

SUBSURFACE WASTEWATER DISPOSAL SYSTEM APPLICATION

Department of Human Services
Division of Health Engineering
(207)289-3826

PROPERTY ADDRESS	
Town Or Plantation	AUGUSTA
Street Division Lot #	WEST RIVER ROAD
PROPERTY OWNERS NAME	
LE CLUB CALUMET	
Last:	First:
Applicant Name:	40 RICHARD J. DUMONT
Mailing Address of Owner/Applicant (If Different)	334 NORTHERN AVE. AUGUSTA, ME 04330

Caution: Permit Required

TOWN COPY

AUGUSTA 2901

Date Permit Issued: 11/19/94 \$ 100.00 FEE Double Fee Charged

Nancy R. Laska L.P.I. # 850

Local Plumbing Inspector Signature

Owner/Applicant Statement

I certify that the information submitted is correct to the best of my knowledge and understand that any falsification is reason for the Local Plumbing Inspector to deny a Permit.

Signature of Owner/Applicant _____ Date _____

Caution: Inspection Required

I have inspected the installation authorized above and found it to be in compliance with the Subsurface Wastewater Disposal Rules.

Nancy R. Laska Local Plumbing Inspector Signature Date Approved 11/19/94

PERMIT INFORMATION

<p>THIS APPLICATION IS FOR:</p> <ol style="list-style-type: none"> <input type="checkbox"/> NEW SYSTEM <input checked="" type="checkbox"/> REPLACEMENT SYSTEM <input type="checkbox"/> EXPANDED SYSTEM <input type="checkbox"/> EXPERIMENTAL SYSTEM <p>SEASONAL CONVERSION to be completed by the LPI</p> <ol style="list-style-type: none"> <input type="checkbox"/> SYSTEM COMPLIES WITH RULES <input type="checkbox"/> CONNECTED TO SANITARY SEWER <input type="checkbox"/> SYSTEM INSTALLED - P# _____ <input type="checkbox"/> SYSTEM DESIGN RECORDED AND ATTACHED <p>IF REPLACEMENT SYSTEM: YEAR FAILING SYSTEM INSTALLED <u>5</u></p> <p>THE FAILING SYSTEM IS:</p> <ol style="list-style-type: none"> <input type="checkbox"/> BED <input type="checkbox"/> CHAMBER <input checked="" type="checkbox"/> TRENCH <input type="checkbox"/> OTHER: _____ <p>SIZE OF PROPERTY <u>200 AC ±</u> ZONING _____</p>	<p>THIS APPLICATION REQUIRES:</p> <ol style="list-style-type: none"> <input checked="" type="checkbox"/> NO RULE VARIANCE <input type="checkbox"/> NEW SYSTEM VARIANCE Attach New System Variance Form <input type="checkbox"/> REPLACEMENT SYSTEM VARIANCE Attach Replacement System Variance Form <ol style="list-style-type: none"> <input type="checkbox"/> Requiring Local Plumbing Inspector Approval <input type="checkbox"/> Requires State and Local Plumbing Inspector Approval <input type="checkbox"/> MINIMUM LOT SIZE VARIANCE <p>DISPOSAL SYSTEM TO SERVE:</p> <ol style="list-style-type: none"> <input type="checkbox"/> SINGLE FAMILY DWELLING <input type="checkbox"/> MODULAR OR MOBILE HOME <input type="checkbox"/> MULTIPLE FAMILY DWELLING <input checked="" type="checkbox"/> OTHER <u>SOCIAL CLUB</u> SPECIFY _____ 	<p>INSTALLATION IS:</p> <p>COMPLETE SYSTEM</p> <ol style="list-style-type: none"> <input checked="" type="checkbox"/> NON-ENGINEERED SYSTEM <input type="checkbox"/> PRIMITIVE SYSTEM (Includes Alternative Toilet) <input type="checkbox"/> ENGINEERED (+ 2000 gpd) <p>INDIVIDUALLY INSTALLED COMPONENTS:</p> <ol style="list-style-type: none"> <input type="checkbox"/> TREATMENT TANK (ONLY) <input type="checkbox"/> HOLDING TANK _____ GAL <input type="checkbox"/> ALTERNATIVE TOILET (ONLY) <input type="checkbox"/> NON-ENGINEERED DISPOSAL AREA (ONLY) <input type="checkbox"/> ENGINEERED DISPOSAL AREA (ONLY) <input type="checkbox"/> SEPARATED LAUNDRY SYSTEM <p>TYPE OF WATER SUPPLY <u>PUBLIC</u></p>
--	--	--

DESIGN DETAILS (SYSTEM LAYOUT SHOWN ON PAGE 3)

<p>TREATMENT TANK</p> <ol style="list-style-type: none"> <input checked="" type="checkbox"/> SEPTIC: <input checked="" type="checkbox"/> Regular <input type="checkbox"/> Low Profile <input type="checkbox"/> AEROBIC <p>SIZE: <u>1-2000</u> GALS.</p>	<p>WATER CONSERVATION</p> <ol style="list-style-type: none"> <input checked="" type="checkbox"/> NONE <input type="checkbox"/> LOW VOLUME TOILET <input type="checkbox"/> SEPARATED LAUNDRY SYSTEM <input type="checkbox"/> ALTERNATIVE TOILET <p>SPECIFY: _____</p>	<p>PUMPING</p> <ol style="list-style-type: none"> <input checked="" type="checkbox"/> NOT REQUIRED <input type="checkbox"/> MAY BE REQUIRED (DEPENDING ON TREATMENT TANK LOCATION AND ELEVATION) <input type="checkbox"/> REQUIRED <p>DOSE: _____ GALS.</p>	<p>CRITERIA USED FOR DESIGN FLOW (BEDROOMS, SEATING, EMPLOYEES, WATER RECORDS, ETC.)</p> <p>AVERAGE FLOW FROM METER - <u>1406 GPD</u></p> <p>PEAK MEALS <u>10 x 450 = 4,500 GPD</u></p> <p>PEAK OCCUPANCY <u>10 x 600 = 6,000 GPD</u></p> <p>DESIGN FLOW: <u>1500</u> (GALLONS/DAY)</p>			
<p>SOIL CONDITIONS USED FOR DESIGN PURPOSES</p> <table style="width: 100%; border-collapse: collapse;"> <tr> <th style="width: 50%;">PROFILE</th> <th style="width: 50%;">CONDITION</th> </tr> <tr> <td style="text-align: center;"><u>8</u></td> <td style="text-align: center;"><u>C</u></td> </tr> </table> <p>DEPTH TO LIMITING FACTOR: <u>15</u></p>	PROFILE	CONDITION		<u>8</u>	<u>C</u>	<p>SIZE RATINGS USED FOR DESIGN PURPOSES</p> <ol style="list-style-type: none"> <input type="checkbox"/> SMALL <input type="checkbox"/> MEDIUM <input type="checkbox"/> MEDIUM-LARGE <input checked="" type="checkbox"/> LARGE <input type="checkbox"/> EXTRA LARGE
PROFILE	CONDITION					
<u>8</u>	<u>C</u>					

SITE EVALUATOR STATEMENT

On 12/02/93 (date) I conducted a site evaluation for this project and certify that the data reported is accurate. The system I propose is in accordance with the Subsurface Wastewater Disposal Rules.

Ronald O. West
Site Evaluator Signature

99
SE#

12/31/93
Date

(Local Plumbing Inspector's Signature if permit is for Seasonal Conversion.)

