirements of this document.

INSPECTION CHECKLIST

Inspections shall be performed as indicated by qualified personnel. At least one inspection annually is to be conducted while stormwater discharges are occurring. Records of all inspections shall be maintained as a part of this manual.

INSPECTION DATE: _____ **TIME:** _____

WEATHER: _____ **TEMPERATURE:** _____

INSPECTOR'S NAME: _____ **SIGNATURE:** _____

Porous Asphalt Parking Lot

This is the eastern half of the parking lot in the rear of the building.

Inspection Frequency: at least annually

Inspection checklist:

| | | |
|--|-----|----|
| Stormwater drains readily | yes | no |
| Stormwater accumulation on top of pavement | yes | no |
| Debris present | yes | no |

MAINTENANCE LOG

PROPOSED IMPROVEMENTS

Any required or completed maintenance is to be recorded.

Porous Asphalt Parking Lot

This is the eastern half of the parking lot in the rear of the building.

Maintenance required: Clean using a vacuum sweeper (2 times per year)
No winter sanding permitted
Minimize salt application
Install permanent sign to address special requirements

Maintenance completed:

work performed: _____ date completed: _____
work performed: _____ date completed: _____
work performed: _____ date completed: _____
work performed: _____ date completed: _____



STORMWATER SYSTEM
INSPECTION AND MAINTENANCE MANUAL

STAHLMAN OFFICE BUILDING-PARKING LOT
(REAR OF BUILDING)

NEW LONDON, NH

The drainage improvements proposed include porous asphalt pavement.

In order to assure the long term functionality of this system, inspections shall be performed in accordance with this document.

The landowner is responsible for implementing the requirements of this document.

INSPECTION CHECKLIST

Inspections shall be performed as indicated by qualified personnel. At least one inspection annually is to be conducted while stormwater discharges are occurring. Records of all inspections shall be maintained as a part of this manual.

INSPECTION DATE: _____ **TIME:** _____

WEATHER: _____ **TEMPERATURE:** _____

INSPECTOR'S NAME: _____ **SIGNATURE:** _____

Porous Asphalt Parking Lot

This is the eastern half of the parking lot in the rear of the building.

Inspection Frequency: at least annually

Inspection checklist:

| | | |
|--|-----|----|
| Stormwater drains readily | yes | no |
| Stormwater accumulation on top of pavement | yes | no |
| Debris present | yes | no |

MAINTENANCE LOG

PROPOSED IMPROVEMENTS

Any required or completed maintenance is to be recorded.

Porous Asphalt Parking Lot

This is the eastern half of the parking lot in the rear of the building.

Maintenance required: Clean using a vacuum sweeper (2 times per year)
No winter sanding permitted
Minimize salt application
Install permanent sign to address special requirements

Maintenance completed:

work performed: _____ date completed: _____
work performed: _____ date completed: _____
work performed: _____ date completed: _____
work performed: _____ date completed: _____

PLAN NOTES:

1. THIS PLAN HAS BEEN PREPARED TO SUBMIT TO THE NEW LONDON PLANNING BOARD TO DEPICT THE PROPOSED PARKING, RELATED IMPROVEMENTS AND EXISTING CONDITIONS, AND IS TO USED SOLELY FOR THIS PURPOSE.
2. THIS PROPOSAL CALLS FOR 8 ADDITIONAL SPACES. % OPEN SPACE = 37%.
3. PROPERTY LINE INFORMATION DEPICTED WAS OBTAINED FROM CLAYTON PLATT, LLC. SEE SHEET 2.
4. LIGHTING:
 - A. ALL EXTERIOR LIGHTING SHALL CONFORM TO ARTICLE VI. H. OF THE NEW LONDON, NH SITE PLAN REVIEW REGULATIONS.
 - B. EXTERIOR LIGHTING SHALL UTILIZE SHIELDED FIXTURES.
5. PARKING CALCULATIONS:
 EXISTING USE IS OFFICE SPACE; 7820 SF; 4 SPACES REQUIRED PER 1000 SF GFA;
 $7820/1000 \times 4 = 31.3$ REQUIRED TOTAL, 41 SPACES PROPOSED.
 THE EXISTING # OF SPACES = 33; THE TOTAL PROPOSED NUMBER OF SPACES = 41, OF WHICH 10 ARE SIZED FOR SMALL VEHICLES (8'X18') AND 31 SIZED FOR NORMAL VEHICLES (9'X20'). MAX. PERMISSIBLE # OF SMALL SPACES = .3 X 41 = 12. ONE HANDICAPPED SPACE IS PROVIDED.
6. STORMWATER DRAINAGE:
 THE PROPOSED DRAINAGE SYSTEM HAS BEEN DESIGNED IN ORDER THAT THERE WILL BE NO INCREASE IN PEAK STORMWATER DISCHARGES FROM THE PROPOSED DEVELOPMENT. ALL PROPOSED STRUCTURES WILL HANDLE THE 25 YEAR STORM. THE PROPOSED POROUS PAVEMENT HAS BEEN DESIGNED TO TREAT THE DISCHARGES FROM THE PARKING LOT. THE ADDITIONAL IMPERVIOUS AREA PROPOSED = 2035 SF.



