

2007-0195

418A-C-1

479 Presumpscot St.

New Bld.

Moody's Collision Ctr.

on Spreadsheet

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

2007-0195  
Application I. D. Number  
  
11/16/2007  
Application Date  
  
Moody's Collision Center  
Project Name/Description

Moody's Collision Center  
Applicant  
200 Narragansett Street, Gorham, ME 04038  
Applicant's Mailing Address

Consultant/Agent  
Applicant Ph: (207) 839-2500 Agent Fax:  
Applicant or Agent Daytime Telephone, Fax

Presumpscot St, Portland, Maine  
Address of Proposed Site  
415 B008001  
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 111824 Acreage of Site \_\_\_\_\_ Zoning IM

**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 11/16/2007

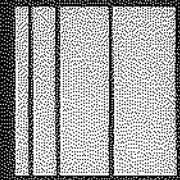
**Planning Approval Status:**

Approved  Approved w/Conditions See Attached  Denied  
Reviewer \_\_\_\_\_  
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

- Performance Guarantee Accepted \_\_\_\_\_  
date \_\_\_\_\_ amount \_\_\_\_\_ expiration date \_\_\_\_\_
- Inspection Fee Paid \_\_\_\_\_  
date \_\_\_\_\_ amount \_\_\_\_\_
- Building Permit Issue \_\_\_\_\_  
date \_\_\_\_\_
- Performance Guarantee Reduced \_\_\_\_\_  
date \_\_\_\_\_ remaining balance \_\_\_\_\_ signature \_\_\_\_\_
- Temporary Certificate of Occupancy \_\_\_\_\_  
date \_\_\_\_\_  Conditions (See Attached) \_\_\_\_\_  
expiration date \_\_\_\_\_
- Final Inspection \_\_\_\_\_  
date \_\_\_\_\_ signature \_\_\_\_\_
- Certificate Of Occupancy \_\_\_\_\_  
date \_\_\_\_\_
- Performance Guarantee Released \_\_\_\_\_  
date \_\_\_\_\_ signature \_\_\_\_\_
- Defect Guarantee Submitted \_\_\_\_\_  
submitted date \_\_\_\_\_ amount \_\_\_\_\_ expiration date \_\_\_\_\_
- Defect Guarantee Released \_\_\_\_\_  
date \_\_\_\_\_ signature \_\_\_\_\_



November 16, 2007  
07548

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

**Minor Site Plan Application**  
**Moody's Collision Center, Presumpscot Street, Portland Maine**

Dear Babara:

On behalf of the Moody's Collision Center Sebago Technics, Inc. has prepared the attached minor site plan application for the proposed construction of an 18,448 square foot building located on Presumpscot Street in Portland.

The proposed project involves the construction of an 18,448 square foot Moody's Collision Center and associated parking and landscaping areas. The project improvements include the installation of new utility services for the proposed development along with associated landscaping, drainage infrastructure, and private subsurface wastewater disposal area.

The property is identified on the City of Portland Tax Map 415 as Lot 415-B-8 and on Tax Map 418A as 418A-C-001 and Tax Map 419-A as Lot 419A-A-7 and is located in the (IM) Moderate Impact Industrial Zone. Moody's Collision Center currently has the site under contract.

The following narrative is provided to address the requirements for site plan applications outlined in the City Site Plan Review Ordinance identified in Section 14-525(c) of the Land Use Ordinance and to provide additional information required by the City of Portland. Appropriate exhibits are attached as indicated.

**1. Existing Conditions and Proposed Uses**

The majority of the site is currently gravel covered. The site has previously been utilized by Dragon Concrete for concrete truck emptying and stockpiling. The eastern portion of the site drops sharply 3:1, to an existing wetland area adjacent to the railroad tracks. This eastern sloped area is void of any vegetation and is heavily covered with erosion control woodchips.

The site is currently undeveloped. Limited vegetation and trees occupy the perimeter of the project site while the central portion of the site is completely covered with gravel fill.

There are no existing utilities servicing the site. The proposed project will utilize public water, underground electrical and telecommunications, and private subsurface wastewater disposal. The site currently drains easterly to a wetland area adjacent to the railroad tracks. A 60-inch culvert located off the northeastern corner of the property conveys runoff underneath the railroad track to the Presumpscot River and onto the ocean. The front (Presumpscot Street) side of the building will contain a reception area, offices and a break room. The proposed finish floor elevation of this portion of the building is El. 43.70. The rear portion of the building will contain the shop area. The proposed finish floor elevation of the shop area will be 3 inches lower than the offices, El. 43.45. This will place the finish floor elevation of the building approximately 3-10 feet below Presumpscot Street. A combination of slope grading and a small retaining wall will provide the transition from Presumpscot Street to the project site.

The proposed development will include the following improvements:

- The construction of a new (18,448 s.f.) Moody's Collision Center, with associated office space and shop space.
- The construction of 73 parking spaces associated with the proposed use including walkways, landscaping and associated dumpster areas.
- Landscape development areas associated with the project.
- New storm drainage and sanitary services for the facility. The new sanitary services are proposed as private subsurface wastewater disposal with an associated 1,000 gallon septic tank. A 4' diameter Hydro International stormwater quality treatment unit is proposed to provide water quality treatment for the first inch of runoff off the project's impervious surface, prior to discharging to the onsite wetland area and eventually offsite.
- New underground water, electrical power and telecommunications utility services from Presumpscot Street.
- Site landscaping and lighting associated with the project.
- The installation of a new curb and sidewalk along the project's frontage on Presumpscot Street.

The proposed project does not include any residential development.

Our review of the performance standards for the IM Zone indicates the required parking is 1 space for every 1,000 square feet of floor area, requiring 19 spaces. Seventy three spaces are provided for in the current layout.

## 2. Land Areas

The total land area of the parcel is 2.57 acres. The proposed building will comprise approximately 17,728 sq. ft. (footprint area) with an additional approximate 61,600 square feet of associated parking, grading and landscaping areas.

3. Easements

The site is not encumbered by any easements and there are no new easements proposed as part of the project.

4. Solid Waste

The proposed use of the property is an auto body repair shop. The site is intended to utilize three onsite dumpsters for control and disposal of solid waste. The dumpsters include one 30 cubic yard roll off dumpster for the disposal of sheet metal. It is anticipated that this dumpster will be emptied once every month. One eight cubic yard dumpster will be utilized for general trash and will be emptied once a week. One eight cubic yard dumpster will be utilized for the disposal of cardboard and will be emptied twice every week.

It is anticipated that 8 gallons of hazardous paint and thinner waste, associated with the painting of vehicles, will be disposed each month.

5. Availability of Off-Site Facilities

We anticipate that the proposed building will utilize public water from Presumpscot Street, underground electrical utility connections, and an onsite private subsurface wastewater disposal field.

A letter from the Portland Water District is attached verifying that they have the water capacity to service the site. We have attached passing test pits logs and a septic design for the proposed subsurface wastewater disposal system.

The project site has frontage on Presumpscot Street. The proposed vehicle access from Presumpscot Street will utilize a new curb cut.

6. Stormwater Management

A stormwater management report has been prepared to evaluate stormwater drainage for the proposed Moody's Collision Center located on Presumpscot Street in Portland, Maine. A copy of that report is attached within this submission.

The results of the analysis indicate that the peak rate of runoff in the developed condition will be greater than the pre-development runoff for all three storm events at Study Point 2. Study Point 2 is located in the northern property corner and is the location of an existing 60" culvert which conveys runoff underneath the railroad tracks. Since this increase in the peak rate of runoff is conveyed via the 60" culvert to the Presumpscot River and ultimately the ocean we are requesting an exemption from the requirement to provide detention for the increase in runoff as defined in the City of Portland, Technical and Design Standards and Guidelines, Section V, B. As such we are not proposing any detention facilities on our attached plan set. A complete stormwater Management report is attached within this submission.

Stormwater runoff from the impervious surface area of the site will be treated utilizing a 4' diameter Hydro International Stormwater Treatment unit to meet the City's requirement for treating parking areas. The unit has been sized to treat the first inch of runoff off the proposed parking and rooftop impervious areas.

An erosion and sediment control plan has been prepared for the project for implementation during construction. This plan has been placed directly on the design plans.

7. **Construction Plan**

The erosion and sediment control plan included on the project design plans includes a proposed schedule of construction for the project. The applicant has indicated that the Moody's Gorham facility required 9 months to complete. We anticipate that this project will require the same amount of time for completion.

8. **Regulatory Approvals**

1. The project will require a Permit-By-Rule from the Maine Department of Environmental Protection.

9. **Financial and Technical Capability**

A letter from the applicant's lender, Norway Savings Bank, is attached providing evidence of the applicant's financial capacity to complete the project.

10. **Right, Title and Interest**

A copy of the purchase and sales agreement is attached providing evidence of right, title and interest in the property.

11. **Unusual Natural Areas, Wildlife and Fisheries Habitats, and Archeological Sites**

The Maine Department of Inland Fisheries and Wildlife was contacted to determine whether there are any significant wildlife/fisheries habitats identified within the vicinity of the project. Attached is a copy of a letter from the department dated October 16, 2007 which indicates that there are no known threatened or endangered fish species or habitats in the vicinity of the project.

The Maine Historic Preservation Commission (MHPC) was contacted to determine if any known areas of historic architectural or archaeological significance exist on the property or in the immediate vicinity. Attached is a copy of a letter from MHPC dated October 24, 2007 which indicates that the proposed project will have no effect upon historic properties either architectural or archaeological.

The Maine Natural Areas Program was contacted to determine if any known rare or unique botanical features exist on the property or in the immediate vicinity. Attached is a copy of a letter from the Natural Areas Program dated October 17, 2007, which indicates that there are no known rare botanical features documented specifically within the project area.

12. **Electronic Files**

We will submit electronic versions of the project plans once the project has received final approval.

13. **Recyclable Material**

Moody's Collision Center does intend to utilize recycling as part of their solid waste management. Sheet metal will be recycled at a rate of two tons per month and cardboard will be recycled at a rate of 16 cubic yards per month.

I hope that you will find all the necessary information so that Moody's Collision Center may receive approval from the staff and begin construction as soon as possible. If there are any questions or you require any additional information please contact me.

Sincerely,

SEBAGO TECHNICS, INC.



Shawn Frank, P.E.  
Senior Project Manager



Anthony Panciocco, P.E.  
Senior Project Engineer

SMF:app/df  
Enc.

cc: Shawn Moody

# Woodys Collision Center

## Plan Requirements:

### Site Plans

<input checked="" type="checkbox"/>	Existing soil conditions
<input checked="" type="checkbox"/>	Locations of water course, wetland, rock outcroppings, wooded areas within site
<input checked="" type="checkbox"/>	Location of proposed easements, culverts, catch basins for channeling surface water
<input checked="" type="checkbox"/>	Locations of all proposed buffer strips
<input checked="" type="checkbox"/>	Location, ground floor area and grade elevations of all existing and proposed structures
<input checked="" type="checkbox"/>	Approximate location of buildings and structure on abutting parcels
<input checked="" type="checkbox"/>	Location of solid waste-receptacles
<input checked="" type="checkbox"/>	Location of public utilities, water and sewer mains, culverts, drains (existing and proposed) - these must show size and direction of flow
<input checked="" type="checkbox"/>	Location, dimension and ownership of easements, public or private ROW - existing and proposed
<input checked="" type="checkbox"/>	Location and dimensions of parking areas, vehicle access, pedestrian accesses
<input checked="" type="checkbox"/>	Design of ingress/egress for cars to and from the site. Loading and unloading areas, curb and sidewalk lines.
<input checked="" type="checkbox"/>	Location and dimensions of all fencing and screening (existing and proposed)
<input checked="" type="checkbox"/>	Location of fire hydrants- existing and proposed
<input checked="" type="checkbox"/>	delineated wetlands (if applicable) conducted by a qualified professional or a written statement from a professional that no wetlands exist on the site
<input checked="" type="checkbox"/>	Location of test pits and/or test borings (if applicable)
<input checked="" type="checkbox"/>	Size and location of all storage containers for recycling- commercial and industrial properties only.
<input checked="" type="checkbox"/>	Location and details of all temp. or permanent erosion control measures- e.g. - hydroseeding, retaining walls, rip rap, silt fencing....

### Notes:

PK 10.
none
gradient & utility plan
no apparent easements or encroachments.
- has all fencing been indicated on plans;
- See site comments
asked for clarification on permit (1/21/11)





# Written Requirements

	names and addresses of all owners of parcels to be developed	
	estimated cost of development	
	total land area of the site	
	floor area and ground area of each proposed structure	
	description of proposed uses for the site - including quantity of units if applicable	
	summary of existing and proposed easements or other burdens-existing or proposed	
n/a	sewer capacity letter - <i>depth system proposed</i>	
✓	water capacity letter	<i>dated 10/24 from PUD (ex 2 app)</i>
	CMP capacity letter- if applicable	
	narrative describing existing surface drainage and plan of erosion control measures which will be taken to control runoff.	
✓	Construction Plan- sequence of construction with approximate start and end dates.	<i>located on sheet 10 - cond 5 notes</i>
✓	Location and dimensions of all fencing and screening (existing and proposed)	<i>none proposed</i>
✓	Any state and federal approvals necc. the development is subject to (e.g. - MDEP)	<i>req. to file Stormwater - Permits by Rule Application (MDEP)</i>
✓	Evidence of financial capacity	<i>letter from Norway Savings Bank</i>
✓	Evidence of technical capacity	<i>Ex. 4</i>
✓	Evidence of right, title or interest (e.g. - deed)	<i>Purchase of Deed + Warranty deed</i>
✓	narrative describing unusual natural areas, wildlife, fisheries or archeological areas( if applicable)	<i>Ex 11 - letters from neighbors</i>

\* submitted subsurface wastewater capacity application

## Notes:

Moodys review notes:

lighting: looks good - meets Portland TD standards

contingencies of purchase & sale

- sign to be visible from 1295

- 80 parking spaces (10' x 20')

- building location

} described as min.

} requirements of buyer

parking analysis - 73 spaces proposed by applicant.

\* - question raised whether or not this is excessive?

- go check other existing Moodys to decide. How many spaces do they have?

20 employees

18,448 sq ft auto repair shop

2.57-acre parcel

- on Presumpscot River - not urban impaired / not H<sub>2</sub>O shed most at risk (MD&P)

Permitting: Required to obtain MD&P stormwater permit-by-rule: less than 1 acre <sup>imp. area</sup> ~~wetland~~ / less than 5 acres developed.

Parking - req. to provide on-site treatment b/c more than 25 spaces. Must treat prior to discharging

ASK DAW

\* Stormwater: Requesting exemption (must be granted by DPW) from Sec V(B) of Tech & Design Standards. (that they must provide treatment for increase in runoff) ~~reduced~~

~~OK~~ = -OK

- Septic tank / septic system proposed.

- application included (ex. 9 of narrative).

\* - do we need proof that the subsurface waste water disposal application was approved by MZ Dept. of Health & Human Services?

- IM zone adjacent to a shoulder zone. check setbacks on GIS.

Site Plan Standards (#25) - IM zone

o need additional landscaping to screen property & to buffer adjacent properties

- not nec. required to have a strip of vegetation since they don't abut a residential zone.

frontyard adequately landscaped according to 14-524 (25) (4)

o 14-526 (25) 4. (c) requires rear yards, sideyards to be landscaped & parking area for more than 25 vehicles.

landscaping - tech & design standards.

parking lot - no more than 8 spaces should  
be in a row into a landscaped divider  
should be 10% landscaped.

\* Where is proposed snow storage?

dumpster - cedar fencing proposed. looks  
good.

bollards = yellow steel posts

Boundary Survey - looks good. - meets  
standards of site plan ord.

## MEMORANDUM

**To:** FILE  
**From:** Marge Schmuckal **Dept:** Zoning  
**Subject:** Application ID: 2007-0195  
**Date:** 11/21/2007

Barbara & I did a completeness check and the site plan was distributed at the site plan review meeting. This project is located within an I-M zone. The lot configuration shown on the given site plan is different from that shown off the GIS Maps. So I would want confirmation that the total lot is as shown on their submitted survey.

I also see a difference between the footprint (17728) and building area (18448). Is there a mezanine area? What is the reason for the two figures?

I have also figured required parking differently. The office space requires one parking space for each 400 sq. ft. Using the footprint area, I determined that 25 parking spaces are required by ordinance for both the office use and the automobile work area.. They are showing 73 parking spaces.

The actual impervious surface area has not been given. The maximum allowed in the I-M Zone is 75%. The applicant should submit what the actual percentage is for impervious surface.

Noise levels from the front air conditioners and the generator in the rear will need to meet the noise standards in the I-M Zone. The applicant shall submit what noise levels will be generated.

All building setbacks and pavement setbacks are being met. The building height requirements and street frontage are being met.

Separate permits through Inspection Services are required for any new signage.

Marge Schmuckal  
Zoning Administrator

## MEMORANDUM

**To:** FILE  
**From:** Capt Greg Cass **Dept:** Fire  
**Subject:** Application ID: 2007-0195  
**Date:** 11/28/2007

Unable to determine location of the nearest hydrant, Not shown on plan.  
This project will require a hydrant located within 500' of the structure.

## MEMORANDUM



**TO:** Barbara Barhydt  
**FROM:** Dan Goyette, PE, and Lauren Swett, EIT  
**DATE:** December 4, 2007  
**RE:** Moody's Collision Center

---

Woodard & Curran has reviewed the minor site plan submission for Moody's Collision Center, located on Presumpscot Street in Portland. The project proposes to construct a 18,448 square foot building on a currently undeveloped site. The project will include associated parking, landscaping, and utilities improvements for the site.

### Documents Reviewed

- Minor Site Plan application for Moody's Collision Center, Presumpscot Street, Portland, Maine, prepared by Sebago Technics on behalf of Moody's Collision Center, dated November 2007.
- Engineering Plan Sheets 1-10, prepared by Sebago Technics on behalf of Moody's Collision Center, dated November 16, 2007.

### Comments

- No work will be allowed in the R.O.W. until the winter moratorium for street construction has been lifted, and pavement is available.
- The site plan calls out Concrete Block Retaining Walls, and a detail is provided for this, however the grading and utility plan calls out a Proposed Retaining Wall or Ledge Face. How will the retaining wall be tied into the ledge, and how will the presence of ledge at the site impact retaining wall construction and the extension of geogrid reinforcement into the embankment behind the proposed walls?
- Note 4 on the Grading and Utility Plan states that the contractor shall verify slope stability with a geotechnical engineer for the 1:1 rip rap slope on the site. This should be verified with a geotechnical investigation as part of the design.
- The pipe trench detail needs to be altered to conform to City of Portland design standards. 12 inches of crushed stone is required over the pipe.
- The vertical granite curb reveal should be 7 inches, not 6 inches as shown.
- The granite tip downs should be seven feet long to comply with City standards.
- Casco traps should be installed on all catch basins at the site.
- The project does not have an adverse impact on the existing natural resources of the site.

Please contact our office if you have any questions.

DRG/LJS  
203943



## MEMORANDUM

**To:** FILE  
**From:** Marge Schmuckal **Dept:** Zoning  
**Subject:** Application ID: 2007-0195  
**Date:** 12/19/2007

The revised submittal shows a 58.4% impervious surface which is well under the maximum 75%.

The free-standing sign is not meeting the sign regulations listed in table 2.12 of the Sign Ordinance. A single tenant building is only permitted no more than 35 sq ft instead of the 40 sq ft shown. It also limits the height of a free-standing sign to no more than 10' instead of the 12' shown. There is a minimum setback of 5' to the property line, instead of the 4.25' being shown. The submitted sign information is in violation of the sign ordinance. No signs attached to the building have been submitted for review.

There are two sound reading levels given for the 30 Ton Rooftop unit - one is 95dBs and the other is 80 dBs, which are both in excess of 14-252 maximum permissible sound levels. 70 dBA is the maximum allowed from 7:00 am to 10:00 pm. 55 dBA is the maximum allowed from 10:00 pm to 7:00 am, as measured at or within the boundaries of any residential zone. Further verification will be needed to show compliance with the sound requirements.

Marge Schmuckal  
Zoning Administrator

## MEMORANDUM

**To:** FILE

**From:** Capt Greg Cass

**Dept:** Fire

**Subject:** Application ID: 2007-0195

**Date:**

Details of the spray booth and ventilation system, along with flammable liquid storage will be required for a building permit.

## MEMORANDUM



**TO:** Barbara Barhydt  
**FROM:** Dan Goyette, PE, and Lauren Swett, EIT  
**DATE:** January 2, 2008  
**RE:** Moody's Collision Center

---

Woodard & Curran has reviewed the minor site plan submission for Moody's Collision Center, located on Presumpscot Street in Portland. The project proposes to construct a 18,448 square foot building on a currently undeveloped site. The project will include associated parking, landscaping, and utilities improvements for the site.

### Documents Reviewed

- Minor Site Plan Submission Review Comments for Moody's Collision Center, Presumpscot Street, Portland, Maine, prepared by Sebago Technics on behalf of Moody's Collision Center, dated December 18 2007.
- Report on Subsurface and Foundation Investigation for Proposed Moody's Collision Center, Presumpscot Street, Portland, Maine, prepared by Sebago Technics on behalf of Moody's Collision Center, dated December 7, 2007.
- Engineering Plan Sheets 1-10, prepared by Sebago Technics on behalf of Moody's Collision Center, dated December 17, 2007.

### Comments

- The driveway entrance should be moved south (unless moving it creates a sight distance problem) so the circular curb at the driveway entrance does not project across the frontage of the abutting property to the north of the site.
- The proposed sidewalk should be located 1 foot from the edge of the right of way and the esplanade and sidewalk should be graded to drain to the street.
- The granite curb tipdown detail is incorrect with respect to curb reveal. The curb reveal at the edge of a driveway should be 1" with respect to the road surface (not 2" as shown) and flush with respect to the driveway surface. The driveway surface should form a 1" lip at the edge of the street pavement.
- The circular granite curb at the driveway entrance should be constructed to allow sidewalk ramps on both sides of the driveway.
- The geotechnical report recommends modifying the Maine DOT specification for Type D subbase course gravel to have a maximum 4" size. This should be noted on the plans where Type D gravel is called for in pavement cross sections.

Please contact our office if you have any questions.

DRG/LJS  
203943

## MEMORANDUM

To: FILE

From: Marge Schmuckal

Dept: Zoning

Subject: Application ID: 2007-0195

Date: 1/25/2008

The applicant has addressed the issues of the noise from his air conditioning units in regard to the maximum noise requirements. Stephen Ambrose is showing that the noise levels generated at the property lines are well under the maximum permitted.

The applicant also requests a condition of approval for signage so that the details can be worked out at the time a required sign permit is applied for. Zoning does not have a problem with that request.

All other I-M zoning requirements are being met as shown at this time.

Marge Schmuckal  
Zoning Administrator

Marge



## MEMORANDUM

**TO:** Molly Casto  
**FROM:** Dan Goyette, PE and Lauren Swett, EIT  
**DATE:** January 29, 2008  
**RE:** Moody's Collision Center

---

Woodard & Curran has reviewed the response to comments submission for Moody's Collision Center, located on Presumpscot Street in Portland. The project proposes to construct a 18,448 square foot building on a currently undeveloped site. The project will include associated parking, landscaping, and utilities improvements for the site.

### Documents Reviewed

- Response to Comments for Moody's Collision Center, submitted by Sebago Technics, on behalf of Moody's Collision Center, dated January 17, 2008.
- Engineering Plan Sheets 1-10, prepared by Sebago Technics on behalf of Moody's Collision Center, dated January 17, 2008.

### Comments

- It was noted in the response to comments that a sidewalk ramp was added to the northern side of the entrance. A detail for this ramp should be included.

Please contact our office if you have any questions.

DRG/LJS  
203943

**From:** Jeff Tarling  
**To:** Molly Casto  
**Date:** 1/28/2008 9:02:00 AM  
**Subject:** Re: Moody's- need final comments

Molly -

I have reviewed the proposed Moody's project landscape plan and offer the final comments / conditions:

The landscape bed next to the building, right side, that contains the two pear trees should be protected by curbing to be consistent with the rest of the project.

The 9 White Pines listed at 4-5' height on the plan should be increased to 5-6' height and the 2 Bradford Pears should be increased from 1.75" caliper to 2" caliper size.

Jeff Tarling  
City Arborist

**CC:** Barbara Barhydt



# PORTLAND MAINE

*Strengthening a Remarkable City. Building a Community for Life* [www.portlandmaine.gov](http://www.portlandmaine.gov)

Planning and Development Department  
Lee D. Urban, Director

Planning Division  
Alexander Jaegerman, Director

January 29, 2008

Tony Panciocco  
Sebago Technics  
1 Chabot Street  
P.O. Box 1339  
Westbrook, Maine 04098

Shawn Moody  
Moody's Collision Center  
200 Narragansett Street  
Gorham, Maine 04038

**RE:** Moody's Collision Center (Application #: 2007-0195)

Dear Tony and Shawn:

On January 30, 2008 the Portland Planning Authority approved a minor site plan for Moody's Collision Center located on Presumpscot Street as shown on the approved plans prepared and submitted by Sebago Technics and dated January 17, 2008. This plan was approved with the following conditions.

Conditions of approval:

1. The following comments submitted by Jeff Tarling, City Arborist from his review letter dated January 28, 2008 (attached) shall be incorporated into the final landscaping plans submitted for approval and distribution. The final landscaping plan shall be reviewed and approved by Jeff Tarling prior to the issuance of a building permit.
  - a. *The landscape bed next to the building, right side, that contains the two pear trees should be protected by curbing to be consistent with the rest of the project.*
  - b. *The 9 White Pines listed at 4-5' height on the plan should be increased to 5-6' height and the 2 Bradford Pears should be increased from 1.75" caliper to 2" caliper size.*

2. The applicant shall submit revised sign details showing that all proposed signage meets the sign regulations listed in table 2.12 of Division 22 of the City Code - The Sign Ordinance. The sign details shall be reviewed and approved by the City Zoning Administrator prior to the issuance of a sign permit

The approval is based on the submitted site plan. If you need to make any modifications to the approved site plan, you must submit a revised site plan for staff review and approval.

Please note the following provisions and requirements for all site plan approvals. I understand that you have already begun submitting some of the necessary materials to meet these requirements:

1. The above approvals do not constitute approval of building plans, which must be reviewed and approved by the City of Portland's Inspection Division.
2. Final sets of plans shall be submitted digitally to the Planning Division, on a CD or DVD, in AutoCAD format (\*.dwg), release AutoCAD 2005 or greater.
3. A performance guarantee covering the site improvements as well as an inspection fee payment of 2.0% of the guarantee amount and seven (7) final sets of plans must be submitted to and approved by the Planning Division and Public Works prior to the release of the subdivision plat for recording at the Registry of Deeds or prior to the release of a building permit, street opening permit or certificate of occupancy for site plans. If you need to make any modifications to the approved plans, you must submit a revised subdivision or site plan application for staff review and approval.
4. The site plan approval will be deemed to have expired unless work in the development has commenced within one (1) year of the approval or within a time period agreed upon in writing by the City and the applicant. Requests to extend approvals must be received before the expiration date.
5. A defect guarantee, consisting of 10% of the performance guarantee, must be posted before the performance guarantee will be released.
6. Prior to construction, a pre-construction meeting shall be held at the project site with the contractor, development review coordinator, Public Work's representative and owner to review the construction schedule and critical aspects of the site work. At that time, the site/building contractor shall provide three (3) copies of a detailed construction schedule to the attending City representatives. It shall be the contractor's responsibility to arrange a mutually agreeable time for the pre-construction meeting.
7. If work will occur within the public right-of-way such as utilities, curb, sidewalk and driveway construction, a street opening permit(s) is required for



your site. Please contact Carol Merritt at 874-8300, ext. 8828. (Only excavators licensed by the City of Portland are eligible.)

The Development Review Coordinator must be notified five (5) working days prior to date required for final site inspection. The Development Review Coordinator can be reached at the Planning Division at 874-8632. Please make allowances for completion of site plan requirements determined to be incomplete or defective during the inspection. This is essential as all site plan requirements must be completed and approved by the Development Review Coordinator prior to issuance of a Certificate of Occupancy. Please schedule any property closing with these requirements in mind.

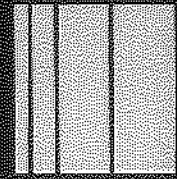
If there are any questions, please contact Molly Casto at 874-8901.

Sincerely,

  
Alexander Jaegerman  
Planning Division Director

Electronic Distribution:

cc: Lee D. Urban, Planning and Development Department Director  
Alexander Jaegerman, Planning Division Director  
Barbara Barhydt, Development Review Services Manager  
Molly Casto, Planner  
Philip DiPierro, Development Review Coordinator  
Marge Schmuckal, Zoning Administrator  
Jeanie Bourke, Inspections Division  
Lisa Danforth, Administrative Assistant  
Michael Bobinsky, Public Works Director  
Kathi Earley, Public Works  
Bill Clark, Public works  
Jim Carmody, City Transportation Engineer  
Michael Farmer, Public Works  
Jeff Tarling, City Arborist  
Captain Greg Cass, Fire Prevention  
Assessor's Office  
Approval Letter File



January 17, 2008  
07548

Ms. Molly Casto, Planner  
Portland Planning Division  
389 Congress Street  
Portland, Maine 04101

**Moody's Collision Center – Minor Site Plan Submission, Review Comments**

Dear Molly:

We have received additional staff review comments via email from you dated December 19, 2007 related to our December 18, 2007 revised plan set submittal for the proposed Moody's Collision Center located on Presumpscot Street in Portland. In addition, we have received engineering peer review comments from you via email dated January 2, 2008. We have revised the plans in response to these comments.

The following items present the text of the review comments in italics, followed by our response.

**Marge Schmuckal Comments via E-mail Dated 12-19-07**

1. *The revised submittal shows a 58.4% impervious surface which is well under the maximum 75%.*

Noted

2. *The free-standing sign is not meeting the sign regulations listed in Table 2.12 of the Sign Ordinance. A single tenant building is only permitted no more than 35 sq ft instead of the 40 sq ft shown. It also limits the height of a free-standing sign to no more than 10' instead of the 12' shown. There is a minimum setback of 5' to the property line, instead of the 4.25' being shown. The submitted sign information is in violation of the sign ordinance. No signs attached to the building have been submitted for review.*

We have contacted Moody's Collision Center in regards to the proposed signage for the Portland Facility. Moody's has agreed to reduce the square footage of the proposed sign to 35 square feet instead of the 40 square feet shown. In addition, they will reduce the height of the sign from 12' to 10' as required to meet the sign ordinance. We have updated the sign location on the Site Plan Sheet 2 of 9 to reflect the minimum 5' setback from the property that is required under the sign ordinance. A revised Sheet 2 of 9 is included for review.

The applicant understands that they will be required to submit a sign permit application to the Inspections Department for review and approval. We would respectfully request that a condition of approval be placed on the project requiring submittal of revised sign specifications in conjunction with the sign permit application.

3. *There are two sound reading levels given for the 30 Ton Rooftop unit - one is 95 dBs and the other is 80 dBs, which are both in excess of 14-252 maximum permissible sound levels. 70 dBA is the maximum allowed from 7:00 am to 10:00 pm. 55 dBA is the maximum allowed from 10:00 pm to 7:00 am, as measured at or within the boundaries of any residential zone. Further verification will be needed to show compliance with the sound requirements.*

There are two small air conditioning units located in the front (Presumpscot Street) side of the facility which have a rating of 80 dBs. There is a larger unit located in the rear of the facility which has a rating of 95 dBs. The rear unit is located on the 8' x 12' concrete pad shown on the plans. It should be noted that this pad was previously mislabeled as a generator pad. The plans have been updated to reflect an air conditioning pad.

We have utilized a third party sound consultant, S.E. Ambrose & Associates, Acoustics, Environmental Sound & Industrial Noise Control to evaluate the sound level impacts at the property lines due to the proposed air conditioning units. The attached calculations and letter from Mr. Steve Ambrose of S.E. Ambrose & Associates indicates that due to the distance from the property line, the sound levels produced by the air conditioning units will meet the requirements of the I-M Zone at the property lines. It should be noted that Moody's Collision Center has informed us that these air conditioning units are not utilized at night, after business hours.

**Woodard & Curran Engineering Peer Review Comments via E-mail Dated 1-02-08**

4. ✓ *The driveway entrance should be moved south (unless moving it creates a sight distance problem) so the circular curb at the driveway entrance does not project across the frontage of the abutting property to the north of the site.*

The proposed driveway entrance has been located at this location for two reasons. It has been located at this point to establish sight distance for the project and to minimize the entrance grade along the southern entrance curb line as much as possible given the proposed finish floor elevation of the building. Relocating the entrance drive 20 feet to the south will steepen the grade along the southern entrance curb line.

Based on a phone conversation with you, and a follow up phone message from you, on January 16, 2008 it was determined that leaving the driveway at its current location would be more advantageous than steepening the entrance drive grade to the site. As such, we have left the entrance drive at its current location. In an effort to straighten the driveway we have reduced the northern curb line radius from 25 feet to a minimum 20 foot radius.

5. *The proposed sidewalk should be located 1 foot from the edge of the right-of-way and the esplanade and sidewalk should be graded to the street.*

We have relocated the sidewalk to 1 foot from the edge of the right-of-way and maintained the sidewalk and esplanade grading to the street as requested. In addition, we have revised the grading and proposed retaining wall along the westerly portion of the site to accommodate the revised sidewalk location.

6. *The granite curb tipdown detail is incorrect with respect to the curb reveal. The curb reveal at the edge of a driveway should be 1" with respect to the road surface (not 2" as shown) and flush with respect to the driveway surface. The driveway surface should form a 1" lip at the edge of the street pavement.*

We have updated the granite tipdown detail on Sheet 8 of 10 to reflect the 1" reveal and driveway lip at the edge of the street pavement.

7. *The circular granite curb at the driveway entrance should be constructed to allow sidewalk ramps on both sides of the driveway.*

As mentioned above we have adjusted the location of the sidewalk. In conjunction with this relocation we have adjusted the location of the two sets of granite tipdowns, on both the northern and southern sides of the entrance drive. We have added a sidewalk ramp on the northern side of the entrance to accommodate a future sidewalk in this area.

8. *The geotechnical report recommends modifying the Maine DOT specification for Type D subbase course gravel to have a maximum 4" size. This should be noted on the plans where Type D gravel is called for in the pavement cross section.*

We have added a note to the typical paved parking lot section and bituminous sidewalk section which states, "Type D aggregate should be modified to a maximum 4 inch size. Compacted structural fill may be substituted for gravel subbase course, but the maximum particle size should be reduced to 4 inches". This note reflects the language within the Geotechnical report. We have attached a revised Detail Sheet 9 of 10 which includes the above note.

We are hopeful that these responses and the revised plans address the comments received to date. Please contact me if you have any questions or require additional information.

Sincerely,

SEBAGO TECHNICS, INC.



Anthony Panciocco, P.E.  
Senior Project Engineer

APP:APP/dlf

Encl.

cc: Shawn Moody

January 14, 2008

Real Estate Holdings  
200 Narragansett Street  
Gorham, ME 04038

Attention: Shawn Moody

Reference: New Moody Collision Center in Portland

Subject: Air Conditioner Property Line Noise Levels

Dear Mr. Moody:

At the direction of Anthony Panciocco of Sebago Technics, Inc., this letter is submitted to provide the predicted noise levels for the new Moody Collision Center air conditioner units at the Presumscott Street location, in Portland, Maine. The new facility is located in the I-M zone, which has a maximum daytime (7:00 am to 10:00 pm) noise limit of 70 dBA at each property line.

The air conditioner units are manufactured by Lennox and have been tested in accordance with the applicable Air Conditioning & Refrigeration Institute Standard (ARI 270-95). This standard is used to determine the outdoor air conditioner equipment rated sound power level (Lw). Sebago Technics provided a site layout drawing showing the ground level concrete mounting pads.

The larger unit has an 85 dBA (Lw), positioned 103-ft and 186-ft from the nearest north and east property lines. The smaller units are rated at 80 dBA (Lw) each, positioned 86-ft and 80-ft from the nearest north and west property lines.

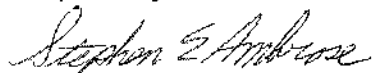
Air conditioner dBA noise levels were predicted using the standard prediction methodology as shown on the table below. The predicted noise levels (Lp dBA) are significantly below the M-1 zoning 70 dBA requirements and comply with the City of Portland noise limits.

Comment	Lw dBA	Prop Line	Distance - ft	20*LOG(Dist) - 2.4	Lp dBA
30 Ton - Model 360H	95	North	103.00	-37.9	57.1
31 Ton - Model 360H	95	East	186.27	-43.0	52.0
Model 13ACX-48-230 (each)	80				
Model 13ACX-48-230 (both)	83	North	86.00	-36.3	46.7
Model 13ACX-48-230 (both)	83	West	80.00	-35.7	47.3

Please feel free to call with any questions.

Thank you,

Respectfully submitted,



Stephen Ambrose, INCE Bd. Cert.  
Principal Consultant

Figure 1 – Overall Site Plan View

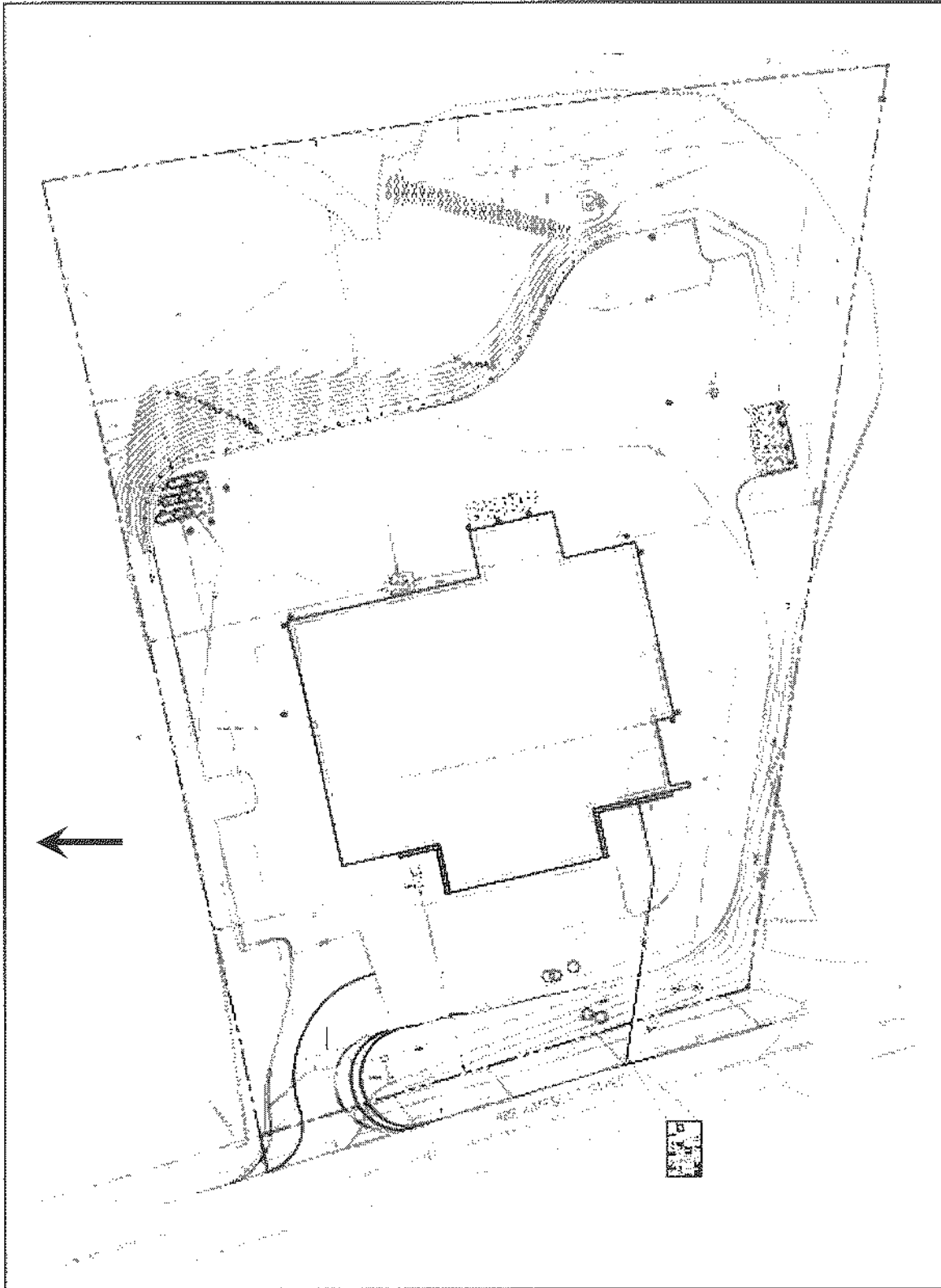


Figure 2 – Large Air Conditioner Unit Plan View

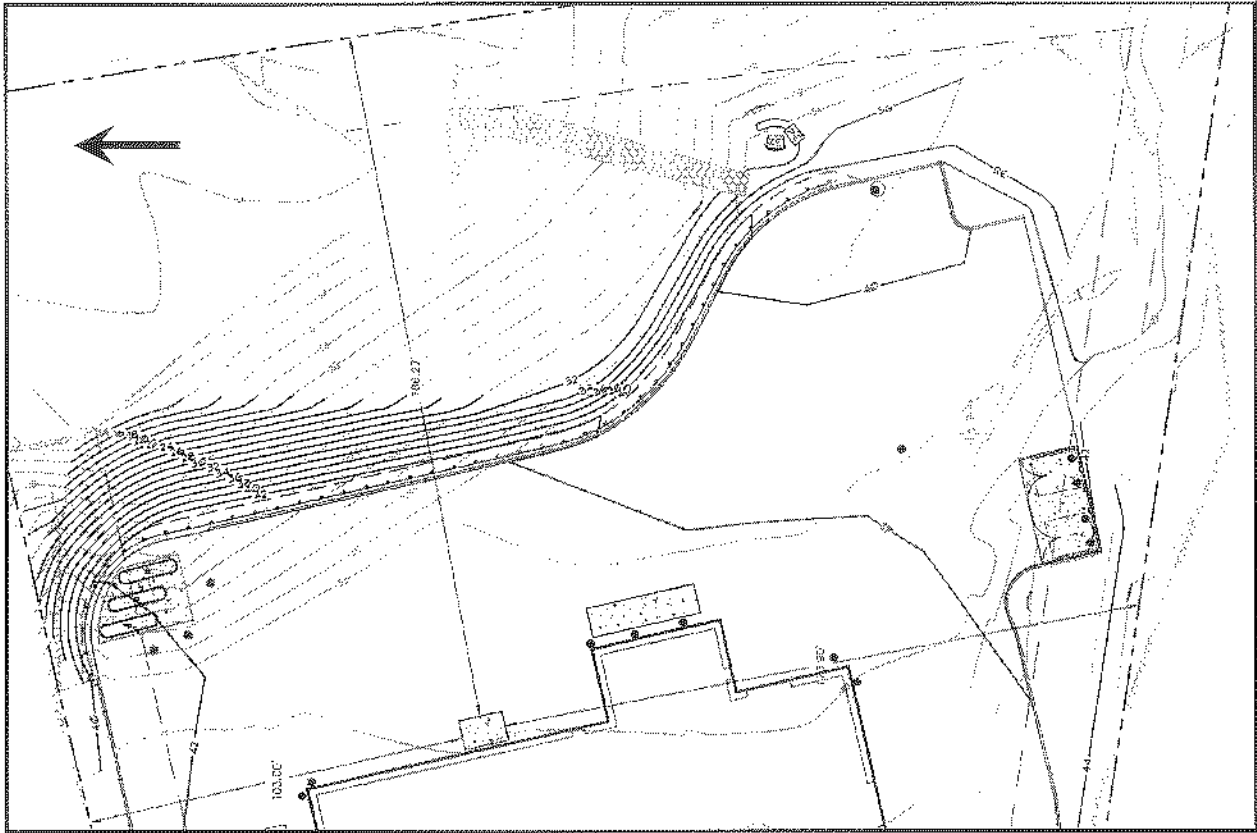
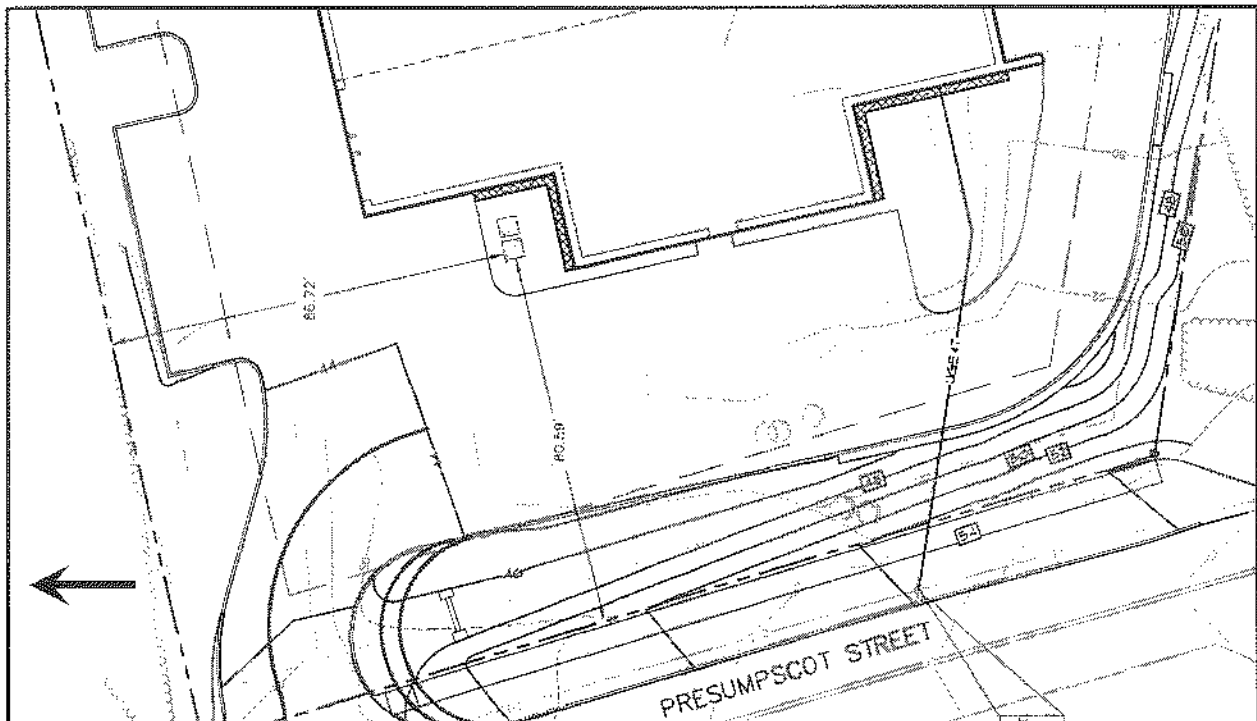


Figure 3 – Small Air Conditioner Units Plan View



**From:** Molly Casto  
**To:** tpanciocco@sebagotech.com  
**Date:** Mon, Jan 28, 2008 9:17 AM  
**Subject:** Moody's - pending approval

Tony and Shawn-

Below, please find Jeff Tarling's final landscaping comments in the email below. These changes should be incorporated into your final approved plans. I will list them as conditions of approval in your pending approval letter. That way, we eliminate the need for more revisions at this late stage.

