

424-A-41

2007-0058

166 Presumpscott St.

General Courier Dispatch Ctr.

Lorraine Atlas

add to Spreadsheet

**CITY OF PORTLAND, MAINE
DEVELOPMENT REVIEW APPLICATION
PLANNING DEPARTMENT PROCESSING FORM
Planning Copy**

2007-0058

Application I. D. Number

4/3/2007

Application Date

General Courier Dispatch Center

Project Name/Description

Lorraine Atlas

Applicant

127 Pleasant Avenue, Portland, ME 04103

Applicant's Mailing Address

Belanger Engineering

Consultant/Agent

Applicant Ph: (207) 767-6004 Agent Fax:

Applicant or Agent Daytime Telephone, Fax

166 - 166 Presumpscot St , Portland, Maine

Address of Proposed Site

124 A041001

Assessor's Reference: Chart-Block-Lot

Proposed Development (check all that apply): New Building Building Addition Change Of Use Residential Office Retail
 Manufacturing Warehouse/Distribution Parking Lot Apt 0 Condo 0 Other (specify) _____

Proposed Building square Feet or # of Units

Acreage of Site

Zoning

Check Review Required:

- Site Plan (major/minor) Zoning Conditional - PB Subdivision # of lots _____
 Amendment to Plan - Board Review Zoning Conditional - ZBA Shoreland Historic Preservation DEP Local Certification
 Amendment to Plan - Staff Review Zoning Variance Flood Hazard Site Location
 After the Fact - Major Stormwater Traffic Movement Other _____
 After the Fact - Minor PAD Review 14-403 Streets Review

Fees Paid: Site Plan **\$400.00** Subdivision _____ Engineer Review _____ Date **4/3/2007**

Planning Approval Status:

Reviewer _____

- Approved** **Approved w/Conditions** **Denied**
 See Attached

Approval Date _____ Approval Expiration _____ Extension to _____ Additional Sheets Attached

OK to Issue Building Permit _____
 signature _____ date _____

Performance Guarantee **Required*** **Not Required**

* No building permit may be issued until a performance guarantee has been submitted as indicated below

- | | | | |
|---|----------------|--|-----------------|
| <input type="checkbox"/> Performance Guarantee Accepted | _____ | _____ | _____ |
| | date | amount | expiration date |
| <input type="checkbox"/> Inspection Fee Paid | _____ | _____ | |
| | date | amount | |
| <input type="checkbox"/> Building Permit Issue | _____ | | |
| | date | | |
| <input type="checkbox"/> Performance Guarantee Reduced | _____ | _____ | _____ |
| | date | remaining balance | signature |
| <input type="checkbox"/> Temporary Certificate of Occupancy | _____ | <input type="checkbox"/> Conditions (See Attached) | _____ |
| | date | | expiration date |
| <input type="checkbox"/> Final Inspection | _____ | _____ | |
| | date | signature | |
| <input type="checkbox"/> Certificate Of Occupancy | _____ | | |
| | date | | |
| <input type="checkbox"/> Performance Guarantee Released | _____ | _____ | |
| | date | signature | |
| <input type="checkbox"/> Defect Guarantee Submitted | _____ | _____ | _____ |
| | submitted date | amount | expiration date |
| <input type="checkbox"/> Defect Guarantee Released | _____ | _____ | |
| | date | signature | |

CITY OF PORTLAND, MAINE

ZONING BOARD OF APPEALS

Peter Coyne
Philip Saucier-sec
Peter Thornton
Kate Knox
Jill E. Hunter
David Dore, chair
Gordon Smith

May 4, 2007

Lorraine Atlas
General Courier
127 Pleasant Ave.
Portland, ME 04103

RE: 166-172 Presumpscot St.
CBL: 424 A041
ZONE: IL

2007-0058

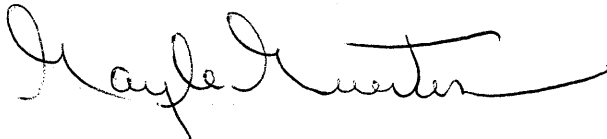
Dear Ms Atlas:

As you know, at its May, 3, 2007, meeting, the board voted 5-0 and granted the Practical Difficulty Variance Appeal with condition a variance time period is extended from six months to one year.

Enclosed please find the billing for the Zoning Board Appeals legal ad and abutter's notification; also a copy of the board's decision.

Should you have any questions please feel free to contact me at 207-874-8701.

Sincerely,



Gayle Guertin
Office Assistant

COPY

CITY OF PORTLAND, MAINE

ZONING BOARD OF APPEALS

APPEAL AGENDA

The Board of Appeals will hold a public hearing on Thursday, May 3, 2007 at 6:30 p.m. on the second floor, Room 209, City Hall, 389 Congress Street, Portland, Maine to hear the following appeals:

To: City Clerk

From: Marge Schmuckal, Zoning Administrator

Date: May 4, 2007

RE: Action taken by the Zoning Board of Appeals on May 3, 2007.

The meeting was called to order at 6:34pm.

Roll call as follows:

Members Present: David Dore (chair), Jill Hunter, Peter Thornton, Gordon Smith and Peter Coyne (acting secretary).

Members Absent: Kate Knox and Philip Saucier.

1. New Business:

A. Practical Difficulty Variance Appeal:

166-172 Presumpscot Street, Andrew Card, owner, Tax Map #424 Block A Lot #041 in the IL Industrial Zone. The appellant is seeking a Practical Difficulty Variance Appeal under section 14-234 (h) of the City of Portland Zoning Ordinance. Appellant is requesting a set back variance for driveway pavement located between the proposed development of a dispatch center and auto maintenance garage. Section 14-234 (h) requires a fifteen foot pavement set back from property lines instead of the approximate four foot set back shown. Representing the appeal is the applicant Lorraine Atlas and Chris Belanger (agent). **Board voted 5-0 and granted the Practical Difficulty Variance Appeal with condition** (variance time period is extended from six months to one year).

2. Other Business: None

3. Adjournment: 7:08pm

Enclosure:

Agenda of May 3, 2007

Copy of Board's Decision

CC: Joseph Gray, City Manager

Alex Jaegerman, Planning Department

Lee Urban, Planning & Development Director

T.J Martzial, Housing & Neighborhood Services

COPY

Jill Hunter
Peter Thornton
Peter Coyne

CITY OF PORTLAND, MAINE

ZONING BOARD OF APPEALS

"Practical Difficulty" Variance Appeal

DECISION

Date of public hearing: May 3, 2007

Name and address of applicant: Horizon Atlas
127 Pleasant Ave
Portland, ME 04103

Location of property under appeal: 166-172 Presumpscot St
Portland

For the Record:

Names and addresses of witnesses (proponents, opponents and others):

Chris Belonger
Belonger Engineering
63 Second Ave
Augusta ME

Jim Drake (proponent)
7 Robbins St
Portland, ME

Exhibits admitted (e.g. renderings, reports, etc.):

Plot Plan

COPY

Findings of Fact and Conclusions of Law:

"Practical Difficulty" Variance standard pursuant to Portland City Code §14-473(c)(3):

1. The application is for a variance from dimensional standards of the zoning ordinance (lot area, lot coverage, frontage, or setback requirements).

S-O

Satisfied Not Satisfied

Reason: Driveway setback

2. Strict application of the provisions of the ordinance would create a practical difficulty, meaning it would both preclude a use of the property which is permitted in the zone in which it is located and also would result in significant economic injury to the applicant. "Significant economic injury" means the value of the property if the variance were denied would be substantially lower than its value if the variance were granted. To satisfy this standard, the applicant need not prove that denial of the variance would mean the practical loss of all beneficial use of the land.

S-O

Satisfied Not Satisfied

Reason: Without vehicle access, value is significantly reduced

3. The need for a variance is due to the unique circumstances of the property and not to the general conditions in the neighborhood.

S-O

Satisfied Not Satisfied

Reason: odd shape of lot

4. The granting of the variance will not produce an undesirable change in the character of the neighborhood and will not have an unreasonably detrimental effect on either the use or fair market value of abutting properties.

5-0

Satisfied Not Satisfied

Reason: similar use to others in zone

5. The practical difficulty is not the result of action taken by the applicant or a prior owner.

5-0

Satisfied Not Satisfied

Reason: Property boundary creates difficulty not action of applicant

6. No other feasible alternative is available to the applicant, except a variance.

5-0

Satisfied Not Satisfied

Reason: Applicant's approach seems most feasible of potential options

7. The granting of a variance will not have an unreasonably adverse effect on the natural environment.

5-0

Satisfied Not Satisfied

Reason: Small impact on urban zone

5-0

8. The property is not located, in whole or in part, within a shoreland area, as defined in 38 M.R.S.A. § 435, nor within a shoreland zone or flood hazard zone.

Satisfied Not Satisfied

Reason: Confirmed by Zoning Dept

Conclusion: (check one)

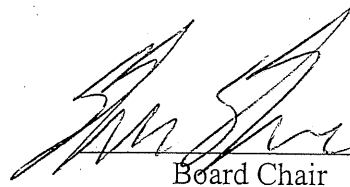
Option 1: The Board finds that the standards described above (1 through 8) have been satisfied and therefore GRANTS the application.

5-0

Option 2: The Board finds that while the standards described above (1 through 8) have been satisfied, certain additional conditions must be imposed to minimize adverse effects on other property in the neighborhood, and therefore GRANTS the application SUBJECT TO THE FOLLOWING CONDITIONS: typical 6 month variance extended to 1 year

Option 3: The Board finds that the standards described above (1 through 8) have NOT all been satisfied and therefore DENIES the application.

Dated: 5/3/07


Board Chair



**Belanger
ENGINEERING**

**CIVIL ENGINEERING
SITE PLANNING & DESIGN
STORMWATER ANALYSIS
EROSION CONTROL**

63 Second Avenue, Augusta, Maine 04330
Ph 207-622-1462, Cell 207-242-5713 Email: cbelanger@adelphia.net

March 31, 2007

Mr. Robert Green
Project Manager
Maine DEP
312 Canco Road
Portland, ME 04103

**RE: Tier 1 Application
Proposed General Courier Dispatch Center
166 Presumpscott Street
Portland, ME**

Dear Mr. Green:

Enclosed please find a site plan for the proposed development of a 3171 s.f. office and 1440 s.f. garage along with parking and infrastructure being completed for General Courier Dispatch Center located at 166 Presumpscott Street in Portland. A Tier 1 permit is being submitted for review and approval.

The proposed project develops 0.53 acres of new impervious area and 0.98 acres of developed area which does not trigger the stormwater law. The project proposes to fill approximately 8050 s.f. of freshwater wetlands therefore a Tier 1 permit will be required with this development.

Avoidance and Minimization Statement

As required the proposed project is required to minimize impacts as far as practical. The proposed Dispatch Center and Garage is being developed on the 2.18 acre parcel. We have located the proposed parking and buildings on the upland areas of the lot as far as practical. The proposed office is developed in the rear upland area of the property. The garage is located on the lower portion of the property adjacent to the access drive. The proposed buildings are required to meet 25' setbacks. The proposed driveway and garage is located on the lower portion of the lot. Approximately 5' of fill is needed to match the existing road grade. As a result we need to cross wetland fingers to access the rear area. It is necessary to provide parking for 30 vehicles and provide an office and garage on the lot. The remaining parking area is located across Eben Hill Drive in the upland area. We have located the developed areas on upland areas as much as practical. The dominant wetland area is being preserved on the southerly side of Eben Hill Drive. Fill Slopes are minimized at 2:1. Developed areas have been minimized to support the proposed development.

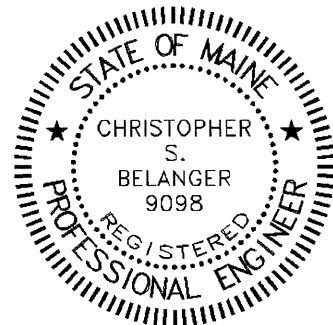
Mr. Robert Green
Tier 1 Application
3/31/2007

Should you have questions, please call.

Very truly yours,

Christopher S. Belanger

Christopher S. Belanger, P.E.
President



Christopher S. Belanger

B

Department of Environmental Protection
 Bureau of Land & Water Quality
 17 State House Station
 Augusta, Maine 04333
 Telephone: 207-287-3901

FOR DEP USE

ATS # _____
 L- _____
 Total Fees: _____
 Date: Received _____

APPLICATION FOR A NATURAL RESOURCES PROTECTION ACT PERMIT

→ PLEASE TYPE OR PRINT IN **BLACK INK ONLY**

1. Name of Applicant:		General Courier Dispatch Center Lorraine Atlass		4. Name of Agent: (if applicable)		Belanger Engineering Christopher S. Belanger	
2. Applicant's Mailing Address:		P.O. BOX 1072 PORTLAND, ME 04104		5. Agent's Mailing Address:		63 Second Avenue Augusta, ME 04330	
3. Applicant's Daytime Phone #:		207-767-6004		6. Agent's Daytime Phone #:		207-622-1462	
7. Location of Activity: (Nearest Road, Street, Rt.#)		166 Presumpscot Street		8. Town:		Portland	
				9. County:		Cumberland	
10. Type of Resource: (Check all that apply)		<input type="checkbox"/> River, stream or brook <input type="checkbox"/> Great Pond <input type="checkbox"/> Coastal Wetland <input checked="" type="checkbox"/> Freshwater Wetland <input type="checkbox"/> Wetland Special Significance <input type="checkbox"/> Significant Wildlife Habitat <input type="checkbox"/> Fragile Mountain		11. Name of Resource:		No Name	
				12. Amount of Impact: (Sq.Ft.)		Fill: 8050 s.f.	
						Dredging/Veg Removal/Other:	
13. Type of Wetland: (Check all that apply)		<input checked="" type="checkbox"/> Forested <input type="checkbox"/> Scrub Shrub <input type="checkbox"/> Emergent <input type="checkbox"/> Wet Meadow <input type="checkbox"/> Peatland <input type="checkbox"/> Open Water <input type="checkbox"/> Other _____		FOR FRESHWATER WETLANDS/NOT OF SPECIAL SIGNIFICANCE ONLY			
				<i>Tier 1</i>		<i>Tier 2</i>	
				<input type="checkbox"/> 0 - 4,999 sq. ft. <input checked="" type="checkbox"/> 5,000 - 9,999 sq. ft. <input type="checkbox"/> 10,000 - 14,999 sq. ft.		<input type="checkbox"/> 15,000 - 19,999 sq. ft. <input type="checkbox"/> 20,000 - 43,560 sq. ft. <input type="checkbox"/> > 43,560 sq. ft.	
14. Brief Activity Description		Fill 8050 s.f. of wetland to support General Courier Dispatch Center, Garage, and parking for 30 cars					
15. Size of Lot or Parcel:		<input type="checkbox"/> _____ square feet, or <input checked="" type="checkbox"/> 2.18 acres					
16. Title, Right or Interest:		<input type="checkbox"/> own <input type="checkbox"/> lease <input checked="" type="checkbox"/> purchase option <input type="checkbox"/> written agreement					
17. Deed Reference Numbers:		Book#: 6739 Page: 136		18. Map and Lot Numbers:		Map #: 424 Lot #: 41	
19. DEP Staff Previously Contacted:		Robert Green		20. Part of a larger project:		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No After-the-Fact: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
21. Resubmission of Application?		<input type="checkbox"/> Yes → <input checked="" type="checkbox"/> No → If yes, previous application #		Previous project manager:			
22. Written Notice of Violation?		<input type="checkbox"/> Yes → <input checked="" type="checkbox"/> No → If yes, name of DEP enforcement staff involved:		23. Previous Wetland Alteration:		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
24. Detailed Directions to the Project Site:		166 Presumpscot Street, Left on Eben Hill Drive, Site is on right before Apartments.					
25. TIER 1		TIER 2/3 AND INDIVIDUAL PERMITS					
<input checked="" type="checkbox"/> Fee <input checked="" type="checkbox"/> Topographic Map <input checked="" type="checkbox"/> Plan or Drawing (8 1/2" x 11") <input checked="" type="checkbox"/> Photos of Area <input checked="" type="checkbox"/> Statement of Avoidance & Minimization <input checked="" type="checkbox"/> Statement/Copy of cover letter to Maine Historic Preservation Commission		<input type="checkbox"/> Fee <input type="checkbox"/> Topographic Map <input type="checkbox"/> Photos of Area <input type="checkbox"/> Plan or Drawing (8 1/2" x 11") <input type="checkbox"/> Copy of Public Notice <input type="checkbox"/> Professional Certification/Delineation <input type="checkbox"/> Erosion Control Plan		<input type="checkbox"/> Alternatives Analysis, if required <input type="checkbox"/> Description of Avoidance/Minimization <input type="checkbox"/> Compensation Plan (if required) <input type="checkbox"/> Description of Previously Mined Peatland (if required) <input type="checkbox"/> Statement/Copy of cover letter to Maine Historic Preservation Commission <input type="checkbox"/> Construction Plan, if required			
26. FEES, Amount Enclosed:		\$75					
CERTIFICATIONS AND SIGNATURES LOCATED ON PAGE 2							

IMPORTANT: IF THE SIGNATURE BELOW IS NOT THE APPLICANT'S SIGNATURE, ATTACH LETTER OF AGENT AUTHORIZATION SIGNED BY THE APPLICANT.

By signing below the applicant (or authorized agent), certifies that he or she has read and understood the following :

DEP SIGNATORY REQUIREMENT

PRIVACY ACT STATEMENT

Authority: 33 USC 401, Section 10; 1413, Section 404. Principal Purpose: These laws require permits authorizing activities in or affecting navigable waters of the United States, the discharge of dredged or fill material into waters of the United States, and the transportation of dredged material for the purpose of dumping it into ocean waters. Disclosure: Disclosure of requested information is voluntary. If information is not provided, however, the permit application cannot be processed nr a permit be issued.

CORPS SIGNATORY REQUIREMENT

USC Section 1001 provides that: Whoever, in any manner within the jurisdiction of any department or agency of the United States knowingly and willfully falsifies, conceals, or covers up any trick, scheme, or disguises a material fact or makes any false, fictitious or fraudulent statements or representations or makes or uses any false writing or document knowing same to contain any false, fictitious or fraudulent statements or entry shall be fines not more than \$10,000 or imprisoned not more than five years or both. I authorize the Corps to enter the property that is subject to this application, at reasonable hours, including buildings, structures or conveyances on the property, to determine the accuracy of any information provided herein.

DEP SIGNATORY REQUIREMENT

"I certify under penalty of law that I have personally examined the information submitted in this document and all attachments thereto and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the information is true, accurate, and complete. I authorize the Department to enter the property that is the subject of this application, at reasonable hours, including buildings, structures or conveyances on the property, to determine the accuracy of any information provided herein. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

Christopher S. Belanger

Date: March 31, 2007

SIGNATURE OF AGENT/APPLICANT

Application is hereby made for a permit or permits to authorize the work described in this application. I certify that the information in the application is complete and accurate. I further certify that I possess the authority to undertake the work described herein or am acting as the duly authorized agent of the applicant.

NOTE: Any changes in activity plans must be submitted to the DEP and the Corps in writing and must be approved by both agencies prior to implementation. Failure to do so may result in enforcement action and/or the removal of the unapproved changes to the activity.

1-800-698-5035
207-767-6004
207-767-7159 FAX

P.O. Box 1072
Portland, ME 04104
generalc@maine.rr.com
www.generalcourier.com

Portland's Only Total Courier Service



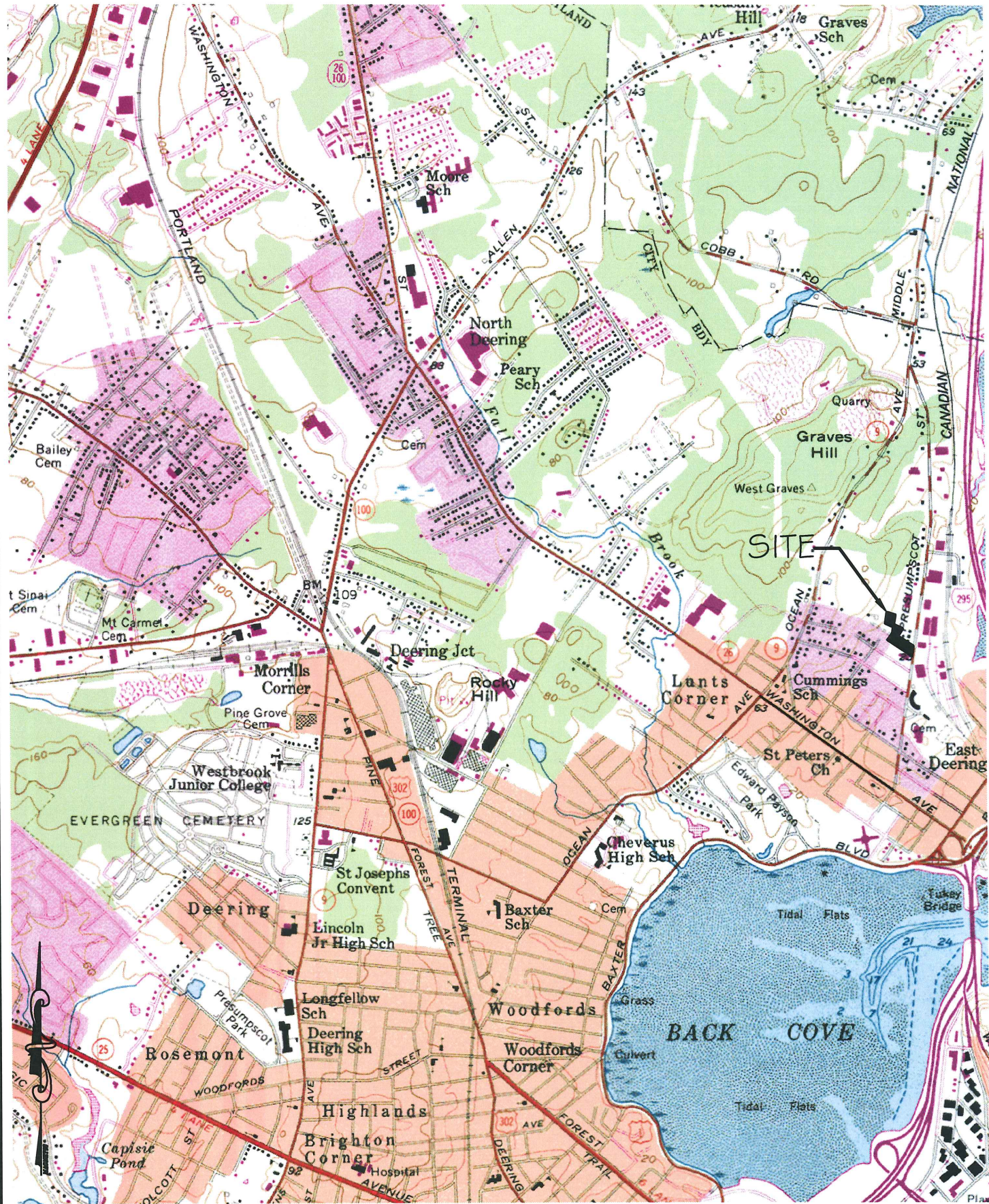
Feb. 2, 2007

To Whom it May Concern,

This letter is to inform you that
Belanger Engineering has authorization to represent
me in the DEP and City Hall approval process
for the project at 166 Presumpscot st.

Thank you

Jin Atlass
Lorraine Atlass



CLIENT/PROJECT:
GENERAL COURIER

LOCATION: 166 PRESUMPCOT STREET

TOWN: PORTLAND COUNTY: CUMBERLAND STATE: MAINE

Belanger ENGINEERING

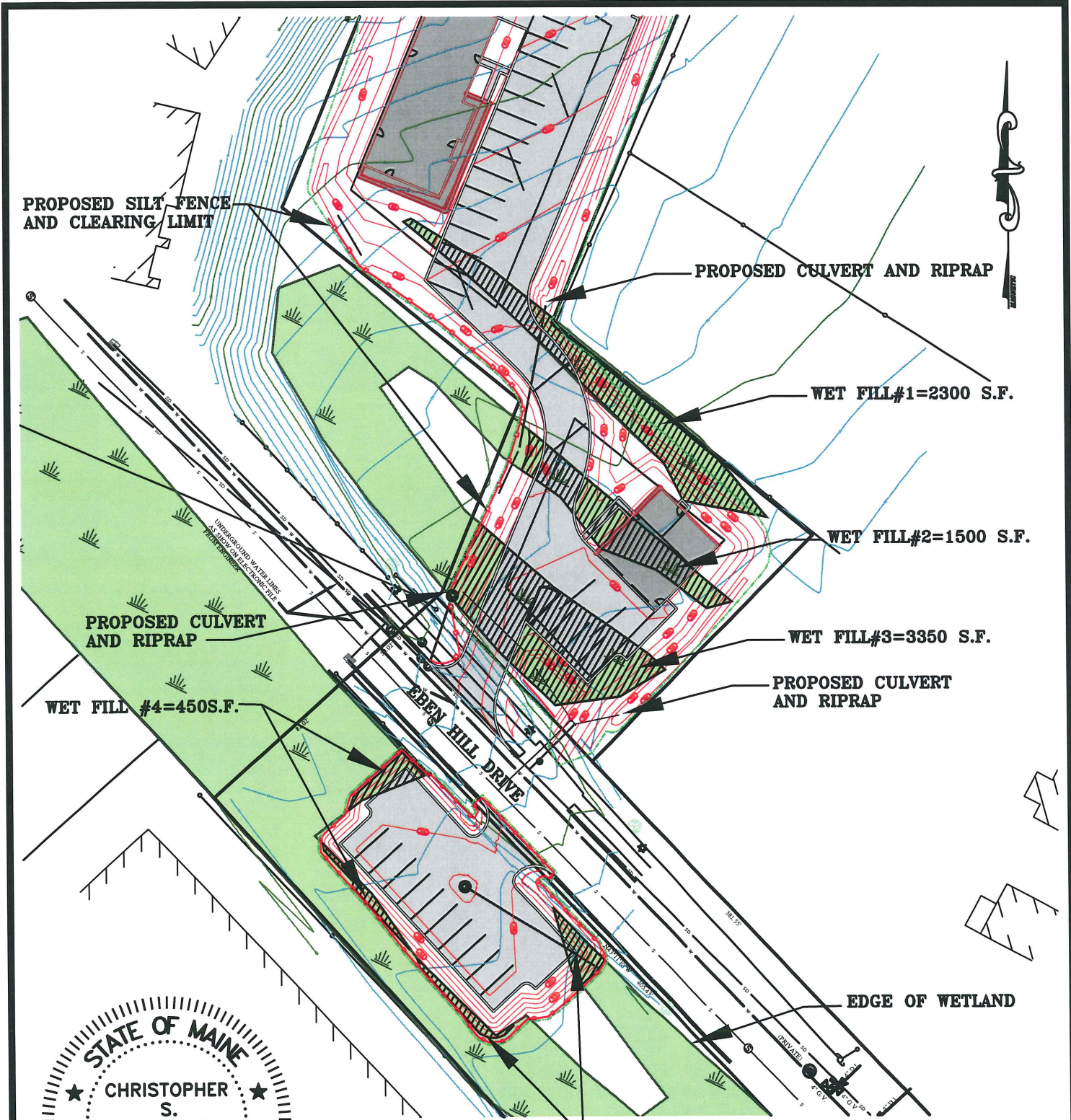
63 SECOND AVE., AUGUSTA, ME 04330
 Ph 207-622-1462 Email: cbelanger@adelphia.net

SHEET TITLE:
USGS MAP

SCALE: 1" = 2000'

APRIL 1, 2007

PROJ. NO 2004-420



PROPOSED SILT FENCE AND CLEARING LIMIT

PROPOSED CULVERT AND RIPRAP

WET FILL#1=2300 S.F.

WET FILL#2=1500 S.F.

PROPOSED CULVERT AND RIPRAP

WET FILL#3=3350 S.F.

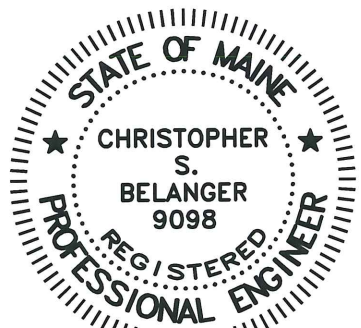
PROPOSED CULVERT AND RIPRAP

WET FILL #4=450S.F.

EBEN HILL DRIVE

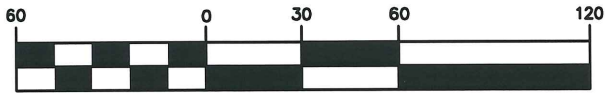
EDGE OF WETLAND

WET FILL#5=450 S.F.



Christopher S. Belanger

WETLAND FILL	
WETLAND FILL 1	= 2300 S.F.
WETLAND FILL 2	= 1500 S.F.
WETLAND FILL 3	= 3350 S.F.
WETLAND FILL 4	= 450 S.F.
WETLAND FILL 5	= 450 S.F.
TOTAL	= 8050 S.F.



(IN FEET)
1 inch = 60 ft.

CLIENT/PROJECT:
LORRAINE ATLAS

LOCATION: **PRESUMPSCOT STREET**

TOWN: **PORTLAND** COUNTY: **CUMBERLAND** STATE: **MAINE**

B Belanger
ENGINEERING

63 SECOND AVE., AUGUSTA, ME 04330
Ph 207-622-1462 Email: cbelanger@adelphia.net

SHEET TITLE:
WET FILL

SCALE: **1" = 60'**

MARCH 30, 2007

PROJ. NO: 2004-420

A COPY OF THIS CONTRACT IS TO BE RECEIVED BY ALL PARTIES AND, BY SIGNATURE, RECEIPT OF A COPY IS HEREBY ACKNOWLEDGED. IF NOT FULLY UNDERSTOOD CONSULT AN ATTORNEY.

Seller(s) acknowledges that the laws of the State of Maine provide that every buyer of real property located in Maine must withhold a withholding tax equal to 2 1/2% of the consideration unless the Seller(s) furnishes to the Buyer(s) a certificate by the Seller(s) stating, under penalty of perjury, that Seller(s) is/are a resident of Maine or the transfer is otherwise exempt from withholding.

Lorraine Atlas
Purchaser
Lorraine Atlas
Name/Title

1-20-07
Date
009-62-0731
Soc. Sec. # or Tax I.D. #

Purchaser

Name/Title

Date

Soc. Sec. # or Tax I.D. #

The Seller(s) accepts the offer and agrees to deliver the above-mentioned property at the price and upon the terms and conditions set forth above and agrees to pay the Broker the commission for services herein according to the Listing Agreement or if there is no Listing Agreement the sum of: per listing agreement. The obligation to pay said commission or sum shall survive the closing of this transaction. Seller agrees that Broker may apply any deposit(s) received in connection with the sale of the Property toward commissions due and payable under this Agreement. If the earnest money is forfeited by Purchaser(s), it shall be evenly distributed between the Broker and the Seller(s), provided, however, that Broker's portion shall not exceed the full amount of the commission specified. In the event the Seller(s) defaults on its obligations hereunder, CB Richard Ellis/The Boulos Company shall be entitled to costs of collection, including reasonable attorneys' fees.

Signed this 23rd day of January, 2007. Effective date of Contract: 23 January, 2007.

The Listing Licensee is Andrew Nelson of CBRE/The Boulos Company (Company).
The Selling Licensee is Andrew Nelson of CBRE/The Boulos Company (Company).

Andrew T. Card
Seller
P.A. Card (POA)
Andrew T. Card
Name/Title

1/23/07
Date
006-18-7353
Soc. Sec. # or Tax I.D. #

Clifford A. Card
Seller
Clifford A. Card
Name/Title

1/23/07
Date
005-24-4440
Soc. Sec. # or Tax I.D. #

Offer reviewed and refused on _____, _____, _____, Seller

Seen and agreed to: _____
Seller(s) La
Purchaser(s)

ADDENDUM A
TO CONTRACT FOR SALE OF REAL ESTATE LOCATED AT
166 PRESUMPCOT STREET
PORTLAND, MAINE
BETWEEN
SELLERS: ANDREW T. CARD & CLIFFORD A. CARD
PURCHASER: LORRAINE ATLASS
DATED: JANUARY 19, 2007

22. This contract is subject to purchaser receiving City of Portland and Maine Department of Environmental Protection approvals within ninety (90) days of the effective date of the contract.

SEEN AND AGREED TO:

<u>Andrew T. Card</u> Andrew T. Card, Seller <i>(C.A. Card (PA))</i>	<u>1/23/07</u> Date
<u>Clifford A. Card</u> Clifford A. Card, Seller	<u>1/23/07</u> Date
<u>Lorraine Atlass</u> Lorraine Atlass, Purchaser	<u>1-20-07</u> Date

QUITCLAIM DEED WITHOUT COVENANT (RELEASE DEED)

Maine Statutory Short Form

13410

Know all Men by these Presents,

That We, Andrew T. Card and Clifford A. Card

of [redacted] County of [redacted] State of [redacted] being unmarried, for consideration paid, released, to the said Andrew T. Card, whose mailing address is Pond Street, Billerica, MA 01821, and Clifford A. Card

of [redacted] County of [redacted] State of [redacted] whose mailing address is Minuteman Lane, Sudbury, MA 01776, as Tenants in Common

the land in Portland, County of Cumberland

State of Maine, described as follows:

A certain lot or parcel of land in Cumberland County, State of Maine, with any buildings thereon, located in Portland, County of Cumberland and State of Maine, having the address of 25 True Street, Portland, Maine and being a part of the premises conveyed to Linwood R. Card and Grantees herein by warranty deed of Elizabeth M. Card and Clifford R. Card dated December 28, 1976, and recorded in the Cumberland County Registry of Deeds at Book 3957, Page 340.

Reference is further made to the deed of Linwood R. Card to the Grantors herein dated August 2, 1981 and recorded in said Registry of Deeds in book 4844, Page 338.

And

that said [redacted] of said grantors, jointly and severally, do hereby release and relinquish all rights by, descent and otherwise right

Witness our hand and seal this 12th day of the month of April, 1985.

