

Rest Facility Planning Study

• FORT WILLIAMS PARK •

Fort Williams Park Advisory Commission

Town of Cape Elizabeth, Maine 04107

February 1995

Terrien Architects, Inc.
4 Milk Street, Portland, ME 04101

T E R R I E N
A R C H I T E C T S

February 28, 1995

Jeffrey vanFleet, Chairman
Fort Williams Park Advisory Commission
320 Ocean House Road
Cape Elizabeth, ME 04107

Subject: Proposed Rest and Concession Facilities

Dear Jeff:

Terrien Architects is pleased to provide a report of the planning and cost estimates for a Rest Facility and Concession Stand at Fort Williams Park.

I thank you and the Commission Members for your input during the planning process. I also thank Bob Malley for his assistance and information regarding existing utilities and park use patterns.

The Town also retained Albert Frick Associates for site evaluation and septic disposal field planning. His report includes soils evaluation and cost information for two septic sites 'A' and 'B'.

The Rest Facility Report compares the relative probable construction costs for the following building and septic system site options:

1. New buildings versus renovations of existing structures.
2. Rest Facility only.
3. Rest Facility and Concession Stand within one structure.
4. Rest Facility and Concession Stand in separate but adjacent structures.
5. Building Sites as follows:
 - * 'Site 1': Picnic shelter gravel parking lot at block building site
 - * 'Site 2': Grassy Knoll west side of Humphreys Road.
6. Septic Disposal Sites as follows:
 - * Septic Site 'A': Gravel (picnic shelter) parking lot.
 - * Septic Site 'B': West side Humphreys Road.
 - * Septic Site 'C': East end of Parade Ground.

Jeffrey vanFleet
February 28, 1995

Page 2

The attached Report concludes that the proposed facilities are better sited at 'Building Site2', and that the facility size should be limited to that which can be served by a non-engineered, 1,500 gallon per day disposal field.

I have appended the detailed cost estimates and Albert Frick's Septic System Report to the final report.

Please call me if you have any questions. I will meet with you and the Commission on 28 February 1995, to present the final report before you forward it, along with your recommendations, to the Town Council.

Thank you for your assistance in the planning of the facility options; it has been a pleasure to work with you and the Fort Williams Park Advisory Commission.

Sincerely,



Thomas N. Emery, ASLA

cc: Robert Malley, Director of Public Works
Encl. Report

Credits:

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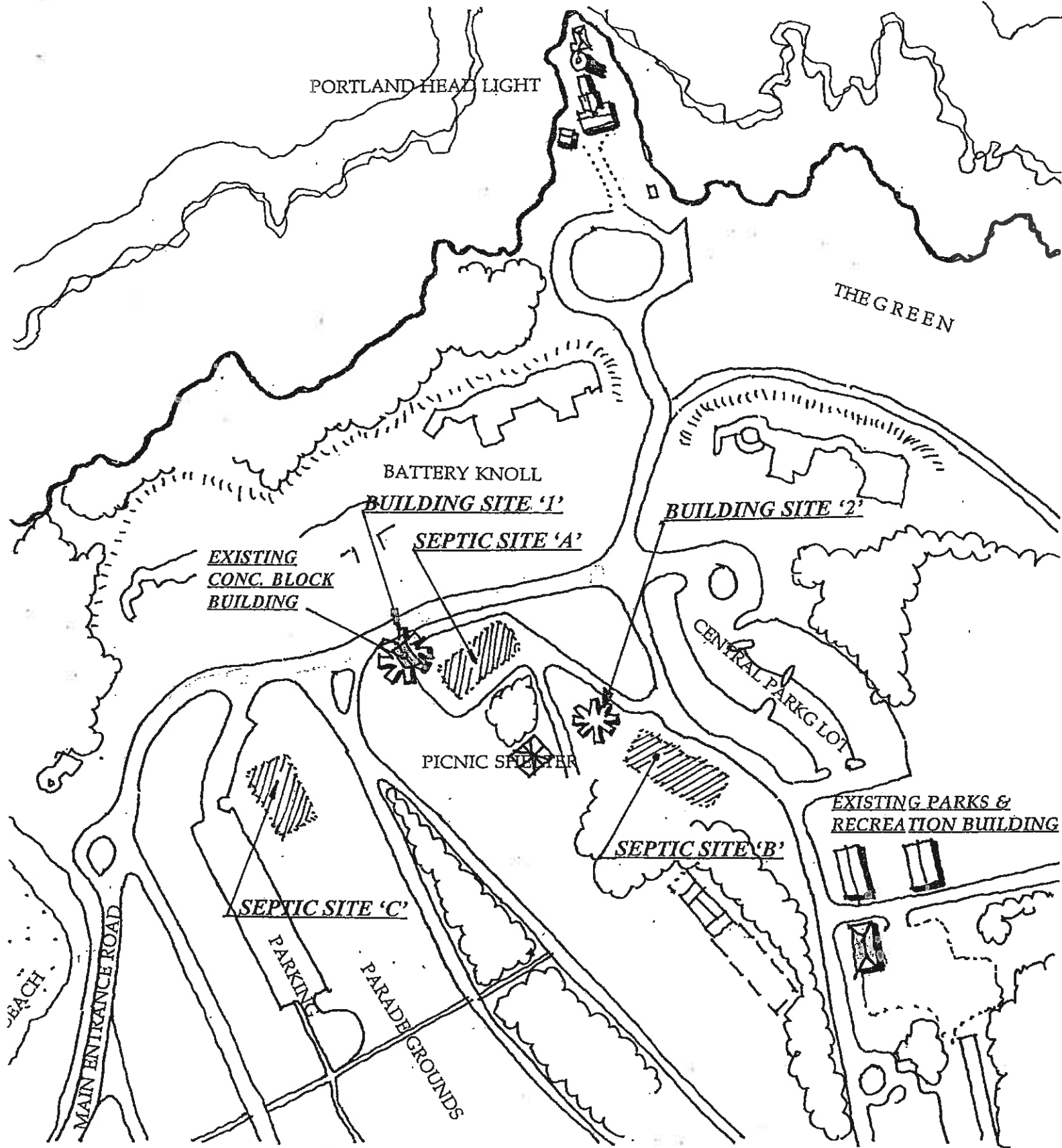
Cover Letter

Report

<i>Introduction and Building Option</i>	1.
Existing Building Concept Plans	
<i>Rest Facility Program</i>	2.
Proposed Building Concept Plans	
<i>New Building Sites</i>	3.
Proposed Concept Site Plans	
<i>Septic System Sites/ Options</i>	4.
<i>Building and Site Costs/ Conclusion</i>	5.

Appendix:	6.
Fixture Calculations	
Detailed Cost Estimates	
Albert Frick Septic Report	

TABLE OF CONTENTS



• CONTEXT PLAN •

Rest Facility Planning Study
 • FORT WILLIAMS PARK •

Town of Cape Elizabeth
 Maine 04107
 January 1995

Terrien Architects, Inc
 4 Milk St. Portland, ME 040101

INTRODUCTION:

Terrien Architects has been retained to provide planning and preliminary design services for a Rest Facility and Concession Stand at Fort Williams Park, Cape Elizabeth, Maine. The Fort Williams Park Advisory Commission and Robert Malley, Public Works Director have served as the study committee.

The following report is a summary of the process and conclusions, including relative construction estimates of the building and site options studied.

The Rest Facility Report compares the relative probable construction costs for the following building and site options:

1. New buildings versus renovations of existing structures.
2. Rest Facility only.
3. Rest Facility and Concession Stand within one structure.
4. Rest Facility and Concession Stand in separate but adjacent structures.
5. Building Sites as follows:
 - * Site '1': Picnic shelter gravel parking lot at block building site
 - * Site '2': Grassy Knoll west side of Humphreys Road.
6. Septic Disposal Sites as follows:
 - *Septic Site 'A': Gravel parking lot.
 - * Septic Site 'B': West side Humphreys Road.
 - * Septic Site 'C': East end of Parade Ground.

The Report concludes that the proposed facilities are better located at Building Site '2', and that the facility size should be limited to that which can be served by a non-engineered, 1,500 gallon per day disposal field at Septic Site 'B'.

BUILDING OPTIONS:

Terrien Architects initially investigated two options for construction of a rest facility.

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1. Renovation and reuse of existing structures and,
2. Construction of new a facility.

Renovation of Existing Building:

Two existing buildings, the **Parks and Recreation Building** (Artillery Engineer Storehouse) and a **Concrete Block Storage Building** located in the picnic shelter gravel parking lot (referred to as "the Block Building") were reviewed for possible renovation/ conversion for a rest facility.

The existing **Parks and Recreation** building is much larger than the required program, and was not further considered because:

- a. It's remote location.
- b. Possible conflict with existing uses (maintenance support).
- c. Lack of suitable septic site adjacent to building.

The '**Block Building**' very closely matched the space requirements for the proposed rest facility; however, it was not further considered for renovation because of the poor condition of the existing masonry and because it is not historically significant.

The 'Block Building' site was also studied for a new facility location and is discussed under new facility, **Building Site '1'**.