I also received comments from zoning re: the acoustical analysis. I've attached Marge's memo to this email. We both reviewed your letter from Steve Ambrose and it provides sufficient evidence that your project will be within the max. sound levels of the zone. You're all set there. As we discussed already, there will be a condition of approval re: the sign.

All I need is a sign off from public works to issue your approval. I emailed last week politely asking them to prioritize this one (!). I appreciate your patience. I hope to hear today or tomorrow.

Best Wishes-  
Molly

Molly Casto, Planner  
Portland Planning Division  
389 Congress Street  
Portland, Maine 04101-3509  
207-874-8901  
MPC@portlandmaine.gov

>>> Jeff Tarling 1/28/2008 9:02:00 AM >>>  
Molly -

I have reviewed the proposed Moody's project landscape plan and offer the final comments / conditions:

The landscape bed next to the building, right side, that contains the two pear trees should be protected by curbing to be consistent with the rest of the project.

The 9 White Pines listed at 4-5' height on the plan should be increased to 5-6' height and the 2 Bradford Pears should be increased from 1.75" caliper to 2" caliper size.

Jeff Tarling  
City Arborist

**CC:** shawn@moodyscollision.com





# PORTLAND MAINE

*Strengthening a Remarkable City. Building a Community for Life*      [www.portlandmaine.gov](http://www.portlandmaine.gov)

Planning and Development Department  
Lee D. Urban, Director

Planning Division  
Alexander Jaegerman, Director

January 29, 2008

Tony Panciocco  
Sebago Technics  
1 Chabot Street  
P.O. Box 1339  
Westbrook, Maine 04098

Shawn Moody  
Moody's Collision Center  
200 Narragansett Street  
Gorham, Maine 04038

**RE:** Moody's Collision Center (Application #: 2007-0195)

Dear Tony and Shawn:

On January 30, 2008 the Portland Planning Authority approved a minor site plan for Moody's Collision Center located on Presumpscot Street as shown on the approved plans prepared and submitted by Sebago Technics and dated January 17, 2008. This plan was approved with the following conditions.

Conditions of approval:

1. The following comments submitted by Jeff Tarling, City Arborist from his review letter dated January 28, 2008 (attached) shall be incorporated into the final landscaping plans submitted for approval and distribution. The final landscaping plan shall be reviewed and approved by Jeff Tarling prior to the issuance of a building permit.
  - a. *The landscape bed next to the building, right side, that contains the two pear trees should be protected by curbing to be consistent with the rest of the project.*
  - b. *The 9 White Pines listed at 4-5' height on the plan should be increased to 5-6' height and the 2 Bradford Pears should be increased from 1.75" caliper to 2" caliper size.*

your site. Please contact Carol Merritt at 874-8300, ext. 8828. (Only excavators licensed by the City of Portland are eligible.)

The Development Review Coordinator must be notified five (5) working days prior to date required for final site inspection. The Development Review Coordinator can be reached at the Planning Division at 874-8632. Please make allowances for completion of site plan requirements determined to be incomplete or defective during the inspection. This is essential as all site plan requirements must be completed and approved by the Development Review Coordinator prior to issuance of a Certificate of Occupancy. Please schedule any property closing with these requirements in mind.

If there are any questions, please contact Molly Casto at 874-8901.

Sincerely,



Alexander Jaegerman  
Planning Division Director

Electronic Distribution:

cc: Lee D. Urban, Planning and Development Department Director  
Alexander Jaegerman, Planning Division Director  
Barbara Barhydt, Development Review Services Manager  
Molly Casto, Planner  
Philip DiPierro, Development Review Coordinator  
Marge Schmuckal, Zoning Administrator  
Jeanie Bourke, Inspections Division  
Lisa Danforth, Administrative Assistant  
Michael Bobinsky, Public Works Director  
Kathi Earley, Public Works  
Bill Clark, Public works  
Jim Carmody, City Transportation Engineer  
Michael Farmer, Public Works  
Jeff Tarling, City Arborist  
Captain Greg Cass, Fire Prevention  
Assessor's Office  
Approval Letter File



200 Narragansett Street  
Gorham, ME 04038  
(207) 839-2500 • Fax 839-5330

February 11, 2008

Alexander Jaegerman  
Planning Division Director

Dear Alex,

We're writing this letter to communicate our experience thus far with the City of Portland. This is Moody's first project with the City and quite frankly we'd been told by a number of people it would be an arduous task. Quite the contrary has been the case. We started our due diligence with Marge in Zoning. Moody's had identified a potential site and Marge confirmed the use to be in compliance with the city's ordinances. She was very informative, polite and helpful.

Once we got the site under contract we hired Sebago Technics to prepare our site plan. We had a meeting coordinated by Barbara with the planning staff and stepped us through what would be involved with our application. Barbara was very clear and provided written guidelines as well. Molly was assigned our project and did a great job keeping us (Moody's and Sebago) informed of Department concerns and comments. After several plan modifications and revisions we were recently given our approval.

Our pre-construction meeting was coordinated by Phil Dipierro and Todd Merckle out at the site. They offered their experience to help us avoid the delays that occur when the applicants don't have their ducks in a row.

As you know you gave our contractor permission to start on some of the site work in advance of the issuance of our Building Permit. Again, accommodating the needs of the applicant (soon to be taxpayer).

We have been treated with a "we're here to help" attitude by everyone we've been involved with thus far and it sets a great tone to want to conduct our business here. We look forward to continuing to work together towards the completion of our project and wish to thank everyone that's been involved so far for their guidance and professionalism.

On behalf of Moody's Collision Centers  
Shawn H. Moody

A handwritten signature in black ink, appearing to read "Shawn H. Moody", written in a cursive style.

*Serving the area since 1977*

**From:** Philip DiPierro  
**To:** Casto, Molly; Moody, Shawn  
**Date:** 2/7/2008 3:46:38 PM  
**Subject:** RE: landscaping- curbing (Moody's)

Hi Shawn, your approval letter allowing limited site work to take place in advance of a foundation/building permit, was signed and mailed today.

Please contact me if you have any questions.

Thanks.

Philip DiPierro  
Development Review Coordinator  
City of Portland Planning Division  
389 Congress Street  
Portland, Maine 04101

Phone 207 874-8632  
Fax 207 756-8258

>>> "Shawn Moody" <ShawnMoody@Moodyscollision.com> 2/7/2008 3:02:12 PM >>>

Yes Molly, installing the curbing is a good idea. We would be happy to oblige.  
Thanks Shawn

-----Original Message-----

**From:** Molly Casto [mailto:MPC@portlandmaine.gov]  
**Sent:** Thursday, February 07, 2008 11:10 AM  
**To:** Shawn Moody; Tpanciocco@sebagotechnics.com  
**Cc:** Philip DiPierro  
**Subject:** landscaping- curbing (Moody's)

Hi Tony and Shawn-

Thanks for your call and for agreeing to include the curbing around the landscaped beds at the front of the building. As we discussed, Jeff Tarling feels strongly that this curbing is necessary to prevent compaction and salt damage to the landscaping in this area. He is satisfied with a simple bituminous cape cod curb in these areas. As I mentioned, I added a note on the final approved plans that this curbing should be included.

Could you please send me an email (and cc Phil DiPierro) confirming that you agree to include this feature. We just need it in writing for our records.

Thank you-  
Molly

Molly Casto, Planner

Portland Planning Division  
389 Congress Street  
Portland, Maine 04101-3509  
207-874-8901  
MPC@portlandmaine.gov

System Scanned By Barracuda ANTI (Spam, Virus, Spoof)  
Keeping Mail Safe One Message @ a Time !



# PORTLAND MAINE

Planning Division

Barbara Barhydt, Development Review Services Manager

11-21-07

Councilor Keenan -

Attached is a site

plan for Moody's Collision  
Center. It is proposed for  
Presumpscot Street (former Dragon  
Cement site) in the I-M zone.

If you have questions, please  
let me know —

Thanks

Barbara

- Copy for file -

December 6, 2007

Tony Panciocco  
Sebago Technics  
1 Chabot Street  
P.O. Box 1339  
Westbrook, Maine 04098

Shawn Moody  
Moody's Collision Center  
200 Narragansett Street  
Gorham, Maine 04038

**RE:** Moody's Collision Center (Application #: 2007-0195)

Dear Tony and Shawn:

Thank you for submitting an application for a proposed 18,448 sq. ft. Moody's Collision Center on Presumpscot Street in Portland. This proposal is undergoing minor site plan review. Staff review of your submittals has generated the following requests and comments. A number of these have been forwarded to Sebago Technics already under separate cover:

**Proposed Signage**

1. Please submit a description and details for any proposed signage, including any proposed sign lighting. Division 22 of the City Code- *Signs*, outlines the permitting process for any proposed signage. While sign permit applications are reviewed and approved by the Inspections Department, they are also reviewed as a component of the site plan review process. Signs shall meet the following site plan review standards (Section 14-526 (22)):
  - a. *The size, scale, proportions, design, materials, placement, and source and intensity of illumination of all permanent freestanding and building signs shall be designed to complement and enhance the architectural attributes of the building(s) to which they are attached or visually related. In addition, such signs shall be appropriate to the scale and character of the neighborhood in which the sign is located, and shall be designed to suit the conditions from which it will be viewed, especially in relation to the distance, travel speed and mode of travel of the viewing public.*
  - b. *In the case of freestanding signs, such signs shall relate to the architecture of the buildings they identify and shall be integrated with other site and landscape features.*

*c. Sign lighting shall be designed to avoid glare, unshielded light sources and light spillover toward the sky. All light sources shall be shielded or provided with a diffuser lens so that lamps and bulbs are not visible to pedestrians or drivers of vehicles.*

**Snow Storage:**

2. Please provide details on proposed snow storage including area(s) proposed for snow storage on the revised plans.

**Landscaping and Buffering:**

3. City of Portland Site Plan Standards pertaining to industrial zones, along with the Portland Technical and Design Standards include the following landscaping requirements and standards:
  - a. Section 14-526 (25) of the City Code requires that rear yards and side yards of developments in industrial zone be adequately landscaped. This section also requires that parking lots for more than twenty five (25) vehicles incorporate interior landscaping. The Technical and Design Standards elaborate on this requirement, stating that parking areas must be composed of at least ten (10)% interior planted areas. For parking lots containing in excess of fifty (50) cars, an increase in interior planted areas above the minimum ten (10) percent is encouraged.
4. Please be sure that all proposed fencing and screening has been included on the plans. This includes any areas of the parking lot to be gated or fenced off for security purposes.

The submitted landscaping and lighting plan (sheet 5 of 10) is undergoing additional review by Jeff Tarling, Portland City Arborist for compliance with applicable landscaping standards. I will forward his review comments as soon as they are available. If you have any questions or concerns pertaining to City of Portland landscaping requirements, please contact me. Jeff and I may be available to meet with you on site to discuss the requirements in more detail as they relate to this particular proposal.

**Solid Waste Management:**

5. Please include a description of the types and estimated quantities of solid waste to be generated by the development and a description of how solid waste will be managed.
6. Section 14-525 (13) requires all new commercial property and industrial developments to submit a narrative description of the estimated amount and type of recyclable material generated on-site; the location, size and type of containers providing outdoor storage of recyclable materials; the manner and methods of timely removal of recyclable materials generated on-site; and the screening and landscaping proposed to provide adequate buffering between the stored materials and remainder of site and neighboring properties. You have identified the location of a dumpster pad with enclosure, along with details and dimensions. Please specify if this pad incorporates storage of recyclables or if these materials will be addressed in a different way.

**Stormwater Treatment:**



7. In your submittal, you provided a written request for an exemption from Section V (B) of the Portland Technical and Design Standards. Based on the submitted application materials, Public Works has granted you an exemption from this standard.

**Zoning: (the following comments have already been provided to you under separate cover)**

8. The lot configuration shown on the submitted site plan is different from that shown in Portland GIS maps of lot boundaries. Please confirm that the total lot is as shown on the submitted survey.
9. There appears to be a difference between the footprint (17728) and building area (18448). Is there a mezzanine area? What is the reason for the two figures?
10. FYI- the submitted parking analysis is incorrect. The office space requires one parking space for each 400 sq. ft. Using the footprint area, Marge Schmuckal, Zoning Administrator determined that 25 parking spaces are required by ordinance for both the office use and the automobile work area. You are showing 73 parking spaces, however, which far exceeds the minimum requirement.
11. The actual impervious surface area has not been given. The maximum allowed in the I-M Zone is 75%. Please submit what the actual percentage is for impervious surface.
12. Noise levels from the front air conditioners and the generator in the rear will need to meet the noise standards in the I-M Zone. Please submit what noise levels will be generated from these appurtences.
13. All building setbacks and pavement setbacks required by zoning are being met. The building height requirements and street frontage are being met.
14. Keep in mind that separate permits through Inspection Services will be required for any new signage.

**Engineering Review: (the following comments have already been provided to you under separate cover)**

15. No work will be allowed in the R.O.W. until the winter moratorium for street construction has been lifted, and pavement is available.
16. The site plan calls out Concrete Block Retaining Walls, and a detail is provided for this, however the grading and utility plan calls out a Proposed Retaining Wall or Ledge Face. How will the retaining wall be tied into the ledge, and how will the presence of ledge at the site impact retaining wall construction and the extension of geogrid reinforcement into the embankment behind the proposed walls?
17. Note 4 on the Grading and Utility Plan states that the contractor shall verify slope stability with a geotechnical engineer for the 1:1 rip rap slope on the site. This should be verified with a geotechnical investigation as part of the design.
18. The pipe trench detail needs to be altered to conform to City of Portland Design Standards. 12 inches of crushed stone is required over the pipe.

19. The vertical granite curb reveal should be 7 inches, not 6 inches as shown.
20. The granite tip downs should be seven feet long to comply with City standards.
21. Casco traps should be installed on all catch basins at the site.
22. The project does not have an adverse impact on the existing natural resources of the site.

**Fire Department Review: *(the following comments have already been provided to you under separate cover)***

23. Details of the spray booth and ventilation system, along with flammable liquid storage will be required for a building permit.
24. The location of the nearest fire hydrant does not appear to be shown on plans. This project will require a hydrant located within 500' of the structure.

Please note that the Planning Authority may request additional information during our continued review of the proposal according to applicable laws, ordinances and regulations. If you have any questions, feel free to contact me at 874-8901 or by email at [mpc@portlandmaine.gov](mailto:mpc@portlandmaine.gov).

Sincerely,

Molly Casto, Planner

cc: Barbara Barhydt, Development Review Services Manager

**From:** Jeff Tarling  
**To:** Molly Casto  
**Date:** 12/7/2007 7:44:27 AM  
**Subject:** Re: Moody's-presumpscot

Molly -

Yes, whenever we see a 'residential to commercial' development extra effort on buffering should be explored.

I haven't looked at the site.

Jeff

>>> Molly Casto 12/6/2007 5:04:38 PM >>>

Hi Jeff-

I was out at the Moody's Collision Center Site on Presumpscot St. today and noticed that, though the site has no direct abutters, in the winter it is quite visible to the commercial/residential lot through the woods to the north and somewhat to the offices through the woods to the south. Right now they propose no landscape buffer of the parking lot on either side. What are your thoughts on requiring additional buffer. If either property sells and is developed, they will have no buffer between them and the Moody's parking lot. Do we factor these sorts of things into landscaping review?

let me know what you think-

Molly

Molly Casto, Planner  
Portland Planning Division  
389 Congress Street  
Portland, Maine 04101-3509  
207-874-8901  
[MPC@portlandmaine.gov](mailto:MPC@portlandmaine.gov)

**From:** Molly Casto  
**To:** tpanciocco@sebagotechnics.com  
**Date:** Thu, Jan 10, 2008 9:16 AM  
**Subject:** Moody's Collision Center- planner review comments

Hi Tony:

Here are the remaining comments pertaining to the submitted revisions for Moody's Collision Center. I already forwarded you the zoning comments and know you have been working with Marge to resolve her questions. I spoke to Shawn Moody this morning who provided some clarification on the sound study you submitted from the Gorham location. No car auctions or car crushers. Shawn and I discussed that you will be submitting a letter from Steve Ambrose (?) concerning the acoustical analysis. I can't say with certainty whether we'll require additional information until I receive and am able to review the contents of the letter. If it provides reasonable assurance that the acoustics are within allowable levels, however, it should be sufficient.

Otherwise, I have attached the most recent engineering review comments for your consideration. I followed up with the City traffic engineer regarding the suggestion that the location of the driveway be modified (see attached comments) and he does not feel it will create any site distance problems. In short- Public Works would like to see the driveway moved ~ 20 feet south, away from the abutter's property. They would like to see less of a dramatic flair on the driveway (straighter). Bear in mind that, by relocating the driveway, you may need to include sidewalk on the other side, to your property line.

I spoke to Captain Cass of the Portland Fire Department and he has reviewed and approved your plans and fire department checklist.

Any updates on your proposed signage at this point? Marge's review comments noted that it exceeds the requirements for allowable size. Have you been able to resolve this?

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Best Wishes,  
-Molly

Molly Casto, Planner  
Portland Planning Division  
389 Congress Street  
Portland, Maine 04101-3509  
207-874-8901  
MPC@portlandmaine.gov

**CC:** shawn@moodyscollision.com

**From:** "Jeffrey Perry" <jperry@sebagotechnics.com>  
**To:** <mpc@portlandmaine.gov>  
**Date:** 12/11/2007 3:31:59 PM  
**Subject:** Moody's Collision Landscape Requirements

Molly, in response to your review comments (and our recent conversation) please find enclosed a schematic plan showing how the plan can meet the 10% landscape requirement.

There are 19 spaces on the north side of the building...10% = 2 spaces to be converted to landscaping.

There are 42 spaces along the back and south side of the building...10% = 4 spaces to be converted to landscaping.

The attached plan shows where the 6 spaces would be lost...identified in white with an 'L' .

Additional landscaping can be provided in the back corner of the parking lot where it says "Bituminous Curbing" and along the west side of the dumpster pad enclosure.

After your review, please call to discuss.

<<MOODY.PDF>>

Jeffrey R. Perry  
Senior Project Manager  
Sebago Technics, Inc.  
One Chabot Street  
Westbrook, Maine 04098  
p 207.856.0277  
f 207.856.2206

**CC:** <07548@sebagotechnics.com>, "Tony Panciocco"  
<tpanciocco@sebagotechnics.com>

**From:** Jeff Tarling  
**To:** Molly Casto  
**Date:** 12/11/2007 5:01:40 PM  
**Subject:** Re: Fwd: Moody's Collision Landscape Requirements

Molly -

Can we review on Thursday? I will be at a Maine Conservation Corp trail meeting on Wednesday.

let me know  
thanks

Jeff t

>>> Molly Casto 12/11/2007 4:40:08 PM >>>

Hi Jeff-

I will bring copies of this plan tomorrow- I let the applicant know that they did not meet the 10% landscaping requirement for Moody's. This is there proposed solution. let me know what you think- and any other comments in general.

Molly

>>> "Jeffrey Perry" <[jperry@sebagotechnics.com](mailto:jperry@sebagotechnics.com)> 12/11/2007 3:31:34 PM >>>

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One Chabot Street  
Westbrook, Maine 04098  
p 207.856.0277  
f 207.856.2206

**From:** "Jeffrey Perry" <jperry@sebagotechnics.com>  
**To:** "Molly Casto" <MPC@portlandmaine.gov>  
**Date:** 12/12/2007 8:22:27 AM  
**Subject:** RE: Moody's Collision Landscape Requirements

Thanks for the feedback, please keep me informed.  
-Jeff

Jeffrey R. Perry  
Senior Project Manager  
Sebago Technics, Inc.  
One Chabot Street  
Westbrook, Maine 04098  
p 207.856.0277  
f 207.856.2206

-----Original Message-----

**From:** Molly Casto [mailto:MPC@portlandmaine.gov]  
**Sent:** Wednesday, December 12, 2007 8:20 AM  
**To:** Jeffrey Perry  
**Subject:** Re: Moody's Collision Landscape Requirements

Jeffrey:

Thanks for the .pdf. Jeff is at a meeting all day today so we won't be able to discuss this plan until tomorrow. I will get back to you then.

-Molly

Molly Casto, Planner  
Portland Planning Division  
389 Congress Street  
Portland, Maine 04101-3509  
207-874-8901  
MPC@portlandmaine.gov

>>> "Jeffrey Perry" <jperry@sebagotechnics.com> 12/11/2007 3:31:34 PM  
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Senior Project Manager  
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One Chabot Street  
Westbrook, Maine 04098  
p 207.856.0277  
f 207.856.2206



**From:** Barbara Barhydt  
**To:** Casto, Molly  
**Date:** 12/18/2007 11:14:22 AM  
**Subject:** Re: Moody's review questions- RESEND from 12/7

Hi Molly:

You could make the septic system approval a condition of approval to be met prior to the issuance of a building permit.

Bollards have been sufficient in the past in an industrial zone.

>>> Molly Casto Tuesday, December 18, 2007 11:08 AM >>>

Hi Barbara-

a few review questions for Moody's Collision Center:

1. For Moody's they are proposing a septic system and have submitted a copy of their application for subsurface waste water disposal. Do we need proof that their application was approved by Me Dept. of Health and Human Services or is proof that they applied sufficient?
2. They are proposing a concrete pad with 2 propane tanks at the rear of the parking lot (but still visible from Presumpscot Street). They propose steel parking bollards to protect it but no screening. Do we ask that industrial applicants screen propane tanks? Is that practical if they need to be accessed, serviced, etc? - also in terms of fire safety? The ordinance language about screening is general.

Thanks-  
Molly

Molly Casto, Planner  
Portland Planning Division  
389 Congress Street  
Portland, Maine 04101-3509  
207-874-8901  
[MPC@portlandmaine.gov](mailto:MPC@portlandmaine.gov)

**From:** Molly Casto  
**To:** Tony Panciocco  
**Date:** Fri, Dec 14, 2007 1:29 PM  
**Subject:** RE: question- Moody's Collision

Hi Tony-

Just to be clear- the only remaining review comments I had been waiting for were from Jeff Tarling re: the landscaping. I know Jeff Perry has been talking to Jeff Tarling and are resolving any issues and concerns. When you're ready, feel free to go ahead and submit any revisions and supplemental materials. I'll need 7 copies like before. I don't anticipate any additional comments pertaining to your original plan set.

Thanks and happy holidays!  
Molly

Molly Casto, Planner  
Portland Planning Division  
389 Congress Street  
Portland, Maine 04101-3509  
207-874-8901  
[MPC@portlandmaine.gov](mailto:MPC@portlandmaine.gov)

>>> "Tony Panciocco" <[Tpanciocco@sebagotechnics.com](mailto:Tpanciocco@sebagotechnics.com)> 12/12/2007 12:58:44 PM >>>  
Molly,

Yes, I can address this I need to confirm with Moody's on their storage and disposal of the paint/thinner waste. If it makes it easier I can just add this comment to the response letter prior to submitting.

Thanks  
Tony

-----Original Message-----

From: Molly Casto [<mailto:MPC@portlandmaine.gov>]  
Sent: Wednesday, December 12, 2007 12:06 PM  
To: Tony Panciocco  
Subject: question- Moody's Collision

Tony-

In your letter you describe how the development will dispose of 8 gallons of hazardous waste. Could you please provide details of how this will be disposed of and where it will be stored?

As I mentioned on the phone, I am all set with your information on recyclables so you can disregard that comment in my letter.

Thanks!  
Molly

Molly Casto, Planner  
Portland Planning Division  
389 Congress Street  
Portland, Maine 04101-3509  
207-874-8901  
[MPC@portlandmaine.gov](mailto:MPC@portlandmaine.gov)

**From:** Molly Casto  
**To:** Tony Panciocco  
**Date:** Wed, Dec 12, 2007 1:40 PM  
**Subject:** RE: question- Moody's Collision

A brief email or an added comment works... either way.  
thanks!  
Molly

Molly Casto, Planner  
Portland Planning Division  
389 Congress Street  
Portland, Maine 04101-3509  
207-874-8901  
[MPC@portlandmaine.gov](mailto:MPC@portlandmaine.gov)

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Thanks  
Tony

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Sent: Wednesday, December 12, 2007 12:06 PM  
To: Tony Panciocco  
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As I mentioned on the phone, I am all set with your information on recyclables so you can disregard that comment in my letter.

Thanks!  
Molly

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[MPC@portlandmaine.gov](mailto:MPC@portlandmaine.gov)

**From:** Molly Casto  
**To:** Tony Panciocco  
**Date:** Thu, Jan 10, 2008 2:59 PM  
**Subject:** RE: Moody's Collision Center- planner review comments

This is reasonable to include as a condition. We'll do it that way to keep things moving forward.

-Molly

Molly Casto, Planner  
Portland Planning Division  
389 Congress Street  
Portland, Maine 04101-3509  
207-874-8901  
MPC@portlandmaine.gov

>>> "Tony Panciocco" <Tpanciocco@sebagotechnics.com> 1/10/2008 9:33:45 AM >>>  
Molly,

Thanks, we will pull together the revisions and once we have them all together I will let you know

In terms of the signage I spoke with Shawn Moody regarding this and he has agreed to reduce the size and height of the signs based on the review comments. In my response letter I was intending to ask for a condition of approval that he could submit the new sign details when he applies for his sign permit. See Draft response below. Is this going to be acceptable, please let me know?

Thanks

Tony

We have contacted Moody's Collision Center in regards to the proposed signage for the Portland Facility. Moody's has agreed to reduce the square footage of the proposed sign to 35 square feet instead of the 40 square feet shown. In addition, they will reduce the height of the sign from 12' to 10' as required to meet the sign ordinance. We have updated the sign location on the Site Plan Sheet 2 of 9 to reflect the minimum 5' setback from the property that is required under the sign ordinance. A revised Sheet 2 of 9 is included for review.

The applicant understands that they will be required to submit a sign permit application to the Inspections Department for review and approval. We would respectfully request that a condition of approval be placed on the project requiring submittal of revised sign specifications in conjunction with the sign permit application.

-----Original Message-----

From: Molly Casto [mailto:[MPC@portlandmaine.gov](mailto:MPC@portlandmaine.gov)]

Sent: Thursday, January 10, 2008 9:16 AM

To: Tony Panciocco

Cc: [shawn@moodycollision.com](mailto:shawn@moodycollision.com)

Subject: Moody's Collision Center- planner review comments

Hi Tony:

Here are the remaining comments pertaining to the submitted revisions for Moody's Collision Center. I already forwarded you the zoning comments and know you have been working with Marge to resolve her questions. I spoke to Shawn Moody this morning who provided some clarification on the sound study you submitted from the Gorham location. No car auctions or car crushers. Shawn and I discussed that you will be submitting a letter from Steve Ambrose (?) concerning the acoustical analysis. I can't say with certainty whether we'll require additional information until I receive and am able to review the contents of the letter. If it provides reasonable assurance that the acoustics are within allowable levels, however, it should be sufficient.

Otherwise, I have attached the most recent engineering review comments for your consideration. I followed up with the City traffic engineer regarding the suggestion that the location of the driveway be modified (see attached comments) and he does not feel it will create any site distance problems. In short- Public Works would like to see the driveway moved ~ 20 feet south, away from the abutter's property. They would like to see less of a dramatic flair on the driveway (straighter). Bear in mind that, by relocating the driveway, you may need to include sidewalk on the other side, to your property line.

I spoke to Captain Cass of the Portland Fire Department and he has reviewed and approved your plans and fire department checklist.

Any updates on your proposed signage at this point? Marge's review comments noted that it exceeds the requirements for allowable size. Have you been able to resolve this?

If you have any questions about any of the above, please feel free to give me a call. Please note that for revisions to the above, we would not require a complete plan set. When you are ready to submit revisions, give me a call to discuss and, based on the changes, I will let you know how many copies we need and of what. That way, we can approve your changes before you incur the expense of creating the final sets of approved plans you will need to submit for stamps, signatures and distribution at the City.

Best Wishes,

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207-874-8901  
[MPC@portlandmaine.gov](mailto:MPC@portlandmaine.gov)

**From:** Barbara Barhydt  
**To:** Casto, Molly  
**Date:** 1/10/2008 2:43:28 PM  
**Subject:** Fwd: RE: Moody's Collision Center- planner review comments

I think this is reasonable to include as a condition.

Thank you.

Barbara

>>> Molly Casto Thursday, January 10, 2008 12:48 PM >>>

Barbara-

see below: Would this condition of approval be acceptable? Besides the possibility that noise levels should be monitored, I don't anticipate any other conditions of approval for this project besides the standard ones.

Let me know.

Molly

>>> "Tony Parciocco" <[Tparciocco@sebagotechnics.com](mailto:Tparciocco@sebagotechnics.com)> 1/10/2008 9:33:45 AM >>>

Molly,

Thanks, we will pull together the revisions and once we have them all together I will let you know

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From: Molly Casto [<mailto:MPC@portlandmaine.gov>]

Sent: Thursday, January 10, 2008 9:16 AM

To: Tony Panciocco

Cc: [shawn@moodycollision.com](mailto:shawn@moodycollision.com)

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Molly Casto, Planner

Portland Planning Division

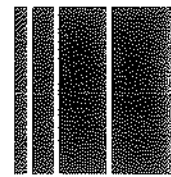
389 Congress Street

Portland, Maine 04101-3509

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[MPC@portlandmaine.gov](mailto:MPC@portlandmaine.gov)





# **Report on Subsurface and Foundation Investigation**

## **Proposed Moody's Collision Center Presumpscot Street Portland, Maine**

for

Mr. Shawn Moody  
Moody's Collision Center  
200 Narragansett Street  
Gorham, ME 04038

December 7, 2007

December 7, 2007  
07548

Mr. Shawn Moody  
Moody's Collision Center  
200 Narragansett Street  
Gorham, ME 04038

**Report on Subsurface and Foundation Investigation**  
**Proposed Moody's Collision Center, Presumpscot Street, Portland, Maine**

Dear Shawn:

This report presents the results of our subsurface and foundation investigation for the proposed Moody's Collision Center on Presumpscot Street in Portland, Maine. These services are provided in accordance with our proposal dated October 23, 2007.

In summary, it is our opinion that the proposed building may be supported on spread and continuous footings bearing on improved fill or on compacted structural fill placed after removal of unsuitable soil. In addition, an earth-supported slab-on-grade may be used for the lowest (ground) floor. Specific recommendations regarding foundation design and construction considerations are presented below.

**Introduction**

The site is located on the east side of Presumpscot Street, south of the intersection with Ocean Avenue. The site is presently open, and we understand that it formerly was used for disposal and washing of concrete trucks from the nearby batch plant. Ground surface elevations vary from approximately El. 54 at Presumpscot Street to El. 12 near the rear of the site. Ground surface elevations within the proposed building vary from approximately El. 48 to El. 40 and parking and the access drive vary from approximately El. 48 to El. 26.

We understand that the building will be a single-story structure with a mezzanine area in the rear, numerous service bays, break room, reception and office areas. The building will have a plan area of approximately 17,800 square feet. The ground floor will be at El. 43.45. An earth slope approximately 1 horizontal to 1 vertical (1:1) up to 26 feet high is proposed at the edge of the parking and access drive.

**Subsurface Explorations**

On November 19 and 20, 2007, Maine Test Borings, Inc. (MTB) of Brewer, Maine drilled five borings, B1 to B5, at the site at locations shown on Sheet 1, Boring Plan. MTB drilled the borings to depths below ground surface varying from 19.2 to 22.0 feet. Sebago Technics, Inc. monitored the borings and prepared the logs included in Appendix A. Table I summarizes the results of borings. MTB backfilled the borings with the drilled material.

Borings were drilled using 2.5-inch inside diameter hollow stem augers. Samples were generally recovered at 5-foot intervals. Standard Penetration Resistance (N) was measured at each sample interval in accordance with ASTM Test D1586.

Sebago Technics, Inc. determined the locations of borings by taping and pacing from existing site features. Ground surface elevations at borings were estimated from contours at the plotted locations.

The boring logs and related information depict subsurface conditions and water levels only at their specific locations at the time of excavation. Soil conditions at other locations may differ from conditions at these locations. Also, the passage of time may result in a change in groundwater conditions at exploration locations.

### Subsurface Conditions

The borings encountered four principal soil units: fill, clay, glacial till and weathered bedrock. Encountered thickness and generalized descriptions of these units are presented below in order of increasing depth below ground surface.

**Fill** – Fill consists of very dense, brown well-graded SAND (SW); to dense to very dense CONCRETE washings; to stiff to hard gray brown mottled lean CLAY (CL) with various amounts of concrete, wood, bituminous concrete and bricks. Encountered thickness varies from 7.5 feet to 20.0 feet.

**Clay** – Clay consists of medium stiff to very stiff, olive to gray mottled lean CLAY (CL) with frequent fine sand partings. Borings penetrated up to 18.0 feet into the clay.

**Glacial Till** – Glacial till consists of dense to very dense, brown silty SAND with gravel (SM). Encountered thickness varies from 0.9 foot to 10.3 feet.

**Weathered Bedrock** – Weathered bedrock consists of bedrock that is weathered to sand and gravel size pieces. Encountered thickness varies from 0.4 foot to 3.2 feet.

Refusal was encountered on what is judged to be bedrock in borings B3, B4 and B5 at depths varying from 19.2 feet to 23.2 feet.

Groundwater was observed in the borings at depths below ground surface varying from 5.7 feet to 28.2 feet. Observations of groundwater were made over a relatively short period of time and may not reflect the stabilized groundwater level. In addition, water levels at the site will vary with season, precipitation, temperature and construction activity in the area. Therefore, water levels during and following construction will vary from those observed in the borings.

### Recommendations for Foundation Design

#### Recommended Foundation Type and Design Criteria

The existing fill in its present condition is not considered suitable for support of the building or ground floor. All existing fill containing debris such as trash, organics, large void producing objects, etc. should be removed from within the limits of the building foundation. We recommend that the building be supported on spread and continuous footings bearing on improved fill or on compacted structural fill placed after removal of the unsuitable material.

The existing fill consists of dense well-graded sand, concrete washing and stiff clay with minor amounts of wood, bituminous concrete and bricks. Borings did not encounter significant organics or void producing objects. In our opinion, footings may be founded on the existing fill that has been improved by over excavating a minimum of 2 feet below bearing level, compaction of the existing fill with vibratory compaction equipment, and replacement with compacted ¾-inch crushed stone. A non-woven geotextile fabric, similar to Mirafi 140N, should be placed on the subgrade below the crushed stone and up the sides.

Footings should be proportioned for an allowable bearing stress in pounds per square foot (psf) equal to 1,000 multiplied by the least lateral dimension of the footing in feet, up to a maximum of 3,000 psf. All footings should be at least 1.5 ft. wide.

Footings should be founded at least 4.5 feet below the lowest adjacent ground surface exposed to freezing.

Crushed stone supporting footings should extend laterally from the footings to at least the limits defined by 1 horizontal to 1 vertical lines sloped outward and downward from points located at least 2 feet horizontally beyond the bottom edges of the footings.

At the recommended bearing stress, we anticipate that settlement for foundations will be less than 1 inch. We estimate that more than 50 percent of this settlement will occur during the construction period. We anticipate that settlement of this magnitude is acceptable. However, MacLeod Structural Engineers, PA should determine final acceptability of settlement.

#### Lowest Level Floor

We recommend that the lowest level floor slab be designed as a slab-on-grade bearing on a minimum of 6-inch thickness of compacted structural fill. All existing fill containing debris should be removed from within the slab limits prior to placing fill. The subgrade should be improved by compacting with vibratory compaction equipment. All fill placed below the floor slab for raise-in-grade should consist of compacted structural fill. Normal dampproofing and vapor barriers should be provided below the slabs.

We recommend a modulus of subgrade reaction for slab design of 200 pounds per cubic inch.

#### Seismic Design Considerations

We recommend that the building be designed in accordance with the seismic requirements of the latest edition of the International Building Code, the site classification is Class D; the site response coefficient  $F_a$  is 1.5 for a short period spectral response acceleration  $S_s$  of 0.375g; the site response coefficient  $F_v$  is 2.4 for the 1-second period spectral response acceleration  $S_1$  of 0.10g. The subgrade soils are not considered liquefaction susceptible.

#### Lateral Foundation Loads

We recommend that lateral loads be resisted by bottom friction on footings. We recommend that a coefficient of friction equal to 0.40 be used for footings bearing on soil or crushed stone. If this does not provide sufficient resistance, we will study the problem in more detail to take into account other factors.

Backfill Materials

Structural fill should be used below foundations and floor slabs, for backfill adjacent to walls and for raises-in-grade for site grading. Compacted structural fill should consist of sandy gravel to gravelly sand. It should be free of organic material, loam, trash, snow, ice, frozen soil and other objectionable material, and should conform to the following gradation:

<u>Sieve Size</u>	<u>Percent Finer by Weight</u>
6 inches	100
No. 4	30 to 90
No. 40	10 to 50
No. 200	0 to 8

Compacted structural fill should be placed in layers not exceeding eight inches in loose measure and compacted by self-propelled vibratory equipment at the approximate optimum moisture content to a dry density of at least 95 percent of the maximum dry density, as determined in accordance with ASTM Test Designation D1557. In confined areas, the loose layer thickness should be reduced to 6 inches, the maximum particle size to 3 inches, and compaction performed by hand-guided vibratory equipment.

The existing slope on the east side of the site should be benched prior to placing additional fill. Site fill consisting of compacted structural fill should be placed in lifts which extend laterally beyond the limits of the design side slope such that the specified degree of compaction is achieved within the limits of the completed slope. The slope should then be trimmed back to the design dimension.

Slope riprap should consist of sound durable rock which will not disintegrate by exposure to water or weather. It should meet the requirements of Maine Department of Transportation Standard Specification, Highways and Bridges, Section 703.26, Plain and Hand Laid Riprap. The riprap should be placed by clam shell of backhoe which permits the material to be lowered to within 2 feet of the required location before discharge. There should be a keyway at the base of the riprap a minimum of 4 feet wide and 4 feet deep to support the riprap.

Pavement Section

We recommend the following pavement section for roadway and parking areas:

Roadway and Automobile Parking Areas

- 3 inches hot mixed asphalt, placed in two layers
- 3 inches screened or crushed gravel base course
- 15 inches sand or gravel subbase course



Base and subbase course materials should conform to the following gradations:

Base Course

Screened or Crushed Gravel (Maine DOT, Section 703.06a, Type A)

<u>Sieve Size</u>	<u>Percent Finer by Weight</u>
2 inches	100
1/2 inch	45 to 70
1/4 inch	30 to 55
No. 40	0 to 20
No. 200	0 to 5

Subbase Course

Sand or Gravel (Maine DOT, Section 703.06b, Type D)

<u>Sieve Size</u>	<u>Percent Finer by Weight</u>
4 inches	100
1/4 inch	25 to 70
No. 40	0 to 30
No. 200	0 to 7

(Note: Type D aggregate should be modified to a maximum 4 inch size. Compacted structural fill may be substituted for gravel subbase course, but the maximum particle size should be reduced to 4 inches).

All fill containing debris should be removed from within the limits of pavement.

Subbase course material should be placed in maximum 8-inch thick loose lifts and compacted at approximately optimum moisture content to a dry density of at least 95 percent of maximum dry density, as determined in accordance with ASTM Test Designation D1557. Base course material should be placed in one lift and compacted with a minimum of two coverages with self-propelled vibratory compaction equipment.

It should be noted that the subgrade soils may be frost-susceptible. Therefore, pavement roughness due to non-uniform frost movement may occur. To eliminate such non-uniform frost movement would require approximately 4.5 feet of structural fill subbase. However, it is common practice to tolerate seasonal movement to avoid the high cost of the added thickness of subbase.

Construction Considerations

General

The primary purpose of this section of the report is to comment on items related to excavation, earthwork and related geotechnical aspects of proposed construction. It is written primarily for the engineer having responsibility for preparation of plans and specifications. Since it

identifies potential construction problems related to foundations and earthwork, it will also aid personnel who monitor the construction activity. Prospective contractors for this project must evaluate the construction problems on the basis of their own knowledge and experience in the Portland, Maine area, and on the basis of similar projects in other localities, taking into account their proposed construction methods, procedures, equipment and personnel.

#### Excavation, Lateral Support and Control of Water

We anticipate that foundation excavation can be accomplished with sloped open excavation through the overburden soils provided safe side slopes can be maintained. Some sloughing and raveling should be anticipated in temporary slopes. Temporary excavations should be made in accordance with all OSHA and other applicable regulatory agency requirements. Existing foundations, if present within the limits of proposed foundations and floor slab, should be completely removed and the excavation to bearing level backfilled with compacted structural fill or crushed stone, as appropriate. Existing foundations below the parking area should be removed to at least 2 feet below the pavement.

We anticipate that groundwater may be encountered at proposed subgrade level or bearing level of footings. If encountered, open pumping from sumps can likely control groundwater. In general, the contractor should control groundwater and water from runoff and other sources by methods which prevent disturbance of bearing surfaces or adjacent soils and allow construction in-the-dry.

#### Subgrade Preparation

The subgrade soil is susceptible to disturbance from construction traffic. Equipment and personnel should not be permitted to travel across exposed footing bearing surfaces or exposed slab subgrades. Any subgrade areas that are disturbed should be recompacted or excavated and replaced with compacted structural fill prior to placing concrete. Subgrades should be protected against freezing temperatures if exposed during construction. Final excavation to subgrade should be performed using equipment with smooth-edge buckets.

#### Construction Monitoring

The foundation recommendations contained herein are based on the known and predictable behavior of a properly engineered and constructed foundation. Monitoring of the foundation construction is required to enable the geotechnical engineer to keep in contact with procedures and techniques used in construction. Therefore, we recommend that a person qualified by training and experience be present to provide monitoring at the site during preparation of foundation bearing surfaces, rock blasting and placement of compacted structural fill.

#### Limitations of Recommendations

This report has been prepared for specific application to the subject project in accordance with generally accepted geotechnical engineering practices. In the event that any changes in the nature, design or location of the building are planned, the conclusions and recommendations contained in this report should not be considered valid, unless the changes are reviewed and the conclusions of this report modified or verified in writing.


The recommendations presented herein are based in part on the data obtained from the referenced test borings. The nature and extent of variations between the explorations may not become evident until construction. If variations then appear evident, it will be necessary to re-evaluate the recommendations of this report.

We request that we be provided the opportunity for a general review of final design and specifications in order to determine that our earthwork and foundation recommendations have been interpreted and implemented in the design and specifications as they were intended.

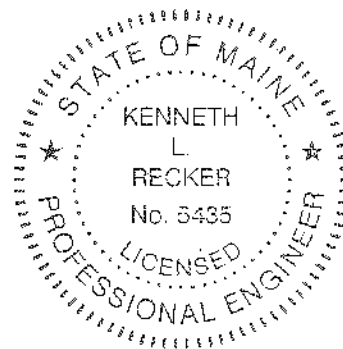
It has been a pleasure to work with you on this project. Please do not hesitate to contact us if you have any questions or need additional information.

Sincerely,

SEBAGO TECHNICS, INC.



Kenneth L. Recker, P.E.  
Geotechnical Engineering Manager



KLR:kir/jc

Enclosures:

- Table I - Summary of Borings
- Sheet I - Boring Plan
- Appendix A - Logs of Test Borings



**TABLE I**  
**SUMMARY OF BORINGS**  
**PROPOSED MOODY'S COLLISION CENTER**  
**PRESUMPCOT STREET**  
**PORTLAND, MAINE**

Boring Number	Depth (Ft)	Ground Surface El. (Ft)	Depth to Water (Ft)	Surata Thickness (Ft)				Bedrock
				Fill	Clay	Glacial Till	Weathered Bedrock	
B1	27.0	43.0	NE	10.8	16.8*	--	--	--
B2	32.0	40.6	28.2	14.0	18.0*	--	--	--
B3	21.4	48.1	17.8	20.0	--	0.9	0.5	0.0*
B4	23.2	39.8	15.4	20.0	--	--	3.2	0.0*
B5	19.2	12.0	5.7	7.5	1.0	10.3	0.4	0.0*

## NOTES:

1. NE INDICATES GROUNDWATER NOT ENCOUNTERED WITHIN DEPTH OF BORING.
2. -- INDICATES STRATUM NOT ENCOUNTERED WITHIN DEPTH OF BORING.
3. \* INDICATES DEPTH OF PENETRATION INTO STRATUM.