Signed, Sealed and Delivered in presence of

[Signatures of witnesses: Robert A. [redacted] and Ruth H. [redacted]]

Massachusetts

State of Maine, County of Middlesex

[Signatures of Andrew T. Card and Clifford A. Card]

on 12 April, 1985

Then personally appeared the above named Clifford A. Card

acknowledged the foregoing instrument to be his free act and deed.

Before me,

[Signature of Notary Public: Thomas G. Courtney]

Attorney at Law Notary Public

Print Name THOMAS G. COURTNEY SEAL

James J. Wilson

RECORDED IN THE REGISTRY OF DEEDS APR 24 AM 11:36

RECEIVED

My Commission expires November 7, 1986.



SITE PHOTOS LOOKING AT WET IMPACT AREA # 1-3



SITE PHOTOS LOOKING AT WET IMPACT AREA # 1-3

CLIENT/PROJECT:

GENERAL COURIER

LOCATION: 166 PRESUMPCOT STREET

TOWN: PORTLAND COUNTY: CUMBERLAND STATE: MAINE



**Belanger
ENGINEERING**

63 SECOND AVE., AUGUSTA, ME 04330
Ph 207-622-1462 Email: cbelanger@adelphia.net

SHEET TITLE:

SITE PHOTOS

SCALE: **NONE**

APRIL 1, 2007

PROJ. NO 2004-420



SITE PHOTOS LOOKING AT WET IMPACT AREA # 4-5



SITE PHOTOS LOOKING AT WET IMPACT AREA # 4-5

CLIENT/PROJECT:

GENERAL COURIER

LOCATION: **166 PRESUMPCOT STREET**

TOWN: **PORTLAND** COUNTY: **CUMBERLAND** STATE: **MAINE**



**Belanger
ENGINEERING**

63 SECOND AVE., AUGUSTA, ME 04330
Ph 207-622-1462 Email: cbelanger@adelphia.net

SHEET TITLE:

SITE PHOTOS

SCALE: **NONE**

APRIL 1, 2007

PROJ. NO: 2004-420



EXISTING BUILDING ABUTTING SITE



FED EX BUILDING ABUTTING SITE

CLIENT/PROJECT:

GENERAL COURIER

LOCATION: 166 PRESUMPCOT STREET

TOWN: PORTLAND COUNTY: CUMBERLAND STATE: MAINE



**Belanger
ENGINEERING**

63 SECOND AVE., AUGUSTA, ME 04330
Ph 207-622-1462 Email: cbelanger@adelphia.net

SHEET TITLE:

SITE PHOTOS

SCALE: **NONE**

APRIL 1, 2007

PROJ. NO 2004-420



EXISTING HOUSES BELOW SITE



FED EX BUILDING ABUTTING SITE

CLIENT/PROJECT:

GENERAL COURIER

LOCATION: 166 PRESUMPCOT STREET

TOWN: PORTLAND COUNTY: CUMBERLAND STATE: MAINE



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63 SECOND AVE., AUGUSTA, ME 04330
Ph 207-622-1462 Email: cbelanger@adelphia.net

SHEET TITLE:

SITE PHOTOS

SCALE: **NONE**

APRIL 1, 2007

PROJ. NO: 2004-420



**Belanger
ENGINEERING**

63 Second Avenue, Augusta, Maine 04330

Ph 207-622-1462, Cell 207-242-5713 Email: cbelanger@adelphia.net

**CIVIL ENGINEERING
SITE PLANNING & DESIGN
STORMWATER ANALYSIS
EROSION CONTROL**

March 31, 2007

Mr. Michael Johnson
Maine Historic Preservation Commission
65 State Street
Augusta, ME 04333

**RE: General Courier
Tax Map 424 Lot 41
166 Preseumpscot Street, Portland**

Dear Mr. Johnson;

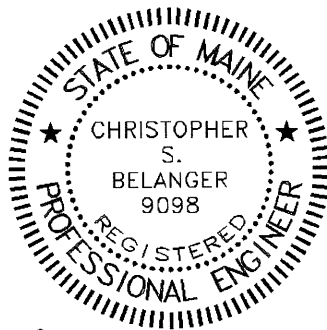
Enclosed please find a proposed site plan for the proposed General Courier Dispatch Center on Eben Hill Drive in Portland. The plans are being submitted to Maine DEP for a Tier 1 permit. As required we are submitting a plan and photos of the area. Please verify that no historic or archeological areas exist on the property.

Should you have questions, please call.

Very Truly Yours;

Christopher S. Belanger, P.E.
Project Consultant

enclosure





PORTLAND MAINE

Strengthening a Remarkable City, Building a Community for Life ® www.portlandmaine.gov

Planning and Development Department
Lee D. Urban, Director

Planning Division
Alexander Jaegerman, Director

April 19, 2007

Belanger Engineering
Chris Belanger
63 Second Avenue
Augusta, ME 04330

RE: Site Plan Review: 166 Presumpscot Street
3171 sq. ft. Building and 1440 sq. ft. Garage
Application # 2007-0058; CBL 124 A041001

Dear Mr. Belanger,

I refer to the Site Plan Review Application for a proposed 3,171 sq. ft. building and 1,440 sq. ft. garage that will be located at 166 Presumpscot Street, as submitted on April 3, 2007.

The various departments have not completed review of the proposal. As I get the comments from the different departments, I will forward them to you. The following are items that need to be submitted to have the application complete:

1. Capacity letters for sewer and water
2. Financial and technical capability letter
3. There are no sidewalks or curbs shown on the site plan. If none are being proposed then applicant will need to submit a waiver.
4. Provide wetlands assessment/analysis.
5. For commercial buildings, any site with driveway access to a street shall have a 24 foot wide driveway for a two-way ingress and egress (Technical and Design Standards and Guidelines, Section III (2)(A)(b)).
6. Parking spaces shall be 9 feet by 19 feet per Technical and Design Standards and Guidelines, Section III (3)(A).
7. A lighting/photometric plan and catalogue cuts will need to be provided for the proposed lighting.

8. Fire Department Comment:

- The Fire Department is unable to review the site plan; they need the Fire Department checklist items to be addressed. Please contact the Fire Department at 874-8405.

9. Zoning Comments:

- Need more clarification as to the status of the Eben Hill Street or Right of Way. Does it split the lot, or is it just a right of way thru this lot?
- Is there an apparent exit stair structure at the rear of the garage; if it is a structure, it is setting within a required setback.
- Zoning would like confirmation of a final total impervious figure that includes what appears to be Eben Hill right of way. The plans show only the new impervious figure.

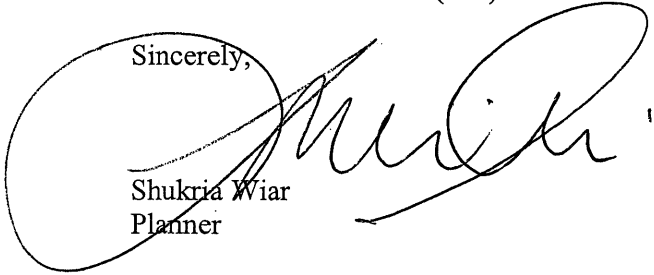
10. Department of Public Works comments:

- Details and sizing information have not been provided for the riprap aprons.
- The City of Portland requires that all catch basin drain pipes be at least 10 inches in diameter. The drain pipe for the catch basin in the parking lot across the street from the buildings is shown to be only 6 inches in diameter; a cover with an orifice will be required.
- There are significant issues with the stormwater management plan. They include, but are not limited to, creating detention ponds on property not owned by the applicant, no modeling of the stormwater collection system within Eben Hill Road which the project proposes to tie into demonstrating capacity, ditching schemes where the slope of the ditches is so flat that water will not flow as designed, and no treatment of the stormwater is proposed as required by the creation of 25 parking spaces. A meeting to discuss these issues would be extremely helpful.
- The City of Portland standard details for catch basins call for a minimum of 3 courses of brick to adjust catch basins to grade. The typical catch basin detail shows a minimum of 1 course and a maximum of 3 layers of brick.
- Letters need to be provided showing that the water and sewer systems have the capacity to support the proposed buildings. In addition, a letter from the Fire Chief needs to be submitted stating that the fire protection system meets the required specifications.
- Details have not been provided for the dumpster enclosure, chain link fence, or stockade fence.
- No detail is provided for the handicap ramps, and the ramps are not shown on the preliminary building plans.
- No curbing or sidewalk details are shown. Based on the survey and the tip down detail, it appears that sidewalk is already in place along the northeastern side of Eben Hill Drive; however this is not labeled on the site plan. If no new sidewalk is to be installed, the cross section and curbing information is still necessary for the construction of the tip down ramp. Curbing may also be necessary around the perimeter of the parking areas.
- The sewer connection as proposed is not acceptable. The proposed connection ties two services into an existing lateral with an unknown invert elevation. Then multiple bends and long runs of pipe are being proposed with no manholes or cleanouts. The applicant should core into the existing manhole directly in front of the proposed driveway with a new sewer line. This line should then extend into the property and terminate at a new manhole. The sewer services for the garage and building can then tie into the new manhole.

- The pipe trench detail should show 12 inches, not 6 inches, of crushed stone over the pipe.

Please submit the information at your earliest convenience. If you have any questions please do not hesitate to call me on (207) 756-8083 or at shukriaw@portlandmaine.gov.

Sincerely,



Shukria Wiar
Planner

cc Barbara Barhydt, Development Review Manager

MEMORANDUM

To: FILE

From: Marge Schmuckal

Dept: Zoning

Subject: Application ID: 2007-0058

Date: 4/5/2007

This applicant is not meeting the 15' pavement setback requirement of 14-234(h). I spoke with Lorraine Atlass on 4/3/07 and sent her a practical difficulty application package on 4/5/07.

I would like more clarification as to the status of the Eben Hill Street or Right of Way. Does it split the lot, or is it just a right of way thru this lot?

I want to confirm the apparent exit stair structure that is at the rear of the garage. If it is a structure, it is setting within a required setback. I would also like confirmation of a final total impervious figure that includes what appears to be Eben Hill right of way. The plans show only the new impervious figure.

Marge Schmuckal
Zoning Administrator

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To: FILE

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Dept: Zoning

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Marge Schmuckal
Zoning Administrator

MEMORANDUM

To: FILE

From: Cptn Greg Cass

Dept: Fire

Subject: Application ID: 2007-0058

Date:

Unable to review. Need F.D. Checklist.

MEMORANDUM



TO: Barbara Barhydt
FROM: Dan Goyette, PE, and Lauren Swett, EIT
DATE: April 10, 2007
RE: General Courier Dispatch Center

Woodard & Curran has reviewed the Minor Site Plan submission for the General Courier Dispatch Center. The proposed project includes the construction of a dispatch center, garage, and associated driveways and parking located on Eben Hill Drive. An additional parking lot will be constructed across the street from the proposed buildings.

Documents Reviewed

- Minor Site Plan Application for General Courier Dispatch Center, Prepared by Belanger Engineering for Lorraine Atlass, dated April 3, 2007.
- Engineering Plan Sheets 1-4 for General Courier, Prepared by Belanger Engineering, dated April 1, 2007.

Comments

- Details and sizing information have not been provided for the riprap aprons.
- The City of Portland requires that all catch basin drain pipes be at least 10 inches in diameter. The drain pipe for the catch basin in the parking lot across the street from the buildings is shown to be only 6 inches in diameter; a cover with an orifice will be required.
- There are significant issues with the stormwater management plan. They include, but are not limited to, creating detention ponds on property not owned by the applicant, no modeling of the stormwater collection system within Eben Hill Road which the project proposes to tie into demonstrating capacity, ditching schemes where the slope of the ditches is so flat that water will not flow as designed, and no treatment of the stormwater is proposed as required by the creation of 25 parking spaces. A meeting to discuss these issues would be extremely helpful.
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- Letters need to be provided showing that the water and sewer systems have the capacity to support the proposed buildings. In addition, a letter from the Fire Chief needs to be submitted stating that the fire protection system meets the required specifications.
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- No detail is provided for the handicap ramps, and the ramps are not shown on the preliminary building plans.
- No curbing or sidewalk details are shown. Based on the survey and the tip down detail, it appears that sidewalk is already in place along the northeastern side of Eben Hill Drive; however this is not labeled on the site plan. If no new sidewalk is to be installed, the cross section and curbing information is still necessary for the construction of the tip down ramp. Curbing may also be necessary around the perimeter of the parking areas.
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manhole directly in front of the proposed driveway with a new sewer line. This line should then extend into the property and terminate at a new manhole. The sewer services for the garage and building can then tie into the new manhole.

- The pipe trench detail should show 12 inches, not 6 inches, of crushed stone over the pipe.
- A photometric plan has not been provided for the proposed lighting.

Please contact our office if you have any questions.

DRG/LJS
203943



**Belanger
ENGINEERING**

63 Second Avenue, Augusta, Maine 04330

Ph 207-622-1462, Cell 207-242-5713 Email: cbelanger@adelphia.net

**CIVIL ENGINEERING
SITE PLANNING & DESIGN
STORMWATER ANALYSIS
EROSION CONTROL**

April 3, 2007

Ms. Barbara Barhydt, Development Review Services Manager
Department of Planning and Development
Portland City Hall
389 Congress Street
Portland, ME 04101

**RE: Site Plan Application – Minor Review
Proposed General Courier Dispatch Center
For Lorraine Atlass
166 Presumpscott Street, Tax Map 424 Lot 41**

Dear Ms. Barhydt:

Enclosed please find a site plan, application form, check for \$600, and supporting information for the proposed development of a 3171 s.f. footprint (4683 s.f. gross) Dispatch Center and 1440 s.f. maintenance garage to be located at 166 Presumpscott Street in Portland. Lorraine Atlass intends to develop the property and currently has a purchase option on the property. A purchase and sale agreement and letter of authorization is enclosed.

General Courier has owned and operated their business in the Portland area for many years and needs to expand its facilities. They propose to purchase the 2.18 acre parcel to support the new development. The property is shown on City Tax Map 424 Lot 41. The dispatch center (2 floors) and garage develops 6123 s.f. of floor area. The floor area ratio is 6.4% ($6123/94961=0.064$). Ground coverage is 4.8% ($4611/94961$).

Parking and vehicle circulation is provided for 27 vehicles. Additional space is available for several other vehicles if need permit adjacent to the loading area. A parking ratio of 4.4 spaces per 1000 s.f. is provided. The developer believes this is sufficient to support the development.

The project is located off of Eben Hill Drive which is a private road supporting Townhomes at Ocean East Condominiums located above the site. The private way passes through the property. Rights of access, utility connections are granted in a Warranty Deed Book 19620 Pages 73-79 which is enclosed for review.

The project will connect to City Water and Sewer lines located within Eben Hill Drive. Service laterals existing for sewer and storm drain connections. The existing water service stub could not be field verified, therefore a new service tap will be proposed to service the buildings. The Portland Water District has not record of a service line. The service connections will be coordinated with the Portland Water District as required. Should the existing water service stubs exist, they will be utilized.

Ms. Barbara Barhydt
Minor Site Plan Review
4/3/2007

Underground Power, Phone and Cable extensions are being proposed. It appears that a new pole may be needed near the proposed entrance. Power and other utilities will extend underground from this new pole (or appropriate pole as designated by the utility) into the site. A transformer pad is shown. Pad and utility pole locations will be coordinated with the respective utility and will be extended based on their requirements.

The proposed use will be General Courier Dispatch Center and maintenance garage. General Courier currently has approximately 50 employees. These employees work independently and do not commute to the dispatch center. Periodically meetings will occur but is not part of the day to day operations. Five employees will be based within the Dispatch Center and One mechanic will be located at the Garage. As such, significant traffic is not expected to be generated by this project. Operating hours will be 7:30 A.M. to 5:00 P.M.

Site Lighting will be (175 watt to 250 watt) metal halide cutoff fixtures to prevent glare onto abutting properties. (150-250 watt) walpaks are expected adjacent to the garage door areas. 100 watt entry lights are proposed at the entrance locations. All lights will be cut off fixtures to prevent impacts onto neighboring properties. The pole lights will match the existing lighting located along Eben Hill Drive. A picture of similar lighting proposed is shown below.



B

Ms. Barbara Barhydt
Minor Site Plan Review
4/3/2007

During the preliminary meeting with the City, it was suggested that the proposed building be located adjacent to the Condominium project so the building could provide buffering of the front entrance and parking area. As a result we have re-configured the layout to maximize the buffering of the condominium areas as well as provide parking and circulation in front of the facility. The garage has been located as far away from the condo areas as far as practical. The garage doors have been oriented toward Eben Hill Drive to shield it from the Condo area.

Landscaping is provided to buffer and break up the existing elevation views. A stockade fence will be located around the proposed dumpster pad and garage area. Landscape Evergreens and Arbovitae will be planted to provide additional buffering. Green Chain Link fencing will be located around the perimeter of the project boundaries. Currently landscaping existing along the back side of the Condo areas which will provide effective buffering when it matures. The condominium areas are elevated which makes a visual barrier difficult but we believe the selected features and site modifications meets the intent.

Preliminary architectural elevations and floor plans for the dispatch center and garage are enclosed for review.

The proposed project develops 0.53 acres of new impervious area and 0.98 acres of developed area which does not trigger the stormwater law. The project proposes to fill approximately 8050 s.f. of freshwater wetlands therefore a Tier 1 permit from DEP will be required with this development. A Tier 1 permit application has been submitted and a copy of the submittal has been provided to the City.

Stormwater Management

Currently the site is undeveloped weeds and brush. The project is located below the Ocean East Condominium project. Some of the projects developed areas drains overland to an existing wetland located downstream of the development. This wetland drains directly onto and through the property via wetland fingers. These fingers discharge onto the lower abutting land and drains toward an existing 8" culvert within Presumpscot Street. I have spoken with tenants living in the houses and they have confirmed that flooding and erosion has occurred on several occasions. As part of this project we have taken steps to capture the upper watershed runoff and discharge the flows directly into the street storm drain system within Eben Hill Drive. These connections are necessary to prevent flooding of the proposed project as well as the residence downstream. Two connections are proposed to provide stormwater outlets. The first is located above the projects access drive. This outlet is being restricted to 6" to provide on site detention as discussed with the City Engineering Department. This outlet provides an upper watershed relief and natural detention for the area. An outlet structure is proposed with a grate elevation set to allow temporary flooding during larger storm events but will drain within a 24 hour period. Once the grate is

Ms. Barbara Barhydt
Minor Site Plan Review
4/3/2007

breached runoff will flow into a 12" storm drain. This storm drain connects directly into the drain manhole located within Eben Hill Drive which has a 16" outlet. The second area is below the access drive and a swale has been graded around the proposed development. This swale drains to an existing 6" storm drain stub. The swale shall connect to the existing stub. This should eliminate further upper watershed runoff from traveling across the neighboring property. The area adjacent to the proposed garage will be graded to drain to a detention pond. The bottom of pond will drain via a 6" pipe into the existing storm drain stub. A 6" overflow pipe is proposed which drains runoff toward the northerly side of the entrance drive when flooding reaches 1' below pavement.

Proposed parking is also located across Eben Hill Drive to support the project. The parking lot has been graded to drain to a catch basin located within the center of the parking area. This basin will have an oars pad and snout installed on the outlet to prevent floatable and sediment from entering the wetland area. After this pre-treatment runoff will discharge to the adjacent wetland where it will be detained and outlet via a 4" drain into the street system. It will also help contain sediment from sanding during winter months. Photos of the existing outlets are shown below.



Existing 8" outlet adjacent to Presumpscot Street



Ms. Barbara Barhydt
Minor Site Plan Review
4/3/2007



Existing 4" outlet draining southerly side of Eben Hill Drive

Currently the project area drains toward Presumpscot Street through neighboring homes and properties. This runoff has caused erosion of the properties. It was evident that stone has been periodically brought in to help stabilize the area. Preventing the downstream flooding of the neighboring property will improve current water quality conditions. Runoff from the project has been graded to drain to grassed swales prior to discharge to the wetland storage area. These grass lined ditches will provide coarse pollutant removal and pre-treatment prior to entering the wetland area. The proposed catch basins will also be equipped with a snout and oars pad to help trap and capture pollutants prior to discharge into the adjacent wetland areas. This will provide effective treatment of runoff prior to entering the City systems.



Ms. Barbara Barhydt
Minor Site Plan Review
4/3/2007

As requested by Engineering Staff, a hydrocad calculation was completed for the property. Pre and Post development impacts to the City Storm Drain located at the Intersection of Eben Hill and Presumpscot Street were analyzed (Pond 8P). As the results show, the additional storm drain connections are below Pre development levels. The wetland storage area and the direct connections to the storm drain help maintain the projects pre-development flow. In addition, runoff draining onto the abutting land has reduced.

The results are as follows:

Pond 8P (Pre) = Pond 8P (Post)

<u>Event</u>	<u>Pre-Develop.</u>	<u>Post-Develop.</u>
2 year	1.43 cfs	0.94 cfs
10 year	3.68 cfs	2.42 cfs
25 year	4.67 cfs	3.50 cfs
100 year	6.19 cfs	4.95 cfs

Noise is not expected to impact surrounding neighbors or properties. Hours of operation are during normal business hours. Normal noise associated with this project will be from vehicles traveling to and from the facility. Typical garage noise such as air compressors will periodically occur. Most noise generating items will be located within the garage which is furthest away from the residential use. Outside manufacturing or sales is not part of this project and is not expected to cause significant noise.

Odors are not expected to be generated with this development.

The developer may choose to install a sign at a later date. The sign will meet the City requirements and will be submitted separately.

Solid waste generated by the project will be consistent with typical office and dispatch areas facilities. We estimate 5 c.y. per week will be generated with the development. Solid waste includes recyclables such as paper, cardboard, etc. is expected at the facility. A dumpster will be located on site to contain solid waste generated by the development. The dumpster will be maintained by a commercial hauler.



Ms. Barbara Barhydt
Minor Site Plan Review
4/3/2007

Should you have questions or require further information, please call.

Very truly yours,

Christopher S. Belanger

Christopher S. Belanger, P.E.
President



Christopher S. Belanger

LB



Site Plan Application

Department of Planning and Development
Portland Planning Board

Address of Proposed Development: 166 PEESCONSOT STREET Zone: I-L

Project Name: GENERAL COURIER DISPATCH CENTER - LORRAINE ATLAS

Existing Building Size: 0 sq. ft.

Proposed Building Size: 3171 SF sq. ft.

1440 SF

Existing Acreage of Site: 2.18 AC sq. ft.

Proposed Acreage of Site: 2.18 AC sq. ft.

Tax Assessor's Chart, Block & Lot:

Chart#	Block #	Lot#
	<u>424</u>	<u>41</u>

Property Owners Mailing address:

ANDREW CARD
24 MINUTEMAN LN.
SUNDBURY, MA 01776

Telephone #:

Cell Phone #:

Consultant/Agent Contact Name and mailing address, Telephone # and Cell Phone #:

BELANGER ENGINEERING
CHRIS BELANGER
63 SECOND AVE
AUGUSTA, ME 04330

Applicant's Name/Mailing Address:

LORRAINE ATLAS
127 PLEASANT AVE
PORTLAND, MAINE
04103

Telephone #:

207-767-6004

Cell Phone #:

207-622-1462
207-242-5713

Fee For Service Deposit (all applications)

✓ (\$200.00)

Proposed Development (check all that apply)

New Building Building Addition Change of Use Residential Office Retail

Manufacturing Warehouse/Distribution Parking lot

Subdivision (\$500.00) + amount of lots _____ (\$25.00 per lot) \$ _____ + major site plan fee if applicable

Site Location of Development (\$3,000.00)

(except for residential projects which shall be \$200.00 per lot _____)

Traffic Movement (\$1,000.00) Storm water Quality (\$250.00)

Section 14-403 Review (\$400.00 + \$25.00 per lot)

Other _____

Major Development (more than 10,000 sq. ft.)

Under 50,000 sq. ft. (\$500.00)

50,000 - 100,000 sq. ft. (\$1,000.00)

Parking Lots over 100 spaces (\$1,000.00)

100,000 - 200,000 sq. ft. (\$2,000.00)

200,000 - 300,000 sq. ft. (\$3,000.00)

Over 300,000 sq. ft. (\$5,000.00)

After-the-fact Review (\$1,000.00 + applicable application fee)

~ Please see next page ~



City of Portland, Maine Site Plan Checklist

GENERAL COURIER DISPATCH CENTER, 166 PRESUMPSLOT ST.
 Project Name, Address of Project Application Number

Submitted () & Date (b,c)	Item	Required Information	Section 14-525
✓	(1)	Standard boundary survey (stamped by a registered surveyor, at a scale of not less than 1 inch to 100 feet and including:	1
✓	(2)	Name and address of applicant and name of proposed development	a
✓	(3)	Scale and north points	b
✓	(4)	Boundaries of the site	c
✓	(5)	Total land area of site	d
✓	(6)	Topography - existing and proposed (2 feet intervals or less)	e
✓	(7)	Plans based on the boundary survey including:	2
✓	(8)	Existing soil conditions	a
✓	(9)	Location of water courses, marshes, rock outcroppings and wooded areas	b
✓	(10)	Location, ground floor area and grade elevations of building and other structures existing and proposed, elevation drawings of exterior facades, and materials to be used	c
✓	(11)	Approx location of buildings or other structures on parcels abutting the site	d
✓	(12)	Location of on-site waste receptacles	e
✓	(13)	Public utilities	e
✓	(14)	Water and sewer mains	e
✓	(15)	Culverts, drains, existing and proposed, showing size and directions of flows	e
✓	(16)	Location and dimensions, and ownership of easements, public or private rights-of-way, both existing and proposed	f
✓	(17)	Location and dimensions of on-site pedestrian and vehicular access ways	g
✓	(18)	Parking areas	g
✓	(19)	Loading facilities	g
✓	(20)	Design of ingress and egress of vehicles to and from the site onto public streets	g
✓	(21)	Curb and sidewalks	g
✓	(22)	Landscape plan showing:	h
✓	(23)	Location of existing proposed vegetation	h
✓	(24)	Type of vegetation	h
✓	(25)	Quantity of plantings	h
2-3" CALIPER ✓	(26)	Size of proposed landscaping	h
✓	(27)	Existing areas to be preserved	h
✓	(28)	Preservation measures to be employed	h
✓	(29)	Details of planting and preservation specifications	h
✓	(30)	Location and dimensions of all fencing and screening	i
✓	(31)	Location and intensity of outdoor lighting system	j
✓	(32)	Location of fire hydrants, existing and proposed	k
✓	(33)	Written statement	c
✓	(34)	Description of proposed uses to be located on site	l
NA ✓	(35)	Quantity and type of residential, if any	l
✓	(36)	Total land area of the site	b2
50% ✓	(37)	Total floor area and ground coverage of each proposed building and structure	b2
✓	(38)	General summary of existing and proposed easements or other burdens	c3
✓	(39)	Method of handling solid waste disposal	4
✓	(40)	Applicant's evaluation of availability of off-site public facilities, including sewer, water and streets	5
✓	(41)	Description of any problems of drainage or topography, or a representation that there are none	6
Fall 2007 ✓	(42)	An estimate of the time period required for completion of the development	7
✓	(43)	A list of all state and federal regulatory approvals to which the development may be subject to	8

N/A
 PENDING

- (44) The status of any pending applications 8
- (45) Anticipated timeframe for obtaining such permits h8
- (46) A letter of non jurisdiction h8
- (47) Evidence of financial and technical capability to undertake and complete the development including a letter from a responsible financial institution stating that it has reviewed the planned development and would seriously consider financing it when approved.

Note: Depending on the size and scope of the proposed development, the Planning Board or Planning Authority may request additional information, including (but not limited to):

- drainage patterns and facilities;
- erosion and sedimentation controls to be used during construction;
- N/A - a parking and/or traffic study;
- N/A - emissions; and
- N/A - a wind impact analysis.
- N/A - an environmental impact study;
- N/A - a sun shadow study;
- N/A - a study of particulates and any other noxious
- N/A - a noise study;

Other comments:

1-800-698-5035
207-767-6004
207-767-7159 FAX

P.O. Box 1072
Portland, ME 04104
generalc@maine.rr.com
www.generalcourier.com

Portland's Only Total Courier Service



Feb. 2, 2007

To Whom it may Concern,

This letter is to inform you that
Belanger Engineering has authorization to represent
me in the DEP and City Hall approval process.
for the project at 166 Presumpscot st.

Thank you

Jin Atlass
Lorraine Atlass

A COPY OF THIS CONTRACT IS TO BE RECEIVED BY ALL PARTIES AND, BY SIGNATURE, RECEIPT OF A COPY IS HEREBY ACKNOWLEDGED. IF NOT FULLY UNDERSTOOD CONSULT AN ATTORNEY.

Seller(s) acknowledges that the laws of the State of Maine provide that every buyer of real property located in Maine must withhold a withholding tax equal to 2 1/2% of the consideration unless the Seller(s) furnishes to the Buyer(s) a certificate by the Seller(s) stating, under penalty of perjury, that Seller(s) is/are a resident of Maine or the transfer is otherwise exempt from withholding.

Lorraine Atlas
 Purchaser
 Lorraine Atlas
 Name/Title

1-20-07
 Date
004-62-0731
 Soc. Sec. # or Tax I.D. #

 Purchaser

 Name/Title

 Date

 Soc. Sec. # or Tax I.D. #

The Seller(s) accepts the offer and agrees to deliver the above-mentioned property at the price and upon the terms and conditions set forth above and agrees to pay the Broker the commission for services herein according to the Listing Agreement or if there is no Listing Agreement the sum of: per listing agreement. The obligation to pay said commission or sum shall survive the closing of this transaction. Seller agrees that Broker may apply any deposit(s) received in connection with the sale of the Property toward commissions due and payable under this Agreement. If the earnest money is forfeited by Purchaser(s), it shall be evenly distributed between the Broker and the Seller(s), provided, however, that Broker's portion shall not exceed the full amount of the commission specified. In the event the Seller(s) defaults on its obligations hereunder, CB Richard Ellis/The Boulos Company shall be entitled to costs of collection, including reasonable attorneys' fees.

Signed this 23rd day of January, 2007. Effective date of Contract: 23 January, 2007.

The Listing Licensee is Andrew Nelson of CBRE/The Boulos Company (Company).
 The Selling Licensee is Andrew Nelson of CBRE/The Boulos Company (Company).

Andrew T. Card
 Seller
A. T. Card (POA)
 Andrew T. Card
 Name/Title

1/23/07
 Date
006-18-7353
 Soc. Sec. # or Tax I.D. #

Clifford A. Card
 Seller
 Clifford A. Card
 Name/Title

1/23/07
 Date
005-24-4440
 Soc. Sec. # or Tax I.D. #

Offer reviewed and refused on _____, _____, _____, Seller

Seen and agreed to: _____
 Seller(s)

LA
 Purchaser(s)

ADDENDUM A
TO CONTRACT FOR SALE OF REAL ESTATE LOCATED AT
166 PRESUMPCOT STREET
PORTLAND, MAINE
BETWEEN
SELLERS: ANDREW T. CARD & CLIFFORD A. CARD
PURCHASER: LORRAINE ATLASS
DATED: JANUARY 19, 2007

22. This contract is subject to purchaser receiving City of Portland and Maine Department of Environmental Protection approvals within ninety (90) days of the effective date of the contract.

SEEN AND AGREED TO:

Andrew T. Card
Andrew T. Card, Seller (C.A. Card (POA))

1/23/07
Date

Clifford A. Card
Clifford A. Card, Seller

1/23/07
Date

Lorraine Atlass
Lorraine Atlass, Purchaser

1-20-07
Date

QUITCLAIM DEED WITHOUT COVENANT (RELEASE DEED)
Maine Statutory Short Form

18410

Know all Men by these Presents,

That We, Andrew T. Card and Clifford A. Card

of ~~COUNTY OF~~ ~~STATE OF~~
being unmarried, for consideration paid, release, to the said Andrew T. Card, whose mailing address is Pond Street, Billerica, MA 01821, and Clifford A. Card

of ~~COUNTY OF~~ ~~STATE OF~~
whose mailing address is Minuteman Lane, Sudbury, MA 01776, as Tenants In Common

the land in Portland, County of Cumberland

State of Maine, described as follows:

A certain lot or parcel of land in Cumberland County, State of Maine, with any buildings thereon, located in Portland, County of Cumberland and State of Maine, having the address of 25 True Street, Portland, Maine and being a part of the premises conveyed to Linwood R. Card and Grantors herein by warranty deed of Elizabeth M. Card and Clifford R. Card dated December 28, 1976, and recorded in the Cumberland County Registry of Deeds at Book 3957, Page 340.

Reference is further made to the deed of Linwood R. Card to the Grantors herein dated August 2, 1981 and recorded in said Registry of Deeds in book 4844, Page 138.

And

husband/wife of said grantors jointly and severally do hereby release and quitclaim to the said

Witness our hand and seal this 12th day of the month of April, 1985.

Signed, Sealed and Delivered in presence of

Andrew T. Card
Andrew T. Card
Clifford A. Card
Clifford A. Card
Massachusetts
State of Maine, County of Middlesex on 12 April, 1985

Then personally appeared the above named Clifford A. Card

acknowledged the foregoing instrument to be his free act and deed.

Before me,
Thomas G. Courtney
Attorney at Law Notary Public

My commission expires November 7, 1986.