LOCUS MAP-USGS
(NOT TO SCALE)

SITE PLAN PROPOSED PARKING

AT THE

STAHLMAN OFFICE BUILDING

(TAX MAP 84, LOT 79)

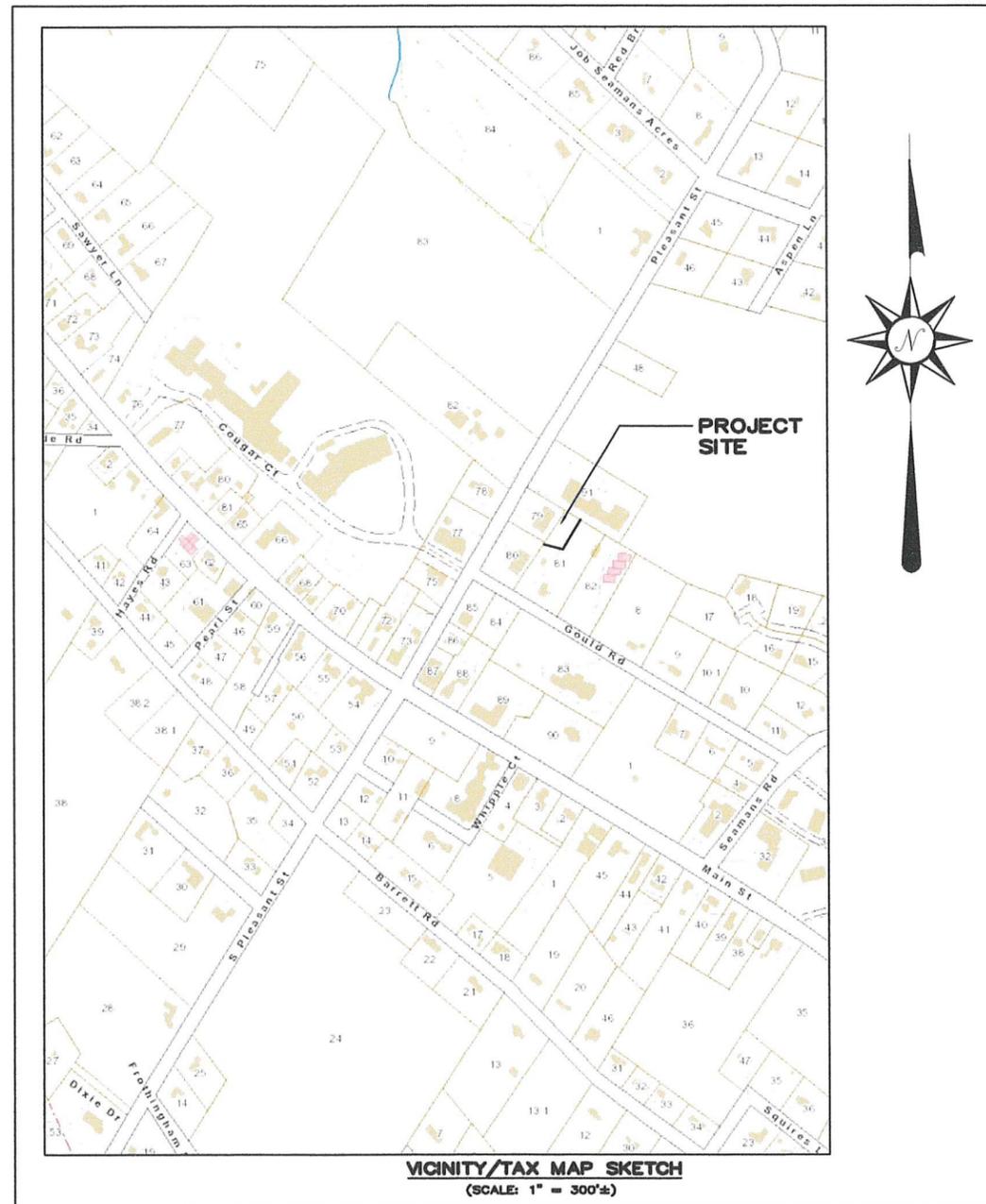
74 PLEASANT STREET
NEW LONDON, NH

PREPARED FOR

ROBERT STAHLMAN

PO BOX 84
WILMOT, NH 03287

PLAN DATE: JULY 31, 2017
LATEST REV. DATE: N/A



| <u>INDEX</u> | |
|----------------|--|
| SHEET 1 | COVER SHEET |
| SHEET 2 | EXISTING CONDITIONS PLAN (BY CLAYTON PLATT, LLS) |
| SHEET 3 | SITE PLAN |
| SHEET 4 | DRAINAGE/GRADING, SEDIMENT & EROSION CONTROL PLAN |
| SHEET 5 | CONSTRUCTION DETAILS |
| SHEET 6 | CONSTRUCTION DETAILS |

APPROVED BY THE NEW LONDON, NH PLANNING BOARD

DATE: _____

(CHAIR) _____

| NO. | DATE | DESCRIPTION | BY |
|-----|------|-------------|----|
| | | | |
| | | | |
| | | | |



PREPARED FOR
ROBERT STAHLMAN
PO BOX 84, WILMOT, NH 03287

SITE PLAN
PROPOSED PARKING
AT
STAHLMAN OFFICE BUILDING
74 PLEASANT STREET
NEW LONDON, NEW HAMPSHIRE

SCALE: 1" = 20'
DATE: JULY 31, 2017
PROJECT: 16105

FOR REGISTRY USE ONLY

Tax Map 84 Lot 78
GAVIN CAMPBELL HOLDINGS LLC
PO Box 156
New London, NH 03257

Tax Map 84 Lot 77
JEANNE BERGER Trust
PO Box 380
New London, NH 03257

EXISTING PARKING DIMENSIONS
AS MARKED ON SITE

- Spaces 1-8 Are 9' x 16'
- Spaces 9-17 Are 9' x 17'
- Space 18 is 11' x 16'
- Spaces 19-21 Are 9' x 18'