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# Appendix A

## Logs of Test Borings

SEBAGO TECHNICS, INC.		TEST BORING REPORT				BORING NO. B1															
PROJECT: PROPOSED COLLISION CENTER		ST. JOB NO.: 3254E		PROJECT MGR.: S. FRANK		Page 1 of 1															
LOCATION: 465 PRESUMPSCOOT STREET, PORTLAND, MAINE		CLIENT: MOODY'S COLLISION CENTER		FIELD REP.: R. S. STEPHENSON		DATE STARTED: 11/20/2007															
CONTRACTOR: MAINE TEST BORINGS, INC.		DRILLER: T. SCHAEFFER		DATE FINISHED: 11/20/2007																	
Elevation	43.0	Datum	NAD83/NAD85	Boring Location	See Plan																
Hammer	Casing	Sampler	Core Barrel	Rip Make & Model	Mobile 347	Hammer Type	Drilling Mud														
Type	115A	SS		Truck	Tricone	Cal-Head	Bentonite														
Inside Diameter (in.)	3.5	1.375		ATV	Geoprobe	Winch	Type Method Seal														
Hammer Weight (lb.)		140		Track	Air Track	Roller Bit	SSS/Spitz/25.0														
Hammer Fall (in.)		50		Skid		Colling Head	None														
				Drilling Notes: 2.0 x 1.0 Field Valve																	
Depth (ft.)	Sampler Blows per 6 in.	Sample No. & Recovery (in.)	Sample Depth (ft.)	Well Diagram	Stratum Change (ft.)	USCS Symbol	Visual-Manual Identification & Description														
							Density/consistency, color, GROUP NAME & SYMBOL, maximum particle size, structure, veer, moisture, additional descriptions, geologic interpretation														
0	0	S1	0.0		0.5	SW	Even, coarse, brown well-sorted SAND, med - 0.3 in. diam.														
	25						- CONCRETE -														
	50																				
	50/2	S2	5.0			CL	Very stiff, gray-brown mottled lean CLAY (CL), frequent sand, coarse chips = 0.02 in. diam. (reworked).														
		2	5.2				- CONCRETE -														
							- TILL -														
10	6	S3	10.0		10.8	CL	Very stiff, olive-brown mottled lean CLAY (CL), trace fine sand, damp.														
	6						- MARINE DEPOSITS -														
	14																				
	20	S4	15.0			CL	Very stiff, olive mottled lean CLAY (CL), occasional sand particles, med = 0.02 in. diam.														
							- MARINE DEPOSITS -														
15	8	S4	15.0			CL	Very stiff, olive mottled lean CLAY (CL), occasional sand particles, med = 0.02 in. diam.														
	11						- MARINE DEPOSITS -														
	11																				
	16	S5	17.0			CL	Stiff, olive-gray mottled lean CLAY (CL), damp.														
							- MARINE DEPOSITS -														
20	8	S5	20.0			CL	Stiff, olive-gray mottled lean CLAY (CL), damp.														
	6						- MARINE DEPOSITS -														
	6																				
	7	S6	25.0			CL	Stiff, olive-gray mottled lean CLAY (CL), damp.														
							- MARINE DEPOSITS -														
25	WOR	FV1	25.4-26.0			CL	FV1 from 25.4 to 26.0 ft. = 25/4 ft. 1lb. Sc = 850 per														
	WOR		25.0			CL	Medium stiff, gray lean CLAY (CL), fine sand parting at 26.5 ft., wet														
							- MARINE DEPOSITS -														
							Bottom of exploration at 27.0 ft. below ground surface. No refusal.														
30																					

Water Level Data				Sample ID			Well Diagram			Summary						
Date	Time	Elapsed Time (hr.)	Depth in feet to:			C	T	U	S	G	FV	Riser Pipe	Screen	Filter Sand	Overburden (Linear ft.)	
			Bottom of Casing	Bottom of Hole	Water	Open End Rod	Thin Wall Tool	Undisturbed Sample	Soft Spoon Sample	Geoprobe	Field Valve	Cuttings	Group	Concrete	Bentonite Seal	Rock Cored (Linear ft.)
11/20/07	1030		-	35.0	35.0										27.0	
															-	
															65	
BORING NO. B1																

Field Tests: Dilatancy: R - Rapid S - Slow H - None  
Toughness: L - Low M - Medium H - High  
Plasticity: N - Non-plastic L - Low M - Medium H - High  
Dry Strength: N - None L - Low M - Medium H - High V - Very High

NOTE: Maximum Particle Size is determined by direct observation within the limitations of sampler size.  
NOTE: Soil identifications based on visual-manual methods of the USCS system as practiced by Sebago Technics, Inc.





# TEST BORING REPORT

Depth (ft.)	Sampler Blows per in.	Sample No. & Recovery (in.)	Sample Depth (ft.)	Well Diagram	Stratum Change (ft.)	USCS Symbol	Visual-Manual Identification & Description: Identify consistency, color, GROUP NAME & SYMBOL, maximum particle size, structure, odor, moisture, optional descriptions, geologic interpretation.	Grains		Sand			Field Test					
								% Coarse	% Fine	% Coarse	% Medium	% Fine	% Fines	Dilatancy	Vegetation	Plasticity	Strength	
30	WOH 2 2	51 14	50.0 30.0		31.4	CL	Medium stiff, grey lean CLAY (CL), occasional fine sand partings, wet -MARINE DEPOSITS-					5	95	N	M	M		
						CL	Medium stiff, grey lean CLAY (CL), frequent sand lenses, wet					15	85	N	M	M		
							Bottom of exploration at 32.6 ft. below ground surface. No refusal.											
35																		
40																		

NOTES:

FILE NO.

07548

BORING NO.

B2

\*NOTE: Maximum Particle Size is determined by direct observation within the limitations of sampler size.

NOTE: Soil identifications based on visual-manual methods of the USCS system as practiced by Sebago Technics, Inc.

SEBAGO TECHNICS INC.		<b>TEST BORING REPORT</b>						BORING NO. <b>B3</b>											
PROJECT: PROPOSED COLLISION CENTER		STI JOB NO.: 07546				Page 1 of 1													
LOCATION: 469 PRUSSUMPSHOT STREET, PORTLAND, MAINE		PROJECT MGR.: S. FRANK																	
CLIENT: MOODY'S COLLISION CENTER		FIELD REP.: K. E. STEPHENSON																	
CONTRACTOR: MAINE TEST BORINGS, INC.		DATE STARTED: 11/15/2007																	
DRILLER: T. SCHAEFFER		DATE FINISHED: 11/15/2007																	
Elevation: 48.1	Item	Item	Item	Item	Item	Item	Item	Item											
	Casing	Sampler - Core Barrel	Rip Make & Model	See Flar	Hammer Type	Drilling Mud	Casing Advance												
Type	HSA	SC	Truck	Tripos	<input type="checkbox"/> Cal-head	<input type="checkbox"/> Bentonite	Type Method	Depth											
Inside Diameter (in.)	3.5	1.575	<input type="checkbox"/> ATV	Geoproc	<input checked="" type="checkbox"/> Wing	<input type="checkbox"/> Polymer	HSA/Spia/21.4												
Hammer Weight (lb.)		140	<input checked="" type="checkbox"/> Track	Air Track	<input type="checkbox"/> Roller Bit	<input type="checkbox"/> None													
Hammer Fall (in.)		90	<input type="checkbox"/> Skc		<input checked="" type="checkbox"/> Cuttng - eed	Drilling Notes:													
Depth (ft.)	Sampler Blows per 6 in.	Sample No. & Recovery (in.)	Sample Depth (ft.)	Well Diagram	Strain Change (ft.)	USCS Symbol	Visual-Manual Identification & Description (consistency, color, GROUND NAME & SYMBOL, maximum particle size, structure, odor, moisture, optional descriptions, geologic line/pretord)				Gravel		Sand		Field Test				
							% Coarse	% Fine	% Coarse	% Medium	% Fine	% Fines	Plasticity	Toughness	Penetration	Blowability	Strength		
0							-CONCRETE-												
							Note: advanced HSA IS 5.0 ft.												
5	25 30 10 37.3	S1 15	5.0 6.5				Dense, gray CONCRETE, trace sand, n <sub>60</sub> = 1.2 us, damp												
							-CONCRETE-												
10	25 29 7 1	S2 14	10.2 12.8				Very dense, gray CONCRETE, n <sub>60</sub> = 1.5 us, wet at 11.0 ft.												
							-CONCRETE-												
15	17 9 7 7	S3 8	15.0 17.0				Very dense, gray CONCRETE, n <sub>60</sub> = 1.2 us, wet												
							-CONCRETE-												
							Note: gray clay, sand, trace gravel in auger cuttings from 16.0 to 20.0 ft.												
20	19 30.4	S4 15	20.0 20.9				Very dense, brown well-graded SAND with silt and gravel (SW-SM), n <sub>60</sub> = 1 us, damp	10	10	15	20	20	10						
							-GLACIAL TILL DEPOSITS-												
							-FILL-												
							Probable WEATHERED BEDROCK												
							HSA retracted at 21.4 ft. Bottom of exploration at 21.4 ft. below ground surface												
25																			
30																			
Water Level Data				Sample ID				Well Diagram				Summary							
Date	Time	Elapsed Time (hr.)	Depth in feet to:			D	U	S	G	FV	<input type="checkbox"/> Riser Pipe	<input type="checkbox"/> Screen	<input type="checkbox"/> Filter Sand	<input type="checkbox"/> Cuttings	<input type="checkbox"/> Gravel	<input type="checkbox"/> Concrete	<input type="checkbox"/> Bentonite Eca	Overburden (Linear ft.)	Rock Corod (Linear ft.)
			Bottom of Casing	Bottom of Hole	Water														
11/15/07	1310			21.4	17.7														
Field Tests		Discrepancy: R - Reptic, S - Saw, N - None				Plasticity: N - Non-plastic, L - Low, M - Medium, H - High				Toughness: L - Low, M - Medium, H - High, V - Very High									
NOTE: Maximum Particle Size is determined by direct observation within the limitations of sampler size.																			
NOTE: Soil identifications based on visual-manual methods of the USCS system as practiced by Sebago Technics, Inc.																			



SEBAGO TECHNIICS, INC.		TEST BORING REPORT						BORING NO. B5											
PROJECT: PROPOSED COLLISION CENTER		STI JOB NO.: 33548				Page: 1 of 1													
LOCATION: 469 PRESUMPCOT STREET, PORTLAND, MAINE		PROJECT MGR.: S. FRANK																	
CLIENT: MOODY'S COLLISION CENTER		FIELD REP.: K. B. STEPHENSON																	
CONTRACTOR: MAINE TEST BORINGS, INC.		DATE STARTED: 11/20/2007																	
DRILLER: T. SCHAEFFER		DATE FINISHED: 11/20/2007																	
Elevation	12.5	f.	Datum	NAD83/NAVD83	Boring Location	See Plan													
Item	Casing	Sampler	Core Barrel	Rig Make & Model	Mobile B47	Hammer Type	Drilling Mud	Casing Advance											
Type	HSA	SS		Truck	Tripod	Safety	Bentonite	Type Method Depth											
Inside Diameter (in.)	2.5	1.375		ATV	Geoprobe	Winch	Polymer	HSA/Spin/9.2											
Hammer Weight (lb.)	140			Track	Air Track	Roller Bit	Automatic												
Hammer Fall (in.)	30			Skid		Cutting Head	None												
Drilling Notes:																			
Depth (ft.)	Sampler Blows per 6 in.	Sample No. & Recovery (in.)	Sample Depth (ft.)	Well Diagram	Stratum Change (ft.)	USCS Symbol	Visual-Manual Identification & Description. (consistency, color, GROUP NAME & SYMBOL, maximum particle size, structure, odor, moisture, optional descriptions, geologic interpretation)			Grave	Sand	Field Test							
										% Coarse	% 1/2 in.	% Coarse	% Medium	% Fine	% Fines	Dilatancy	Toughness	Plasticity	Strength
0	3	S1	0.0		0.2		WOOD MULCH												
	5				0.5	SW	Loose, brown well-graded SAND with gravel (SW), concrete, numerous concrete chips = 1.0 in., dump			16	5	40	30	16	5				
	2					CL	MEDIUM SILT, gray sandy lean CLAY (CL), wood chips = 1.2 in., wet			5		10	5	30	70	N	M	M	
	2	S2	2.0				FILL												
5	1	S2	5.0		5.5	CL	Very soft, brown sandy lean CLAY (CL), wood chips												
	1				6.5	ML	Very soft, dark gray sandy SILT (ML), organics, wet												
	2						FILL												
	6	S2	7.0				CONCRETE												
					7.5		Note: little aggregate.												
					8.5		Note: Dark gray sandy clay in auger cuttings from 7.5 to 8.5 ft.												
							MARINE DEPOSITS												
10	4	S3	10.0		10.5	SM	Dense, gray clay SAND (SM), nps = 0.2 in., wet					26	46	25	15				
	10					SM	Dense, brown silty SAND with gravel (SM), nps = 1.3 in., wet			5	10	36	26	26	15				
	22						Note: probable cobbles												
	26	S3	12.0				GLACIAL TILL DEPOSITS												
15	12	S4	15.0			SM	Dense, brown silty SAND with gravel (SM), nps = 1.3 in., wet			10	10	25	20	20	15				
	13						GLACIAL TILL DEPOSITS												
	14																		
	17																		
					18.8														
					19.2		Probable WEATHERED BEDROCK												
20							HSA refuse at 19.2 ft.												
							Bottom of exploration at 19.2 ft. below ground surface												
25																			
30																			
Water Level Data				Depth in feet to:			Sample ID		Well Diagram		Summary								
Date	Time	Elapsed Time (hr.)	Bottom of Casing	Bottom of Hole	Water	O	Open End Rod	—	Rise Pipe	Overburden (Linear ft.)									
						T	Thin Wall Tube	—	Screen	Rock Cored (Linear ft.)									
						U	Undisturbed Sample	—	Filter Sand	Number of Samples									
						S	Spill Spoon Sample	—	Cuttings										
						G	Geoprobe	—	Grout										
						CV	Fixed Valve	—	Concrete										
								—	Bentonite Seal										
Field Tests		Dilatancy: R - Rapid S - Slow N - None			Plasticity: N - Nonplastic L - Low M - Medium H - High			BORING NO. B5											
		Toughness: L - Low M - Medium H - High			Dry Strength: N - None L - Low M - Medium H - High V - Very High														
NOTE: Maximum Particle Size is determined by direct observation within the limitations of sampler size.																			
NOTE: Soil identifications based on visual-manual methods of the USCS system as practiced by Sebago Technics, Inc.																			



## USI "MIXING ROOM"

### SPECIFICATIONS

- Galvanized pre-painted wall panels (not insulated)
- Personnel door with window
- Intake panel with pre-filter
- Exhaust panel with centrifugal fan (110 volts, single phase)
- Electrical control pane

### *Configurations:*

#### FREE STANDING

- 10' 2" wide x 6' 10" deep with one light fixture (4 bulbs)
- 10' 2" wide x 10' 2" deep with two light fixtures (8 bulbs)
- 13' 5" wide x 10' 2" deep with two light fixtures (8 bulbs)

#### THREE WALLS

- 10' wide x 6' 10" deep with one light fixture (4 bulbs)
- 10' wide x 10' 2" deep with two light fixtures (8 bulbs)
- 13' 3" wide x 10' 2" deep with two light fixtures (8 bulbs)

#### TWO WALLS

- 9' 10" wide x 6' 10" deep with one light fixture (4 bulbs)
- 9' 10" wide x 10' 2" deep with two light fixtures (8 bulbs)
- 13' 1" wide x 6' 10" deep with two light fixtures (8 bulbs)
- 13' 1" wide x 10' 2" deep with two light fixtures (8 bulbs)
- 16' 5" wide x 10' 2" deep with two light fixtures (8 bulbs)

#### OPTIONS:

- Additional ceiling panel with light fixture (6'6" long)
- Upgrade for additional personnel door with window
- Upgrade for – Upgrade side panel with window
- Double wall panel (each)
- Fascia above mix room p/leaner ft

#### NOT INCLUDED:

- Floor leveling if required
- Cutting roof or walls for installation of ductwork; roof flashing & sealing.
- Electrical line; wiring of motors, light fixtures and instruments to panel.
- Fire suppression system.

# CLASSIFIED AUTHORIZATION TO MARK

This authorizes the manufacturer to apply the ETL mark to certified products when made in accordance with the accompanying descriptions and drawings under the conditions set forth in the Certification Agreement herein:

**Applicant:** U.S.I. Italia, S.R.L.  
Via Della Metallurgia  
37139 Verona, ITALY

**Manufacturer:** Same as Applicant

**Reference Report No.:** 3062670-001

**Product Covered:**

Paint Mixing Rooms, Models: BV22, BV23, BV33, BV43 and BV52

**Product Description:**

The mixing rooms are constructed using either an 18 gauge single skin or 20 gauge double skin. The ceiling panels have integral listed lighting fixtures and an exhaust fan is provided.

The rooms do not exceed 150 sq.ft. area.

**Standard(s):**

Standard for Spray Application Using Flammable and Combustible Materials, NFPA 33, 2003.

This procedure, with all revisions, etc., is the property of Intertek Testing Services a: is intended solely for the guidance of the listee and the representative of Intertek Testing Services, and is not transferable.



**Issued by:** Intertek Testing Services NA Inc.  
165 Main Street  
Cortland, NY 13045-2014 USA

**Authorized by:** William T. Starr *me* **Date:** November 18, 2004  
William T. Starr  
Certification Manager

**Control Number:** 60023

**CLASSIFICATION REPORT  
INTERTEK TESTING SERVICES NA INC.**

3933 US Route 11, Industrial Park

Cortland, NY 13045

Order No. 3062670-421

Issued: August 3, 2004

REPORT NO. 3062670-001

INSPECTION, TESTS, AND EVALUATION  
OF A PAINT MIXING ROOM

RENDERED TO

U.S.I. ITALIA S.R.L.  
VERONA, ITALY

GENERAL:

This report gives the results of the inspection, tests, and evaluation of Paint Mixing Rooms for classification of explosion, fire, and electric shock risks to the requirements of NFPA 33 - 2003 (Spray Application Using Flammable and Combustible Materials).

Standard for Spray Application Using Flammable and Combustible Materials  
NFPA 33- 2003

Participant: U.S.I. Italia, S.R.L.  
Via Della Metallurgia  
37139 Verona, ITALY

Manufacturer: Same as Participant

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CONSTRUCTIONPRODUCT COVERED:

Paint Mixing Rooms, Models: BV22, BV23, BV33, BV43 and BV52

PRODUCT DESCRIPTION:

The mixing rooms are constructed using either an 18 gauge single skin or 20 gauge double skin. The ceiling panels have integral listed lighting fixtures and an exhaust fan is provided.

The rooms do not exceed 150 sq.ft. area.

MODEL SIMILARITIESPaint Mixing Rooms -

The overall height of all models is 117 3/8" including the top mounted fan. Room height without the fan is 102 3/8" inside and 104 3/4" outside. Widths and lengths vary as shown in the detailed illustration.

Ceiling panels are either solid (double or single skin) or are equipped with light fixtures. See illustration for details.

The exhaust fan is the same for all models as are the light fixtures.

ELECTRICAL RATINGSBV Series -

Lights - 128 watts per fixture (1-3 fixtures used)  
Fan - 180 watts

GENERAL

Construction Details -For specific construction details, reference should be made to the following photographs and descriptions. All dimensions are approximate unless otherwise specified. In addition to the specific construction details described in the photographs, the following general requirements also apply.

1. Spacings - -The following spacings are maintained through air and over surfaces of insulating material between current carrying parts of opposite polarity, and between current carrying parts and dead metal parts.



Maximum Potential Involved, volts	Minimum Spacings, inches		
	Through Air	Over Surface	To Enclosure
0 - 300 (0 - 2000 VA)	1/8	1/4	1/4
0 - 150	1/4	3/8	1/2
151 - 300			
301 - 600	3/8	1/2	1/2
(more than 2000 VA)			

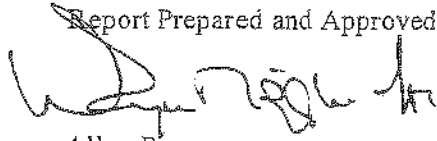
2. Mechanical Assembly - Components such as switches, fuseholders, connectors, wiring terminals, and display lamps are reliably mounted and prevented from shifting or rotating by lockwashers, starwashers, use of multiple screws or bolts
3. Materials in Air Handling Compartments - Sections of the product which carry air for delivery to occupied spaces do not contain materials likely to generate combustion products which may be carried to the conditioned space via the circulating fan.
4. Corrosion Protection - All ferrous metal parts are suitably protected against corrosion by painting, plating or the equivalent.
5. Internal Wiring - Internal wiring is reliably routed away from sharp or moving parts. Internal wiring leads terminate in soldered connections made mechanically secure prior to soldering, separable (quick disconnect) connectors of the positive detent type, closed loop connectors, flanged spade tongue terminals, spring spade tongue terminals of the correct stud size, or other types specifically described in the text of this report. At points where internal wiring passes through metal walls or partitions, the wiring insulation is protected against abrasion or damage by non-abrasive bushings or grommets. All wiring is rated 600 volts, 1050C.
6. Field wiring - All field wiring is provided by the installer who must wire in accordance with the applicable local codes or NEC. It is the responsibility of the authority having jurisdiction to verify compliance.
7. Grounding - All exposed dead metal parts and all dead metal parts within the enclosure that are exposed to contact during any servicing operation and that are likely to become energized are reliably connected to the grounding terminal in the field wiring box.
8. Accessibility of Live Parts - All uninsulated live parts in primary circuitry, or moving parts, are housed within metal enclosures and are adequately protected.
9. Overload Protection - All motors contained in this product are protected from overload by thermal and overcurrent protective devices.

10. Installation and Operating Instructions - Instructions for the proper installation and use of this product are provided by the manufacturer.
11. Wiring Diagram - Wiring diagrams are included in the instructions.
12. Warning Labels - A label package will be included with each booth and mixing room shipped for attachment at the time of assembly. See illustration for locations.

CONCLUSION

A sample of the product covered by this report has been tested and examined for classification of explosion, fire, and electric shock risks to the requirements of NFPA 33 2003 (Spray Application Using Flammable and Combustible Materials)

Report Prepared and Approved by:



Allen Pirro  
Chief Engineer

Report Reviewed by:



Dale Soos  
Senior Project Engineer

# AUTHORIZATION TO MARK

This authorizes the manufacturer to apply the ETL mark to certified products when made in accordance with the accompanying descriptions and drawings under the conditions set forth in the Certification Agreement herein:

Applicant: U.S.I. Italia, S.R.L.  
Via Della Metallurgia  
37139 Verona, ITALY

Manufacturer: Same as Applicant

Reference Report No.: 535548

Product Covered:

Spray Paint and Drying Booths, Models: MODULO MASTER 70.40.28.IS and  
MODULO MASTER.80.40.28.IS.

Product Description:

The product is a fully automated spray booth with a forced air filtration system and a paint cure cycle. It is erected on site and permanently connected to the supply source. A make-up air heater, indirect or direct gas fired, pre-conditions the air used for ventilation and curing and is connected to the booth through permanently installed ducts and dampers.

Standard(s):

Standard for Spray Application Using Flammable and Combustible Materials, NFPA 33, 2003.  
Standard for Commercial Industrial Gas Heating Equipment, UL -795, July 1989.

This procedure, with all revisions, etc., is the property of Intertek Testing Services and is intended solely for the guidance of the listee and the representative of Intertek Testing Services, and is not transferable.

Issued by: Intertek Testing Services NA, Inc.  
165 Main Street  
Cortland, NY 13045-2014 USA



Authorized by: William T. Starr Date: July 3, 2004  
William T. Starr  
Certification Manager

Control Number: 100023

LISTING REPORT  
INTERTEK TESTING SERVICES NA INC.

3933 US Route 11, Industrial Park

Cortland, NY 13045

Order No. 78590-203

Report Re-Issued: January 20, 2004

REPORT NO. 535548

INSPECTION, TESTS, AND EVALUATION  
OF A SPRAY PAINT BOOTH

RENDERED TO

U.S.I. ITALIA S.R.L.  
VERONA, ITALY

GENERAL:

This report gives the results of the inspection, tests, and evaluation of Paint Spray Booths for classification of explosion, fire, and electric shock risks to the requirements of NFPA 33 - 2003 (Spray Application Using Flammable and Combustible Materials) and the Standard for Commercial-Industrial Gas Heating Equipment (UL-795, July 1989).

The sample was tested at the installation site in Woonsocket, RI.

Standard for Spray Application Using Flammable and Combustible Materials NFPA 33- 2003 &  
Standard for Commercial-Industrial Gas Heating Equipment UL-795

Participant: U.S.I. Italia, S.R.L.  
Via Della Metallurgia  
37139 Verona, ITALY

Manufacturer: Same as Participant

ETL Testing Laboratories, Inc.

Report No. 535548

Page 2

Re-Issued: 01/20/04

CONSTRUCTION

PRODUCT COVERED:

Spray Paint and Drying Booths, Models: MODULO MASTER 70-40-28-IS and MODULO MASTER 80-40-28-IS.

PRODUCT DESCRIPTION:

The product is a fully automated spray booth with a forced air filtration system and a paint cure cycle. It is erected on site and permanently connected to the supply source. A make-up air heater, indirect or direct gas fired, pre-conditions the air used for ventilation and curing and is connected to the booth through permanently installed ducts and dampers.

GAS INPUT:

1,100 MBH - natural gas

MODEL SIMILARITIES

The paint spray booths are equipped with heating and exhaust units as follows:

MODULO MASTER 70-40-28-IS is equipped with RAC75TU, RAC100TU, RAC125TU, or RAC150TU.

MODULO MASTER 80-40-28-IS is equipped with RAC100TU, RAC125TU, or RAC150TU.

Booths are equipped with heaters as follows:

Models with indirect fired heaters

Heaters and exhaust unit Model RAC75TU has 2 x 7.5hp motors and a heating capacity of 220 kW (750 MBTU/h).

Heater and exhaust unit Model RAC100TU has 2 x 10hp motors and a heating capacity of 220 kW (750 MBTU/h) or 300 kW (1030 MBTU/h)

Heater and exhaust unit Model RAC125TU has 2 x 12.5hp motors and a heating capacity of 220 kW (750 MBTU/h) or 300kW (1030 MBH)

Heater and exhaust unit Model RAC150TU has 2 x 15hp motors and a heating capacity of 220 kW (750 MBTU/h) or 300 kW (1030 MBTU/h)

Models with direct fired heaters (direct gas-fired heaters are listed by ETL and shown on report 3045341-002)

Heater and exhaust unit Model RAC75TU+DF-220KWT-ES has 2 x 7.5hp motors and a heating capacity of 220 kW (750 MBTU/h).

Heater and exhaust unit Model RAC100TU+DF-220KWT-ES has 2 x 10hp motors and a heating capacity of 220 kW (750 MBTU/h).

Heater and exhaust unit Model RAC100TU+DF-320KWT-ES has 2 x 10hp motors and a heating capacity of 320 kW (1100 MBTU/h).

Heater and exhaust unit Model RAC125TU+DF-320KWT-ES has 2 x 12.5hp motors and a heating capacity of 320 kW (1100 MBTU/h).

Heater and exhaust unit Model RAC150TU+DF-320KWT-ES has 2 x 15hp motors and a heating capacity of 320 kW (1100 MBTU/h).

ELECTRICAL RATINGS

The Models MODULO-MASTER 70.40.28.IS and MASTER-MODULO 80.40.28.IS are rated as the following specifications

MODULO-MASTER 70.40.28.IS equipped with RAC75TU-220KWT-ES are rated:

- 208 volts, 60 hertz, 48 amperes and 110 volts, 60 hz 18 amperes
- 230 volts, 60 hertz, 45 amperes and 110 volts, 60 hz 18 amperes
- 460 volts, 60 hertz, 26 amperes and 110 volts, 60 hz 18 amperes
- 480 volts, 60 hertz, 27 amperes and 110 volts, 60 hz 18 amperes

MODULO-MASTER 70/80.40.28.IS equipped with RAC100TU-220KWT-ES are rated:

- 208 volts, 60 hertz, 70 amperes and 110 volts, 60 hz 18 amperes
- 230 volts, 60 hertz, 62 amperes and 110 volts, 60 hz 18 amperes
- 460 volts, 60 hertz, 35 amperes and 110 volts, 60 hz 18 amperes
- 480 volts, 60 hertz, 34 amperes and 110 volts, 60 hz 18 amperes

MODULO-MASTER 70/80.40.28.IS equipped with RAC125TU-300KWT-ES are rated:

- 208 volts, 60 hertz, 78 amperes and 110 volts, 60 hz 18 amperes
- 230 volts, 60 hertz, 72 amperes and 110 volts, 60 hz 18 amperes
- 460 volts, 60 hertz, 41 amperes and 110 volts, 60 hz 18 amperes
- 480 volts, 60 hertz, 39 amperes and 110 volts, 60 hz 18 amperes

MODULO-MASTER 70/80.40.28.IS equipped with RAC150TU-300KWT-ES are rated:

- 208 volts, 60 hertz, 99 amperes and 110 volts, 60 hz 18 amperes
- 230 volts, 60 hertz, 85 amperes and 110 volts, 60 hz 18 amperes
- 460 volts, 60 hertz, 42 amperes and 110 volts, 60 hz 18 amperes
- 480 volts, 60 hertz, 40 amperes and 110 volts, 60 hz 18 amperes

GENERAL

Construction Details - For specific construction details, reference should be made to the following photographs and descriptions. All dimensions are approximate unless otherwise specified. In addition to the specific construction details described in the photographs, the following general requirements also apply.

1. Spacings - The following spacings are maintained through air and over surfaces of insulating material between current carrying parts of opposite polarity, and between current carrying parts and dead metal parts.

Maximum Potential Involved, volts	Minimum Spacings, inches		
	Through Air	Over Surface	To Enclosure
0 - 300 (0 - 2000 VA)	1/8	1/4	1/4
0 - 150 151 - 300 301 - 600	1/4	3/8	1/2
(more than 2000 VA)	3/8	1/2	1/2

2. Mechanical Assembly - Components such as switches, fuseholders, connectors, wiring terminals, and display lamps are reliably

ETL Testing Laboratories, Inc.

Report No. 535548

Page 4

Re-issued: 01/20/04

4. materials likely to generate combustion products which may be carried to the conditioned space via the circulating fan.
5. Corrosion Protection - All ferrous metal parts are suitably protected against corrosion by painting, plating or the equivalent.
6. Internal Wiring - Internal wiring is reliably routed away from sharp or moving parts. Internal wiring leads terminate in soldered connections made mechanically secure prior to soldering, separable (quick disconnect) connectors of the positive detent type, closed loop connectors, flanged spade tongue terminals, spring spade tongue terminals of the correct stud size, or other types specifically described in the text of this report. At points where internal wiring passes through metal walls or partitions, the wiring insulation is protected against abrasion or damage by non-abrasive bushings or grommets. All wiring is rated 600 volts, 1050C.
7. Field Wiring - All field wiring is provided by the installer who must wire in accordance with the applicable local codes or NEC. It is the responsibility of the authority having jurisdiction to verify compliance.
8. Grounding - All exposed dead metal parts and all dead metal parts within the enclosure that are exposed to contact during any servicing operation and that are likely to become energized are reliably connected to the grounding terminal in the field wiring box.
9. Accessibility of Live Parts - All uninsulated live parts in primary circuitry, or moving parts, are housed within metal enclosures and are adequately protected.
10. Overload Protection - All motors contained in this product are protected from overload by thermal and overcurrent protective devices.
11. Installation and Operating Instructions - Instructions for the proper installation and use of this product are provided by the manufacturer.
12. Wiring Diagram - Wiring diagrams are included in the instructions.
13. Warning Labels - A label package will be included with each booth shipped for attachment to the booth at the time of assembly.
14. Operation - The following operation features are incorporated into the design:
  - 1) Application and Flash-Off - The appropriate switches on the control panel are set to "Paint". The supply fan delivers air through the air heater to the spray booth. The exhaust fan removes the air from the spray booth and exhausts it to the outside. During this phase the unit uses 100% outside air.



- 2) Baking and Cooling - The appropriate switches on the control panel are set to "Drying". Dampers are positioned to reduce outside air to 20% and recirculate 80%. The supply fan operates and the exhaust fan is on. 20% of the air is discharged outside through the exhaust duct. During this cycle the operator is not in the room and the air can be set up to 176°F.

An electric solenoid valve is installed in the supply air for the spray gun. This valve will not open whenever the controls are not in the "Paint" phase

Explosion venting - The GM70 has an explosion vent area of 206.4 ft<sup>2</sup>. This is documented in the illustration Section of this report, page I9. I10

The GM80 has an explosion vent area 229.4 ft<sup>2</sup>. This is documented and detailed on page I18. I19

- 3) The side safety doors on the booths are required to be located 9 feet away from the nearest point of the front door for the model GM70, and at least 10 feet away from the nearest point of the front door for the model GM80. This is reflected in the illustration Section of this report, pages I9, I11.

- 4) Heating Source - the booths may be heated by two types of heaters.

Indirect Gas Fired Heaters - are described as part of this report with several illustrations for the actual construction of the heater.

Direct Gas Fired Heaters - are described in ETL Listing Report 3045341-002. The heaters are manufactured by USI and are model numbers as indicated on Page 2 of this report.

ETL Testing Laboratories, Inc.

Report No. 535548

Page 6

Re-Issued: 01/29/04

CONCLUSION NO. 1

A sample of the product covered by this report has been tested and examined for classification of explosion, fire, and electric shock risks to the requirements of NFPA 33 2003 (Spray Application Using Flammable and Combustible Materials and the Standard for Commercial-Industrial Gas Heating Equipment (UL-795, July 1989).

Report Prepared and Approved by:

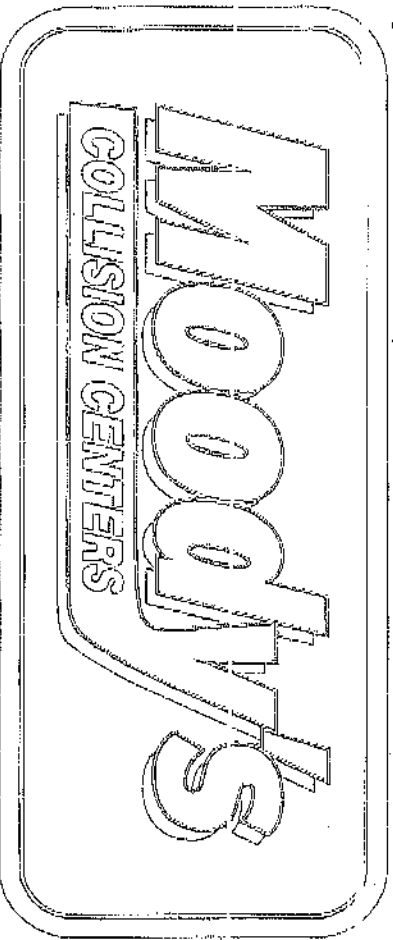


Allen Firro  
Chief Engineer



SEAL

OVERALL SIZE 40" x 100" MM 2 1/2" FL ANGLE 2.9" RADIUS ON CAB



LIGHTED  NO  
SHEMET COLOR TO MATCH PEARL GRAY  
MOUNTING CFM

WALL  DOUBLE PILE FOR 5" SQUARE TUBES  
OTHER  SINGLE PILE

DOUBLE PILE  
 SINGLE PILE

CUSTOMER NAME

THIS DRAWING IS YOUR FINAL PROOF. IT SUPERCEDES ALL PREVIOUS COMMUNICATIONS.

YOC \_\_\_\_\_  
YCS Date \_\_\_\_\_  
(space for date only)

Customer Approval XXX  
Date \_\_\_\_\_  
Quantity 1  
Description 44" x 120" x 12" Estimated Production Time 2-3 WKS  
Order \_\_\_\_\_  
(space for order)

Scale 1/2" = 1'  
The Name MOODY'S, INC.  
(space for name only)

We Accept

Due to the custom nature of this product, our payment terms are 30% deposit with order, balance (COD). Please retain a security item on products and services until inspection have been called by bill. I have reviewed the proposed and authorized faces to proceed as detailed. I understand that any changes in specification after my approval, may result in extra charges.

Embossed: NONE

NON-EMBOSSSED ALL

Track Positioning: \_\_\_\_\_

Model: \_\_\_\_\_ Vinyl \_\_\_\_\_ Digital Print \_\_\_\_\_ Facias Corners 9" \_\_\_\_\_  
Seams \_\_\_\_\_ Extrusion 12" \_\_\_\_\_ Tubular \_\_\_\_\_ Logo Box \_\_\_\_\_

ON CABINET

DOUBLE FACE

- DISCONNECT SWITCH
- PHOTO CELL
- HANGING BAR
- MANUAL COVER
- PROP RODS
- HYDRAULIC ARMS
- HASP LOCKS
- BARREL LOCKS

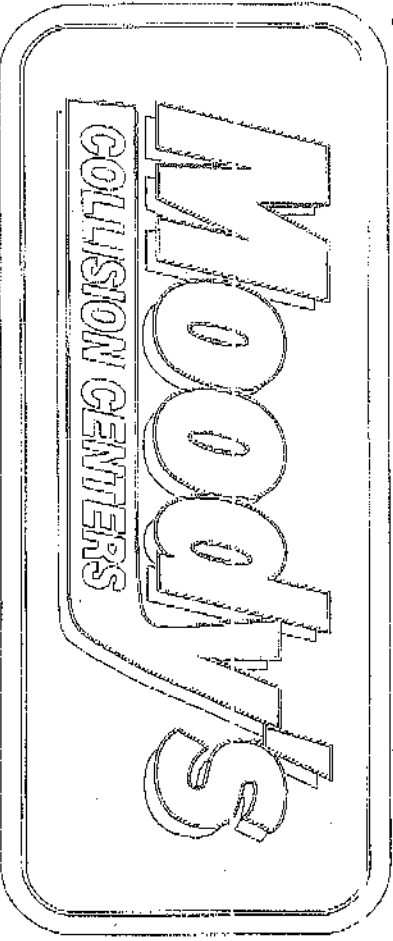
BOB

SAL SPENCER

FAX BACK TO 205-313-1867

SEAL

OVERALL SIZE 40" x 120" W/2 1/2" H HANGF & 4" RADIUS ON CAB.



LIGHTED  Y  N  
CABINET COLOR TO MATCH PEARL GRAY  
MOUNTING CFM \_\_\_\_\_  
BPM \_\_\_\_\_

WALL \_\_\_\_\_  
OTHER DOUBLE POLE FOR 5" SQUARE TUBES  
KORNE \_\_\_\_\_  
SINGLE \_\_\_\_\_  
PAGE \_\_\_\_\_

BOOTH  
 PAGE

- DISCONNECT SWITCH \_\_\_\_\_
- PHOTO CELL \_\_\_\_\_
- HANGING BAR \_\_\_\_\_
- MANDAL COVER \_\_\_\_\_
- PROP RODS \_\_\_\_\_
- HYDRAULIC ARMS \_\_\_\_\_
- HASP LOCKS \_\_\_\_\_
- BARNEL LOCKS \_\_\_\_\_

CUSTOMER NAME \_\_\_\_\_  
THIS DRAWING IS YOUR FINAL PROOF IT SUPERCEDES ALL PREVIOUS COMMUNICATIONS.  
SALESPERSON **BDB**

W/C# \_\_\_\_\_  
W/C# Date \_\_\_\_\_  
(same line only)

Customer Approval XXX  
Order # DEC04/12/04 Item No. 14" X 120" X 1/2" same as order time 2-3 WKS  
Date \_\_\_\_\_  
Terms \_\_\_\_\_  
(same line only)

Scale 1/2" = 1'  
File Name moody's.dwt  
(same line only)

Due to the custom nature of this product, our payment terms are 50% deposit with order, balance COO. Faces retains a security lien on products until invoice have been paid in full. I have reviewed the proposed and suggested Faces to proceed as detailed. I understand that any changes in specifications after my approval may result in extra charges.

Embossed: NONE  
NON-EMBOSSSED ALL  
Track Positioning \_\_\_\_\_  
Material Vinyl Digital Print \_\_\_\_\_ Radius Corners 4"  
Comments: Calculator: MOODY'S - PMS 293 BLUE  
COLLISION CENTER + OUTLINES - WHITE  
DROP SHADOW - PMS 2622 PURPLE OPAQUE  
FLANGE, PANDRANT, BEAD + BACKGARD -  
COOL GRAY - OPAQUE  
Specials: SEE COLOR PHOTO  
Extruder 12" Tubular \_\_\_\_\_ Logo Box \_\_\_\_\_

ON CABINET

DOUBLE FACE

FAX BACK TO 205-313-1867

**25 TON STANDARD / HIGH EFFICIENCY**

Model No.		LGC300S									LGC300H								
Line voltage data - 60 Hz - 3 phase		208/230V			460V			575V			208/230V			460V			575V		
Compressors (4)	Rated load amps each (total)	18.6 (74.4)			9 (36)			7.4 (29.6)			18.6 (74.4)			9 (36)			7.4 (29.6)		
	Locked rotor amps each (total)	156 (624)			75 (300)			54 (216)			156 (624)			75 (300)			54 (216)		
Condenser Fan Motors	No. of motors	4			4			4			6			6			6		
	Full load amps each (total)	3 (12)			1.5 (6)			1.2 (4.8)			2.4 (14.4)			1.3 (7.8)			1 (6)		
	Locked rotor amps each (total)	6 (24)			3 (12)			2.9 (11.6)			4.7 (28.2)			2.4 (14.4)			1.9 (11.4)		
Evaporator Blower Motor	Motor Output - hp	5	7.5	10	5	7.5	10	5	7.5	10	5	7.5	10	5	7.5	10	5	7.5	10
	kW	3.7	5.0	7.5	3.7	5.0	7.5	3.7	5.0	7.5	3.7	5.0	7.5	3.7	5.0	7.5	3.7	5.0	7.5
	Full load amps	16.7	24.2	30.8	7.6	11	14	6.1	9	11	16.7	24.2	30.8	7.6	11	14	6.1	9	11
	Locked rotor amps	105	152	193	45.6	66	84	36.6	54	66	105	152	193	45.6	66	84	36.6	54	66
1 Maximum Overcurrent Protection (amps)	With Exhaust Fans	125	125	150	60	60	70	50	50	60	125	125	150	60	70	70	50	50	60
	Less Exhaust Fans	125	125	150	60	60	70	45	50	50	125	125	125	60	60	70	50	50	50
2 Minimum Circuit Ampacity	With Exhaust Fans	113	121	127	55	58	61	45	48	50	118	125	132	58	61	64	47	50	52
	Less Exhaust Fans	108	116	122	52	56	59	43	46	48	111	118	125	54	58	61	44	47	49
Optional Power Exhaust Fans	(No.) Horsepower (W)	(2) 1/3 (249)			(2) 1/3 (249)			(2) 1/3 (249)			(3) 1/3 (249)			(3) 1/3 (249)			(3) 1/3 (249)		
	Full load amps (total)	4.8			2.6			2			7.2			3.9			3		
	Locked rotor amps (total)	9.4			4.8			3.8			14.1			7.2			5.7		
Service Outlet (2) 115 volt GFCI (amp rating)		15			15			15			15			15			15		

**30 TON HIGH EFFICIENCY**

Model No.		LGA360H (R-22)									LGA360H (R-410A)								
Line voltage data - 60 Hz - 3 phase		208/230V			460V			575V			208/230V			460V			575V		
Compressors (3)	Rated load amps each (total)	30.1 (90.3)			15.5 (46.5)			12.1 (36.3)			33.3 (99.9)			17.9 (53.7)			11.5 (34.5)		
	Locked rotor amps each (total)	225 (675)			114 (342)			80 (240)			239 (717)			125 (375)			80 (240)		
Condenser Fan Motors (6)	Full load amps each (total)	2.4 (14.4)			1.3 (7.8)			1 (6)			2.4 (14.4)			1.3 (7.8)			1 (6)		
	Locked rotor amps each (total)	4.7 (28.2)			2.4 (14.4)			1.9 (11.4)			4.7 (28.2)			2.4 (14.4)			1.9 (11.4)		
Evaporator Blower Motor	Motor Output - hp	5	7.5	10	5	7.5	10	5	7.5	10	5	7.5	10	5	7.5	10	5	7.5	10
	kW	3.7	5.0	7.5	3.7	5.0	7.5	3.7	5.0	7.5	3.7	5.0	7.5	3.7	5.0	7.5	3.7	5.0	7.5
	Full load amps	16.7	24.2	30.8	7.6	11	14	6.1	9	11	16.7	24.2	30.8	7.6	11	14	6.1	9	11
	Locked rotor amps	105	152	193	45.6	66	84	36.6	54	66	105	152	193	45.6	66	84	36.6	54	66
1 Maximum Overcurrent Protection (amps)	With Exhaust Fans	150	150	175	80	80	90	60	60	70	175	175	175	90	90	100	80	80	80
	Less Exhaust Fans	150	150	150	80	80	80	60	60	60	150	175	175	90	90	90	80	80	80
2 Minimum Circuit Ampacity	With Exhaust Fans	137	144	151	70	74	77	55	58	60	147	155	161	78	81	84	63	66	68
	Less Exhaust Fans	129	137	143	66	70	73	52	55	57	140	147	154	74	77	80	50	53	55
Optional Power Exhaust Fans	(No.) Horsepower (W)	(3) 1/3 (249)			(3) 1/3 (249)			(3) 1/3 (249)			(3) 1/3 (249)			(3) 1/3 (249)			(3) 1/3 (249)		
	Full load amps (total)	7.2			3.9			3			7.2			3.9			3		
	Locked rotor amps (total)	14.1			7.2			5.7			14.1			7.2			5.7		
Service Outlet (2) 115 volt GFCI (amp rating)		15			15			15			15			15			15		

NOTE - Extremes of operating range are plus and minus 10% of line voltage.