NEW BUILDING PROGRAM

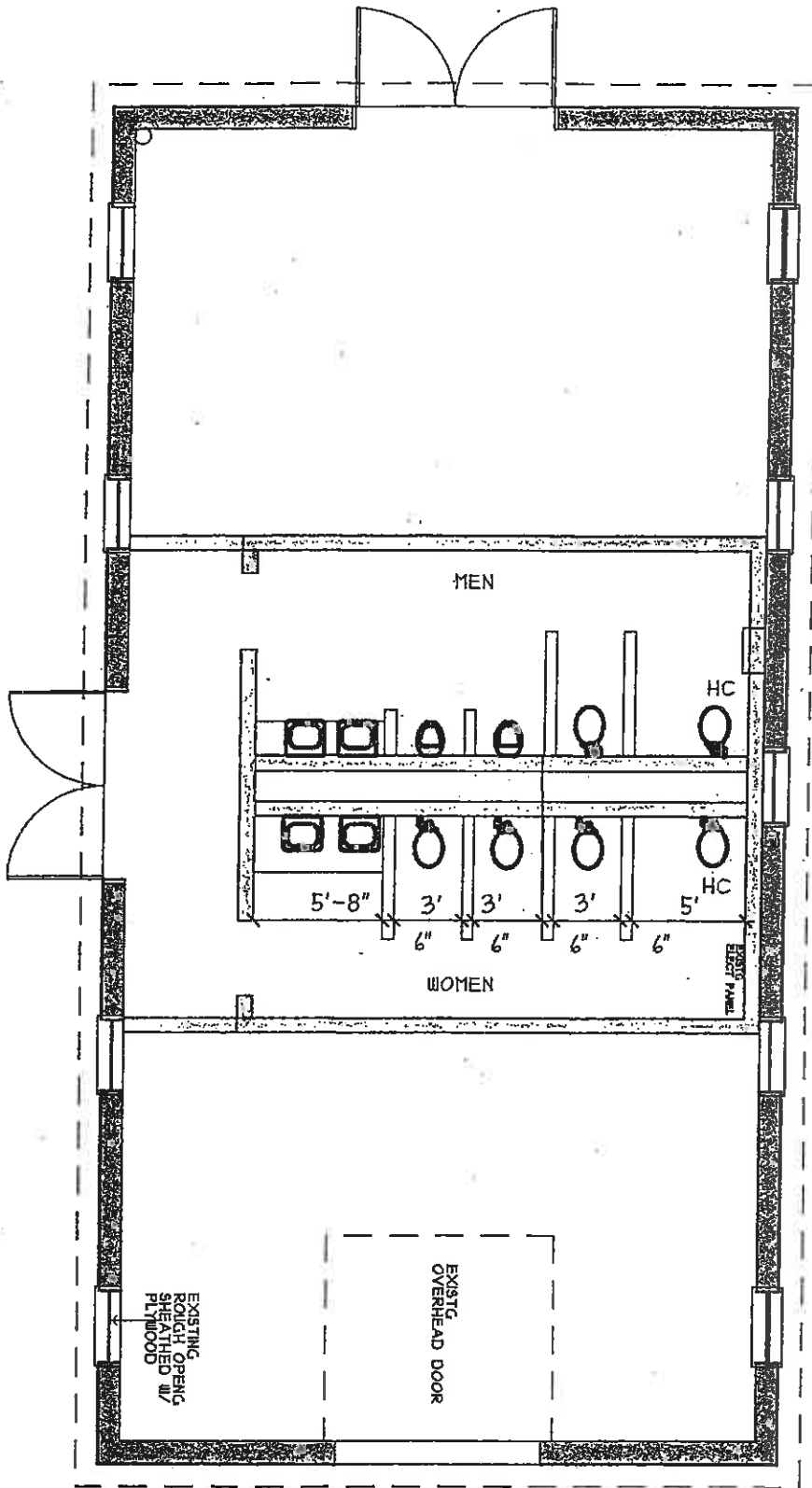
OPTIONS:

The Fort Williams Commission has requested that the following building program options be assessed for costs:

1. Rest Facility structure only.
2. Rest Facility and Concession Stand in one structure.
3. Rest Facility and Concession Stand in separate but adjacent structures.

The third building program option evolved during discussions with the Commission. Option three was introduced as a flexible planning alternative to meet the program requirement of the concession stand with

EXISTING BUILDING PLANS

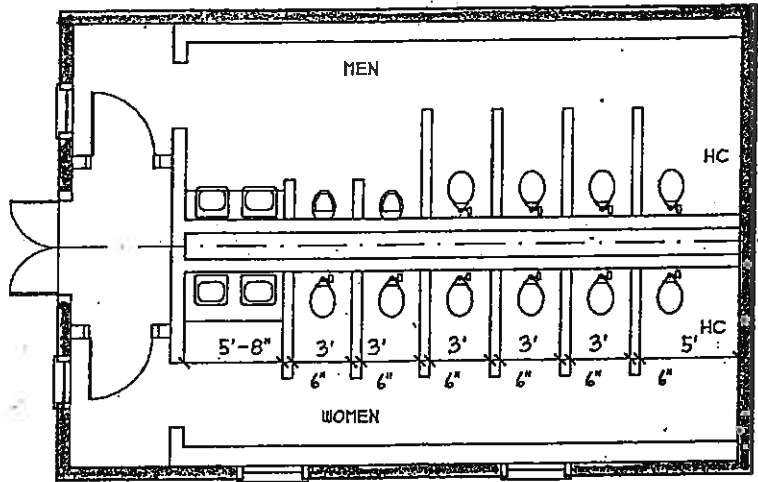


MILITIA STORAGE BUILDING

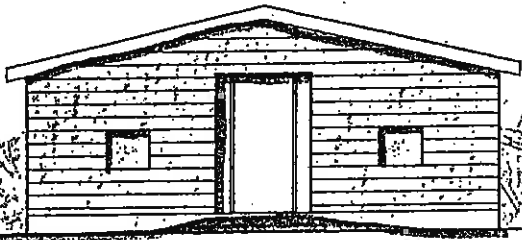
Existg Parks Dept.
• Building Study •

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January 1995

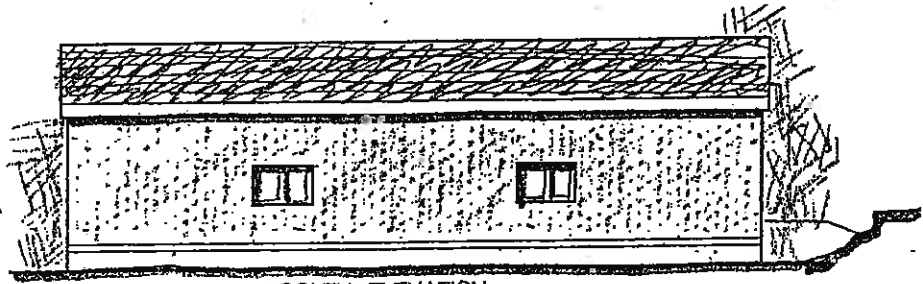
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EXISTING BLOCK BLDG FLOOR PLAN
WITH 12. FIXTURE PROGRAM INSERTED



WEST ELEVATION



SOUTH ELEVATION

EXISTG BLOCK BUILDING STUDY

Existg Concrete Block Building
• at Building Site 1 •

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also allows for the construction of the Rest Facility independently of the Concession Stand.

A separate concession building could include a temporary Concession Stand structure to 'test market' the location, size and impact of the use before building a permanent structure. This option was proposed after concerns were expressed about the costs, feasibility, and possible negative impact of a concession stand on Fort Williams Park.

Rest Facility Program:

The proposed Rest Facility is planned for seasonal use only, generally extending from May to Columbus Day. The plumbing system will be drained during periods of freezing temperatures. The facility is intended to serve only a portion of the Park. The proposed size is a compromise balancing construction budget and the availability and proximity of suitable septic sites. Portable toilets will continue in use for special events, and for other areas remote from the proposed building site - such as the beach.

Determining the number of plumbing fixtures for a rest facility in a community park, with a regional and nation-wide constituency is a "guesstimate". The State Plumbing Code was used as a guide, but does not directly relate to this facility.

Discussions with the State Bureau of Parks and Recreation revealed that the provision of rest facilities varies greatly from park to park. Because of the wide range of users and length of visits, it was suggested that past experience be used to assess the size of the proposed facility. The following methods were used to calculate user demand

User and water flow requirement calculations:

Method 1. By Parking Spaces
(Maine State Plumbing Code requires 3 gpd per parking space; or 5 to 10 gpd per visitor.)

Totals

1.1. Parking spaces =	513 gpd.
1.2. Buses =	710 gpd
Total	1,223 gallons per day.

Septic System Size: Assume 1,500 gallons per day.

Method 1A. By visitors per parking space:

1A.1 Given: 171 parking spaces.
1A.2 Assume 2 persons per vehicle (varies widely).
171 spaces x 2 people = 342 people.
A.3. Calculate flow @ 5 to 10 gallons per person per day: = 1,710 gpd to 3,420 gpd

Method 2. Disposal Field capacity:
(Calculate fixture count based on 1,500 gpd disposal field.) Assume the following:
192 gpd/fixture; say 200 gallons/day/fixture (discussed with and approved by D.H.S., Health Engineering).