KEY

- Stonewall
- 1" Iron Rod (found) - or as noted
- 3/4" Iron Rod (set - 2015) or as noted
- Granite Bound (set - 2015) or as noted
- Iron Rod in Drillhole (set - 2015)
- Edge Paved Road/ Drive/ Parking
- Culvert
- Utility Pole w/ Overhead Lines
- Line To Be Vacated
- Tree Line/ Edge Field
- Edge Jurisdictional Wetlands
- Sewer Manhole



LOCUS

NOTES

- Deed references for property are:
A. TM 84 Lot 79 - MCRD 1460-845, Roe and Barbara Hendrick to Robert and Ellen Stahlman, Nov. 22, 1983.
B. TM 84 Lot 79 (Parcel A) - MCRD 3487-552, Donald and Elaine Greaney to Robert Stahlman Trust, October 17, 2015.
- This plan is the result of a Nikon DTM 522 total station survey, August 10, 2015, having a closed traverse relative error of closure greater than 1:15,000. Existing conditions were updated July 20, 2017.
- The purpose of this plan is to show the existing conditions for the Stahlman office building c. July 2017.
- This property is located in the in the Commercial District; the required building setbacks are 10' from property lines and 30' from the edge of road right of ways. (See Town Meeting Vote, March 2016).
- Easements of Record:
A. Unrecorded, signed easement on file at the New London Town Hall: Bob Stahlman to the Town of New London for a 3' sidewalk over TM 84-79, near Pleasant Street, dated May 27, 1982.

2015 OBSERVED MAGNETIC

PLEASANT STREET

Tax Map 84 Lot 79
ROBERT STAHLMAN TRUST
0.768 ACRES
(±27,175 Sq.Ft.)

Tax Map 73 Lot 91
NH HOUSING AUTHORITY
C/O EMILE LEGERE MANAGEMENT CO.
PO Box 565
Keene, NH 03431

Tax Map 84 Lot 82
VILLAGE HOUSE CONDOMINIUMS
C/O MARGARET McFADDEN
PO Box 1116
New London, NH 03257

Tax Map 84 Lot 80
CANARY SYSTEMS Inc
PO Box 2155
New London, NH 03257
MCR 3313-1063, 2012

Tax Map 84 Lot 81
DONALD and ELEANE GREANEY
2 Hill Street Extension
Grafton NH 01634
MCR 3487-552, 2015

Tax Map 84 Lot 85
JEANNE BERGER Trust
PO Box 380
New London, NH 03257

Tax Map 84 Lot 84
LAKE SUNAPEE GROUP
PO Box 99
Newport, NH 03773

SHEET 2
STAHLMAN OFFICE BUILDING
74 PLEASANT STREET
PLAN OF EXISTING CONDITIONS

TO TAX MAP 84 LOT 79 - PROPERTY OF THE
ROBERT L. STAHLMAN REVOCABLE TRUST
PO BOX 84 WILMOT NH 03287

LOCATED IN
NEW LONDON, N.H.