1 HACR type breaker or fuse.

2 Refer to National or Canadian Electrical Code manual to determine wire, fuse and disconnect size requirements.

*Unit Model No.	Octave Band Sound Power Levels dB, re 10 <sup>-12</sup> Watts							1 Sound Rating Number (dB)
	Center Frequency - Hz							
	125	250	500	1000	2000	4000	8000	
156H 180S, 180H	97	92	91	88	83	79	72	93
210S, 210H 240S, 240H	94	91	90	87	83	79	72	92
300S	96	93	90	87	82	76	65	93
248H, 300H	95	93	92	88	84	81	76	94
360H	94	93	93	90	86	81	75	95

1 Tested according to ARI Standard 270-95 test conditions and ANSI Standard S1.32-1981.

**30 TON ROOFTOP UNIT**



U.S. PRICE BOOK

BOSTON-AB-PC

Up to 15 SEER

Thermostat Not Furnished

Model No.	Nom. Tons	Nom. Cooling Btuh	Sound Rating dB	Line Conn.		Unit Dimensions H x W x D	MCA	MOCP	Weight lbs.	Order No.
				Liq.	Suct.					
208/230v-1ph										
14ACX-018-230	1.5	18,000	76	3/4	3/4	29 1/2 x 24 1/2 x 24 1/2	12.3	20	148	22W81
14ACX-024-230	2	24,000	78	3/4	3/4	29 1/2 x 24 1/2 x 24 1/2	17.8	30	148	22W82
14ACX-030-230	2.5	30,000	78	3/4	3/4	29 1/2 x 28 1/2 x 28 1/2	17.2	30	168	22W83
14ACX-036-230	3	36,000	78	3/4	3/4	29 1/2 x 28 1/2 x 28 1/2	18.7	36	172	22W84
14ACX-042-230	3.5	42,000	78	3/4	3/4	29 1/2 x 28 1/2 x 28 1/2	24.1	40	198	22W85
14ACX-048-230	4	48,000	78	3/4	3/4	37 1/2 x 28 1/2 x 28 1/2	29	50	221	22W86
14ACX-060-230	5	60,000	80	3/4	1 1/2	39 1/2 x 32 1/2 x 32 1/2	34.6	60	236	22W87

Up to 14 SEER

Thermostat Not Furnished

Model No.	Nom. Tons	Nom. Cooling Btuh	Sound Rating dB	Line Conn.		Unit Dimensions H x W x D	MCA	MOCP	Weight lbs.	Order No.
				Liq.	Suct.					
208/230v-1ph										
13ACX-018-230	1.5	18,000	78	3/4	3/4	29 1/2 x 24 1/2 x 24 1/2	12.3	20	122	99M04
13ACX-024-230	2	24,000	78	3/4	3/4	33 1/2 x 24 1/2 x 24 1/2	17.8	30	129	99M05
13ACX-030-230	2.5	30,000	76	3/4	3/4	29 1/2 x 24 1/2 x 24 1/2	18.7	30	160	99M06
13ACX-036-230	3	36,000	78	3/4	3/4	29 1/2 x 24 1/2 x 24 1/2	21.9	36	150	99M07
13ACX-042-230	3.5	42,000	80	3/4	3/4	33 1/2 x 24 1/2 x 24 1/2	24.1	40	177	99M10
13ACX-048-230	4	48,000	80	3/4	3/4	29 1/2 x 28 1/2 x 28 1/2	28.9	50	283	99M13
13ACX-060-230	5	60,000	80	3/4	1 1/2	43 1/2 x 28 1/2 x 28 1/2	34.5	60	236	99M17

Up to 14 SEER - RFCV Metering Device Furnished

Thermostat Not Furnished

Model No.	Nom. Tons	Nom. Cooling Btuh	Sound Rating dB	Line Conn.		Unit Dimensions H x W x D	MCA	MOCP	Weight lbs.	Order No.
				Liq.	Suct.					
208/230v-1ph										
13ACD-018-230	1.5	18,000	78	3/4	3/4	29 1/2 x 24 1/2 x 24 1/2	10.7	15	122	88M69
13ACD-024-230	2	24,000	76	3/4	3/4	33 1/2 x 24 1/2 x 24 1/2	14.1	20	129	88M70
13ACD-030-230	2.5	30,000	78	3/4	3/4	29 1/2 x 24 1/2 x 24 1/2	16.7	30	160	88M71
13ACD-036-230	3	36,000	76	3/4	3/4	29 1/2 x 24 1/2 x 24 1/2	18.1	30	160	88M72
13ACD-042-230	3.5	42,000	80	3/4	3/4	33 1/2 x 24 1/2 x 24 1/2	25.9	45	177	88M73
13ACD-048-230	4	48,000	80	3/4	3/4	43 1/2 x 28 1/2 x 28 1/2	25.7	40	233	88M74
13ACD-060-230	5	60,000	80	3/4	1 1/2	43 1/2 x 28 1/2 x 28 1/2	33.3	60	236	88M75

NOTE - Accessories are listed at the end of this section.

December 18, 2007  
07548

Ms. Molly Casto, Planner  
Portland Planning Division  
389 Congress Street  
Portland, Maine 04101

**Moody's Collision Center – Minor Site Plan Submission Review Comments**

Dear Molly:

We have received a staff review comment letter from you dated December 6, 2007 and review comments from the City Arborist via e-mail dated December 13, 2007 related to our November 16, 2007 Minor Site Plan submittal for the proposed Moody's Collision Center located on Presumpscot Street in Portland. We have revised the plans in response to those comments.

The following items present the text of the review comments in italics, followed by our response.

**Proposed Signage**

1. *Please submit a description and details for any proposed signage, including any proposed sign lighting. Division 22 of the City Code-Signs, outlines the permitting process for any proposed signage. While sign permit applications are reviewed and approved by the Inspections Department, they are also reviewed as a component of the site plan review process. Signs shall meet the following site plan review standards (Section 14-526 (22)):*
  - a. *The size, scale proportions, design, materials, placement, and source and intensity of illumination of all permanent freestanding and building signs shall be designed to complement and enhance the architectural attributes of the building(s) to which they are attaché or visually related. In addition, such signs shall be appropriate to the scale and character of the neighborhood in which the sign is located, and shall be designed to suit the conditions from which it will be viewed, especially in relation to the distance, travel speed and mode of travel of the viewing public.*
  - b. *In the case of freestanding signs, such signs shall relate to the architecture of the buildings they identify and shall be integrated with other site and landscape features.*



- c. *Sign lighting shall be designed to avoid glare, unshielded light sources and light spillover toward the sky. All light sources shall be shielded or provided with a diffuser lens so that lamps and bulbs are not visible to pedestrians or drivers of vehicles.*

Attached with this submission are details of the proposed signage for Moody's Collision Center.

### **Snow Storage**

2. *Please provide details on proposed snow storage including area(s) proposed for snow storage on the revised plans.*

We have identified areas to be utilized for snow storage for Moody's. These areas are located on the northern and south/southwestern portions of the site. The areas are identified on the Site Plan Sheet 3 of 10 within the attached plan set.

### **Landscaping and Buffering**

3. *City of Portland Site Plan Standards pertaining to industrial zones, along with the Portland Technical and Design Standards include the following landscaping requirements and standards:*
  - a. *Section 14-526 (25) of the City Code requires that rear yards and side yards of developments in industrial zone be adequately landscaped. This section also requires that parking lots for more than twenty five (25) vehicles incorporate interior landscaping. The Technical and Design Standards elaborate on this requirement, stating that parking areas must be composed of at least ten (10) % interior planted areas. For parking lots containing in excess of fifty (50) cars, an increase in interior planted areas above the minimum ten (10) percent is encouraged.*

Please see response Item Number 27 below. Mr. Jeff Tarling the City Arborist and Mr. Jeff Perry of Sebago Technics have worked out an acceptable landscaping plan for the proposed parking area. The proposed landscaping is shown in the attached updated Landscaping Plan Sheet 5 of 10.

4. *Please be sure that all proposed fencing and screening has been included on the plans. This includes any areas of the parking lot to be gated or fenced off for security purposes.*

All proposed fencing and screening has been included on the plans. In addition, all proposed plantings/screenings are shown on the attached Landscape Plan Sheet 5 of 10

### **Solid Waste Management**

5. *Please include a description of the types and estimated quantities of solid waste to be generated by the development and a description of how solid waste will be managed.*

The proposed use of the property is an auto body repair shop. The site is intended to utilize three onsite dumpsters for control and disposal of solid waste. The dumpsters include one 30 cubic yard roll off dumpster for the disposal of sheet metal. It is anticipated that this dumpster will be emptied once every month. One eight cubic yard dumpster will be utilized for general trash and will be emptied once a week. One eight cubic yard dumpster will be utilized for the disposal of cardboard and will be emptied twice every week.

6. *Section 14-525 (13) requires all new commercial property and industrial developments to submit a narrative description of the estimated amount and type of recyclable material generated on-site; the location, size and type of containers providing outdoor storage of recyclable materials; the manner and methods of timely removal of recyclable materials generated on-site; and the screening and landscaping proposed to provide adequate buffering between the stored material and remainder of site and neighboring properties. You have identified the location of a dumpster pad with enclosure, along with details and dimensions. Please specify if this pad incorporates storage of recyclables or if these materials will be addressed in a different way.*

Moody's Collision Center does intend to utilize recycling as part of their solid waste management. Sheet metal will be recycled at a rate of two tons per month and cardboard will be recycled at a rate of 16 cubic yards per month

The proposed dumpster pad enclosure will incorporate two eight cubic yard dumpsters. One eight cubic yard dumpster will be utilized for general trash and will be emptied once a week. One eight cubic yard dumpster will be utilized for the disposal of cardboard and will be emptied twice every week.

#### **Stormwater Treatment**

7. *In your submittal, you provided a written request for an exemption from Section V (B) of the Portland Technical and Design Standards. Based on the submitted application materials, Public Works has granted you an exemption from this standard.*

Noted.

#### **Zoning (the following comments have already been provided to you under separate cover)**

8. *The lot configuration shown on the submitted site plan is different from that shown in Portland GIS maps of lot boundaries. Please confirm that the total lot is as shown on the submitted survey.*

As indicated on Note 7A on the Existing Conditions Plan Sheet 2 of 10 property boundary information is based on a boundary survey of the property prepared by Back Bay Boundary, Inc. dated March 6, 2003. As such the total lot is as shown on the attached plans.

9. *There appears to be a difference between the footprint (17,728) and building area (18,448). Is there a mezzanine area? What is the reason for the two figures?*

There is a small 2<sup>nd</sup> floor office area located in the back of the proposed building that occupies 720 square feet. This is the difference between the footprint area (17,728 S.F.) and the projects total square footage (18,448 S.F.)

10. *FYI- the submitted parking analysis is incorrect. The office space requires one parking space for each 400 sq. ft. using the footprint area, Marge Schmuckal, Zoning Administrator determined that 25 parking spaces are required by ordinance for both the office use and the automobile work area. You are showing 73 parking spaces, however, which far exceeds the minimum requirement.*

Noted

11. *The actual impervious surface area has not been given. The maximum allowed in the I-M Zone is 75%. Please submit what the actual percentage is for impervious surface.*

The parcel size is 2.57 acres. Proposed development on the will result in 1.50 acres of on-site impervious area. Resulting in a 58.4% impervious area coverage for the proposed project.

12. *Noise levels from the front air conditioners and the generator in the rear will need to meet the noise standards in the I-M Zone. Please submit what noise levels will be generated from these appurtences.*

We have included within this submission the manufacture's specification sheets which indicate the sound ratings for these units.

13. *All building setbacks and pavement setbacks required by zoning are being met. The building height requirements and street frontage are being met.*

Noted.

14. *Keep in mind that separate permits through Inspection Services will be required for any new signage.*

Noted.

**Engineering Review: Woodard & Curran Engineering Review Comments Presented in E-mail Message of December 4, 2007**

15. *No work will be allowed in the R.O.W. until the winter moratorium for street construction has been lifted, and pavement is available.*

Noted

16. *The site plan call out Concrete Block Retaining Walls, and a detail is provided for this, however the grading and utility plan calls out a Proposed Retaining Wall or Ledge Face. How will the retaining wall be tied into the ledge, and how will the presence of ledge at the site impact retaining wall construction and the extension of geogrid reinforcement into the embankment behind the proposed walls.*

Based on site conditions during construction it is anticipated that either a concrete block retaining wall or an exposed rock face will be utilized as a retaining wall in the eastern portion of the site. Should a situation arise where an exposed rock face is not practical then the removal of ledge will be required to adequately install the block retaining wall and associated geogrid.

17. *Note 4 on the Grading and Utility Plan states that the contractor shall verify slope stability with a geotechnical engineer for the 1:1 rip rap slope on the site. This should be verified with a geotechnical investigation as part of the design.*

Attached with this submission is a Geotechnical report prepared by Mr. Ken Recker, Geotechnical Manger, Sebago Technics. Inc. Within this report is a section which addresses the construction of the 1:1 rip rap slope. In addition, the 1:1 slope detail has been updated to reflect the input from the Geotechnical report.

18. *The pipe trench detail needs to be altered to conform to City of Portland Design standards. 12 inches of crushed stone is required over the pipe.*

The pipe trench detail has been modified to reflect 12 inches of crushed stone over the pipe.

19. *The vertical granite curb reveal should be 7 inches, Noe 6 as shown.*

The vertical granite curb detail has been modified to reflect a 7 inch reveal.

20. *The granite tip downs should be seven feet long to comply with City standards*

The granite tipdowns have been modified to reflect the 7 foot standard.

21. *Casco traps should be installed on all catch basins at the site.*

We have updated the catch basin detail to reflect the installation of the Casco Trap. In addition, we have added a note to the detail stating that, "All onsite catch basins shall be fitted with Casco Traps".

22. *The project does not have an adverse impact on the existing natural resources of the site.*

Noted

**Fire Department Review: (the following comments have already been provided to you under separate cover)**

23. *Details of the spray booth and ventilation system, along with flammable liquid storage will be required for a building permit.*

Attached with this submission are details of the mixing booth and spray booths utilized by Moody's Collision. Flammable liquids are stored within the mixing booth.

24. *The location of the nearest fire hydrant does not appear to be shown on plans. This project will require a hydrant located within 500' of the structure.*

We have added the existing hydrant location to our Existing Conditions Plan Sheet 2 of 10 for the project. The updated plan is attached within the updated plan set. The closest hydrant is located approximately 160' north from the proposed entrance drive for the site. In addition, a second hydrant not shown on the plans is located approximately 570 feet south from the entrance drive for the site.

**City Planner Comment Presented in E-mail Message of December 12, 2007**

25. *In your letter you describe how the development will dispose of 8 gallons of hazardous waste. Could you please provide details of how this will be disposed of and where it will be stored?*

The paint/thinner waste is stored in the mixing booth within a 16 gallon OSHA approved non-flammable drum. The waste is picked up by Safety Clean once a month.

**City Arborist Review Comments Presented in E-mail Message of December 13, 2007**

26. *Please change out some or all of the false cypress (CP) at the south corner of the building and replace with a more substantial shade tree species.*

We have changed out the false cypress (CP) at the south corner and replaced them with Bradford Pear (PC).

27. *The 10% landscaping concept you submitted is good overall- please make these modifications: - combine the two proposed landscaped beds at the rear of the parking lot into a single, larger planting bed (approx. 4-car length as opposed to the two 2--car length beds you proposed).*

Based on conversations between Mr. Jeff Perry of Sebago Technics and Mr. Jeff Tarling the city arborist we have eliminated the landscaping beds on the rear (east) side of the proposed building. We have maintained the planting bed area on the North side of the proposed building. These changes are reflected on the attached updated Landscaping plan Sheet 5 of 10.

28. *Leave some additional space at the rear (east) of the site between the guardrail and the rip rap to include some small trees. These can be in a row above the rip rap, between the rip rap and guardrail or, if the rip rap cannot be modified, they can be interspersed in spaces amidst the rip rap itself. Either would be fine.*

Based on conversations between Mr. Jeff Perry of Sebago Technics and Mr. Jeff Tarling the City Arborist we have agreed that a planting area between the guardrail and the rip rap is most likely not practical based on the steepness of the proposed slope and the amount of rip rap that will be required to protect the slope.

29. *Please include some landscaping around the proposed sign at the driveway entrance.*

We have added landscaping around the proposed sign at the driveway entrance. The new landscaping is shown on the attached updated landscaping plan.

30. *Add one tree along the south edge of the parking lot to the left (west) of the dumpster for additional screening. A second tree should be planted in the far, rear corner of the lot to the right (east) side of the dumpster.*

We have added three trees at the south edge of the parking lot to the left (west) of the dumpster and we have added three trees in the far rear corner of the lot to the right (east) of the dumpster as requested. These proposed plantings are shown on the attached updated Landscaping plan Sheet 5 of 10.

31. *What material do you propose for the rear guardrail?*

We are proposing a metal guardrail for the project.

We are hopeful that these responses and the revised plans address the comments received to date. Please contact me if you have any questions or require any additional information.

Sincerely,

SEBAGO TECHNICS, INC.



Anthony Panciocco, P.E.  
Senior Project Engineer

APP:APP/dlf  
Encl.

cc: Shawn Moody

Minor Site Plan Review

- Less than 10,000 sq. ft. (\$400.00) (less than 20,000 s.f. in the I-M Zone)  
 After-the-fact Review (\$1,000.00 - applicable application fee)

Plan Amendments

- Planning Staff Review (\$250.00)  
 Planning Board Review (\$500.00)

Who billing will be sent to: Mr. Shawn Moody  
Moody's Collision Center  
200 Narragansett St.  
Gorham, ME 04038

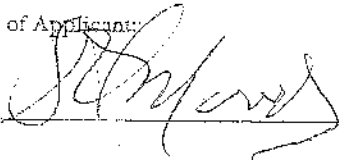
Submittals shall include (7) separate folded packets of the following:

- a. copy of application
- b. cover letter stating the nature of the project
- c. site plan containing the information found in the attached sample plans checklist
- d. 1 set of 11x17 plans

Section 14-522 of the Zoning Ordinance outlines the process which is available on our web site: [portlandmaine.gov](http://portlandmaine.gov)

I hereby certify that I am the Owner of record of the named property, or that the owner of record authorizes the proposed work and that I have been authorized by the owner to make this application as his/her authorized agent. I agree to conform to all applicable laws of this jurisdiction. In addition, if a permit for work described in this application is issued, I certify that the Code Official's authorized representative shall have the authority to enter all areas covered by this permit at any reasonable hour to enforce the provisions of the codes applicable to this permit.

This application is for site review only; a Building Permit application and associated fees will be required prior to construction.

Signature of Applicant: 	Date: 11/13/2007
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# City of Portland, Maine Site Plan Checklist

Project Name, Address of Project

Application Number

Submitted ( ) & Date (b,c)	Item	Required Information	Section 14-523
✓	(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
✓	(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
✓	(35)	Quantity and type of residential, if any	l
✓	(36)	Total land area of the site	b2
✓	(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
✓	(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  
✓  
N/A  
✓

- (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;
- a parking and/or traffic study;
- emissions; and
- a wind impact analysis.
- an environmental impact study;
- a sun shadow study;
- a study of particulates and any other noxious
- a noise study;

Other comments:

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# **Table of Contents**

## **Minor Subdivision**

### **Application**

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- **Minor Site Plan Application and Checklist**

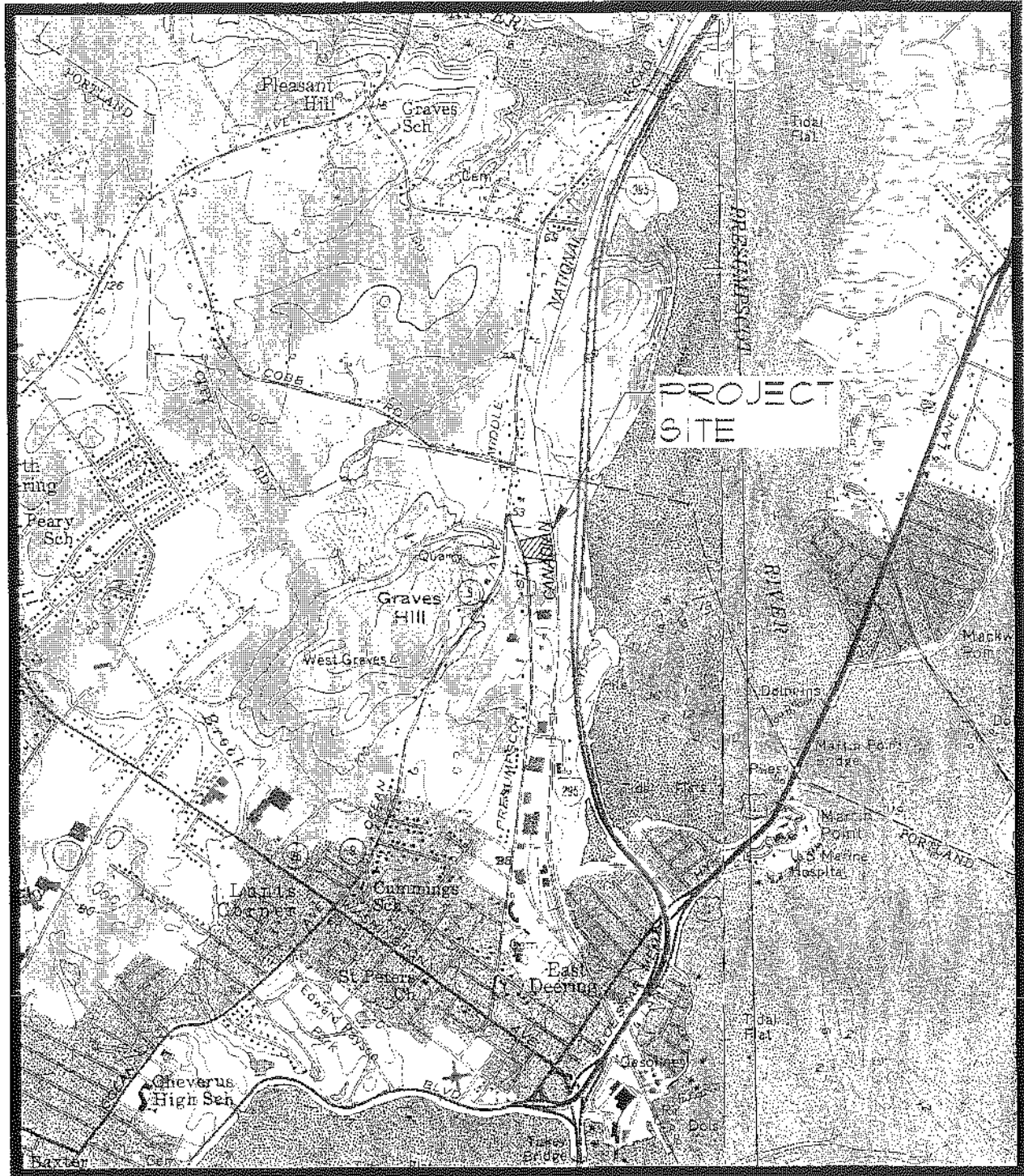
<b>Exhibit 1</b>	<b>Location Map, Tax Map</b>
<b>Exhibit 2</b>	<b>Water Service Capacity Letter</b>
<b>Exhibit 3</b>	<b>Regulatory Approvals</b>
<b>Exhibit 4</b>	<b>Financial Capacity and Technical Capacity</b>
<b>Exhibit 5</b>	<b>Lighting</b>
<b>Exhibit 6</b>	<b>Right, Title, or Interest</b>
<b>Exhibit 7</b>	<b>Parking Analysis</b>
<b>Exhibit 8</b>	<b>Stormwater Management</b>
<b>Exhibit 9</b>	<b>Test Pit Logs / Septic Design</b>
<b>Exhibit 10</b>	<b>Medium Intensity Soils Map</b>
<b>Exhibit 11</b>	<b>Inland Fisheries letter, Maine Historic Preservation Commission letter, and Maine Natural Areas letter</b>
<b>Exhibit 12</b>	<b>Portland Fire Department Checklist</b>

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# **Exhibit 1**

**Location Map, Tax Map**

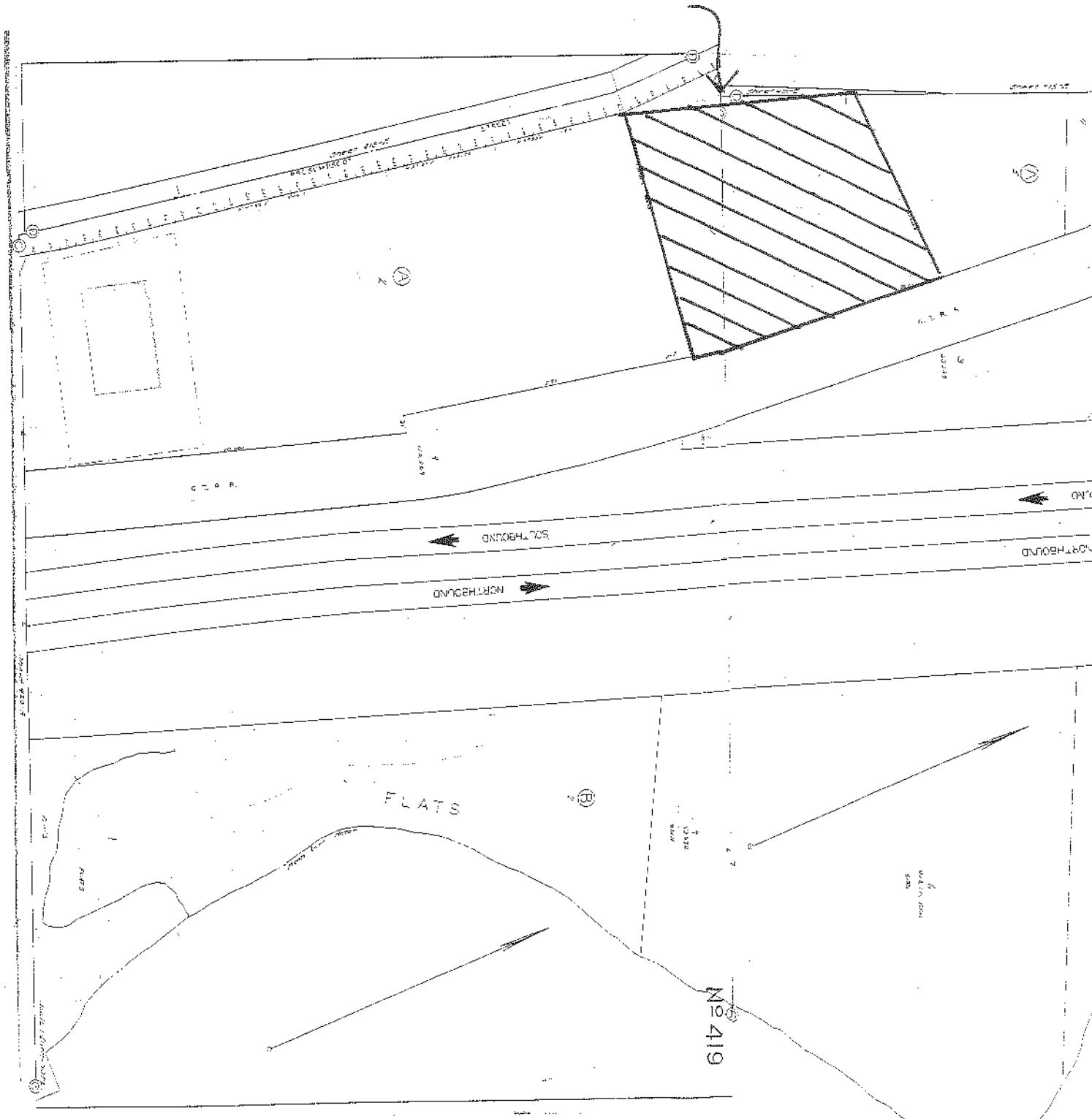
FIGURE 1



SITE LOCATION MAP  
 USGS TOPOGRAPHIC  
 7.5 MIN. QUADRANGLE  
 PORTLAND-WEST  
 & PORTLAND-EAST  
 SCALE: 1"=2,000'



site



Nº 419

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# **Exhibit 2**

**Water Service Capacity Letter**



## Portland Water District

FROM SEBAGO LAKE TO CASCO BAY

October 24, 2007

Sebago Technics  
One Chabot Street  
P.O. Box 1339  
Westbrook, ME 04092

Attn: Jayson R. Haskell  
Re: Moody's Collision Center – Presumpscot Street, Portland  
Ability to serve with PWD water

Dear Mr. Haskell:

This letter is to confirm that there should be an adequate supply of clean and healthful water to serve the needs of the proposed Collision Center at Presumpscot Street in Portland. According to District records, there is a 10-inch water main on the east side of the street as well as a hydrant located adjacent to the property.

The current data from the nearest hydrant indicates there should be adequate capacity of water to serve the needs of your proposed project.

Hydrant Location: Presumpscot St at Ocean Ave  
Hydrant Number: POD-HYD01241  
Static Pressure: 84 psi  
Flow: 1255 gpm  
Last Tested: 06/20/1991

Please notify your mechanical engineer of these results so that they can design your system to best fit the noted conditions. If the District can be of further assistance in this matter, please let us know.

Sincerely,  
Portland Water District

David Coffin, P.L.S.  
Engineering Supervisor  
[dcoffin@pwd.org](mailto:dcoffin@pwd.org)



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# **Exhibit 3**

**Regulatory Approvals**



## Regulatory Approvals

The project will be required to file a Stormwater Permit-by-Rule Application with the Maine Department of Environmental Protection as part of the permitting for this project.

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# **Exhibit 4**

## **Financial Capacity and Technical Capacity**

## Financial Capacity and Technical Capacity

The applicant and owner, Moody's Collision Center is a successful auto body repair company. The applicant has successfully completed and operated several auto body repair buildings such as this one throughout southern Maine including the following locations.

- Gorham
- Scarborough
- Biddeford

Sebago Technics has been retained to perform the civil engineering, Geotechnical Investigation and report, wetland mapping, stormwater management, septic test pits, and sediment and erosion control design for the proposed project. The technical phase of this project includes the preparation of a detailed grading design, taking into account hydrological considerations and stormwater management. The permitting phase of this project consists of the preparation of all the local application packages and coordination throughout the entire review process from initial submission to final approval.

Attached is a letter from Norway Savings Bank indicating that the applicant has the financial ability to complete the project.



October 25, 2007

City of Portland, Maine  
Planning Department  
389 Congress Street  
Portland, ME 04101

Re: Shawn Moody/Moody's Collision Centers, Inc./Real Estate Holdings, LLC  
Presumpscot Street, Portland


To Whom It May Concern:

This letter is to verify for the City of Portland Planning Department that, based on our understanding of the project, Norway Savings Bank believes that Shawn Moody and his various business entities are financially capable of completing the project.

While this letter is in no way to be construed as a commitment to lend funds, Shawn Moody has been a customer of Norway Savings Bank since July of 2003 and we have worked successfully with Mr. Moody on similar projects in the past.

I hope this letter meets your needs and expectations, but should you require any additional information please don't hesitate to call me at 774-5000 x226.

Sincerely,

  
Richard R. Flagg  
Vice President, Commercial Lending

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# **Exhibit 5**

Lighting

## Lighting

Outdoor lighting for this project will be provided by eleven, 20' pole mounted lights and fourteen 15' wall packs. All proposed lighting is metal halide full cutoff design with a maximum wattage of 100. Attached are cut sheets of the proposed light fixtures. In addition, a photometric plan has been included as part of the plan set.

# Portland Lighting Standards

	PORTLAND STDS.	Moody's
Max:min	20:1	14.33
Min	0.2fc	0.3
Max	5.0fc	4.3
Avg	1.25fc	1.18
Provide	avg:min ratio	3.93
Pole ht.	20'	20
Wall pack ht.	15'	15
Max wattage	250	100
Metal halide only		MH
10' Photo grid		10'
Run points to	0.0fc	✓ 0.6 MAX

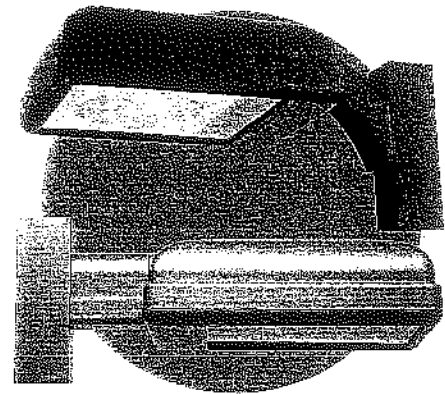
Fc at property line should approach 0.1 but in this zone (Ind.) it is not mandatory.

# CIMARRON

## Features

- Housing** - Die-cast aluminum housing with radius corners.
- Door** - Die-cast aluminum door with clear, flat tempered glass lens, fully gasketed to housing. Hinged door secured with two captive screws.
- Optics** - IES Type II, III, IV and V (square) light distributions with flat lens design for full cutoff classification. 100 watt to 400 watt lamps in HPS, MH Super MH and Pulse Start for design flexibility. All distributions are field-rotatable.
- Mounting** - Mounts on upswept or straight arms for poles or on wall bracket for uniform project look.
- Electrical** - Mogul porcelain socket, pulse rated with spring-loaded, nickel-plated center contact and reinforced lamp grip screw shell.
- Finish** - Durable Lektrocote® TGIC thermoset polyester powder coat paint finish assures long life and maintenance-free service.

UL and CSA listed for wet locations.



## Ordering Information

CR1 CR1 H2 H2 F O DB FI

Series	Mount	Watts/Source	Orient./Dist.	Lens	Volts	Color	Options
Series CR1 Cimarron	Lamp Orientation/Distribution H2 Horiz. II - hydroformed H3 Horiz. III - hydroformed H4 Horiz. IV - multi-piece H5 Horiz. V (square) - hydroformed	Options WBAD Substitutes decorative up-swept arm when WB wall bracket mounting is chosen RPA2 Round Pole Adapter (2 3/4 - 3 1/8") RPA3 Round Pole Adapter (3 1/4 - 3 3/4") RPA4 Round Pole Adapter (3 7/8 - 4 1/2") RPA5 Round Pole Adapter (5") RPA6 Round Pole Adapter (6") F(X) Fusing (replace X with voltage: 1-120, 2-208, 3-240, 4-277, 5-480, 6-347V) Photo Button (replace X with voltage: 1-120, 2-208, 3-240, 4-277, 6-347V) PR(X) Photo Cell Receptacle (replace X with voltage: 1-120, 2-208, 3-240, 4-277, 5-480, 6-347V) QZ Quartz RS with lamp H5 Internal House Side Shield VG Polycarbonate Vandal Guard L Lamp 1 Factory wired for highest voltage unless specified. Note Mounting A and AD acceptable for 90 degree configurations. Note For Photocontrol Equipment, see page 609.					
Mounting A Arm Mount Construction (6" straight rigid arm included). Use #2 arm drill pattern (2-bolt) with poles. AD Decorative Arm Mount (6" decorative upswept arm included). Use #2 arm drill pattern (2-bolt) with poles. WB Wall Bracket (includes wall bracket and 6" straight arm unless WBAD option is chosen which substitutes Decorative Upswept arm) O No arm or wall bracket (only order without arm or wall bracket when they are ordered as an accessory)	Lens F Fiat Voltage Q Quad Tap® (120, 208, 240, 277V) V Five-Tap (120, 208, 240, 277, 480V) (250 & 400W MH, 250 & 400W HPS only) S 480V T Tri-Tap (120/277/347V) O No Ballast E 50Hz 220/240V (250 & 400W MH, 250 & 400W HPS only)	Color DB Dark Bronze BL Black WH White GR Gray PS Platinum Silver RD Red (Premium Color) FG Forest Green (Premium Color) CC Custom Color (Consult Factory)					
Wattage/Source Metal Halide H17 175W (ED-28) H25 250W (ED-28) H40 400W (ED-28) Super Metal Halide MS17 175W (ED-28) MS25 250W (ED-28) MS40 400W (ED-28) Pulse Start Metal Halide P10 100W (ED-17) P12 125W (ED-17) P15 150W (ED-28) P20 200W (ED-28) P25 250W (ED-28) P32 320W (ED-28) P35 350W (ED-28) P40 400W (ED-28) High Pressure Sodium S10 100W (ED-27.5) S15 150W (ED-27.5) S25 250W (ED-18) S40 400W (ED-18)							

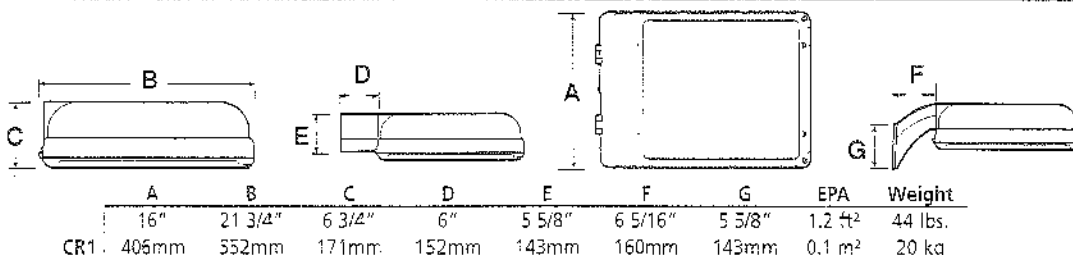
## Accessories - Order Separately

Catalog Number	Description
CR1-PVG	Polycarbonate Vandal Shield
CR1-HS-23	Internal House-Side Shield (H2 and H3 distributions)
CR1-HS-4	Internal House-Side Shield (H4 distribution)
SSS-490-XX	Square Pole Tenon Adapter (4 @ 90°)
RSS-490-XX	Round Pole Tenon Adapter (4 @ 90°)
RSS-3120-XX	Round Pole Tenon Adapter (3 @ 120°)
WB-CR-XX	Wall Bracket
ARM-CR-K-TA-XX	Tenon Arm (single) adjustable
ARM-CR-TK-TA-XX	Tenon Arm (double 180°) adjustable
ARM-CR-K-S-XX	Adjustable arm (for flat surfaces)

Note: Replace XX with color designation.



## Dimensions



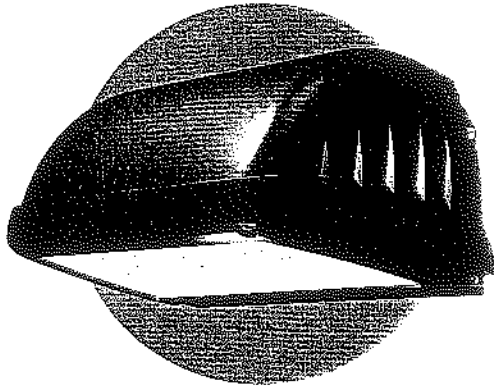
Note: EPA and weight values include mounting arm  
Note: See page 699 for more detailed EPA information.

**SPALDING LIGHTING**

CAST DOMINANT



# LAREDO



## Features

- Decorative Cast Aluminum Housing and Door. Rugged protection for internal components. Provides heat sink and long ballast life.
- Full Cutoff Distribution - flat glass and segmented reflector provide wide spread with an environmentally friendly light control. Standard, removable front shield, reduces forward beam projection while maintaining lateral throw, if desired.
- Vertical lamp position (lamp is optional) provides maximum performance and life.
- Three point lag over recessed wiring boxes. Three 1/2" conduit hubs allow feed-thru wiring capability.
- Wide selection of wattage and sources including pulse start and electronic metal halide.
- 800 Series powder paint for lasting appearance in outdoor environments.
- Multiple options customize including a tool-free latch, which allows re-lamping from the ground, photocontrol for energy savings, fusing, quartz standby and EM sockets for remote power, lamps and five standard finishes.
- CSA certified for use in wet locations.

## Ordering Information

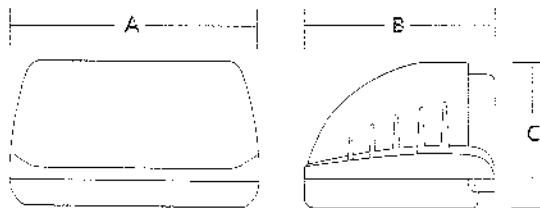
Series	Wattage/Source	Volts	Finish	Options
Series LMC Laredo Medium Cutoff				
Wattage/Source				
Pulse Start Metal Halide				
70P 70W				
100P 100W				
150P 150W				
175P 175W				
Metal Halide				
175H 175W				
Electronic Metal Halide				
70E 70W				
100E 100W				
Electronic Fluorescent				
42F 42/32/26W				
High Pressure Sodium				
70S 70W				
150S 150W				
Voltage				
8	Quad-Tap® (120, 208, 240, 277V)			
6	TriTap (120, 277, 347V)			
5	480V			
E	220/240V 50Hz (std. on EL or FL ballasts)			
Finish				
1	Bronze			
2	Black			
3	Gray			
4	White			
5	Patinum			
Options				
PC(X)	Button photocontrol (specify voltage)			
TL	Tool-Less Entry			
LP	Lamp included			
F(X)	Fusing (specify voltage)			
QST	Time delay quartz stand-by system-less lamp			
EM	DC bayonet socket (for remote power by others)			
EM12	MR11/MR16 two pin socket for 12V power by others			

For with lamp option - indicate desired wattage: LP42, LP32, LP26

## Accessories - Order Separately

PBT-1	Photocontrol, button type, 120V
PBT-234	Photocontrol, button type, 208, 240, 277V
LMC-SPC	Polycarbonate shield

## Dimensions



A	B	C
16"	12.13"	9"
406 mm	308 mm	229 mm

HUBBELL

Outdoor Lighting

---

# Exhibit 6

Right, Title or Interest

AGREEMENT FOR PURCHASE AND SALE OF REAL ESTATE  
LAND ONLY

This Agreement is entered into by and between STJ, Inc. of 939 Parker Farm Road, Buxton, York County, Maine, hereinafter called "Seller" and Real Estate Holdings, LLC. of 200 Narragansett Street, Gorham, Cumberland, County, Maine, hereinafter referred to as "Buyers"

1. Purchase and Sale. Seller agrees to sell and convey to Buyers and Buyers agree to buy upon the terms and conditions hereinafter set forth, the land located at Presumpscot Street, Portland, Me County of Cumberland, State of Maine, as described in a deed recorded at Book 22789, Page 161 & 162, of the Cumberland County Registry of Deeds, a copy of which is attached hereto.

2. Purchase Price. Buyers agree to pay to Seller for the property the sum of \_\_\_\_\_ subject to any adjustments and prorations described herein. The purchase price shall be payable as follows:

a. Earnest Money Deposit. The sum of \_\_\_\_\_ is herewith paid to STJ, Inc. as escrow agent to be credited against the price at time of closing.

b. Balance of Price. The balance of \_\_\_\_\_ shall be paid to Seller at the time of closing by bank or certified check.

3. Title. Seller shall convey the property by a duly executed warranty deed free and clear of all encumbrances except those which are acceptable to the Buyers. In the event that Seller is not able to convey clear title, Seller shall have a reasonable time, not to exceed sixty (60) days, in which to remedy the matter. In the event that the matter cannot be remedied within such time, or in the event that Seller elects not to remedy the same, the earnest money deposit shall be returned to Buyers and this Agreement shall terminate.

4. Possession. Seller shall deliver possession to Buyers at the time of the closing unless the parties agree to allow Buyers to take occupancy sooner in which case a Use and Occupancy Agreement would be entered into.

5. Closing. The closing of this transaction shall occur within 180 days of execution of this contract at a time and place mutually agreeable to Seller and Buyers or on such earlier date as is mutually agreeable to Buyers and Seller.

6. Prorations. Real Estate taxes shall be prorated as of the date of the closing based upon the fiscal year for the

municipality.

7. Risk of Loss. The risk of loss or damage to the property from any cause prior to the closing remains with the Seller.

8. Default; Remedies. In the event that Seller fails to close hereunder for a reason other than the default of the Buyers, Seller shall return the Earnest Money Deposit to Buyers, and Buyers shall retain their rights for specific performance. In the event that Buyers fail to close hereunder for a reason other than the default of Seller, Seller shall retain the Earnest Money Deposit without limitation of any other legal or equitable remedy.

9. Contingencies.

a. The obligations of the Buyer under this contract are subject to the following contingencies:

The buyer shall submit for and receive approval for a plan to the City of Portland. This plan shall depict a sign visible from Route 295, the building location, and eighty 10'x20' parking spaces. These are the minimum requirements of the buyer. The final plan shall be satisfactory to the buyer.

b. The obligations of Seller under this Agreement are subject to the following contingencies:

The total purchase price of \_\_\_\_\_ is based on \_\_\_\_\_ for the land and \_\_\_\_\_ for the earthwork, which is made a part of this agreement. The two pieces of this total price are inseparable. A scope of work will be produced once the buyer clarifies the amount of earthwork required with engineered plans and specifications. Said scope of work must be satisfactory to STJ, Inc. The Seller reserves the right to review final plans for the site. Seller further reserves the right to renegotiate the earthwork portion of sale price, or void this entire purchase and sale agreement if the earthwork portion of this agreement goes beyond the cost of the good faith estimate made at this time.

10. Entire Agreement. This Agreement constitutes the entire agreement between the Seller and the Buyers. There are no agreements, understandings, warranties or representations between Buyers and Seller except as set forth herein. This agreement cannot be amended except by written agreement of Buyers and Seller.


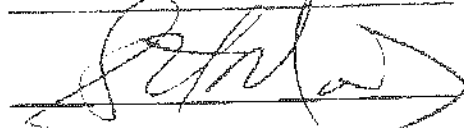
11. Construction. This Agreement shall be governed by and construed by the laws of the State of Maine. If any provision of this Agreement is determined to be invalid or unenforceable, it shall not affect the validity or enforcement of the remaining

provisions.

12. Time. Time is of the essence of this Agreement.

13. Binding Effect. This Agreement will inure to the benefit of and bind the respective successors and assigns of Seller and Buyers.

IN WITNESS WHEREOF, the parties hereto have signed this instrument on the dates shown below.

	Date: <u>9/11/07</u>	SSN: <u>004/176/1843</u>
	Date: <u>9/11/07</u>	SSN: <u>024-42-1516</u>
<u>First Med person</u>	Date: <u>9/11/07</u>	SSN: <u>006-76-4640</u>
_____	Date: _____	SSN: _____

Doc#: 41183 Bk:22729 Pg: 161

WARRANTY DEED

469 Doten, LLC, a Maine Limited Liability Company, with a place of business in Freeport, Maine for consideration paid grant to STJ, Inc. of Buxton, York County, Maine with WARRANTY COVENANTS, the land in Portland, Cumberland, State of Maine.

As described in Exhibit A attached hereto and incorporated herewith

In witness whereof 469 Doten, LLC has caused this instrument to be executed by Michael Doten and Steven Doten, its members thereunto duly authorized this SD/MD day of June, 2005.

469 DOTEN, LLC



by: Michael Doten  
its member

469 DOTEN, LLC



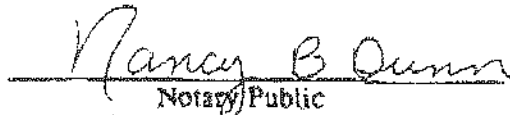
by: Steven Doten  
its member

STATE OF MAINE  
CUMBERLAND, ss.

June 6, 2005

Then personally appeared the above named Michael Doten and Steven Doten and acknowledged the foregoing instrument to be their free act and deed in their said capacity and the free act and deed of said limited liability company.

Before me,



Notary Public

Typed name of Notary:

NANCY B. DUNN  
NOTARY PUBLIC, STATE OF MAINE  
MY COMMISSION EXPIRES DEC. 22, 2006

SEAL

MAINE REAL ESTATE TAX PND

Doc#: 41183 Bk:22789 Pg: 162

EXHIBIT A

A certain lot or parcel of land located on the easterly side of Presumpscot Street in the City of Portland, County of Cumberland and State of Maine, bounded and described as follows:

Beginning at a point on the easterly sideline of Presumpscot Street, being the southwesterly corner of land now or formerly of Sawdust Investments, LLC as recorded in the Cumberland County Registry of Deeds in Book 17173, Page 310; thence south  $83^{\circ}03'24''$  east a distance of 410.90 feet by said Sawdust Investments, to a point at the center of a metal culvert running under the Canadian National Railroad; thence south by said Canadian National Railroad land on a curve to the right with a radius of 5,729.65 feet and an arc distance of 358.24 feet to a rebar and land of Interstate Brands Corp., as recorded in said Registry Book 13543, Page 188; thence, North  $61^{\circ}37'27''$  West a distance of 392.19 feet by said land of Interstate Brands Corp. to the easterly side of Presumpscot Street; thence North  $02^{\circ}51'03''$  East a distance of 213.98 feet by said easterly sideline of Presumpscot Street to the point of beginning.

Reference is made to Boundary Survey for 469 Presumpscot Street, LLC, by Back Bay Boundary, Inc., dated March 6, 2003, and recorded in said Registry Plan Book 204, Page 626.

Being a portion of the premises conveyed by deed of the City of Portland, dated September 7, 2004 and recorded in said Registry of Deeds in Book 21786, Page 254.