SUBSURFACE WASTEWATER DISPOSAL SYSTEM APPLICATION

Department of Human Services
Division of Health Engineering

Town, City, Plantation

AUGUSTA

Street, Road, Subdivision

WEST RIVER ROAD

Owners Name

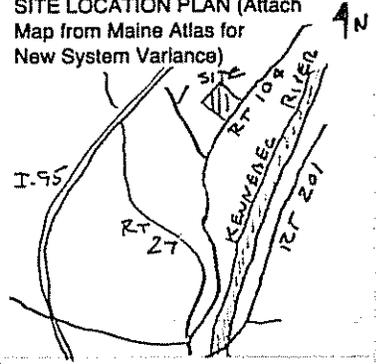
LE CLIVE CAUMET

SITE PLAN

Scale 1" = _____ Ft.

SITE LOCATION PLAN (Attach Map from Maine Atlas for New System Variance)

REFER TO SITE PLAN SHEET 1



SOIL DESCRIPTION AND CLASSIFICATION

(Location of Observation Holes Shown Above)

Observation Hole 1 Test Pit Boring

1 " Depth of Organic Horizon Above Mineral Soil

Texture	Consistency	Color	Mottling
FINE		DARK BROWN	
SANDY LOAM	FRIABLE	BROWN	
VERY FINE SANDY LOAM		YELLOW BROWN	
SILT LOAM	SOMEWHAT FIRM	OLIVE BROWN	COMMON
SILTY CLAY	FIRM	OLIVE GRAY	
BEDROCK - 44"			

Soil Profile B Classification C Slope _____ % Limiting Factor 18

Ground Water
 Restrictive Layer
 Bedrock

Observation Hole 2 Test Pit Boring

1 " Depth of Organic Horizon Above Mineral Soil

Texture	Consistency	Color	Mottling
FINE SANDY LOAM		DARK BROWN	
VERY FINE SANDY LOAM	FRIABLE	BROWN	
SILT LOAM	SOMEWHAT FIRM	OLIVE BROWN	COMMON
SILTY CLAY	FIRM	OLIVE GRAY	
BEDROCK - 36"			

Soil Profile B Classification C Slope _____ % Limiting Factor 16

Ground Water
 Restrictive Layer
 Bedrock

Russell D. Hunt

Site Evaluator Signature

99

SE#

12/31/03

Date

SUBSURFACE WASTEWATER DISPOSAL SYSTEM APPLICATION

Department of Human Services
Division of Health Engineering

Town, City, Plantation

Street, Road, Subdivision

Owners Name

AUGUSTA

WEST RIVER ROAD

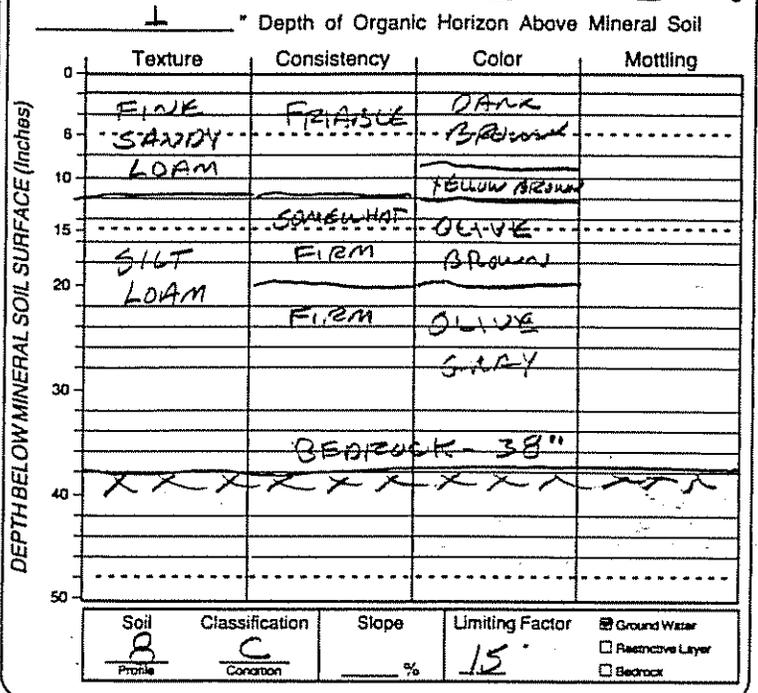
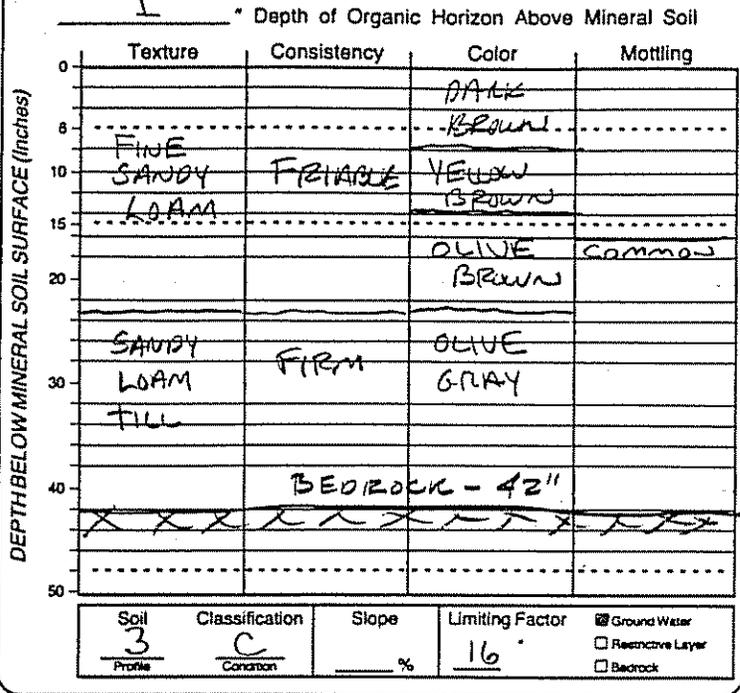
LE CLUB CALUMET

SOIL DESCRIPTION AND CLASSIFICATION

(Location of Observation Holes Shown Above)