A 1,500 gpd disposal area capacity can serve 8 fixtures (rounded up) at 200 gpd/fixture,

Plumbing Fixtures are proposed as follows:
Women: 3 toilets +1 lavatories = 4 fixtures
Men: 2 toilets +1 lavatories = 3 fixtures
Concession stand: 1 sink = 1 fixture¹.
Total Fixtures = 8 fixtures

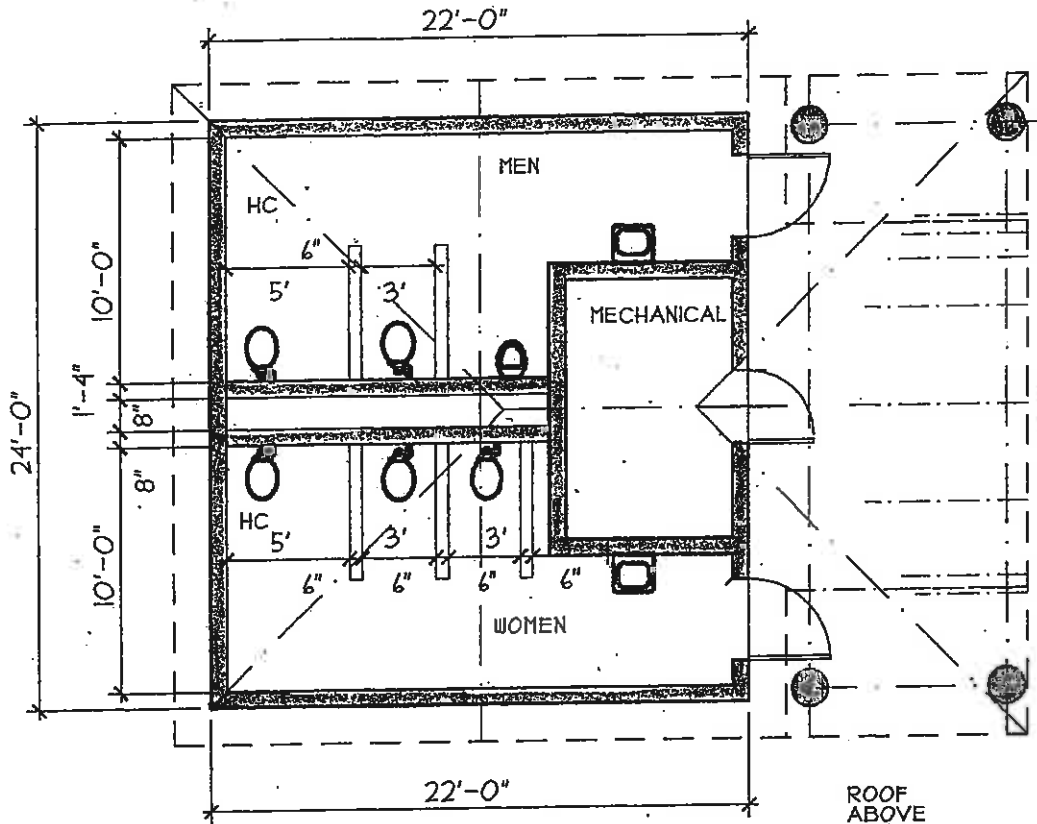
1. Note: if concession stand is not built, add one toilet to men's room.

It was concluded that Method 2, would be used for planning and estimating the relative costs of the rest facility. The user demand calculation and septic site capacity were weighed against the limited probable construction budget .

Concession Stand Program:

The Fort Williams Commission did not reach consensus about the need, size or program for the Concession Stand. Therefore, Terrien Architects assumed for the purposes of developing construction cost estimates, that sales at the Concession Stand will be limited to prepared and prepackaged foods and beverages. There shall be no cooking or food preparation on premises. The menu

PROPOSED BUILDING PLANS

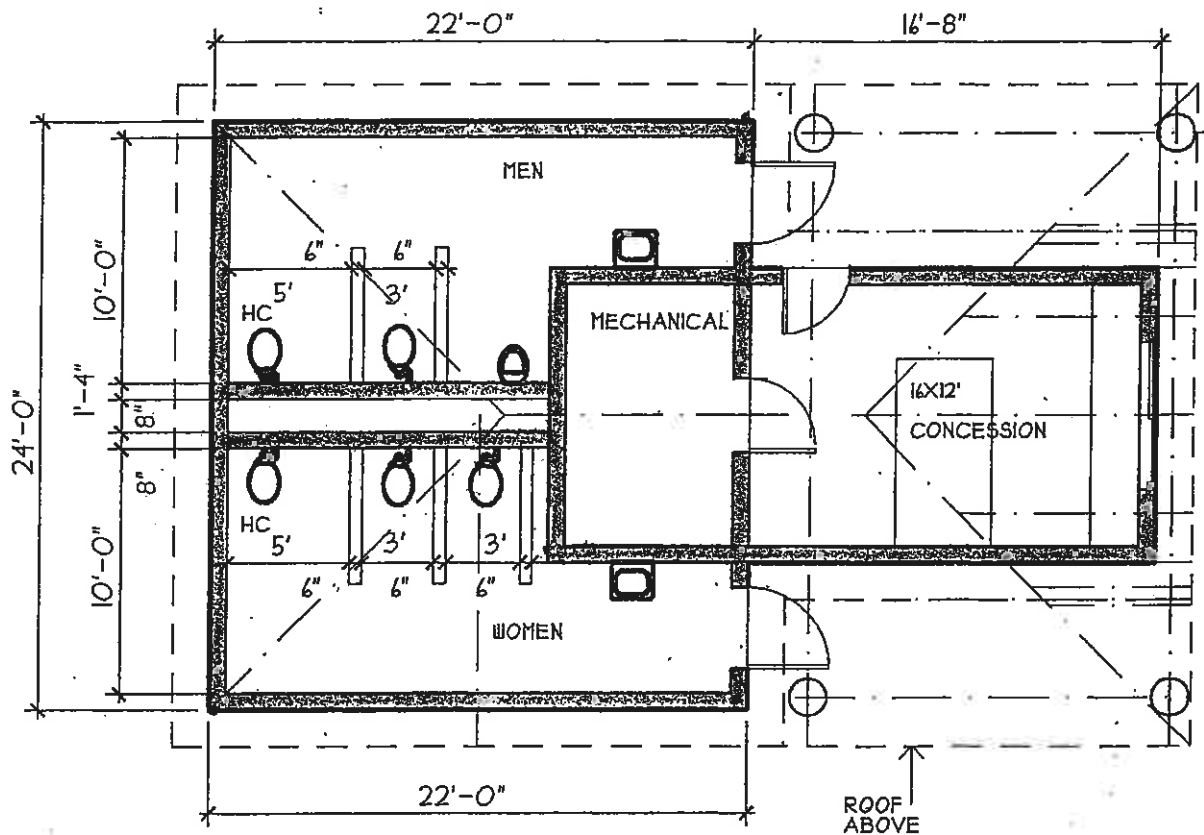


REST FACILITY W/ MECH. ROOM

Concept Plan
•Rest Facility•

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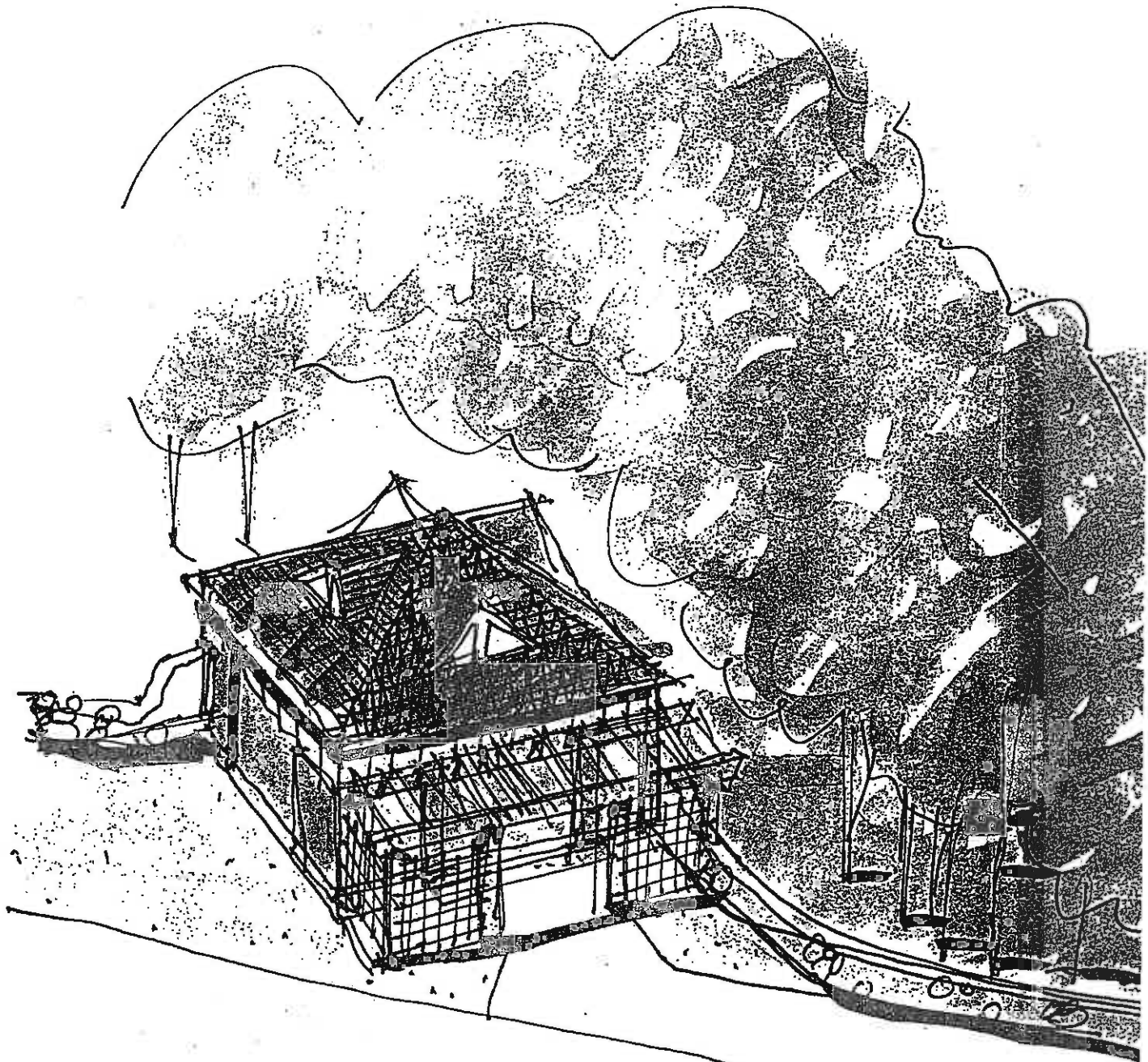