Print Name THOMAS G. COURTNEY SEAL

Jessie M. Allen

RECEIVED
1985 APR 24 AM 11:36
REGISTERED REGISTRY OF DEEDS
COUNTY OF CUMBERLAND

WARRANTY DEED
(Maine Statutory Short Form)

CLIFFORD A. CARD of Sudbury, Massachusetts, whose mailing address is 24 Minuteman Lane, Sudbury, Massachusetts 01776, and ANDREW T. CARD of Billerica, Massachusetts, whose mailing address is 100 Dudley Road, Billerica, Massachusetts 01821 (the "Grantors"), for consideration paid, grant to OCEAN EAST OF PORTLAND, LLC, a Maine limited liability company having a place of business and mailing address of 247 Commercial Street, Rockport, Maine 04856 (the "Grantee"), With Warranty Covenants, a certain lot or parcel of land, with the buildings and improvements thereon, situated easterly of Ocean Avenue and westerly of Presumpscot Street in the City of Portland, County of Cumberland and State of Maine, more particularly bounded and described as follows:

A certain lot or parcel of land, with the buildings and improvements thereon, located approximately 700 feet westerly of Presumpscot Street and approximately 800 feet easterly of Ocean Avenue in the City of Portland, County of Cumberland, State of Maine, being more particularly described as follows:

Beginning at a 5/8 inch rebar proposed in a stone wall on the southwesterly line of land now or formerly of Timberland Development as recorded in Book 14375, Page 258 of the Cumberland County Registry of Deeds known as Wellstone Condominiums as shown on a plans recorded in Plan Book 144, Page 61 and Plan Book 173, Page 68 of the Cumberland County Registry of Deeds, said point of beginning being S 64° 20' 37" E and 80.65 feet from an iron pin at the most easterly corner of land now or formerly of Kent/McQuiddy as recorded in Book 6863, Page 1 of the Cumberland County Registry of Deeds;

Thence S 64° 20' 37" E along a stone wall and said land of Timberland Development a distance of 45.77 feet to a drill hole found at the most southerly corner of said land of Timberland Development;

Thence S 64° 20' 37" E along a stone wall and land of Ocean East of Portland, LLC as recorded in Book 17840, Page 68 (Parcel 2) of the Cumberland County Registry of Deeds a distance of 363.22 feet to a 3/4 inch iron pipe found at the most westerly corner of land now or formerly of G.J.L. Properties as recorded in Book 13325, Page 245 of the Cumberland County Registry of Deeds;

Thence S 63° 06' 40" E along a stone wall and said land now or formerly of G.J.L. Properties a distance of 66.13 feet to a 5/8 inch rebar proposed at land being retained by Clifford A. Card and Andrew T. Card shown as "Lot 2 Land to be Reserved by Card 2.18 Acres" as shown on a plan entitled "Recording Plat, Townhomes at Ocean East" by Coffin Engineering Surveying dated July 17, 2002 and revised through May 14, 2003;

Thence S 22° 34' 38" W along said land being retained by said Cards a distance of 170.18 feet to a 5/8 inch rebar proposed;

MAINE REAL ESTATE TAX PAID

Thence S 50° 48' 27" E along said land being retained by said Cards a distance of 133.59 feet to a 5/8 inch rebar proposed;

Thence S 22° 34' 38" W along said land being retained by said Cards a distance of 90.24 feet to a 5/8 inch rebar proposed;

Thence S 48° 22' 58" W along said land being retained by said Cards and partially along the end of a 50 foot wide right-of-way running to Presumpscot Street a distance of 134.20 feet to a 5/8 inch rebar proposed at land now or formerly of Drake as recorded in Book 6389, Page 178 of the Cumberland County Registry of Deeds;

Thence N 41° 55' 34" W along said land now or formerly of Drake as recorded in Book 6389, Page 178 of the Cumberland County Registry of Deeds, the end of Kidder Street East, land now or formerly of Lightfoot as recorded in Book 4500, Page 168 of the Cumberland County Registry of Deeds, land now or formerly of Jordan and land now or formerly of Chase, 335.36 feet to an iron pin at land now or formerly of Wieland as recorded in Book 15049, Page 216 of the Cumberland County Registry of Deeds;

Thence N 57° 33' 01" W along said land now or formerly of Wieland and land now or formerly of Domenico as recorded in Book 2548, Page 168 of the Cumberland County Registry of Deeds a distance of 283.41 feet to an iron pin at the most southerly corner of land now or formerly of Todd R. Sniper as recorded in Book 12907, Page 330 of the Cumberland County Registry of Deeds;

Thence N 32° 26' 59" E along said land now or formerly of Sniper a distance of 50.00 feet to an iron pin at the most easterly corner of said land now or formerly of Sniper;

Thence N 57° 33' 01" W along said land now or formerly of Sniper a distance of 51.79 feet to a 5/8 inch rebar proposed at land being retained by said Cards shown as "Lot 1 Land to be Reserved by Card 1.27 Acres" on said plan entitled "Recording Plat, Townhomes at Ocean East" by Coffin Engineering Surveying dated July 17, 2002 and revised through May 14, 2003;

Thence N 32° 55' 41" E along said land being retained by said Cards shown as "Lot 1 Land to be Reserved by Card 1.27 Acres" on said plan a distance of 116.27 feet to a 5/8 inch rebar proposed;

Thence S 61° 04' 19" E along said land being retained by said Cards shown as "Lot 1 Land to be Reserved by Card 1.27 Acres" on said plan a distance of 44.15 feet to a 5/8 inch rebar proposed;

Thence N 32° 55' 24" E along said land being retained by said Cards shown as "Lot 1 Land to be Reserved by Card 1.27 Acres" on said plan a distance of 87.21 feet back to the point of beginning.

Said parcel comprises 4.14 acres of land as shown on said plan entitled "Recording Plat, Townhomes at Ocean East" by Coffin Engineering Surveying dated July 17, 2002 and revised through May 14, 2003.

All directions are Magnetic North 1999. All 5/8 inch rebar set are marked with a plastic surveyor's cap (Coffin Eng. PLS 1292 2290).

Being a portion of the premises described in a deed to the Grantors and Linwood R. Card from Clifford R. Card and Elizabeth M. Card dated December 28, 1976 and recorded in Book 3957, Page 340 of the Cumberland County Registry of Deeds, further reference being made to a deed from said Linwood R. Card to the Grantors dated August 20, 1981 and recorded in Book 4844, Page 338 of the Cumberland County Registry of Deeds and a deed from the Grantors to themselves dated April 12, 1985 and recorded in Book 6739, Page 136 of the Cumberland County Registry of Deeds.

The above-described premises conveyed herein are conveyed together with (a) perpetual rights and easements for pedestrian and vehicular access to and from the above-described premises conveyed herein and adjoining premises of the Grantee hereinafter referred to, together with the right to construct, maintain, repair and replace a paved roadway, sidewalks and associated improvements thereto, location, identification and directional signs, together with lighting associated therewith, bus shelter, street lights, landscaping, including trees, and such other improvements relating to the Grantee's development of the premises conveyed herein and said adjoining premises of the Grantee, (b) perpetual rights and easements for the installation, maintenance, repair and replacement of stormwater/surface water collection and drainage facilities and the like to serve the above-described premises conveyed herein and said adjoining premises of the Grantee, (c) and perpetual rights and easements for the installation, maintenance, repair and replacement of utilities including, but not limited to, sewer lines, power lines, water lines, telephone lines, cable television lines and other communication lines, above and below ground, to serve the above-described premises conveyed herein and said adjoining premises of the Grantee, said perpetual rights and easements hereinabove described to be over, under and through that portion of the Grantors' remaining property comprising a 50 foot wide easement extending from the northwesterly side of Presumpscot Street to the southeasterly side of the above-described premises conveyed herein, said 50 foot wide easement being more particularly described as follows:

Beginning at an iron pin on the northwesterly right-of-way line of Presumpscot Street at the most southerly corner of land now or formerly of Drake as recorded in Book 13586, Page 45 of the Cumberland County Registry of Deeds;

Thence S 22° 34' 38" W along said northwesterly right-of-way line of Presumpscot Street a distance of 54.83 feet;

Thence N 43° 11' 10" W through land being retained by said Cards shown as "Lot 2 Land to be Reserved by Card 2.18 Acres" on said plan entitled "Recording Plat, Townhomes at

Ocean East" by Coffin Engineering Surveying dated July 17, 2002 and revised through May 14, 2003, a distance of 405.44 feet to the southeasterly side of the above described parcel;

Thence N 48° 22' 58" E along the above described parcel a distance of 50.02 feet;

Thence S 43° 11' 10" E through land being retained by said Cards shown as "Lot 2 Land to be Reserved by Card 2.18 Acres" on said plan entitled "Recording Plat, Townhomes at Ocean East" by Coffin Engineering Surveying dated July 17, 2002 and revised through May 14, 2003, a distance of 98.54 feet to an iron pin at the most westerly corner of said land now or formerly of Drake as recorded in Book 13586, Page 45 of the Cumberland County Registry of Deeds;

Thence S 43° 11' 10" E along said land now or formerly of Drake a distance of 283.02 feet back to the point of beginning.

Said perpetual rights and easements conveyed herein shall further include the right to temporarily utilize the remaining land of the Grantors immediately adjacent to said 50 foot wide easement as may be reasonably necessary in order to undertake any work within said 50 foot wide easement undertaken in connection with the exercise of the rights and easements granted herein provided, however, that the Grantee shall, following the completion of any such work, promptly repair any damage to the remaining land of the Grantors resulting from such work so as to restore said land to substantially to its prior condition. Provided further, however, that improvements such as sloping, stormwater/surface water collection and drainage facilities and the like related to the improvements constructed by the Grantee within the 50 foot wide easement and on the above-described premises conveyed herein and said adjoining premises of the Grantee in accordance with the approved plans of the Grantee's proposed development on the above-described premises conveyed herein and said adjoining premises of the Grantee shall be permitted to remain within the areas immediately adjacent to said 50 foot wide easement.

Said perpetual rights and easements conveyed herein shall further include the right to grant such rights and easements within said 50 foot wide easement to third parties including, but not limited to, utility and communication companies providing services to any development on the above-described premises conveyed herein and said adjoining premises of the Grantee, and to the City of Portland such as, for example, a sidewalk easement, as may be necessary in connection with the approval and development of the above-described premises conveyed herein and said adjoining premises of the Grantee, and the Grantors further agree, if requested by the Grantee or such third parties, to join in the such instruments granting of any such rights and easements.

Said perpetual rights and easements conveyed herein shall be appurtenant to and shall run with the above-described premises conveyed herein and said adjoining premises of the Grantee described in a Quitclaim Deed With Covenant from JMC Partners, LLC to the Grantee dated July 11, 2002 and recorded in Book 17840, Page 68 of the Cumberland County Registry of Deeds as they may be improved.

Reserving to the Grantors the right to use said 50 foot wide easement for pedestrian and vehicular access to and from the Grantors' remaining land adjacent thereto and for the installation, maintenance, repair and replacement of utilities including, but not limited to, sewer lines, power lines, water lines, telephone lines, cable television lines and other communication lines, above and below ground, to serve Grantors' remaining land adjacent thereto, provided, however, that the installation of such utilities does not interfere with or obstruct the use of said 50 foot wide easement by the Grantee in accordance with the rights and easements conveyed herein and provided further, however, that the Grantors, following the exercise of such reserved rights, shall promptly repair any damage to said 50 foot wide easement or to any facilities and improvements constructed or installed within or adjacent to said 50 foot wide easement by the Grantee, including without limitation the restoration of pavement, sidewalks, lawn and landscaping.

The Grantors agree that in the event they should commence regular use of the 50 foot wide easement for access to their remaining land adjacent thereto, they will contribute an equitable share of the costs and expenses associated with the usual and customary maintenance and repair of any road and sidewalk as may be constructed by the Grantee within said 50 foot wide easement as shall be fairly and reasonably determined and billed to the Grantors by the Grantee taking into account the nature and extent of the use of the road and sidewalk by the Grantors and the Grantee, which usual and customary maintenance and repair shall include snow and ice removal, resurfacing and such other maintenance as is necessary in order to permit regular and safe passage by vehicles and pedestrians. Provided further, however, that any such maintenance or repair necessitated by the act of either party or by the act of either party's employees, guests, invitees, contractors or agents which is not the result of normal wear and tear and is not due to a defective condition shall be borne solely by such party. Specifically, and not by way of limitation, if, during any period of construction on either party's land, damage to any portion of said road or sidewalk or facilities and improvements therein results from construction vehicles or equipment, or any other cause relating to such construction on such land, then the cost of repairing such damage shall be borne solely by the owner of such land.

Further reserving to the Grantors for the benefit of the Grantors' remaining land adjacent to the premises conveyed herein the right to connect with and use any sewer lines, power lines, water lines, stormwater drainage lines, telephone lines, cable television lines and other communication lines that may be installed by the Grantee in connection with the Grantee's development of the above-described premises conveyed herein and said adjoining premises of the Grantee (the "Utility Lines"), provided, however, that (a) the Grantors shall, prior to connecting with the Utility Lines, submit plans for such connection to the Grantee for review and approval, which approval shall not be unreasonably withheld, (b) such connection and use shall not, in the reasonable judgment of the Grantee, interfere with or obstruct the use of the Utility Lines serving the development on the above-described premises conveyed herein and said adjoining premises of the Grantee, (c) all costs and expenses associated with the Grantors' connection with the Utility Lines and the maintenance, repair and replacement of the connections thereto shall be borne by the Grantors, (d) the Grantors shall, prior to connecting with the Utility Lines, obtain all necessary permits and approvals from all necessary third parties with respect thereto including, but not limited to, amended site plan and subdivision approval from the City of

Portland, (e) the Grantors shall provide the Grantee with written confirmation from the utility and communication companies providing services through the Utility Lines that such services can be separately metered and charged to the Grantors, and (f) such services shall, in fact, be separately metered and charged to the Grantors. Provided, however, that the Grantors shall, following the completion of any such work, promptly repair any damage to the Utility Lines and to the Grantee's land resulting from such work at the Grantors' sole cost and expenses. Following any connection to the Utility Lines, the Grantors shall contribute an equitable share of the costs and expenses associated with the usual and customary maintenance, repair and replacement of any commonly used Utility Lines as shall be fairly and reasonably determined and billed to the Grantors by the Grantee, provided, however, that any such maintenance, repair or replacement necessitated by the act of either party or by the act of either party's employees, guests, invitees, contractors or agents which is not the result of normal wear and tear and is not due to a defective condition, shall be borne solely by such party.

The Grantee, by its acceptance of this deed, agrees that, provided there exist no material engineering or design impediments to doing so and provided all required permits and approvals to do so can be obtained, at such time as the Grantee installs sewer, water and stormwater drainage lines to serve the above-described premises conveyed herein, the Grantee shall (a) install "tee connections" from said sewer and water lines to as near as reasonably possible to the easterly side of that portion of the Grantors' retained property shown as "Lot 1 Land to be Reserved by Card 1.27 Acres" on said plan entitled "Recording Plat, Townhomes at Ocean East" by Coffin Engineering Surveying dated July 17, 2002 and revised through May 14, 2003 to which the Grantors can connect for sewer and water service to said Lot 1, and (b) install one or more "tee connections" from said sewer, water and stormwater drainage lines to which the Grantors can connect to serve that portion of the Grantors' retained property shown as "Lot 2 Land to be Reserved by Card 2.18 Acres" on said above-referenced plan. All costs and expenses associated with the installation of said "tee connections" including, but not limited to, the cost of all permits and approvals relating thereto, shall be borne by the Grantors and the Grantors' connection to said "tee connections" shall be subject to and in accordance with the terms and conditions of the Grantors' connection to the Utility Lines as set forth above. The Grantee's obligation to install such "tee connections" shall be subject to the following conditions:

a. Prior to the installation of said "tee connections", the Grantee shall submit an estimate to the Grantors summarizing the location and all costs and expenses associated therewith; and

b. The Grantors shall, within 30 days following the receipt of such estimate, pay all such costs and expenses to the Grantee by certified or bank check or wire transfer to an account designated by the Grantee, which payment shall be held by the Grantee in escrow to be used to pay all such costs and expenses.

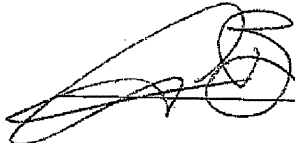
In the event the Grantors fail to pay such costs and expenses to the Grantee within 30 days following the Grantors' receipt of said estimate, the Grantee's obligation to install said "tee connections" to which said estimate relates shall terminate and be of no further force and effect.

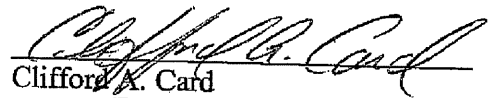
Nothing contained herein shall be deemed to create an obligation on the part of the Grantee to install said "tee connections" to serve the retained land of the Grantors, or any access road, sidewalk or utility lines to serve the above-described premises conveyed herein, at any particular time or on any particular schedule nor shall the Grantee be obligated to do so at all in the event the Grantee should decide not to proceed with the development of the above-described premises conveyed herein.

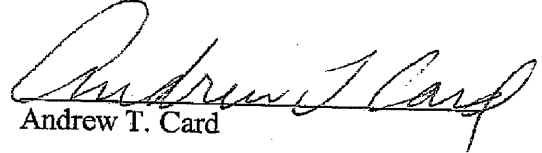
The rights and easements conveyed and reserved herein and the terms and conditions thereof shall be binding upon and shall inure to the benefit of the parties hereto, and their respective heirs, successors and assigns, and shall be appurtenant to and shall run with the above-described premises conveyed herein and said adjoining land of the Grantee and the remaining land of the Grantors in accordance with the terms and conditions thereof.

IN WITNESS WHEREOF, CLIFFORD A. CARD and ANDREW T. CARD have hereunto set their hands and seals as of the 24th day of June, 2003.

WITNESS:


_____ *Deedlers*
to note


Clifford A. Card

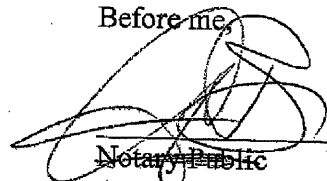

Andrew T. Card

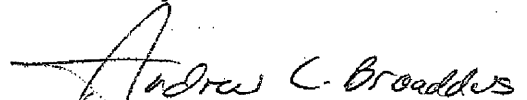
STATE OF MAINE
COUNTY OF CUMBERLAND, ss.

June 24, 2003

Then personally appeared the above-named Clifford A. Card and Andrew T. Card and acknowledged the foregoing instrument to be their free act and deed.

Before me,


Notary Public
Attorney At Law


Andrew C. Broadbent
Print name

Received
Recorded Register of Deeds
Jun 24 2003 01:11:44P
Cumberland County
John B. O'Brien



CLIENT/PROJECT:
GENERAL COURIER

LOCATION: 166 PRESUMPCOT STREET

TOWN: PORTLAND COUNTY: CUMBERLAND STATE: MAINE

Belanger ENGINEERING

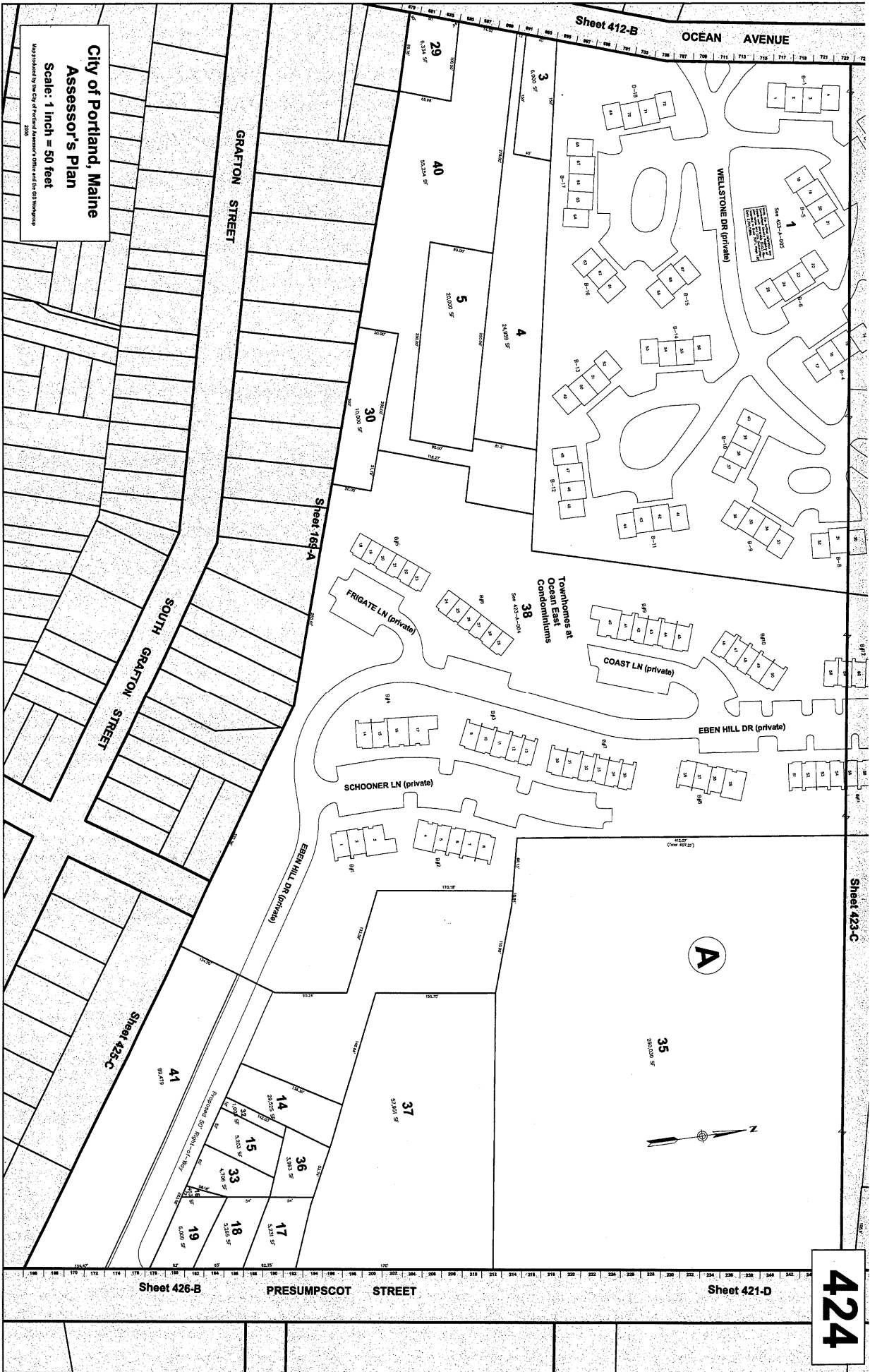
63 SECOND AVE., AUGUSTA, ME 04330
 Ph 207-622-1462 Email: cbelanger@adelphia.net

SHEET TITLE:
USGS MAP

SCALE: 1" = 2000'

APRIL 1, 2007

PROJ. NO 2004-420



City of Portland, Maine
 Assessor's Plan
 Scale: 1 inch = 50 feet
 Map produced by the City of Portland Assessor's Office and the GIS Workgroup
 2008

424



EXISTING BUILDING ABUTTING SITE



FED EX BUILDING ABUTTING SITE

CLIENT/PROJECT:

GENERAL COURIER

LOCATION: 166 PRESUMPCOT STREET

TOWN: PORTLAND COUNTY: CUMBERLAND STATE: MAINE



**Belanger
ENGINEERING**

63 SECOND AVE., AUGUSTA, ME 04330
Ph 207-622-1462 Email: cbelanger@adelphia.net

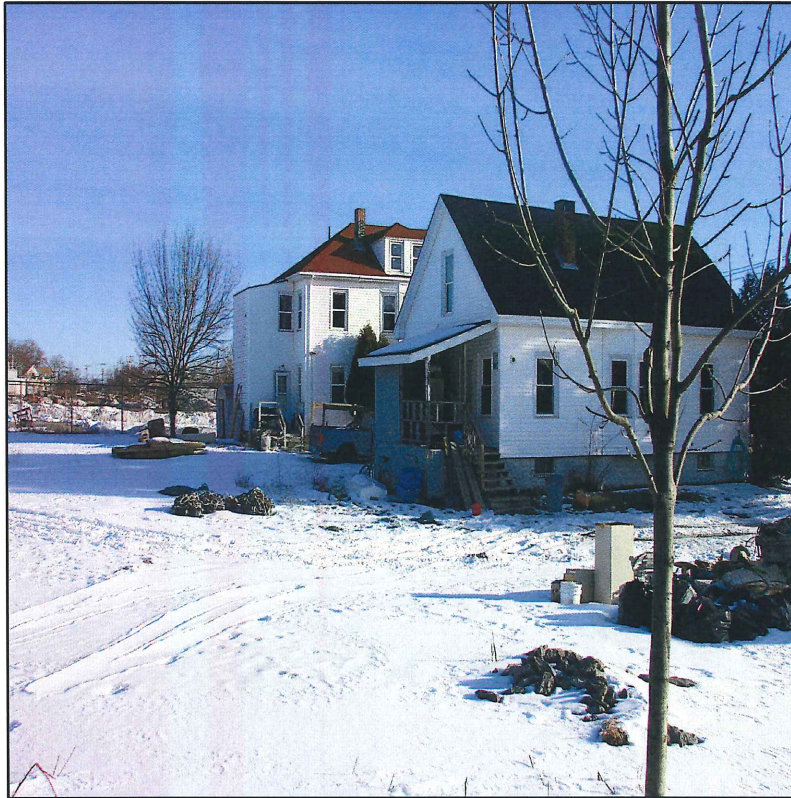
SHEET TITLE:

SITE PHOTOS

SCALE: **NONE**

APRIL 1, 2007

PROJ. NO 2004-420



EXISTING HOUSES BELOW SITE



FED EX BUILDING ABUTTING SITE

CLIENT/PROJECT:

GENERAL COURIER

LOCATION: **166 PRESUMPCOT STREET**

TOWN: **PORTLAND** COUNTY: **CUMBERLAND** STATE: **MAINE**



**Belanger
ENGINEERING**

63 SECOND AVE., AUGUSTA, ME 04330
Ph 207-622-1462 Email: cbelanger@adelphia.net

SHEET TITLE:

SITE PHOTOS

SCALE: **NONE**

APRIL 1, 2007

PROJ. NO. 2004-420



SITE PHOTOS LOOKING AT WET IMPACT AREA # 4-5



SITE PHOTOS LOOKING AT WET IMPACT AREA # 4-5

CLIENT/PROJECT:

GENERAL COURIER

LOCATION: **166 PRESUMPCOT STREET**

TOWN: **PORTLAND** COUNTY: **CUMBERLAND** STATE: **MAINE**



**Belanger
ENGINEERING**

63 SECOND AVE., AUGUSTA, ME 04330
Ph 207-622-1462 Email: cbelanger@adelphia.net

SHEET TITLE:

SITE PHOTOS

SCALE: **NONE**

APRIL 1, 2007

PROJ. NO: **2004-420**



SITE PHOTOS LOOKING AT WET IMPACT AREA # 1-3



SITE PHOTOS LOOKING AT WET IMPACT AREA # 1-3

CLIENT/PROJECT:

GENERAL COURIER

LOCATION: **166 PRESUMPCOT STREET**

TOWN: **PORTLAND** COUNTY: **CUMBERLAND** STATE: **MAINE**



**Belanger
ENGINEERING**

63 SECOND AVE., AUGUSTA, ME 04330
Ph 207-622-1462 Email: cbelanger@adelphia.net

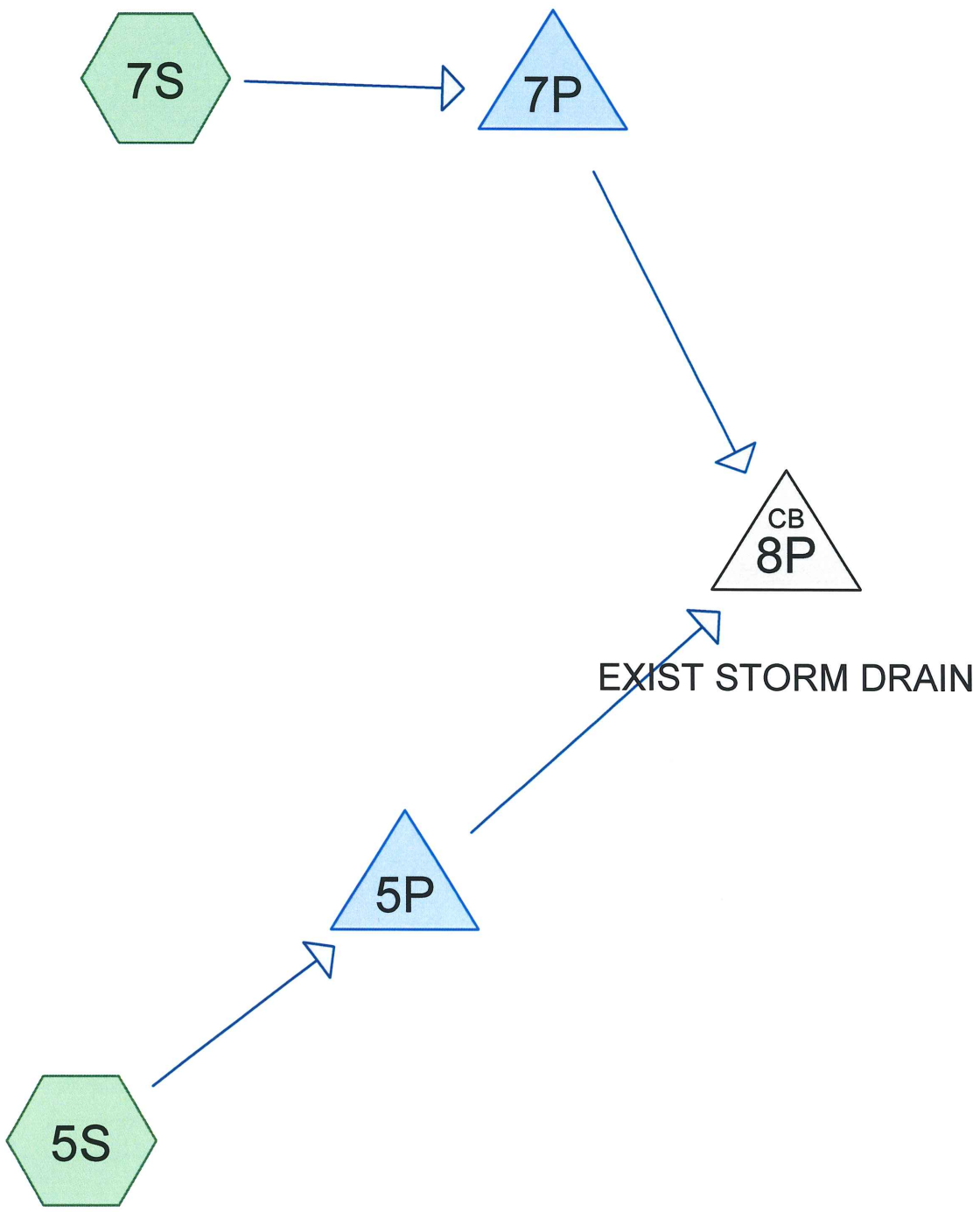
SHEET TITLE:

SITE PHOTOS

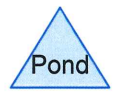
SCALE: **NONE**

APRIL 1, 2007

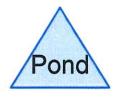
PROJ. NO. 2004-420



Subcat



Reach



Pond



Link

PRE

Type III 24-hr 2 YEAR Rainfall=3.00"

Prepared by Belanger Engineering

Page 2

HydroCAD® 7.10 s/n 002780 © 2005 HydroCAD Software Solutions LLC

4/2/2007 10:53:25 PM

Subcatchment 5S:

Runoff = 0.42 cfs @ 12.86 hrs, Volume= 0.072 af, Depth> 0.76"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 YEAR Rainfall=3.00"

Area (sf)	CN	Description			
49,962	73	Brush, Good, HSG D			
Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
38.6	100	0.0200	0.0		Sheet Flow, AB Woods: Dense underbrush n= 0.800 P2= 3.00"
19.4	411	0.0200	0.4		Shallow Concentrated Flow, BC Forest w/Heavy Litter Kv= 2.5 fps
58.0	511	Total			

Subcatchment 7S:

Runoff = 1.52 cfs @ 12.71 hrs, Volume= 0.229 af, Depth> 1.02"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 YEAR Rainfall=3.00"

Area (sf)	CN	Description			
60,154	73	Brush, Good, HSG D			
45,300	80	>75% Grass cover, Good, HSG D			
7,500	98	EXISTING PAVED / BUILDINGS			
5,000	80	EXISTING NON-PAVED AREA			
117,954	78	Weighted Average			
Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
32.8	100	0.0300	0.1		Sheet Flow, AB Woods: Dense underbrush n= 0.800 P2= 3.00"
16.7	433	0.0300	0.4		Shallow Concentrated Flow, BC Forest w/Heavy Litter Kv= 2.5 fps
49.5	533	Total			

Pond 5P:

Inflow Area = 1.147 ac, Inflow Depth > 0.76" for 2 YEAR event

Inflow = 0.42 cfs @ 12.86 hrs, Volume= 0.072 af

Outflow = 0.22 cfs @ 13.55 hrs, Volume= 0.071 af, Atten= 47%, Lag= 41.6 min

Primary = 0.22 cfs @ 13.55 hrs, Volume= 0.071 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

PRE

Type III 24-hr 2 YEAR Rainfall=3.00"

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Peak Elev= 29.45' @ 13.55 hrs Surf.Area= 3,274 sf Storage= 762 cf
 Plug-Flow detention time=42.7 min calculated for 0.071 af (98% of inflow)
 Center-of-Mass det. time= 36.4 min (899.2 - 862.8)

Volume	Invert	Avail.Storage	Storage Description
#1	29.00'	12,970 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
29.00	110	0	0
30.00	7,136	3,623	3,623
31.00	11,558	9,347	12,970

Device	Routing	Invert	Outlet Devices
#1	Primary	29.00'	4.0" x 55.0' long Culvert CPP, square edge headwall, Ke= 0.500 Outlet Invert= 24.30' S= 0.0855 '/ Cc= 0.900 n= 0.010 PVC, smooth interior

Primary OutFlow Max=0.22 cfs @ 13.55 hrs HW=29.45' (Free Discharge)
 1=Culvert (Inlet Controls 0.22 cfs @ 2.6 fps)

Pond 7P:

Inflow Area = 2.708 ac, Inflow Depth > 1.02" for 2 YEAR event
 Inflow = 1.52 cfs @ 12.71 hrs, Volume= 0.229 af
 Outflow = 1.23 cfs @ 13.01 hrs, Volume= 0.229 af, Atten= 19%, Lag= 17.8 min
 Primary = 1.23 cfs @ 13.01 hrs, Volume= 0.229 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Peak Elev= 24.58' @ 13.01 hrs Surf.Area= 1,433 sf Storage= 2,022 cf
 Plug-Flow detention time=27.5 min calculated for 0.229 af (100% of inflow)
 Center-of-Mass det. time= 26.4 min (871.0 - 844.6)

Volume	Invert	Avail.Storage	Storage Description
#1	22.00'	2,655 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
22.00	110	0	0
23.00	600	355	355
24.00	1,200	900	1,255
25.00	1,600	1,400	2,655

Device	Routing	Invert	Outlet Devices
#1	Primary	22.00'	4.0" x 30.0' long Culvert CPP, square edge headwall, Ke= 0.500 Outlet Invert= 21.00' S= 0.0333 '/ Cc= 0.900 n= 0.010 PVC, smooth interior
#2	Primary	24.50'	10.0' long x 10.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

PRE

Type III 24-hr 2 YEAR Rainfall=3.00"

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Primary OutFlow Max=1.22 cfs @ 13.01 hrs HW=24.58' (Free Discharge)

└─1=Culvert (Barrel Controls 0.64 cfs @ 7.3 fps)

└─2=Broad-Crested Rectangular Weir (Weir Controls 0.58 cfs @ 0.7 fps)

Pond 8P: EXIST STORM DRAIN

Inflow Area = 3.855 ac, Inflow Depth > 0.93" for 2 YEAR event

Inflow = 1.43 cfs @ 13.01 hrs, Volume= 0.300 af

Outflow = 1.43 cfs @ 13.01 hrs, Volume= 0.300 af, Atten= 0%, Lag= 0.0 min

Primary = 1.43 cfs @ 13.01 hrs, Volume= 0.300 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Peak Elev= 20.96' @ 13.01 hrs

Flood Elev= 24.83'

Plug-Flow detention time=0.0 min calculated for 0.299 af (100% of inflow)

Center-of-Mass det. time=0.0 min (877.7 - 877.7)

Device	Routing	Invert	Outlet Devices
#1	Primary	20.40'	16.0" x 50.0' long Culvert CPP, square edge headwall, Ke= 0.500 Outlet Invert= 19.90' S= 0.0100 '/' Cc= 0.900 n= 0.010 PVC, smooth interior

Primary OutFlow Max=1.42 cfs @ 13.01 hrs HW=20.96' (Free Discharge)

└─1=Culvert (Inlet Controls 1.42 cfs @ 2.5 fps)

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Type III 24-hr 10 YEAR Rainfall=4.70"

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Subcatchment 5S:

Runoff = 1.09 cfs @ 12.82 hrs, Volume= 0.177 af, Depth> 1.85"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 YEAR Rainfall=4.70"

Area (sf)	CN	Description
49,962	73	Brush, Good, HSG D

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
38.6	100	0.0200	0.0		Sheet Flow, AB Woods: Dense underbrush n= 0.800 P2= 3.00"
19.4	411	0.0200	0.4		Shallow Concentrated Flow, BC Forest w/Heavy Litter Kv= 2.5 fps
58.0	511	Total			

Subcatchment 7S:

Runoff = 3.43 cfs @ 12.69 hrs, Volume= 0.508 af, Depth> 2.25"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 YEAR Rainfall=4.70"

Area (sf)	CN	Description
60,154	73	Brush, Good, HSG D
45,300	80	>75% Grass cover, Good, HSG D
7,500	98	EXISTING PAVED / BUILDINGS
5,000	80	EXISTING NON-PAVED AREA
117,954	78	Weighted Average

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
32.8	100	0.0300	0.1		Sheet Flow, AB Woods: Dense underbrush n= 0.800 P2= 3.00"
16.7	433	0.0300	0.4		Shallow Concentrated Flow, BC Forest w/Heavy Litter Kv= 2.5 fps
49.5	533	Total			

Pond 5P:

Inflow Area = 1.147 ac, Inflow Depth > 1.85" for 10 YEAR event

Inflow = 1.09 cfs @ 12.82 hrs, Volume= 0.177 af

Outflow = 0.36 cfs @ 13.92 hrs, Volume= 0.173 af, Atten= 67%, Lag= 66.1 min

Primary = 0.36 cfs @ 13.92 hrs, Volume= 0.173 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

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Type III 24-hr 10 YEAR Rainfall=4.70"

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Peak Elev= 29.89' @ 13.92 hrs Surf.Area= 6,331 sf Storage= 2,851 cf
 Plug-Flow detention time=92.5 min calculated for 0.173 af (98% of inflow)
 Center-of-Mass det. time=85.6 min (929.8 - 844.1)

Volume	Invert	Avail.Storage	Storage Description
#1	29.00'	12,970 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
29.00	110	0	0
30.00	7,136	3,623	3,623
31.00	11,558	9,347	12,970

Device	Routing	Invert	Outlet Devices
#1	Primary	29.00'	4.0" x 55.0' long Culvert CPP, square edge headwall, Ke= 0.500 Outlet Invert= 24.30' S= 0.0855 '/ Cc= 0.900 n= 0.010 PVC, smooth interior

Primary OutFlow Max=0.36 cfs @ 13.92 hrs HW=29.89' (Free Discharge)
 ←1=Culvert (Inlet Controls 0.36 cfs @ 4.1 fps)

Pond 7P:

Inflow Area = 2.708 ac, Inflow Depth > 2.25" for 10 YEAR event
 Inflow = 3.43 cfs @ 12.69 hrs, Volume= 0.508 af
 Outflow = 3.42 cfs @ 12.71 hrs, Volume= 0.507 af, Atten= 0%, Lag= 1.3 min
 Primary = 3.42 cfs @ 12.71 hrs, Volume= 0.507 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Peak Elev= 24.73' @ 12.71 hrs Surf.Area= 1,492 sf Storage= 2,238 cf
 Plug-Flow detention time=22.5 min calculated for 0.505 af (99% of inflow)
 Center-of-Mass det. time=21.5 min (849.2 - 827.7)

Volume	Invert	Avail.Storage	Storage Description
#1	22.00'	2,655 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
22.00	110	0	0
23.00	600	355	355
24.00	1,200	900	1,255
25.00	1,600	1,400	2,655

Device	Routing	Invert	Outlet Devices
#1	Primary	22.00'	4.0" x 30.0' long Culvert CPP, square edge headwall, Ke= 0.500 Outlet Invert= 21.00' S= 0.0333 '/ Cc= 0.900 n= 0.010 PVC, smooth interior
#2	Primary	24.50'	10.0' long x 10.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

PRE

Type III 24-hr 10 YEAR Rainfall=4.70"

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Primary OutFlow Max=3.41 cfs @ 12.71 hrs HW=24.73' (Free Discharge)

└─1=Culvert (Barrel Controls 0.65 cfs @ 7.5 fps)

└─2=Broad-Crested Rectangular Weir (Weir Controls 2.76 cfs @ 1.2 fps)

Pond 8P: EXIST STORM DRAIN

Inflow Area = 3.855 ac, Inflow Depth > 2.12" for 10 YEAR event

Inflow = 3.68 cfs @ 12.72 hrs, Volume= 0.680 af

Outflow = 3.68 cfs @ 12.72 hrs, Volume= 0.680 af, Atten= 0%, Lag= 0.0 min

Primary = 3.68 cfs @ 12.72 hrs, Volume= 0.680 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Peak Elev= 21.38' @ 12.72 hrs

Flood Elev= 24.83'

Plug-Flow detention time=0.0 min calculated for 0.680 af (100% of inflow)

Center-of-Mass det. time=0.0 min (869.7 - 869.7)

Device	Routing	Invert	Outlet Devices
#1	Primary	20.40'	16.0" x 50.0' long Culvert CPP, square edge headwall, Ke= 0.500 Outlet Invert= 19.90' S= 0.0100 1/8" Cc= 0.900 n= 0.010 PVC, smooth interior

Primary OutFlow Max=3.67 cfs @ 12.72 hrs HW=21.37' (Free Discharge)

└─1=Culvert (Inlet Controls 3.67 cfs @ 3.4 fps)

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Type III 24-hr 25 YEAR Rainfall=5.50"

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Subcatchment 5S:

Runoff = 1.44 cfs @ 12.81 hrs, Volume= 0.233 af, Depth> 2.44"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 YEAR Rainfall=5.50"

Area (sf)	CN	Description
49,962	73	Brush, Good, HSG D

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
38.6	100	0.0200	0.0		Sheet Flow, AB Woods: Dense underbrush n= 0.800 P2= 3.00"
19.4	411	0.0200	0.4		Shallow Concentrated Flow, BC Forest w/Heavy Litter Kv= 2.5 fps
58.0	511	Total			

Subcatchment 7S:

Runoff = 4.38 cfs @ 12.68 hrs, Volume= 0.652 af, Depth> 2.89"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 YEAR Rainfall=5.50"

Area (sf)	CN	Description
60,154	73	Brush, Good, HSG D
45,300	80	>75% Grass cover, Good, HSG D
7,500	98	EXISTING PAVED / BUILDINGS
5,000	80	EXISTING NON-PAVED AREA
117,954	78	Weighted Average

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
32.8	100	0.0300	0.1		Sheet Flow, AB Woods: Dense underbrush n= 0.800 P2= 3.00"
16.7	433	0.0300	0.4		Shallow Concentrated Flow, BC Forest w/Heavy Litter Kv= 2.5 fps
49.5	533	Total			

Pond 5P:

Inflow Area = 1.147 ac, Inflow Depth > 2.44" for 25 YEAR event
 Inflow = 1.44 cfs @ 12.81 hrs, Volume= 0.233 af
 Outflow = 0.40 cfs @ 14.07 hrs, Volume= 0.221 af, Atten= 72%, Lag= 75.9 min
 Primary = 0.40 cfs @ 14.07 hrs, Volume= 0.221 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

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Type III 24-hr 25 YEAR Rainfall=5.50"

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Peak Elev= 30.07' @ 14.07 hrs Surf.Area= 7,459 sf Storage= 4,156 cf
 Plug-Flow detention time=120.7 min calculated for 0.220 af (95% of inflow)
 Center-of-Mass det. time= 104.0 min (942.4 - 838.4)

Volume	Invert	Avail.Storage	Storage Description
#1	29.00'	12,970 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
29.00	110	0	0
30.00	7,136	3,623	3,623
31.00	11,558	9,347	12,970

Device	Routing	Invert	Outlet Devices
#1	Primary	29.00'	4.0" x 55.0' long Culvert CPP, square edge headwall, Ke= 0.500 Outlet Invert= 24.30' S= 0.0855 '/ Cc= 0.900 n= 0.010 PVC, smooth interior

Primary OutFlow Max=0.40 cfs @ 14.07 hrs HW=30.07' (Free Discharge)
 1=Culvert (Inlet Controls 0.40 cfs @ 4.6 fps)

Pond 7P:

Inflow Area = 2.708 ac, Inflow Depth > 2.89" for 25 YEAR event
 Inflow = 4.38 cfs @ 12.68 hrs, Volume= 0.652 af
 Outflow = 4.38 cfs @ 12.70 hrs, Volume= 0.650 af, Atten= 0%, Lag= 1.1 min
 Primary = 4.38 cfs @ 12.70 hrs, Volume= 0.650 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Peak Elev= 24.78' @ 12.70 hrs Surf.Area= 1,512 sf Storage= 2,311 cf
 Plug-Flow detention time=20.9 min calculated for 0.650 af (100% of inflow)
 Center-of-Mass det. time= 20.0 min (842.2 - 822.2)

Volume	Invert	Avail.Storage	Storage Description
#1	22.00'	2,655 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
22.00	110	0	0
23.00	600	355	355
24.00	1,200	900	1,255
25.00	1,600	1,400	2,655

Device	Routing	Invert	Outlet Devices
#1	Primary	22.00'	4.0" x 30.0' long Culvert CPP, square edge headwall, Ke= 0.500 Outlet Invert= 21.00' S= 0.0333 '/ Cc= 0.900 n= 0.010 PVC, smooth interior
#2	Primary	24.50'	10.0' long x 10.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

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Type III 24-hr 25 YEAR Rainfall=5.50"

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Primary OutFlow Max=4.37 cfs @ 12.70 hrs HW=24.78' (Free Discharge)

└─1=Culvert (Barrel Controls 0.66 cfs @ 7.5 fps)

└─2=Broad-Crested Rectangular Weir (Weir Controls 3.71 cfs @ 1.3 fps)

Pond 8P: EXIST STORM DRAIN

Inflow Area = 3.855 ac, Inflow Depth > 2.71" for 25 YEAR event

Inflow = 4.67 cfs @ 12.71 hrs, Volume= 0.871 af

Outflow = 4.67 cfs @ 12.71 hrs, Volume= 0.871 af, Atten= 0%, Lag= 0.0 min

Primary = 4.67 cfs @ 12.71 hrs, Volume= 0.871 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Peak Elev= 21.55' @ 12.71 hrs

Flood Elev= 24.83'

Plug-Flow detention time=0.0 min calculated for 0.868 af (100% of inflow)

Center-of-Mass det. time=(not calculated: outflow precedes inflow)

Device	Routing	Invert	Outlet Devices
#1	Primary	20.40'	16.0" x 50.0' long Culvert CPP, square edge headwall, Ke= 0.500 Outlet Invert= 19.90' S= 0.0100 '/' Cc= 0.900 n= 0.010 PVC, smooth interior

Primary OutFlow Max=4.67 cfs @ 12.71 hrs HW=21.55' (Free Discharge)

└─1=Culvert (Inlet Controls 4.67 cfs @ 3.6 fps)

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Type III 24-hr 100 YEAR Rainfall=6.70"

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Subcatchment 5S:

Runoff = 1.98 cfs @ 12.80 hrs, Volume= 0.322 af, Depth> 3.37"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 YEAR Rainfall=6.70"

Area (sf)	CN	Description			
49,962	73	Brush, Good, HSG D			
Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
38.6	100	0.0200	0.0		Sheet Flow, AB Woods: Dense underbrush n= 0.800 P2= 3.00"
19.4	411	0.0200	0.4		Shallow Concentrated Flow, BC Forest w/Heavy Litter Kv= 2.5 fps
58.0	511	Total			

Subcatchment 7S:

Runoff = 5.86 cfs @ 12.68 hrs, Volume= 0.877 af, Depth> 3.88"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 YEAR Rainfall=6.70"

Area (sf)	CN	Description			
60,154	73	Brush, Good, HSG D			
45,300	80	>75% Grass cover, Good, HSG D			
7,500	98	EXISTING PAVED / BUILDINGS			
5,000	80	EXISTING NON-PAVED AREA			
117,954	78	Weighted Average			
Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
32.8	100	0.0300	0.1		Sheet Flow, AB Woods: Dense underbrush n= 0.800 P2= 3.00"
16.7	433	0.0300	0.4		Shallow Concentrated Flow, BC Forest w/Heavy Litter Kv= 2.5 fps
49.5	533	Total			

Pond 5P:

Inflow Area = 1.147 ac, Inflow Depth > 3.37" for 100 YEAR event

Inflow = 1.98 cfs @ 12.80 hrs, Volume= 0.322 af

Outflow = 0.46 cfs @ 14.28 hrs, Volume= 0.276 af, Atten= 77%, Lag= 89.2 min

Primary = 0.46 cfs @ 14.28 hrs, Volume= 0.276 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

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Type III 24-hr 100 YEAR Rainfall=6.70"

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Peak Elev= 30.35' @ 14.28 hrs Surf.Area= 8,672 sf Storage= 6,369 cf
 Plug-Flow detention time=152.7 min calculated for 0.276 af (86% of inflow)
 Center-of-Mass det. time= 114.1 min (945.5 - 831.4)

Volume	Invert	Avail.Storage	Storage Description
#1	29.00'	12,970 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
29.00	110	0	0
30.00	7,136	3,623	3,623
31.00	11,558	9,347	12,970

Device	Routing	Invert	Outlet Devices
#1	Primary	29.00'	4.0" x 55.0' long Culvert CPP, square edge headwall, Ke= 0.500 Outlet Invert= 24.30' S= 0.0855 '/ Cc= 0.900 n= 0.010 PVC, smooth interior

Primary OutFlow Max=0.46 cfs @ 14.28 hrs HW=30.35' (Free Discharge)
 1=Culvert (Inlet Controls 0.46 cfs @ 5.2 fps)

Pond 7P:

Inflow Area = 2.708 ac, Inflow Depth > 3.88" for 100 YEAR event
 Inflow = 5.86 cfs @ 12.68 hrs, Volume= 0.877 af
 Outflow = 5.85 cfs @ 12.69 hrs, Volume= 0.874 af, Atten= 0%, Lag= 0.9 min
 Primary = 5.85 cfs @ 12.69 hrs, Volume= 0.874 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Peak Elev= 24.85' @ 12.69 hrs Surf.Area= 1,539 sf Storage= 2,414 cf
 Plug-Flow detention time=19.2 min calculated for 0.871 af (99% of inflow)
 Center-of-Mass det. time= 18.1 min (833.7 - 815.6)

Volume	Invert	Avail.Storage	Storage Description
#1	22.00'	2,655 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
22.00	110	0	0
23.00	600	355	355
24.00	1,200	900	1,255
25.00	1,600	1,400	2,655

Device	Routing	Invert	Outlet Devices
#1	Primary	22.00'	4.0" x 30.0' long Culvert CPP, square edge headwall, Ke= 0.500 Outlet Invert= 21.00' S= 0.0333 '/ Cc= 0.900 n= 0.010 PVC, smooth interior
#2	Primary	24.50'	10.0' long x 10.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

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Type III 24-hr 100 YEAR Rainfall=6.70"

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Primary OutFlow Max=5.84 cfs @ 12.69 hrs HW=24.85' (Free Discharge)

└─1=Culvert (Barrel Controls 0.66 cfs @ 7.6 fps)

└─2=Broad-Crested Rectangular Weir (Weir Controls 5.18 cfs @ 1.5 fps)

Pond 8P: EXIST STORM DRAIN

Inflow Area = 3.855 ac, Inflow Depth > 3.58" for 100 YEAR event

Inflow = 6.19 cfs @ 12.70 hrs, Volume= 1.150 af

Outflow = 6.19 cfs @ 12.70 hrs, Volume= 1.150 af, Atten= 0%, Lag= 0.0 min

Primary = 6.19 cfs @ 12.70 hrs, Volume= 1.150 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Peak Elev= 21.91' @ 12.70 hrs

Flood Elev= 24.83'

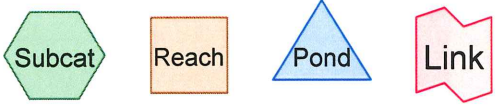
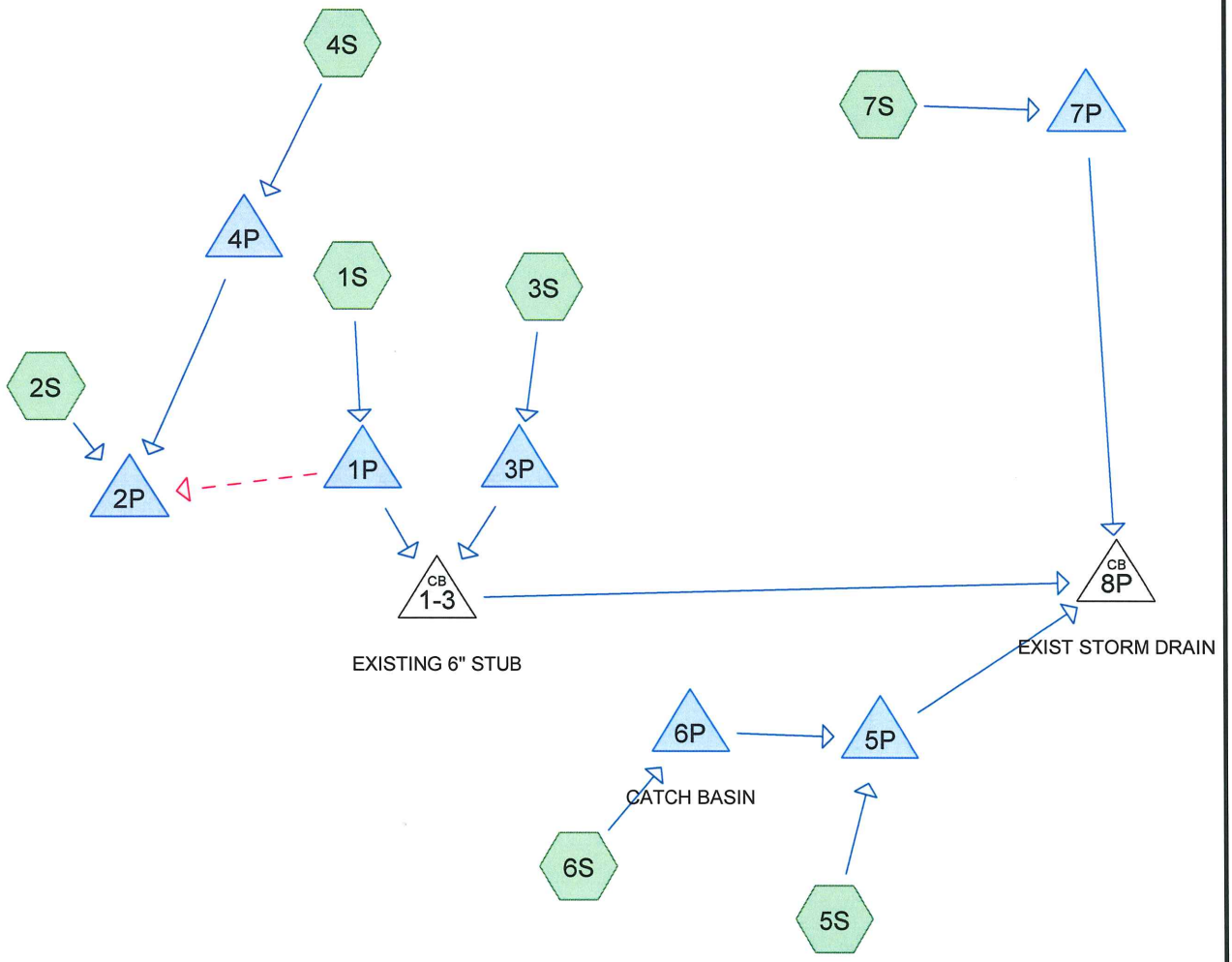
Plug-Flow detention time=0.0 min calculated for 1.146 af (100% of inflow)

Center-of-Mass det. time=(not calculated: outflow precedes inflow)

Device	Routing	Invert	Outlet Devices
#1	Primary	20.40'	16.0" x 50.0' long Culvert CPP, square edge headwall, Ke= 0.500 Outlet Invert= 19.90' S= 0.0100 '/' Cc= 0.900 n= 0.010 PVC, smooth interior

Primary OutFlow Max=6.19 cfs @ 12.70 hrs HW=21.91' (Free Discharge)

└─1=Culvert (Inlet Controls 6.19 cfs @ 4.4 fps)



Drainage Diagram for POST
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Type III 24-hr 2 YEAR Rainfall=3.00"

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Subcatchment 1S:

Runoff = 0.31 cfs @ 12.01 hrs, Volume= 0.019 af, Depth> 2.32"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 YEAR Rainfall=3.00"

Area (sf)	CN	Description
3,590	98	PAVED / POND
771	80	>75% Grass cover, Good, HSG D
4,361	95	Weighted Average

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.6	44	0.0200	1.1		Sheet Flow, AB Smooth surfaces n= 0.011 P2= 3.00"

Subcatchment 2S:

Runoff = 0.79 cfs @ 12.60 hrs, Volume= 0.108 af, Depth> 1.14"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 YEAR Rainfall=3.00"

Area (sf)	CN	Description
28,704	73	Brush, Good, HSG D
5,000	98	EXISTING PAVEMENT
5,000	80	EXISTING NON-PAVED AREA
6,000	80	PROPOSED NON-PAVED DEV AREA
4,908	98	PAVEMENT, ROOFS
49,612	80	Weighted Average

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
38.6	100	0.0200	0.0		Sheet Flow, AB Woods: Dense underbrush n= 0.800 P2= 3.00"
2.9	86	0.0400	0.5		Shallow Concentrated Flow, BC Forest w/Heavy Litter Kv= 2.5 fps
41.5	186	Total			

Subcatchment 3S:

Runoff = 0.29 cfs @ 12.09 hrs, Volume= 0.019 af, Depth> 1.34"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 YEAR Rainfall=3.00"

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Type III 24-hr 2 YEAR Rainfall=3.00"

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Area (sf)	CN	Description
538	73	Brush, Good, HSG D
5,391	80	PROP NON-PAVED DEV AREA
1,547	98	ROOF AND WALK
7,476	83	Weighted Average

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.7	50	0.0600	0.2		Sheet Flow, AB Grass: Short n= 0.150 P2= 3.00"
1.8	165	0.0100	1.5		Shallow Concentrated Flow, BC Grassed Waterway Kv= 15.0 fps
5.5	215	Total			

Subcatchment 4S:

Runoff = 0.46 cfs @ 12.37 hrs, Volume= 0.051 af, Depth> 1.47"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 YEAR Rainfall=3.00"

Area (sf)	CN	Description
5,584	73	Brush, Good, HSG D
5,094	80	PROPOSED NON PAVED DEVELOPED AREA
7,410	98	PAVEMENT, ROOFS, WALKS
18,088	85	Weighted Average

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
24.9	100	0.0600	0.1		Sheet Flow, AB Woods: Dense underbrush n= 0.800 P2= 3.00"
1.4	174	0.0200	2.1		Shallow Concentrated Flow, BC Grassed Waterway Kv= 15.0 fps
26.3	274	Total			

Subcatchment 5S:

Runoff = 0.37 cfs @ 12.86 hrs, Volume= 0.064 af, Depth> 0.76"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 YEAR Rainfall=3.00"

Area (sf)	CN	Description
41,329	73	Brush, Good, HSG D
3,015	80	PROP NON-PAVED DEV AREA
44,344	73	Weighted Average

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Type III 24-hr 2 YEAR Rainfall=3.00"

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Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
38.6	100	0.0200	0.0		Sheet Flow, AB Woods: Dense underbrush n= 0.800 P2= 3.00"
19.4	411	0.0200	0.4		Shallow Concentrated Flow, BC Forest w/Heavy Litter Kv= 2.5 fps
58.0	511	Total			

Subcatchment 6S:

Runoff = 0.38 cfs @ 12.01 hrs, Volume= 0.025 af, Depth> 2.59"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 YEAR Rainfall=3.00"

Area (sf)	CN	Description
5,015	98	PAVED

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.7	45	0.0200	1.1		Sheet Flow, AB Smooth surfaces n= 0.011 P2= 3.00"

Subcatchment 7S:

Runoff = 1.04 cfs @ 12.34 hrs, Volume= 0.110 af, Depth> 1.20"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 YEAR Rainfall=3.00"

Area (sf)	CN	Description
45,300	80	>75% Grass cover, Good, HSG D
2,500	98	PAVED / ROOFS
47,800	81	Weighted Average

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
22.6	100	0.0200	0.1		Sheet Flow, AB Grass: Bermuda n= 0.410 P2= 3.00"
1.2	186	0.0300	2.6		Shallow Concentrated Flow, BC Grassed Waterway Kv= 15.0 fps
23.8	286	Total			

Pond 1-3: EXISTING 6" STUB

Inflow Area = 0.272 ac, Inflow Depth > 1.68" for 2 YEAR event
 Inflow = 0.43 cfs @ 12.11 hrs, Volume= 0.038 af
 Outflow = 0.43 cfs @ 12.11 hrs, Volume= 0.038 af, Atten= 0%, Lag= 0.0 min
 Primary = 0.43 cfs @ 12.11 hrs, Volume= 0.038 af

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Type III 24-hr 2 YEAR Rainfall=3.00"

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Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Peak Elev= 31.45' @ 12.11 hrs

Plug-Flow detention time=(not calculated: outflow precedes inflow)

Center-of-Mass det. time=0.0 min (785.9 - 785.9)

Device	Routing	Invert	Outlet Devices
#1	Primary	31.00'	6.0" x 30.0' long Culvert CPP, square edge headwall, Ke= 0.500 Outlet Invert= 30.70' S= 0.0100 '/ Cc= 0.900 n= 0.010 PVC, smooth interior

Primary OutFlow Max=0.42 cfs @ 12.11 hrs HW=31.45' (Free Discharge)

└─1=Culvert (Inlet Controls 0.42 cfs @ 2.3 fps)

Pond 1P:

Inflow Area = 0.100 ac, Inflow Depth > 2.32" for 2 YEAR event

Inflow = 0.31 cfs @ 12.01 hrs, Volume= 0.019 af

Outflow = 0.24 cfs @ 12.06 hrs, Volume= 0.019 af, Atten= 24%, Lag= 3.4 min

Primary = 0.24 cfs @ 12.06 hrs, Volume= 0.019 af

Secondary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Peak Elev= 33.35' @ 12.06 hrs Surf.Area= 305 sf Storage= 101 cf

Plug-Flow detention time=18.4 min calculated for 0.019 af (98% of inflow)

Center-of-Mass det. time= 13.2 min (763.8 - 750.6)

Volume	Invert	Avail.Storage	Storage Description
#1	33.00'	1,571 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
33.00	267	0	0
34.00	376	322	322
35.00	595	486	807
36.00	932	764	1,571

Device	Routing	Invert	Outlet Devices
#1	Primary	33.00'	6.0" x 15.0' long Culvert CPP, projecting, no headwall, Ke= 0.900 Outlet Invert= 31.00' S= 0.1333 '/ Cc= 0.900 n= 0.010 PVC, smooth interior
#2	Secondary	35.00'	6.0" x 50.0' long Culvert CPP, projecting, no headwall, Ke= 0.900 Outlet Invert= 34.50' S= 0.0100 '/ Cc= 0.900 n= 0.010 PVC, smooth interior

Primary OutFlow Max=0.23 cfs @ 12.06 hrs HW=33.35' (Free Discharge)

└─1=Culvert (Inlet Controls 0.23 cfs @ 1.6 fps)

Secondary OutFlow Max=0.00 cfs @ 5.00 hrs HW=33.00' (Free Discharge)

└─2=Culvert (Controls 0.00 cfs)

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Type III 24-hr 2 YEAR Rainfall=3.00"

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Pond 2P:

Inflow Area = 1.554 ac, Inflow Depth > 1.22" for 2 YEAR event
 Inflow = 1.18 cfs @ 12.51 hrs, Volume= 0.158 af
 Outflow = 0.89 cfs @ 12.81 hrs, Volume= 0.158 af, Atten= 25%, Lag= 18.1 min
 Primary = 0.89 cfs @ 12.81 hrs, Volume= 0.158 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Peak Elev= 34.63' @ 12.81 hrs Surf.Area= 1,332 sf Storage= 813 cf
 Plug-Flow detention time=9.5 min calculated for 0.157 af (99% of inflow)
 Center-of-Mass det. time= 8.2 min (834.7 - 826.5)

Volume	Invert	Avail.Storage	Storage Description
#1	33.50'	4,690 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
33.50	110	0	0
35.00	1,736	1,385	1,385
36.00	4,875	3,306	4,690

Device	Routing	Invert	Outlet Devices
#1	Primary	33.40'	12.0" x 30.0' long Culvert CPP, square edge headwall, Ke= 0.500 Outlet Invert= 33.10' S= 0.0100 '/' Cc= 0.900 n= 0.010 PVC, smooth interior
#2	Device 1	33.50'	6.0" Vert. Orifice/Grate C= 0.600
#3	Device 1	35.50'	24.0" Horiz. Orifice/Grate Limited to weir flow C= 0.600

Primary OutFlow Max=0.89 cfs @ 12.81 hrs HW=34.63' (Free Discharge)

- 1=Culvert (Passes 0.89 cfs of 3.22 cfs potential flow)
- 2=Orifice/Grate (Orifice Controls 0.89 cfs @ 4.5 fps)
- 3=Orifice/Grate (Controls 0.00 cfs)

Pond 3P:

Inflow Area = 0.172 ac, Inflow Depth > 1.34" for 2 YEAR event
 Inflow = 0.29 cfs @ 12.09 hrs, Volume= 0.019 af
 Outflow = 0.23 cfs @ 12.16 hrs, Volume= 0.019 af, Atten= 21%, Lag= 4.1 min
 Primary = 0.23 cfs @ 12.16 hrs, Volume= 0.019 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Peak Elev= 31.80' @ 12.16 hrs Surf.Area= 416 sf Storage= 101 cf
 Plug-Flow detention time= 15.3 min calculated for 0.019 af (99% of inflow)
 Center-of-Mass det. time= 10.1 min (808.1 - 798.0)

Volume	Invert	Avail.Storage	Storage Description
#1	31.50'	983 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
31.50	258	0	0
33.00	1,052	983	983

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Type III 24-hr 2 YEAR Rainfall=3.00"

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Device	Routing	Invert	Outlet Devices
#1	Primary	31.50'	6.0" x 20.0' long Culvert CPP, square edge headwall, Ke= 0.500 Outlet Invert= 31.00' S= 0.0250 '/' Cc= 0.900 n= 0.010 PVC, smooth interior

Primary OutFlow Max=0.23 cfs @ 12.16 hrs HW=31.80' (Free Discharge)↑**1=Culvert** (Inlet Controls 0.23 cfs @ 1.9 fps)**Pond 4P:**

Inflow Area = 0.415 ac, Inflow Depth > 1.47" for 2 YEAR event
 Inflow = 0.46 cfs @ 12.37 hrs, Volume= 0.051 af
 Outflow = 0.46 cfs @ 12.39 hrs, Volume= 0.051 af, Atten= 0%, Lag= 1.5 min
 Primary = 0.46 cfs @ 12.39 hrs, Volume= 0.051 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Peak Elev= 35.34' @ 12.39 hrs Surf.Area= 208 sf Storage= 52 cf
 Plug-Flow detention time=3.4 min calculated for 0.051 af (100% of inflow)
 Center-of-Mass det. time=2.4 min (811.2 - 808.8)