Observation Hole 3 Test Pit Boring

Observation Hole 1 Test Pit Boring

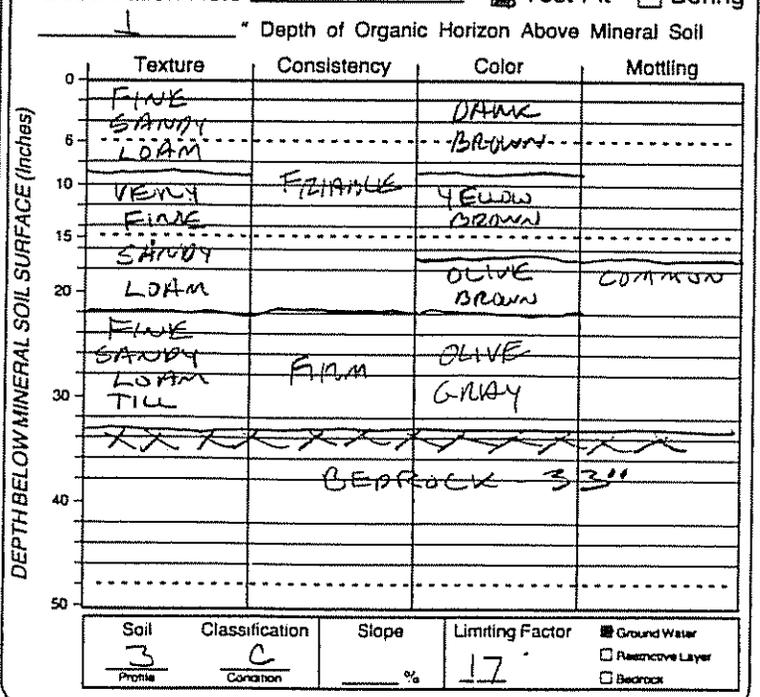
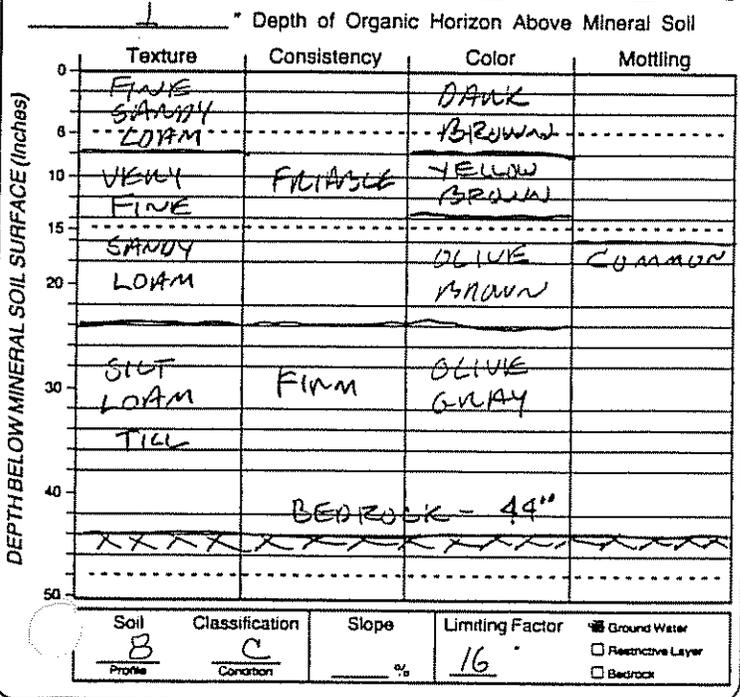


SOIL DESCRIPTION AND CLASSIFICATION

(Location of Observation Holes Shown Above)

Observation Hole 5 Test Pit Boring

Observation Hole 6 Test Pit Boring



Jerald O. Hunt
Site Evaluator Signature

90
SE#

12/31/02
Date

SUBSURFACE WASTEWATER DISPOSAL SYSTEM APPLICATION

Department of Human Services
Division of Health Engineering

Town, City, Plantation

Street, Road, Subdivision

Owners Name

AUGUSTA

WEST RIVER ROAD

LE CLUB CALUMET

SOIL DESCRIPTION AND CLASSIFICATION

(Location of Observation Holes Shown Above)

Observation Hole 7 Test Pit Boring

Observation Hole 8 Test Pit Boring

0 " Depth of Organic Horizon Above Mineral Soil

0 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)	Texture	Consistency	Color	Mottling
	0	FINE SANDY LOAM		DARK BROWN
6	SILT LOAM	FRIABLE	YELLOW BROWN	
10	SILT LOAM		YELLOW BROWN	
15				COMMON
20	SILTY CLAY LOAM	SOMEWHAT FIRM	OLIVE GRAY	
30	SANDY LOAM	FIRM	GRAY	
40	TILL			

DEPTH BELOW MINERAL SOIL SURFACE (Inches)	Texture	Consistency	Color	Mottling
	0			DARK BROWN
6	SILT LOAM	FRIABLE	YELLOW BROWN	
10			YELLOW BROWN	
15		SOMEWHAT FIRM	OLIVE GRAY	COMMON
20	SILTY CLAY	FIRM	GRAY	

Soil Profile B Classification P Slope % Limiting Factor 14

Soil Profile B Classification P Slope % Limiting Factor 11

SOIL DESCRIPTION AND CLASSIFICATION

(Location of Observation Holes Shown Above)

Observation Hole Test Pit Boring

Observation Hole Test Pit Boring

 " Depth of Organic Horizon Above Mineral Soil

 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)	Texture	Consistency	Color	Mottling
	0			
6				
10				
15				
20				
30				
40				
50				

DEPTH BELOW MINERAL SOIL SURFACE (Inches)	Texture	Consistency	Color	Mottling
	0			
6				
10				
15				
20				
30				
40				
50				

Soil Profile Classification Slope % Limiting Factor

Soil Profile Classification Slope % Limiting Factor

James W. Hart
Site Evaluator Signature

90
SE#

12/31/03
Date

SUBSURFACE WASTEWATER DISPOSAL SYSTEM APPLICATION

Department of Human Services
Division of Health Engineering

Town, City, Plantation

Street, Road, Subdivision

Owners Name

AUGUSTA

WEST RIVER ROAD

LE CLUB CALUMET

SUBSURFACE WASTEWATER DISPOSAL PLAN

Scale 1" = _____ Ft.

REFER TO SITE PLANS
SHEET 1

FILL REQUIREMENTS

Depth of Fill (Upslope)
Depth of Fill (Downslope)

24"
24"

CONSTRUCTION ELEVATIONS

Reference Elevation Is ASSUMED 100.00
Bottom of Disposal Area REFER TO TABLE
Top of Distribution Lines or Chambers _____

ELEVATION REFERENCE POINT LOCATION & DESCRIPTION

TBM - 145-52
PK NAIL IN POLE #129

DISPOSAL AREA CROSS SECTION

Scale:
Vertical: 1 Inch = _____ Ft.
Horizontal: 1 Inch = _____ Ft.

CHAMBER ELEVATIONS

	ROW	BOTTOM	TOP
	1	82.0	83.3
CLUSTER 1	2	81.6	82.9
	3	81.1	82.4
	4	80.7	82.0
	5	80.2	81.5
		1	74.0
CLUSTER 2	2	72.9	74.2
	3	71.8	73.2
	4	71.1	72.5
	5	70.5	71.9

REFER TO SITE PLANS
SHEET #2

[Signature]
Site Evaluator Signature

99
SE#

12/2/93
Date



RECEIVED

MAR 21 1994

Jane Sheehan
Commissioner

John R. McKernan, Jr.
Governor

STATE OF MAINE
DEPARTMENT OF HUMAN SERVICES
AUGUSTA, MAINE 04333

2901

March 18, 1994

Mr. Russell Martin, PE, SE
Kimball Chase
53 Front Street
Bath, Maine 04530

SUBJECT: Approval of Design Flow, Le Club Calumet
AUGUSTA

Dear Mr. Martin:

Thank you for providing additional information and the rationale for the design.

This office hereby gives permission for the use of the proposed design flow (1,500 GPD) and multiplier (1.5).

The suitability of the design remains the responsibility of the engineer. Upon construction, the owner shall then be responsible for operating the system with in the design and site restraints.

We heartily concur with the desirability of the owner retaining the designer to oversee construction, test the installed system and provide guidance for the operation and monitoring of the system

Please note that only the design flow and multiplier needed review. No other aspects of the design were reviewed by this office.

Sincerely,

Kenneth L. Meyer (ld)

Kenneth L. Meyer
Wastewater & Plumbing Control
Division of Health Engineering

KLM/ld

cc: Jay Hardcastle, State Site Evaluator
Richard Dolby, LPI
Richard J. Dumont, Le Club Calumet



John R. McKernan, Jr.
Governor

Jane Sheehan
Commissioner

STATE OF MAINE
DEPARTMENT OF HUMAN SERVICES
AUGUSTA, MAINE 04333
March 18, 1994

Mr. Richard A. Dolby, LPI
City of Augusta
City Hall
16 Cony Street
Augusta, Maine 04330

SUBJECT: Reinstatement of Subsurface Permit #2901, Le Club
Calumet - AUGUSTA

Dear Mr. Colby:

As you will note in the attached letter we have accepted the design flow proposed by Kimball Chase for the design flow for the referenced project.