REST FACILITY W/ CONCESSION STAND

Concept Plan
•Rest Facility w/ Concession Stand•

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Concept Plan

•Rest Facility Study Sketches•

SITE 2

Rest Facility Planning Study

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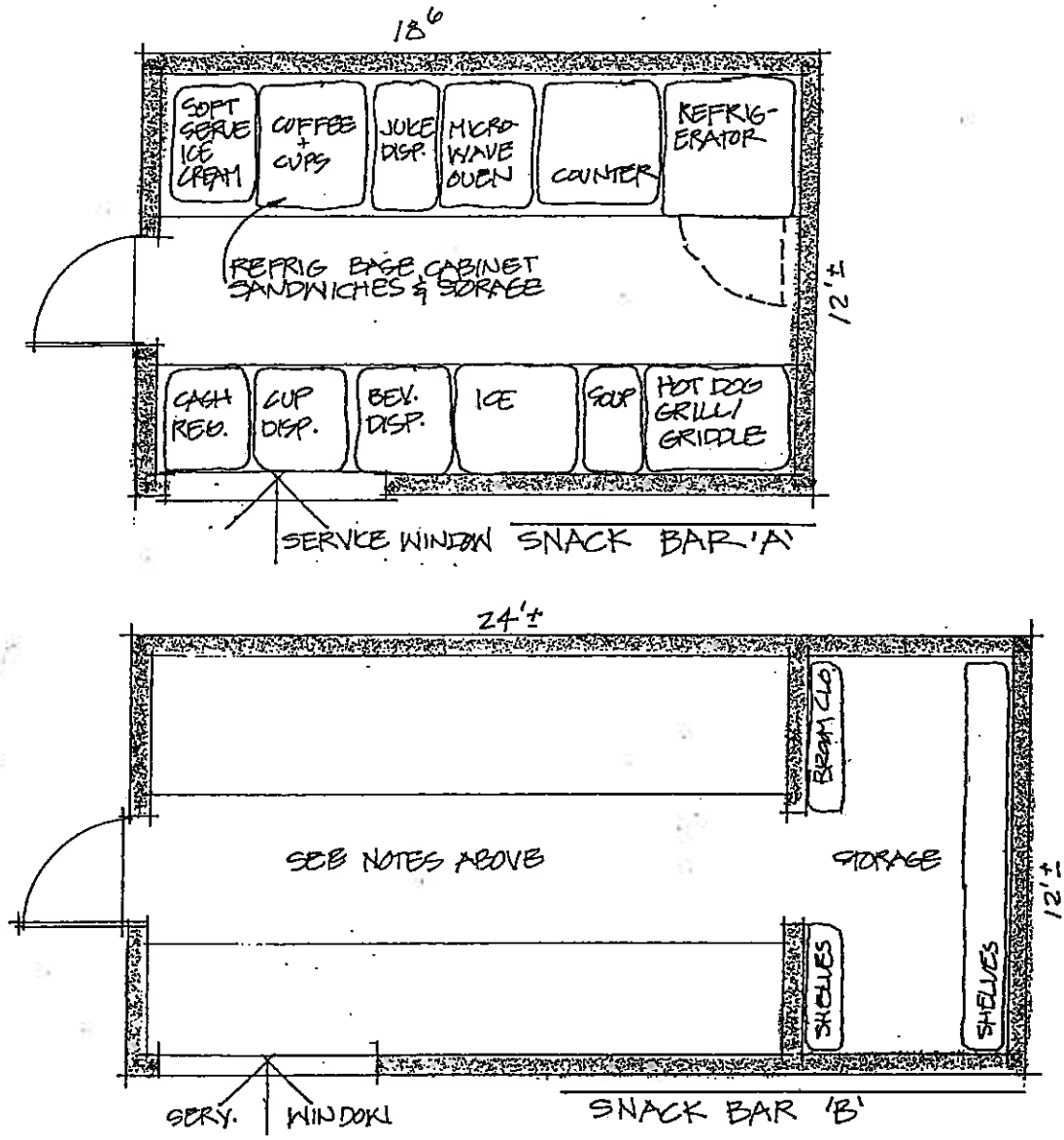
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Concept Plan

•Concession Stand•

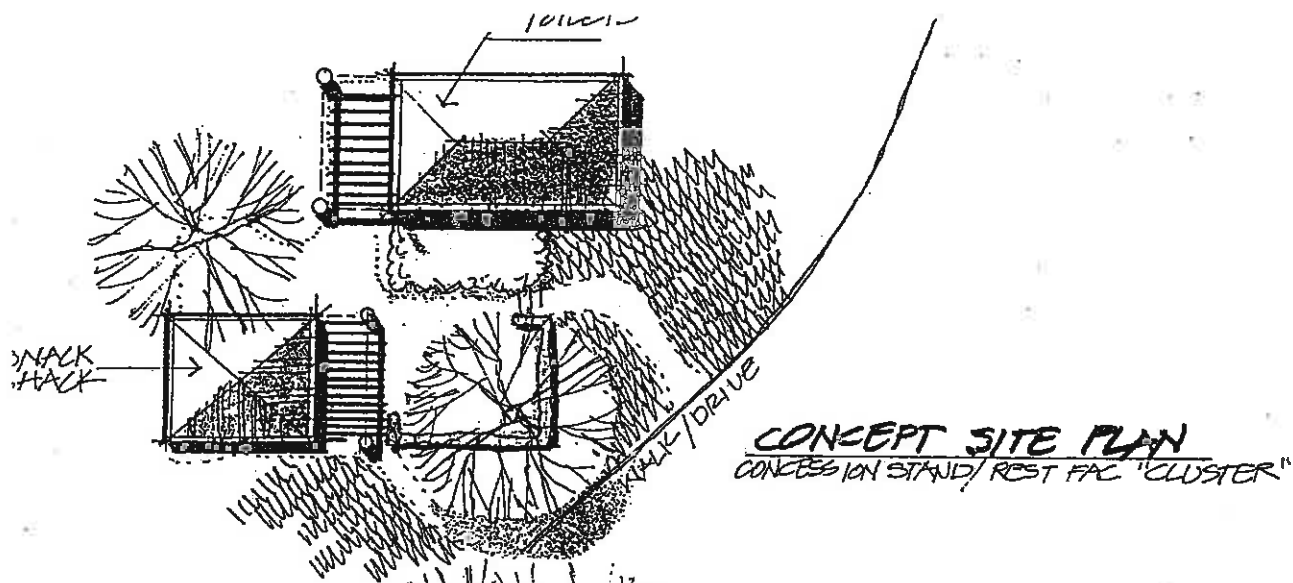
Rest Facility Planning Study

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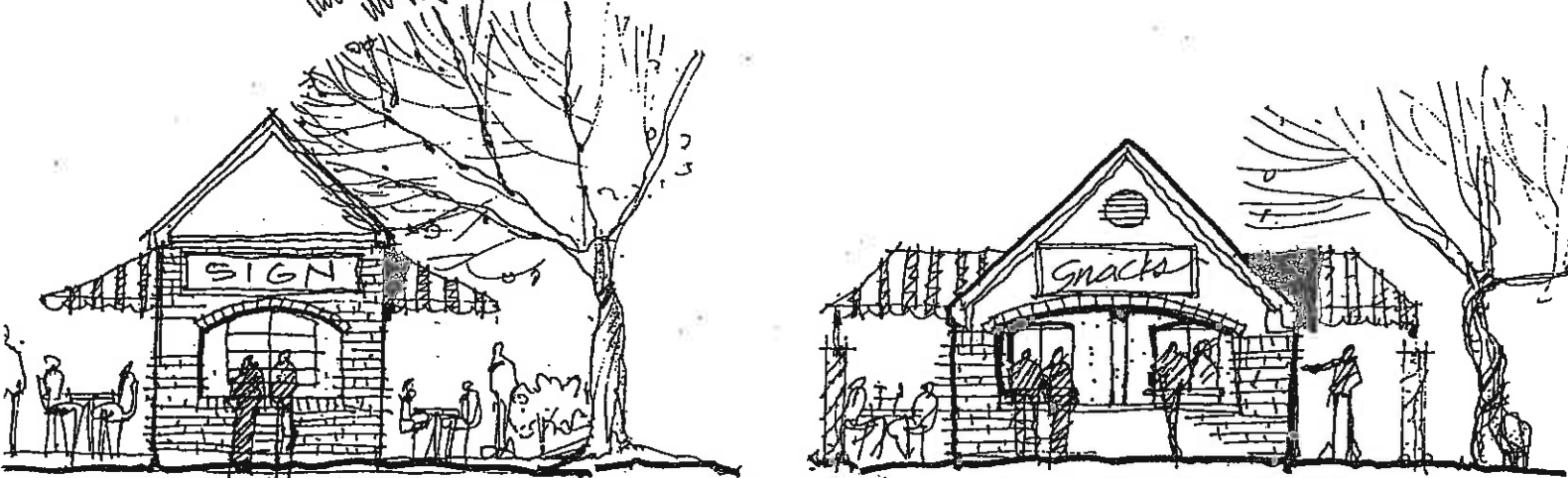
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CONCEPT SITE PLAN
CONCESSION STAND/REST FAC "CLUSTER"



2 ALTERNATIVE ELEV. SKETCHES

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CONCESSION STAND CONCEPTS

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91499

Concept Plan

•Concession Stand Study Sketches•

Rest Facility Planning Study

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may include soft drinks and picnic or box lunches, to complement the predominant passive recreation use in the park.