Deed reference: Warranty deed from 469 Presumpscot Street, LLC to 469 Doten, LLC dated April 1, 2005 and recorded at Book 22485, Page 85.

Received  
Recorded Register of Deeds  
Jun 23, 2005 09:07:19A  
Cumberland County  
John E. O'Brien

---

# **Exhibit 7**

## **Parking Analysis**



## Parking Analysis

The proposed site will not be catering to retail trade, so the required parking per the City of Portland's Standards for Off-Street Parking (Sec. 14-332-L) is "one parking space for each one thousand square feet of floor area or major fraction thereof." The total area of the proposed building is 18,448 square feet (15 employees) thus making the minimum parking requirement to be 19 parking spaces. The proposed development will provide 73 parking spaces. These parking spaces will be used for customers, employees and automobile storage.

The proposed site will meet the City of Portland's requirement for off-street parking.

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# **Exhibit 8**

## **Stormwater Management**

# STORMWATER MANAGEMENT REPORT

Moody's Collision Center  
Presumpscot Street  
Portland, Maine  
November 16, 2007

## General

This Stormwater Management Report has been prepared for Moody's Collision Center, Inc. to present the results of a stormwater runoff analysis for the proposed development located on Presumpscot Street in Portland. The project includes a 18,448 square foot auto body repair shop and associated parking and landscaping areas, located on the 2.57-acre parcel.

The site is currently mostly gravel covered and void of any vegetation. Scrub brush vegetation is evident along the northern and southern perimeter of the property. A small grass strip separates the gravel cover from the existing Presumpscot Street edge of pavement on the western side of the property.

The project site is located within the watershed of the Presumpscot River. The Presumpscot River drains to the ocean. The Presumpscot River is not defined as a watershed most at risk from new development or an urban impaired stream by the Maine Department of Environmental Protection (MDEP).

The proposed drainage infrastructure for the project includes catch basins, riprap protected outlets and a stormwater treatment unit to treat the runoff from the proposed parking area.

## Site Characteristics

The project site occupies a 2.57-acre parcel in Portland (Cumberland County), Maine. The parcel abuts Presumpscot Street to the west, undeveloped wooded areas to the north and south and railroad tracks to the east. The majority of the project site is currently gravelly concrete processed soil void of any vegetation. Some sparse vegetation is located around the perimeter of the parcel. A man-made, approximate 3 to 1, fill slope in the eastern portion of the property directs runoff from the gravel area easterly to an onsite wetland adjacent to the existing railroad property. A raised railroad bed impounds water in the eastern portion of the site. A 60" culvert located at the northerly property corner conveys stormwater runoff underneath the railroad bed to the Presumpscot River and ultimately the ocean. The majority of the project site is tributary to this eastern drainage area.

The watershed maps attached to this report depict the general drainage patterns and infrastructure in the project area.

**Soils**

Soil classifications within the project area were referenced from the Cumberland County Medium Intensity Soil Survey. The soil is comprised of Hollis fine sandy loam, Buxton silt loam, and Tidal Marsh. The soils within the project site are considered Hydraulic Soil Group (HSG) D. For stormwater modeling purposes the on-site gravel areas were considered gravel fill Hydraulic Soil Group (HSG) C soils and onsite wetland areas were considered Hydraulic Soil Group (HSG) D soils.

**Drainage Characteristics and Study Points**

Two study points have been established to evaluate pre-development and post-development runoff associated with the project site.

Study Point 1 is located along the northwestern property boundary. Runoff from the project site leaves the property and enters the abutting property to the north. Runoff from this area is then conveyed easterly to the 60" culvert located in the northeast corner of the property. The northwestern portion of the parcel is tributary to this Study Point in the pre-developed and post-development conditions. Subcatchment 1 (pre-development) and Subcatchment 10 (post-development) are tributary to Study Point 1. It should be noted that in the post-development condition the tributary area to this Study Point is reduced.

Study Point 2 is located at the northeastern corner of the property where runoff from the project site and abutting site is conveyed via a 60" culvert underneath the railroad bed. Subcatchments 2 (pre-development) and 20, 30, 40, 50 and 60 (post-development) are tributary to Study Point 2.

**Stormwater Quantity Management**

In order to evaluate drainage characteristics in pre- and post-development conditions, a quantitative analysis was performed to determine peak rates of runoff for the 2, 10, and 25-year storm events. Runoff calculations were performed following the methodology outlined in the Natural Resource Conservation Service USDA Soil Conservation Service's "Urban Hydrology for Small Watersheds, Technical Release #55" and HydroCAD Stormwater Modeling System software.

A Type III rainfall distribution was applied in accordance with MDEP and NRCS Standards. The 24-hour rainfall values utilized in the hydrologic model for Cumberland County are as follows.

Storm Frequency Precipitation (in./24 hr)	
2-year	3.0
10-year	4.7
25-year	5.5

In the post-development condition, Subcatchments 10, 20, 30, 40, 50 and 60 represent areas proposed for development.

The subcatchment areas and times of concentration of the post-development watersheds vary from the existing conditions based on the proposed site development and grading. Table 1 summarizes the results of the hydrologic analysis of the project under pre-development and post-development conditions.

Study Point	Total Watershed Area (Ac)		Avg. Weighted Curve No. (Cn)		Peak Rates of Runoff (cfs)					
					2-Year		10-Year		25-Year	
	Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post
SP1	0.28	0.11	87	95	0.6	0.3	1.1	0.5	1.3	0.6
SP2	2.42	2.60	88	91	5.8	6.5	10.7	11.2	13.0	13.5

The results of the analysis at Study Point 1 indicate the peak rates of runoff in the developed condition will be less than the pre-developed condition for the 2-year, 10-year, 25-year storm events. The decrease in post-development runoff at Study Point 1 is a result of a reduction of the area tributary to this Study Point.

The results of the analysis at Study Point 2 indicate in increase in the peak rate of runoff for all three storm events. The model indicates a 0.7 cfs increase in the 2-year storm event, a 0.5 increase in the 10-year storm event, and a 0.5 increase in the 25-year storm event. The increase in runoff at this study point is a result of the change from a gravel surface to the impervious parking and roof top areas.

### Stormwater Permitting

Existing ground cover on the project site mostly is comprised of gravel surface void of any vegetation. The Maine Department of Environmental Protection (MDEP) considers this existing impervious surface if it was in existence as of November 2005. As such, even though the project will create approximately 1.5 acres of impervious rooftop and pavement areas only the areas not previously gravel covered are considered new impervious areas for permitting threshold purposes. As a result, his project will create only 0.26 acres of new impervious area associated with the development. Based on less than one acre of impervious area and less than 5 acres of developed area the project will be required to obtain a Stormwater Permit-by-Rule from the Maine Department of Environmental Protection.

## Stormwater Quality

Since the project will result in the creation of more than 25 parking spaces, the project will be required to provide on-site treatment for runoff from the parking areas prior to discharging to the receiving waters. Stormwater treatment for the project's impervious area is treated utilizing a 4' diameter Hydro International treatment unit. The unit has been sized to treat the first one-inch of runoff from the project's proposed paved and rooftop impervious areas. Supporting calculations are attached with this submission.

## Summary

As indicated in the Stormwater analysis the peak rate of runoff in the developed condition will be less than the pre-development peak rates of runoff at Study Point 1.

As indicated in the analysis the peak rate of runoff in the developed condition will be greater than the pre-development runoff for all three storm events at Study Point 2. Since the increase in the peak rate of runoff is conveyed via a 60" culvert to the Presumpscot River and ultimately the ocean we are requesting an exemption from the requirement to provide detention for the increase in runoff as defined in the City of Portland, Technical and Design Standards and Guidelines, Section V, B. As such, we are not proposing any detention facilities on our attached plan set.

Stormwater runoff from the proposed impervious areas of the site will be treated utilizing a 4' diameter Hydro International stormwater treatment unit to meet the City's requirement for treating parking areas. The unit has been sized to treat the first inch of runoff off the proposed impervious areas.

An Erosion & Sedimentation Control Plan will be implemented to address erosion and sediment control during construction and the post-construction stabilization of the site. These construction requirements have been developed following Best Management Practice guidelines and have been placed directly on the design plans for construction reference.

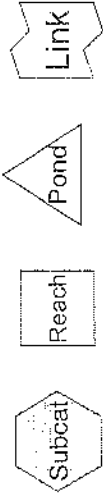
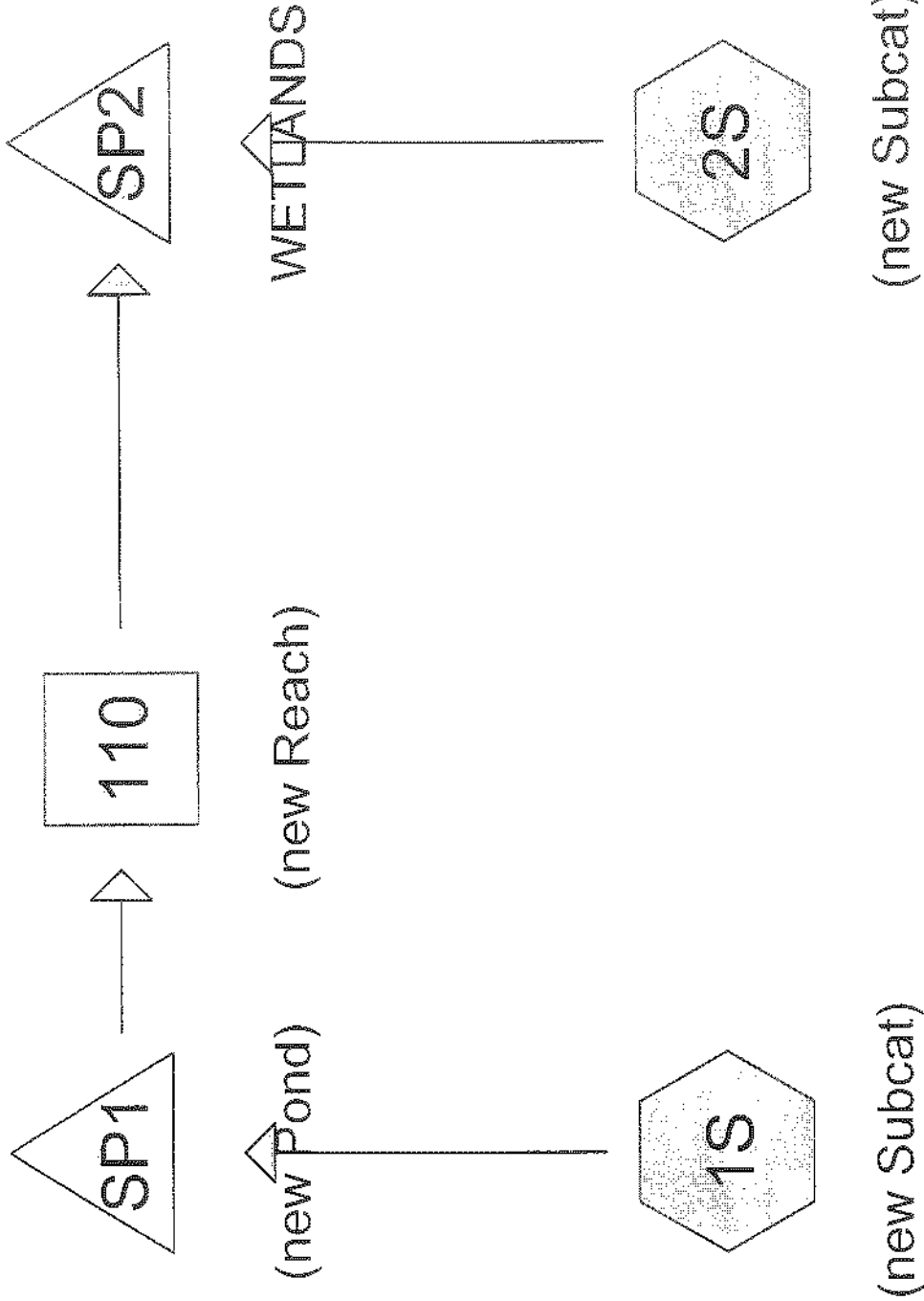
Prepared by:

SEBAGO TECHNICS, INC.



Anthony P. Panciocco, P.E.  
Senior Project Engineer

APP:app/dlf/jc  
November 16, 2007



Drainage Diagram for 07548.PRE  
 Prepared by {enter your company name here} 11/13/2007  
 HydroCAD® 8.00 s/n 005032 © 2006 HydroCAD Software Solutions LLC

Time span=1.00-48.00 hrs, dt=0.01 hrs, 4701 points x 4

Runoff by SCS TR-20 method, UH=SCS

Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 1S: (new Subcat)

Runoff Area=0.280 ac Runoff Depth=1.74"

Flow Length=214' Tc=5.0 min CN=87 Runoff=0.59 cfs 0.041 af

Subcatchment 2S: (new Subcat)

Runoff Area=2.420 ac Runoff Depth=1.82"

Flow Length=521' Tc=5.0 min CN=88 Runoff=5.34 cfs 0.367 af

Reach 110: (new Reach)

Avg. Depth=0.03' Max Vel=1.50 fps Inflow=0.59 cfs 0.041 af

n=0.040 L=432.0' S=0.1500 1' Capacity=176.99 cfs Outflow=0.52 cfs 0.041 af

Pond SP1: (new Pond)

Inflow=0.59 cfs 0.041 af

Primary=0.59 cfs 0.041 af

Pond SP2: WETLANDS

Inflow=5.80 cfs 0.407 af

Primary=5.80 cfs 0.407 af



**Subcatchment 1S: (new Subcat)**

Runoff = 0.59 cfs @ 12.07 hrs, Volume= 0.041 af, Depth= 1.74"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 1.00-48.00 hrs, dt= 0.01 hrs  
Type III 24-hr 2-YR Rainfall=3.00"

Area (ac)	CN	Description
0.060	98	ROAD
0.130	89	GRAVEL FILL
0.090	77	Brush, Fair, HSG D
0.280	87	Weighted Average
0.220		Pervious Area
0.060		Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	16	0.0200	0.92		<b>Sheet Flow, A TO B</b> Smooth surfaces n= 0.011 P2= 3.00"
3.9	52	0.0570	0.22		<b>Sheet Flow, B TO C</b> Grass: Short n= 0.150 P2= 3.00"
0.6	146	0.0320	4.31	56.08	<b>Trap/Vee/Rect Channel Flow, C TO D</b> Bot.W=3.00' D=1.00' Z= 10.0 ' Top.W=23.00' n= 0.042
0.2					<b>Direct Entry,</b>
5.0	214	Total			

**Subcatchment 2S: (new Subcat)**

Runoff = 5.34 cfs @ 12.07 hrs, Volume= 0.367 af, Depth= 1.82"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 1.00-48.00 hrs, dt= 0.01 hrs  
Type III 24-hr 2-YR Rainfall=3.00"

Area (ac)	CN	Description
2.210	89	GRAVEL FILL
0.210	73	Brush, Good, HSG D
2.420	88	Weighted Average
2.420		Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.0	150	0.0700	2.38		Sheet Flow, A TO B Smooth surfaces n= 0.011 P2= 3.00"
0.5	136	0.0600	4.97		Shallow Concentrated Flow, Paved Kv= 20.3 fps
0.1	72	0.3330	9.29		Shallow Concentrated Flow, Unpaved Kv= 16.1 fps
1.8	163	0.0100	1.50		Shallow Concentrated Flow, Grassed Waterway Kv= 15.0 fps
1.6					Direct Entry,
5.0	521	Total			

**Reach 110: (new Reach)**

Inflow Area = 0.280 ac, Inflow Depth = 1.74" for 2-YR event  
 Inflow = 0.59 cfs @ 12.07 hrs, Volume= 0.041 af  
 Outflow = 0.52 cfs @ 12.12 hrs, Volume= 0.041 af, Atten= 13%, Lag= 2.6 min

Routing by Dyn-Stor-Ind method, Time Span= 1.00-48.00 hrs, dt= 0.01 hrs / 4  
 Max. Velocity= 1.50 fps, Min. Travel Time= 4.8 min  
 Avg. Velocity = 0.69 fps, Avg. Travel Time= 10.5 min

Peak Storage= 148 cf @ 12.12 hrs, Average Depth at Peak Storage= 0.03'  
 Bank-Full Depth= 1.00', Capacity at Bank-Full= 176.99 cfs

10.00' x 1.00' deep channel, n= 0.040  
 Side Slope Z-value= 5.0 '1' Top Width= 20.00'  
 Length= 432.0' Slope= 0.1500 '1'  
 Inlet Invert= 0.00', Outlet Invert= -64.80'



**Pond SP1: (new Pond)**

Inflow Area = 0.280 ac, Inflow Depth = 1.74" for 2-YR event  
 Inflow = 0.59 cfs @ 12.07 hrs, Volume= 0.041 af  
 Primary = 0.59 cfs @ 12.07 hrs, Volume= 0.041 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 1.00-48.00 hrs, dt= 0.01 hrs / 4

**Pond SP2: WETLANDS**

Inflow Area = 2.700 ac, Inflow Depth = 1.81" for 2-YR event  
Inflow = 5.80 cfs @ 12.08 hrs, Volume= 0.407 af  
Primary = 5.80 cfs @ 12.08 hrs, Volume= 0.407 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 1.00-48.00 hrs, dt= 0.01 hrs / 4

Time span=1.00-48.00 hrs, dt=0.01 hrs, 4701 points x 4

Runoff by SCS TR-20 method, UH=SCS

Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 1S: (new Subcat)

Runoff Area=0.280 ac Runoff Depth=3.29"

Flow Length=214' Tc=5.0 min CN=87 Runoff=1.10 cfs 0.077 af

Subcatchment 2S: (new Subcat)

Runoff Area=2.420 ac Runoff Depth=3.38"

Flow Length=521' Tc=5.0 min CN=88 Runoff=9.76 cfs 0.683 af

Reach 110: (new Reach)

Avg. Depth=0.05' Max Vel=1.93 fps Inflow=1.10 cfs 0.077 af

n=0.040 L=432.0' S=0.1500 '/' Capacity=176.99 cfs Outflow=1.00 cfs 0.077 af

Pond SP1: (new Pond)

Inflow=1.10 cfs 0.077 af

Primary=1.10 cfs 0.077 af

Pond SP2: WETLANDS

Inflow=10.68 cfs 0.759 af

Primary=10.68 cfs 0.759 af

Time span=1.00-48.00 hrs, dt=0.01 hrs, 4701 points x 4

Runoff by SCS TR-20 method, UH=SCS

Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 1S: (new Subcat)

Runoff Area=0.280 ac Runoff Depth=4.04"

Flow Length=214' Tc=5.0 min CN=87 Runoff=1.34 cfs 0.094 af

Subcatchment 2S: (new Subcat)

Runoff Area=2.420 ac Runoff Depth=4.15"

Flow Length=521' Tc=5.0 min CN=88 Runoff=11.84 cfs 0.836 af

Reach 110: (new Reach)

Avg. Depth=0.06' Max Vel=2.10 fps Inflow=1.34 cfs 0.094 af

n=0.040 L=432.0' S=0.1500 '/ Capacity=176.99 cfs Outflow=1.23 cfs 0.094 af

Pond SP1: (new Pond)

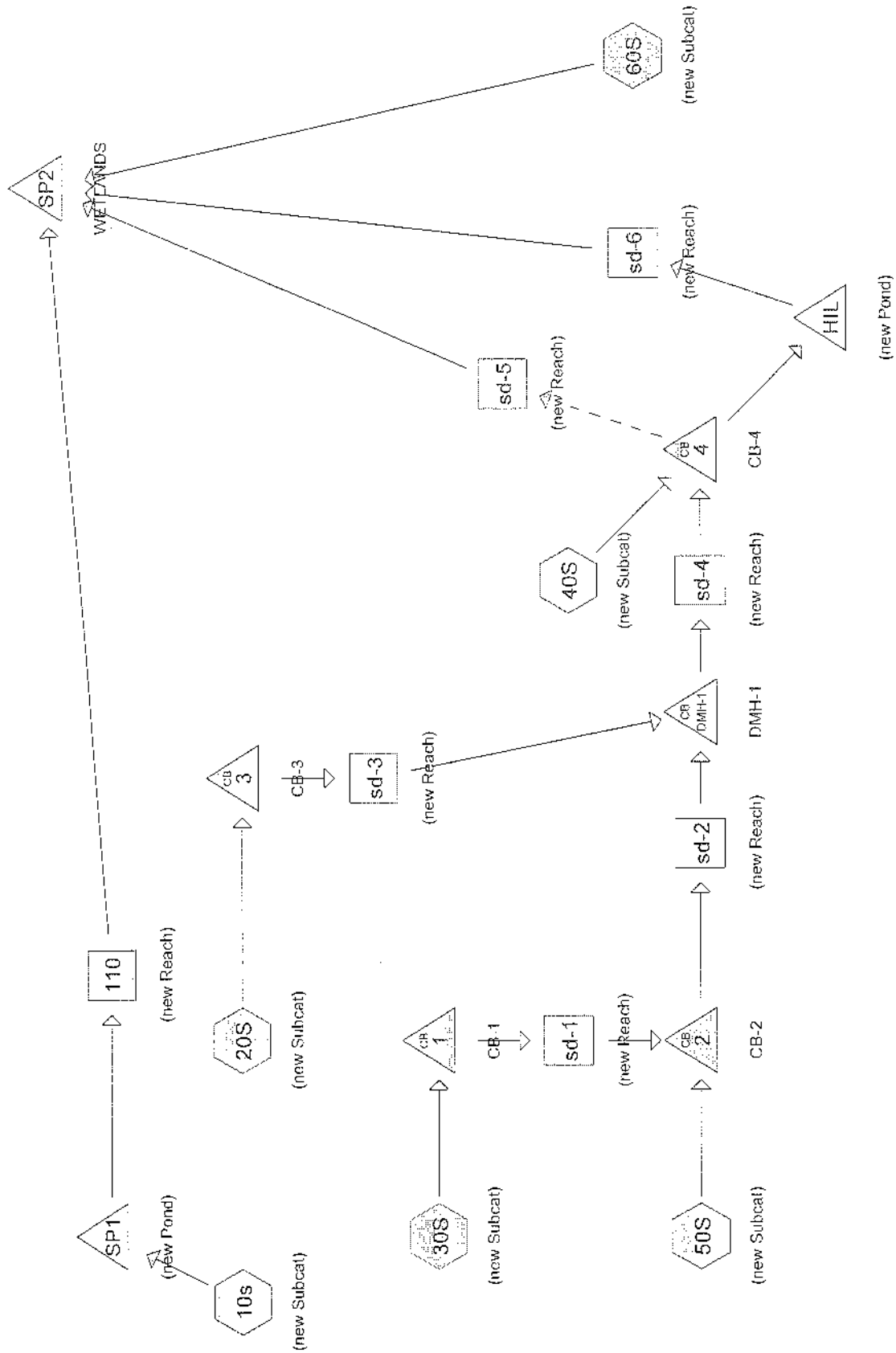
Inflow=1.34 cfs 0.094 af

Primary=1.34 cfs 0.094 af

Pond SP2: WETLANDS

Inflow=12.99 cfs 0.930 af

Primary=12.99 cfs 0.930 af



Drainage Diagram for 07548post  
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Time span=1.00-48.00 hrs, dt=0.01 hrs, 4701 points x 4

Runoff by SCS TR-20 method, UH=SCS

Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 10S: (new Subcat)	Runoff Area=0.110 ac Runoff Depth=2.45" Flow Length=203' Tc=5.0 min CN=95 Runoff=0.31 cfs 0.022 af
Subcatchment 20S: (new Subcat)	Runoff Area=0.370 ac Runoff Depth=2.77" Flow Length=280' Tc=5.0 min CN=98 Runoff=1.11 cfs 0.085 af
Subcatchment 30S: (new Subcat)	Runoff Area=0.250 ac Runoff Depth=2.25" Flow Length=71' Tc=5.0 min CN=93 Runoff=0.67 cfs 0.047 af
Subcatchment 40S: (new Subcat)	Runoff Area=0.770 ac Runoff Depth=2.55" Flow Length=196' Tc=5.0 min CN=96 Runoff=2.23 cfs 0.164 af
Subcatchment 50S: (new Subcat)	Runoff Area=0.300 ac Runoff Depth=2.25" Flow Length=73' Tc=5.4 min CN=93 Runoff=0.79 cfs 0.056 af
Subcatchment 60S: (new Subcat)	Runoff Area=0.910 ac Runoff Depth=1.38" Flow Length=388' Tc=4.9 min CN=82 Runoff=1.52 cfs 0.105 af
Reach 110: (new Reach)	Avg. Depth=0.02' Max Vel=1.14 fps Inflow=0.31 cfs 0.022 af n=0.040 L=468.0' S=0.1500 1/100 Capacity=176.99 cfs Outflow=0.25 cfs 0.022 af
Reach sd-1: (new Reach)	Avg. Depth=0.33' Max Vel=2.91 fps Inflow=0.67 cfs 0.047 af D=12.0" n=0.012 L=115.0' S=0.0052 1/100 Capacity=2.79 cfs Outflow=0.66 cfs 0.047 af
Reach sd-2: (new Reach)	Avg. Depth=0.42' Max Vel=4.55 fps Inflow=1.45 cfs 0.103 af D=12.0" n=0.012 L=221.0' S=0.0100 1/100 Capacity=3.86 cfs Outflow=1.44 cfs 0.103 af
Reach sd-3: (new Reach)	Avg. Depth=0.44' Max Vel=3.28 fps Inflow=1.11 cfs 0.085 af D=12.0" n=0.012 L=220.0' S=0.0050 1/100 Capacity=2.73 cfs Outflow=1.10 cfs 0.085 af
Reach sd-4: (new Reach)	Avg. Depth=0.39' Max Vel=9.06 fps Inflow=2.53 cfs 0.189 af D=12.0" n=0.012 L=67.0' S=0.0433 1/100 Capacity=8.03 cfs Outflow=2.53 cfs 0.189 af
Reach sd-5: (new Reach)	Avg. Depth=0.46' Max Vel=6.65 fps Inflow=2.72 cfs 0.036 af D=15.0" n=0.012 L=11.0' S=0.0182 1/100 Capacity=9.44 cfs Outflow=2.72 cfs 0.036 af
Reach sd-6: (new Reach)	Avg. Depth=0.39' Max Vel=7.08 fps Inflow=2.01 cfs 0.317 af D=12.0" n=0.012 L=23.0' S=0.0261 1/100 Capacity=6.23 cfs Outflow=2.01 cfs 0.317 af
Pond 1: CB-1	Peak Elev=40.27' Inflow=0.67 cfs 0.047 af Outflow=0.67 cfs 0.047 af
Pond 2: CB-2	Peak Elev=39.79' Inflow=1.45 cfs 0.103 af Outflow=1.45 cfs 0.103 af

07548post

Type III 24-hr 2-YEAR Rainfall=3.00"

Prepared by {enter your company name here}

Page 2

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11/14/2007

Pond 3: CB-3

Peak Elev=38.63' Inflow=1.11 cfs 0.085 af  
Outflow=1.11 cfs 0.085 af

Pond 4: CB-4

Peak Elev=35.57' Inflow=4.73 cfs 0.352 af  
Primary=2.01 cfs 0.317 af Secondary=2.72 cfs 0.036 af Outflow=4.73 cfs 0.352 af

Pond DMH-1: DMH-1

Peak Elev=37.74' Inflow=2.53 cfs 0.189 af  
Outflow=2.53 cfs 0.189 af

Pond HIL: (new Pond)

Inflow=2.01 cfs 0.317 af  
Primary=2.01 cfs 0.317 af

Pond SP1: (new Pond)

Inflow=0.31 cfs 0.022 af  
Primary=0.31 cfs 0.022 af

Pond SP2: WETLANDS

Inflow=6.47 cfs 0.479 af  
Primary=6.47 cfs 0.479 af



**Subcatchment 10s: (new Subcat)**

Runoff = 0.31 cfs @ 12.07 hrs, Volume= 0.022 af, Depth= 2.45"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 1.00-48.00 hrs, dt= 0.01 hrs  
Type III 24-hr 2-YEAR Rainfall=3.00"

Area (ac)	CN	Description
0.090	98	ROAD AND SIDEWALK
0.020	80	>75% Grass cover, Good, HSG D
0.110	95	Weighted Average
0.020		Pervious Area
0.090		Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	16	0.0200	0.92		<b>Sheet Flow, A TO B</b> Smooth surfaces n= 0.011 P2= 3.00"
1.2	134	0.0400	1.86		<b>Sheet Flow, B TO C</b> Smooth surfaces n= 0.011 P2= 3.00"
0.2	53	0.0400	4.06		<b>Shallow Concentrated Flow, C TO D</b> Paved Kv= 20.3 fps
3.3					<b>Direct Entry,</b>
5.0	203	Total			

**Subcatchment 20S: (new Subcat)**

Runoff = 1.11 cfs @ 12.07 hrs, Volume= 0.085 af, Depth= 2.77"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 1.00-48.00 hrs, dt= 0.01 hrs  
Type III 24-hr 2-YEAR Rainfall=3.00"

Area (ac)	CN	Description
0.370	98	Paved parking & roofs
0.370		Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.5	150	0.0310	1.72		<b>Sheet Flow, A TO B</b> Smooth surfaces n= 0.011 P2= 3.00"
0.6	130	0.0300	3.52		<b>Shallow Concentrated Flow, B TO C</b> Paved Kv= 20.3 fps
2.9					<b>Direct Entry,</b>
5.0	280	Total			

**Subcatchment 30S: (new Subcat)**

Runoff = 0.67 cfs @ 12.07 hrs, Volume= 0.047 af, Depth= 2.25"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 1.00-48.00 hrs, dt= 0.01 hrs  
Type III 24-hr 2-YEAR Rainfall=3.00"

Area (ac)	CN	Description
0.180	98	Paved parking & roofs
0.070	80	>75% Grass cover, Good, HSG D
0.250	93	Weighted Average
0.070		Pervious Area
0.180		Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.3	23	0.0170	0.12		<b>Sheet Flow, A TO B</b> Grass: Short n= 0.150 P2= 3.00"
0.7	48	0.0200	1.15		<b>Sheet Flow, B TO C</b> Smooth surfaces n= 0.011 P2= 3.00"
1.0					<b>Direct Entry,</b>
5.0	71	Total			

**Subcatchment 40S: (new Subcat)**

Runoff = 2.23 cfs @ 12.07 hrs, Volume= 0.164 af, Depth= 2.55"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 1.00-48.00 hrs, dt= 0.01 hrs  
Type III 24-hr 2-YEAR Rainfall=3.00"

Area (ac)	CN	Description
0.700	98	Paved parking & roofs
0.070	80	>75% Grass cover, Good, HSG D
0.770	96	Weighted Average
0.070		Pervious Area
0.700		Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.2	28	0.0700	0.21		<b>Sheet Flow, A TO B</b> Grass: Short n= 0.150 P2= 3.00"
1.6	122	0.0170	1.30		<b>Sheet Flow, B TO C</b> Smooth surfaces n= 0.011 P2= 3.00"
0.3	46	0.0200	2.87		<b>Shallow Concentrated Flow, C TO D</b> Paved Kv= 20.3 fps
0.9					<b>Direct Entry,</b>
5.0	196	Total			

**Subcatchment 50S: (new Subcat)**

Runoff = 0.79 cfs @ 12.08 hrs, Volume= 0.056 af, Depth= 2.25"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 1.00-48.00 hrs, dt= 0.01 hrs  
Type III 24-hr 2-YEAR Rainfall=3.00"

Area (ac)	CN	Description
0.210	98	Paved parking & roofs
0.090	80	>75% Grass cover, Good, HSG D
0.300	93	Weighted Average
0.090		Pervious Area
0.210		Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.8	36	0.0170	0.13		<b>Sheet Flow, A TO B</b> Grass: Short n= 0.150 P2= 3.00"
0.6	37	0.0200	1.09		<b>Sheet Flow, B TO C</b> Smooth surfaces n= 0.011 P2= 3.00"
5.4	73	Total			

**Subcatchment 60S: (new Subcat)**

Runoff = 1.52 cfs @ 12.08 hrs, Volume= 0.105 af, Depth= 1.38"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 1.00-48.00 hrs, dt= 0.01 hrs  
Type III 24-hr 2-YEAR Rainfall=3.00"

Area (ac)	CN	Description
0.560	80	>75% Grass cover, Good, HSG D
0.140	91	RIP RAP (GRAVEL HSG D)
0.210	80	>75% Grass cover, Good, HSG D
0.910	82	Weighted Average
0.910		Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.9	50	0.0560	0.22		<b>Sheet Flow, A TO B</b> Grass: Short n= 0.150 P2= 3.00"
0.5	338	0.0870	10.82	216.31	<b>Trap/Vee/Rect Channel Flow, B TO C</b> Bot.W=0.00' D=2.00' Z= 5.0 ' Top.W=20.00' n= 0.040
0.5					<b>Direct Entry,</b>
4.9	388	Total			

**Reach 110: (new Reach)**

Inflow Area = 0.110 ac, Inflow Depth = 2.45" for 2-YEAR event  
 Inflow = 0.31 cfs @ 12.07 hrs, Volume= 0.022 af  
 Outflow = 0.25 cfs @ 12.12 hrs, Volume= 0.022 af, Atten= 19%, Lag= 3.2 min

Routing by Dyn-Stor-Ind method, Time Span= 1.00-48.00 hrs, dt= 0.01 hrs / 4  
 Max. Velocity= 1.14 fps, Min. Travel Time= 6.9 min  
 Avg. Velocity = 0.67 fps, Avg. Travel Time= 11.6 min

Peak Storage= 104 cf @ 12.12 hrs, Average Depth at Peak Storage= 0.02'  
 Bank-Full Depth= 1.00', Capacity at Bank-Full= 176.99 cfs

10.00' x 1.00' deep channel, n= 0.040  
 Side Slope Z-value= 5.0 ' / ' Top Width= 20.00'  
 Length= 468.0' Slope= 0.1500 ' / '  
 Inlet Invert= 0.00', Outlet Invert= -70.20'

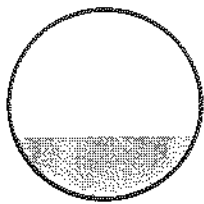
**Reach sd-1: (new Reach)**

Inflow Area = 0.250 ac, Inflow Depth = 2.25" for 2-YEAR event  
 Inflow = 0.67 cfs @ 12.07 hrs, Volume= 0.047 af  
 Outflow = 0.66 cfs @ 12.08 hrs, Volume= 0.047 af, Atten= 1%, Lag= 0.5 min

Routing by Dyn-Stor-Ind method, Time Span= 1.00-48.00 hrs, dt= 0.01 hrs / 4  
 Max. Velocity= 2.91 fps, Min. Travel Time= 0.7 min  
 Avg. Velocity = 0.95 fps, Avg. Travel Time= 2.0 min

Peak Storage= 26 cf @ 12.08 hrs, Average Depth at Peak Storage= 0.33'  
 Bank-Full Depth= 1.00', Capacity at Bank-Full= 2.79 cfs

12.0" Diameter Pipe, n= 0.012  
 Length= 115.0' Slope= 0.0052 ' / '  
 Inlet Invert= 39.80', Outlet Invert= 39.20'



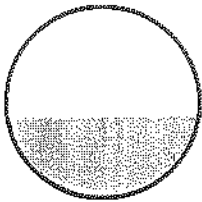
**Reach sd-2: (new Reach)**

Inflow Area = 0.550 ac, Inflow Depth = 2.25" for 2-YEAR event  
 Inflow = 1.45 cfs @ 12.08 hrs, Volume= 0.103 af  
 Outflow = 1.44 cfs @ 12.09 hrs, Volume= 0.103 af, Atten= 1%, Lag= 0.6 min

Routing by Dyn-Stor-Ind method, Time Span= 1.00-48.00 hrs, dt= 0.01 hrs / 4  
 Max. Velocity= 4.55 fps, Min. Travel Time= 0.8 min  
 Avg. Velocity = 1.49 fps, Avg. Travel Time= 2.5 min

Peak Storage= 70 cf @ 12.09 hrs, Average Depth at Peak Storage= 0.42'  
 Bank-Full Depth= 1.00', Capacity at Bank-Full= 3.86 cfs

12.0" Diameter Pipe, n= 0.012  
 Length= 221.0' Slope= 0.0100 '/  
 Inlet Invert= 39.10', Outlet Invert= 36.89'

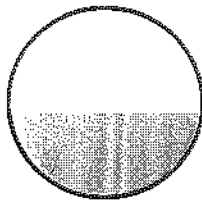
**Reach sd-3: (new Reach)**

Inflow Area = 0.370 ac, Inflow Depth = 2.77" for 2-YEAR event  
 Inflow = 1.11 cfs @ 12.07 hrs, Volume= 0.085 af  
 Outflow = 1.10 cfs @ 12.08 hrs, Volume= 0.085 af, Atten= 2%, Lag= 0.8 min

Routing by Dyn-Stor-Ind method, Time Span= 1.00-48.00 hrs, dt= 0.01 hrs / 4  
 Max. Velocity= 3.28 fps, Min. Travel Time= 1.1 min  
 Avg. Velocity = 1.07 fps, Avg. Travel Time= 3.4 min

Peak Storage= 73 cf @ 12.08 hrs, Average Depth at Peak Storage= 0.44'  
 Bank-Full Depth= 1.00', Capacity at Bank-Full= 2.73 cfs

12.0" Diameter Pipe, n= 0.012  
 Length= 220.0' Slope= 0.0050 '/  
 Inlet Invert= 38.00', Outlet Invert= 36.90'



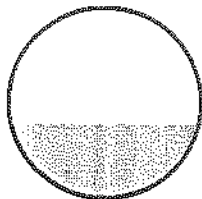
**Reach sd-4: (new Reach)**

Inflow Area = 0.920 ac, Inflow Depth = 2.46" for 2-YEAR event  
 Inflow = 2.53 cfs @ 12.09 hrs, Volume= 0.189 af  
 Outflow = 2.53 cfs @ 12.09 hrs, Volume= 0.189 af, Atten= 0%, Lag= 0.1 min

Routing by Dyn-Stor-Ind method, Time Span= 1.00-48.00 hrs, dt= 0.01 hrs / 4  
 Max. Velocity= 9.06 fps, Min. Travel Time= 0.1 min  
 Avg. Velocity = 2.82 fps, Avg. Travel Time= 0.4 min

Peak Storage= 19 cf @ 12.09 hrs, Average Depth at Peak Storage= 0.39'  
 Bank-Full Depth= 1.00', Capacity at Bank-Full= 8.03 cfs

12.0" Diameter Pipe, n= 0.012  
 Length= 67.0' Slope= 0.0433 %  
 Inlet Invert= 36.80', Outlet Invert= 33.90'

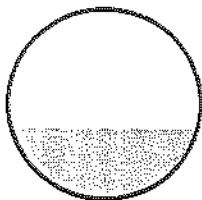
**Reach sd-5: (new Reach)**

Inflow = 2.72 cfs @ 12.08 hrs, Volume= 0.036 af  
 Outflow = 2.72 cfs @ 12.08 hrs, Volume= 0.036 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 1.00-48.00 hrs, dt= 0.01 hrs / 4  
 Max. Velocity= 6.65 fps, Min. Travel Time= 0.0 min  
 Avg. Velocity = 4.44 fps, Avg. Travel Time= 0.0 min

Peak Storage= 4 cf @ 12.08 hrs, Average Depth at Peak Storage= 0.46'  
 Bank-Full Depth= 1.25', Capacity at Bank-Full= 9.44 cfs

15.0" Diameter Pipe, n= 0.012  
 Length= 11.0' Slope= 0.0182 %  
 Inlet Invert= 33.80', Outlet Invert= 33.60'



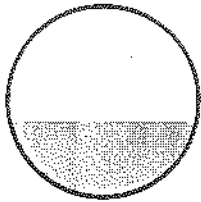
**Reach sd-6: (new Reach)**

Inflow Area = 1.690 ac, Inflow Depth = 2.25" for 2-YEAR event  
 Inflow = 2.01 cfs @ 12.08 hrs, Volume= 0.317 af  
 Outflow = 2.01 cfs @ 12.08 hrs, Volume= 0.317 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 1.00-48.00 hrs, dt= 0.01 hrs / 4  
 Max. Velocity= 7.08 fps, Min. Travel Time= 0.1 min  
 Avg. Velocity = 2.81 fps, Avg. Travel Time= 0.1 min

Peak Storage= 7 cf @ 12.08 hrs, Average Depth at Peak Storage= 0.39'  
 Bank-Full Depth= 1.00', Capacity at Bank-Full= 6.23 cfs

12.0" Diameter Pipe, n= 0.012  
 Length= 23.0' Slope= 0.0261 %  
 Inlet Invert= 34.20', Outlet Invert= 33.60'



**Pond 1: CB-1**

Inflow Area = 0.250 ac, Inflow Depth = 2.25" for 2-YEAR event  
 Inflow = 0.67 cfs @ 12.07 hrs, Volume= 0.047 af  
 Outflow = 0.67 cfs @ 12.07 hrs, Volume= 0.047 af, Atten= 0%, Lag= 0.0 min  
 Primary = 0.67 cfs @ 12.07 hrs, Volume= 0.047 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-48.00 hrs, dt= 0.01 hrs / 4  
 Peak Elev= 40.27' @ 12.07 hrs  
 Flood Elev= 42.80'

Device	Routing	Invert	Outlet Devices
#1	Primary	39.80'	12.0" Vert. Orifice/Grate C= 0.600

Primary OutFlow Max=0.66 cfs @ 12.07 hrs HW=40.27' TW=40.13' (Dynamic Tailwater)  
 ←1=Orifice/Grate (Orifice Controls 0.66 cfs @ 1.82 fps)

**Pond 2: CB-2**

Inflow Area = 0.550 ac, Inflow Depth = 2.25" for 2-YEAR event  
 Inflow = 1.45 cfs @ 12.08 hrs, Volume= 0.103 af  
 Outflow = 1.45 cfs @ 12.08 hrs, Volume= 0.103 af, Atten= 0%, Lag= 0.0 min  
 Primary = 1.45 cfs @ 12.08 hrs, Volume= 0.103 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-48.00 hrs, dt= 0.01 hrs / 4

Peak Elev= 39.79' @ 12.08 hrs

Flood Elev= 42.20'

Device	Routing	Invert	Outlet Devices
#1	Primary	39.10'	12.0" Vert. Orifice/Grate C= 0.600

Primary OutFlow Max=1.45 cfs @ 12.08 hrs HW=39.79' TW=39.52' (Dynamic Tailwater)

↑1=Orifice/Grate (Orifice Controls 1.45 cfs @ 2.50 fps)

**Pond 3: CB-3**

Inflow Area = 0.370 ac, Inflow Depth = 2.77" for 2-YEAR event

Inflow = 1.11 cfs @ 12.07 hrs, Volume= 0.085 af

Outflow = 1.11 cfs @ 12.07 hrs, Volume= 0.085 af, Atten= 0%, Lag= 0.0 min

Primary = 1.11 cfs @ 12.07 hrs, Volume= 0.085 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-48.00 hrs, dt= 0.01 hrs / 4

Peak Elev= 38.63' @ 12.08 hrs

Flood Elev= 41.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	38.00'	12.0" Vert. Orifice/Grate C= 0.600

Primary OutFlow Max=1.11 cfs @ 12.07 hrs HW=38.63' TW=38.44' (Dynamic Tailwater)

↑1=Orifice/Grate (Orifice Controls 1.11 cfs @ 2.13 fps)

**Pond 4: CB-4**

Inflow Area = 1.690 ac, Inflow Depth = 2.50" for 2-YEAR event

Inflow = 4.73 cfs @ 12.08 hrs, Volume= 0.352 af

Outflow = 4.73 cfs @ 12.08 hrs, Volume= 0.352 af, Atten= 0%, Lag= 0.0 min

Primary = 2.01 cfs @ 12.08 hrs, Volume= 0.317 af

Secondary = 2.72 cfs @ 12.08 hrs, Volume= 0.036 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-48.00 hrs, dt= 0.01 hrs / 4

Peak Elev= 35.57' @ 12.08 hrs

Flood Elev= 39.10'

Device	Routing	Invert	Outlet Devices
#1	Primary	33.80'	8.0" Vert. Orifice/Grate C= 0.600
#2	Device 3	35.30'	6.0" long Sharp-Crested Rectangular Weir 2 End Contraction(s) 1.6' Crest Height
#3	Secondary	33.80'	15.0" Vert. Orifice/Grate C= 0.600

Primary OutFlow Max=2.01 cfs @ 12.08 hrs HW=35.57' TW=0.00' (Dynamic Tailwater)

↑1=Orifice/Grate (Orifice Controls 2.01 cfs @ 5.76 fps)

Secondary OutFlow Max=2.72 cfs @ 12.08 hrs HW=35.57' TW=34.26' (Dynamic Tailwater)

↑3=Orifice/Grate (Passes 2.72 cfs of 6.31 cfs potential flow)

↑2=Sharp-Crested Rectangular Weir (Weir Controls 2.72 cfs @ 1.72 fps)



**Pond DMH-1: DMH-1**

Inflow Area = 0.920 ac, Inflow Depth = 2.46" for 2-YEAR event  
 Inflow = 2.53 cfs @ 12.09 hrs, Volume= 0.189 af  
 Outflow = 2.53 cfs @ 12.09 hrs, Volume= 0.189 af, Atten= 0%, Lag= 0.0 min  
 Primary = 2.53 cfs @ 12.09 hrs, Volume= 0.189 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-48.00 hrs, dt= 0.01 hrs / 4  
 Peak Elev= 37.74' @ 12.09 hrs  
 Flood Elev= 41.60'

Device	Routing	Invert	Outlet Devices
#1	Primary	36.80'	12.0" Vert. Orifice/Grate C= 0.600

Primary OutFlow Max=2.53 cfs @ 12.09 hrs HW=37.74' TW=37.19' (Dynamic Tailwater)  
 ↑1=Orifice/Grate (Orifice Controls 2.53 cfs @ 3.30 fps)

**Pond HIL: (new Pond)**

Inflow Area = 1.690 ac, Inflow Depth = 2.25" for 2-YEAR event  
 Inflow = 2.01 cfs @ 12.08 hrs, Volume= 0.317 af  
 Primary = 2.01 cfs @ 12.08 hrs, Volume= 0.317 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 1.00-48.00 hrs, dt= 0.01 hrs / 4

**Pond SP1: (new Pond)**

Inflow Area = 0.110 ac, Inflow Depth = 2.45" for 2-YEAR event  
 Inflow = 0.31 cfs @ 12.07 hrs, Volume= 0.022 af  
 Primary = 0.31 cfs @ 12.07 hrs, Volume= 0.022 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 1.00-48.00 hrs, dt= 0.01 hrs / 4