Volume	Invert	Avail.Storage	Storage Description
#1	35.00'	986 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
35.00	100	0	0
36.00	420	260	260
37.00	1,032	726	986

Device	Routing	Invert	Outlet Devices
#1	Primary	35.00'	12.0" x 60.0' long Culvert CPP, square edge headwall, Ke= 0.500 Outlet Invert= 34.40' S= 0.0100 '/' Cc= 0.900 n= 0.010 PVC, smooth interior

Primary OutFlow Max=0.46 cfs @ 12.39 hrs HW=35.34' (Free Discharge)↑**1=Culvert** (Inlet Controls 0.46 cfs @ 2.0 fps)**Pond 5P:**

Inflow Area = 1.133 ac, Inflow Depth > 0.94" for 2 YEAR event
 Inflow = 0.41 cfs @ 12.84 hrs, Volume= 0.089 af
 Outflow = 0.23 cfs @ 13.49 hrs, Volume= 0.088 af, Atten= 42%, Lag= 38.5 min
 Primary = 0.23 cfs @ 13.49 hrs, Volume= 0.088 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Peak Elev= 29.48' @ 13.49 hrs Surf.Area= 3,470 sf Storage= 856 cf
 Plug-Flow detention time=44.1 min calculated for 0.088 af (98% of inflow)
 Center-of-Mass det. time=38.2 min (865.6 - 827.4)

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Type III 24-hr 2 YEAR Rainfall=3.00"

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Volume	Invert	Avail.Storage	Storage Description
#1	29.00'	12,970 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
29.00	110	0	0
30.00	7,136	3,623	3,623
31.00	11,558	9,347	12,970

Device	Routing	Invert	Outlet Devices
#1	Primary	29.00'	4.0" x 55.0' long Culvert CPP, square edge headwall, Ke= 0.500 Outlet Invert= 24.30' S= 0.0855 '/ Cc= 0.900 n= 0.010 PVC, smooth interior

Primary OutFlow Max=0.23 cfs @ 13.49 hrs HW=29.48' (Free Discharge)

↑**1=Culvert** (Inlet Controls 0.23 cfs @ 2.7 fps)

Pond 6P: CATCH BASIN

Inflow Area = 0.115 ac, Inflow Depth > 2.59" for 2 YEAR event
 Inflow = 0.38 cfs @ 12.01 hrs, Volume= 0.025 af
 Outflow = 0.38 cfs @ 12.01 hrs, Volume= 0.025 af, Atten= 1%, Lag= 0.2 min
 Primary = 0.38 cfs @ 12.01 hrs, Volume= 0.025 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Peak Elev= 32.41' @ 12.01 hrs Surf.Area= 12 sf Storage= 5 cf
 Flood Elev= 36.00' Surf.Area= 2,787 sf Storage= 1,524 cf
 Plug-Flow detention time=0.8 min calculated for 0.025 af (100% of inflow)
 Center-of-Mass det. time=0.5 min (735.7 - 735.2)

Volume	Invert	Avail.Storage	Storage Description
#1	32.00'	4,152 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
32.00	12	0	0
34.00	12	24	24
35.00	100	56	80
36.00	2,787	1,444	1,524
36.70	4,724	2,629	4,152

Device	Routing	Invert	Outlet Devices
#1	Primary	32.00'	6.0" x 60.0' long Culvert CPP, square edge headwall, Ke= 0.500 Outlet Invert= 31.00' S= 0.0167 '/ Cc= 0.900 n= 0.010 PVC, smooth interior

Primary OutFlow Max=0.36 cfs @ 12.01 hrs HW=32.40' (Free Discharge)

↑**1=Culvert** (Inlet Controls 0.36 cfs @ 2.2 fps)

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Type III 24-hr 2 YEAR Rainfall=3.00"

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Pond 7P:

Inflow Area = 1.097 ac, Inflow Depth > 1.20" for 2 YEAR event
 Inflow = 1.04 cfs @ 12.34 hrs, Volume= 0.110 af
 Outflow = 0.53 cfs @ 12.72 hrs, Volume= 0.110 af, Atten= 49%, Lag= 22.7 min
 Primary = 0.53 cfs @ 12.72 hrs, Volume= 0.110 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Peak Elev= 23.75' @ 12.72 hrs Surf.Area= 1,052 sf Storage= 977 cf
 Plug-Flow detention time= 16.1 min calculated for 0.110 af (100% of inflow)
 Center-of-Mass det. time= 14.8 min (832.3 - 817.5)

Volume	Invert	Avail.Storage	Storage Description
#1	22.00'	2,655 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
22.00	110	0	0
23.00	600	355	355
24.00	1,200	900	1,255
25.00	1,600	1,400	2,655

Device	Routing	Invert	Outlet Devices
#1	Primary	22.00'	4.0" x 30.0' long Culvert CPP, square edge headwall, Ke= 0.500 Outlet Invert= 21.00' S= 0.0333 '/ Cc= 0.900 n= 0.010 PVC, smooth interior
#2	Primary	24.50'	10.0' long x 10.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=0.53 cfs @ 12.72 hrs HW=23.75' (Free Discharge)
 1=Culvert (Inlet Controls 0.53 cfs @ 6.1 fps)
 2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Pond 8P: EXIST STORM DRAIN

Inflow Area = 2.502 ac, Inflow Depth > 1.13" for 2 YEAR event
 Inflow = 0.85 cfs @ 12.20 hrs, Volume= 0.235 af
 Outflow = 0.85 cfs @ 12.20 hrs, Volume= 0.235 af, Atten= 0%, Lag= 0.0 min
 Primary = 0.85 cfs @ 12.20 hrs, Volume= 0.235 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Peak Elev= 20.83' @ 12.20 hrs
 Flood Elev= 24.83'
 Plug-Flow detention time= 0.0 min calculated for 0.235 af (100% of inflow)
 Center-of-Mass det. time= 0.0 min (837.2 - 837.2)

Device	Routing	Invert	Outlet Devices
#1	Primary	20.40'	16.0" x 50.0' long Culvert CPP, square edge headwall, Ke= 0.500 Outlet Invert= 19.90' S= 0.0100 '/ Cc= 0.900 n= 0.010 PVC, smooth interior

POST

Type III 24-hr 2 YEAR Rainfall=3.00"

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Primary OutFlow Max=0.85 cfs @ 12.20 hrs HW=20.83' (Free Discharge)

↑**1=Culvert** (Inlet Controls 0.85 cfs @ 2.2 fps)

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Type III 24-hr 10 YEAR Rainfall=4.70"

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Subcatchment 1S:

Runoff = 0.51 cfs @ 12.01 hrs, Volume= 0.032 af, Depth> 3.89"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 YEAR Rainfall=4.70"

Area (sf)	CN	Description
3,590	98	PAVED / POND
771	80	>75% Grass cover, Good, HSG D
4,361	95	Weighted Average

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.6	44	0.0200	1.1		Sheet Flow, AB Smooth surfaces n= 0.011 P2= 3.00"

Subcatchment 2S:

Runoff = 1.70 cfs @ 12.58 hrs, Volume= 0.230 af, Depth> 2.43"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 YEAR Rainfall=4.70"

Area (sf)	CN	Description
28,704	73	Brush, Good, HSG D
5,000	98	EXISTING PAVEMENT
5,000	80	EXISTING NON-PAVED AREA
6,000	80	PROPOSED NON-PAVED DEV AREA
4,908	98	PAVEMENT, ROOFS
49,612	80	Weighted Average

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
38.6	100	0.0200	0.0		Sheet Flow, AB Woods: Dense underbrush n= 0.800 P2= 3.00"
2.9	86	0.0400	0.5		Shallow Concentrated Flow, BC Forest w/Heavy Litter Kv= 2.5 fps
41.5	186	Total			

Subcatchment 3S:

Runoff = 0.58 cfs @ 12.08 hrs, Volume= 0.039 af, Depth> 2.72"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 YEAR Rainfall=4.70"

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Type III 24-hr 10 YEAR Rainfall=4.70"

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Area (sf)	CN	Description
538	73	Brush, Good, HSG D
5,391	80	PROP NON-PAVED DEV AREA
1,547	98	ROOF AND WALK
7,476	83	Weighted Average

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.7	50	0.0600	0.2		Sheet Flow, AB Grass: Short n= 0.150 P2= 3.00"
1.8	165	0.0100	1.5		Shallow Concentrated Flow, BC Grassed Waterway Kv= 15.0 fps
5.5	215	Total			

Subcatchment 4S:

Runoff = 0.90 cfs @ 12.36 hrs, Volume= 0.100 af, Depth> 2.89"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 YEAR Rainfall=4.70"

Area (sf)	CN	Description
5,584	73	Brush, Good, HSG D
5,094	80	PROPOSED NON PAVED DEVELOPED AREA
7,410	98	PAVEMENT, ROOFS, WALKS
18,088	85	Weighted Average

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
24.9	100	0.0600	0.1		Sheet Flow, AB Woods: Dense underbrush n= 0.800 P2= 3.00"
1.4	174	0.0200	2.1		Shallow Concentrated Flow, BC Grassed Waterway Kv= 15.0 fps
26.3	274	Total			

Subcatchment 5S:

Runoff = 0.96 cfs @ 12.82 hrs, Volume= 0.157 af, Depth> 1.85"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 YEAR Rainfall=4.70"

Area (sf)	CN	Description
41,329	73	Brush, Good, HSG D
3,015	80	PROP NON-PAVED DEV AREA
44,344	73	Weighted Average

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Type III 24-hr 10 YEAR Rainfall=4.70"

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Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
38.6	100	0.0200	0.0		Sheet Flow, AB Woods: Dense underbrush n= 0.800 P2= 3.00"
19.4	411	0.0200	0.4		Shallow Concentrated Flow, BC Forest w/Heavy Litter Kv= 2.5 fps
58.0	511	Total			

Subcatchment 6S:

Runoff = 0.60 cfs @ 12.01 hrs, Volume= 0.040 af, Depth> 4.15"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 YEAR Rainfall=4.70"

Area (sf)	CN	Description
5,015	98	PAVED

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.7	45	0.0200	1.1		Sheet Flow, AB Smooth surfaces n= 0.011 P2= 3.00"

Subcatchment 7S:

Runoff = 2.19 cfs @ 12.33 hrs, Volume= 0.231 af, Depth> 2.53"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 YEAR Rainfall=4.70"

Area (sf)	CN	Description
45,300	80	>75% Grass cover, Good, HSG D
2,500	98	PAVED / ROOFS
47,800	81	Weighted Average

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
22.6	100	0.0200	0.1		Sheet Flow, AB Grass: Bermuda n= 0.410 P2= 3.00"
1.2	186	0.0300	2.6		Shallow Concentrated Flow, BC Grassed Waterway Kv= 15.0 fps
23.8	286	Total			

Pond 1-3: EXISTING 6" STUB

Inflow Area = 0.272 ac, Inflow Depth > 3.12" for 10 YEAR event
 Inflow = 0.78 cfs @ 12.11 hrs, Volume= 0.071 af
 Outflow = 0.78 cfs @ 12.11 hrs, Volume= 0.071 af, Atten= 0%, Lag= 0.0 min
 Primary = 0.78 cfs @ 12.11 hrs, Volume= 0.071 af

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Type III 24-hr 10 YEAR Rainfall=4.70"

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Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Peak Elev= 31.94' @ 12.11 hrs

Plug-Flow detention time=(not calculated: outflow precedes inflow)

Center-of-Mass det. time=0.0 min (773.3 - 773.3)

Device	Routing	Invert	Outlet Devices
#1	Primary	31.00'	6.0" x 30.0' long Culvert CPP, square edge headwall, Ke= 0.500 Outlet Invert= 30.70' S= 0.0100 '/ Cc= 0.900 n= 0.010 PVC, smooth interior

Primary OutFlow Max=0.77 cfs @ 12.11 hrs HW=31.92' (Free Discharge)↳ **1=Culvert** (Inlet Controls 0.77 cfs @ 3.9 fps)**Pond 1P:**

Inflow Area = 0.100 ac, Inflow Depth > 3.89" for 10 YEAR event

Inflow = 0.51 cfs @ 12.01 hrs, Volume= 0.032 af

Outflow = 0.38 cfs @ 12.07 hrs, Volume= 0.032 af, Atten= 26%, Lag= 3.6 min

Primary = 0.38 cfs @ 12.07 hrs, Volume= 0.032 af

Secondary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Peak Elev= 33.50' @ 12.06 hrs Surf.Area= 322 sf Storage= 147 cf

Plug-Flow detention time=15.3 min calculated for 0.032 af (99% of inflow)

Center-of-Mass det. time= 11.0 min (752.8 - 741.8)

Volume	Invert	Avail.Storage	Storage Description
#1	33.00'	1,571 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
33.00	267	0	0
34.00	376	322	322
35.00	595	486	807
36.00	932	764	1,571

Device	Routing	Invert	Outlet Devices
#1	Primary	33.00'	6.0" x 15.0' long Culvert CPP, projecting, no headwall, Ke= 0.900 Outlet Invert= 31.00' S= 0.1333 '/ Cc= 0.900 n= 0.010 PVC, smooth interior
#2	Secondary	35.00'	6.0" x 50.0' long Culvert CPP, projecting, no headwall, Ke= 0.900 Outlet Invert= 34.50' S= 0.0100 '/ Cc= 0.900 n= 0.010 PVC, smooth interior

Primary OutFlow Max=0.37 cfs @ 12.07 hrs HW=33.49' (Free Discharge)↳ **1=Culvert** (Inlet Controls 0.37 cfs @ 1.9 fps)**Secondary OutFlow** Max=0.00 cfs @ 5.00 hrs HW=33.00' (Free Discharge)↳ **2=Culvert** (Controls 0.00 cfs)

POST

Type III 24-hr 10 YEAR Rainfall=4.70"

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Pond 2P:

Inflow Area = 1.554 ac, Inflow Depth > 2.55" for 10 YEAR event
 Inflow = 2.46 cfs @ 12.50 hrs, Volume= 0.330 af
 Outflow = 1.56 cfs @ 12.89 hrs, Volume= 0.329 af, Atten= 37%, Lag= 23.6 min
 Primary = 1.56 cfs @ 12.89 hrs, Volume= 0.329 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Peak Elev= 35.56' @ 12.89 hrs Surf.Area= 3,485 sf Storage= 2,839 cf
 Plug-Flow detention time= 18.6 min calculated for 0.329 af (100% of inflow)
 Center-of-Mass det. time= 17.6 min (828.2 - 810.6)

Volume	Invert	Avail.Storage	Storage Description
#1	33.50'	4,690 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
33.50	110	0	0
35.00	1,736	1,385	1,385
36.00	4,875	3,306	4,690

Device	Routing	Invert	Outlet Devices
#1	Primary	33.40'	12.0" x 30.0' long Culvert CPP, square edge headwall, Ke= 0.500 Outlet Invert= 33.10' S= 0.0100 '/' Cc= 0.900 n= 0.010 PVC, smooth interior
#2	Device 1	33.50'	6.0" Vert. Orifice/Grate C= 0.600
#3	Device 1	35.50'	24.0" Horiz. Orifice/Grate Limited to weir flow C= 0.600

Primary OutFlow Max=1.55 cfs @ 12.89 hrs HW=35.56' (Free Discharge)

1=Culvert (Passes 1.55 cfs of 4.87 cfs potential flow)
 2=Orifice/Grate (Orifice Controls 1.27 cfs @ 6.5 fps)
 3=Orifice/Grate (Weir Controls 0.28 cfs @ 0.8 fps)

Pond 3P:

Inflow Area = 0.172 ac, Inflow Depth > 2.72" for 10 YEAR event
 Inflow = 0.58 cfs @ 12.08 hrs, Volume= 0.039 af
 Outflow = 0.45 cfs @ 12.15 hrs, Volume= 0.039 af, Atten= 22%, Lag= 4.2 min
 Primary = 0.45 cfs @ 12.15 hrs, Volume= 0.039 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Peak Elev= 31.97' @ 12.15 hrs Surf.Area= 507 sf Storage= 180 cf
 Plug-Flow detention time= 12.2 min calculated for 0.039 af (99% of inflow)
 Center-of-Mass det. time= 8.5 min (790.4 - 781.8)

Volume	Invert	Avail.Storage	Storage Description
#1	31.50'	983 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
31.50	258	0	0
33.00	1,052	983	983

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Type III 24-hr 10 YEAR Rainfall=4.70"

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Device	Routing	Invert	Outlet Devices
#1	Primary	31.50'	6.0" x 20.0' long Culvert CPP, square edge headwall, Ke= 0.500 Outlet Invert= 31.00' S= 0.0250 '/' Cc= 0.900 n= 0.010 PVC, smooth interior

Primary OutFlow Max=0.45 cfs @ 12.15 hrs HW=31.97' (Free Discharge)

↳ **1=Culvert** (Inlet Controls 0.45 cfs @ 2.3 fps)

Pond 4P:

Inflow Area = 0.415 ac, Inflow Depth > 2.89" for 10 YEAR event
 Inflow = 0.90 cfs @ 12.36 hrs, Volume= 0.100 af
 Outflow = 0.89 cfs @ 12.38 hrs, Volume= 0.100 af, Atten= 0%, Lag= 1.3 min
 Primary = 0.89 cfs @ 12.38 hrs, Volume= 0.100 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Peak Elev= 35.48' @ 12.38 hrs Surf.Area= 255 sf Storage= 86 cf
 Plug-Flow detention time=2.8 min calculated for 0.100 af (100% of inflow)
 Center-of-Mass det. time=2.0 min (795.4 - 793.4)

Volume	Invert	Avail.Storage	Storage Description
#1	35.00'	986 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
35.00	100	0	0
36.00	420	260	260
37.00	1,032	726	986

Device	Routing	Invert	Outlet Devices
#1	Primary	35.00'	12.0" x 60.0' long Culvert CPP, square edge headwall, Ke= 0.500 Outlet Invert= 34.40' S= 0.0100 '/' Cc= 0.900 n= 0.010 PVC, smooth interior

Primary OutFlow Max=0.89 cfs @ 12.38 hrs HW=35.48' (Free Discharge)

↳ **1=Culvert** (Inlet Controls 0.89 cfs @ 2.4 fps)

Pond 5P:

Inflow Area = 1.133 ac, Inflow Depth > 2.08" for 10 YEAR event
 Inflow = 1.01 cfs @ 12.81 hrs, Volume= 0.197 af
 Outflow = 0.36 cfs @ 13.86 hrs, Volume= 0.193 af, Atten= 64%, Lag= 62.9 min
 Primary = 0.36 cfs @ 13.86 hrs, Volume= 0.193 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Peak Elev= 29.91' @ 13.86 hrs Surf.Area= 6,521 sf Storage= 3,025 cf
 Plug-Flow detention time=93.2 min calculated for 0.192 af (98% of inflow)
 Center-of-Mass det. time=86.2 min (907.7 - 821.5)

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Type III 24-hr 10 YEAR Rainfall=4.70"

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Volume	Invert	Avail.Storage	Storage Description
#1	29.00'	12,970 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
29.00	110	0	0
30.00	7,136	3,623	3,623
31.00	11,558	9,347	12,970

Device	Routing	Invert	Outlet Devices
#1	Primary	29.00'	4.0" x 55.0' long Culvert CPP, square edge headwall, Ke= 0.500 Outlet Invert= 24.30' S= 0.0855 '/ Cc= 0.900 n= 0.010 PVC, smooth interior

Primary OutFlow Max=0.36 cfs @ 13.86 hrs HW=29.91' (Free Discharge)↑**1=Culvert** (Inlet Controls 0.36 cfs @ 4.2 fps)**Pond 6P: CATCH BASIN**

Inflow Area = 0.115 ac, Inflow Depth > 4.15" for 10 YEAR event
 Inflow = 0.60 cfs @ 12.01 hrs, Volume= 0.040 af
 Outflow = 0.59 cfs @ 12.01 hrs, Volume= 0.040 af, Atten= 2%, Lag= 0.3 min
 Primary = 0.59 cfs @ 12.01 hrs, Volume= 0.040 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Peak Elev= 32.63' @ 12.01 hrs Surf.Area= 12 sf Storage= 8 cf
 Flood Elev= 36.00' Surf.Area= 2,787 sf Storage= 1,524 cf
 Plug-Flow detention time=0.7 min calculated for 0.040 af (100% of inflow)
 Center-of-Mass det. time=0.4 min (732.0 - 731.6)

Volume	Invert	Avail.Storage	Storage Description
#1	32.00'	4,152 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
32.00	12	0	0
34.00	12	24	24
35.00	100	56	80
36.00	2,787	1,444	1,524
36.70	4,724	2,629	4,152

Device	Routing	Invert	Outlet Devices
#1	Primary	32.00'	6.0" x 60.0' long Culvert CPP, square edge headwall, Ke= 0.500 Outlet Invert= 31.00' S= 0.0167 '/ Cc= 0.900 n= 0.010 PVC, smooth interior

Primary OutFlow Max=0.57 cfs @ 12.01 hrs HW=32.61' (Free Discharge)↑**1=Culvert** (Inlet Controls 0.57 cfs @ 2.9 fps)

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Type III 24-hr 10 YEAR Rainfall=4.70"

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Pond 7P:

Inflow Area = 1.097 ac, Inflow Depth > 2.53" for 10 YEAR event
 Inflow = 2.19 cfs @ 12.33 hrs, Volume= 0.231 af
 Outflow = 1.84 cfs @ 12.50 hrs, Volume= 0.231 af, Atten= 16%, Lag= 10.4 min
 Primary = 1.84 cfs @ 12.50 hrs, Volume= 0.231 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Peak Elev= 24.63' @ 12.50 hrs Surf.Area= 1,453 sf Storage= 2,093 cf
 Plug-Flow detention time=23.7 min calculated for 0.230 af (99% of inflow)
 Center-of-Mass det. time=22.7 min (823.7 - 801.0)

Volume	Invert	Avail.Storage	Storage Description
#1	22.00'	2,655 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
22.00	110	0	0
23.00	600	355	355
24.00	1,200	900	1,255
25.00	1,600	1,400	2,655

Device	Routing	Invert	Outlet Devices
#1	Primary	22.00'	4.0" x 30.0' long Culvert CPP, square edge headwall, Ke= 0.500 Outlet Invert= 21.00' S= 0.0333 '/ Cc= 0.900 n= 0.010 PVC, smooth interior
#2	Primary	24.50'	10.0' long x 10.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=1.82 cfs @ 12.50 hrs HW=24.63' (Free Discharge)

1=Culvert (Barrel Controls 0.64 cfs @ 7.4 fps)

2=Broad-Crested Rectangular Weir (Weir Controls 1.18 cfs @ 0.9 fps)

Pond 8P: EXIST STORM DRAIN

Inflow Area = 2.502 ac, Inflow Depth > 2.37" for 10 YEAR event
 Inflow = 2.38 cfs @ 12.50 hrs, Volume= 0.494 af
 Outflow = 2.38 cfs @ 12.50 hrs, Volume= 0.494 af, Atten= 0%, Lag= 0.0 min
 Primary = 2.38 cfs @ 12.50 hrs, Volume= 0.494 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Peak Elev= 21.15' @ 12.50 hrs
 Flood Elev= 24.83'
 Plug-Flow detention time=(not calculated: outflow precedes inflow)
 Center-of-Mass det. time=0.0 min (849.3 - 849.3)

Device	Routing	Invert	Outlet Devices
#1	Primary	20.40'	16.0" x 50.0' long Culvert CPP, square edge headwall, Ke= 0.500 Outlet Invert= 19.90' S= 0.0100 '/ Cc= 0.900 n= 0.010 PVC, smooth interior

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Type III 24-hr 10 YEAR Rainfall=4.70"

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Primary OutFlow Max=2.36 cfs @ 12.50 hrs HW=21.15' (Free Discharge)

↳ **1=Culvert** (Inlet Controls 2.36 cfs @ 2.9 fps)

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Type III 24-hr 25 YEAR Rainfall=5.50"

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Subcatchment 1S:

Runoff = 0.60 cfs @ 12.01 hrs, Volume= 0.039 af, Depth> 4.62"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 YEAR Rainfall=5.50"

Area (sf)	CN	Description
3,590	98	PAVED / POND
771	80	>75% Grass cover, Good, HSG D
4,361	95	Weighted Average

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.6	44	0.0200	1.1		Sheet Flow, AB Smooth surfaces n=0.011 P2= 3.00"

Subcatchment 2S:

Runoff = 2.15 cfs @ 12.57 hrs, Volume= 0.293 af, Depth> 3.08"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 YEAR Rainfall=5.50"

Area (sf)	CN	Description
28,704	73	Brush, Good, HSG D
5,000	98	EXISTING PAVEMENT
5,000	80	EXISTING NON-PAVED AREA
6,000	80	PROPOSED NON-PAVED DEV AREA
4,908	98	PAVEMENT, ROOFS
49,612	80	Weighted Average

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
38.6	100	0.0200	0.0		Sheet Flow, AB Woods: Dense underbrush n= 0.800 P2= 3.00"
2.9	86	0.0400	0.5		Shallow Concentrated Flow, BC Forest w/Heavy Litter Kv= 2.5 fps
41.5	186	Total			

Subcatchment 3S:

Runoff = 0.72 cfs @ 12.08 hrs, Volume= 0.049 af, Depth> 3.41"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 YEAR Rainfall=5.50"

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Type III 24-hr 25 YEAR Rainfall=5.50"

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Area (sf)	CN	Description
538	73	Brush, Good, HSG D
5,391	80	PROP NON-PAVED DEV AREA
1,547	98	ROOF AND WALK
7,476	83	Weighted Average

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.7	50	0.0600	0.2		Sheet Flow, AB Grass: Short n= 0.150 P2= 3.00"
1.8	165	0.0100	1.5		Shallow Concentrated Flow, BC Grassed Waterway Kv= 15.0 fps
5.5	215	Total			

Subcatchment 4S:

Runoff = 1.11 cfs @ 12.36 hrs, Volume= 0.124 af, Depth> 3.59"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 YEAR Rainfall=5.50"

Area (sf)	CN	Description
5,584	73	Brush, Good, HSG D
5,094	80	PROPOSED NON PAVED DEVELOPED AREA
7,410	98	PAVEMENT, ROOFS, WALKS
18,088	85	Weighted Average

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
24.9	100	0.0600	0.1		Sheet Flow, AB Woods: Dense underbrush n= 0.800 P2= 3.00"
1.4	174	0.0200	2.1		Shallow Concentrated Flow, BC Grassed Waterway Kv= 15.0 fps
26.3	274	Total			

Subcatchment 5S:

Runoff = 1.27 cfs @ 12.81 hrs, Volume= 0.207 af, Depth> 2.44"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 YEAR Rainfall=5.50"

Area (sf)	CN	Description
41,329	73	Brush, Good, HSG D
3,015	80	PROP NON-PAVED DEV AREA
44,344	73	Weighted Average

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Type III 24-hr 25 YEAR Rainfall=5.50"

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Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
38.6	100	0.0200	0.0		Sheet Flow, AB Woods: Dense underbrush n= 0.800 P2= 3.00"
19.4	411	0.0200	0.4		Shallow Concentrated Flow, BC Forest w/Heavy Litter Kv= 2.5 fps
58.0	511	Total			

Subcatchment 6S:

Runoff = 0.70 cfs @ 12.01 hrs, Volume= 0.047 af, Depth> 4.87"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 YEAR Rainfall=5.50"

Area (sf)	CN	Description
5,015	98	PAVED

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.7	45	0.0200	1.1		Sheet Flow, AB Smooth surfaces n= 0.011 P2= 3.00"

Subcatchment 7S:

Runoff = 2.75 cfs @ 12.33 hrs, Volume= 0.292 af, Depth> 3.20"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 YEAR Rainfall=5.50"

Area (sf)	CN	Description
45,300	80	>75% Grass cover, Good, HSG D
2,500	98	PAVED / ROOFS
47,800	81	Weighted Average

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
22.6	100	0.0200	0.1		Sheet Flow, AB Grass: Bermuda n= 0.410 P2= 3.00"
1.2	186	0.0300	2.6		Shallow Concentrated Flow, BC Grassed Waterway Kv= 15.0 fps
23.8	286	Total			

Pond 1-3: EXISTING 6" STUB

Inflow Area = 0.272 ac, Inflow Depth > 3.83" for 25 YEAR event
 Inflow = 0.91 cfs @ 12.12 hrs, Volume= 0.087 af
 Outflow = 0.91 cfs @ 12.12 hrs, Volume= 0.087 af, Atten= 0%, Lag= 0.0 min
 Primary = 0.91 cfs @ 12.12 hrs, Volume= 0.087 af

POST

Type III 24-hr 25 YEAR Rainfall=5.50"

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Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Peak Elev= 32.18' @ 12.12 hrs

Plug-Flow detention time=(not calculated: outflow precedes inflow)

Center-of-Mass det. time=0.0 min (769.2 - 769.2)

Device	Routing	Invert	Outlet Devices
#1	Primary	31.00'	6.0" x 30.0' long Culvert CPP, square edge headwall, Ke= 0.500 Outlet Invert= 30.70' S= 0.0100 '/ Cc= 0.900 n= 0.010 PVC, smooth interior

Primary OutFlow Max=0.90 cfs @ 12.12 hrs HW=32.16' (Free Discharge)↳ **1=Culvert** (Inlet Controls 0.90 cfs @ 4.6 fps)**Pond 1P:**

Inflow Area = 0.100 ac, Inflow Depth > 4.62" for 25 YEAR event

Inflow = 0.60 cfs @ 12.01 hrs, Volume= 0.039 af

Outflow = 0.43 cfs @ 12.07 hrs, Volume= 0.038 af, Atten= 28%, Lag= 3.7 min

Primary = 0.43 cfs @ 12.07 hrs, Volume= 0.038 af

Secondary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Peak Elev= 33.58' @ 12.07 hrs Surf.Area= 330 sf Storage= 173 cf

Plug-Flow detention time= 14.3 min calculated for 0.038 af (99% of inflow)

Center-of-Mass det. time= 10.3 min (749.7 - 739.4)

Volume	Invert	Avail.Storage	Storage Description
#1	33.00'	1,571 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
33.00	267	0	0
34.00	376	322	322
35.00	595	486	807
36.00	932	764	1,571

Device	Routing	Invert	Outlet Devices
#1	Primary	33.00'	6.0" x 15.0' long Culvert CPP, projecting, no headwall, Ke= 0.900 Outlet Invert= 31.00' S= 0.1333 '/ Cc= 0.900 n= 0.010 PVC, smooth interior
#2	Secondary	35.00'	6.0" x 50.0' long Culvert CPP, projecting, no headwall, Ke= 0.900 Outlet Invert= 34.50' S= 0.0100 '/ Cc= 0.900 n= 0.010 PVC, smooth interior

Primary OutFlow Max=0.42 cfs @ 12.07 hrs HW=33.57' (Free Discharge)↳ **1=Culvert** (Inlet Controls 0.42 cfs @ 2.1 fps)**Secondary OutFlow** Max=0.00 cfs @ 5.00 hrs HW=33.00' (Free Discharge)↳ **2=Culvert** (Controls 0.00 cfs)

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Type III 24-hr 25 YEAR Rainfall=5.50"

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Pond 2P:

Inflow Area = 1.554 ac, Inflow Depth > 3.22" for 25 YEAR event
 Inflow = 3.09 cfs @ 12.49 hrs, Volume= 0.417 af
 Outflow = 2.54 cfs @ 12.74 hrs, Volume= 0.416 af, Atten= 18%, Lag= 14.6 min
 Primary = 2.54 cfs @ 12.74 hrs, Volume= 0.416 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Peak Elev= 35.65' @ 12.74 hrs Surf.Area= 3,787 sf Storage= 3,189 cf
 Plug-Flow detention time= 18.1 min calculated for 0.416 af (100% of inflow)
 Center-of-Mass det. time= 17.2 min (822.6 - 805.4)

Volume	Invert	Avail.Storage	Storage Description
#1	33.50'	4,690 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
33.50	110	0	0
35.00	1,736	1,385	1,385
36.00	4,875	3,306	4,690

Device	Routing	Invert	Outlet Devices
#1	Primary	33.40'	12.0" x 30.0' long Culvert CPP, square edge headwall, Ke= 0.500 Outlet Invert= 33.10' S= 0.0100 '/' Cc= 0.900 n= 0.010 PVC, smooth interior
#2	Device 1	33.50'	6.0" Vert. Orifice/Grate C= 0.600
#3	Device 1	35.50'	24.0" Horiz. Orifice/Grate Limited to weir flow C= 0.600

Primary OutFlow Max=2.53 cfs @ 12.74 hrs HW=35.65' (Free Discharge)

1=Culvert (Passes 2.53 cfs of 5.01 cfs potential flow)
 2=Orifice/Grate (Orifice Controls 1.30 cfs @ 6.6 fps)
 3=Orifice/Grate (Weir Controls 1.23 cfs @ 1.3 fps)

Pond 3P:

Inflow Area = 0.172 ac, Inflow Depth > 3.41" for 25 YEAR event
 Inflow = 0.72 cfs @ 12.08 hrs, Volume= 0.049 af
 Outflow = 0.53 cfs @ 12.16 hrs, Volume= 0.048 af, Atten= 26%, Lag= 4.7 min
 Primary = 0.53 cfs @ 12.16 hrs, Volume= 0.048 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Peak Elev= 32.06' @ 12.16 hrs Surf.Area= 555 sf Storage= 228 cf
 Plug-Flow detention time= 11.4 min calculated for 0.048 af (99% of inflow)
 Center-of-Mass det. time= 8.2 min (784.7 - 776.5)

Volume	Invert	Avail.Storage	Storage Description
#1	31.50'	983 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
31.50	258	0	0
33.00	1,052	983	983

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Type III 24-hr 25 YEAR Rainfall=5.50"

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Device	Routing	Invert	Outlet Devices
#1	Primary	31.50'	6.0" x 20.0' long Culvert CPP, square edge headwall, Ke= 0.500 Outlet Invert= 31.00' S= 0.0250 '/' Cc= 0.900 n= 0.010 PVC, smooth interior