The Concession Stand may be staffed by one or two persons. It would be approximately the size of a Little League baseball concession facility, or approximately 12'x16' to 16'x 22', depending upon storage requirements. Running water is proposed for sanitary reasons.

The person operating the Concession Stand could manage the attached or adjacent Rest Facility. The Pavilion at Deering Oaks Park is staffed in this manner.

Except for a temporary wood structure used to test the market feasibility of the concession stand, the concession stand could be constructed of wood for economy, or masonry for durability and vandal resistance. A price for each construction method is provided.

Building Materials:

Public Rest Facilities are subjected to "intensive" use and should be constructed of vandal resistant materials, even when the facility is supervised.

The estimate of probable construction costs is based on the following building systems/ materials:

1. Concrete frost wall with footing, 4 feet deep.
2. Concrete block (8" thick) perimeter wall and demising walls.
3. Concrete block (6" thick) toilet stalls.
4. Some architectural brick accent masonry.
5. Concrete slab on grade with vapor barrier on 12" gravel.
6. Water conserving toilets and lavatories.
7. Wood frame roof with architectural premium shingles, painted trim.
8. 100 amp electrical service, lights and switches. No heat.
9. Passive ventilation, louvers and vents.
10. Miscellaneous accessories.

NEW BUILDING SITES:

Locational Criteria:

The following criteria was used in selecting potential sites for the Rest Facility

Building:

- a. An accessible but not prominent location.
- b. Reasonably convenient to activity areas, the Picnic Shelter, Light House, and Central Parking Lot.
- c. In reasonable proximity to existing water and electrical utilities and suitable soils for a septic disposal site.

Building Site Options:

The following building sites were selected based on the Locational criteria:

1. Building Site '1':

Near the existing block building located at the northerly end of the Picnic Shelter gravel parking lot.

2. Building Site '2':

A grassy knoll to the south of the picnic shelter, on the west side of the gravel parking lot entrance drive/ Humphreys Road.

The cost of **building** construction does not vary significantly with the site choice. However, the cost of **site work** and utilities varies significantly. Costs are provided under the Construction Costs heading.

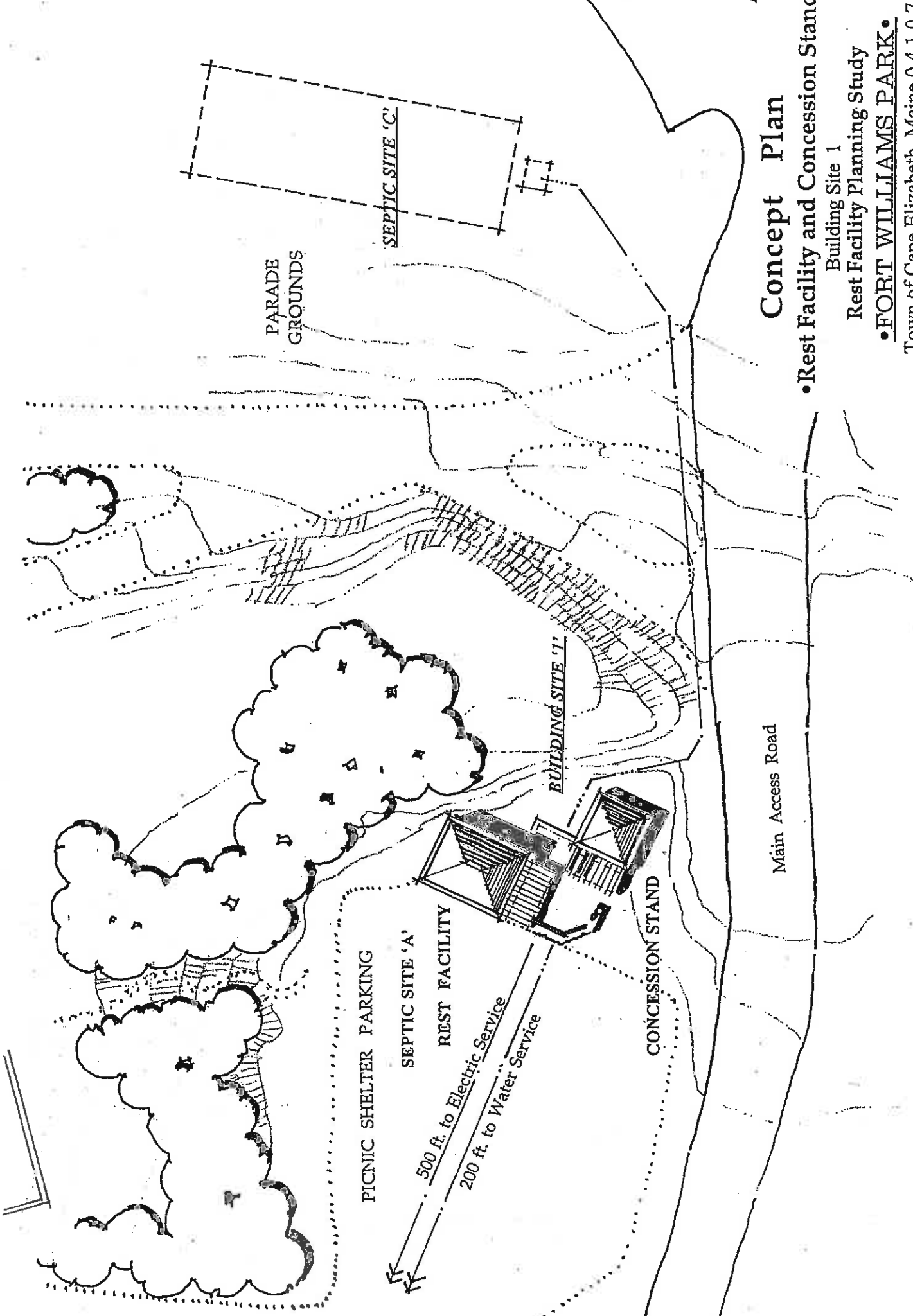
Building 'Site 1':

Site costs for site 1 are higher because of the longer distance to water and electrical service, and possible ledge removal. The depth to bedrock is shallow below the gravel parking lot. Building Site '1' is very visible from the main entrance road and more central to the Parade Ground and Ships Cove Beach.

Building 'Site 2':

Site 2 is adjacent to the proposed septic disposal field (B), and the closest of all sites to existing water and electrical