**Pond SP2: WETLANDS**

Inflow Area = 2.710 ac, Inflow Depth = 2.12" for 2-YEAR event  
 Inflow = 6.47 cfs @ 12.08 hrs, Volume= 0.479 af  
 Primary = 6.47 cfs @ 12.08 hrs, Volume= 0.479 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 1.00-48.00 hrs, dt= 0.01 hrs / 4

Time span=1.00-48.00 hrs, dt=0.01 hrs, 4701 points x 4

Runoff by SCS TR-20 method, UH=SCS

Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 10S: (new Subcat)	Runoff Area=0.110 ac	Runoff Depth=4.12"
	Flow Length=203'	Tc=5.0 min CN=95 Runoff=0.51 cfs 0.038 af
Subcatchment 20S: (new Subcat)	Runoff Area=0.370 ac	Runoff Depth>4.46"
	Flow Length=280'	Tc=5.0 min CN=98 Runoff=1.76 cfs 0.138 af
Subcatchment 30S: (new Subcat)	Runoff Area=0.250 ac	Runoff Depth=3.90"
	Flow Length=71'	Tc=5.0 min CN=93 Runoff=1.12 cfs 0.081 af
Subcatchment 40S: (new Subcat)	Runoff Area=0.770 ac	Runoff Depth=4.23"
	Flow Length=196'	Tc=5.0 min CN=96 Runoff=3.60 cfs 0.272 af
Subcatchment 50S: (new Subcat)	Runoff Area=0.300 ac	Runoff Depth=3.90"
	Flow Length=73'	Tc=5.4 min CN=93 Runoff=1.32 cfs 0.098 af
Subcatchment 60S: (new Subcat)	Runoff Area=0.910 ac	Runoff Depth=2.81"
	Flow Length=388'	Tc=4.9 min CN=82 Runoff=3.12 cfs 0.213 af
Reach 110: (new Reach)	Avg. Depth=0.03'	Max Vel=1.39 fps Inflow=0.51 cfs 0.038 af
	n=0.040 L=468.0' S=0.1500 1/'	Capacity=176.99 cfs Outflow=0.43 cfs 0.038 af
Reach sd-1: (new Reach)	Avg. Depth=0.44'	Max Vel=3.35 fps Inflow=1.12 cfs 0.081 af
	D=12.0" n=0.012 L=115.0' S=0.0052 1/'	Capacity=2.79 cfs Outflow=1.11 cfs 0.081 af
Reach sd-2: (new Reach)	Avg. Depth=0.57'	Max Vel=5.19 fps Inflow=2.44 cfs 0.179 af
	D=12.0" n=0.012 L=221.0' S=0.0100 1/'	Capacity=3.86 cfs Outflow=2.42 cfs 0.179 af
Reach sd-3: (new Reach)	Avg. Depth=0.58'	Max Vel=3.68 fps Inflow=1.76 cfs 0.138 af
	D=12.0" n=0.012 L=220.0' S=0.0050 1/'	Capacity=2.73 cfs Outflow=1.74 cfs 0.138 af
Reach sd-4: (new Reach)	Avg. Depth=0.51'	Max Vel=10.31 fps Inflow=4.16 cfs 0.317 af
	D=12.0" n=0.012 L=67.0' S=0.0433 1/'	Capacity=8.03 cfs Outflow=4.15 cfs 0.317 af
Reach sd-5: (new Reach)	Avg. Depth=0.69'	Max Vel=8.01 fps Inflow=5.59 cfs 0.108 af
	D=15.0" n=0.012 L=11.0' S=0.0182 1/'	Capacity=9.44 cfs Outflow=5.59 cfs 0.108 af
Reach sd-6: (new Reach)	Avg. Depth=0.40'	Max Vel=7.18 fps Inflow=2.12 cfs 0.480 af
	D=12.0" n=0.012 L=23.0' S=0.0261 1/'	Capacity=6.23 cfs Outflow=2.12 cfs 0.480 af
Pond 1: CB-1	Peak Elev=40.43'	Inflow=1.12 cfs 0.081 af
		Outflow=1.12 cfs 0.081 af
Pond 2: CB-2	Peak Elev=40.09'	Inflow=2.44 cfs 0.179 af
		Outflow=2.44 cfs 0.179 af

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Type III 24-hr 10-YEAR Rainfall=4.70"

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Page 2

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Pond 3: CB-3

Peak Elev=38.84' Inflow=1.76 cfs 0.138 af  
Outflow=1.76 cfs 0.138 af

Pond 4: CB-4

Peak Elev=35.73' Inflow=7.71 cfs 0.588 af  
Primary=2.12 cfs 0.480 af Secondary=5.59 cfs 0.108 af Outflow=7.71 cfs 0.588 af

Pond DMH-1: DMH-1

Peak Elev=38.52' Inflow=4.16 cfs 0.317 af  
Outflow=4.16 cfs 0.317 af

Pond HIL: (new Pond)

Inflow=2.12 cfs 0.480 af  
Primary=2.12 cfs 0.480 af

Pond SP1: (new Pond)

Inflow=0.51 cfs 0.038 af  
Primary=0.51 cfs 0.038 af

Pond SP2: WETLANDS

Inflow=11.21 cfs 0.839 af  
Primary=11.21 cfs 0.839 af

Time span=1.00-48.00 hrs, dt=0.01 hrs, 4701 points x 4

Runoff by SCS TR-20 method, UH=SCS

Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 10s: (new Subcat)	Runoff Area=0.110 ac Runoff Depth=4.92" Flow Length=203' Tc=5.0 min CN=95 Runoff=0.60 cfs 0.045 af
Subcatchment 20S: (new Subcat)	Runoff Area=0.370 ac Runoff Depth>5.26" Flow Length=280' Tc=5.0 min CN=98 Runoff=2.06 cfs 0.162 af
Subcatchment 30S: (new Subcat)	Runoff Area=0.250 ac Runoff Depth=4.69" Flow Length=71' Tc=5.0 min CN=93 Runoff=1.33 cfs 0.098 af
Subcatchment 40S: (new Subcat)	Runoff Area=0.770 ac Runoff Depth=5.03" Flow Length=196' Tc=5.0 min CN=96 Runoff=4.24 cfs 0.323 af
Subcatchment 50S: (new Subcat)	Runoff Area=0.300 ac Runoff Depth=4.69" Flow Length=73' Tc=5.4 min CN=93 Runoff=1.57 cfs 0.117 af
Subcatchment 60S: (new Subcat)	Runoff Area=0.910 ac Runoff Depth=3.53" Flow Length=388' Tc=4.9 min CN=82 Runoff=3.90 cfs 0.268 af
Reach 110: (new Reach)	Avg. Depth=0.03' Max Vel=1.51 fps Inflow=0.60 cfs 0.045 af n=0.040 L=468.0' S=0.1500 '/' Capacity=176.99 cfs Outflow=0.52 cfs 0.045 af
Reach sd-1: (new Reach)	Avg. Depth=0.49' Max Vel=3.50 fps Inflow=1.33 cfs 0.098 af D=12.0" n=0.012 L=115.0' S=0.0052 '/' Capacity=2.79 cfs Outflow=1.32 cfs 0.098 af
Reach sd-2: (new Reach)	Avg. Depth=0.64' Max Vel=5.39 fps Inflow=2.90 cfs 0.215 af D=12.0" n=0.012 L=221.0' S=0.0100 '/' Capacity=3.86 cfs Outflow=2.88 cfs 0.215 af
Reach sd-3: (new Reach)	Avg. Depth=0.64' Max Vel=3.81 fps Inflow=2.06 cfs 0.162 af D=12.0" n=0.012 L=220.0' S=0.0050 '/' Capacity=2.73 cfs Outflow=2.04 cfs 0.162 af
Reach sd-4: (new Reach)	Avg. Depth=0.56' Max Vel=10.73 fps Inflow=4.91 cfs 0.377 af D=12.0" n=0.012 L=67.0' S=0.0433 '/' Capacity=8.03 cfs Outflow=4.91 cfs 0.377 af
Reach sd-5: (new Reach)	Avg. Depth=0.79' Max Vel=8.38 fps Inflow=6.84 cfs 0.148 af D=15.0" n=0.012 L=11.0' S=0.0182 '/' Capacity=9.44 cfs Outflow=6.84 cfs 0.148 af
Reach sd-6: (new Reach)	Avg. Depth=0.42' Max Vel=7.30 fps Inflow=2.25 cfs 0.552 af D=12.0" n=0.012 L=23.0' S=0.0261 '/' Capacity=6.23 cfs Outflow=2.25 cfs 0.552 af
Pond 1: CB-1	Peak Elev=40.50' Inflow=1.33 cfs 0.098 af Outflow=1.33 cfs 0.098 af
Pond 2: CB-2	Peak Elev=40.33' Inflow=2.90 cfs 0.215 af Outflow=2.90 cfs 0.215 af

Pond 3: CB-3

Peak Elev=38.95' Inflow=2.06 cfs 0.162 af  
Outflow=2.06 cfs 0.162 af

Pond 4: CB-4

Peak Elev=35.93' Inflow=9.10 cfs 0.700 af  
Primary=2.25 cfs 0.552 af Secondary=6.84 cfs 0.148 af Outflow=9.10 cfs 0.700 af

Pond DMH-1: DMH-1

Peak Elev=39.05' Inflow=4.91 cfs 0.377 af  
Outflow=4.91 cfs 0.377 af

Pond HIL: (new Pond)

Inflow=2.25 cfs 0.552 af  
Primary=2.25 cfs 0.552 af

Pond SP1: (new Pond)

Inflow=0.60 cfs 0.045 af  
Primary=0.60 cfs 0.045 af

Pond SP2: WETLANDS

Inflow=13.46 cfs 1.013 af  
Primary=13.46 cfs 1.013 af

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## **Stormwater Quality Calculations**

CALCULATION FOR HEIGHT OF BAFFLE IN CB-4

IMPERVIOUS AREA SUMMARY

① DETERMINE IMPERVIOUS SURFACE WOV

$$WOV = 1'' \left( \frac{1FE}{12IN} \right) (1.5 AC)$$

$$WOV = 0.125 AC-FT$$

DETERMINE RAINFALL TO PRODUCE 0.125 AC-FT OF RUNOFF FROM IMPERVIOUS AREA

⇒ PER HYDROCAD 07548 POST

1.35" RAINFALL PRODUCES 0.130 AC-FT OF RUNOFF FROM IMPERVIOUS SURFACE

→ SET BAFFLE AT ELEVATION OF WATER SURFACE IN CB-4 DURING THIS RAINFALL EVENT

$$\therefore \text{BAFFLE FLOW} = 35.30$$

Time span=1.00-48.00 hrs, dt=0.01 hrs, 4701 points x 4

Runoff by SCS TR-20 method, UH=SCS

Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 10s: (new Subcat)	Runoff Area=0.110 ac	Runoff Depth=0.87"
	Flow Length=203'	Tc=5.0 min CN=95 Runoff=0.12 cfs 0.008 af
Subcatchment 20S: (new Subcat)	Runoff Area=0.370 ac	Runoff Depth=1.13"
	Flow Length=280'	Tc=5.0 min CN=98 Runoff=0.48 cfs 0.035 af
Subcatchment 30S: (new Subcat)	Runoff Area=0.250 ac	Runoff Depth=0.74"
	Flow Length=71'	Tc=5.0 min CN=93 Runoff=0.22 cfs 0.015 af
Subcatchment 40S: (new Subcat)	Runoff Area=0.770 ac	Runoff Depth=0.95"
	Flow Length=196'	Tc=5.0 min CN=96 Runoff=0.88 cfs 0.061 af
Subcatchment 50S: (new Subcat)	Runoff Area=0.300 ac	Runoff Depth=0.74"
	Flow Length=73'	Tc=5.4 min CN=93 Runoff=0.27 cfs 0.018 af
Subcatchment 60S: (new Subcat)	Runoff Area=0.910 ac	Runoff Depth=0.27"
	Flow Length=388'	Tc=4.9 min CN=82 Runoff=0.24 cfs 0.020 af
Reach 110: (new Reach)	Avg. Depth=0.01'	Max Vel=0.71 fps Inflow=0.12 cfs 0.008 af
	n=0.040 L=468.0' S=0.1500 '/'	Capacity=176.99 cfs Outflow=0.08 cfs 0.008 af
Reach sd-1: (new Reach)	Avg. Depth=0.19'	Max Vel=2.12 fps Inflow=0.22 cfs 0.015 af
	D=12.0" n=0.012 L=115.0' S=0.0052 '/'	Capacity=2.79 cfs Outflow=0.22 cfs 0.015 af
Reach sd-2: (new Reach)	Avg. Depth=0.24'	Max Vel=3.35 fps Inflow=0.49 cfs 0.034 af
	D=12.0" n=0.012 L=221.0' S=0.0100 '/'	Capacity=3.86 cfs Outflow=0.48 cfs 0.034 af
Reach sd-3: (new Reach)	Avg. Depth=0.28'	Max Vel=2.60 fps Inflow=0.48 cfs 0.035 af
	D=12.0" n=0.012 L=220.0' S=0.0050 '/'	Capacity=2.73 cfs Outflow=0.47 cfs 0.035 af
Reach sd-4: (new Reach)	Avg. Depth=0.23'	Max Vel=6.85 fps Inflow=0.95 cfs 0.069 af
	D=12.0" n=0.012 L=67.0' S=0.0433 '/'	Capacity=8.03 cfs Outflow=0.94 cfs 0.069 af
Reach sd-5: (new Reach)	Avg. Depth=0.00'	Max Vel=0.00 fps Inflow=0.00 cfs 0.000 af
	D=15.0" n=0.012 L=11.0' S=0.0182 '/'	Capacity=9.44 cfs Outflow=0.00 cfs 0.000 af
Reach sd-6: (new Reach)	Avg. Depth=0.37'	Max Vel=6.87 fps Inflow=1.80 cfs 0.130 af
	D=12.0" n=0.012 L=23.0' S=0.0261 '/'	Capacity=6.23 cfs Outflow=1.80 cfs 0.130 af
Pond 1: CB-1	Peak Elev=40.07'	Inflow=0.22 cfs 0.015 af
		Outflow=0.22 cfs 0.015 af
Pond 2: CB-2	Peak Elev=39.48'	Inflow=0.49 cfs 0.034 af
		Outflow=0.49 cfs 0.034 af



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Type III 24-hr 1" RUNOFF Rainfall=1.35"

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Page 2

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Pond 3: CB-3

Peak Elev=38.40' Inflow=0.48 cfs 0.035 af  
Outflow=0.48 cfs 0.035 af

Pond 4: CB-4

Peak Elev=35.28' Inflow=1.80 cfs 0.130 af  
Primary=1.80 cfs 0.130 af Secondary=0.00 cfs 0.000 af Outflow=1.80 cfs 0.130 af

Pond DMH-1: DMH-1

Peak Elev=37.30' Inflow=0.95 cfs 0.069 af  
Outflow=0.95 cfs 0.069 af

Pond HiL: (new Pond)

Inflow=1.80 cfs 0.130 af  
Primary=1.80 cfs 0.130 af

Pond SP1: (new Pond)

Inflow=0.12 cfs 0.008 af  
Primary=0.12 cfs 0.008 af

Pond SP2: WETLANDS

Inflow=2.10 cfs 0.158 af  
Primary=2.10 cfs 0.158 af

**Subcatchment 10s: (new Subcat)**

Runoff = 0.12 cfs @ 12.07 hrs, Volume= 0.008 af, Depth= 0.87"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 1.00-48.00 hrs, dt= 0.01 hrs  
Type III 24-hr 1" RUNOFF Rainfall=1.35"

Area (ac)	CN	Description
0.090	98	ROAD AND SIDEWALK
0.020	80	>75% Grass cover, Good, HSG D
0.110	95	Weighted Average
0.020		Pervious Area
0.090		Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	16	0.0200	0.92		<b>Sheet Flow, A TO B</b> Smooth surfaces n= 0.011 P2= 3.00"
1.2	134	0.0400	1.86		<b>Sheet Flow, B TO C</b> Smooth surfaces n= 0.011 P2= 3.00"
0.2	53	0.0400	4.06		<b>Shallow Concentrated Flow, C TO D</b> Paved Kv= 20.3 fps
3.3					<b>Direct Entry,</b>
5.0	203	Total			

**Subcatchment 20S: (new Subcat)**

Runoff = 0.48 cfs @ 12.07 hrs, Volume= 0.035 af, Depth= 1.13"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 1.00-48.00 hrs, dt= 0.01 hrs  
Type III 24-hr 1" RUNOFF Rainfall=1.35"

Area (ac)	CN	Description
0.370	98	Paved parking & roofs
0.370		Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.5	150	0.0310	1.72		<b>Sheet Flow, A TO B</b> Smooth surfaces n= 0.011 P2= 3.00"
0.6	130	0.0300	3.52		<b>Shallow Concentrated Flow, B TO C</b> Paved Kv= 20.3 fps
2.9					<b>Direct Entry,</b>
5.0	280	Total			

**Subcatchment 30S: (new Subcat)**

Runoff = 0.22 cfs @ 12.08 hrs, Volume= 0.015 af, Depth= 0.74"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 1.00-48.00 hrs, dt= 0.01 hrs  
Type III 24-hr 1" RUNOFF Rainfall=1.35"

Area (ac)	CN	Description
0.180	98	Paved parking & roofs
0.070	80	>75% Grass cover, Good, HSG D
0.250	93	Weighted Average
0.070		Pervious Area
0.180		Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.3	23	0.0170	0.12		<b>Sheet Flow, A TO B</b> Grass: Short n= 0.150 P2= 3.00"
0.7	48	0.0200	1.15		<b>Sheet Flow, B TO C</b> Smooth surfaces n= 0.011 P2= 3.00"
1.0					<b>Direct Entry,</b>
5.0	71	Total			

**Subcatchment 40S: (new Subcat)**

Runoff = 0.88 cfs @ 12.07 hrs, Volume= 0.061 af, Depth= 0.95"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 1.00-48.00 hrs, dt= 0.01 hrs  
Type III 24-hr 1" RUNOFF Rainfall=1.35"

Area (ac)	CN	Description
0.700	98	Paved parking & roofs
0.070	80	>75% Grass cover, Good, HSG D
0.770	96	Weighted Average
0.070		Pervious Area
0.700		Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.2	28	0.0700	0.21		<b>Sheet Flow, A TO B</b> Grass: Short n= 0.150 P2= 3.00"
1.6	122	0.0170	1.30		<b>Sheet Flow, B TO C</b> Smooth surfaces n= 0.011 P2= 3.00"
0.3	46	0.0200	2.87		<b>Shallow Concentrated Flow, C TO D</b> Paved Kv= 20.3 fps
0.9					<b>Direct Entry,</b>
5.0	196	Total			

**Subcatchment 50S: (new Subcat)**

Runoff = 0.27 cfs @ 12.08 hrs, Volume= 0.018 af, Depth= 0.74"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 1.00-48.00 hrs, dt= 0.01 hrs  
Type III 24-hr 1" RUNOFF Rainfall=1.35"

Area (ac)	CN	Description
0.210	98	Paved parking & roofs
0.090	80	>75% Grass cover, Good, HSG D
0.300	93	Weighted Average
0.090		Pervious Area
0.210		Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.8	36	0.0170	0.13		<b>Sheet Flow, A TO B</b> Grass: Short n= 0.150 P2= 3.00"
0.6	37	0.0200	1.09		<b>Sheet Flow, B TO C</b> Smooth surfaces n= 0.011 P2= 3.00"
5.4	73	Total			

**Subcatchment 60S: (new Subcat)**

Runoff = 0.24 cfs @ 12.09 hrs, Volume= 0.020 af, Depth= 0.27"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 1.00-48.00 hrs, dt= 0.01 hrs  
Type III 24-hr 1" RUNOFF Rainfall=1.35"

Area (ac)	CN	Description
0.560	80	>75% Grass cover, Good, HSG D
0.140	91	RIP RAP (GRAVEL HSG D)
0.210	80	>75% Grass cover, Good, HSG D
0.910	82	Weighted Average
0.910		Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.9	50	0.0560	0.22		<b>Sheet Flow, A TO B</b> Grass: Short n= 0.150 P2= 3.00"
0.5	338	0.0870	10.82	216.31	<b>Trap/Vee/Rect Channel Flow, B TO C</b> Bot.W=0.00' D=2.00' Z= 5.0 '/' Top.W=20.00' n= 0.040
0.5					<b>Direct Entry,</b>
4.9	388	Total			

**Reach 110: (new Reach)**

Inflow Area = 0.110 ac, Inflow Depth = 0.87" for 1" RUNOFF event  
 Inflow = 0.12 cfs @ 12.07 hrs, Volume= 0.008 af  
 Outflow = 0.08 cfs @ 12.16 hrs, Volume= 0.008 af, Atten= 35%, Lag= 5.2 min

Routing by Dyn-Stor-Ind method, Time Span= 1.00-48.00 hrs, dt= 0.01 hrs / 4  
 Max. Velocity= 0.71 fps, Min. Travel Time= 11.0 min  
 Avg. Velocity = 0.67 fps, Avg. Travel Time= 11.7 min

Peak Storage= 50 cf @ 12.16 hrs, Average Depth at Peak Storage= 0.01'  
 Bank-Full Depth= 1.00', Capacity at Bank-Full= 176.99 cfs

10.00' x 1.00' deep channel, n= 0.040  
 Side Slope Z-value= 5.0 '/' Top Width= 20.00'  
 Length= 468.0' Slope= 0.1500 '/'  
 Inlet Invert= 0.00', Outlet Invert= -70.20'



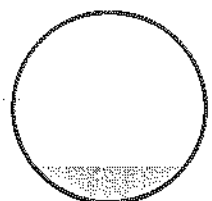
**Reach sd-1: (new Reach)**

Inflow Area = 0.250 ac, Inflow Depth = 0.74" for 1" RUNOFF event  
 Inflow = 0.22 cfs @ 12.08 hrs, Volume= 0.015 af  
 Outflow = 0.22 cfs @ 12.09 hrs, Volume= 0.015 af, Atten= 1%, Lag= 0.7 min

Routing by Dyn-Stor-Ind method, Time Span= 1.00-48.00 hrs, dt= 0.01 hrs / 4  
 Max. Velocity= 2.12 fps, Min. Travel Time= 0.9 min  
 Avg. Velocity = 0.74 fps, Avg. Travel Time= 2.6 min

Peak Storage= 12 cf @ 12.09 hrs, Average Depth at Peak Storage= 0.19'  
 Bank-Full Depth= 1.00', Capacity at Bank-Full= 2.79 cfs

12.0" Diameter Pipe, n= 0.012  
 Length= 115.0' Slope= 0.0052 '/'  
 Inlet Invert= 39.80', Outlet Invert= 39.20'



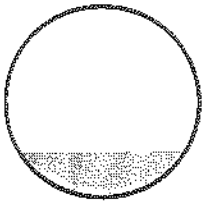
**Reach sd-2: (new Reach)**

Inflow Area = 0.550 ac, Inflow Depth = 0.74" for 1" RUNOFF event  
 Inflow = 0.49 cfs @ 12.08 hrs, Volume= 0.034 af  
 Outflow = 0.48 cfs @ 12.10 hrs, Volume= 0.034 af, Atten= 1%, Lag= 0.8 min

Routing by Dyn-Stor-Ind method, Time Span= 1.00-48.00 hrs, dt= 0.01 hrs / 4  
 Max. Velocity= 3.35 fps, Min. Travel Time= 1.1 min  
 Avg. Velocity = 1.16 fps, Avg. Travel Time= 3.2 min

Peak Storage= 32 cf @ 12.10 hrs, Average Depth at Peak Storage= 0.24'  
 Bank-Full Depth= 1.00', Capacity at Bank-Full= 3.86 cfs

12.0" Diameter Pipe, n= 0.012  
 Length= 221.0' Slope= 0.0100 '/  
 Inlet Invert= 39.10', Outlet Invert= 36.89'

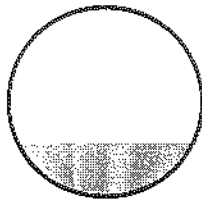
**Reach sd-3: (new Reach)**

Inflow Area = 0.370 ac, Inflow Depth = 1.13" for 1" RUNOFF event  
 Inflow = 0.48 cfs @ 12.07 hrs, Volume= 0.035 af  
 Outflow = 0.47 cfs @ 12.09 hrs, Volume= 0.035 af, Atten= 2%, Lag= 1.0 min

Routing by Dyn-Stor-Ind method, Time Span= 1.00-48.00 hrs, dt= 0.01 hrs / 4  
 Max. Velocity= 2.60 fps, Min. Travel Time= 1.4 min  
 Avg. Velocity = 0.83 fps, Avg. Travel Time= 4.4 min

Peak Storage= 40 cf @ 12.09 hrs, Average Depth at Peak Storage= 0.28'  
 Bank-Full Depth= 1.00', Capacity at Bank-Full= 2.73 cfs

12.0" Diameter Pipe, n= 0.012  
 Length= 220.0' Slope= 0.0050 '/  
 Inlet Invert= 38.00', Outlet Invert= 36.90'



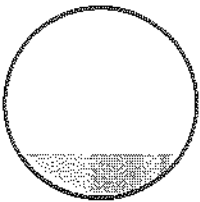
**Reach sd-4: (new Reach)**

Inflow Area = 0.920 ac, Inflow Depth = 0.90" for 1" RUNOFF event  
 Inflow = 0.95 cfs @ 12.09 hrs, Volume= 0.069 af  
 Outflow = 0.94 cfs @ 12.09 hrs, Volume= 0.069 af, Atten= 0%, Lag= 0.1 min

Routing by Dyn-Stor-Ind method, Time Span= 1.00-48.00 hrs, dt= 0.01 hrs / 4  
 Max. Velocity= 6.85 fps, Min. Travel Time= 0.2 min  
 Avg. Velocity = 2.14 fps, Avg. Travel Time= 0.5 min

Peak Storage= 9 cf @ 12.09 hrs, Average Depth at Peak Storage= 0.23'  
 Bank-Full Depth= 1.00', Capacity at Bank-Full= 8.03 cfs

12.0" Diameter Pipe, n= 0.012  
 Length= 67.0' Slope= 0.0433 '/'  
 Inlet Invert= 36.80', Outlet Invert= 33.90'

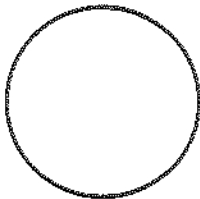
**Reach sd-5: (new Reach)**

Inflow = 0.00 cfs @ 1.00 hrs, Volume= 0.000 af  
 Outflow = 0.00 cfs @ 1.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 1.00-48.00 hrs, dt= 0.01 hrs / 4  
 Max. Velocity= 0.00 fps, Min. Travel Time= 0.0 min  
 Avg. Velocity = 0.00 fps, Avg. Travel Time= 0.0 min

Peak Storage= 0 cf @ 1.00 hrs, Average Depth at Peak Storage= 0.00'  
 Bank-Full Depth= 1.25', Capacity at Bank-Full= 9.44 cfs

15.0" Diameter Pipe, n= 0.012  
 Length= 11.0' Slope= 0.0182 '/'  
 Inlet Invert= 33.80', Outlet Invert= 33.60'



Peak Elev= 39.48' @ 12.09 hrs  
Flood Elev= 42.20'

Device	Routing	Invert	Outlet Devices
#1	Primary	39.10'	12.0" Vert. Orifice/Grate C= 0.600

Primary OutFlow Max=0.49 cfs @ 12.08 hrs HW=39.48' TW=39.34' (Dynamic Tailwater)  
 ↑1=Orifice/Grate (Orifice Controls 0.49 cfs @ 1.80 fps)

### Pond 3: CB-3

Inflow Area = 0.370 ac, Inflow Depth = 1.13" for 1" RUNOFF event  
 Inflow = 0.48 cfs @ 12.07 hrs, Volume= 0.035 af  
 Outflow = 0.48 cfs @ 12.07 hrs, Volume= 0.035 af, Atten= 0%, Lag= 0.0 min  
 Primary = 0.48 cfs @ 12.07 hrs, Volume= 0.035 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-48.00 hrs, dt= 0.01 hrs / 4  
 Peak Elev= 38.40' @ 12.08 hrs  
 Flood Elev= 41.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	38.00'	12.0" Vert. Orifice/Grate C= 0.600

Primary OutFlow Max=0.48 cfs @ 12.07 hrs HW=38.39' TW=38.28' (Dynamic Tailwater)  
 ↑1=Orifice/Grate (Orifice Controls 0.48 cfs @ 1.66 fps)

### Pond 4: CB-4

Inflow Area = 1.690 ac, Inflow Depth = 0.92" for 1" RUNOFF event  
 Inflow = 1.80 cfs @ 12.08 hrs, Volume= 0.130 af  
 Outflow = 1.80 cfs @ 12.08 hrs, Volume= 0.130 af, Atten= 0%, Lag= 0.0 min  
 Primary = 1.80 cfs @ 12.08 hrs, Volume= 0.130 af  
 Secondary = 0.00 cfs @ 1.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-48.00 hrs, dt= 0.01 hrs / 4  
 Peak Elev= 35.28' @ 12.08 hrs  
 Flood Elev= 39.10'

Device	Routing	Invert	Outlet Devices
#1	Primary	33.80'	8.0" Vert. Orifice/Grate C= 0.600
#2	Device 3	35.30'	6.0' long Sharp-Crested Rectangular Weir 2 End Contraction(s) 1.6' Crest Height
#3	Secondary	33.80'	15.0" Vert. Orifice/Grate C= 0.600

Primary OutFlow Max=1.80 cfs @ 12.08 hrs HW=35.28' TW=0.00' (Dynamic Tailwater)  
 ↑1=Orifice/Grate (Orifice Controls 1.80 cfs @ 5.16 fps)

Secondary OutFlow Max=0.00 cfs @ 1.00 hrs HW=33.80' TW=33.80' (Dynamic Tailwater)  
 ↑3=Orifice/Grate ( Controls 0.00 cfs)  
 ↑2=Sharp-Crested Rectangular Weir ( Controls 0.00 cfs)



**Pond DMH-1: DMH-1**

Inflow Area = 0.920 ac, Inflow Depth = 0.90" for 1" RUNOFF event  
 Inflow = 0.95 cfs @ 12.09 hrs, Volume= 0.069 af  
 Outflow = 0.95 cfs @ 12.09 hrs, Volume= 0.069 af, Atten= 0%, Lag= 0.0 min  
 Primary = 0.95 cfs @ 12.09 hrs, Volume= 0.069 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-48.00 hrs, dt= 0.01 hrs / 4  
 Peak Elev= 37.30' @ 12.09 hrs  
 Flood Elev= 41.60'

Device	Routing	Invert	Outlet Devices
#1	Primary	36.80'	12.0" Vert. Orifice/Grate C= 0.600

Primary OutFlow Max=0.94 cfs @ 12.09 hrs HW=37.30' TW=37.03' (Dynamic Tailwater)  
 1=Orifice/Grate (Orifice Controls 0.94 cfs @ 2.41 fps)

**Pond HIL: (new Pond)**

Inflow Area = 1.690 ac, Inflow Depth = 0.92" for 1" RUNOFF event  
 Inflow = 1.80 cfs @ 12.08 hrs, Volume= 0.130 af  
 Primary = 1.80 cfs @ 12.08 hrs, Volume= 0.130 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 1.00-48.00 hrs, dt= 0.01 hrs / 4

**Pond SP1: (new Pond)**

Inflow Area = 0.110 ac, Inflow Depth = 0.87" for 1" RUNOFF event  
 Inflow = 0.12 cfs @ 12.07 hrs, Volume= 0.008 af  
 Primary = 0.12 cfs @ 12.07 hrs, Volume= 0.008 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 1.00-48.00 hrs, dt= 0.01 hrs / 4

**Pond SP2: WETLANDS**

Inflow Area = 2.710 ac, Inflow Depth = 0.70" for 1" RUNOFF event  
 Inflow = 2.10 cfs @ 12.09 hrs, Volume= 0.158 af  
 Primary = 2.10 cfs @ 12.09 hrs, Volume= 0.158 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 1.00-48.00 hrs, dt= 0.01 hrs / 4

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# **Exhibit 9**

**Test Pit Log / Septic Design**

# SUBSURFACE WASTEWATER DISPOSAL SYSTEM APPLICATION

Maine Department of Human Services  
 Division of Health Engineering, 10 SHS  
 (207) 287-5672 Fax: (207) 287-3185

<b>PROPERTY LOCATION</b>		<b>&gt;&gt; CAUTION: PERMIT REQUIRED - ATTACH IN SPACE BELOW &lt;&lt;</b>	
City, Town, or Plantation	Portland		
Street or Road	Presumpscot Street		
Subdivision, Lot #			
<b>OWNER/APPLICANT INFORMATION</b>		The Subsurface Wastewater Disposal System <i>shall not</i> be installed until a Permit is attached HERE by the Local Plumbing Inspector. The Permit shall authorize the owner or installer to install the disposal system in accordance with this application and the Maine Subsurface Wastewater Disposal Rules.	
Name (last, first, MI)	Moody, Shawn	<input checked="" type="checkbox"/> Owner	
		<input type="checkbox"/> Applicant	
Mailing Address of Owner/Applicant	200 Narragansett Street Gorham, ME 04038		
Daytime Tel. #	(207) 835-2500	Municipal Tax Map #	Lot #
<b>OWNER OR APPLICANT STATEMENT</b>		<b>CAUTION: INSPECTION REQUIRED</b>	
I state and acknowledge that the information submitted is correct to the best of my knowledge and understand that any falsification is reason for the Department and/or Local Plumbing Inspector to deny a Permit.		I have inspected the installation authorized above and found it to be in compliance with the Subsurface Wastewater Disposal Rules Application.	
Signature of Owner or Applicant _____ Date _____		Local Plumbing Inspector Signature _____ (1st) date approved _____	

PERMIT INFORMATION			
<b>TYPE OF APPLICATION</b>	<b>THIS APPLICATION REQUIRES</b>	<b>DISPOSAL SYSTEM COMPONENTS</b>	
<input checked="" type="checkbox"/> 1. First Time System <input type="checkbox"/> 2. Replacement System Type replaced: _____ Year installed: _____ <input type="checkbox"/> 3. Expanded System: <input type="checkbox"/> a. Minor Expansion <input type="checkbox"/> b. Major Expansion <input type="checkbox"/> 4. Experimental System <input type="checkbox"/> 5. Seasonal Conversion	<input checked="" type="checkbox"/> 1. No Rule Variance <input type="checkbox"/> 2. First Time System Variance <input type="checkbox"/> a. Local Plumbing Inspector Approval <input type="checkbox"/> b. State & Local Plumbing Inspector Approval <input type="checkbox"/> 3. Replacement System Variance <input type="checkbox"/> a. Local Plumbing Inspector Approval <input type="checkbox"/> b. State & Local Plumbing Inspector Approval <input type="checkbox"/> 4. Minimum Lot Size Variance <input type="checkbox"/> 5. Seasonal Conversion Permit	<input checked="" type="checkbox"/> 1. Complete Non-engineered System <input type="checkbox"/> 2. Primitive System (graywater & alt. toilet) <input type="checkbox"/> 3. Alternative Toilet, specify: _____ <input type="checkbox"/> 4. Non-engineered Treatment Tank (only) <input type="checkbox"/> 5. Holding Tank, _____ gallons <input type="checkbox"/> 6. Non-engineered Disposal Field (only) <input type="checkbox"/> 7. Separated Laundry System <input type="checkbox"/> 8. Complete Engineered System (2000 gpd or more) <input type="checkbox"/> 9. Engineered Treatment Tank (only) <input type="checkbox"/> 10. Engineered Disposal Field (only) <input type="checkbox"/> 11. Pre-treatment, specify: _____ <input type="checkbox"/> 12. Miscellaneous Components	
<b>SIZE OF PROPERTY</b>	<b>DISPOSAL SYSTEM TO SERVE</b>	<b>TYPE OF WATER SUPPLY</b>	
2.6 <input type="checkbox"/> SQ. FT. <input checked="" type="checkbox"/> ACRES	<input type="checkbox"/> 1. Single Family Dwelling Unit, No. of Bedrooms: _____ <input type="checkbox"/> 2. Multiple Family Dwelling, No. of Units: _____ <input checked="" type="checkbox"/> 3. Other: <u>auto body shop</u> (specify) Current Use <input type="checkbox"/> Seasonal <input type="checkbox"/> Year Round <input checked="" type="checkbox"/> Undeveloped	<input type="checkbox"/> 1. Drilled Well <input type="checkbox"/> 2. Dug Well <input type="checkbox"/> 3. Private <input checked="" type="checkbox"/> 4. Public <input type="checkbox"/> 5. Other	
<b>SHORELAND ZONING</b>			
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No			

DESIGN DETAILS (SYSTEM LAYOUT SHOWN ON PAGE 3)			
<b>TREATMENT TANK</b>	<b>DISPOSAL FIELD TYPE &amp; SIZE</b>	<b>GARBAGE DISPOSAL UNIT</b>	<b>DESIGN FLOW</b>
<input checked="" type="checkbox"/> 1. Concrete <input checked="" type="checkbox"/> a. Regular <input type="checkbox"/> b. Low Profile <input type="checkbox"/> 2. Plastic <input type="checkbox"/> 3. Other: _____ CAPACITY: <u>1000</u> GAL	<input type="checkbox"/> 1. Stone Bed <input type="checkbox"/> 2. Stone Trench <input checked="" type="checkbox"/> 3. Proprietary Device <input checked="" type="checkbox"/> a. cluster array <input type="checkbox"/> c. Linear <input type="checkbox"/> b. regular load <input checked="" type="checkbox"/> d. H-20 load 4. Other: _____ SIZE: <u>1200</u> <input checked="" type="checkbox"/> sq. ft. <input type="checkbox"/> lin. ft.	<input checked="" type="checkbox"/> 1. No <input type="checkbox"/> 2. Yes <input type="checkbox"/> 3. Maybe If Yes or Maybe, specify one below: <input type="checkbox"/> a. multi-compartment tank <input type="checkbox"/> b. _____ tanks in series <input type="checkbox"/> c. Increase in tank capacity <input type="checkbox"/> d. Filter on Tank Outlet	<u>300</u> gallons per day BASED ON: <input checked="" type="checkbox"/> 1. Table 501.1 (dwelling unit(s)) <input type="checkbox"/> 2. Table 501.2 (other facilities) SHOW CALCULATIONS for other facilities 20 employees @ 15 gpd = <u>300 gpd</u> <input type="checkbox"/> 3. Section 503.0 (meter readings) ATTACH WATER METER DATA
<b>SOIL DATA &amp; DESIGN CLASS</b>	<b>DISPOSAL FIELD SIZING</b>	<b>EFFLUENT/EJECTOR PUMP</b>	<b>LATITUDE AND LONGITUDE</b>
PROFILE CONDITION DESIGN <u>6 / D / 3</u> at Observation Hole # <u>TP-1</u> Depth <u>14</u> " of Most Limiting Soil Factor	<input type="checkbox"/> 1. Small---2.0 sq. ft. / gpd <input type="checkbox"/> 2. Medium---2.6 sq. ft. / gpd <input type="checkbox"/> 3. Medium---Large 3.3 sq. ft. / gpd <input checked="" type="checkbox"/> 4. Large---4.1 sq. ft. / gpd <input type="checkbox"/> 5. Extra Large---5.0 sq. ft. / gpd	<input type="checkbox"/> 1. Not Required <input checked="" type="checkbox"/> 2. May Be Required <input type="checkbox"/> 3. Required Specify only for engineered systems: DOSE: _____ gallons	at center of disposal area Lat. <u>43</u> d <u>41</u> m <u>54</u> s Lon. <u>-70</u> d <u>15</u> m <u>30</u> s

SITE EVALUATOR STATEMENT			
I certify that on <u>10-23-07</u> (date) I completed a site evaluation on this property and state that the data reported are accurate and that the proposed system is in compliance with the State of Maine Subsurface Wastewater Disposal Rules (10-144A CMR 241).			
Site Evaluator Signature	156 SE #	11-1-07 Date	<b>Sebago Technics</b> <small>Engineering Excellence You Can Build On</small>
Walter F. Stinson	(207) 856-0277	wstinson@sebagotechnics.com	
Site Evaluator Name Printed	Telephone Number	E-mail Address	
Note: Changes to or deviations from the design should be confirmed with the Site Evaluator.			HHE-200 Rev. 10/02



**SUBSURFACE WASTEWATER DISPOSAL SYSTEM APPLICATION**

Maine Department of Human Services  
 Division of Health Engineering, 10 SHS  
 (207) 287-5672 FAX (207) 287-3165

Town, City, Plantation  
**Portland**

Street, Road, Subdivision  
**Presumpscot Street**

Owner or Applicant Name  
**Moody, Shawn**

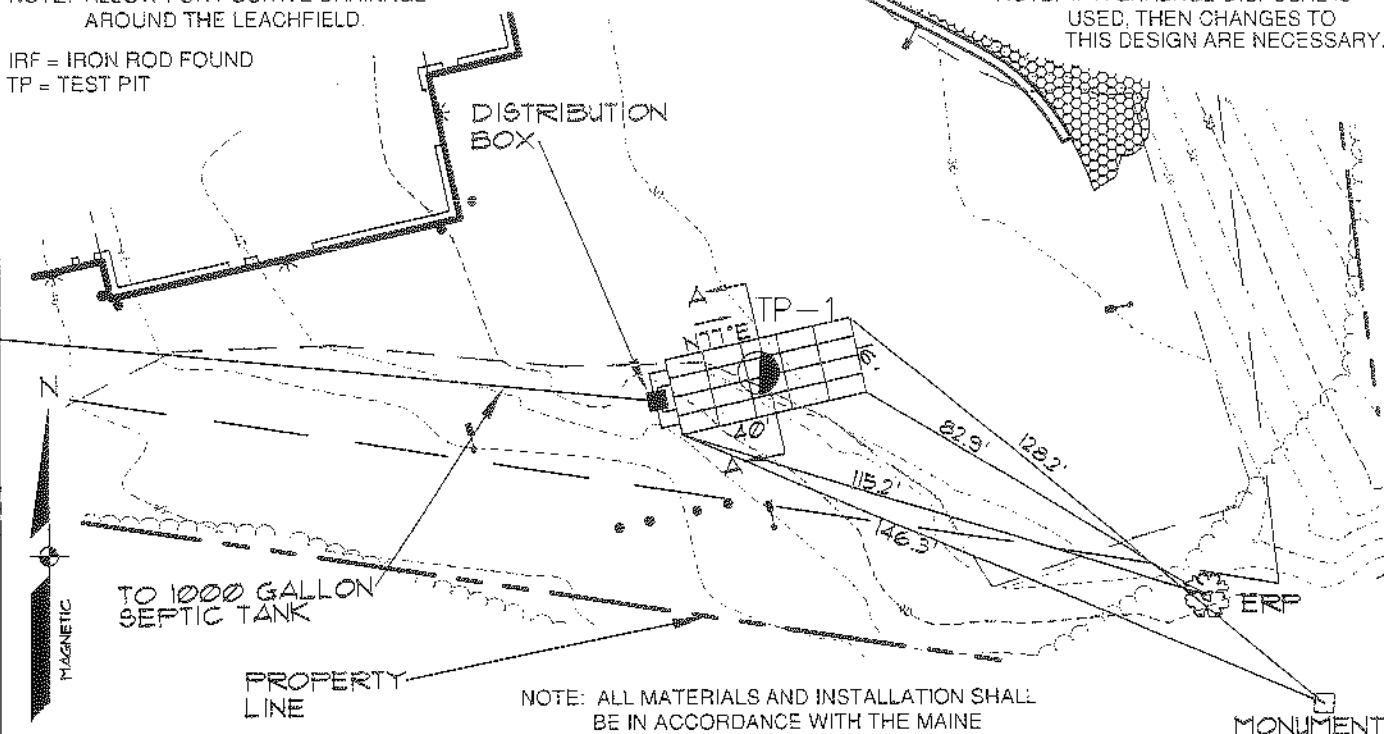
**SUBSURFACE WASTEWATER DISPOSAL PLAN**

Scale 1" = 40' FT.

NOTE: ALLOW FOR POSITIVE DRAINAGE  
 AROUND THE LEACHFIELD.

NOTE: IF A GARBAGE DISPOSAL IS  
 USED, THEN CHANGES TO  
 THIS DESIGN ARE NECESSARY.

IRF = IRON ROD FOUND  
 TP = TEST PIT



NOTE: ALL MATERIALS AND INSTALLATION SHALL  
 BE IN ACCORDANCE WITH THE MAINE  
 SUBSURFACE WASTEWATER DISPOSAL RULES  
 DATED 10/02, AS AMENDED, AND SUPPLEMENTED  
 BY THE ATTACHED GENERAL NOTES WHICH  
 BECOME A PART OF THIS DESIGN.