Therefore, the City may reinstate subsurface wastewater permit #2901.

Sincerely,

A handwritten signature in cursive script that reads "Kenneth L. Meyer (ld)".

Kenneth L. Meyer
Wastewater & Plumbing Control
Division of Health Engineering

KLM/ld

cc: Richard J. Dumont, Owner's Agent
Russell Martin, PE, SE
Kerwin Keller, State Plumbing Inspector
Jay Hardcastle, State Site Evaluator

February 28, 1994

RECEIVED

MAR 1 1994



Mr. Kenneth L. Meyer
Wastewater and Plumbing Control Program
Division of Health Engineering
157 Capitol Street
Augusta, Maine 04333

53 Front Street
Bath
Maine
04530
(207) 443-1361
FAX (207) 442-7029

93-5082

**Subject: Additional Information in Support
of Replacement Wastewater Disposal Design
Le Club Calumet, Augusta**

Dear Mr. Meyer:

In response to your letter of February 8, 1994, we are pleased to provide additional information in support of our replacement system design for Le Club Calumet. We believe the design flow of 1,500 gallons per day and the wastewater adjustment factor of 1.5 are reasonable and appropriate for this system for the following reasons:

1. The proposed disposal area maximizes use of the most suitable soils available on the site. The installation of additional leaching chambers will either require use of less suitable soils or compromise the effectiveness of the proposed system configuration.
2. Because of the variability of the wastewater flow we incorporated several features in the design to improve the hydraulic performance of the system.
 - A. The spacing between chamber rows is increased from the code minimum 3' to 5'.
 - B. The bottom of each chamber row is set at the high point of the existing ground, resulting in an increase in the code minimum separation between system bottom and limiting factor from 12" to 15". Due to the site topography, the western end of the system will have a separation ranging from 24" to 48" between the bottom of the system and the limiting factor.
 - C. The shoulder around the perimeter of each cluster is increased from the code minimum of 3' to 5'.
 - D. The chambers are configured as 2 clusters, 5 rows each with a 22' separation between clusters; exceeding the code minimum of 50% of the system width, or 17.5'.

All of these factors contribute to spreading the wastewater over the largest usable area in a cost effective manner. It is our opinion that the increase in chamber row separation and use of more select fill material is of more benefit in improving the hydraulic performance of the system than increasing the number of leaching chambers.



3. Section 7.B.3 is not applicable to facilities such as Le Club Calumet. I was involved in the drafting of this section of the Code and recall that a literature search suggested a value of 1.8 was appropriate for most full service restaurants, but was too conservative to apply to all food handling facilities. The language used in Section 9.G.1 dealing with grease traps, "... other establishments involved in food preparation..." would have been incorporated into Section 7.B.3 if the intent was to apply this section to all licensed establishments providing food service.
4. Section 7.B.2 does apply in this instance as it is likely that the actual strength of the wastewater is greater than that of conventional household wastes. We do not believe collecting a sample from the existing septic tank is appropriate as the system to be installed will have far more tank capacity and therefore a higher quality effluent. Lacking a number for use in the cube root formula we calculated the value of 1.5 by making assumptions about the proportion of toilet to kitchen wastes.

We believe the proportion of toilet waste to kitchen waste is much higher for a function hall than a restaurant. A typical function hall event involves a specific group of people spending a fixed amount of time at the facility. This is in contrast to a restaurant where the patrons spend varying amounts of time. An individual spending several hours at a function is more likely to use toilet facilities than a individual spending a lesser amount of time in a restaurant.

5. The selected design flow of 1,500 gallons per day is less than the monthly average plus 10% noted in section 7.B.1.iii. The calculated value of 1,547 gallons per day was reduced to 1,500 gallons per day in consideration of the use of a conservative application rate of 2.0 square feet per gallon per day.

Soils in the area proposed include both medium large (1.7 square feet per gallon per day) and large (2.0 square feet per gallon per day) rated soils. Based on our field work, we believe that 1/3 (33%) of the disposal system area is best classified as medium large with the remaining 2/3 (67%) best classified as large. These percentages produce an adjusted application rate of 1.9 square feet per gallon per day which, if utilized with our calculated adjustment factor of 1.5 and proposed 4,500 square foot disposal area produce a design flow of 1,579 gallons per day, or 12% more than the average flow.



6. Use of a 6,000 gallon per day design flow for total treatment tank sizing was chosen to protect the leach field from solids carryover during periods of peak flow and to provide additional detention time and a higher quality effluent during non peak flows. The calculated adjustment factor of 1.5 translates to a BOD₅ and a TSS value of 810 milligrams per liter. We believe the proposed primary treatment configuration will produce effluent that meets or exceeds this value.

To provide an additional assurance that the treatment tank effluent will meet or exceed the design value we are recommending that a Zabel filter be installed as the outlet baffle on the final septic tank. This requirement will be incorporated into the system specifications included with the bid documents to be distributed later this spring.

7. The proposed 180 plastic leaching chambers have an internal storage volume of approximately 26,000 gallons. Assuming that only 1,500 gallons per day infiltrates into the soil, the system could operate at a peak flow of 6,000 gallons per day for almost 6 days before exhausting the storage volume. The average flow for the highest measured quarter; 1,729 gallons per day; would produce an excess of 20,610 gallons over 90 days; which is within the storage capacity of the proposed chamber configuration.
8. The inclusion of a combination vent/inspection port on each chamber row will allow easy inspection of the liquid level within the disposal field. Each of the treatment tanks and the dosing siphon will have an access riser to finish grade to facilitate inspection and pumping of the tanks.
9. The use of a dosing siphon was included to improve the distribution of effluent among the chamber rows. The siphon will also help to dissipate the peak flow.
10. There are two factors relating to the construction of this system that are of critical importance:
 - A. The quality of the fill material used; and
 - B. The preparation of the original ground surface prior to placement of the fill. Le Club Calumet plans to retain Kimball Chase to provide construction inspection services in addition to the inspections done by the city. Our inspections will be coordinated with those of the local plumbing inspector and will provide additional assurance that the system is built according to the design specifications.

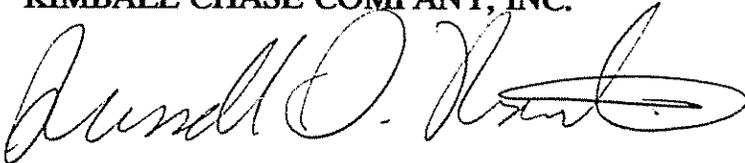


Mr. Kenneth L. Meyer
February 28, 1994
Page four

To summarize, our design incorporates a number of features which exceed the minimum code requirements. These conservative features were chosen to compensate for the variability in wastewater flow and strength, and improve the performance of the system. We believe our design represents the most cost effective use of the available area and should be approved as proposed. I would be happy to meet with you at your earliest convenience to discuss our design should you need additional information for final approval.

Sincerely,

KIMBALL CHASE COMPANY, INC.