PROPOSED SITE PLANS

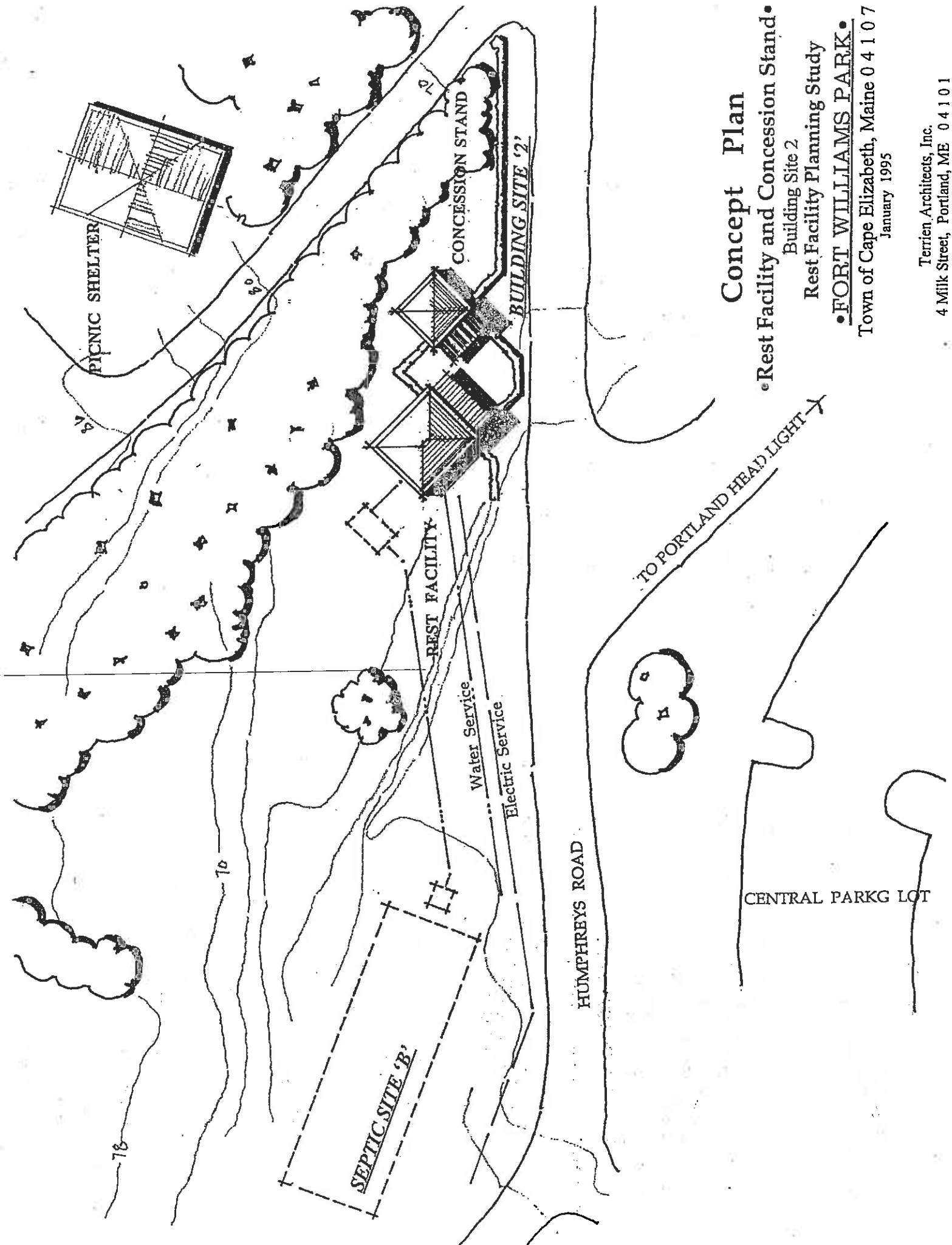


Concept Plan

- Rest Facility and Concession Stand
- Building Site 1
- Rest Facility Planning Study
- FORT WILLIAMS PARK •

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Concept Plan

Rest Facility and Concession Stand
 Building Site 2
 Rest Facility Planning Study

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pronounced hill with shallow bedrock. Site 'C' is also remote from 'Building Site 1', increasing the costs of utilities.

BUILDING AND SITE COSTS:

The following estimate of probable construction costs are based on the preliminary building program and building systems identified in this report. Costs for construction of the septic system disposal field are provided by Albert Frick and Associates.

Costs Summary:

Note: Cost below are for construction only and include a 10% contingency.

1 Rest Facility Only

Bldg loc.	'Bldg Site 2' Septic site	'Bldg Site 1' Septic Site 'C'
Building Cost	\$42,470	\$42,590
Site Costs	7,320	21,989
Septic System	<u>24,200</u>	<u>33,000</u>
Total	\$73,990	\$97,579

2. Rest Facility w/ Concession Stand²

Bldg loc.	'Bldg Site 2' Septic Site 'B'	'Bldg Site 1' Septic Site 'C'
Building Cost	\$53,436	\$53,541
Site Costs	7,777	24,989
Septic System	<u>24,200</u>	<u>33,000</u>
Total	\$85,413	\$109,162

3. Separate Rest Facility & Concession Stand

Bldg loc.	'Bldg Site 2' Septic Site 'B'	'Bldg Site 1' Septic Site 'C'
R.F. Bldg Cost	\$42,470	\$42,590
C.S.. Bldg Cost ³	\$20,196	20,196
Site Costs	7,320	21,989
Septic System	<u>24,200</u>	<u>33,000</u>
Total	\$94,186	\$117,775

2. Note: price for combined facility were estimated from 22'x24' building w/ 16x12' concession area.

3. Concession stand 12'x20', Concrete Block construction.

Note: A wood frame concession stand building is estimated to cost between \$18,216 for a 12'x20' footprint to \$23,134 for a 16'x22' building.

CONCLUSION:

A review of the Cost Summary indicates that the more economical site for the proposed buildings is 'Building Site 2' (grassy knoll), using Septic Site 'B', located below and to the south of the Picnic Shelter.

The most significance cost savings realized at 'Building Site 2' is the lower cost of utilities because of the proximity to existing water and electrical power.

The Construction cost is estimated at \$73,990; total project cost may range from \$81,389 to \$85,086 depending on soft costs assuming a multiplier of 1.10 to 1.15.

Although the estimate of probable construction cost is lower for the combined Rest Facility and Concession Stand, it may be appropriate to construct separate facilities due to the lack of consensus by the Advisory Commission on the appropriateness or size of a Concession Stand. If a wooden concession facility were constructed with a separate Rest Facility, the total costs could be as low as \$92,206.

utilities. Building Site 2 is visible but not prominent. It is convenient to the central and southern areas of the Park, including the proposed recreational field area south of the Central Parking Lot. It is also reasonably close to the Portland Head Light.

SEPTIC SYSTEM SITES/ OPTIONS:

Public Sewer:

Fort Williams Park is not now served by public sewer. Sewer is available in Little John Road., opposite the Park Entrance.

The Public Works director informed the Commission that an earlier study of the cost of providing public sewer in the park estimated costs greater than \$100,000. A general linear foot cost estimate for a sewer line from Building 'Site 1' to public sewer confirmed the earlier estimate.

Public sewer is not economically feasible for the proposed building project as it is costs 3 times more than the septic system.

Septic System Sites:

Three potential sites for septic disposal fields were identified for further study. Albert Frick, soil scientist, in consultation with the Bob Malley and the Architect, identified 3 sites for preliminary investigation near the proposed building sites as follows:

1. **Septic Site 'A':** The gravel parking lot located below the picnic shelter and adjacent to the 'Block Building'.
2. **Septic Site 'B':** An open area to the south and below the Grassy Knoll building site (Building Site 2).
3. **Site 'C':** The eastern 25% of the Parade Grounds.

Septic sites on the eastern (ocean) side of the park's Main Entrance Road were not considered further after the initial site walk because of steep slopes, poor soils - variable rubble and miscellaneous fill material, and the remote locations from the preferred building sites.

Septic System Sites Findings:

Test pits and preliminary soils investigation were undertaken for Septic Sites 'A', 'B', and 'C'. A report dated December 8, 1994, (appended), was prepared by Albert Frick and Associates. It is the basis of septic costs for this report.

Septic Site 'A' summary:

Site 'A' (picnic shelter gravel parking lot) soils were very shallow to bedrock. This site was deemed unsuitable for a septic disposal site because it requires approximately 3 feet of fill above existing grade and the use of more expensive concrete chamber system infiltrators to support the weight of parked vehicles. The construction costs would be considerably more than that of sites 'A' and 'B' for the disposal field.

The 3 ft. high fill for this site would greatly restrict the use of the existing parking lot. Therefore, no detailed costs were developed.

Septic Site 'B' summary:

Site 'B' (Humphreys Rd.) soils are suitable for a septic disposal area with a capacity of approximately 1,500 gallons per day. This open, grassy site can be easily graded to contour the leach field into the existing site and enhance the roadside slope on Humphreys Road. There is little room for expansion of the disposal field beyond 1,500 gpd at septic site 'B'. It is anticipated that the proposed rest facility would not be expanded, but rather any future facilities may be proposed at other sites for the convenience of park visitors. Septic Site 'B' is located nearest of the three septic sites to existing water and electrical service. Septic Site 'B' is located down slope from the building site and does not require pumping.

Septic Site 'C' summary:

Site 'C' (Parade Ground) soils were suitable for the planned sewer flows and "substantially more". It requires less earth work than site 'B' and could accommodate future expansion. Constraints include the requirement for pumping (the septic site is separated from any building sites by a

APPENDIX

APPENDIX

User and water flow requirement calculations:

Method 1. By Parking Spaces

(Maine State Plumbing Code requires 3 gpd per parking space; or 5 to 10 gpd per visitor.)

1.1. Parking Spaces Near Site:

171 parking spaces x 3 gpd/space =
513 gpd.

1.2. Buses

1) 6 buses @ 47 passengers = 283
passengers.

2) 283 passengers @ 25% usage = 71 people
x 10 gpd/person = 710 gpd.

1.3. Totals

1.1. Parking spaces = 513 gpd.

1.2. Buses = 710 gpd

Total 1,223 gallons per
day.

1.4. Septic System Size: Assume 1,500 gallons per day.

Method 1A. By visitors per parking space:

1A.1 Given: 171 parking spaces.

1A.2 Assume 2 persons per vehicle
(varies widely).

171 spaces x 2 people = 342 people.

A.3. Calculate flow @ 5 to 10 gallons per
person per day:

342 visitors x 5 gpd = 1,710 gpd

342 visitors x 10 gpd = 3,420 gpd

Method 2. Disposal Field capacity:

(Calculate fixture count based on 1,500 gpd disposal field.) Assume the following:

*1 use or flush every 5 minutes =

12 uses per hour;

*2 gallons per use (water conserving fixtures);

*8 hour day.

2.1. Calculate flow rates in gallons per
day, per fixture:

2 gallons/fixture @ 12 uses per hour x 8hrs. =
192 gpd/fixture; say 200 gallons/day/fixture
(discussed with and approved by D.H.S., Health
Engineering).