Primary OutFlow Max=0.52 cfs @ 12.16 hrs HW=32.06' (Free Discharge)↳ **1=Culvert** (Inlet Controls 0.52 cfs @ 2.7 fps)**Pond 4P:**

Inflow Area = 0.415 ac, Inflow Depth > 3.59" for 25 YEAR event
 Inflow = 1.11 cfs @ 12.36 hrs, Volume= 0.124 af
 Outflow = 1.10 cfs @ 12.38 hrs, Volume= 0.124 af, Atten= 0%, Lag= 1.3 min
 Primary = 1.10 cfs @ 12.38 hrs, Volume= 0.124 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Peak Elev= 35.55' @ 12.38 hrs Surf.Area= 275 sf Storage= 102 cf
 Plug-Flow detention time= 2.6 min calculated for 0.124 af (100% of inflow)
 Center-of-Mass det. time= 1.9 min (790.2 - 788.3)

Volume	Invert	Avail.Storage	Storage Description
#1	35.00'	986 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
35.00	100	0	0
36.00	420	260	260
37.00	1,032	726	986

Device	Routing	Invert	Outlet Devices
#1	Primary	35.00'	12.0" x 60.0' long Culvert CPP, square edge headwall, Ke= 0.500 Outlet Invert= 34.40' S= 0.0100 '/' Cc= 0.900 n= 0.010 PVC, smooth interior

Primary OutFlow Max=1.10 cfs @ 12.38 hrs HW=35.54' (Free Discharge)↳ **1=Culvert** (Inlet Controls 1.10 cfs @ 2.5 fps)**Pond 5P:**

Inflow Area = 1.133 ac, Inflow Depth > 2.68" for 25 YEAR event
 Inflow = 1.33 cfs @ 12.80 hrs, Volume= 0.253 af
 Outflow = 0.41 cfs @ 14.01 hrs, Volume= 0.241 af, Atten= 70%, Lag= 72.4 min
 Primary = 0.41 cfs @ 14.01 hrs, Volume= 0.241 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Peak Elev= 30.10' @ 14.01 hrs Surf.Area= 7,575 sf Storage= 4,354 cf
 Plug-Flow detention time= 120.6 min calculated for 0.240 af (95% of inflow)
 Center-of-Mass det. time= 103.3 min (921.8 - 818.6)

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Type III 24-hr 25 YEAR Rainfall=5.50"

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Volume	Invert	Avail.Storage	Storage Description
#1	29.00'	12,970 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
29.00	110	0	0
30.00	7,136	3,623	3,623
31.00	11,558	9,347	12,970

Device	Routing	Invert	Outlet Devices
#1	Primary	29.00'	4.0" x 55.0' long Culvert CPP, square edge headwall, Ke= 0.500 Outlet Invert= 24.30' S= 0.0855 '/' Cc= 0.900 n= 0.010 PVC, smooth interior

Primary OutFlow Max=0.41 cfs @ 14.01 hrs HW=30.10' (Free Discharge)

1=Culvert (Inlet Controls 0.41 cfs @ 4.7 fps)

Pond 6P: CATCH BASIN

Inflow Area = 0.115 ac, Inflow Depth > 4.87" for 25 YEAR event
 Inflow = 0.70 cfs @ 12.01 hrs, Volume= 0.047 af
 Outflow = 0.69 cfs @ 12.01 hrs, Volume= 0.047 af, Atten= 2%, Lag= 0.4 min
 Primary = 0.69 cfs @ 12.01 hrs, Volume= 0.047 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Peak Elev= 32.77' @ 12.01 hrs Surf.Area= 12 sf Storage= 9 cf
 Flood Elev= 36.00' Surf.Area= 2,787 sf Storage= 1,524 cf
 Plug-Flow detention time=0.7 min calculated for 0.047 af (100% of inflow)
 Center-of-Mass det. time=0.4 min (731.1 - 730.7)

Volume	Invert	Avail.Storage	Storage Description
#1	32.00'	4,152 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
32.00	12	0	0
34.00	12	24	24
35.00	100	56	80
36.00	2,787	1,444	1,524
36.70	4,724	2,629	4,152

Device	Routing	Invert	Outlet Devices
#1	Primary	32.00'	6.0" x 60.0' long Culvert CPP, square edge headwall, Ke= 0.500 Outlet Invert= 31.00' S= 0.0167 '/' Cc= 0.900 n= 0.010 PVC, smooth interior

Primary OutFlow Max=0.66 cfs @ 12.01 hrs HW=32.74' (Free Discharge)

1=Culvert (Inlet Controls 0.66 cfs @ 3.4 fps)

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Type III 24-hr 25 YEAR Rainfall=5.50"

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Pond 7P:

Inflow Area = 1.097 ac, Inflow Depth > 3.20" for 25 YEAR event
 Inflow = 2.75 cfs @ 12.33 hrs, Volume= 0.292 af
 Outflow = 2.69 cfs @ 12.41 hrs, Volume= 0.292 af, Atten= 2%, Lag= 5.2 min
 Primary = 2.69 cfs @ 12.41 hrs, Volume= 0.292 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Peak Elev= 24.69' @ 12.41 hrs Surf.Area= 1,475 sf Storage= 2,176 cf
 Plug-Flow detention time=22.1 min calculated for 0.292 af (100% of inflow)
 Center-of-Mass det. time=21.2 min (816.8 - 795.6)

Volume	Invert	Avail.Storage	Storage Description
#1	22.00'	2,655 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
22.00	110	0	0
23.00	600	355	355
24.00	1,200	900	1,255
25.00	1,600	1,400	2,655

Device	Routing	Invert	Outlet Devices
#1	Primary	22.00'	4.0" x 30.0' long Culvert CPP, square edge headwall, Ke= 0.500 Outlet Invert=21.00' S= 0.0333 '/ Cc= 0.900 n= 0.010 PVC, smooth interior
#2	Primary	24.50'	10.0' long x 10.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=2.63 cfs @ 12.41 hrs HW=24.68' (Free Discharge)

1=Culvert (Barrel Controls 0.65 cfs @ 7.4 fps)

2=Broad-Crested Rectangular Weir (Weir Controls 1.98 cfs @ 1.1 fps)

Pond 8P: EXIST STORM DRAIN

Inflow Area = 2.502 ac, Inflow Depth > 2.97" for 25 YEAR event
 Inflow = 3.43 cfs @ 12.41 hrs, Volume= 0.619 af
 Outflow = 3.43 cfs @ 12.41 hrs, Volume= 0.619 af, Atten= 0%, Lag= 0.0 min
 Primary = 3.43 cfs @ 12.41 hrs, Volume= 0.619 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Peak Elev= 21.33' @ 12.41 hrs
 Flood Elev= 24.83'
 Plug-Flow detention time=(not calculated: outflow precedes inflow)
 Center-of-Mass det. time=(not calculated: outflow precedes inflow)

Device	Routing	Invert	Outlet Devices
#1	Primary	20.40'	16.0" x 50.0' long Culvert CPP, square edge headwall, Ke= 0.500 Outlet Invert= 19.90' S= 0.0100 '/ Cc= 0.900 n= 0.010 PVC, smooth interior

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Type III 24-hr 25 YEAR Rainfall=5.50"

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Primary OutFlow Max=3.40 cfs @ 12.41 hrs HW=21.33' (Free Discharge)

↳ **1=Culvert** (Inlet Controls 3.40 cfs @ 3.3 fps)

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Type III 24-hr 100 YEAR Rainfall=6.70"

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Subcatchment 1S:

Runoff = 0.73 cfs @ 12.01 hrs, Volume= 0.048 af, Depth> 5.73"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Type III 24-hr 100 YEAR Rainfall=6.70"

Area (sf)	CN	Description
3,590	98	PAVED / POND
771	80	>75% Grass cover, Good, HSG D
4,361	95	Weighted Average

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.6	44	0.0200	1.1		Sheet Flow, AB Smooth surfaces n=0.011 P2= 3.00"

Subcatchment 2S:

Runoff = 2.83 cfs @ 12.57 hrs, Volume= 0.389 af, Depth> 4.10"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Type III 24-hr 100 YEAR Rainfall=6.70"

Area (sf)	CN	Description
28,704	73	Brush, Good, HSG D
5,000	98	EXISTING PAVEMENT
5,000	80	EXISTING NON-PAVED AREA
6,000	80	PROPOSED NON-PAVED DEV AREA
4,908	98	PAVEMENT, ROOFS
49,612	80	Weighted Average

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
38.6	100	0.0200	0.0		Sheet Flow, AB Woods: Dense underbrush n= 0.800 P2= 3.00"
2.9	86	0.0400	0.5		Shallow Concentrated Flow, BC Forest w/Heavy Litter Kv= 2.5 fps
41.5	186	Total			

Subcatchment 3S:

Runoff = 0.93 cfs @ 12.08 hrs, Volume= 0.064 af, Depth> 4.47"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Type III 24-hr 100 YEAR Rainfall=6.70"

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Type III 24-hr 100 YEAR Rainfall=6.70"

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Area (sf)	CN	Description
538	73	Brush, Good, HSG D
5,391	80	PROP NON-PAVED DEV AREA
1,547	98	ROOF AND WALK
7,476	83	Weighted Average

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.7	50	0.0600	0.2		Sheet Flow, AB Grass: Short n= 0.150 P2= 3.00"
1.8	165	0.0100	1.5		Shallow Concentrated Flow, BC Grassed Waterway Kv= 15.0 fps
5.5	215	Total			

Subcatchment 4S:

Runoff = 1.42 cfs @ 12.35 hrs, Volume= 0.161 af, Depth> 4.66"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 YEAR Rainfall=6.70"

Area (sf)	CN	Description
5,584	73	Brush, Good, HSG D
5,094	80	PROPOSED NON PAVED DEVELOPED AREA
7,410	98	PAVEMENT, ROOFS, WALKS
18,088	85	Weighted Average

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
24.9	100	0.0600	0.1		Sheet Flow, AB Woods: Dense underbrush n= 0.800 P2= 3.00"
1.4	174	0.0200	2.1		Shallow Concentrated Flow, BC Grassed Waterway Kv= 15.0 fps
26.3	274	Total			

Subcatchment 5S:

Runoff = 1.76 cfs @ 12.80 hrs, Volume= 0.285 af, Depth> 3.37"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 YEAR Rainfall=6.70"

Area (sf)	CN	Description
41,329	73	Brush, Good, HSG D
3,015	80	PROP NON-PAVED DEV AREA
44,344	73	Weighted Average

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Type III 24-hr 100 YEAR Rainfall=6.70"

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Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
38.6	100	0.0200	0.0		Sheet Flow, AB Woods: Dense underbrush n= 0.800 P2= 3.00"
19.4	411	0.0200	0.4		Shallow Concentrated Flow, BC Forest w/Heavy Litter Kv= 2.5 fps
58.0	511	Total			

Subcatchment 6S:

Runoff = 0.85 cfs @ 12.01 hrs, Volume= 0.057 af, Depth> 5.97"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 YEAR Rainfall=6.70"

Area (sf)	CN	Description
5,015	98	PAVED

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.7	45	0.0200	1.1		Sheet Flow, AB Smooth surfaces n= 0.011 P2= 3.00"

Subcatchment 7S:

Runoff = 3.62 cfs @ 12.32 hrs, Volume= 0.387 af, Depth> 4.23"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 YEAR Rainfall=6.70"

Area (sf)	CN	Description
45,300	80	>75% Grass cover, Good, HSG D
2,500	98	PAVED / ROOFS
47,800	81	Weighted Average

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
22.6	100	0.0200	0.1		Sheet Flow, AB Grass: Bermuda n= 0.410 P2= 3.00"
1.2	186	0.0300	2.6		Shallow Concentrated Flow, BC Grassed Waterway Kv= 15.0 fps
23.8	286	Total			

Pond 1-3: EXISTING 6" STUB

Inflow Area = 0.272 ac, Inflow Depth > 4.90" for 100 YEAR event
 Inflow = 1.09 cfs @ 12.12 hrs, Volume= 0.111 af
 Outflow = 1.09 cfs @ 12.12 hrs, Volume= 0.111 af, Atten= 0%, Lag= 0.0 min
 Primary = 1.09 cfs @ 12.12 hrs, Volume= 0.111 af

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Type III 24-hr 100 YEAR Rainfall=6.70"

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Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Peak Elev= 32.60' @ 12.12 hrs

Plug-Flow detention time=(not calculated: no plugs found)

Center-of-Mass det. time=0.0 min (764.5 - 764.5)

Device	Routing	Invert	Outlet Devices
#1	Primary	31.00'	6.0" x 30.0' long Culvert CPP, square edge headwall, Ke= 0.500 Outlet Invert= 30.70' S= 0.0100 '/ Cc= 0.900 n= 0.010 PVC, smooth interior

Primary OutFlow Max=1.08 cfs @ 12.12 hrs HW=32.57' (Free Discharge)↳ **1=Culvert** (Barrel Controls 1.08 cfs @ 5.5 fps)**Pond 1P:**

Inflow Area = 0.100 ac, Inflow Depth > 5.73" for 100 YEAR event

Inflow = 0.73 cfs @ 12.01 hrs, Volume= 0.048 af

Outflow = 0.50 cfs @ 12.07 hrs, Volume= 0.047 af, Atten= 32%, Lag= 4.0 min

Primary = 0.50 cfs @ 12.07 hrs, Volume= 0.047 af

Secondary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Peak Elev= 33.70' @ 12.07 hrs Surf.Area= 343 sf Storage= 214 cf

Plug-Flow detention time=13.3 min calculated for 0.047 af (99% of inflow)

Center-of-Mass det. time=9.6 min (746.4 - 736.8)

Volume	Invert	Avail.Storage	Storage Description
#1	33.00'	1,571 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
33.00	267	0	0
34.00	376	322	322
35.00	595	486	807
36.00	932	764	1,571

Device	Routing	Invert	Outlet Devices
#1	Primary	33.00'	6.0" x 15.0' long Culvert CPP, projecting, no headwall, Ke= 0.900 Outlet Invert= 31.00' S= 0.1333 '/ Cc= 0.900 n= 0.010 PVC, smooth interior
#2	Secondary	35.00'	6.0" x 50.0' long Culvert CPP, projecting, no headwall, Ke= 0.900 Outlet Invert= 34.50' S= 0.0100 '/ Cc= 0.900 n= 0.010 PVC, smooth interior

Primary OutFlow Max=0.49 cfs @ 12.07 hrs HW=33.69' (Free Discharge)↳ **1=Culvert** (Inlet Controls 0.49 cfs @ 2.5 fps)**Secondary OutFlow** Max=0.00 cfs @ 5.00 hrs HW=33.00' (Free Discharge)↳ **2=Culvert** (Controls 0.00 cfs)

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Type III 24-hr 100 YEAR Rainfall=6.70"

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Pond 2P:

Inflow Area = 1.554 ac, Inflow Depth > 4.25" for 100 YEAR event
 Inflow = 4.05 cfs @ 12.49 hrs, Volume= 0.551 af
 Outflow = 3.74 cfs @ 12.64 hrs, Volume= 0.549 af, Atten= 8%, Lag= 9.0 min
 Primary = 3.74 cfs @ 12.64 hrs, Volume= 0.549 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Peak Elev= 35.74' @ 12.64 hrs Surf.Area= 4,056 sf Storage= 3,525 cf
 Plug-Flow detention time= 17.1 min calculated for 0.549 af (100% of inflow)
 Center-of-Mass det. time= 16.2 min (815.3 - 799.0)

Volume	Invert	Avail.Storage	Storage Description
#1	33.50'	4,690 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
33.50	110	0	0
35.00	1,736	1,385	1,385
36.00	4,875	3,306	4,690

Device	Routing	Invert	Outlet Devices
#1	Primary	33.40'	12.0" x 30.0' long Culvert CPP, square edge headwall, Ke= 0.500 Outlet Invert= 33.10' S= 0.0100 '/ Cc= 0.900 n= 0.010 PVC, smooth interior
#2	Device 1	33.50'	6.0" Vert. Orifice/Grate C= 0.600
#3	Device 1	35.50'	24.0" Horiz. Orifice/Grate Limited to weir flow C= 0.600

Primary OutFlow Max=3.73 cfs @ 12.64 hrs HW=35.74' (Free Discharge)

1=Culvert (Passes 3.73 cfs of 5.13 cfs potential flow)
 2=Orifice/Grate (Orifice Controls 1.33 cfs @ 6.8 fps)
 3=Orifice/Grate (Weir Controls 2.39 cfs @ 1.6 fps)

Pond 3P:

Inflow Area = 0.172 ac, Inflow Depth > 4.47" for 100 YEAR event
 Inflow = 0.93 cfs @ 12.08 hrs, Volume= 0.064 af
 Outflow = 0.64 cfs @ 12.17 hrs, Volume= 0.064 af, Atten= 31%, Lag= 5.3 min
 Primary = 0.64 cfs @ 12.17 hrs, Volume= 0.064 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Peak Elev= 32.20' @ 12.17 hrs Surf.Area= 630 sf Storage= 312 cf
 Plug-Flow detention time= 10.9 min calculated for 0.064 af (99% of inflow)
 Center-of-Mass det. time= 8.1 min (778.1 - 770.0)

Volume	Invert	Avail.Storage	Storage Description
#1	31.50'	983 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
31.50	258	0	0
33.00	1,052	983	983

POST

Type III 24-hr 100 YEAR Rainfall=6.70"

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Device	Routing	Invert	Outlet Devices
#1	Primary	31.50'	6.0" x 20.0' long Culvert CPP, square edge headwall, Ke= 0.500 Outlet Invert= 31.00' S= 0.0250 '/' Cc= 0.900 n= 0.010 PVC, smooth interior

Primary OutFlow Max=0.63 cfs @ 12.17 hrs HW=32.19' (Free Discharge)
1=Culvert (Inlet Controls 0.63 cfs @ 3.2 fps)

Pond 4P:

Inflow Area = 0.415 ac, Inflow Depth > 4.66" for 100 YEAR event
 Inflow = 1.42 cfs @ 12.35 hrs, Volume= 0.161 af
 Outflow = 1.41 cfs @ 12.38 hrs, Volume= 0.161 af, Atten= 0%, Lag= 1.3 min
 Primary = 1.41 cfs @ 12.38 hrs, Volume= 0.161 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Peak Elev= 35.63' @ 12.38 hrs Surf.Area= 302 sf Storage= 127 cf
 Plug-Flow detention time=2.4 min calculated for 0.160 af (100% of inflow)
 Center-of-Mass det. time= 1.8 min (783.9 - 782.1)

Volume	Invert	Avail.Storage	Storage Description
#1	35.00'	986 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
35.00	100	0	0
36.00	420	260	260
37.00	1,032	726	986

Device	Routing	Invert	Outlet Devices
#1	Primary	35.00'	12.0" x 60.0' long Culvert CPP, square edge headwall, Ke= 0.500 Outlet Invert= 34.40' S= 0.0100 '/' Cc= 0.900 n= 0.010 PVC, smooth interior

Primary OutFlow Max=1.41 cfs @ 12.38 hrs HW=35.63' (Free Discharge)
1=Culvert (Inlet Controls 1.41 cfs @ 2.7 fps)

Pond 5P:

Inflow Area = 1.133 ac, Inflow Depth > 3.63" for 100 YEAR event
 Inflow = 1.83 cfs @ 12.79 hrs, Volume= 0.343 af
 Outflow = 0.46 cfs @ 14.21 hrs, Volume= 0.295 af, Atten= 75%, Lag= 85.4 min
 Primary = 0.46 cfs @ 14.21 hrs, Volume= 0.295 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Peak Elev= 30.37' @ 14.21 hrs Surf.Area= 8,783 sf Storage= 6,588 cf
 Plug-Flow detention time=151.6 min calculated for 0.295 af (86% of inflow)
 Center-of-Mass det. time= 112.2 min (926.7 - 814.5)

POST

Type III 24-hr 100 YEAR Rainfall=6.70"

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Volume	Invert	Avail.Storage	Storage Description
#1	29.00'	12,970 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
29.00	110	0	0
30.00	7,136	3,623	3,623
31.00	11,558	9,347	12,970

Device	Routing	Invert	Outlet Devices
#1	Primary	29.00'	4.0" x 55.0' long Culvert CPP, square edge headwall, Ke= 0.500 Outlet Invert= 24.30' S= 0.0855 '/ Cc= 0.900 n= 0.010 PVC, smooth interior

Primary OutFlow Max=0.46 cfs @ 14.21 hrs HW=30.37' (Free Discharge)

1=Culvert (Inlet Controls 0.46 cfs @ 5.3 fps)

Pond 6P: CATCH BASIN

Inflow Area = 0.115 ac, Inflow Depth > 5.97" for 100 YEAR event
 Inflow = 0.85 cfs @ 12.01 hrs, Volume= 0.057 af
 Outflow = 0.84 cfs @ 12.02 hrs, Volume= 0.057 af, Atten= 2%, Lag= 0.4 min
 Primary = 0.84 cfs @ 12.02 hrs, Volume= 0.057 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Peak Elev= 33.02' @ 12.01 hrs Surf.Area= 12 sf Storage= 12 cf
 Flood Elev= 36.00' Surf.Area= 2,787 sf Storage= 1,524 cf
 Plug-Flow detention time=0.6 min calculated for 0.057 af (100% of inflow)
 Center-of-Mass det. time=0.3 min (730.2 - 729.8)

Volume	Invert	Avail.Storage	Storage Description
#1	32.00'	4,152 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
32.00	12	0	0
34.00	12	24	24
35.00	100	56	80
36.00	2,787	1,444	1,524
36.70	4,724	2,629	4,152

Device	Routing	Invert	Outlet Devices
#1	Primary	32.00'	6.0" x 60.0' long Culvert CPP, square edge headwall, Ke= 0.500 Outlet Invert= 31.00' S= 0.0167 '/ Cc= 0.900 n= 0.010 PVC, smooth interior

Primary OutFlow Max=0.80 cfs @ 12.02 hrs HW=32.97' (Free Discharge)

1=Culvert (Inlet Controls 0.80 cfs @ 4.1 fps)

POST

Type III 24-hr 100 YEAR Rainfall=6.70"

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Pond 7P:

Inflow Area = 1.097 ac, Inflow Depth > 4.23" for 100 YEAR event
 Inflow = 3.62 cfs @ 12.32 hrs, Volume= 0.387 af
 Outflow = 3.60 cfs @ 12.35 hrs, Volume= 0.386 af, Atten= 1%, Lag= 1.5 min
 Primary = 3.60 cfs @ 12.35 hrs, Volume= 0.386 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Peak Elev= 24.74' @ 12.35 hrs Surf.Area= 1,496 sf Storage= 2,252 cf
 Plug-Flow detention time=20.6 min calculated for 0.386 af (100% of inflow)
 Center-of-Mass det. time= 19.7 min (808.8 - 789.1)

Volume	Invert	Avail.Storage	Storage Description
#1	22.00'	2,655 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
22.00	110	0	0
23.00	600	355	355
24.00	1,200	900	1,255
25.00	1,600	1,400	2,655

Device	Routing	Invert	Outlet Devices
#1	Primary	22.00'	4.0" x 30.0' long Culvert CPP, square edge headwall, Ke= 0.500 Outlet Invert=21.00' S= 0.0333 '/' Cc= 0.900 n= 0.010 PVC, smooth interior
#2	Primary	24.50'	10.0' long x 10.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=3.59 cfs @ 12.35 hrs HW=24.74' (Free Discharge)
 1=Culvert (Barrel Controls 0.65 cfs @ 7.5 fps)
 2=Broad-Crested Rectangular Weir (Weir Controls 2.94 cfs @ 1.2 fps)

Pond 8P: EXIST STORM DRAIN

Inflow Area = 2.502 ac, Inflow Depth > 3.80" for 100 YEAR event
 Inflow = 4.81 cfs @ 12.32 hrs, Volume= 0.792 af
 Outflow = 4.81 cfs @ 12.32 hrs, Volume= 0.792 af, Atten= 0%, Lag= 0.0 min
 Primary = 4.81 cfs @ 12.32 hrs, Volume= 0.792 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Peak Elev= 21.57' @ 12.32 hrs
 Flood Elev= 24.83'
 Plug-Flow detention time=0.0 min calculated for 0.792 af (100% of inflow)
 Center-of-Mass det. time=(not calculated: outflow precedes inflow)

Device	Routing	Invert	Outlet Devices
#1	Primary	20.40'	16.0" x 50.0' long Culvert CPP, square edge headwall, Ke= 0.500 Outlet Invert= 19.90' S= 0.0100 '/' Cc= 0.900 n= 0.010 PVC, smooth interior

POST

Type III 24-hr 100 YEAR Rainfall=6.70"

Prepared by Belanger Engineering

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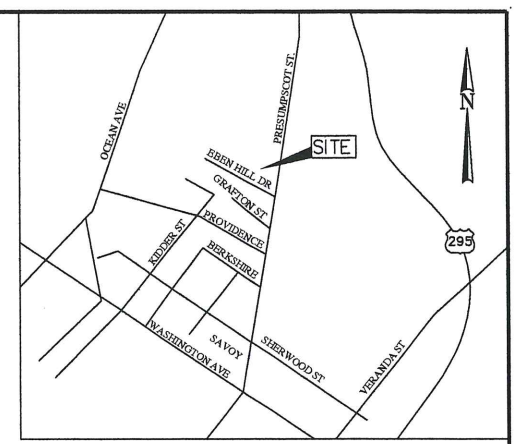
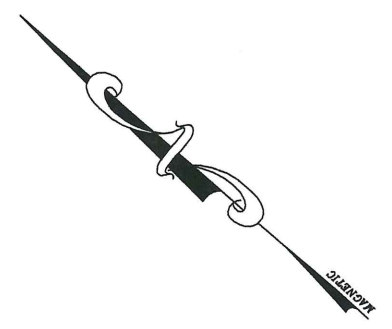
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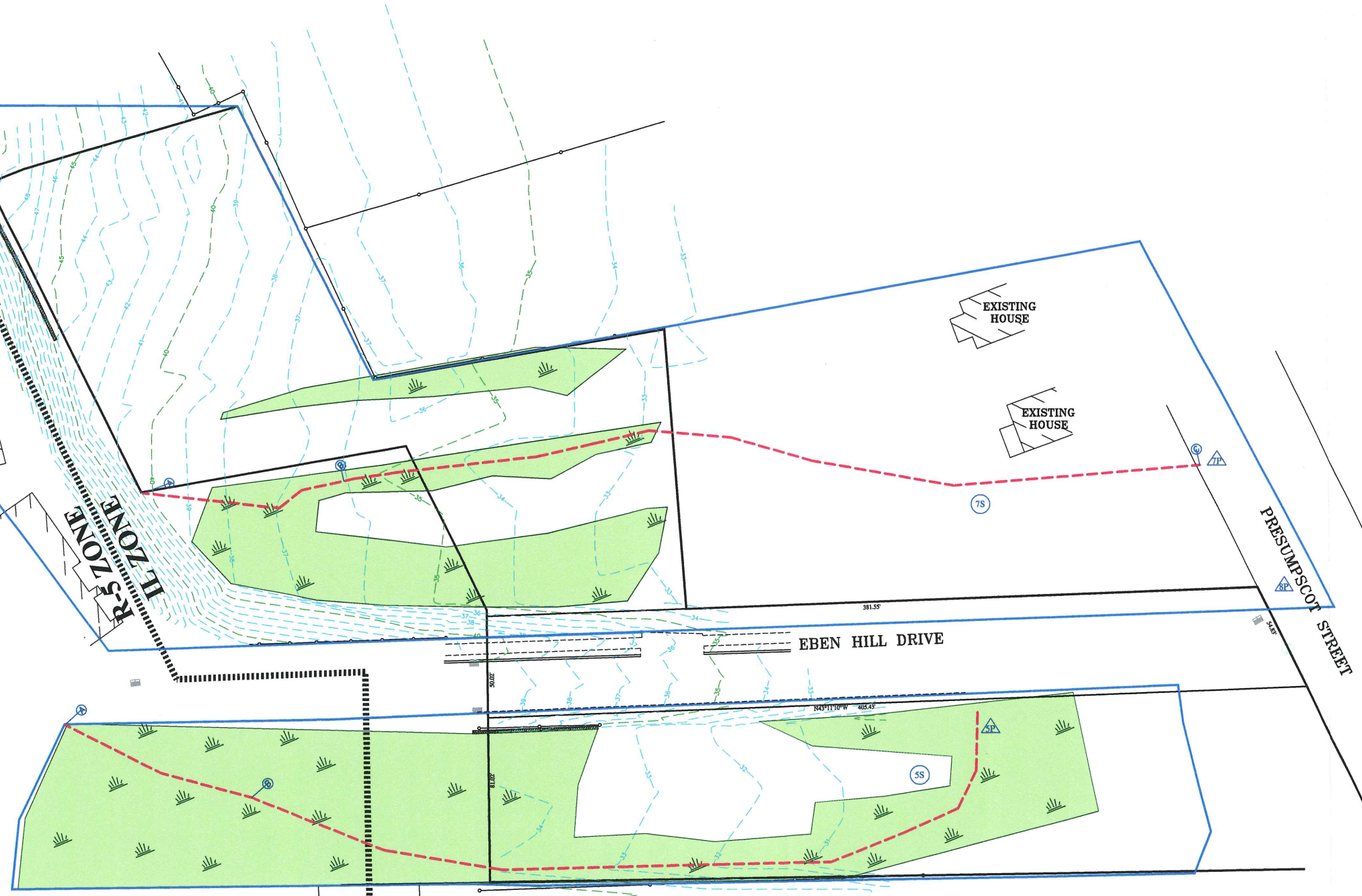
Primary OutFlow Max=4.66 cfs @ 12.32 hrs HW=21.55' (Free Discharge)

↳ **1=Culvert** (Inlet Controls 4.66 cfs @ 3.6 fps)

FED EX BUILDING

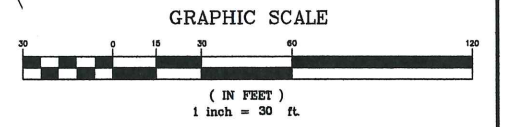


LOCATION MAP
(NOT TO SCALE)



STORMWATER LEGEND

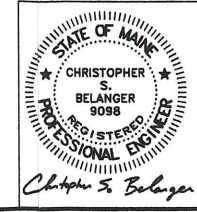
- HYDROCAD POND
- HYDROCAD SUBAREA
- HYDROCAD REACH
- TC FLOW PATH
- REACH
- WATERSHED BOUNDARY
- SOILS BOUNDARY
- SOIL DESCRIPTION



PRE DEVELOPMENT DRAINAGE PLAN

GENERAL COURIER
714 BROADWAY
SO. PORTLAND, MAINE 04106

TAX MAP 424 LOT 41
166 PRESUMPCOT STREET, PORTLAND, MAINE



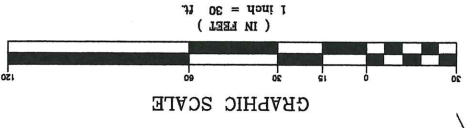
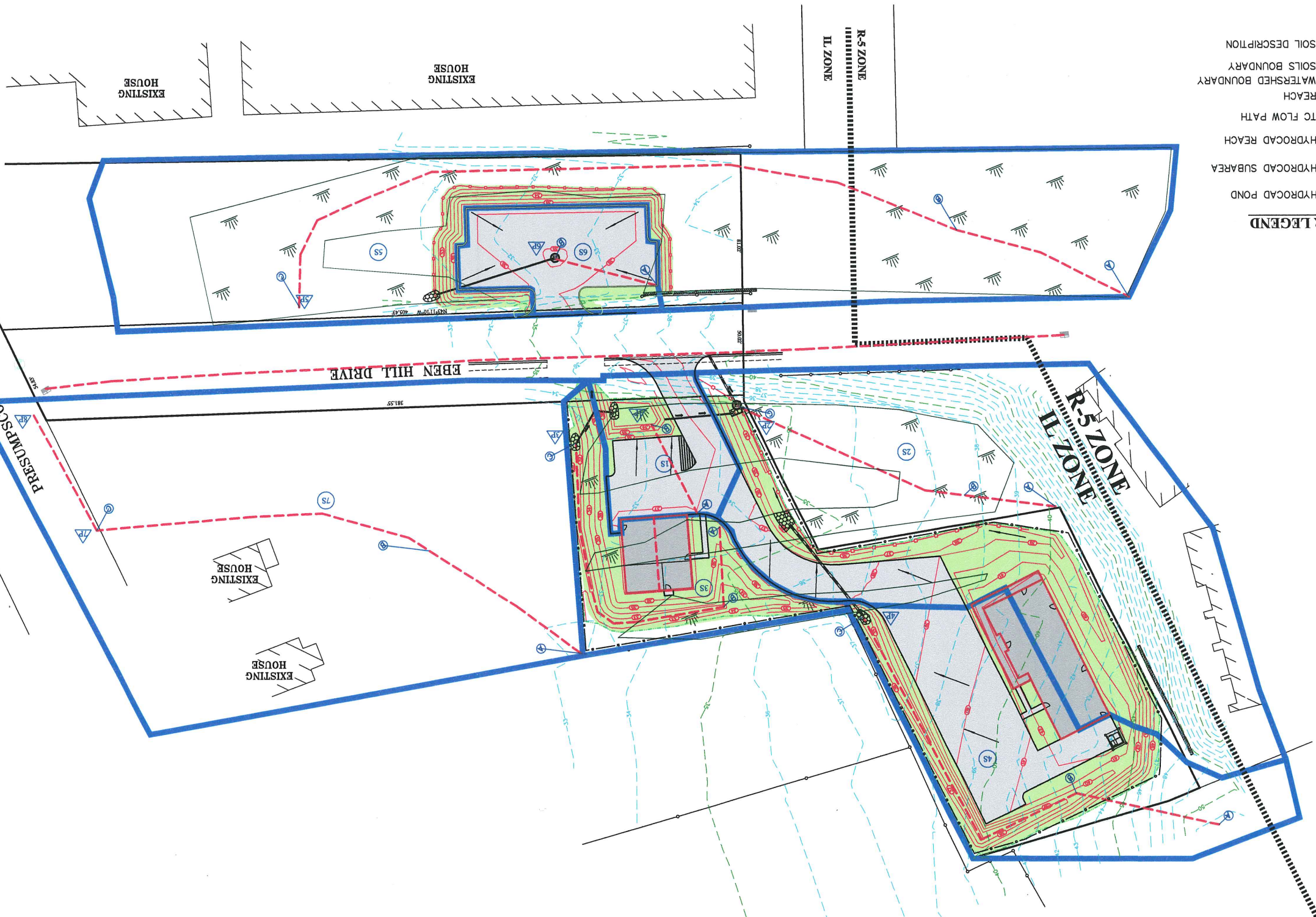
Belanger ENGINEERING
CIVIL ENGINEERING
SITE PLANNING & DESIGN
STORMWATER ANALYSIS
EROSION CONTROL

63 Second Avenue, Augusta, Maine 04330
Ph 207-622-1462, Cell 207-242-5713 Email: cbelanger@adelphia.net

FIELD WK: SURVEY INC.	SCALE: 1"=30'	SHEET:
DRN BY: CSB	JOB #: 028	
CH'D BY: CSB	SS:	
DATE: 4-1-07	FILE:	

STORMWATER LEGEND

HydroCAD Pond	
HydroCAD Subarea	
HydroCAD Reach	
TC Flow Path	
Reach	
Watershed Boundary	
Soils Boundary	
Soil Description	



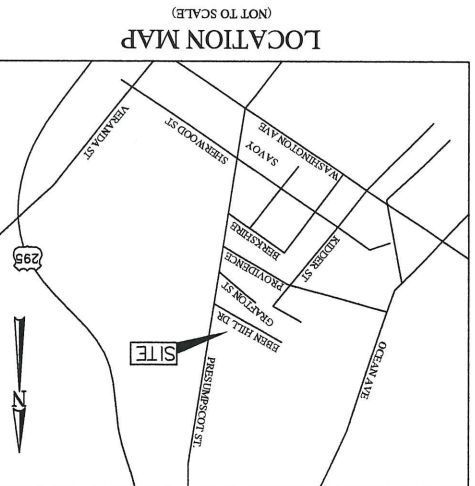
POST DEVELOPMENT DRAINAGE PLAN

GENERAL COURTESY
 714 BROADWAY
 SO. PORTLAND, MAINE 04106

TAX MAP 424 LOT 41
 166 PRESUMPCOT STREET, PORTLAND, MAINE

Belanger ENGINEERING
 CIVIL ENGINEERING
 STORMWATER ANALYSIS
 EROSION CONTROL

FIELD WK. SURVEY INC.	SCALE: 1"=30'	SHEET:
DRN BY: CSB	JOB #: 028	
CHD BY: CSB	SS:	
DATE: 4-1-07	FILE:	



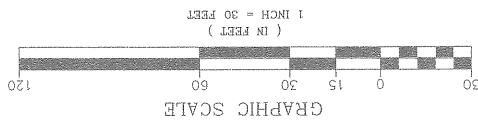
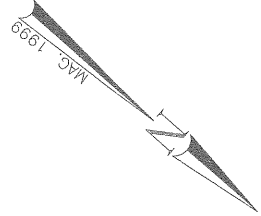
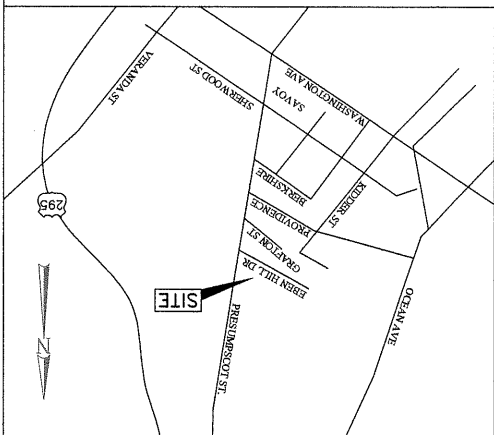
THIS PLAN SHALL NOT BE USED AND/OR MODIFIED WITHOUT WRITTEN PERMISSION FROM SURVEY, INC. ANY CHANGES SHALL BE AT USER'S RISK AND WITHOUT LIABILITY TO SURVEY, INC.