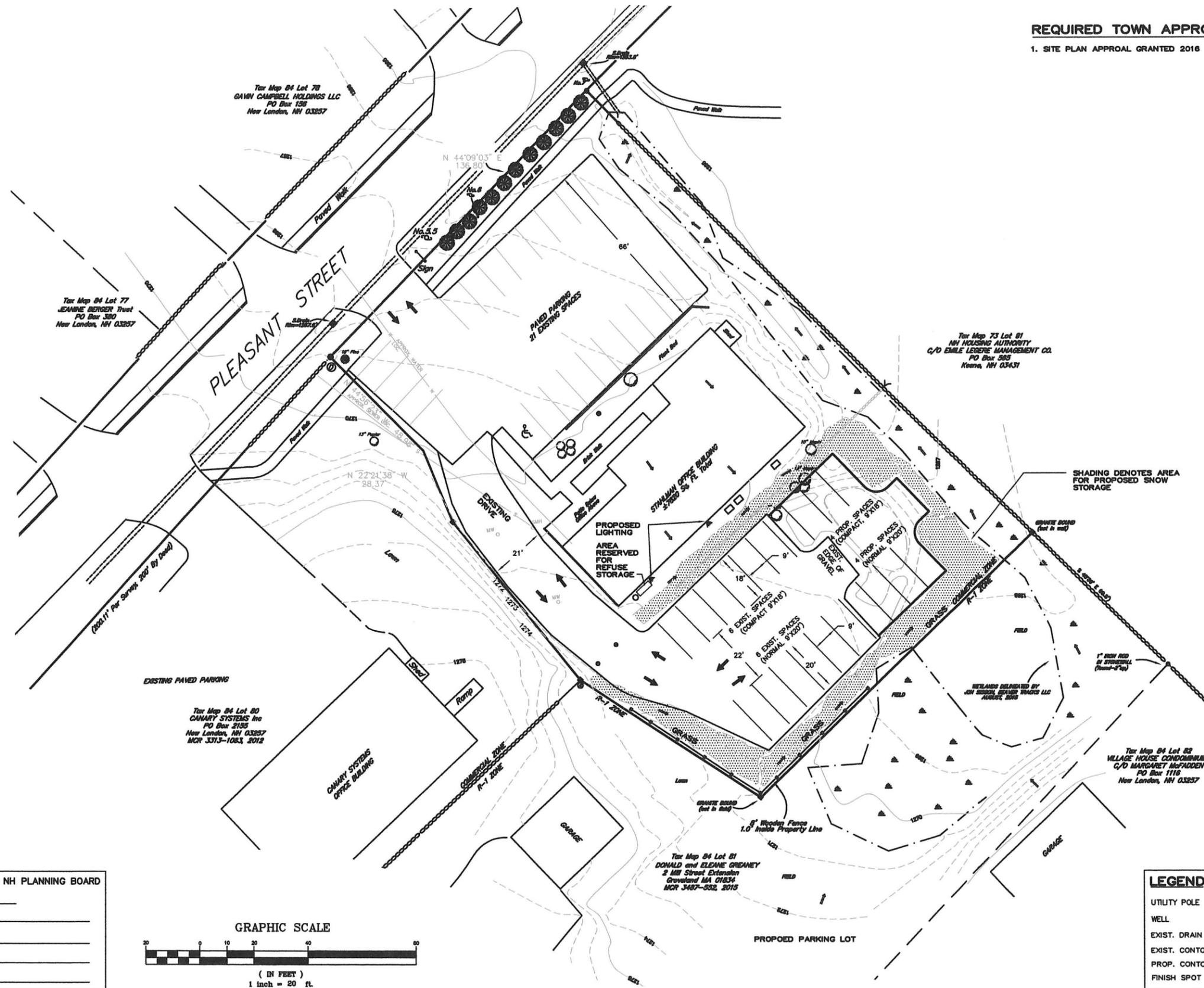
1" = 20'
AUGUST 2, 2017

REVISIONS

PENNYROYAL HILL LAND SURVEYING & FORESTRY LLC
CLAYTON E. PLATT LIC. SURVEYOR NO. 833
418 Pine Hill Road Croydon, NH 03773 (603) 863-0981

REQUIRED TOWN APPROVAL NOTE:

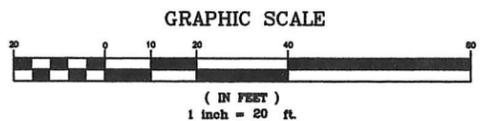
1. SITE PLAN APPROVAL GRANTED 2016 WITH CONDITIONS FOR 12 NEW PARKING SPACES.



APPROVED BY THE NEW LONDON, NH PLANNING BOARD

DATE: _____

(CHAIR) _____



| LEGEND | |
|--------------------------------|----------------|
| UTILITY POLE | ⊙ |
| WELL | ● |
| EXIST. DRAIN | ===== |
| EXIST. CONTOUR | ----- 9.30 |
| PROP. CONTOUR | ----- F930 |
| FINISH SPOT ELEVATION | XF930.44 |
| TRAFFIC FLOW | → |
| SNOW STORAGE | [Hatched Area] |
| STONE CHECK DAM | ~ |
| SEWER LINE | -S- |
| DIRECTION OF STORMWATER RUNOFF | → |
| SILT FENCE | |

| NO. | DATE | DESCRIPTION | BY |
|-----|------|-------------|----|
| | | | |
| | | | |
| | | | |
| | | | |

MOSER ENGINEERING

PLANNING
DESIGN
ENVIRONMENTAL
CONSULTING

PO Box 2165
Henniker, NH 03242
603-428-6824

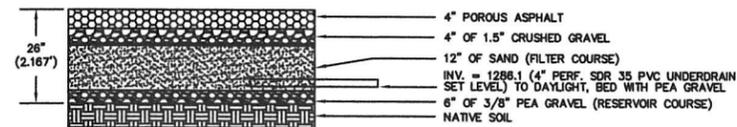
PREPARED FOR
ROBERT STAHLMAN
PO BOX 84, WILMOT, NH 03287

SITE PLAN
PROPOSED PARKING
AT
STAHLMAN OFFICE BUILDING
74 PLEASANT STREET
NEW LONDON, NEW HAMPSHIRE

SCALE: 1" = 20'
DATE: JULY 31, 2017
PROJECT: 16105

POROUS ASPHALT NOTES

1. STONE AGGREGATE: 1.5" CRUSHED GRAVEL & 3/8" PEA GRAVEL SHALL BE CLEAN ANGULAR STONE CONFORMING TO THE GRADATIONS PROVIDED.
2. SAND FILTER COURSE SHALL BE A CLEAN MATERIAL MEETING NH DOT SPECIFICATION (ITEM 304.1): 100% PASSING THE 6" SIEVE, 70-100% PASSING THE NO. 4 SIEVE, AND 0-12% PASSING THE #200 SIEVE (IN SAND PORTION).
3. POROUS ASPHALT SHALL CONFORM TO THE DESIGN SPECIFICATIONS OF THE UNH STORMWATER CENTER, LATEST EDITION.



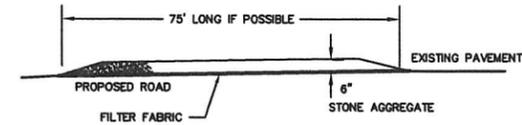
**DETAIL
POROUS ASPHALT
(NOT TO SCALE)**

| GRADATION FOR 1.5" CR. GRAVEL CHOKER COURSE (AASHTO No. 57) | | |
|--|--|-----------|
| Sieve Size | | % Passing |
| 1 1/2" | | 100 |
| 1" | | 95-100 |
| 3/4" | | - |
| 1/2" | | 25-60 |
| 3/8" | | - |
| #4 | | 0-10 |
| #8 | | 0-5 |
| #200 | | - |

| GRADATION FOR SAND FILTER COURSE (NH DOT 304.1) | | |
|--|--|-----------|
| Sieve Size | | % Passing |
| 6" | | 100 |
| 1" | | - |
| 3/4" | | - |
| 1/2" | | - |
| 3/8" | | - |
| #4 | | 75-100 |
| #8 | | - |
| #200 | | 0-12 |

| GRADATION FOR RESERVOIR COURSE- 3/8" PEA GRAVEL (ASTM NO. 8) | | |
|---|--|-----------|
| Sieve Size | | % Passing |
| 1/2" | | 100 |
| 3/8" | | 85-100 |
| #4 | | 10-30 |
| #8 | | 0-10 |
| #16 | | 0-5 |