Russell G. Martin, P.E.
Senior Environmental Engineer

RGM/ja

c: Richard Dumont, Le Club Calumet
Richard Dolby, City of Augusta
Jay Hardcastle

Misc#12:Meyer.rgm





John R. McKernan, Jr.
Governor

Jane Sheehan
Commissioner

STATE OF MAINE
DEPARTMENT OF HUMAN SERVICES
AUGUSTA, MAINE 04333

February 8, 1994

Mr. Richard A. Dolby, LPI
City of Augusta
City Hall
16 Cony Street
Augusta, Maine 04330

SUBJECT: Revocation of Subsurface Permit #2901, Le Club Calumet
AUGUSTA

Dear Mr. Colby:

We recently received the State copy of an HHE-200 form for the referenced system. The sticker bearing number 2901 shows that a permit was issued on 19 January 1994. This system uses a design flow based upon water use records.

Section 7.B.1.b of the Subsurface Rules requires that the Department approve the use and analysis of such data.

This office has not approved the design flow for this permit, therefore the application is incomplete. As such we recommend that the permit be revoked until a design flow has been reviewed and approved.

We are currently reviewing the design and will supply the City of Augusta with a copy of the approval letter.

Sincerely,

A handwritten signature in black ink, appearing to read "K. Meyer".

Kenneth L. Meyer
Wastewater & Plumbing Control
Division of Health Engineering

KLM/lld

cc: Richard J. Dumont, Owner's Agent
Russell Martin, PE, SE
Kerwin Keller, State Plumbing Inspector
Jay Hardcastle, State Site Evaluator



John R. McKernan, Jr.
Governor

Jane Sheehan
Commissioner

STATE OF MAINE
DEPARTMENT OF HUMAN SERVICES
AUGUSTA, MAINE 04333

February 8, 1994

Mr. Russell Martin, PE, SE
Kimball Chase
53 Front Street
Bath, Maine 04530

SUBJECT: Request for additional Information, Le Club Calumet
AUGUSTA

Dear Mr. Martin:

As you will note in the letter to Richard Dolby which accompanies this letter, the owner has received a permit for the system using a design flow which had not been approved by the Department.

Although the design flow was not submitted to this office explicitly for the required review and approval, the information presented in the design can be summarized as follows:

Peak Quarter	1,729 GPD
(Second Highest Quarter)	1,679 GPD
Annual Average	1,406 GPD

The design uses 1,500 GPD which is 6.7 % greater than the annual average.

Since for at six months the average flow exceeds 1,700 GPD, and, since 1,500 GPD does not meet the minimum guidance of adding 10% above the annual average, 1,500 GPD as the design flow is not acceptable and therefore is not approved.

This office is reluctant to approve a design flow of less than 1,729 GPD. This is due to the seasonal variation in the flow as well as a perceived day to day variation in flow.

Section 7.B.3 requires the use of a multiplier of 1.8 for the flow from the structure, it does not speak to pro-rating the factor to kitchen and nonkitchen wastes. The same argument could be applied to restaurants which have toilets for the clients as well as kitchen wastes which is not what the rule requires.

The use of a 1.5 multiplier in lieu of 1.8 is not acceptable and therefore is not approved.

Mr. Russell Martin
February 8, 1994
Page 2

The cube root equation of 7.B.3 may be used if it is felt that the 1.8 factor is not applicable to facility under review.

The peak flows may be understated when events such as the Bastille Festival are considered (48 hours or more of heavy use).

Unless further data is presented, this office will require the use of a design flow of 1,729 GPD and a multiplying factor of 1.8. This will result in a required minimum infiltrative capacity of 6,224 SF of chambers.

1,729 GPD is still much less than would normally be needed for a facility capable of seating 450 for meals.

Please note that only the design flow and multiplier have been reviewed. No other aspects of the design require review by this office.

As always, I am available to discuss this matter.

Sincerely,



Kenneth L. Meyer
Wastewater & Plumbing Control
Division of Health Engineering

KLM/ld

cc: Jay Hardcastle, State Site Evaluator
Richard Dolby, LPI
Richard J. Dumont, Le Club Calumet

January 11, 1994

RECEIVED

JAN 13 1994



Mr. Richard J. Dumont
334 Northern Avenue
Augusta, Maine 04330

**Subject: Replacement Subsurface Disposal System
Le Club Calumet
Augusta, Maine**

93-5082

53 Front Street
Bath
Maine
04530
(207) 443-1361
FAX (207) 442-7029

Dear Mr. Dumont:

Please find enclosed our final design plans; application for plumbing permit; and supporting design calculations for the replacement wastewater disposal system to serve the Le Club Calumet. I would be happy to meet with yourself, other club members, and local or state officials to discuss our design. We believe the proposed system makes maximum use of the available site and will provide your facility with a workable long-term wastewater disposal solution.

I would highlight several important design considerations.

1. The septic tanks and grease trap are sized to handle a maximum peak flow of 6,000 gallons per day.
2. The chamber disposal field design flow is 1,500 gallons per day, but the system provides storage capacity to handle up to 5 consecutive days at the peak flow.
3. The disposal field is enlarged by 50% to compensate for the stronger kitchen wastewater.
4. Spacing between chamber rows and the separation between bottom of chambers and seasonal high water table has been increased above the minimum code requirements.
5. A dosing siphon and flow equalizers on all distribution box outlets are specified to ensure equal distribution of effluent through the entire system.

Please call me if you have any questions or comments.

Sincerely,

KIMBALL CHASE COMPANY, INC.

A handwritten signature in black ink, appearing to read "Russell G. Martin".

Russell G. Martin, P.E.
Senior Environmental Engineer

RGM/mjw

Enclosures

c: Richard Dolby, City of Augusta
Kenneth Meyer, Division of Health Engineering

Misc#12:Dumont.rgm



MATERIALS ESTIMATE
REPLACEMENT SUBSURFACE WASTEWATER DISPOSAL SYSTEM
LE CLUB CALUMET - AUGUSTA, MAINE - JANUARY 10, 1994

ITEM	QUANTITY	UNIT PRICE	TOTAL PRICE	NOTES:
DISPOSAL AREA				2 Clusters - 5 Rows of 18 Each - 5 Foot Spacing
Chambers:	180			Infiltrator or Bio-Diffusor - H-10 Rated
End Plates:	20			
Dist. Box:	3			2 - 5 Outlet, 1 - 3 Outlet
Flow Equalizers:	8			
Elbows:	16			4" PVC ASTM D2729
Tees:	4			4" PVC ASTM D2729
Pipe	130 Ft			4" PVC ASTM D2729
Fill:	900 yd ³			Gravelly Sharp Sand - Max 5% passing #200 Screen
Fertilizer:	300 lb			10-20-20 N-P-K
Loam:	75 yd ³			
Seed:	25 lb			SCS Conservation Mix #1
Mulch:	35 Bales			
TREATMENT TANKS				
Grease Trap:	1			2000 Gallon - H-20 Rated
Septic Tank:	2			1 5000 Gallon - H-20 Rated 1 2000 Gallon - H-20 Rated
Dosing Siphon:	1			4" - 610 Gallons - H-20 Rated
Risers:	4			24" Round - 1 per Tank - To Finish Grade
Pavement:	500 ft ²			Patch Over and Around Tanks and Sewer Line
TANKS TO CHAMBERS				
Pipe:	175 Ft			4" PVC SDR 35
Fittings:	3			4" PVC SDR 35 -45° Wye
Crushed Stone:	17 yd ³			3/4 Inch - Pipe & Tank Bedding
Sand:	40 yd ³			Pipe & Tank Backfill
TOTAL:				