I CERTIFY THAT THIS SURVEY CONFORMS TO THE STANDARDS OF SURVEYORS AND IS CORRECT TO THE BEST OF MY KNOWLEDGE, BELIEF AND PROFESSIONAL OPINION.

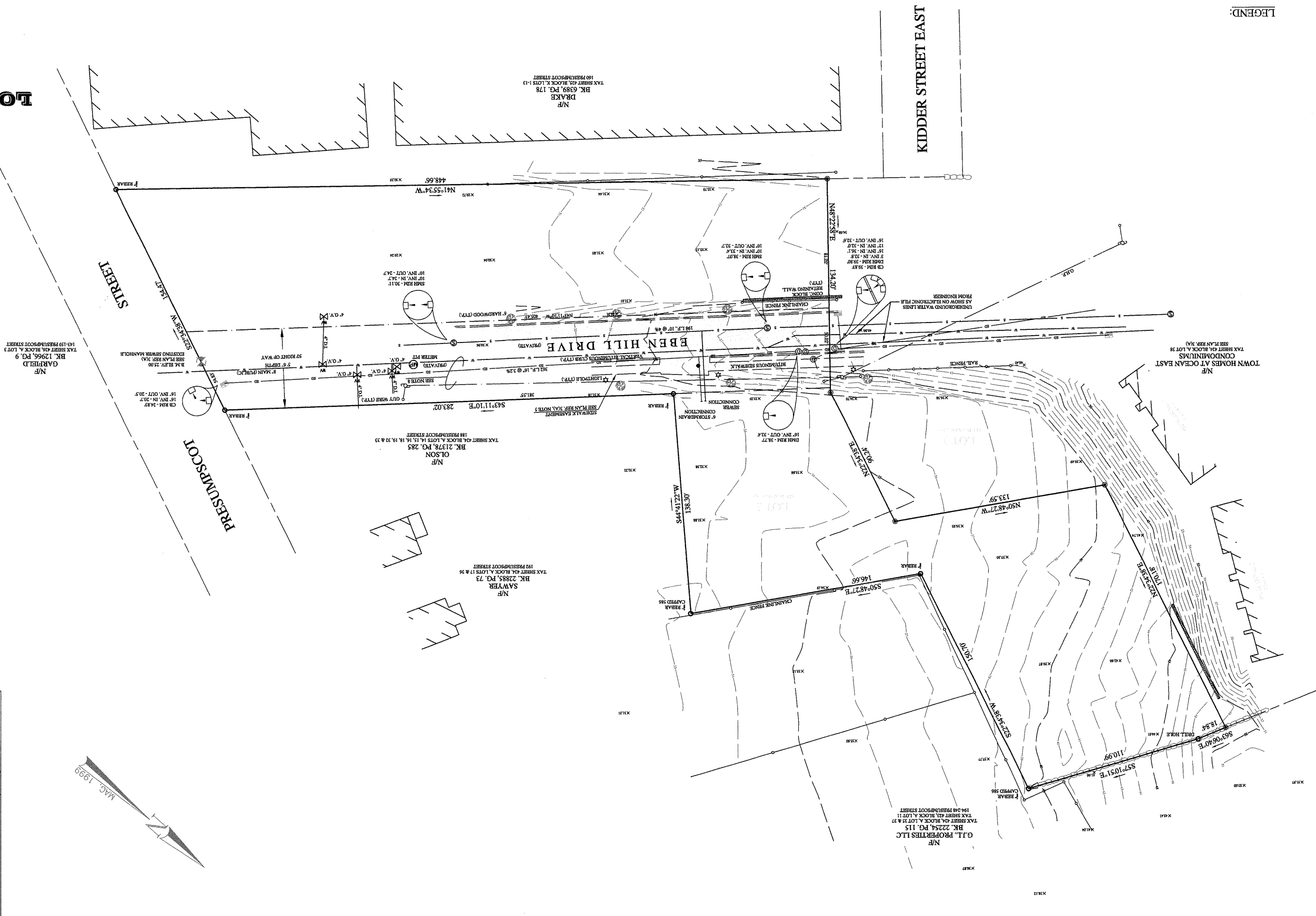
FOR:
LORRAINE ATLAS
 127 PLEASANT AVE
 PORTLAND, MAINE 04103
 ANDREW T. CARD
 24 KENTMANS LANE
 SUDBURY, MA 0176
 (OWNER OF RECORD)

- (1) DEED REFERENCE:
 DEED BOOK 679, PAGE 136
 CUMBERLAND COUNTY REGISTRY OF DEEDS
- (2) TAX SHEET REFERENCE: 424, BLOCK A, LOT 41
- (3) PLAN REFERENCES:
 FOR: TOWNHOMES AT OCEAN EAST
 BY: COFFIN ENGINEERING & SURVEYING, LLC
 DATED: JULY 17, 2002
 LAST REVISED: MAY 16, 2003
 RECORDED: PLAN BOOK 204, PAGE 48 (C.C.R.D.)
- (4) NORTH REFERENCE: MAGNETIC NORTH 1999
- (5) TOPOGRAPHY: 1' CONTOURS SHOWN WERE LOCATED ON SITE BY SURVEY, INC.
- (6) BENCHMARK REFERENCE:
 BENCHMARK ELEVATION AS SHOWN ON PLAN REF. 3(A)
- (7) UTILITIES:
 (A) THE UNDERGROUND UTILITIES SHOWN HAVE BEEN LOCATED FROM FIELD SURVEY INFORMATION AND EXISTING DRAWINGS. THE SURVEYOR MAKES NO GUARANTEES THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN-SERVICE OR ABANDONED. LOCATION INDICATED ALTHOUGH THE SURVEYOR DOES CERTIFY THAT THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM INFORMATION AVAILABLE. THE SURVEYOR HAS NOT PHYSICALLY LOCATED THE UNDERGROUND UTILITIES.
- (8) REFERENCE IS MADE TO DEED RECORDED IN BOOK 19620, PAGE 80, RESERVING RIGHTS FOR ACCESS AND INSTALLATION TO EXISTING UTILITIES AND MAINTENANCE OF SAID UTILITIES OVER, UNDER AND THROUGH EDEN HILL DRIVE.
- (9) PROPERTY IS SUBJECT TO EASEMENTS AND/OR RIGHT-OF-WAYS OF RECORD.
- (10) TOTAL PARCEL AREA: 2.18 ACRES

LOCATION MAP
 (NOT TO SCALE)



- LEGEND:**
- IRON PIN FOUND
 - REBAR TO BE SET
 - UTILITY POLE
 - N/O FOR FOREBAY
 - DEED BOOK/PAGE
 - EXISTING STRUCTURE
 - BENCH MARK
 - SPOT ELEV.
 - TREE
 - CONTOUR LINE
 - PROPERTY LINE
 - WATER LINE
 - STORM DRAIN LINE
 - SEWER LINE
 - OVERHEAD UTILITIES
 - MANHOLE
 - CATCH BASIN
 - WATER VALVE
 - FENCE LINE



G.J.L. PROPERTIES LLC
 BK. 2254, PG. 115
 TAX SHEET 424, BLOCK A, LOT 35 & 37
 TAX SHEET 423, BLOCK A, LOT 11

SAWYER
 BK. 2285, PG. 73
 TAX SHEET 424, BLOCK A, LOTS 17 & 19

OLSON
 BK. 21378, PG. 285
 TAX SHEET 424, BLOCK A, LOTS 14, 15, 16, 18, 19, 20 & 23

DRAKE
 BK. 6389, PG. 178
 TAX SHEET 424, BLOCK A, LOTS 143

TOWN HOMES AT OCEAN EAST
 COMPLEMENTS
 TAX SHEET 424, BLOCK A, LOT 38
 SEE PLAN REF. 3(A)

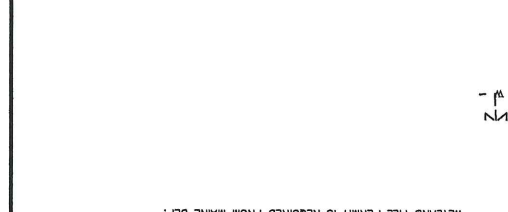
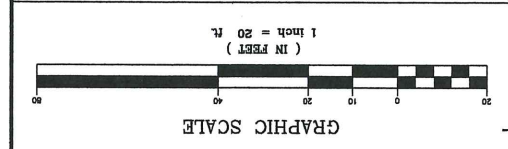
DATE: 4-1-07
 FILE:
 CHD BY: CSB
 SS:
 DRN BY: CSB
 JOB #: 028
 SCALE: 1"=20'
 FIELD WK: SURVEY INC.
 63 Second Avenue, Augusta, Maine 04330
 Ph 207-622-1462, Cell 207-242-5713 Email: chlangert@chlangert.com



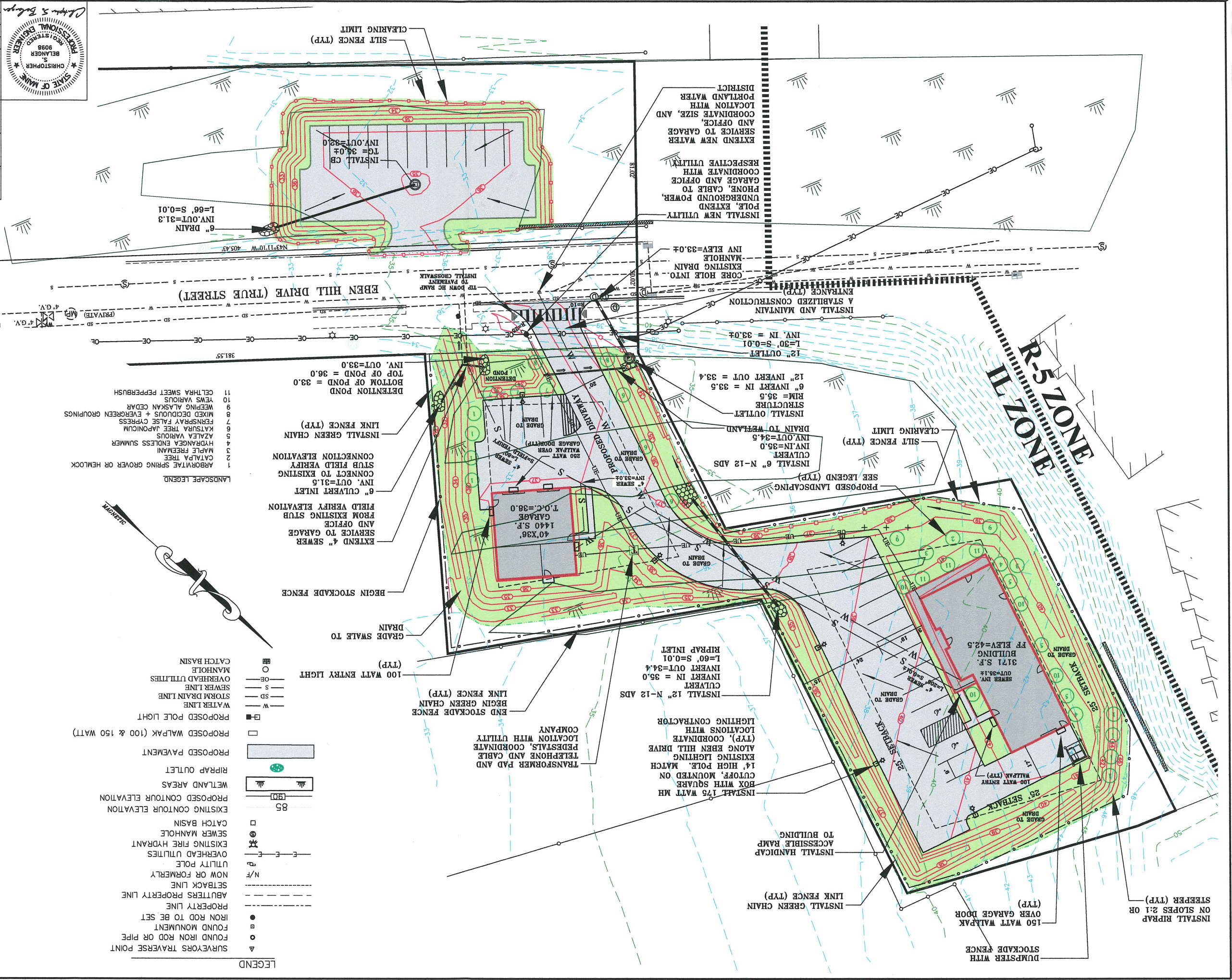
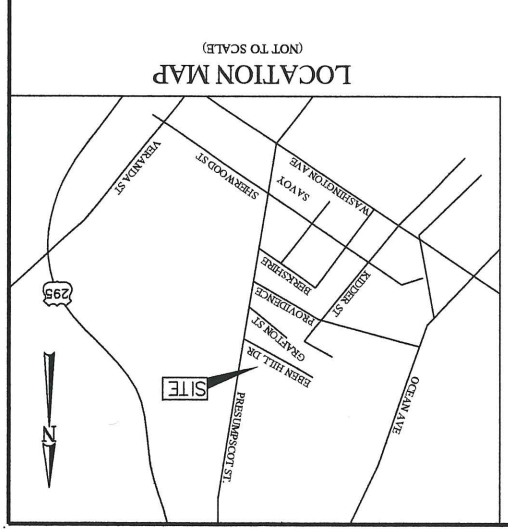
Chlangert ENGINEERING
 CIVIL ENGINEERING & DESIGN
 SITE PLANNING & DESIGN
 EROSION CONTROL

TAX MAP 424 LOT 41
 166 PRESUMSCOT STREET, PORTLAND, MAINE

714 BROADWAY
 50, PORTLAND, MAINE 04105
GENERAL COURIER



- NOTES:**
1. RECORD OWNERS: ANDREW I. & CLIFFORD CARO, 24 MINUTEMAN LN, SUDBURY, MA 01776
 2. DEED REFERENCE: C.C.M. BOOK 6739, PAGE 136.
 3. TAX MAP 424.
 4. PROPERTY IS LOCATED IN THE I-L - INDUSTRIAL LOW IMPACT ZONE.
 5. TOTAL AREA OF PROPERTY IS: 2.18 ACRES.
 6. PROPOSED USE: COMMERCIAL DISPATCH CENTER, GARAGE
 7. LOT IS SERVICED BY PUBLIC SEWER AND WATER. CONTACT RESPECTIVE UTILITY FOR CONNECTION REQUIREMENTS.
 8. PLAN REFERENCE:
 9. A. BOUNDARY AND EXISTING CONDITIONS SURVEY, 166 PRESUMSCOT STREET, PORTLAND, ME FOR GENERAL COURIER (714 BROADWAY, 50, PORTLAND, MAINE 04105) BY SURVEY INC. (P.O. BOX 210, WINNHAM, ME 04092 (207) 692-2596, JOB 07-02), DATED MARCH 16, 2007.
 9. NEW BUILDING: 4611 S.F. = 0.11 ACRES
 TOTAL IMPROVEMENTS AREA: 0.53 ACRES
 10. CONTACT SURVEY INC. (207-892-2596) FOR BENCHMARK LOCATION AND CONSTRUCTION LAYOUT COORDINATION.
 11. LIGHTING SHALL BE ARRANGED SO THAT NO DIRECT RAYS FROM SUCH LIGHTING SHALL FALL UPON ANY NEIGHBORING PROPERTIES OR SHALL CONFORM TO SECTION OF THE ORDINANCE. MAINWALLS AND PARKING AREAS SHALL HAVE A MINIMUM ILLUMINATION OF 2 FOOT CANDLES. CONTRACTOR SHALL VERIFY AND ADJUST LIGHTING WHERE NECESSARY.
 12. TOTAL WETLAND IMPACT PROPOSED = 8050 S.F. A TER 1 WETLAND FILL PERMIT IS REQUIRED FROM MAINE DEP.



- LANDSCAPE LEGEND**
1. ARGENTIAE SPRING GROVER OR HEMLOCK
 2. MAPLE FREEMANI
 3. HYDRANGEA ENDLESS SUMMER
 4. AZALEA VARIOS
 5. KATSURU TREE JAPONICA
 6. FERNSPRAY FALSE CYPRESS
 7. MIXED DECIDUOUS + EVERGREEN GROUPINGS
 8. WEeping ALABAMIAN CEDAR
 9. WEM'S VARIOS
 10. CELTRIA SWEET PEPPERBUSH
 - 11.
 - 12.

- LEGEND**
- ▲ SURVEYORS TRAVERSE POINT
 - FOUND MONUMENT
 - FOUND IRON ROD OR PIPE
 - IRON ROD TO BE SET
 - PROPERTY LINE
 - ABUTTERS PROPERTY LINE
 - SETBACK LINE
 - N/F NOW OR FORMERLY
 - UTILITY POLE
 - OVERHEAD UTILITIES
 - EXISTING FIRE HYDRANT
 - SEWER MANHOLE
 - CATCH BASIN
 - EXISTING CONTOUR ELEVATION
 - PROPOSED CONTOUR ELEVATION
 - WETLAND AREAS
 - RIPRAP OUTLET
 - PROPOSED PAVEMENT
 - PROPOSED WALPAK (100 & 150 WATT)
 - PROPOSED POLE LIGHT
 - WATER LINE
 - STORM DRAIN LINE
 - OVERHEAD UTILITIES
 - MANHOLE
 - CATCH BASIN

ON SLOPES 2:1 OR STEEPER (TYP)

DATE: 4-1-07
 FILE:
 CHD BY: CSB
 SS:
 DRN BY: CSB
 JOB #: 028
 SHEET: 3

FIELD WK: SURVEY INC. SCALE: 1"=20'
 63 Second Avenue, Augusta, Maine 04330
 PH 207-622-1423, CH207-242-5713 Email: chdelong@odphdpl.com

Deblanger ENGINEERING
 CIVIL ENGINEERING
 SITE PLANNING & DESIGN
 STORMWATER ANALYSIS
 EROSION CONTROL

TAX MAP 424 LOT 41
 166 PRESUMPCOT STREET, PORTLAND, MAINE

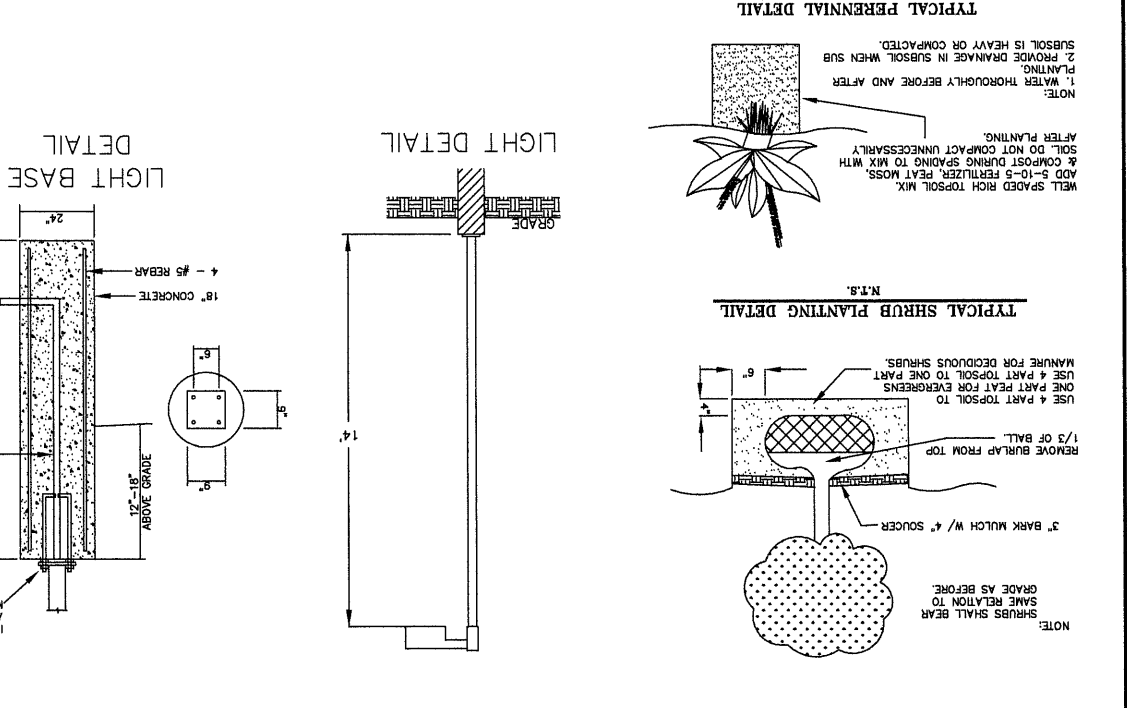
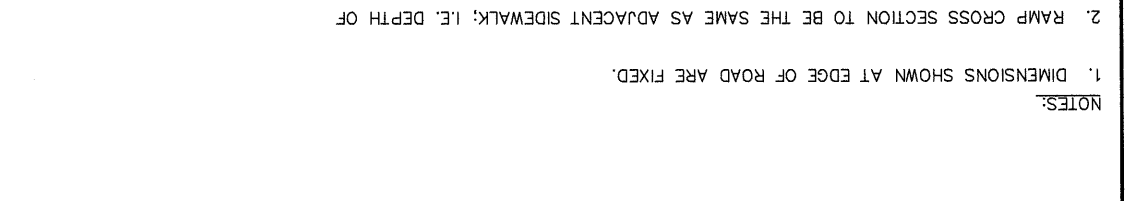
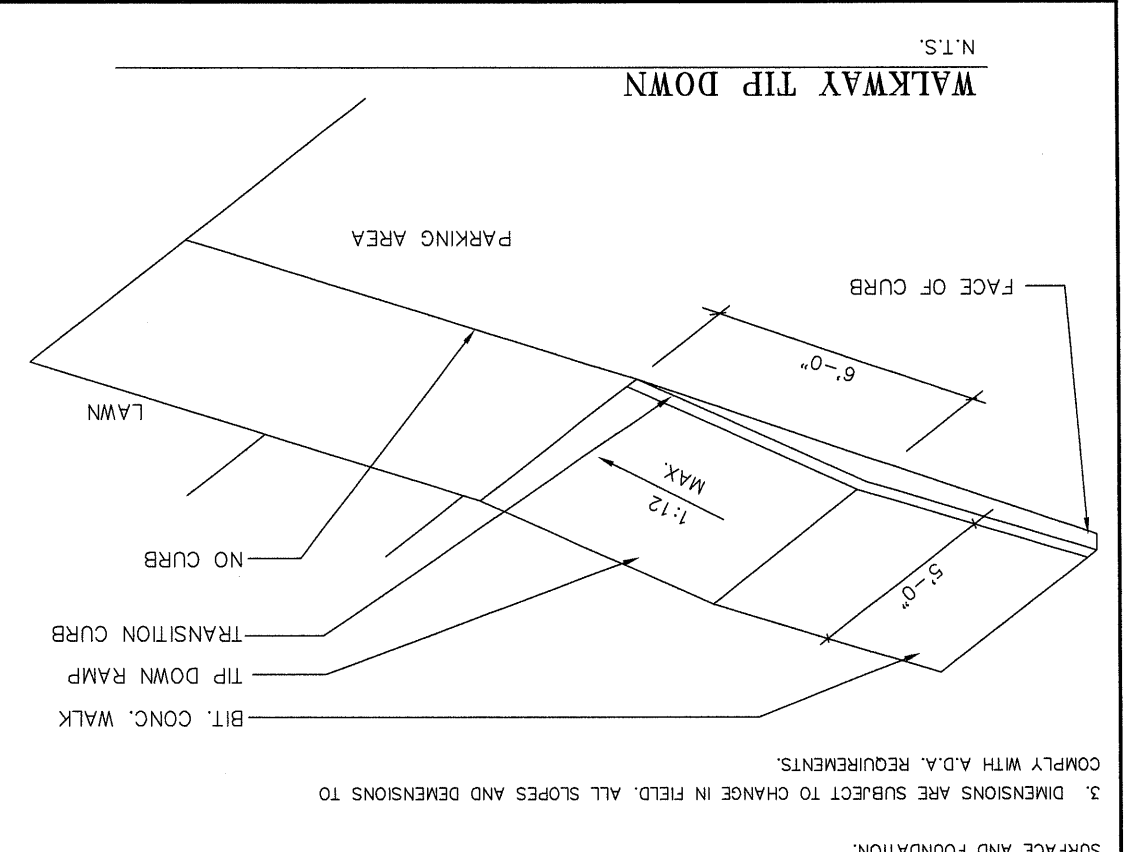
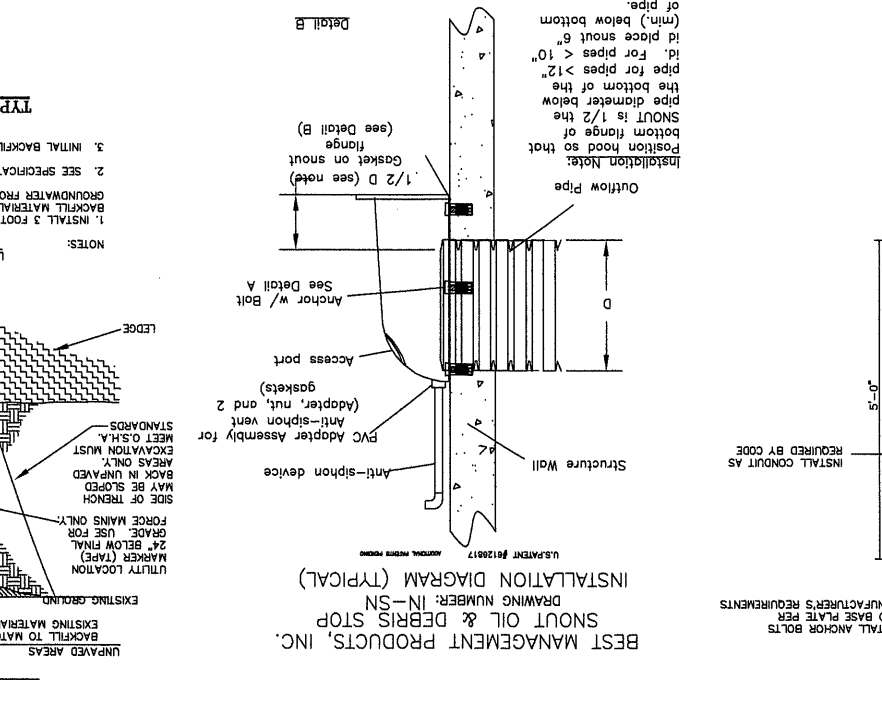
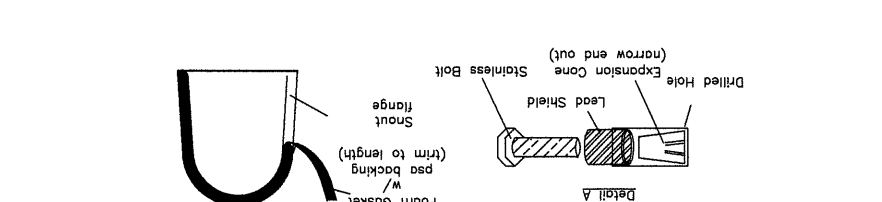
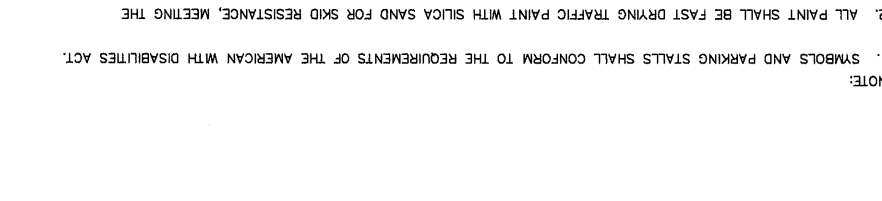
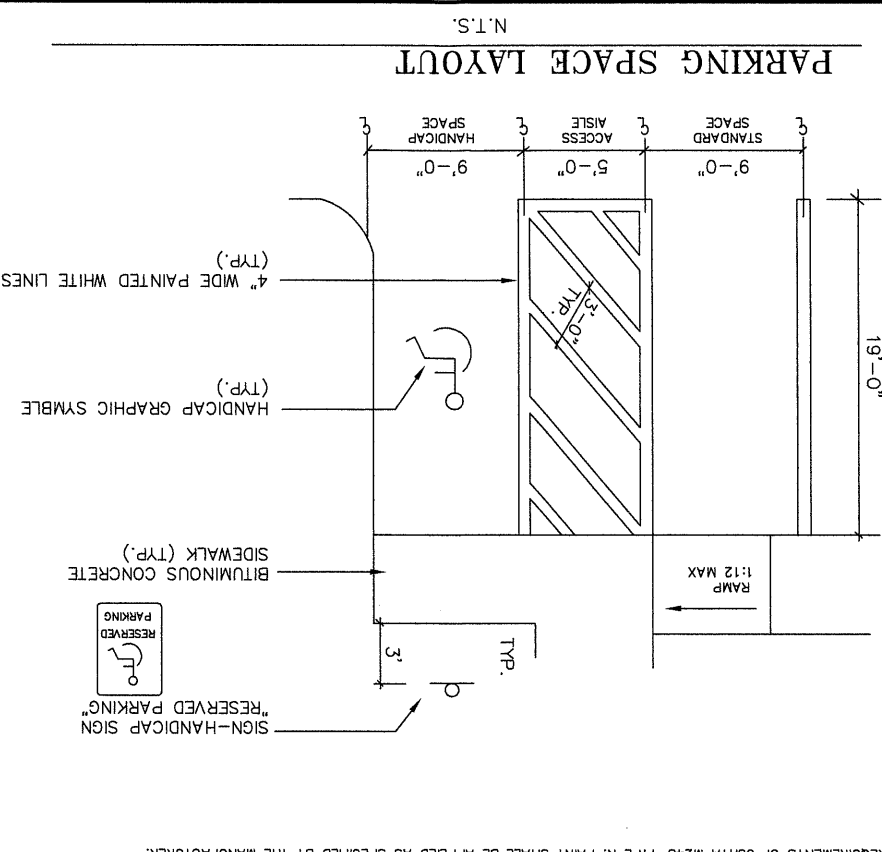
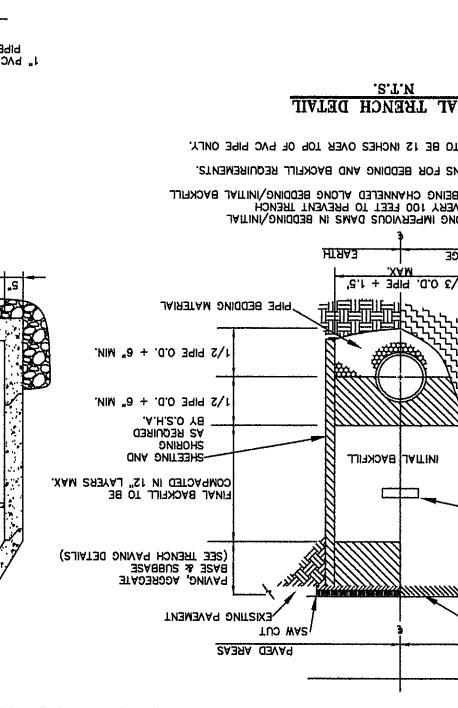
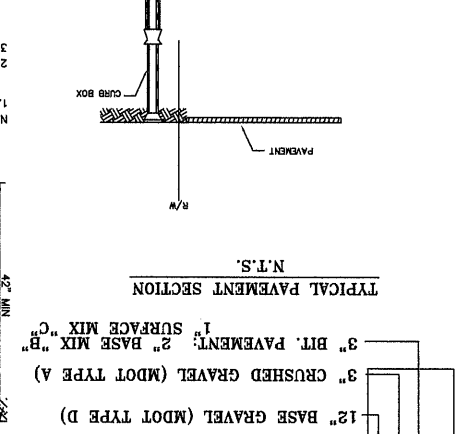
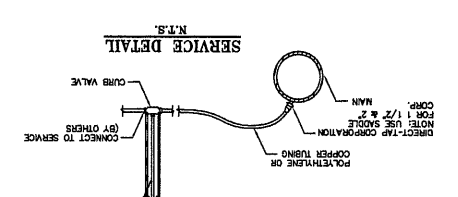
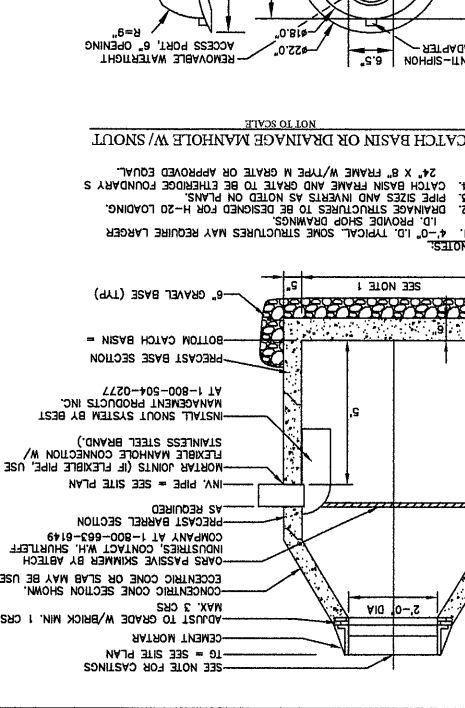
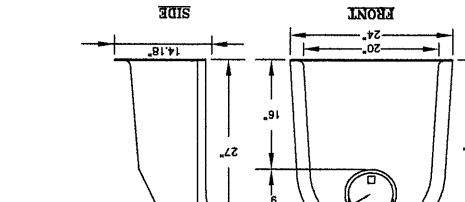
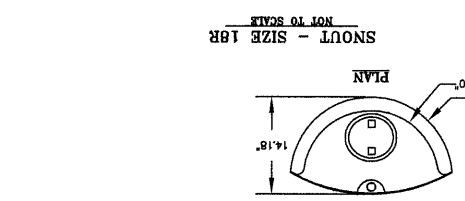
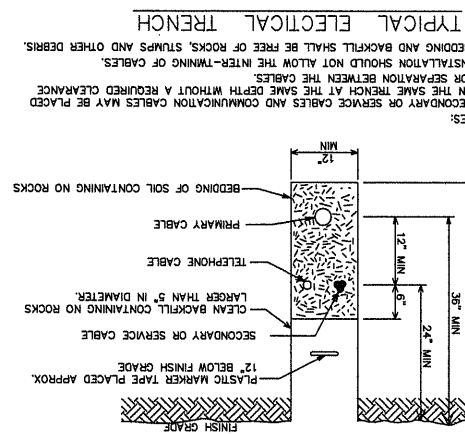
GENERAL COURIER
 SO. PORTLAND, MAINE 04106