**PROFILE
TEMPORARY CONSTRUCTION
EXIT
(NOT TO SCALE)**



NOTES

1. THE TEMPORARY STABILIZED CONSTRUCTION EXIT SHALL CONSIST OF PLACING CRUSHED STONE AT THE LOCATION WHERE CONSTRUCTION VEHICLES EXIT THE SITE, IN ORDER TO MINIMIZE MIGRATION OF DIRT ONTO THE ADJOINING PAVED ROADS.
2. STONE SHALL BE 3" MIN. CRUSHED STONE.
3. STONE SHALL BE PLACED OVER GEOTEXTILE FABRIC.
4. THE MINIMUM STONE THICKNESS SHALL BE 6".
5. THE DIMENSIONS OF THE STABILIZED ENTRANCE SHALL BE 20' WIDE BY 65' LONG.
6. SURFACE WATER RUNOFF FROM THE PAVED ROAD SHALL NOT BE PERMITTED TO COME IN CONTACT WITH THE STONE ENTRANCE. USE A CROSS CULVERT UNDER THE NEW ENTRANCE OR CONSTRUCT A BERM ALONG THE EDGE OF EXISTING PAVEMENT TO DIVERT WATER AWAY FROM THE STONE.
7. THE ENTRANCE SHALL BE MAINTAINED UNTIL SITE CONDITIONS WARRANT ITS REMOVAL. MAINTAIN THE ENTRANCE WITH NEW STONE ONCE THE EXISTING STONE HAS BECOME CLOGGED WITH MATERIAL.

DRIVEWAY CONSTRUCTION NOTES

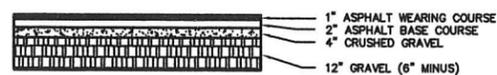
1. ALL ORGANIC MATTER, INCLUDING STUMPS, ROOTS AND MUCK, IS TO BE REMOVED PRIOR TO PLACEMENT OF SUBGRADE AND EMBANKMENT FILL.
2. ALL BOULDERS AND LEDGE SHALL BE REMOVED TO A MINIMUM DEPTH OF 24" BELOW THE GRAVEL COURSE.
3. SUBGRADE FILL SHALL BE FREE FROM DEBRIS, BOULDERS AND ORGANIC MATTER, AND IS TO BE COMPACTED IN LIFTS NOT TO EXCEED 12". COMPACTING SHALL BE PERFORMED WITH A VIBRATORY ROLLER AND ADEQUATE WATER TO OBTAIN 85% OF THE MAXIMUM DENSITY USING AASHTO T99 (PROCTOR DENSITY).
4. GRAVEL SHALL BE A CLEAN, WELL GRADED MATERIAL WITH NO STONES LARGER THAN 6", 25-70% PASSING THE #4 SIEVE, AND 0-12% OF THE SAND PORTION PASSING THE #200 SIEVE. GRAVEL IS TO BE THOROUGHLY COMPACTED TO 95% OF THE MAXIMUM DENSITY.
5. CRUSHED GRAVEL SHALL BE FRACTURED STONE WITH 100% PASSING THE 3" SIEVE, 95-100% PASSING THE 2" SIEVE, 55-85% PASSING THE 1" SIEVE, 27-52% PASSING THE #4 SIEVE AND 0-12% OF THE SAND PORTION PASSING THE #200 SIEVE.

GENERAL CONSTRUCTION NOTE

1. THE CONTRACTOR SHALL CONTACT DIG SAFE PRIOR TO THE START OF SITE WORK, 1-888-DIG-SAFE (344-7233).

DRAINAGE NOTES

1. SEDIMENT AND EROSION CONTROL MEASURES CALLED FOR SHALL BE EMPLOYED THROUGHOUT CONSTRUCTION.
2. DRAINAGE MAINTENANCE: MAINTENANCE OF THE DRAINAGE SYSTEM IS THE RESPONSIBILITY OF THE OWNER. THE VEGETATED SWALES ARE TO BE INSPECTED ANNUALLY. ACCUMULATED SEDIMENT AND DEBRIS IS TO BE REMOVED AS NECESSARY. "NO WINTER SAND USE" SIGN OVER POROUS PAVEMENT TO BE POSTED.