CLIENT LE CLUB CALUMET - AUGUSTA
 PROJECT SEPTIC SYSTEM JOB NO. 93-5082
 DETAIL DESIGN CALCULATION PAGE NO. 1
 CALCULATED BY BGM DATE 12/27/93
 CHECKED BY FPH DATE 1/5/94

WATER USE - FROM AUGUSTA WATER DISTRICT 12/20/93

	ft ³	GAL	GPD
JAN - MAR	12,800	95,744	1,064
APR - JUN	14,800	110,704	1,230
JUL - SEP	20,800	155,584	1,729
OCT - DEC	20,200	151,096	1,679
AVE	17,150	128,282	1,406

AVE + 10% = 1406 + 140.6 = 1,547 ⇒ USE 1,500 GPD

ADJUSTMENT FOR WASTEWATER STRENGTH

ASSUME 60% KITCHEN & 40% SANITARY WASTES

1.8(0.60) + 1.0(0.40) = 1.48 ⇒ USE 1.50

APPLICATION RATE FOR CHAMBERS

3C - 1.7 $\frac{\text{ft}^2}{\text{GPD}}$ 3C - 2.0 $\frac{\text{ft}^2}{\text{GPD}}$ ⇒ 2.0 x 1.5 = 3.0 $\frac{\text{ft}^2}{\text{GPD}}$

MAXIMUM BUILDING CAPACITY - 600

PEAK FLOW 600 x 10 = 6000 GPD

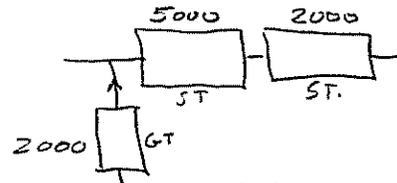
MAXIMUM SEATING FOR MEALS - 450

PEAK FLOW 450 x 10 = 4,500 GPD

SIZE TREATMENT TANKS FOR PEAK FLOW

6000 GPD x 1.5 = 9000 GAL TOTAL

- GREASE TRAP - 2000 GAL
- 1ST S.T. 5000 GAL
- 2ND ST 2000 GAL



SYSTEM SIZING

1500 GPD x 1.5 x 2.0 = 4,500 ft² ÷ 25 = 180 PLASTIC CHAMBERS

PEAK FLOW STORAGE IN CHAMBERS

VOLUME PER CHAMBER - 145 GALLONS

145 GAL x 180 = 26,100 GAL

6000 GAL PEAK - 1500 GAL INFILTRATED = 4,500 GAL EXCESS

26,100 / 4,500 = 5.8 CONSECUTIVE PEAK DAYS



CLIENT LE CLUB CALUMET - AUGUSTA
 PROJECT SEPTIC SYSTEM JOB NO. 93-5082
 DETAIL DESIGN CALCULATIONS PAGE NO. 2
 CALCULATED BY R6M DATE 12/27/93
 CHECKED BY P/f DATE 1/2/94

EXTRA SAFETY FACTORS

1. 5' SHOULDER ON FILL EXTENSION - ALL DIRECTIONS
(3' NORMAL)
2. 5' SPACING BETWEEN CHAMBER ROWS
(3' NORMAL)
3. 15"-18" MINIMUM SEPARATION BETWEEN CHAMBER
BOTTOMS AND SHWT (12" NORMAL)
4. 610 GALLON DOSING SIPHON USED
5. "EQUALIZERS" USED ON ALL D-BOX OUTLETS

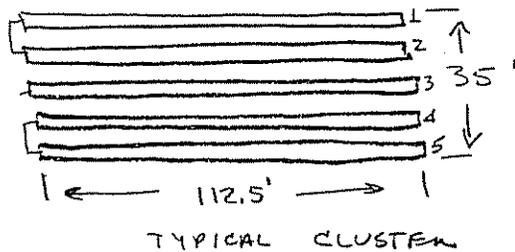
GREASE TRAP DESIGN - SEC 1013.9 - PROPOSED CODE

$$Q = (450 \text{ MEALS}) \left(\frac{2 \text{ GAL}}{\text{MEAL}} \right) (2) (1.0)_{DW} = 1800 \text{ GALLONS}$$

USE 2000 GAL TANK

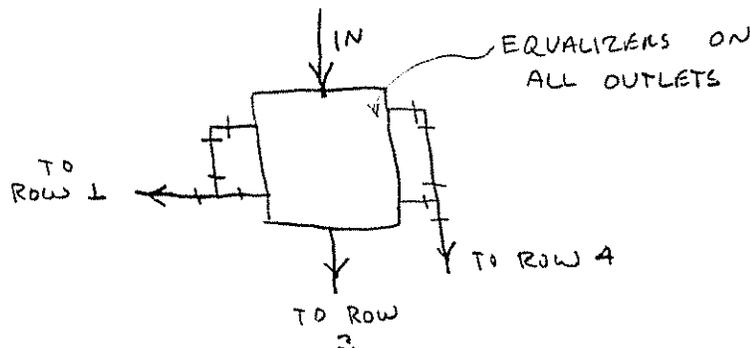
DISPOSAL AREA - $1500 \text{ GPD} \div 3.0 \frac{\text{ft}^2}{\text{CPD}} = 4500 \text{ ft}^2 \div 25 \text{ ft}^2 = \boxed{180}$

180 CHAMBERS - 10 ROWS OF 18 - IN TWO CLUSTERS



1. USE 5' SPACING INSTEAD OF 3'
2. USE 5' SHOULDER INSTEAD OF 3'

USE SERIAL DISTRIBUTION

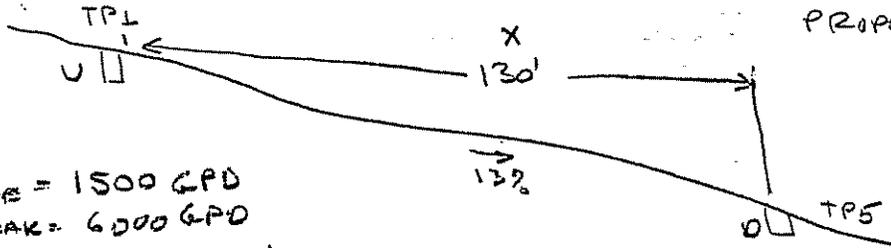




CLIENT LE CLUB CALUMET - AUGUSTA
PROJECT SEPTIC SYSTEM JOB NO. 93-5082
DETAIL MOUNDING CALCULATION PAGE NO. _____
CALCULATED BY RGM DATE 12/27/93
CHECKED BY R/G DATE 12/27/93

WASTEWATER MOUNDING IMPACT ANALYSIS

APPENDIX G
PROPOSED CODE



$DF_{AVE} = 1500 \text{ GPD}$
 $DF_{PEAK} = 6000 \text{ GPD}$
 $U = TPI \quad T_U = 8''$
 $D = TP5 \quad T_D = 9''$