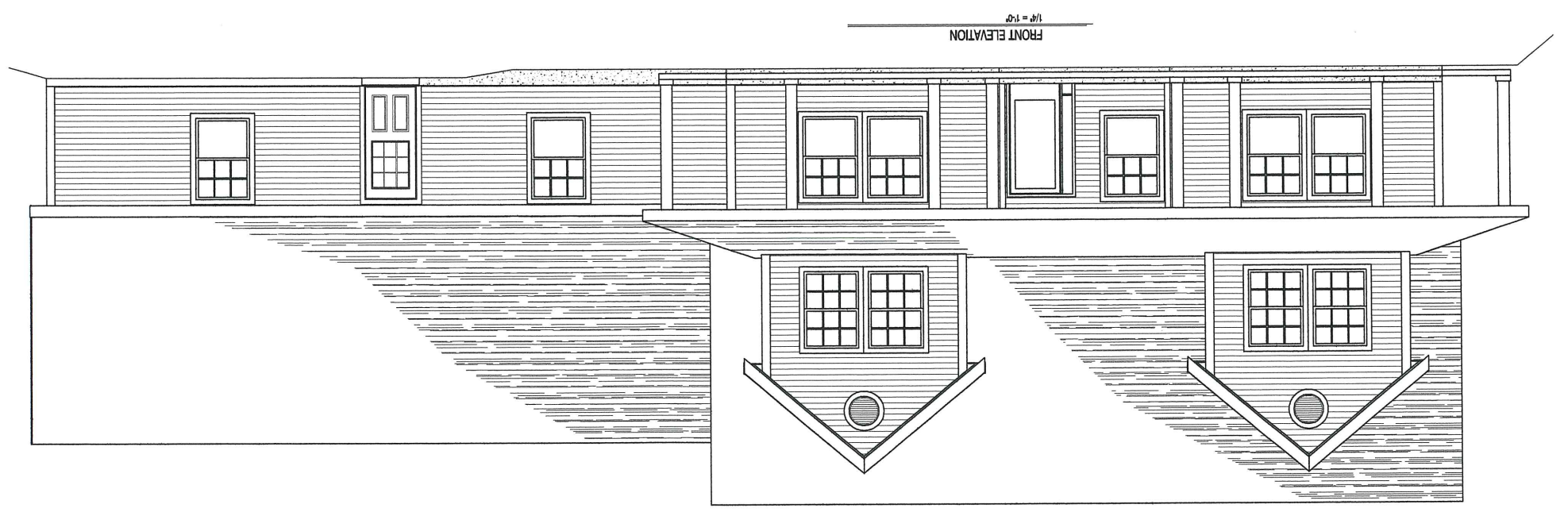
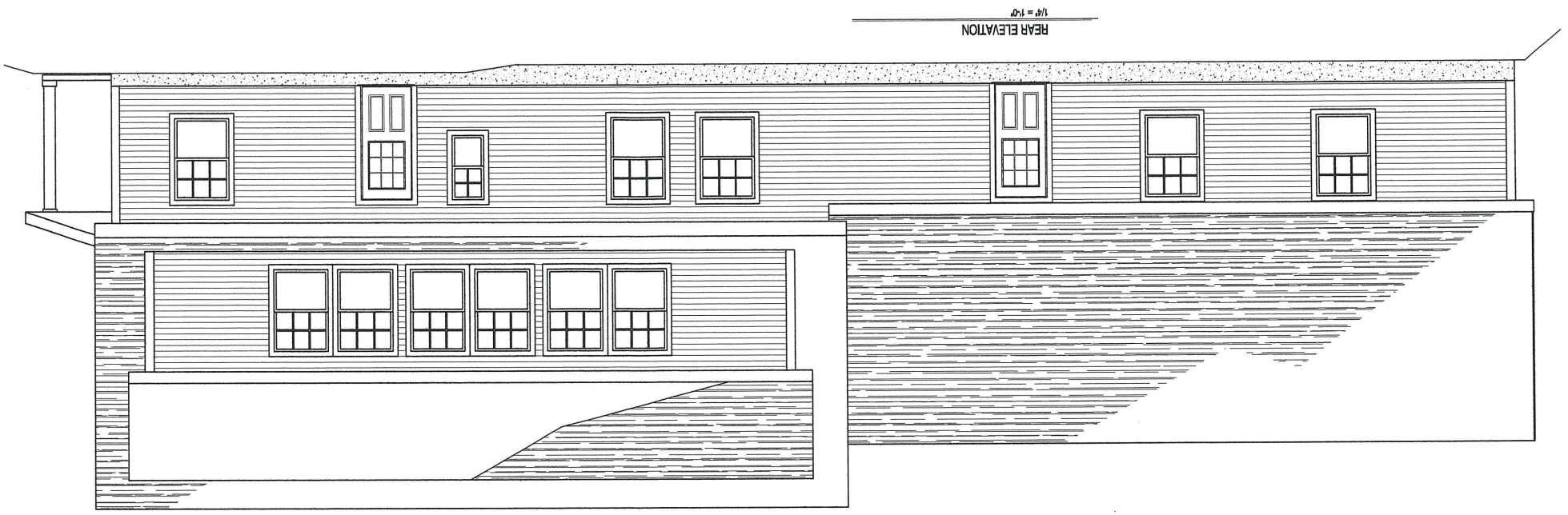
DETAILS

TYPICAL ELECTRICAL TRENCH

NOTES:
 1. SECONDARY OR SERVICE CABLES AND COMMUNICATION CABLES MAY BE PLACED IN SAME TRENCH AT THE SAME DEPTH WITHOUT A REQUIRED CLEARANCE OR SEPARATION BETWEEN THE CABLES.
 2. INSTALLATION SHOULD NOT ALLOW THE INTER-TWING OF CABLES.
 3. BEDDING AND BACKFILL SHALL BE FREE OF ROCKS, TRUMPS AND OTHER DEBRIS.



DATE: 4-1-07
 FILE:
 CHD BY: CSB
 SS:
 DRN BY: CSB
 JOB #: 028
 SHEET: 3



1-Of-5
 Sheet Number:
 Project: 0Y121106
 Drawn By: PML
 Scale: 1/4"=1'-0"
 Date: 02/07/07

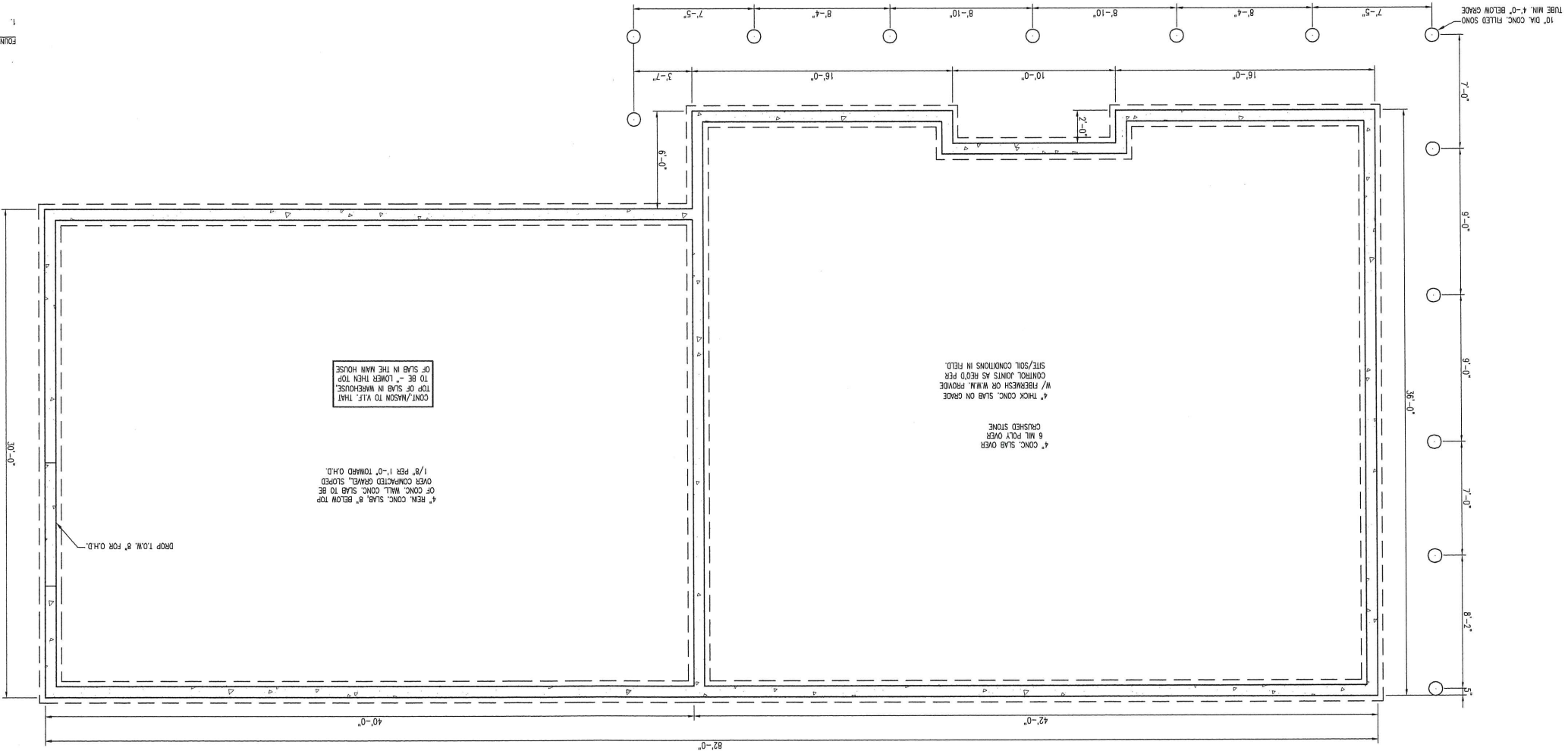
02/09/07	1
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Revisions:

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PRELIMINARY ELEVATION
 Lorraine Atlass
 Portland, Maine





- FOUNDATION NOTES:
1. 4" DIA. PERFR. INTER. PERIMETER DRAIN SET IN FOR FUTURE SUB-SLAB VENTILATION IF REQUIRED.
 2. ALL COLUMNS THIS SHEET ASSUMED TO BE STOCK CONC. FILLED TALLY COLUMNS.
 3. ALL INTERIOR FOOTINGS ASSUMED TO BE 12" DEEP FOOTINGS LARGER THAN 2" WIDE TO BE REINFORCED WITH #4 REBAR AT 8" C/C.
 4. DECK SUPPORTS TO BE 10" DIA. SONOTUBES BOTH WAYS.
 5. CONTRACTOR TO VERIFY CONDITIONS IN FIELD AND SETP FND. AS REQUIRED PER GRADE.

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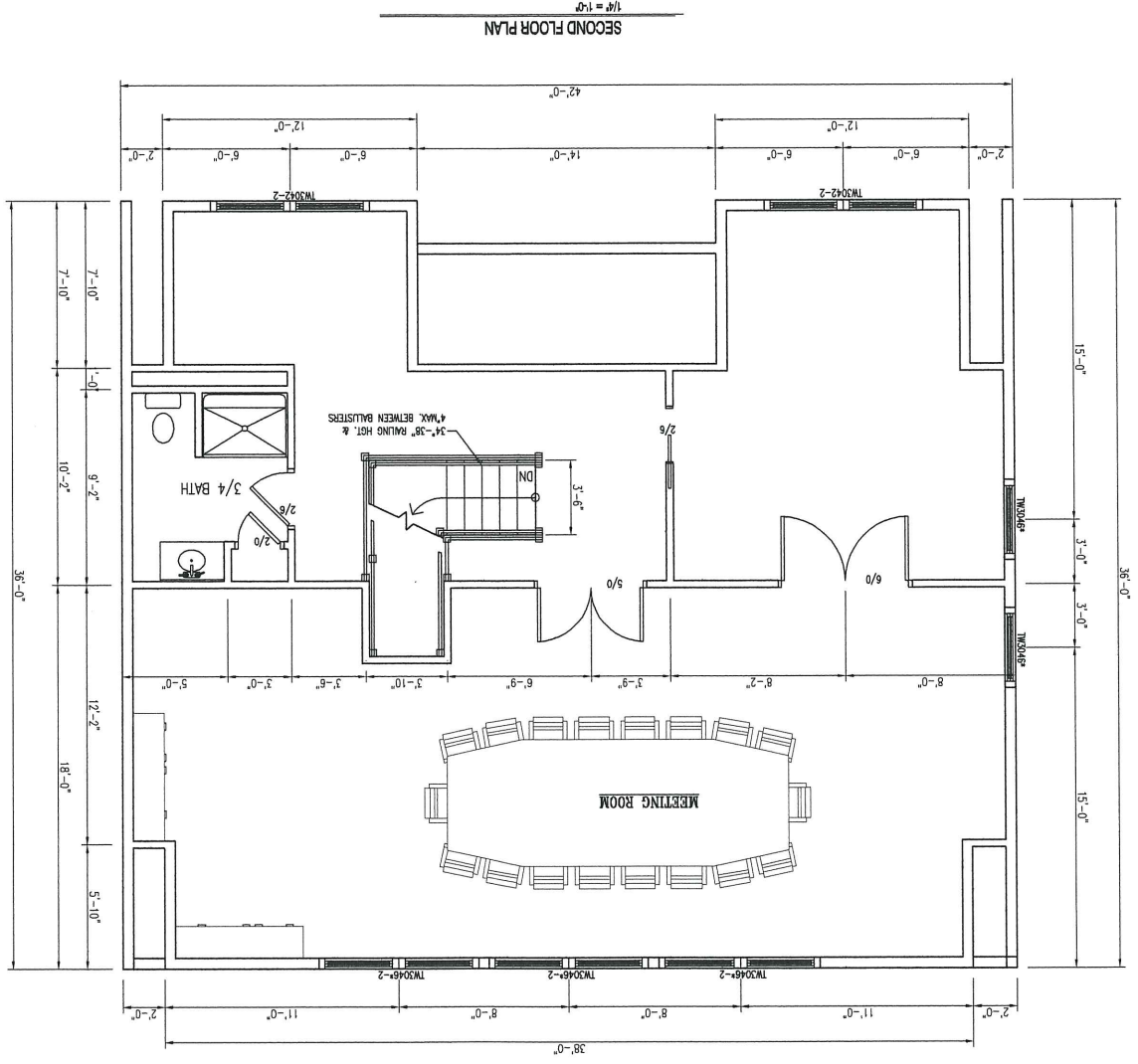
Revisions:

NO.	DATE	DESCRIPTION

Date : 02/07/07
 Scale : 1/4"=1'-0"
 Drawn By: PML
 Project: 0Y121106
 Sheet Number: 3-of-5

PRELIMINARY FOUNDATION
 Lorraine Atlass
 Portland, Maine





- NOTES:
SMOKE ALARMS SHALL BE INSTALLED IN THE FOLLOWING LOCATIONS
1. ON EACH ADDITIONAL STORY OF THE DWELLING
 2. ALL SMOKE ALARMS SHALL BE INTERCONNECTED
- * EGRESS WINDOW

ANDERSEN NFRC CERTIFIED UNIT PERFORMANCE		
400 SERIES WINDOWS ANDERSEN	U-FACTOR	0.33
PRODUCT TYPE: LOW-E		
WITHOUT GRILLS HP		
ANDERSEN NFRC CERTIFIED UNIT PERFORMANCE		
DOOR-HUNG	U-FACTOR	0.33
TILT-WASH	U-FACTOR	0.34
DOUBLE-HUNG	U-FACTOR	0.33
DOUBLE-HUNG PICTURE	U-FACTOR	0.33
TILT-WASH	U-FACTOR	0.33
DOUBLE-HUNG TRANSLUM	U-FACTOR	0.33
DOUBLE-HUNG TRANSLUM	U-FACTOR	0.33
GLAZING WINDOW	U-FACTOR	0.36
R-WALL		

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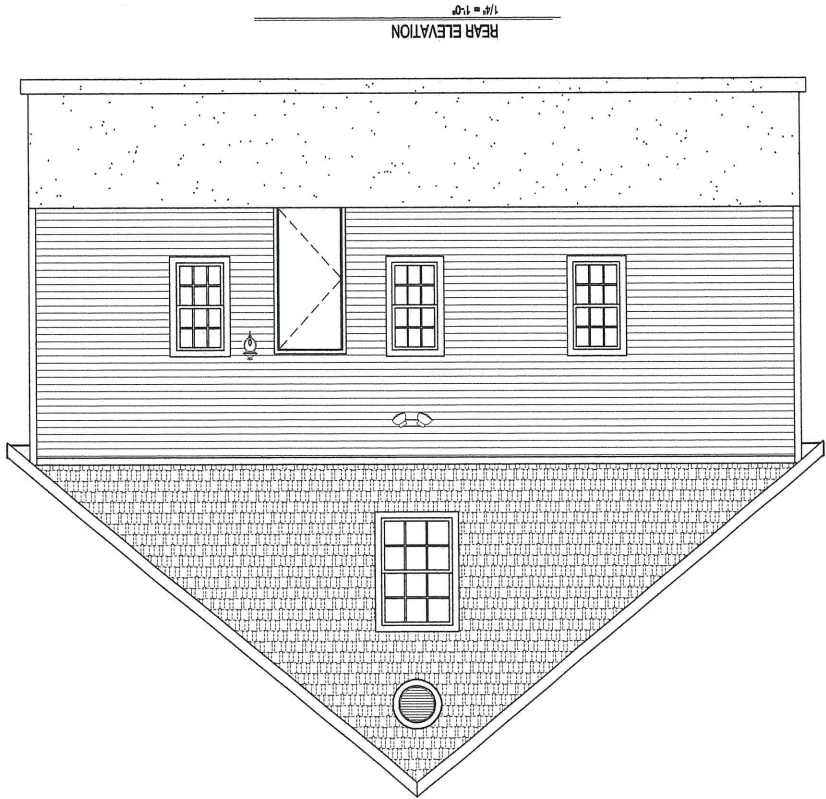
Revisions:

Date	Description
02/07/07	

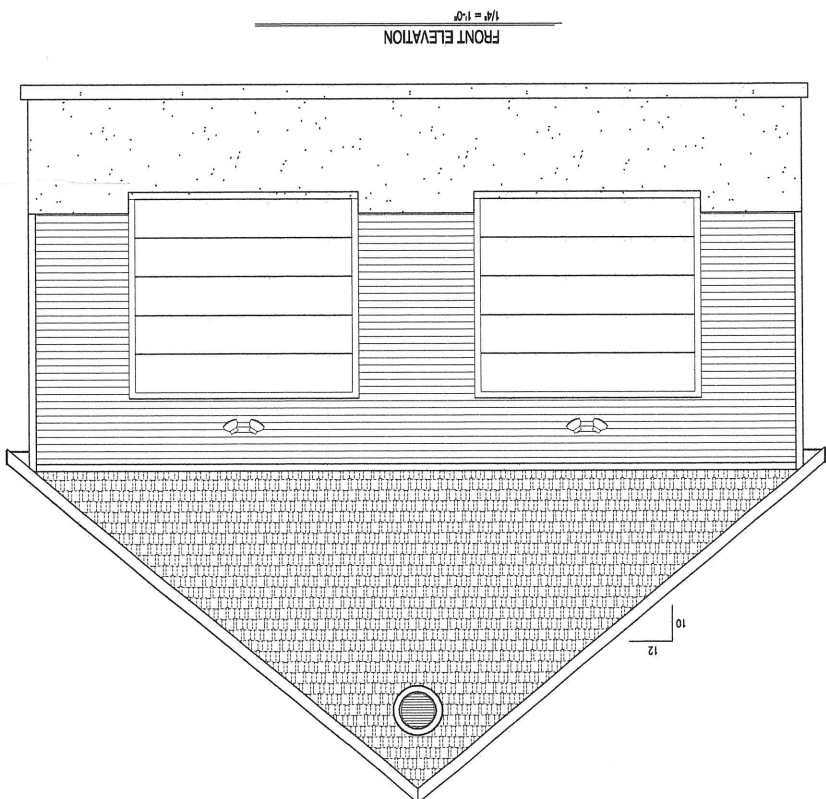
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Project: 0Y121106
Sheet Number: 5-01-5

PRELIMINARY SECOND FLOOR PLAN
Lorraine Atlass
Portland, Maine

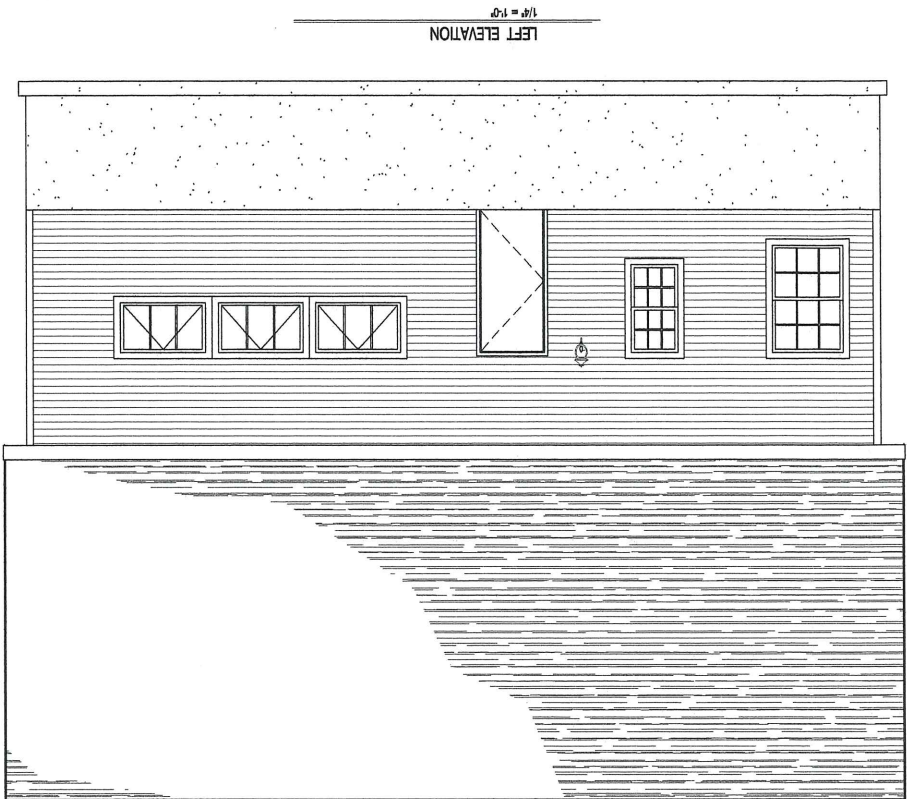




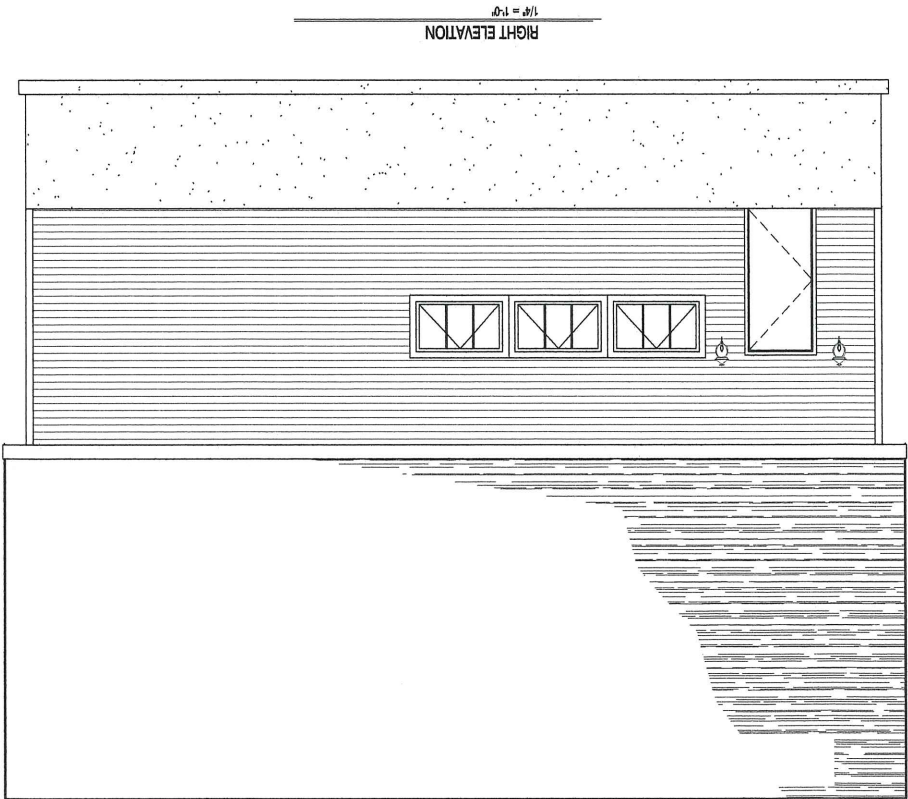
REAR ELEVATION
1/4" = 1'-0"



FRONT ELEVATION
1/4" = 1'-0"



LEFT ELEVATION
1/4" = 1'-0"



RIGHT ELEVATION
1/4" = 1'-0"

1-of-3
Sheet Number:
Project: GY121106
Drawn By: PML
Date: 02-07-07
Scale: 1/4"=1'-0"

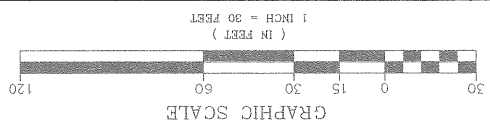
NO.	DATE	REVISIONS

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GARAGE ELEVATION
Lorraine Atlass
Portland, Maine



- LEGEND:**
- IRON PIN FOUND
 - UTILITY POLE
 - REBAR TO BE SET
 - DEED BOOK/PAGE
 - NOW OR FORMERLY
 - EXISTING STRUCTURE
 - BENCH MARK
 - SPOT ELEV.
 - TREE
 - CONTOUR LINE
 - PROPERTY LINE
 - WATER LINE
 - SEWER LINE
 - STORM DRAIN LINE
 - MANHOLE
 - OVERHEAD UTILITIES
 - CATCH BASIN
 - FENCE LINE



JASON T. PARTHING
 P.L.S., 2390
 THE MAINE BOARD OF LICENSES FOR PROFESSIONAL LAND SURVEYS AND IS CORRECT TO THE BEST OF MY KNOWLEDGE, BELIEF AND PROFESSIONAL OPINION.

PLAN BY: M.C. & S. SURVEY, INC.
 DATE: MARCH 16, 2007
 JOB NO. 07-021

THIS PLAN SHALL NOT BE USED AND/OR MODIFIED WITHOUT WRITTEN PERMISSION FROM SURVEY, INC. ANY CHANGES SHALL BE AT USER'S RISK AND WITHOUT LIABILITY TO SURVEY, INC.

SURVEY, INC.
 P.O. BOX 210
 WINDHAM, ME 04062
 (207) 892-2556 (207) 892-2557 FAX
 SURVEY.INC@VERIZON.NET

FOR:
LORRAINE ATLAS
 127 PLEASANT AVE
 PORTLAND, MAINE 04103

ANDREW T. CARD
 24 BENTLEY LANE
 SUBURY, MA 0176
 (OWNER OF RECORD)

**BOUNDARY & EXISTING
 CONDITION SURVEY**

166 PRESUMPSCOT STREET
 PORTLAND, MAINE

- NOTES:**
- (1) DEED REFERENCE: DEED BOOK 6739, PAGE 136 CUMBERLAND COUNTY REGISTRY OF DEEDS
 - (2) TAX SHEET REFERENCE: 424, BLOCK A, LOT 41
 - (3) PLAN REFERENCES:
 - (A) RECORDING PLAT FOR: TOWNHOMES AT OCEAN EAST BY: COFFIN ENGINEERING & SURVEYING, L.L.C. DATED: JULY 17, 2002
 - LAST REVISION: MAY 16, 2003
 - RECORDED: PLAN BOOK 204, PAGE 48 (C.C.R.D.)
 - (4) NORTH REFERENCE: MAGNETIC NORTH 1999
 - (5) TOPOGRAPHY: 1" CONTOURS SHOWN WERE LOCATED ON SITE BY SURVEY, INC.
 - (6) BENCHMARK REFERENCE: BENCHMARK ELEVATION AS SHOWN ON PLAN REF. (3A)
 - (7) UTILITIES:
 - (A) THE UNDERGROUND UTILITIES SHOWN HAVE BEEN LOCATED FROM FIELD SURVEY INFORMATION AND EXISTING DRAWINGS. THE SURVEYOR MAKES NO GUARANTEES THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN-SERVICE OR ABANDONED. LOCATION INDICATED ALTHOUGH THE SURVEYOR DOES CERTIFY THAT THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM INFORMATION AVAILABLE. THE SURVEYOR HAS NOT PHYSICALLY LOCATED THE UNDERGROUND UTILITIES. REFERENCE MADE TO DEED RECORDED IN BOOK 1920, PAGE 80, RESERVING RIGHTS FOR ACCESS AND INSTALLATION TO EXISTING UTILITIES AND MAINTENANCE OF SAID UTILITIES OVER, UNDER AND THROUGH EBDEN HILL DRIVE.
 - (9) PROPERTY IS SUBJECT TO EASEMENTS AND/OR RIGHT-OF-WAYS OF RECORD.
 - (10) TOTAL PARCEL AREA: 2.18 ACRES