**DETAIL
PROPOSED PARKING LOT
(NOT TO SCALE)**

| NO. | DATE | DESCRIPTION | BY |
|-----|------|-------------|----|
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

**PLANNING
DESIGN
ENVIRONMENTAL
CONSULTING**

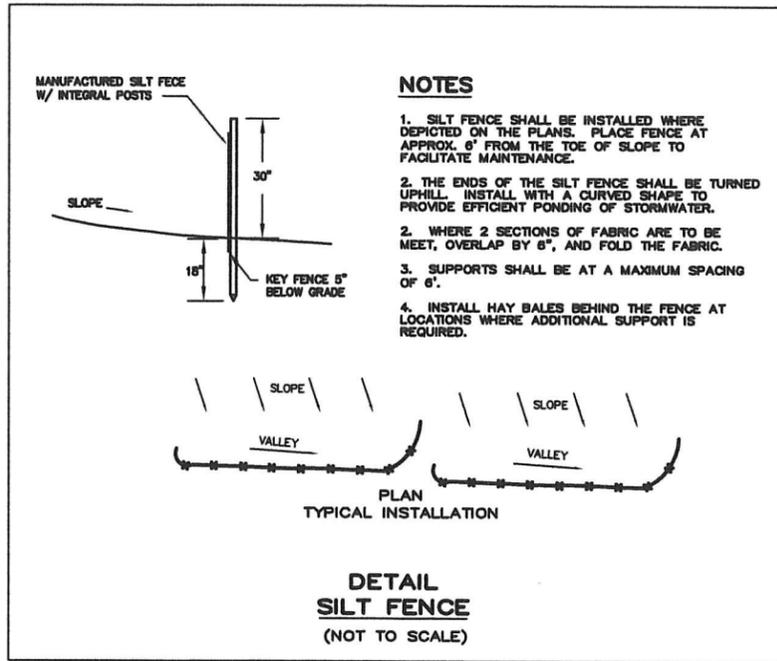
MOSEER ENGINEERING

PO Box 2165
Henniker, NH 03242
603-428-8824

**SITE PLAN
PROPOSED PARKING
AT
ROBERT STAHLMAN
STAHLMAN OFFICE BUILDING
74 PLEASANT STREET
NEW LONDON, NEW HAMPSHIRE**

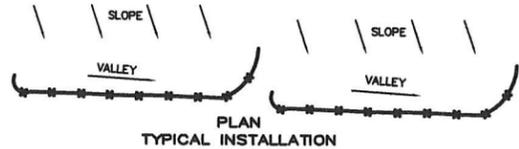
PREPARED FOR
ROBERT STAHLMAN
PO BOX 84, WILMOT, NH 03287

SCALE: AS NOTED
DATE: JULY 31, 2017
PROJECT: 16105

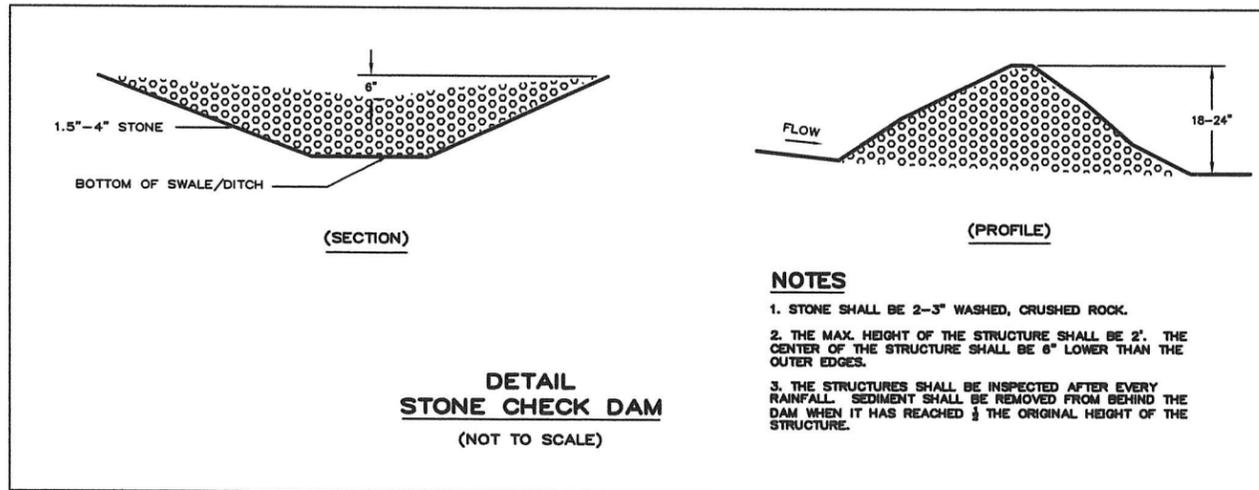


NOTES

1. SILT FENCE SHALL BE INSTALLED WHERE DEPICTED ON THE PLANS. PLACE FENCE AT APPROX. 6" FROM THE TOE OF SLOPE TO FACILITATE MAINTENANCE.
2. THE ENDS OF THE SILT FENCE SHALL BE TURNED UPHILL. INSTALL WITH A CURVED SHAPE TO PROVIDE EFFICIENT PONDING OF STORMWATER.
2. WHERE 2 SECTIONS OF FABRIC ARE TO BE MEET, OVERLAP BY 6", AND FOLD THE FABRIC.
3. SUPPORTS SHALL BE AT A MAXIMUM SPACING OF 6'.
4. INSTALL HAY BALES BEHIND THE FENCE AT LOCATIONS WHERE ADDITIONAL SUPPORT IS REQUIRED.