$RG = 15''$

$SWTI = T_D - T_U = 1''$

$X = 130'$

HYDROLOGIC SOIL GROUP = C TABLE G-1

$RI = 0.037 \frac{\text{GPD}}{\text{ft}^2}$

TABLE G-3

$$Q_p = (X)(RI) = (130 \text{ ft})(0.037 \frac{\text{GPD}}{\text{ft}^2}) = 4.81 \frac{\text{GPD}}{\text{ft}}$$

$$WWF = (RG)(Q_p) / SWTI$$

$$WWF = \frac{(1.25 \text{ ft})(4.81 \frac{\text{GPD}}{\text{ft}})}{(0.0833 \text{ ft})} = 72.2 \text{ GPD/ft}$$

$$L = DF / WWF$$

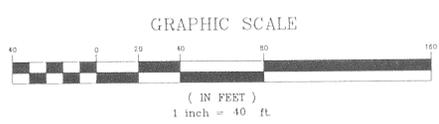
$$L_{AVE} = 1500 \text{ GPD} / 72.2 \frac{\text{GPD}}{\text{ft}} = 20.8 \text{ ft}$$

$$L_{PEAK} = 6000 \text{ GPD} / 72.2 = 83.1 \text{ ft}$$

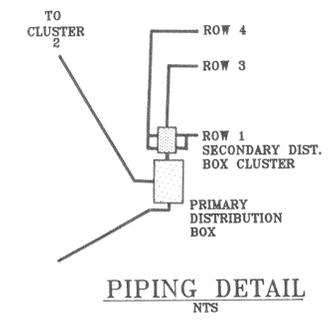
$$L_{ACTUAL} = 112.5 \text{ ft}$$

$L_{ACTUAL} > L_{AVE}$ OR L_{PEAK} ∴ NO MOUNDING PROBLEM

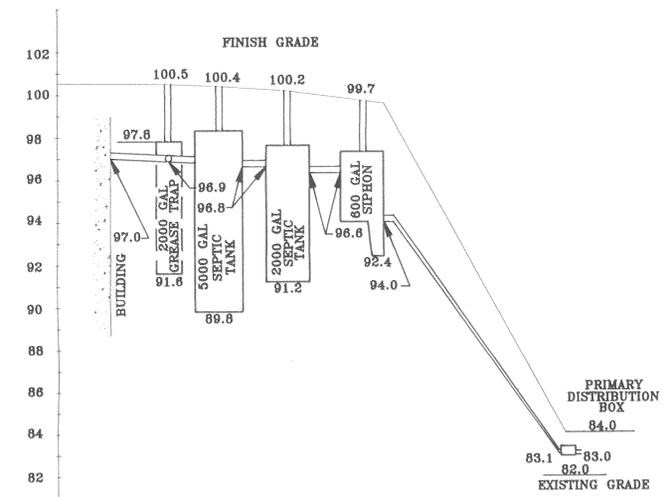
MAC DEC. 1993



TEMPORARY BENCHMARKS
 TBM 145-52 PK NAIL SET HORIZONTALLY AND 1 FOOT ABOVE GRADE IN POLE #129. ELEV. = 100.00 (ASSUMED DATUM)
 TBM 145-62 10" SPIKE SET HORIZONTALLY AND 2 INCHES ABOVE GRADE IN A GROUP OF FOUR OAK TREES LOCATED NEXT TO A STONEWALL. ELEV. = 69.76 (ASSUMED DATUM)

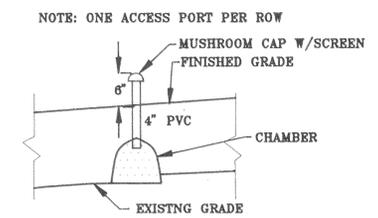


PIPING DETAIL
NTS



HYDRAULIC PROFILE
BUILDING TO PRIMARY DISTRIBUTION BOX
VERT. 1" = 4'
HORIZ. NTS

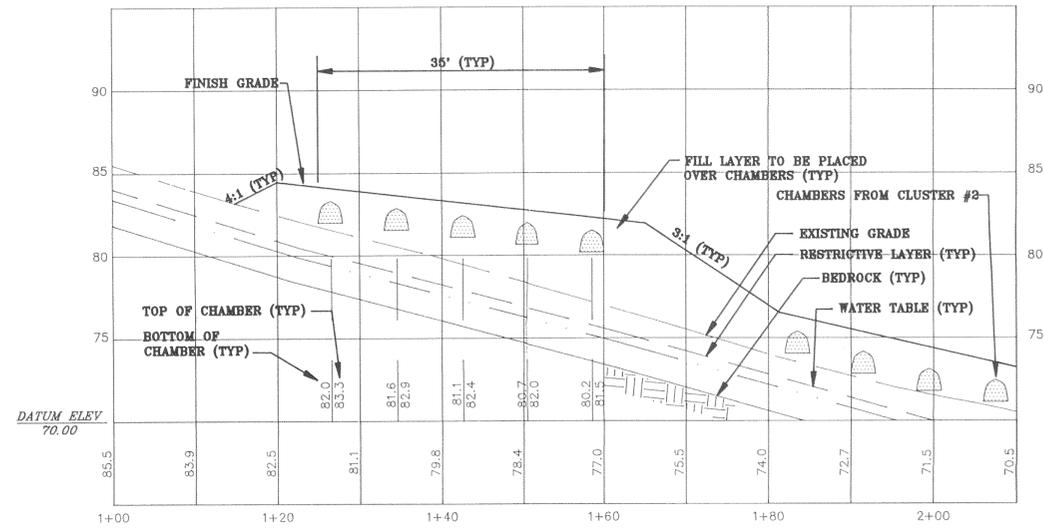
- NOTES:
1. CHAMBER CLUSTER LOCATIONS AND BENCHMARKS TO BE ESTABLISHED IN THE FIELD BY THE ENGINEER PRIOR TO START OF CONSTRUCTION.
 2. PORTIONS OF THE STONE WALL WITHIN THE WORK AREA SHALL BE REMOVED.
 3. ORGANIC MAT TO BE REMOVED FROM ALL FILLED AREAS.
 4. FILL MATERIAL AROUND CHAMBER CLUSTERS SHALL BE GRAVELLY LOAMY SAND, AND SHALL BE APPROVED BY THE ENGINEER.
 5. ALL DISTURBED AREAS TO BE COVERED WITH 2 INCHES OF LOAM, SEEDED AND MULCHED.
 6. ALL DISTRIBUTION BOXES, TREATMENT TANKS, AND THE DOSING SIPHON SHALL BE SET ON A MINIMUM 8 INCH BASE OF CRUSHED STONE OR COMPACTED GRAVEL.
 7. ALL TREATMENT TANKS SHALL HAVE ACCESS RISERS EXTENDED TO FINISH GRADE.
 8. A 4" DIAMETER PVC PIPE ACCESS PORT SHALL BE PROVIDED ON EACH CHAMBER ROW. SEE DETAIL ON SHEET 1.
 9. ALL DISTRIBUTION BOX OUTLET PIPES SHALL BE FITTED WITH "EQUALIZERS".
 10. ALL PIPE SHALL BE PVC ASTM D3034 SDR-35.
 11. PLASTIC LEACHING CHAMBERS SHALL BE RATED FOR A H-10 WHEEL LOAD AND SHALL BE "INFILTRATOR" OR "BIO-DIFFUSER" TYPE.
 12. DOSING SIPHON SHALL DISCHARGE 610 GALLONS PER DOSE AND SHALL HAVE A MAXIMUM ELEVATION DROP OF 28 INCHES THROUGH THE SIPHON.
 13. SYSTEM TO BE CONSTRUCTED IN ACCORDANCE WITH THE CURRENT EDITION OF THE MAINE SUBSURFACE WASTEWATER DISPOSAL RULES.