**PROPOSED DISPOSAL FIELD**

4 ROWS OF 5 H-20 LOAD  
 CONCRETE CHAMBERS

**BACKFILL REQUIREMENTS**

Depth of Fill (Upslope)	46"±
Depth of Fill (Downslope)	46"±

**CONSTRUCTION ELEVATIONS**

Finished Grade Elevation	-5"
Top of Distribution Pipe or Proprietary Device	-29"
Bottom of Disposal Area (Bottom of Stone)	-47"

**ELEVATION REFERENCE POINT**

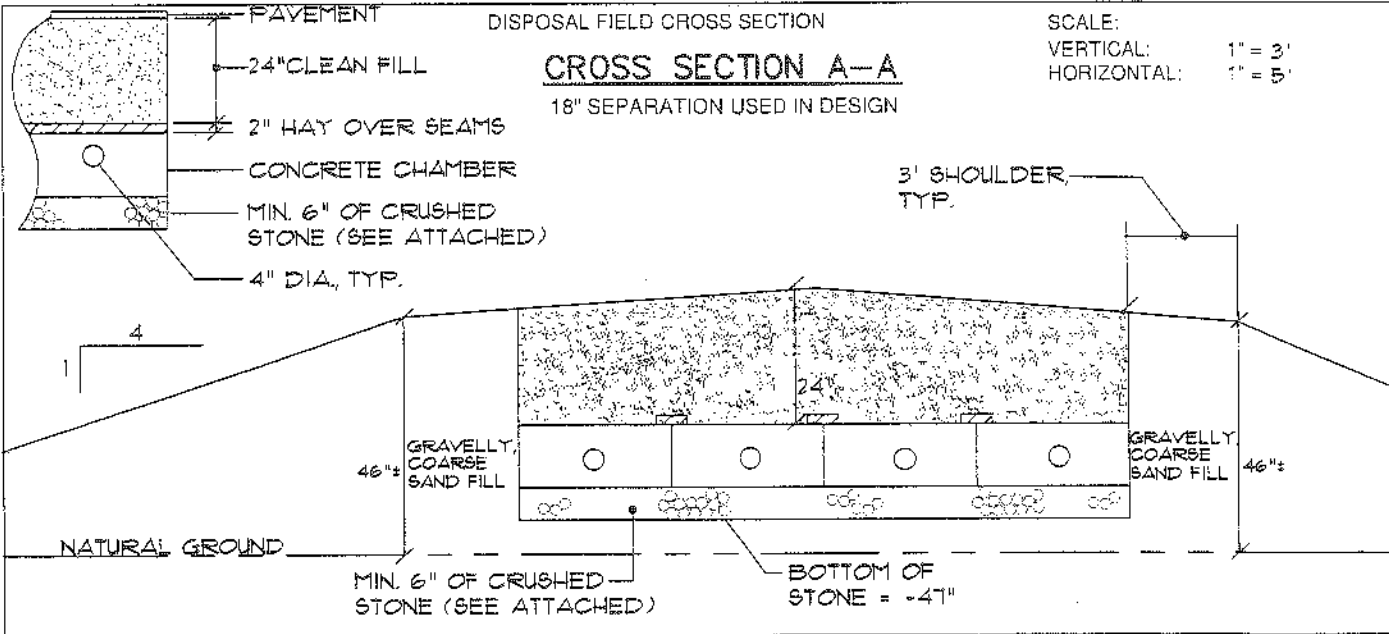
Location & Description Nail up  
 4" In a 20" R Oak  
 Reference Elevation 0"

**DISPOSAL FIELD CROSS SECTION**

**CROSS SECTION A-A**

18" SEPARATION USED IN DESIGN

SCALE:  
 VERTICAL: 1" = 3'  
 HORIZONTAL: 1" = 5'



Site Evaluator Signature

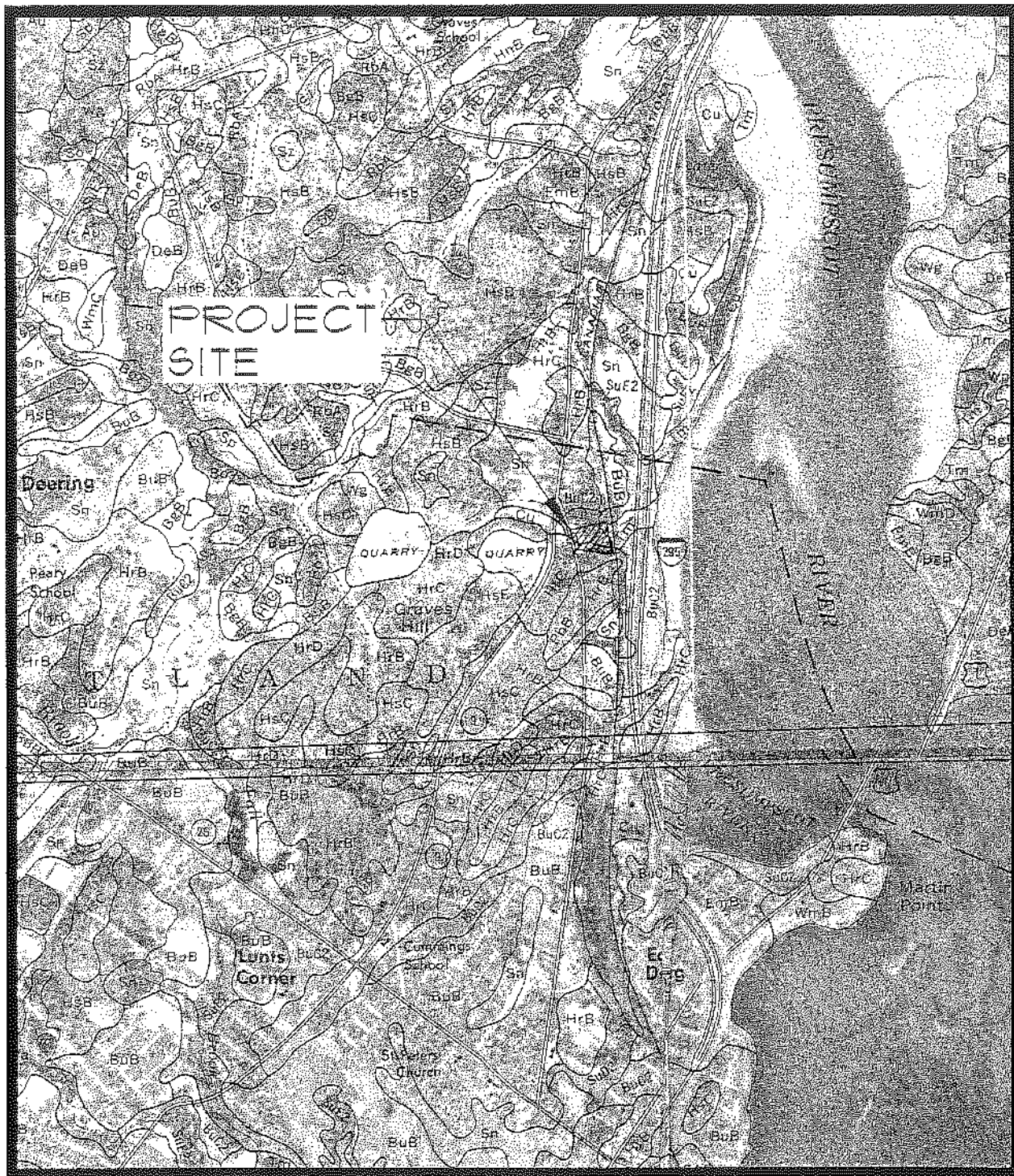
156  
 SE #

11-1-07  
 Date

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# **Exhibit 10**

**Medium Intensity Soils Map**



MEDIUM INTENSITY SOIL SURVEY  
CUMBERLAND COUNTY  
SHEET 76 & 82  
SCALE 1:20,000

**Sebago Technics**

Engineering Expertise You Can Build On

One Chabot Street  
Westbrook, Me 04098-1339  
Tel (207) 856-0277



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# **Exhibit 11**

**Inland Fisheries Letter, Maine Historic Preservation  
Commission Letter, Maine Natural Areas Letter**





John E. Baldacci  
Governor

Roland D. Martin  
Commissioner

DEPARTMENT OF INLAND FISHERIES AND WILDLIFE

Wildlife Division – Region A  
358 Shaker Rd.  
Gray, ME 04039  
Phone: (207) – 657-2345 x 110  
Fax: (207) – 657-2980  
[Scott.Lindsay@maine.gov](mailto:Scott.Lindsay@maine.gov)

October 16, 2007

Jayson Haskell  
Sebago Technics  
One Chabot St.  
P.O. Box 1339  
Westbrook, ME 04098

Via: Electronic Mail

Dear Jayson,

You contacted this office requesting information on any wildlife habitat of management concern occurring at the site of a proposed Moody's Collision Center on Presumpscot St. in the City of Portland.

Based upon a review of the most current data available, there are no known essential or significant wildlife habitats, nor any documented occurrences of rare, threatened or endangered species at or adjacent to this property. I am not aware of any significant vernal pools on this property, though no formal surveys have been conducted. Vernal pools of management concern include those showing documented reproduction of the following species; wood frog, spotted salamander, four-toed salamander, blue-spotted salamander and fairy shrimp. Considering the

Though most development does reduce the quantity and quality of wildlife habitat for a variety of species, a well designed development, at this location, that maintains undisturbed travel corridors and a diversity of cover types with as little site modification as feasible, would have minimal negative impact on regional wildlife goals and management objectives

Sincerely

*Scott Lindsay*

Scott Lindsay  
Regional Wildlife Biologist



MAINE HISTORIC PRESERVATION COMMISSION  
 55 CAPITOL STREET  
 65 STATE HOUSE STATION  
 AUGUSTA, MAINE  
 04333

JOHN ELIAS BALDACC  
 GOVERNOR

EARLE G. SHETTLEWORTH, JR.  
 DIRECTOR

October 24, 2007

RECEIVED

OCT 29 2007

SEBAGO TECHNICS

Jayson R. Haskell  
 Sebago Technics  
 P.O. Box 1339  
 Westbrook, ME 04098-1339

Project: MHPC #1812-07 – proposed business development; Moody's Collision Center,  
 off Presumpscot St.  
 Town: Portland, ME

Dear Mr. Haskell:

In response to your recent request, I have reviewed the information received October 18, 2007 to initiate consultation on the above referenced project pursuant to the requirements of the City of Portland.

Based on the information submitted, I have concluded that the proposed project will have no effect upon historic properties [architectural or archaeological].

Please contact Kirk Mohney of my staff if we can be of further assistance in this matter.

Sincerely,

Earle G. Shettleworth, Jr.  
 State Historic Preservation Officer





STATE OF MAINE  
 DEPARTMENT OF CONSERVATION  
 17 BLKINS LANE  
 91 STATE HOUSE STATION  
 AUGUSTA, MAINE 04333-0091

JOHN ELIAS BALDACCIO  
 GOVERNOR

PATRICK K. MCGOWAN  
 COMMISSIONER

RECEIVED

October 17, 2007

OCT 19 2007

SEBAGO TECHNICS

Jayson Haskell  
 Sebago Technics  
 One Chabot Street  
 PO Box 1339  
 Westbrook, ME 04098-1339

Re: Rare and exemplary botanical features, Proposed Moody's Collision Center,  
 Job #07548, Portland, Maine.

Dear Mr. Haskell:

I have searched the Natural Areas Program's Biological and Conservation Data System files in response to your request of October 16, 2007 for information on the presence of rare or unique botanical features documented from the vicinity of the project site in the City of Portland, Maine. Rare and unique botanical features include the habitat of rare, threatened, or endangered plant species and unique or exemplary natural communities. Our review involves examining maps, manual and computerized records, other sources of information such as scientific articles or published references, and the personal knowledge of staff or cooperating experts.

Our official response covers only botanical features. For authoritative information and official response for zoological features you must make a similar request to the Maine Department of Inland Fisheries and Wildlife, 284 State Street, Augusta, Maine 04333.

According to the information currently in our Biological and Conservation Data System files, there are no rare botanical features documented specifically within the project area. This lack of data may indicate minimal survey efforts rather than confirm the absence of rare botanical features. You may want to have the site inventoried by a qualified field biologist to ensure that no undocumented rare features are inadvertently harmed.

If a field survey of the project area is conducted, please refer to the enclosed supplemental information regarding rare and exemplary botanical features documented to occur in the vicinity of the project site. The list may include information on features that have been known to occur historically in the area as



well as recently field-verified information. While historic records have not been documented in several years, they may persist in the area if suitable habitat exists. The enclosed list identifies features with potential to occur in the area, and it should be considered if you choose to conduct field surveys.

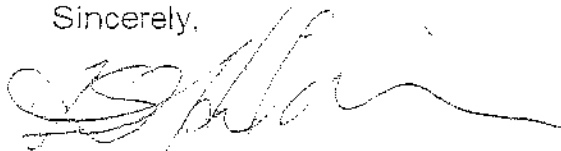
This finding is available and appropriate for preparation and review of environmental assessments, but it is not a substitute for on-site surveys. Comprehensive field surveys do not exist for all natural areas in Maine, and in the absence of a specific field investigation, the Maine Natural Areas Program cannot provide a definitive statement on the presence or absence of unusual natural features at this site.

The Natural Areas Program is continuously working to achieve a more comprehensive database of exemplary natural features in Maine. We would appreciate the contribution of any information obtained should you decide to do field work. The Natural Areas Program welcomes coordination with individuals or organizations proposing environmental alteration, or conducting environmental assessments. If, however, data provided by the Natural Areas Program are to be published in any form, the Program should be informed at the outset and credited as the source.

The Natural Areas Program has instituted a fee structure of \$75.00 an hour to recover the actual cost of processing your request for information. You will receive an invoice for \$75.00 for our services.

Thank you for using the Natural Areas Program in the environmental review process. Please do not hesitate to contact me if you have further questions about the Natural Areas Program or about rare or unique botanical features on this site.

Sincerely,



Lisa St. Hilaire  
Assistant Ecologist / Acting Information Manager  
93 State House Station  
Augusta, ME 04333-0093  
207-287-8046

[Lisa.St.Hilaire@maine.gov](mailto:Lisa.St.Hilaire@maine.gov)

Enclosures

# Rare and Exemplary Botanical Features in the Project Vicinity

10/17/2007

Documented within a Four-Mile Radius of the Proposed Moody's Collision Center, Job #07548, Portland, Maine.

<u>Scientific Name</u>	<u>Common Name</u>	<u>Last Seen</u>	<u>Global Rarity Rank</u>	<u>State Rarity Rank</u>	<u>State Protection Status</u>	<u>Habitat Description</u>
Carex polymorpha Variable Sedge		1986-10-08	G3	S1	E	In Maine, habitat is between downslope seeps (with horsehairs and wetland sedges) and upslope mixed oak/huckleberry forest. Preferred soil type is Deerfield Loamy Sand.
Kalmia latifolia Mountain laurel		1985-08-01	G5	S2	SC	Rocky or gravelly woods and clearings, sometimes swamps.
Polygonum tenue Slender Knotweed		1902-09-07	G5	SH	PE	Dry open soil (chiefly acid)
Chimaphila maculata Spotted Wintergreen		1991-09	G5	S2	E	Dry woods.
Viola palmata Palmate-leaved Violet		1908	G5	SH	PE	Rich deciduous woods, shaded calcareous ledges, etc.
Carex polymorpha Variable Sedge		1911	G3	S1	E	In Maine, habitat is between downslope seeps (with horsehairs and wetland sedges) and upslope mixed oak/huckleberry forest. Preferred soil type is Deerfield Loamy Sand.
Carex polymorpha Variable Sedge		1911-06-29	G3	S1	E	In Maine, habitat is between downslope seeps (with horsehairs and wetland sedges) and upslope mixed oak/huckleberry forest. Preferred soil type is Deerfield Loamy Sand.

# Rare and Exemplary Botanical Features in the Project Vicinity

10/17/2007

Documented within a Four-Mile Radius of the Proposed Moody's Collision Center, Job #07548, Portland, Maine.

<u>Scientific Name</u>	<u>Common Name</u>	<u>Last Seen</u>	<u>Global Rarity Rank</u>	<u>State Rarity Rank</u>	<u>State Protection Status</u>	<u>Habitat Description</u>
<i>Allium canadense</i>	Wild Garlic	1918-07-16	G5	S2	SC	Alluvial woods, thickets, and meadows.
<i>Allium tricoccum</i>	Wild Leek	1978-06-28	G5	S3	SC	Rich hardwood forests, usually alluvial.
<i>Platanthera flava</i> var. <i>herbiola</i>	Pale Green Orchis	1907-07-05	G4T4Q	S2	SC	Swampy woods, bottomlands, swales, and wet shores.
<i>Elymus hystrix</i>	Bottlebrush Grass	1905-09-13	G5	S3	T	Rich, rocky, or alluvial deciduous forests.
<i>Phlegopteris hexagonoptera</i>	Broad Beech Fern	1872-08	G5	S2	SC	Rich, often rocky, hardwood forests.
<i>Eleocharis engelmannii</i>	Engelmann's Spikerush	1916-08-31	G4G5Q	SH	PE	Wet sand, peat or mud
<i>Asplenium platyneuron</i>	Ebony Spleenwort	1910-06-06	G5	S2	SC	Rich partly forested slopes, rocky ledges, and dry, circumneutral outcrops.
<i>Potamogeton vaseyi</i>	Vasey's Pondweed	1901-08-04	G4	S2	T	Quiet muddy or calcareous waters.

# Rare and Exemplary Botanical Features in the Project Vicinity

10/17/2007

Documented within a Four-Mile Radius of the Proposed Moody's Collision Center, Job #07548, Portland, Maine.

<u>Scientific Name</u>	<u>Common Name</u>	<u>Last Seen</u>	<u>Global Rarity Rank</u>	<u>State Rarity Rank</u>	<u>State Protection Status</u>	<u>Habitat Description</u>
<i>Adiantum fungosa</i> Allegheny Vine		1860-10	G4	S1	T	Wet or recently burned woods, rocky wooded slopes.
<i>Arabis missouriensis</i> Missouri Rockcress		1905-06 11	G5?Q	S1	T	Circumneutral bluffs, ledges or rocky woods.
<i>Suaeda calceoliformis</i> American Sea-blite		1932-09-12	G5	S1	T	Rocky or gravelly saltmarshes and sea-strands.
<i>Ranunculus ambigens</i> Water-plantain Spearwort		1903-07-29	G4	S1I	PE	Sloughs, ditches, and muddy swamps.
<i>Suaeda maritima</i> ssp. <i>richii</i> Rich's Sea-blite		1903-07-30	G5T3	S1	SC	Salt-marshes and sea-strands.
<i>Hieracium venosum</i> var. <i>nudicaule</i> Rattlesnake Hawkweed		1909-07	G5T4Q	S1	E	Dry open pine, or oak woods and barrens, usually in grassy openings.
<i>Zarnicheiria palustris</i> Horned Pondweed		1913-09 13	G5	S2	SC	Fresh, brackish or alkaline waters, and stream edges.
<i>Aureolaria pedicularia</i> Fern-leaved False Foxglove		1902-09-02	G5	S3	SC	Dry deciduous woods and clearings.

# Rare and Exemplary Botanical Features in the Project Vicinity

10/17/2007

Documented within a Four-Mile Radius of the Proposed Moody's Collision Center, Job #07548, Portland, Maine.

<u>Scientific Name</u>	<u>Common Name</u>	<u>Last Seen</u>	<u>Global Rarity Rank</u>	<u>State Rarity Rank</u>	<u>State Protection Status</u>	<u>Habitat Description</u>
<i>Polygala cruciata</i> var. <i>aquilonia</i> Marsh Milkwort		1903-08-18	G514	SH	PE	Wet pine-lands, savannas, peats, and sands.
<i>Lobelia siphilitica</i> Great Blue Lobelia		1905-09	G5	SX	PE	Rich low woods and swamps
<i>Wolffia columbiana</i> Columbia Water-meal		2002-08-04	G5	S2	T	Ponds, and still waters.
<i>Lonicera dioica</i> Mountain Honeysuckle		2002-06-06	G5	S17	E	Rocky banks, dry woods and thickets.
<i>Ilex laevigata</i> Smooth Winterberry Holly		2005-08-21	G5	S3	SC	Wetlands, wooded swamps.
<i>Lycopodiella alopecuroides</i> Foxtail Bog-clubmoss		2002	G5	S1	SC	
<i>Bartonia paniculata</i> Screwstem		2001 09-01	G5	S1	T	Wet peat and sand.
<i>Allium tricoccum</i> Wild Leek		2003 06-17	G5	S3	SC	Rich hardwood forests, usually alluvial.



## STATE RARITY RANKS

- S1 Critically imperiled in Maine because of extreme rarity (five or fewer occurrences or very few remaining individuals or acres) or because some aspect of its biology makes it especially vulnerable to extirpation from the State of Maine.
- S2 Imperiled in Maine because of rarity (6-20 occurrences or few remaining individuals or acres) or because of other factors making it vulnerable to further decline.
- S3 Rare in Maine (20-100 occurrences).
- S4 Apparently secure in Maine.
- S5 Demonstrably secure in Maine.
- SH Known historically from the state, not verified in the past 20 years.
- SX Apparently extirpated from the state, loss of last known occurrence has been documented.
- SU Under consideration for assigning rarity status; more information needed on threats or distribution.
- S#? Current occurrence data suggests assigned rank, but lack of survey effort along with amount of potential habitat create uncertainty (e.g. S3?).

Note: State Rarity Ranks are determined by the Maine Natural Areas Program.

## GLOBAL RARITY RANKS

- G1 Critically imperiled globally because of extreme rarity (five or fewer occurrences or very few remaining individuals or acres) or because some aspect of its biology makes it especially vulnerable to extinction.
- G2 Globally imperiled because of rarity (6-20 occurrences or few remaining individuals or acres) or because of other factors making it vulnerable to further decline.
- G3 Globally rare (20-100 occurrences).
- G4 Apparently secure globally.
- G5 Demonstrably secure globally.

Note: Global Ranks are determined by NatureServe.

## STATE LEGAL STATUS

Note: State legal status is according to 5 M.R.S.A. § 13076-13079, which mandates the Department of Conservation to produce and biennially update the official list of Maine's Endangered and Threatened plants. The list is derived by a technical advisory committee of botanists who use data in the Natural Areas Program's database to recommend status changes to the Department of Conservation.

- E ENDANGERED; Rare and in danger of being lost from the state in the foreseeable future; or federally listed as Endangered.
- T THREATENED; Rare and, with further decline, could become endangered; or federally listed as Threatened.

## NON-LEGAL STATUS

- SC SPECIAL CONCERN; Rare in Maine, based on available information, but not sufficiently rare to be considered Threatened or Endangered.
- PE Potentially Extirpated; Species has not been documented in Maine in past 20 years or loss of last known occurrence has been documented.

## Portland Fire Department Checklist

1. Name, address, telephone number of applicant

The applicant for the project is:

Moody's Collision Center  
200 Narragansett Street  
Gorham, Maine  
207-839-2500

2. Name Address, telephone number of architect

The project architect is:

Macleod Engineers  
404 Maine Street  
Gorham, Maine 04038  
207-839-0890

3. Proposed uses of any structures [NFPA and IBC classification]

The proposed project building should be classified as "moderate hazard storage" Group S-1.

4. Square footage of all structures [total and per story]

The project will include 17,728 square feet of first floor space and 720 square feet of second floor space. Total square footage for the project will be 18, 448 square feet.

5. Elevation of all structures

Attached with this submission are elevations of the proposed building.

6. Proposed fire protection of all structures

The automatic fire protection sprinkler system will be an N.F.P.A. 13 Wet/dry combination system, 100% protected.

7. Hydrant Locations

There are no hydrants proposed as part of this project.

8. Water main[s] size and location

The project will utilize a 6-inch fire protection main and a 2-inch domestic service main. The locations of these water mains are shown on the Grading and Utility Sheets within the attached plan set.

9. Access to any fire department connections

At this time the fire department connection location has not been determined. The connection will be located as close to the sprinkler room as possible. Once the location has been determined this information will be forwarded to the City.

10. Access to all structures [min 2 sides]

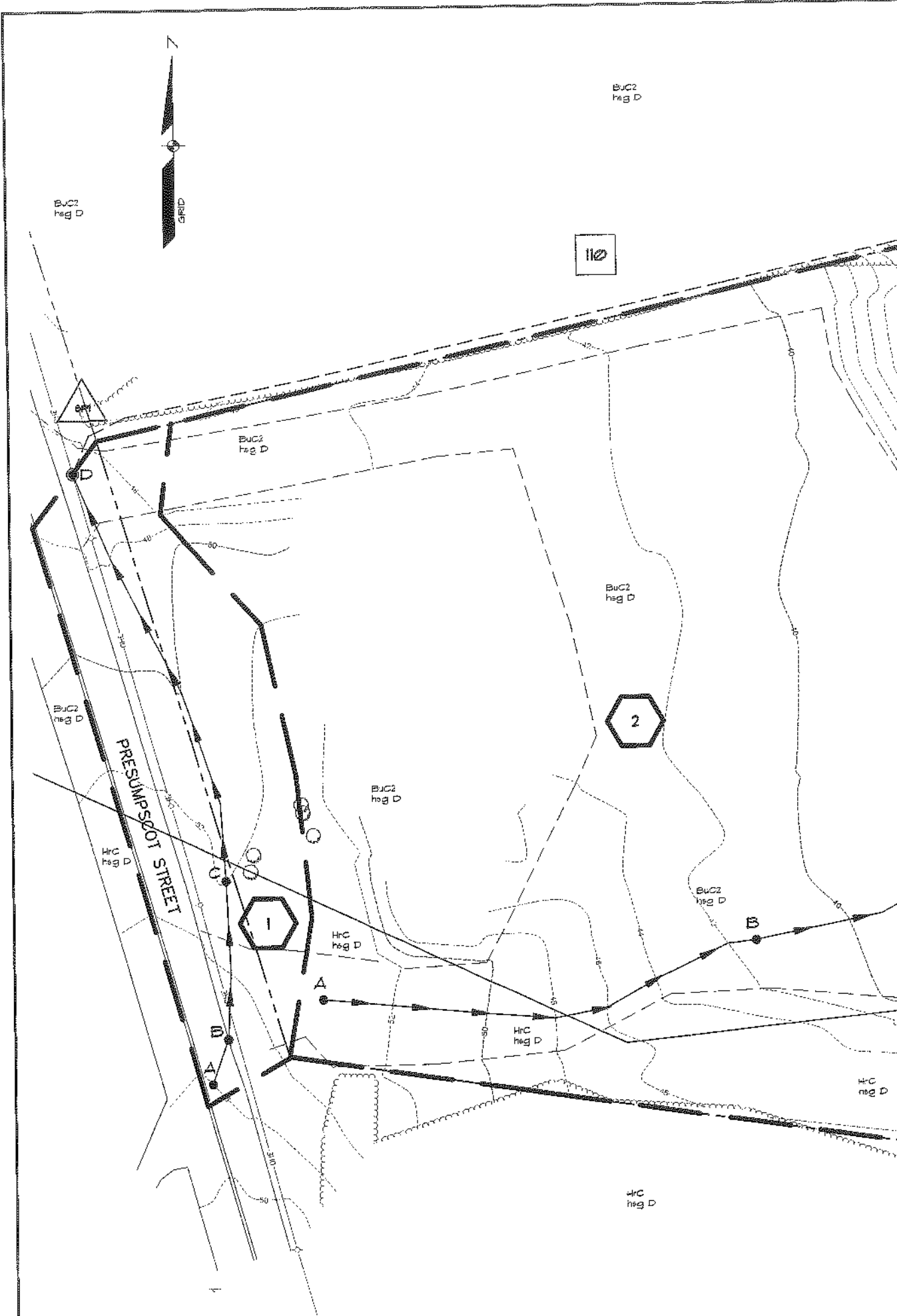
The proposed project incorporates a loop drive which provides access to all sides of the building.

11. A code summary shall be included referencing NFPA 1 and all fire department technical standards

This will be provided at a later time.

12. Elevators shall be sized to fit an 81" x 23" stretcher and two personnel.

There are no elevators proposed as part of this project.



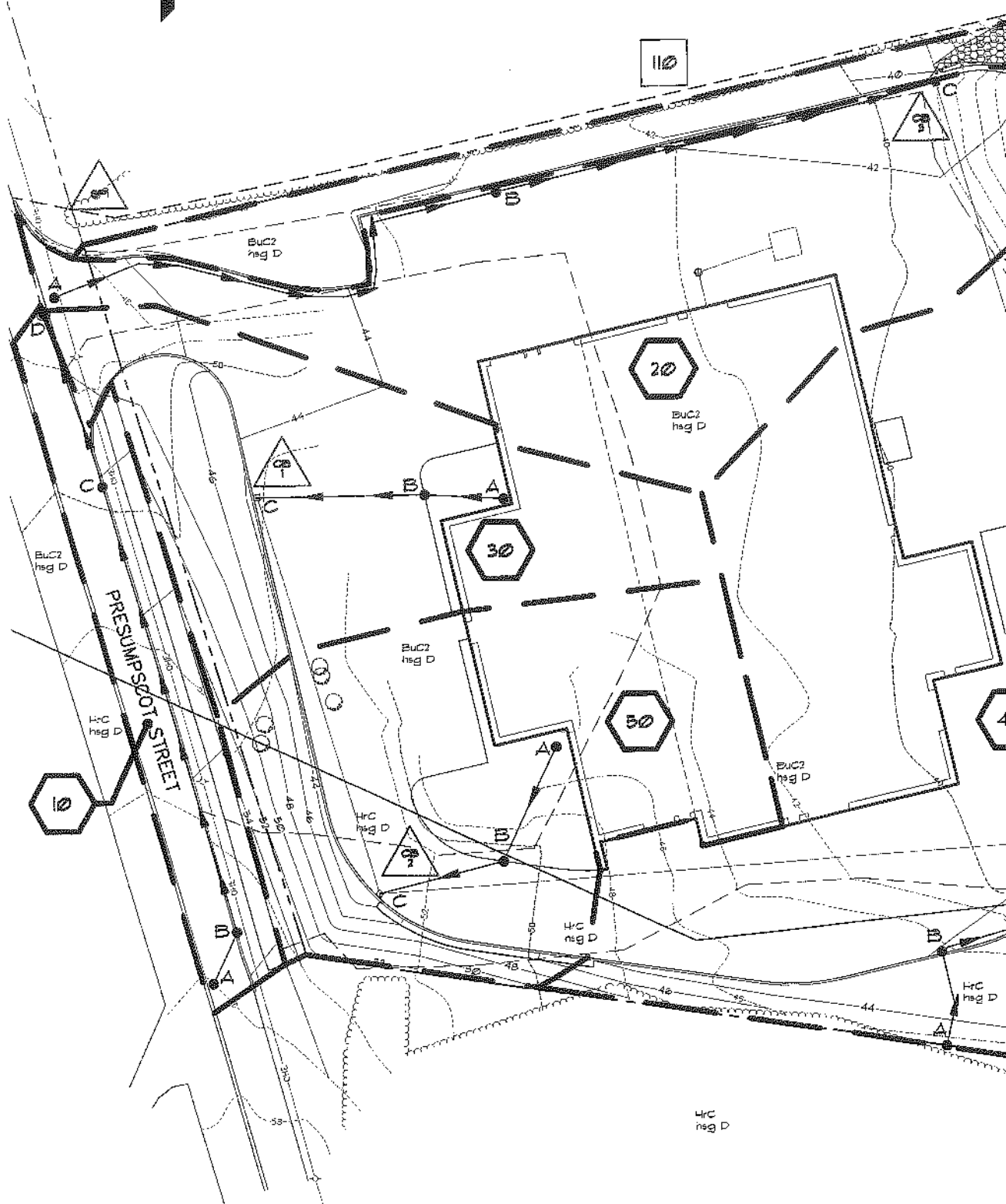
N



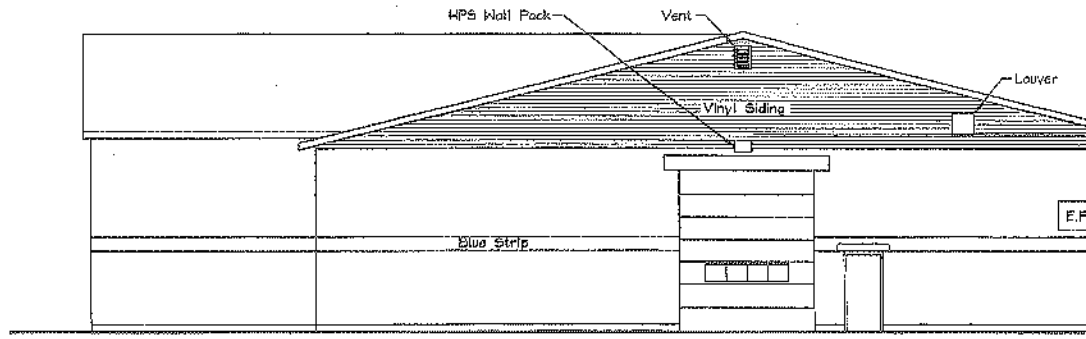
Bu.C2  
hag D

Bu.C2  
hag D

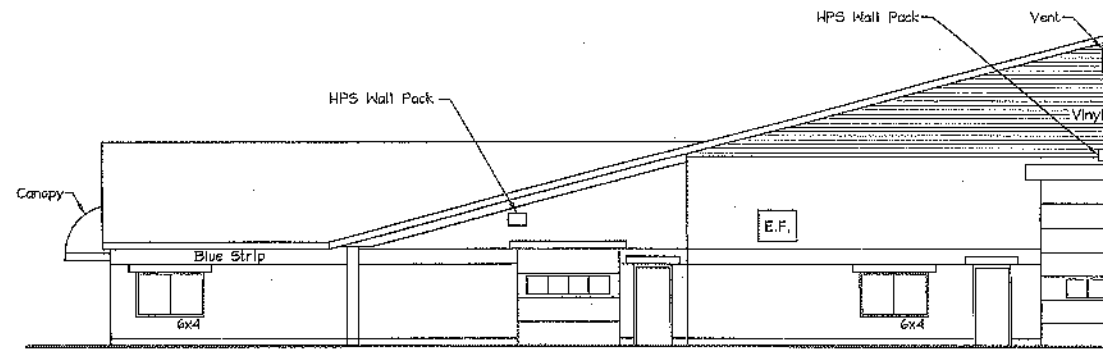
110



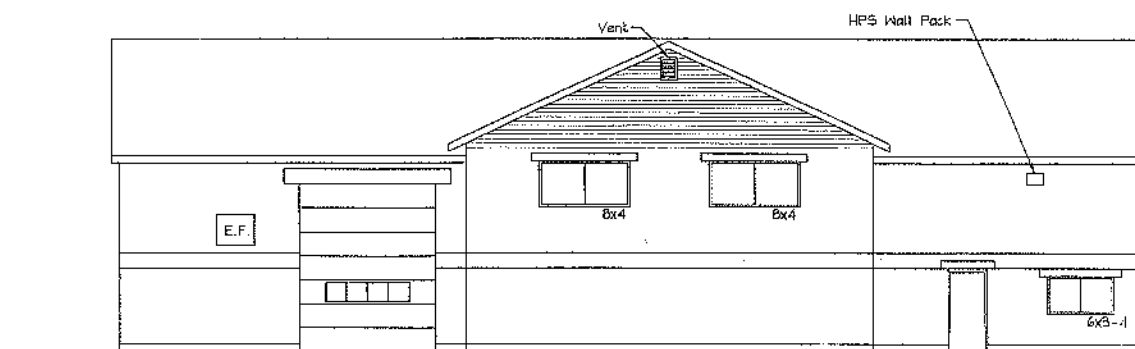
H.C  
hag D



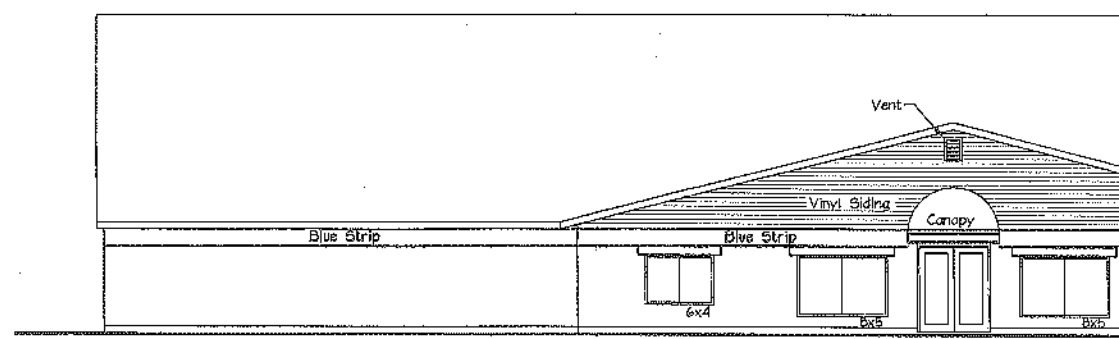
**LEFT ELEVATION**  
SCALE: 1/8" = 1'-0"



**RIGHT ELEVATION**  
SCALE: 1/8" = 1'-0"



**REAR ELEVATION**  
SCALE: 1/8" = 1'-0"



**FRONT ELEVATION**  
SCALE: 1/8" = 1'-0"







**GENERAL NOTES**

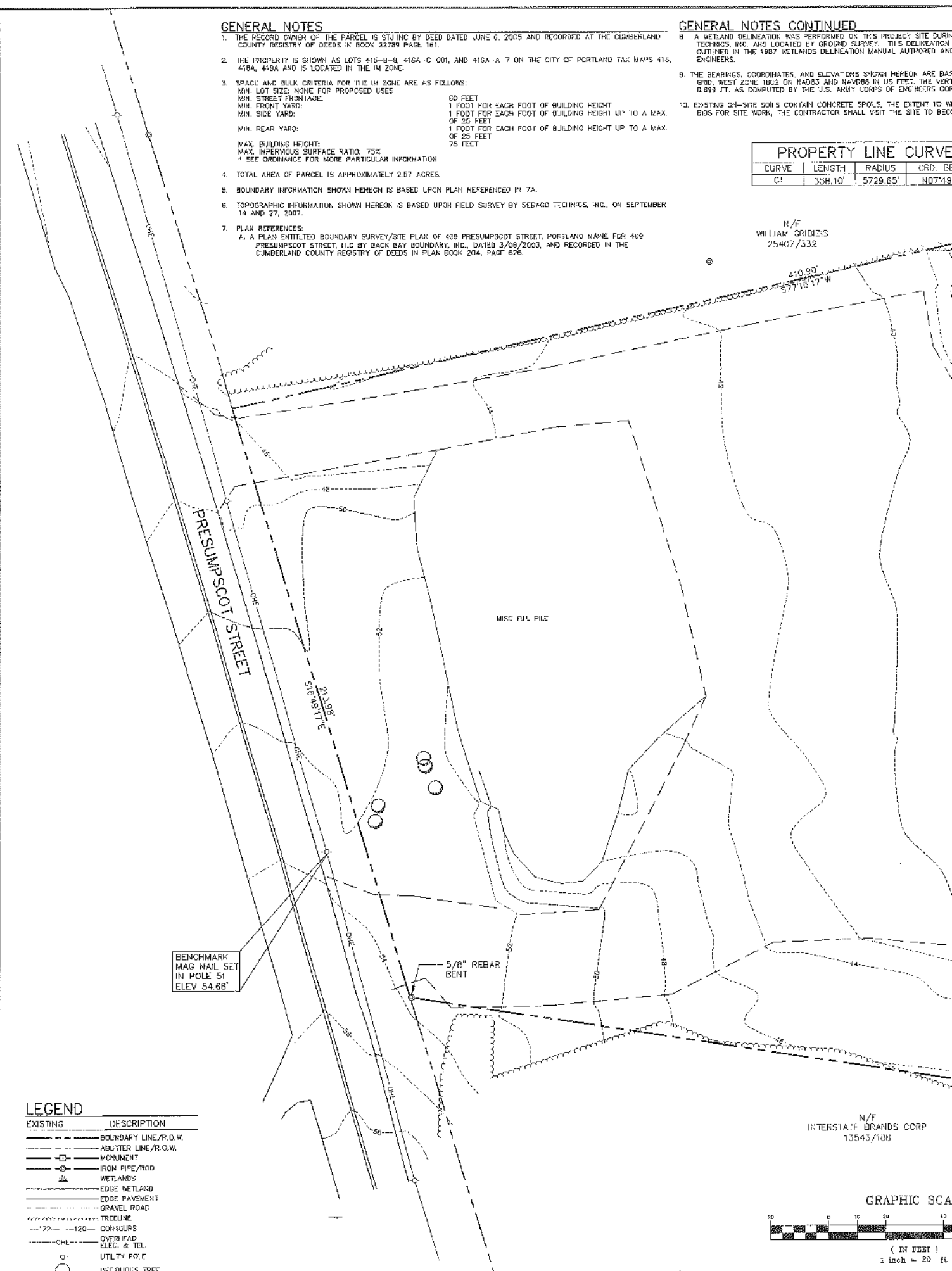
1. THE RECORD OWNER OF THE PARCEL IS STJ INC BY DEED DATED JUNE 6, 2005 AND RECORDED AT THE CUMBERLAND COUNTY REGISTRY OF DEEDS IN BOOK 22789 PAGE 161.
2. THE PROPERTY IS SHOWN AS LOTS 410-B-9, 416A-C 001, AND 416A-A 7 ON THE CITY OF PORTLAND TAX MAPS 415, 416A, 416B AND IS LOCATED IN THE IM ZONE.
3. SPACE AND BULK CRITERIA FOR THE IM ZONE ARE AS FOLLOWS:  
 MIN. LOT SIZE: NONE FOR PROPOSED USES  
 MIN. STREET FRONTAGE: 60 FEET  
 MIN. FRONT YARD: 1 FOOT FOR EACH FOOT OF BUILDING HEIGHT UP TO A MAX. OF 25 FEET  
 MIN. SIDE YARD: 1 FOOT FOR EACH FOOT OF BUILDING HEIGHT UP TO A MAX. OF 25 FEET  
 MIN. REAR YARD: 1 FOOT FOR EACH FOOT OF BUILDING HEIGHT UP TO A MAX. OF 25 FEET  
 MAX. BUILDING HEIGHT: 75 FEET  
 MAX. IMPERVIOUS SURFACE RATIO: 75%  
 4 SEE ORDINANCE FOR MORE PARTICULAR INFORMATION
4. TOTAL AREA OF PARCEL IS APPROXIMATELY 2.57 ACRES.
5. BOUNDARY INFORMATION SHOWN HEREON IS BASED UPON PLAN REFERENCED IN 7A.
6. TOPOGRAPHIC INFORMATION SHOWN HEREON IS BASED UPON FIELD SURVEY BY SEBAGO TECHINCS, INC., ON SEPTEMBER 14 AND 27, 2007.
7. PLAN REFERENCES:  
 A. A PLAN ENTITLED BOUNDARY SURVEY/SITE PLAN OF 489 PRESUMPSCOT STREET, PORTLAND MAINE FOR 489 PRESUMPSCOT STREET, LLC BY BACK BAY BOUNDARY, INC., DATED 3/06/2003, AND RECORDED IN THE CUMBERLAND COUNTY REGISTRY OF DEEDS IN PLAN BOOK 204, PAGE 626.

**GENERAL NOTES CONTINUED**

8. A WETLAND DELINEATION WAS PERFORMED ON THIS PROJECT SITE BY BURK TECHINCS, INC. AND LOCATED BY GROUND SURVEY. THIS DELINEATION OBTAINED IN THE 1987 WETLANDS DELINEATION MANUAL, AUTHORED AND ENGINEERS.
9. THE BEARINGS, COORDINATES, AND ELEVATIONS SHOWN HEREON ARE BASED ON THE NAD 83 DATUM. THE VERT. DATUM IS THE MEAN SEA LEVEL DATUM. THE VERT. DATUM IS THE MEAN SEA LEVEL DATUM. THE VERT. DATUM IS THE MEAN SEA LEVEL DATUM. THE VERT. DATUM IS THE MEAN SEA LEVEL DATUM.
10. EXISTING 24-SITE 5015 CONTAIN CONCRETE SPOTS, THE EXTENT TO WHICH THE CONTRACTOR SHALL VISIT THE SITE TO BECOME AWARE OF THE SITES.

PROPERTY LINE CURVE			
CURVE	LENGTH	RADIUS	ORD. BE.
C1	358.10'	5729.65'	N07°19'

N/F  
 WILLIAM BRIDGEMAN  
 25407/332



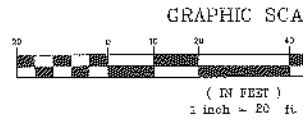
BENCHMARK  
 MAG NAIL SET  
 IN POLE 51  
 ELEV 54.66'

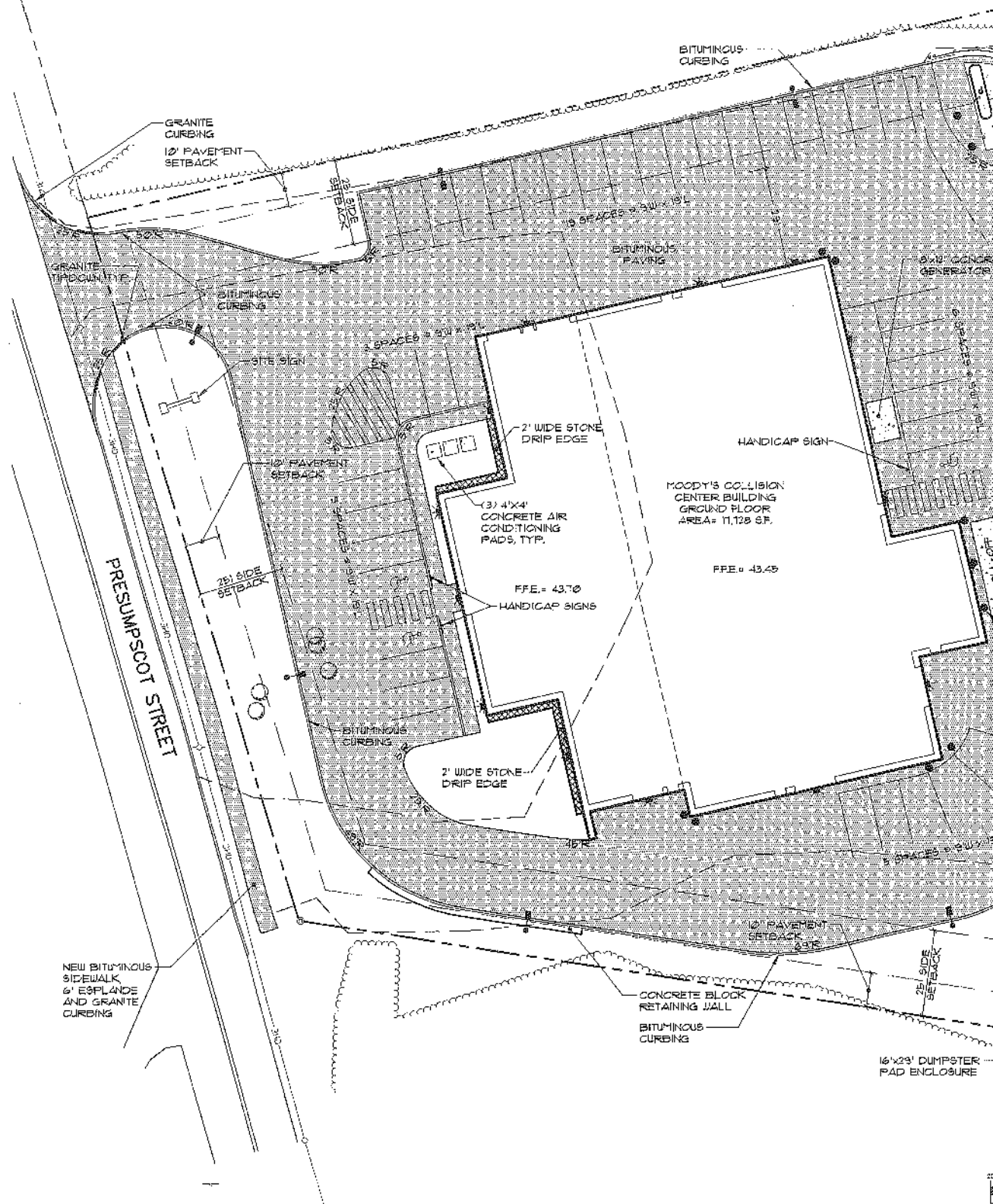
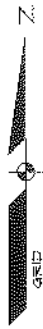
5/8" REBAR  
 BENT

**LEGEND**

EXISTING	DESCRIPTION
---	BOUNDARY LINE/R.O.W.
---	ADJUTER LINE/R.O.W.
□	MONUMENT
○	IRON PIPE/ROD
▨	WETLANDS
---	EDGE WETLAND
---	EDGE PAVEMENT
---	GRAVEL ROAD
---	TRAILLINE
---	CORRIORS
---	OVERHEAD ELEC. & TEL.
○	UTILITY POLE
○	DECAJOUIS TREE

N/F  
 INTERSTATE BRANDS CORP  
 13543/108





GRANITE CURBING  
12' PAVEMENT SETBACK

BITUMINOUS CURBING

GRANITE TIPDOWN

BITUMINOUS CURBING

SITE SIGN

2' WIDE STONE DRIP EDGE

HANDICAP SIGN

PRESUMPCOT STREET

12' PAVEMENT SETBACK

3) 4' X 4' CONCRETE AIR CONDITIONING PADS, TYP.