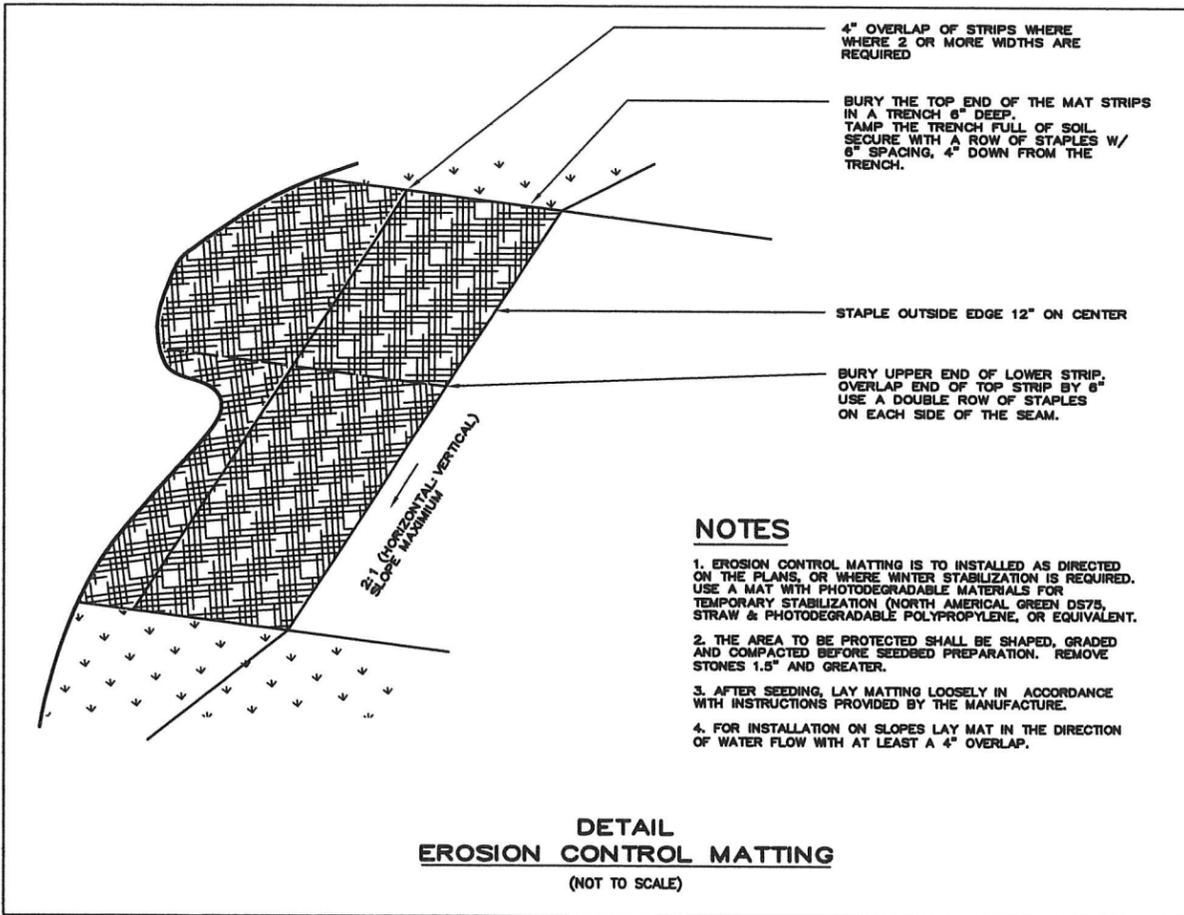
DETAIL SILT FENCE
(NOT TO SCALE)



NOTES

1. STONE SHALL BE 2-3" WASHED, CRUSHED ROCK.
2. THE MAX. HEIGHT OF THE STRUCTURE SHALL BE 2'. THE CENTER OF THE STRUCTURE SHALL BE 6" LOWER THAN THE OUTER EDGES.
3. THE STRUCTURES SHALL BE INSPECTED AFTER EVERY RAINFALL. SEDIMENT SHALL BE REMOVED FROM BEHIND THE DAM WHEN IT HAS REACHED 1/3 THE ORIGINAL HEIGHT OF THE STRUCTURE.

DETAIL STONE CHECK DAM
(NOT TO SCALE)



NOTES

1. EROSION CONTROL MATTING IS TO BE INSTALLED AS DIRECTED ON THE PLANS, OR WHERE WINTER STABILIZATION IS REQUIRED. USE A MAT WITH PHOTODEGRADABLE MATERIALS FOR TEMPORARY STABILIZATION (NORTH AMERICAN GREEN DS75, STRAW & PHOTODEGRADABLE POLYPROPYLENE, OR EQUIVALENT).
2. THE AREA TO BE PROTECTED SHALL BE SHAPED, GRADED AND COMPACTED BEFORE SEEDBED PREPARATION. REMOVE STONES 1.5" AND GREATER.
3. AFTER SEEDING, LAY MATTING LOOSELY IN ACCORDANCE WITH INSTRUCTIONS PROVIDED BY THE MANUFACTURE.
4. FOR INSTALLATION ON SLOPES LAY MAT IN THE DIRECTION OF WATER FLOW WITH AT LEAST A 4" OVERLAP.

DETAIL EROSION CONTROL MATTING
(NOT TO SCALE)