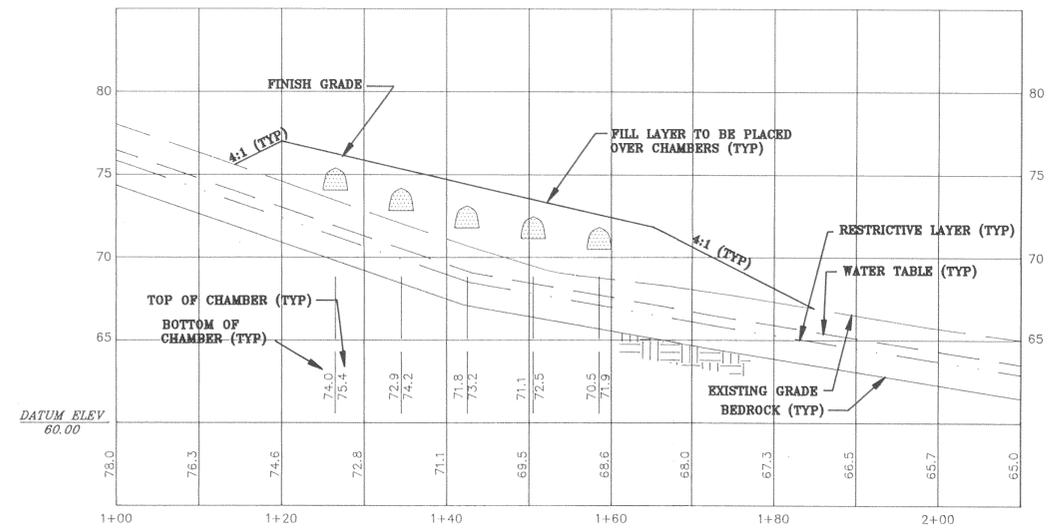
CHAMBER ACCESS PORT
NTS

LEGEND		
EXISTING		PROPOSED
— 350 —	CONTOURS	— 350 —
---	PROPERTY LINE	
- - - -	EDGE OF TRAIL	
o o o o	STONE WALL	
- . - . - .	TREELINE	
- . - . - .	CHAMBER CLUSTER	
- . - . - .	INTERMITTENT STREAM	
⊙	TEST PIT	
⊙	TRAVERSE STATION	
⊙	SEPTIC TANK	
—	SEWER	
⊙	CHAMBER	
•	IRON PIN FOUND	

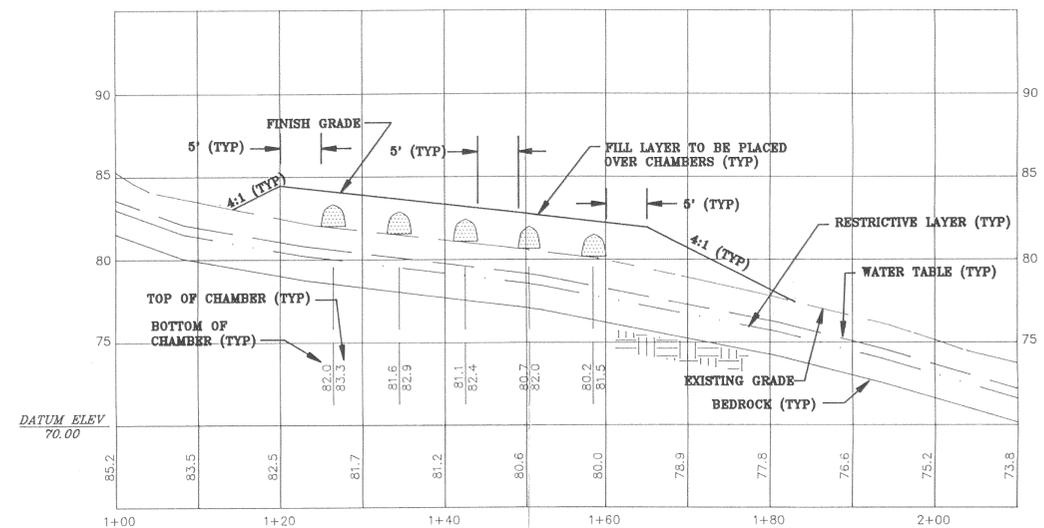
DESIGNED BY: RGM DRAWN BY: TJM CHECKED BY: SCD APPROVED BY: RGM DATE:	Kimball Chase Engineering • Surveying • Land Planning and Design 53 Front Street, Bath, ME 04530 • (207)443-1361 Portsmouth, NH •	CLIENT Le CLUB CALUMET WEST RIVER ROAD AUGUSTA, ME. 04330	PROJECT SUBSURFACE WASTEWATER DISPOSAL	SCALE 1"=40'
			TITLE SITE PLAN	PROJECT NO. 93-5082
REV. DATE STATUS BY CHKD APPD			RECEIVED SITE PLAN JAN 13 1994	DRAWING NO. 5082-1
			SHT. 1 of 2	REV.



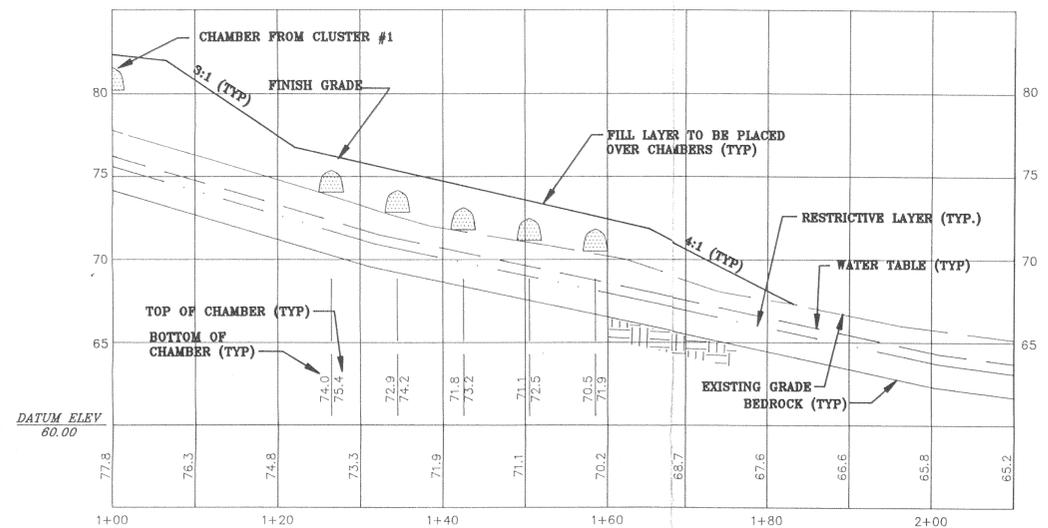
CHAMBER CLUSTER #1
BASELINE #2



CHAMBER CLUSTER #2
BASELINE #4



CHAMBER CLUSTER #1
BASELINE #1



CHAMBER CLUSTER #2
BASELINE #3

<table border="1"> <thead> <tr> <th>REV</th> <th>DATE</th> <th>STATUS</th> <th>BY</th> <th>CHKD</th> <th>APPD</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>	REV	DATE	STATUS	BY	CHKD	APPD								DESIGNED BY: RGM DRAWN BY: TJM CHECKED BY: SCD APPROVED BY: RGM DATE:	<p>Engineering • Surveying • Land Planning and Design 53 Front Street, Bath, ME 04530 • (207)443-1361 Portsmouth, NH • Andover, MA</p>	CLIENT Le CLUB CALUMET WEST RIVER ROAD AUGUSTA, ME. 04330	PROJECT SUBSURFACE WASTEWATER DISPOSAL	SCALE HOR. 1"=10' VERT. 1"=5'
	REV	DATE	STATUS	BY	CHKD	APPD												
TITLE SYSTEM CROSS SECTIONS	PROJECT NO. 93-5082	DRAWING NO. 5082-1	SHT. 2 of 2	REV.														