MOODY'S COLLISION CENTER BUILDING  
GROUND FLOOR  
AREA = 11,128 SF.

FFE = 43.45

25' SIDE SETBACK

FFE = 43.70  
HANDICAP SIGNS

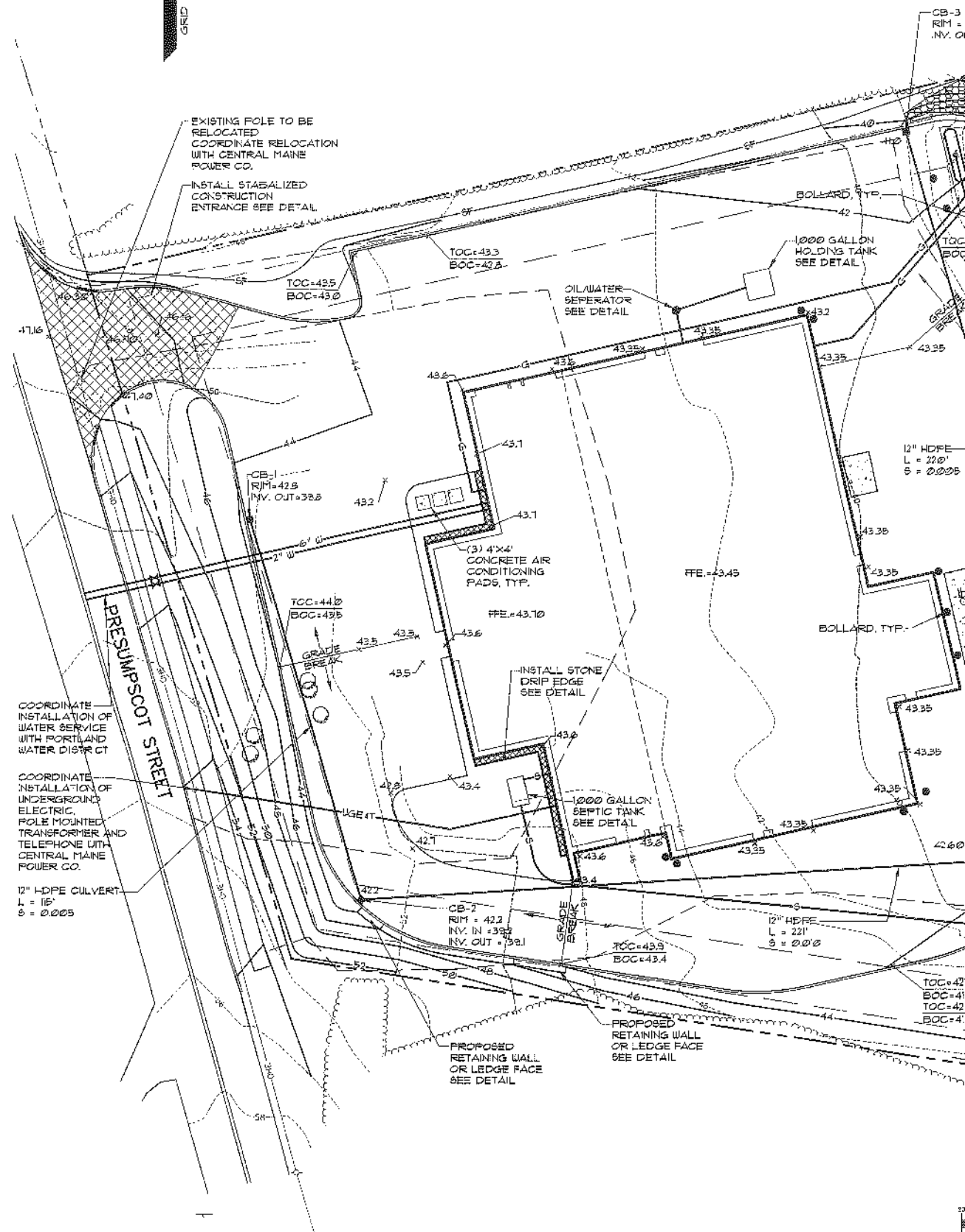
BITUMINOUS CURBING

2' WIDE STONE DRIP EDGE

NEW BITUMINOUS SIDEWALK  
& 6' ESPLANADE  
AND GRANITE CURBING

CONCRETE BLOCK  
RETAINING WALL  
BITUMINOUS CURBING

16' X 23' DUMPSTER  
PAD ENCLOSURE



EXISTING POLE TO BE RELOCATED  
COORDINATE RELOCATION  
WITH CENTRAL MAINE  
POWER CO.

INSTALL STABILIZED  
CONSTRUCTION  
ENTRANCE SEE DETAIL

COORDINATE  
INSTALLATION OF  
WATER SERVICE  
WITH PORTLAND  
WATER DISTRICT

COORDINATE  
INSTALLATION OF  
UNDERGROUND  
ELECTRIC  
POLE MOUNTED  
TRANSFORMER AND  
TELEPHONE WITH  
CENTRAL MAINE  
POWER CO.

12" HDPE CULVERT  
L = 115'  
S = 0.005

PROPOSED  
RETAINING WALL  
OR LEDGE FACE  
SEE DETAIL

PROPOSED  
RETAINING WALL  
OR LEDGE FACE  
SEE DETAIL

TOC=433  
BOC=423

TOC=435  
BOC=430

OIL/WATER  
SEPARATOR  
SEE DETAIL

1000 GALLON  
HOLDING TANK  
SEE DETAIL

CB-1  
RIM = 42.5  
INV. OUT = 38.5

(3) 4'x4'  
CONCRETE AIR  
CONDITIONING  
PADS, TYP.

TOC=44b  
BOC=435

INSTALL STONE  
DRIP EDGE  
SEE DETAIL

1000 GALLON  
SEPTIC TANK  
SEE DETAIL

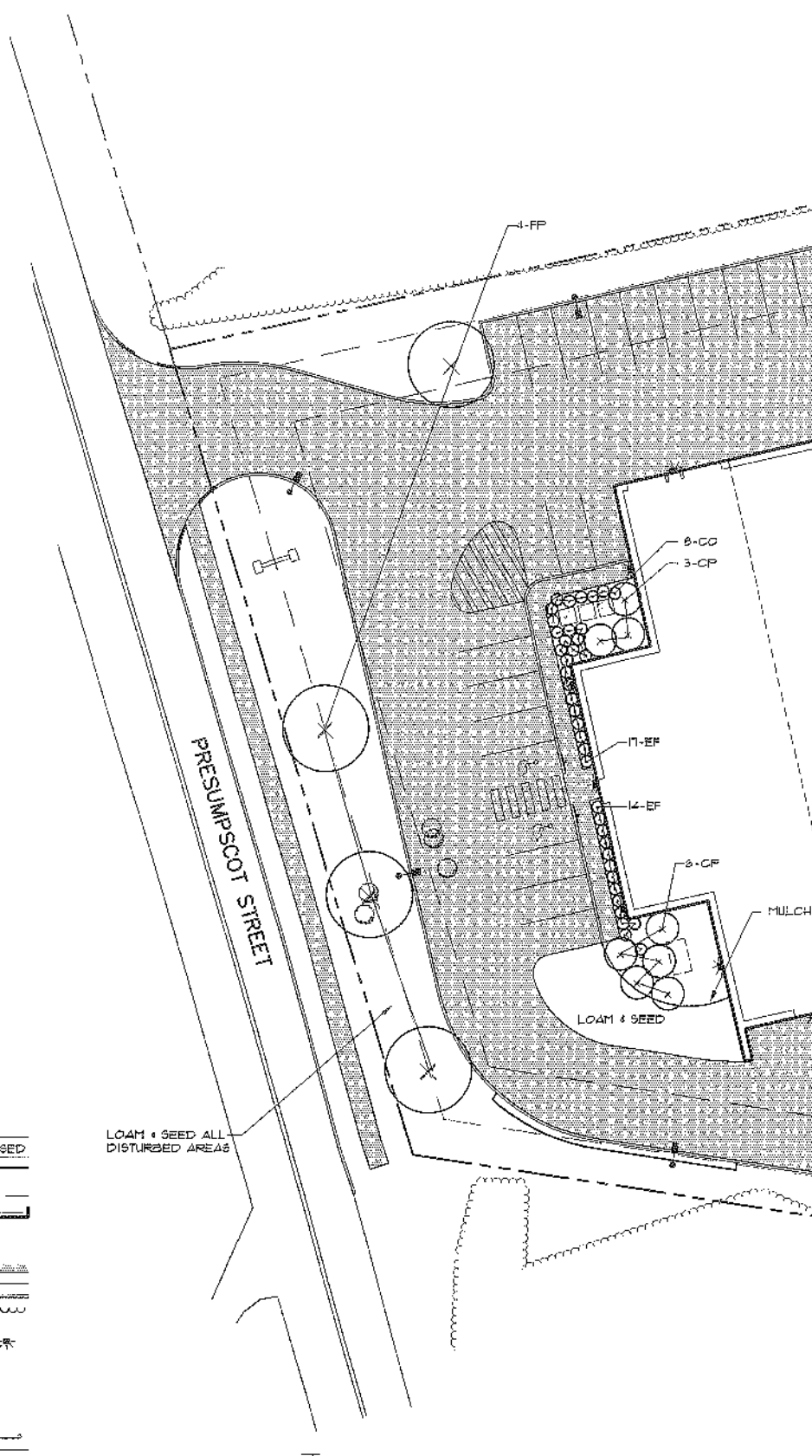
CB-2  
RIM = 42.2  
INV. IN = 39.2  
INV. OUT = 32.1

TOC=433  
BOC=434

12" HDPE  
L = 210'  
S = 0.005

TOC=42  
BOC=41  
TOC=42  
BOC=41

PRESUMPTIVE STREET



**LEGEND**

EXISTING	DESCRIPTION	PROPOSED
---	BOUNDARY LINE/ROW	---
---	SETBACK LINE/ROW	---
---	SETBACK	---
▭	BUILDING	▭
▭	WETLANDS	▭
▭	EDGE WETLAND	▭
▭	SGN	▭
▭	EDGE PAVEMENT	▭
▭	PAVEMENT PAINT	▭
▭	CURBLINE	▭
▭	TREELINE	▭
▭	TRANSFORMER PAD	▭
▭	LIGHT FOLEYALL	▭
▭	RIPRAP	▭
○	DECIDUOUS TREE	○
○	CONIFEROUS TREE	○
▭	GUARDRAIL	▭
▭	CHAIN LINK FENCE	▭

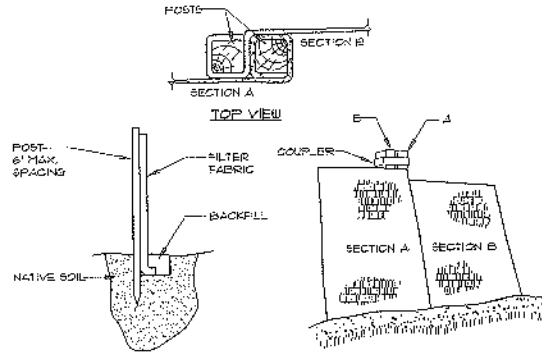
**LIGHTING SCHEDULE**

KEY	DESCRIPTION
▭	WALL PACK TRP-175 H2-1 BRONZE 175 WATT METAL HALIDE, FLAT GLASS TRAPEZOID WALL SCONCE, MFD BY SPAULDING LIGHTING
○	POLE MOUNTED LIGHT FIXTURE CRI-A-H175-H2-P-G-DB, 20' POLE MOUNTING HEIGHT CIMARRON 175W METAL HALIDE, FLAT LENS MFD BY SPAULDING LIGHTING

**PLANT LIST**

KEY	QTY.	BOTANICAL NAME	COMMON NAME	SIZE	COMMENTS
FP	4	FRAXINUS PENNSYLVANICA 'MARSHALL SEEDLESS'	MARSHALL GREEN ASH	2 1/2"-3"	
EF	14	EUCALYPTUS FORTUNEI 'HARLEQUIN'	HARLEQUIN EUCALYPTUS	2"	MULCHED PLANTING BED

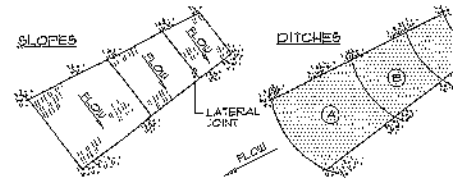




**INSTALLATION:**

1. EXCAVATE A 6" X 6" TRENCH ALONG THE LINE OF PLACEMENT FOR THE FILTER BARRIER.
2. UNROLL A SECTION AT A TIME AND POSITION THE POSTS AGAINST THE BACK (DOWNSTREAM) WALL OF THE TRENCH.
3. DRIVE POSTS INTO THE GROUND UNTIL APPROXIMATELY 2' OF FABRIC IS LYING ON THE TRENCH BOTTOM.
4. LAY THE TOE-IN FLAP OF FABRIC ON TO THE UNDISTURBED BOTTOM OF THE TRENCH. BACKFILL THE TRENCH AND TAMP THE SOIL. TOE-IN CAN ALSO BE ACCOMPLISHED BY LAYING THE FABRIC FLAP ON UNDISTURBED GROUND AND PILING AND TAMPING FILL AT THE BASE, BUT MUST BE ACCOMPANIED BY AN INTERCEPT DITCH.
5. JOIN SECTION AS SHOWN ABOVE.
6. BARRIER SHALL BE MIRAFI SILT FENCE OR EQUAL.

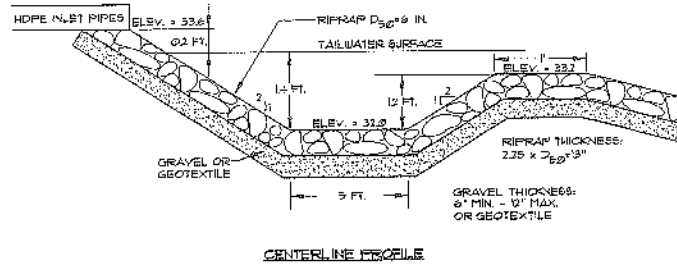
**FILTER BARRIER**  
NOT TO SCALE



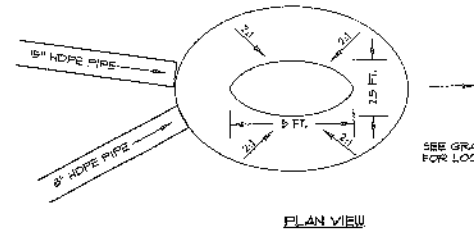
**NOTES:**

1. BURY THE TOP END OF THE MESH MATERIAL IN A 6" TRENCH AND BACKFILL AND TAMP. TRENCHING SECURE END WITH STAPLES AT 6" SPACING, 4" DOWN FROM EXPOSED END.
2. FLOW DIRECTION JOINTS TO HAVE UPPER END OF LOWER STRIP BURIED WITH UPPER LAYERS OVERLAPPED 4" AND STAPLED. OVERLAP B OVER A.
3. LATERAL JOINTS TO HAVE 4" OVERLAP OF STRIPS. STAPLE 18" ON CENTER.
4. STAPLE OUTSIDE LATERAL EDGE 3" ON CENTER.
5. WIRE STAPLES TO BE MIN. OF #11 WIRE 6" LONG AND 1-1/2" WIDE.
6. USE NORTH AMERICAN GREEN DS 500 OR APPROVED EQUAL.

**EROSION CONTROL BLANKET**  
NOT TO SCALE

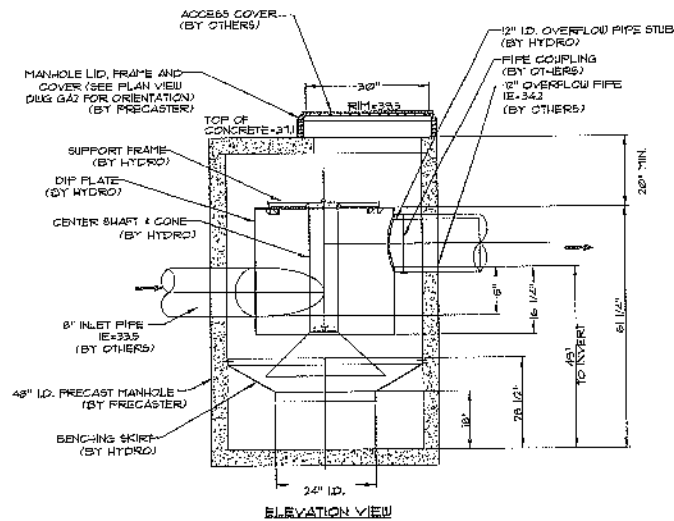


CENTERLINE PROFILE

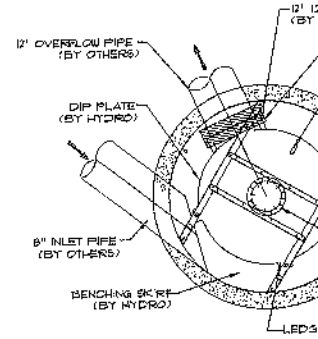


PLAN VIEW

**STONE LINED PLUNGE POOL**  
NOT TO SCALE



ELEVATION VIEW



PLAN VIEW

**4 FT. DIA. ONLINE DOWNSTREAM DEFENDER**  
NOT TO SCALE

**NOTES:**

1. CONTRACTOR SHALL PROVIDE SHOP DRAWINGS FOR REVIEW AND APPROVAL PRIOR TO CONSTRUCTION.
2. CONTRACTOR MUST COORDINATE PRODUCTION OF THE UNIT WITH HYDRO INTERNATIONAL.

# EROSION CONTROL MEASURES

## PRE-CONSTRUCTION PHASE

PRIOR TO THE BEGINNING OF ANY CONSTRUCTION, SEDIMENT BARRIERS (SILT FENCE) WILL BE STAKED/INSTALLED ACROSS THE SLOPES, ON THE CONTOUR AT OR JUST BELOW THE LIMITS OF CLEARING OR GRUBBING, AND/OR JUST ABOVE ANY ADJACENT PROPERTY LINE OR WATERCOURSE TO PROTECT AGAINST CONSTRUCTION RELATED EROSION. THE PLACEMENT OF SEDIMENT BARRIERS SHALL BE COMPLETED IN ACCORDANCE WITH GUIDELINES ESTABLISHED IN BEST MANAGEMENT PRACTICES AND IN ACCORDANCE WITH THE EROSION CONTROL PLAN AND DETAILS IN THIS PLAN SET. THIS NETWORK IS TO BE MAINTAINED BY THE CONTRACTOR UNTIL ALL EXPOSED SLOPES HAVE AT LEAST 85%-90% VIGOROUS PERENNIAL VEGETATIVE COVER TO PREVENT EROSION. TEMPORARY EROSION CONTROL MEASURES SHALL BE REMOVED WITHIN 30 DAYS AFTER PERMANENT STABILIZATION IS ATTAINED.

DUST TO ANY CLEARING OR GRUBBING, A CONSTRUCTION ENTRANCE/EXIT SHALL BE CONSTRUCTED AT THE INTERSECTION OF THE PROPOSED ENTRANCE AND EXISTING ROADWAY TO AVOID TRACKING OF MUD, DUST AND DEBRIS FROM THE SITE.

PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL PREPARE A DETAILED SCHEDULE AND MARKED UP PLAN INDICATING AREAS AND COMPONENTS OF THE WORK AND KEY DATES SHOWING DATE OF DISTURBANCE AND COMPLETION OF THE WORK. THE CONTRACTOR SHALL SCHEDULE A PRE-CONSTRUCTION MEETING WITH THE MUNICIPAL STAFF. THREE COPIES OF THE SCHEDULE AND MARKED UP PLAN SHALL BE PROVIDED TO THE MUNICIPALITY THREE DAYS PRIOR TO THE SCHEDULED PRE-CONSTRUCTION MEETING. SPECIAL ATTENTION SHALL BE GIVEN TO THE 14 DAY LIMIT OF DISTURBANCE IN THE SCHEDULE ADDRESSING TEMPORARY AND PERMANENT VEGETATION MEASURES.

## CONSTRUCTION AND POST-CONSTRUCTION PHASE

AREAS UNDERGOING ACTUAL CONSTRUCTION SHALL ONLY EXPOSE THAT AMOUNT OF MINERAL SOIL NECESSARY FOR PROGRESSIVE AND EFFICIENT CONSTRUCTION. AN AREA CONSIDERED OPEN IS ANY AREA NOT STABILIZED WITH PAVEMENT, VEGETATION, MULCHING, EROSION CONTROL MATS, RIPRAP OR GRAVEL BASE ON A ROAD. OPEN AREAS SHALL BE ANCHORED WITH TEMPORARY EROSION CONTROL MATS OR STRAW AT THE DESIGN PLANS AND AS DESCRIBED WITHIN THIS EROSION CONTROL PLAN WITHIN 14-DAYS OF DISTURBANCE. AREAS LOCATED WITHIN 100' OF STREAMS SHALL BE ANCHORED WITH TEMPORARY EROSION CONTROL WITHIN SEVEN (7) DAYS, REFER TO WINTER EROSION CONTROL NOTES FOR THE TREATMENT OF OPEN AREAS AFTER OCTOBER 1ST OF THE CONSTRUCTION YEAR.

THE CONTRACTOR MUST INSTALL ANY ADDED MEASURES WHICH MAY BE NECESSARY TO CONTROL EROSION/SEDIMENTATION FROM THE SITE DEPENDENT UPON THE ACTUAL SITE AND WEATHER CONDITIONS. CONTINUATION OF EARTHWORK OPERATIONS ON ADDITIONAL AREAS SHALL NOT BEGIN UNTIL THE EXPOSED SOIL SURFACE ON THE AREA BEING WORKED HAS BEEN STABILIZED, IN ORDER TO MINIMIZE AREAS WITHOUT EROSION CONTROL PROTECTION.

## EROSION CONTROL APPLICATIONS & MEASURES

THE PLACEMENT OF EROSION CONTROL MEASURES SHALL BE COMPLETED IN ACCORDANCE WITH GUIDELINES ESTABLISHED IN BEST MANAGEMENT PRACTICES AND IN ACCORDANCE WITH THE EROSION CONTROL PLAN AND DETAILS IN THE PLAN SET.

### 1. TEMPORARY MULCHING:

ALL DISTURBED AREAS SHALL BE MULCHED WITH MATERIALS SPECIFIED BELOW PRIOR TO ANY STORM EVENT. ALL DISTURBED AREAS NOT FINAL GRADED WITHIN 14 DAYS SHALL BE MULCHED. AREAS WHICH HAVE BEEN TEMPORARILY OR PERMANENTLY SEEDED, SHALL BE MULCHED IMMEDIATELY FOLLOWING SEEDING. EROSION CONTROL BLANKETS ARE RECOMMENDED TO BE USED AT THE BASE OF GRASSED WATERWAYS AND ON SLOPES GREATER THAN 6%. MULCH ANCHORING SHOULD BE USED ON SLOPES GREATER THAN 6% AFTER SEPTEMBER 15TH OF THE CONSTRUCTION YEAR (SEE WINTER EROSION CONTROL NOTES).

### TYPES OF MULCH:

**HAY OR STRAW:** SHALL BE APPLIED AT A RATE OF 15 LBS/1000 SQ. FT. (15 TONS PER ACRE).  
**EROSION CONTROL MIX:** SHALL BE PLACED EVENLY AND MUST PROVIDE 100% SOIL COVERAGE. EROSION CONTROL MIX SHALL BE APPLIED SUCH THAT THE THICKNESS ON SLOPES 21 ON 100 IS 2 INCHES PLUS 1/2" FOR EACH 20 FEET OF SLOPE UP TO 10% PITCH. THE THICKNESS ON SLOPES BETWEEN 3:1 AND 2:1 SHALL BE 4 INCHES PLUS 1/2" INCH PER 20 FEET OF SLOPE UP TO 10% PITCH. THIS SHALL NOT BE USED ON SLOPES GREATER THAN 2:1.  
**EROSION CONTROL BLANKET:** SHALL BE INSTALLED SUCH THAT CONTINUOUS CONTACT BETWEEN THE MAT AND THE SOIL IS OBTAINED. INSTALL BLANKETS AND STAPLE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.

### 2. SOIL STOCKPILES:

STACKS OF SOIL, OR SUBSOIL SHALL BE MULCHED WITH HAY OR STRAW AT A RATE OF 15 LBS/1000 SQ. FT. (15 TONS PER ACRE) WITH A FOUR-INCH LAYER OF WOOD WASTE EROSION CONTROL MIX. THIS WILL BE DONE WITHIN 24 HOURS OF STOCKING AND RE-ESTABLISHED PRIOR TO ANY RAINFALL. ANY SOIL STOCKPILE WILL NOT BE PLACED (EVEN COVERED WITH HAY OR STRAW) WITHIN 100 FEET FROM ANY NATURAL RESOURCES.

### 3. NATURAL RESOURCE PROTECTION:

ANY AREAS WITHIN 100 FEET FROM ANY NATURAL RESOURCES, IF NOT STABILIZED WITH A MINIMUM OF 10% MATURE VEGETATION CATCH SHALL BE PROTECTED BY TEMPORARY MULCHING (AS DESCRIBED IN PART 1 OF THE SECTION) WITHIN 7 DAYS OF EXPOSURE OR PRIOR TO ANY STORM EVENT. SEDIMENT BARRIERS (AS DESCRIBED IN PART 4 OF THIS SECTION) SHALL BE PLACED BETWEEN ANY NATURAL RESOURCE AND THE DISTURBED AREA. PROJECTS CROSSING THE NATURAL RESOURCE SHALL BE PROTECTED A MINIMUM DISTANCE OF 100 FEET ON EITHER SIDE FROM THE RESOURCE.

### 4. SEDIMENT BARRIERS:

PRIOR TO THE BEGINNING OF ANY CONSTRUCTION, SEDIMENT BARRIERS SHALL BE STAKED ACROSS THE SLOPES, ON THE CONTOUR AT OR JUST BELOW THE LIMITS OF CLEARING OR GRUBBING, AND/OR JUST ABOVE ANY ADJACENT PROPERTY LINE OR WATERCOURSE TO PROTECT AGAINST CONSTRUCTION RELATED EROSION. SEDIMENT BARRIERS SHALL BE MAINTAINED BY THE CONTRACTOR UNTIL ALL EXPOSED SLOPES HAVE AT LEAST 85%-90% VIGOROUS PERENNIAL VEGETATIVE COVER TO PREVENT EROSION.

**SILT FENCE:** SHALL BE INSTALLED PER THE DETAIL ON THE PLANS. THE EFFECTIVE HEIGHT OF THE FENCE SHALL NOT EXCEED 36 INCHES. IT IS RECOMMENDED THAT SILT FENCE BE REMOVED BY CUTTING THE FENCE MATERIALS AT GROUND LEVEL, SO AS TO AVOID ADDITIONAL SOIL DISTURBANCE.

**HAY BALES:** SHALL BE INSTALLED PER THE DETAIL ON THE PLANS. BALES SHALL BE WIRE-BOUND OR STRUNG-TIED AND THESE BUNDLES MUST REMAIN PARALLEL WITH THE GROUND SURFACE DURING INSTALLATION TO PREVENT DETRIORATION OF THE BUNDLES. BALES SHALL BE INSTALLED WITHIN A MINIMUM 4 INCH DEEP TRENCH LINE WITH ENDS OF ADJACENT BALES TIGHTLY ABUTTING ONE ANOTHER.

**EROSION CONTROL MIX:** SHALL BE INSTALLED PER THE DETAIL ON THE PLANS. THE MIX SHALL CONSIST PRIMARILY OF ORGANIC MATERIAL AND SOFT-TEXTURED PARTICLES OF PARTICLES DESCRIBED IN PART 1 OF THE SECTION WITH A ROCK LESS THAN 4 INCHES IN DIAMETER. THE MIX COMPOSITION SHALL MEET THE STANDARDS DESCRIBED WITHIN THE BEST MANAGEMENT PRACTICES. NO TRENCHING IS REQUIRED FOR INSTALLATION OF THIS BARRIER.

**CONTINUOUS CONTAINED BARRIERS:** SHALL BE INSTALLED PER THE DETAIL ON THE PLANS. THIS SEDIMENT BARRIER IS EROSION CONTROL MIX PLACED WITHIN A SYNTHETIC TUBULAR NETTING AND PERFORMS AS A STURDY SEDIMENT BARRIER THAT WORKS WELL ON HARD GROUND SUCH AS FROZEN CONDITIONS, TRAVELED AREAS OR PAVEMENT. NO TRENCHING IS REQUIRED FOR INSTALLATION OF THIS BARRIER.

### 5. TEMPORARY CHECK DAMS:

SHALL BE INSTALLED PER THE DETAIL ON THE PLANS. CHECK DAMS ARE TO BE PLACED WITHIN DITCHES/SUALES AS SPECIFIED ON THE DESIGN PLANS IMMEDIATELY AFTER FINAL GRADING. CHECK DAMS SHALL BE 2 FEET HIGH, TEMPORARY CHECK DAMS MAY BE REMOVED ONLY AFTER THE ROADWAYS ARE PAVED AND THE VEGETATED SUALE ARE ESTABLISHED WITH AT LEAST 85%-90% OF VIGOROUS PERENNIAL GROWTH. THE AREA BENEATH THE CHECK DAM MUST BE SEEDED AND MULCHED IMMEDIATELY AFTER REMOVAL OF THE CHECK DAM.

**STONE CHECK DAMS:** SHOULD BE CONSTRUCTED OF 2 TO 3 INCH STONE AND PLACED SUCH THAT COMPLETE COVERAGE OF THE SUALE IS OBTAINED AND THAT THE CENTER OF THE DAM IS 6 INCHES LOWER THAN THE OUTER EDGES.

**HAY BALE CHECK DAMS:** WE DO NOT RECOMMEND THE USE OF HAY BALES AS CHECK DAMS.

**MANUFACTURED CHECK DAMS:** MANUFACTURED CHECK DAMS, AS SPECIFIED IN THE DETAIL ON THE PLANS, MAY BE USED IF AUTHORIZED BY THE PROPER LOCAL, STATE OR FEDERAL REGULATING AGENCIES. THESE UNITS SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.

### 6. STORM-DRAIN INLET PROTECTION:

**NET PROTECTION:** SHALL BE PLACED AROUND A STORM-DRAIN DROP NET OR CURB INLET PRIOR TO PERMANENT STABILIZATION OF THE IMMEDIATE UPSTREAM DISTURBED AREAS. NETS SHALL BE CONSTRUCTED IN A MANNER THAT WILL FACILITATE CLEAN-OUT AND DISPOSAL OF TRAPPED SEDIMENTS AND MINIMIZE INTERFERENCE WITH CONSTRUCTION ACTIVITIES. ANY RESULTANT PONDING OF WATER FROM THE PROTECTION METHOD MUST NOT CAUSE EXCESSIVE INCONVENIENCE OR DAMAGE TO ADJACENT AREAS OR STRUCTURES.

**HAY BALE DROP INLET PROTECTION:** WE DO NOT RECOMMEND THE USE OF HAY BALES AS INLET PROTECTION.

**CONCRETE BLOCK AND STONE INLET SEDIMENT FILTER (CROSS OR CURB INLET):** SHALL BE INSTALLED PER THE DETAIL ON THE PLANS. THE HEIGHT OF THE CONCRETE BLOCK BARRIER CAN VARY BUT MUST BE BETWEEN 18 AND 24 INCHES TALL. A MINIMUM OF 1/2 INCH CRUSHED STONE SHALL BE USED.

**MANUFACTURED SEDIMENT BARRIERS AND FILTER (CROSS OR CURB INLET):** MANUFACTURED FILTERS, AS SPECIFIED IN THE DETAIL ON THE PLANS, MAY BE USED IF INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.

### 7. STABILIZED CONSTRUCTION ENTRANCE/EXIT:

PRIOR TO CLEARING AND/OR GRUBBING, THE SITE A STABILIZED CONSTRUCTION ENTRANCE/EXIT SHALL BE CONSTRUCTED. WHEREVER TRAFFIC WILL EXIT THE CONSTRUCTION SITE ONTO A PAVED ROADWAY IN ORDER TO MINIMIZE THE TRACKING OF SEDIMENT AND DEBRIS FROM THE CONSTRUCTION SITE ONTO PAVED ROADWAYS, THE ENTRANCES AND ADJACENT ROADWAY AREAS SHALL BE PERIODICALLY SUPT OR WASHED TO FURTHER MINIMIZE THE TRACKING OF MUD, DUST OR DEBRIS FROM THE CONSTRUCTION AREA. STABILIZED CONSTRUCTION EXITS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE PLANS AND AS DETAILED ON THE PLANS.

### 8. DUST CONTROL:

DUST CONTROL DURING CONSTRUCTION SHALL BE ACHIEVED BY THE USE OF A WATERING TRUCK TO PERIODICALLY SPRINKLE THE EXPOSED ROADWAY AREAS AS NECESSARY TO REDUCE DUST DURING THE DRY MONTHS, APPLYING OTHER DUST CONTROL PRODUCTS SUCH AS CALCIUM CHLORIDE OR OTHER MANUFACTURED PRODUCTS ARE ALLOWED IF AUTHORIZED BY THE PROPER LOCAL, STATE AND/OR FEDERAL REGULATING AGENCIES. HOWEVER, IT IS THE CONTRACTOR'S ULTIMATE RESPONSIBILITY TO MITIGATE DUST AND SOIL LOSS FROM THE SITE.

### 9. TEMPORARY VEGETATION:

TEMPORARY VEGETATION SHALL BE APPLIED TO DISTURBED AREAS THAT WILL NOT RECEIVE FINAL GRADING FOR PERIODS UP TO 12 MONTHS. THIS PROCEDURE SHOULD BE USED EXTENSIVELY IN AREAS ADJACENT TO NATURAL RESOURCES. SEEDED PREPARATION AND APPLICATION OF SEED SHALL BE CONDUCTED AS INDICATED IN THE PERMANENT VEGETATION SECTION OF THIS NARRATIVE. SPECIFIC SEEDS (FAST GROWING AND SHORT LIVING) SHALL BE SELECTED FROM THE WINTER EROSION AND SEDIMENT CONTROL BMP MANUAL DATED 3/2003 OR LATER. ALTERNATIVE EROSION CONTROL MEASURES SHOULD BE USED IF SEEDING CAN NOT BE DONE BEFORE SEPTEMBER 15TH OF THE CONSTRUCTION YEAR.

### 1. PERMANENT VEGETATION:

PERMANENT VEGETATION MEASURES SHALL COMPILE IMMEDIATELY UPON COMPLETION OF THE APPLICATION OF SEED SHALL BE CONDUCTED BETWEEN APRIL 15 AND SEPTEMBER 15. FOR MORE DETAILED FOLLOWING:

### SEEDED PREPARATION:

A FOUR (4) INCHES OF LOAM SHALL BE SPREAD OVER DISTURBED AREAS TO BE FREE OF SUBSOIL, CLAY LUMPS, STONES AND OTHER OBJECTS OVER WEEDS, ROOTS OR OTHER OBJECTIONABLE MATERIAL.

B. SOIL TESTS SHALL BE TAKEN AT THE TIME OF SOIL STRIPPING TO DETERMINE NUTRIENT LEVELS. SOIL TESTS SHALL BE TAKEN PROMPTLY AS TO NOT INTERFERE WITH THE 14-DAY LIMIT OF DISTURBANCE. SOIL TESTS SHALL BE INCORPORATED INTO THE SOIL PRIOR TO ANY AMENDMENTS MAY BE APPLIED AS FOLLOWS:

ITEM	APPLICATION RATE
10-20-20 FERTILIZER (N-P2O5-K2O OR EQUIV.)	5.4 LBS/1000 SQ. FT.
GROUND LIMESTONE (60% CaCl2) + MAGNESIUM OXIDE	136 LBS/1000 SQ. FT.

C. WORK LIME AND FERTILIZER INTO THE SOIL, AS NEARLY AS PRACTICAL TO 100% OF THE AREA TO BE SEEDED EXCEPT ON CLAY OR SILTY SOILS.

### APPLICATION OF SEED:

A MIXTURE SHALL BE CONDUCTED BETWEEN APRIL 15 AND OCTOBER 15. MIXTURE MAY BE APPLIED AS FOLLOWS: (MIXED SEED MIX 2 IS DISPLAYED)

SEED TYPE	APPLICATION RATE
CREeping RED FESCUE	0.46 LBS/1000 SQ. FT. (0.93 LBS/ACRE)
TALL FESCUE	0.69 LBS/1000 SQ. FT. (1.38 LBS/ACRE)
TOTAL:	0.91 LBS/1000 SQ. FT. (1.83 LBS/ACRE)

NOTE: A SPECIFIC SEED MIXTURE SHOULD BE CHOSEN TO MATCH THE SOIL TYPE AND RECOMMENDED SEED MIXTURES. MDPF RECOMMENDED SEED MIXTURES ARE MANUAL DATED 3/2003 OR LATER.

B. HYDROSEEDING SHALL BE CONDUCTED ON PREPARED AREAS WITH SEED APPLIED SIMULTANEOUSLY WITH THE SEED. RECOMMENDED SEEDING RATE IS 100% OF THE SEED MIXTURE.

C. MULCHING SHALL COME IMMEDIATELY AFTER SEED IS APPLIED. SEE NARRATIVE FOR DETAILS.

### SOODING:

FOLLOWING SEEDED PREPARATION, SOOD CAN BE APPLIED IN LBS OF SEED PER ACRE. BENEFICIAL SUCH AS CUTCHES, AROUND STORM-DRAIN DROP NETS AND ANCHOR TO THE DIRECTION OF FLOW STARTING AT THE LOWEST ELEVATION. EVEN OUT THE JOINTS ONE LAID DOWN, WHEN FLOW IS PREVALENT TO THE SOOD IMMEDIATELY AFTER INSTALLATION. IN MOST CASES, SOOD CAN BE APPLIED BY THE CONSTRUCTION YEAR, HOWEVER, REFER TO THE WINTER EROSION CONTROL NOTES.

### 1. TRENCH DEWATERING AND TEMPORARY STREAM DIVERSION:

WATER FROM CONSTRUCTION TRENCH DEWATERING OR TEMPORARY STREAM OR SECONDARY CONTAINMENT STRUCTURE (E.G. HAY BALE LINED POOL) MUST BE SELECTED TO AVOID FLOODING AND SEDIMENT DISCHARGES TO A PROTECTED OR CONTAMINATED STRUCTURE BE LOCATED WITHIN 100 FEET OF A PROTECTED

### STANDARDS FOR TIMELY STABILIZATION

**STANDARD FOR THE TIMELY STABILIZATION OF DISTURBED SLOPES --** THE CONTRACTOR SHALL STABILIZE ALL DISTURBED SLOPES BY NOVEMBER 15. THE CONTRACTOR WILL BE RESPONSIBLE FOR THE STABILIZATION OF ALL DISTURBED SLOPES BY SEPTEMBER 15. THE MDPF WILL CONSIDER ANY AREA HAVING A GRADE THAT THE CONTRACTOR FAILS TO STABILIZE ANY SLOPE TO BE VEGETATED BY SEPT 15. THE FOLLOWING ACTIONS TO STABILIZE THE SLOPE FOR LATE FALL AND WINTER ARE AS FOLLOWS: 1. STABILIZE THE SLOPE WITH MULCH OR EROSION CONTROL MATS OVER THE MULCHED SLOPE. THE CONTRACTOR SHALL STABILIZE THE SLOPE WITHIN 30 DAYS OF THE DATE OF DISTURBANCE. IF THE RYTE FAILS TO STABILIZE THE SLOPE WITHIN 30 DAYS, THE CONTRACTOR SHALL STABILIZE THE SLOPE WITHIN 30 DAYS OF THE DATE OF DISTURBANCE. 2. STABILIZE THE SLOPE WITH MULCH OR EROSION CONTROL MATS OVER THE MULCHED SLOPE. THE CONTRACTOR SHALL STABILIZE THE SLOPE WITHIN 30 DAYS OF THE DATE OF DISTURBANCE. 3. STABILIZE THE SLOPE WITH MULCH OR EROSION CONTROL MATS OVER THE MULCHED SLOPE. THE CONTRACTOR SHALL STABILIZE THE SLOPE WITHIN 30 DAYS OF THE DATE OF DISTURBANCE. 4. STABILIZE THE SLOPE WITH MULCH OR EROSION CONTROL MATS OVER THE MULCHED SLOPE. THE CONTRACTOR SHALL STABILIZE THE SLOPE WITHIN 30 DAYS OF THE DATE OF DISTURBANCE. 5. STABILIZE THE SLOPE WITH MULCH OR EROSION CONTROL MATS OVER THE MULCHED SLOPE. THE CONTRACTOR SHALL STABILIZE THE SLOPE WITHIN 30 DAYS OF THE DATE OF DISTURBANCE. 6. STABILIZE THE SLOPE WITH MULCH OR EROSION CONTROL MATS OVER THE MULCHED SLOPE. THE CONTRACTOR SHALL STABILIZE THE SLOPE WITHIN 30 DAYS OF THE DATE OF DISTURBANCE. 7. STABILIZE THE SLOPE WITH MULCH OR EROSION CONTROL MATS OVER THE MULCHED SLOPE. THE CONTRACTOR SHALL STABILIZE THE SLOPE WITHIN 30 DAYS OF THE DATE OF DISTURBANCE. 8. STABILIZE THE SLOPE WITH MULCH OR EROSION CONTROL MATS OVER THE MULCHED SLOPE. THE CONTRACTOR SHALL STABILIZE THE SLOPE WITHIN 30 DAYS OF THE DATE OF DISTURBANCE. 9. STABILIZE THE SLOPE WITH MULCH OR EROSION CONTROL MATS OVER THE MULCHED SLOPE. THE CONTRACTOR SHALL STABILIZE THE SLOPE WITHIN 30 DAYS OF THE DATE OF DISTURBANCE. 10. STABILIZE THE SLOPE WITH MULCH OR EROSION CONTROL MATS OVER THE MULCHED SLOPE. THE CONTRACTOR SHALL STABILIZE THE SLOPE WITHIN 30 DAYS OF THE DATE OF DISTURBANCE. 11. STABILIZE THE SLOPE WITH MULCH OR EROSION CONTROL MATS OVER THE MULCHED SLOPE. THE CONTRACTOR SHALL STABILIZE THE SLOPE WITHIN 30 DAYS OF THE DATE OF DISTURBANCE. 12. STABILIZE THE SLOPE WITH MULCH OR EROSION CONTROL MATS OVER THE MULCHED SLOPE. THE CONTRACTOR SHALL STABILIZE THE SLOPE WITHIN 30 DAYS OF THE DATE OF DISTURBANCE. 13. STABILIZE THE SLOPE WITH MULCH OR EROSION CONTROL MATS OVER THE MULCHED SLOPE. THE CONTRACTOR SHALL STABILIZE THE SLOPE WITHIN 30 DAYS OF THE DATE OF DISTURBANCE. 14. STABILIZE THE SLOPE WITH MULCH OR EROSION CONTROL MATS OVER THE MULCHED SLOPE. THE CONTRACTOR SHALL STABILIZE THE SLOPE WITHIN 30 DAYS OF THE DATE OF DISTURBANCE. 15. 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**STANDARD FOR THE TIMELY STABILIZATION OF DISTURBED SLOPES --** BY SEPTEMBER 15, THE CONTRACTOR SHALL STABILIZE ALL DISTURBED SLOPES BY NOVEMBER 15. THE CONTRACTOR WILL TAKE ONE OF THE FOLLOWING ACTION:

1. STABILIZE THE SLOPE WITH MULCH OR EROSION CONTROL MATS OVER THE MULCHED SLOPE. THE CONTRACTOR SHALL STABILIZE THE SLOPE WITHIN 30 DAYS OF THE DATE OF DISTURBANCE. 2. STABILIZE THE SLOPE WITH MULCH OR EROSION CONTROL MATS OVER THE MULCHED SLOPE. THE CONTRACTOR SHALL STABILIZE THE SLOPE WITHIN 30 DAYS OF THE DATE OF DISTURBANCE. 3. STABILIZE THE SLOPE WITH MULCH OR EROSION CONTROL MATS OVER THE MULCHED SLOPE. THE CONTRACTOR SHALL STABILIZE THE SLOPE WITHIN 30 DAYS OF THE DATE OF DISTURBANCE. 4. STABILIZE THE SLOPE WITH MULCH OR EROSION CONTROL MATS OVER THE MULCHED SLOPE. THE CONTRACTOR SHALL STABILIZE THE SLOPE WITHIN 30 DAYS OF THE DATE OF DISTURBANCE. 5. STABILIZE THE SLOPE WITH MULCH OR EROSION CONTROL MATS OVER THE MULCHED SLOPE. THE CONTRACTOR SHALL STABILIZE THE SLOPE WITHIN 30 DAYS OF THE DATE OF DISTURBANCE. 6. STABILIZE THE SLOPE WITH MULCH OR EROSION CONTROL MATS OVER THE MULCHED SLOPE. THE CONTRACTOR SHALL STABILIZE THE SLOPE WITHIN 30 DAYS OF THE DATE OF DISTURBANCE. 7. STABILIZE THE SLOPE WITH MULCH OR EROSION CONTROL MATS OVER THE MULCHED SLOPE. THE CONTRACTOR SHALL STABILIZE THE SLOPE WITHIN 30 DAYS OF THE DATE OF DISTURBANCE. 8. STABILIZE THE SLOPE WITH MULCH OR EROSION CONTROL MATS OVER THE MULCHED SLOPE. THE CONTRACTOR SHALL STABILIZE THE SLOPE WITHIN 30 DAYS OF THE DATE OF DISTURBANCE. 9. STABILIZE THE SLOPE WITH MULCH OR EROSION CONTROL MATS OVER