EROSION CONTROL NOTES

1. SILT FENCE AND STONE CHECK DAMS ARE TO BE INSTALLED AS DEPICTED ON THE PLANS.
2. ALL SWALES ARE TO BE LOAMED, SEEDED AND MULCHED IMMEDIATELY UPON COMPLETION.
3. FILL MATERIAL IS TO BE FREE OF STUMPS AND ORGANIC MATTER.
4. ROAD AND DRAINAGE SIDE SLOPES SHALL NOT EXCEED 2:1 (HORIZONTAL TO VERTICAL), AND SHALL BE MULCHED WITH HAY AT A RATE OF 2 TONS/ACRE, OR OTHERWISE STABILIZED.
5. ALL DISTURBED AREA SHALL BE LOAMED (4" MIN), SEEDED AND MULCHED.
6. SEEDING SHALL CONFORM TO THE SPECIFICATIONS ON THIS SHEET.
7. DITCHES AND SWALES ARE TO BE STABILIZED PRIOR TO RECEIVING RUNOFF.
8. STABILIZATION SHALL BE DEFINED AS FOLLOWS:
A. WHEN 85% OF VEGETATED GROWTH IS ESTABLISHED.
B. WHEN AT LEAST 3" OF STONE RIP RAP HAS BEEN PLACED.
C. WHEN AREAS TO BE PAVED HAVE BEEN COVERED W/ 3" OF GRAVEL.
D. WHEN EROSION CONTROL BLANKETS HAVE BEEN INSTALLED.
9. ALL PROPOSED VEGETATED AREAS WHICH ARE NOT STABLE BY OCTOBER 15TH, OR WHICH ARE DISTURBED AFTER THIS DATE SHALL BE STABILIZED BY SEEDING AND INSTALLING EROSION CONTROL BLANKETS ON SLOPES STEEPER THAN 3:1, AND SEEDING AND PLACING 3-4 TONS PER ACRE OF MULCH SECURED WITH ANCHORED NETTING ELSEWHERE. BLANKETS, MULCH OR NETTING SHALL NOT BE INSTALLED OVER SNOW OR FROZEN GROUND.
10. ALL DITCHES AND SWALES WHICH ARE NOT STABLE BY OCTOBER 15TH, OR WHICH ARE DISTURBED AFTER THIS DATE, SHALL BE STABILIZED WITH ROCK RIP RAP OR EROSION CONTROL BLANKETS.
11. AFTER NOVEMBER 15TH ALL UNFINISHED PAVED SURFACES SHALL BE PROTECTED WITH A MINIMUM OF 3" NON-EROSIVE MATERIAL.
12. THE SMALLEST PRACTICAL AREA SHALL BE EXPOSED AT ANY TIME. THE EXPOSED AREA SHALL NOT EXCEED 5 ACRES WITHOUT STABILIZATION.
13. ALL AREAS SHALL BE STABILIZED WITHIN 45 OF THEIR INITIAL DISTURBANCE.

SEEDING SPECIFICATIONS

SEEDING FOR LONG TERM COVER

FOLLOWING PLACEMENT OF 4" OF TOPSOIL, REMOVE ALL STONES 4" AND LARGER, AND TRASH FROM THE SURFACE. WHERE POSSIBLE, TILL THE SOIL TO A DEPTH OF 4". LIMESTONE SHOULD BE APPLIED AT A RATE OF 2 TONS/ACRE. APPLY 10-20-20 FERTILIZER AT A RATE OF 800 LBS/ACRE. SPREAD SEED UNIFORMLY ACCORDING TO THE REQUIRED RATES. IMMEDIATELY COVER SEEDED AREAS WITH MULCH HAY AT A RATE OF 2 TONS/ACRE. THE FOLLOWING SEED MIX SHALL APPLY TO DRAINAGE SWALES, CUTS AND ALL DISTURBED AREAS:

| SEED | LB/AC | LB/1000 SF |
|---------------------|-------|------------|
| TALL FESCUE | 20 | .45 |
| CREeping RED FESCUE | 20 | .45 |
| BIRDSFOOT TREFOIL | 8 | .2 |
| TOTAL: | 48 | 1.10 |

ALL DISTURBED AREAS SHALL BE SEEDED AND MULCHED BETWEEN EARLY SPRING AND THE FIRST WEEK OF OCTOBER.

TEMPORARY SEEDING

TEMPORARY SEEDING SHALL BE PERFORMED TO STABILIZE DISTURBED AREAS FOR A LIMITED TIME PERIOD, USUALLY LESS THAN A YEAR. SEED BY SEPT. 15 FOR BEST RESULTS. WHEN POSSIBLE, TILL TO A DEPTH OF 3", ACROSS THE SLOPE. ALL AREAS SHALL BE MULCHED. SEED ACCORDING TO THE FOLLOWING SPECIFICATIONS:

- A. SPRING SEEDING PRIOR TO MAY 15: OATS RATE: 80 LBS/ACRE TO A DEPTH OF 1".
- B. SEED BETWEEN APRIL 1 & JUNE 1 OR BETWEEN AUGUST 15 & SEPT 15: PERENNIAL RYEGRASS. RATE: 30 LBS/ACRE TO A DEPTH OF 1/2".
- C. SEED BETWEEN AUGUST 15 & OCTOBER 1: WINTER RYE. RATE: 112 LBS/ACRE TO DEPTH OF 1".
- D. AFTER OCTOBER 1 SEED WITH WINTER RYE (112 LBS/AC), MULCH WITH 3 TONS/ACRE AND INSTALL NETTING TO SECURE MULCH.

ALL AREAS WILL NEED PERMANENT SEEDING THE FOLLOWING SEASON.

| NO. | DATE | DESCRIPTION | BY |
|-----|------|-------------|----|
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

MOSEER ENGINEERING
PLANNING DESIGN ENVIRONMENTAL CONSULTING
PO Box 2165 Henniker, NH 03242 603-428-8624

PREPARED FOR
ROBERT STAHLMAN
PO BOX 84, WILMOT, NH 03287

SITE PLAN
PROPOSED PARKING
AT
STAHLMAN OFFICE BUILDING
74 PLEASANT STREET
NEW LONDON, NEW HAMPSHIRE

SCALE: AS NOTED
DATE: JULY 31, 2017
PROJECT: 16105