2.2. Calculate maximum number of
Terrien Architects

fixtures for 1,500 gpd disposal field:

1,500 gpd disposal area capacity = 8 fixtures
(rounded up) 200gpd/fixture.

2.3. Fixture Allocation.

Women: 3 toilets +1 lavatories = 4 fixtures

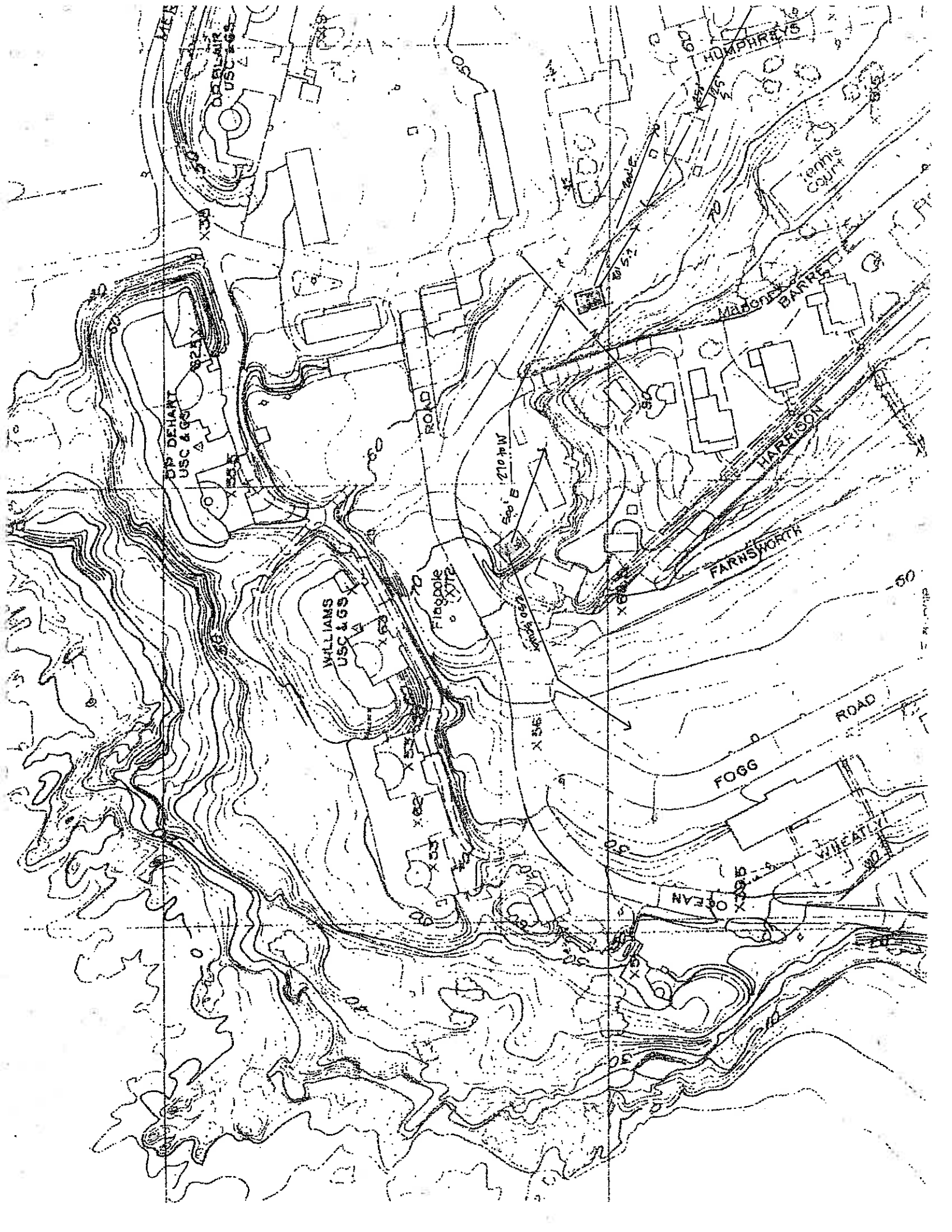
Men: 2 toilets +1 lavatories = 3 fixtures

Concession stand: 1 sink = 1 fixture.

Total Fixtures = 8 fixtures

1. Note: if concession stand is not built, add one
toilet to men's room.

ESTIMATES OF COSTS



Fort Williams Rest Facility
 New Facility 24'x22' Site 1/C

Fort Williams Rest Facility					
Concept Design Estimate Site 1/C					
New Facility 24x22 2.11.95					
Terrien Architects Inc.					
Item	Quantity	Unit	Unit Price	Total	Subtotals
SITE					
1. Clear and Grub	0.07	Acres	2,000	\$140.00	
2. Tree remov	1	LS	350	\$350.00	
3. Found Excav	39	CY	5	\$195.00	
4. Backfill	56	CY	10	\$560.00	
5. Sidewalks	970	SF	1	\$970.00	
6. Loam & Seed	2.3	MSF	300	\$690.00	
7. Water service	360	LF	35	\$12,600.00	
8. Electrical service	460	LF	9.75	\$4,485.00	
9. site subtotal 1					\$19,990
8. Septic Site 'C'	1	LS	30,000	\$30,000.00	
Subtotal site w/ septic				0	\$49,990
FOUNDATION					
1. Footings (8"x24")	88	LF	22	\$1,936.00	
2. 4' Frost Wall 8"th	88	LF	27.65	\$2,433.20	
3. Brick ledge 4"	48	LF	4.35	\$208.80	
				\$0.00	
Subtotal				0	\$4,578
				0	
FLOOR SLAB					
1. 18" Gravel	33	CY	10	\$330.00	
2. Excav	21	CY	5	\$105.00	
3. Vapor Barrier	1	LS	100	\$100.00	
4. 4" Conc. slab	593	SF	2.95	\$1,749.35	
5. Paint	593	SF	0.36	\$213.48	
Subtotal					\$2,498
CONCRETE BLOCK					
1. 8" Perimeter Blk	704	SF	4.80	\$3,379.20	
2. 8" Interior Blk	330	SF	4.80	\$1,584.00	
3. To underside roof	279	SF	4.80	\$1,339.20	
4. 6" Blk @ Stalls	165	SF	4.00	\$660.00	
5. 6" Blk Urinal Stalls	12	SF	4.00	\$48.00	
6. Brick @ Corners	408	SF	0.00	\$0.00	
7. Masonry Painting	2477	SF	0.36	\$891.72	
				0	
Subtotal				0	\$7,902
				0	
ROOF					
1. 2x10 Framing	750	SF	1.58	\$1,185.00	
2. Ceiling Framing	484	SF	0.60	\$290.40	
3. Shingles Premium	923	SF	1.48	\$1,366.04	
4. Fascia	110	LF	0.90	\$99.00	

Fort Williams Rest Facility
New Facility 24'x22' Site 1/C

5. Misc. Flashing	1	LS	250.00	\$250.00	
6. Painting	1	LS	100.00	\$100.00	
				\$0.00	
Subtotal				0	\$3,290
				0	
PLUMBING				0	
1. Toilets Back / Back	4	EA	1,545.00	\$6,180	
2. Toilets individual	1	EA	960.00	\$960	
3. Urinals	1	EA	890.00	\$890	
4. Lavatories	2	EA	720.00	\$1,440	
5. Hose Bibs	2	EA	100.00	\$200	
6. Line drains	2	EA	150.00	\$300	
7. Floor drains	4	EA	300.00	\$1,200	
				\$0	
Subtotal				\$0	\$11,170
				0	
ELECTRICAL				0	
1. 100 Amp Service	1	LS	890.00	\$890.00	
2. Lights	484	SF	3.44	\$1,664.96	
4. Miscellaneous	1	LS	150.00	\$150.00	
				\$0.00	
Subtotal				\$0.00	\$2,705
MISCELLANEOUS				0	
1. W.C. Doors	5	EA	430.00	\$2,150.00	
2. Mirrors	2	EA	50.00	\$100.00	
3. Exterior Doors	3	EA	375.00	\$1,125.00	
4. Toilet Accessories	5	EA	20.00	\$100.00	
5. Signage	1	LS	100.00	\$100.00	
6. Scree/Shade Stctr	200	SF	0.00	\$0.00	
7. Vents	20	EA	150	\$3,000.00	
				0	
Subtotal				0	\$6,575
				0	
Total				0	\$88,708
10% Contingency	1			8,871	\$97,579
Fees and Admin	1			9,758	\$107,337
				0	
Project Total				0	\$107,337
				0	
Alternates				0	
1. Water Service Add	0	LF	10	\$0	
2. Brick @ Corners	408	SF	8	\$3,264	
3. Ledge	30	CY	100	\$3,000	
				0	\$6,264
Total					\$113,601

Fort Williams Rest Facility
and Concession Stand Site 1/C

Fort Williams Rest Facility					
Concept Design Estimate Site 1/C					
New Combined Facility 2.11.95					
Terrien Architects Inc.					
Item	Quantity	Unit	Unit Price	Total	Subtotals
SITE					
1. Clear and Grub	0.07	Acres	2,000	\$140.00	
2. Tree remov	1	LS	350	\$350.00	
3. Found Excav	54	CY	5	\$270.00	
4. Backfill	79	CY	10	\$790.00	
5. Sidewalks	970	SF	1	\$970.00	
6. Loam & Seed	3.2	MSF	300	\$960.00	
7. Water service	360	LF	35	\$12,600.00	
8. Electrical service	460	LF	9.75	\$4,485.00	
9. site subtotal 1					\$20,565
8. Septic Site 'C'	1	LS	30,000	\$30,000.00	
Subtotal site w/ septic				0	\$50,565
FOUNDATION					
1. Footings (8"x24")	126	LF	22	\$2,772.00	
2. 4' Frost Wall 8"th	126	LF	27.65	\$3,483.90	
3. Brick ledge 4"	66	LF	4.35	\$287.10	
				\$0.00	
Subtotal				0	\$6,543
FLOOR SLAB					
1. 18" Gravel	46	CY	10	\$460.00	
2. Excav	29	CY	5	\$145.00	
3. Vapor Barrier	1	LS	150	\$150.00	
4. 4" Conc. slab	728	SF	2.95	\$2,147.60	
5. Paint	728	SF	0.36	\$262.08	
Subtotal					\$3,165
CONCRETE BLOCK					
1. 8" Perimeter Blk	1008	SF	4.80	\$4,838.40	
2. 8" Interior Blk	520	SF	4.80	\$2,496.00	
3. To underside roof	387	SF	4.80	\$1,857.60	
4. 6" Blk @ Stalls	165	SF	4.00	\$660.00	
5. 6" Blk Urinal Stalls	12	SF	4.00	\$48.00	
6. Brick @ Corners	567	SF	0.00	\$0.00	
7. Masonry Painting	3443	SF	0.36	\$1,239.48	
				0	
Subtotal				0	\$11,139
ROOF					
1. 2x10 Framing	975	SF	1.58	\$1,540.50	
2. Ceiling Framing	728	SF	0.60	\$436.80	
3. Shingles Premium	923	SF	1.48	\$1,366.04	
4. Fascia	152	LF	0.90	\$136.80	

Fort Williams Rest Facility
and Concession Stand Site 1/C

5. Misc. Flashing	1	LS	348.00	\$348.00	
6. Painting	1	LS	139.00	\$139.00	
				\$0.00	
Subtotal				0	\$3,967
				0	
PLUMBING				0	
1. Toilets Back / Back	4	EA	1,545.00	\$6,180	
2. Toilets individual	1	EA	960.00	\$960	
3. Urinals	1	EA	890.00	\$890	
4. Lavatories	3	EA	720.00	\$2,160	
5. Hose Bibs	2	EA	100.00	\$200	
6. Line drains	3	EA	150.00	\$450	
7. Floor drains	5	EA	300.00	\$1,500	
				\$0	
Subtotal				\$0	\$12,340
				0	
ELECTRICAL				0	
1. 100 Amp Service	1	LS	890.00	\$890.00	
2. Lights	728	SF	3.44	\$2,504.32	
4. Miscellaneous	1	LS	150.00	\$150.00	
				\$0.00	
Subtotal				\$0.00	\$3,544
MISCELLANEOUS				0	
1. W.C. Doors	5	EA	430.00	\$2,150.00	
2. Mirrors	2	EA	50.00	\$100.00	
3. Exterior Doors	5	EA	375.00	\$1,875.00	
4. Toilet Accessories	5	EA	20.00	\$100.00	
5. Signage	1	LS	150.00	\$150.00	
6. Scree/Shade Stctr	200	SF	0.00	\$0.00	
7. Vents	24	EA	150	\$3,600.00	
				0	
Subtotal				0	\$7,975
				0	
Total				0	\$99,239
10% Contingency	1			9,924	\$109,162
Fees and Admin	1			10,916	\$120,079
				0	
Project Total				0	\$120,079
				0	
Alternates				0	
1. Water Service Add	0	LF	10	\$0	
2. Brick @ Corners	567	SF	8	\$4,536	
3. Ledge	30	CY	100	\$3,000	
				0	\$7,536
Total					\$127,615

Fort Williams Rest Facility
 New Facility 24'x22' Site 2/B

Fort Williams Rest Facility					
Concept Design Estimate Site 2/B					
New Facility 24x22		2.11.95			
Terrien Architects Inc.					
Item	Quantity	Unit	Unit Price	Total	Subtotals
SITE					
1. Clear and Grub	0.07	Acres	2,000	\$140.00	
2. Tree remov	1	LS	350	\$350.00	
3. Found Excav	39	CY	5	\$195.00	
4. Backfill	26	CY	10	\$260.00	
5. Sidewalks	970	SF	1	\$970.00	
6. Loam & Seed	2.3	MSF	300	\$690.00	
7. Water service	60	LF	35	\$2,100.00	
8. Electrical service	200	LF	9.75	\$1,950.00	
9. site subtotal 1					\$6,655
8. Septic Site B 1500	1	LS	22,000	\$22,000.00	
Subtotal site w/ septic				0	\$28,655
FOUNDATION					
1. Footings (8"x24")	88	LF	.22	\$1,936.00	
2. 4' Frost Wall 8"th	88	LF	27.65	\$2,433.20	
3. Brick ledge 4"	48	LF	4.35	\$208.80	
				\$0.00	
Subtotal				0	\$4,578
				0	
FLOOR SLAB					
1. 12" Gravel	22	CY	10	\$220.00	
2. Excav	21	CY	5	\$105.00	
3. Vapor Barrier	1	LS	100	\$100.00	
4. 4" Conc. slab	593	SF	2.95	\$1,749.35	
5. Paint	593	SF	0.36	\$213.48	
Subtotal					\$2,388
CONCRETE BLOCK					
1. 8" Perimeter Blk	704	SF	4.80	\$3,379.20	
2. 8" Interior Blk	330	SF	4.80	\$1,584.00	
3. To underside roof	279	SF	4.80	\$1,339.20	
4. 6" Blk @ Stalls	165	SF	4.00	\$660.00	
5. 6" Blk Urinal Stalls	12	SF	4.00	\$48.00	
6. Brick @ Corners	408	SF	0.00	\$0.00	
7. Masonry Painting	2477	SF	0.36	\$891.72	
				0	
Subtotal				0	\$7,902
				0	
ROOF					
1. 2x10 Framing	750	SF	1.58	\$1,185.00	
2. Ceiling Framing	484	SF	0.60	\$290.40	
3. Shingles Premium	923	SF	1.48	\$1,366.04	
4. Fascia	110	LF	0.90	\$99.00	

Fort Williams Rest Facility
New Facility 24'x22' Site 2/B

5. Misc. Flashing	1	LS	250.00	\$250.00	
6. Painting	1	LS	100.00	\$100.00	
				\$0.00	
Subtotal				0	\$3,290
				0	
PLUMBING				0	
1. Toilets Back / Back	4	EA	1,545.00	\$6,180	
2. Toilets individual	1	EA	960.00	\$960	
3. Urinals	1	EA	890.00	\$890	
4. Lavatories	2	EA	720.00	\$1,440	
5. Hose Bibs	2	EA	100.00	\$200	
6. Line drains	2	EA	150.00	\$300	
7. Floor drains	4	EA	300.00	\$1,200	
				\$0	
Subtotal				\$0	\$11,170
				0	
ELECTRICAL				0	
1. 100 Amp Service	1	LS	890.00	\$890.00	
2. Lights	484	SF	3.44	\$1,664.96	
4. Miscellaneous	1	LS	150.00	\$150.00	
				\$0.00	
Subtotal				\$0.00	\$2,705
MISCELLANEOUS				0	
1. W.C. Doors	5	EA	430.00	\$2,150.00	
2. Mirrors	2	EA	50.00	\$100.00	
3. Exterior Doors	3	EA	375.00	\$1,125.00	
4. Toilet Accessories	5	EA	20.00	\$100.00	
5. Signage	1	LS	100.00	\$100.00	
6. Scree/Shade Stctr	200	SF	0.00	\$0.00	
7. Vents	20	EA	150	\$3,000.00	
				0	
Subtotal				0	\$6,575
				0	
Total				0	\$67,263
10% Contingency	1			6,726	\$73,990
Fees and Admin	1			7,399	\$81,389
				0	
Project Total				0	\$81,389
				0	
Alternates				0	
1. Water Service Add	0	LF	10	\$0	
2. Brick @ Corners	408	SF	8	\$3,264	
3. Ledge	30	CY	100	\$3,000	
				0	\$6,264
Total					\$87,653

Fort Williams Rest Facility
and Concession Stand Site 2/B

Fort Williams Rest Facility					
Concept Design Estimate Site 2/B					
New Combined Facility 2.11.95					
Terrien Architects Inc.					
	Quantity	Unit	Unit Price	Total	Subtotals
Item					
SITE					
1. Clear and Grub	0.07	Acres	2,000	\$140.00	
2. Tree remov	1	LS	350	\$350.00	
3. Found Excav	54	CY	5	\$270.00	
4. Backfill	36	CY	10	\$360.00	
5. Sidewalks	970	SF	1	\$970.00	
6. Loam & Seed	3.1	MSF	300	\$930.00	
7. Water service	60	LF	35	\$2,100.00	
8. Electrical service	200	LF	9.75	\$1,950.00	
9. site subtotal 1					\$7,070
8. Septic Site B 1500	1	LS	22,000	\$22,000.00	
Subtotal site w/ septic				0	\$29,070
FOUNDATION					
1. Footings (8"x24")	126	LF	22	\$2,772.00	
2. 4' Frost Wall 8"th	126	LF	27.65	\$3,483.90	
3. Brick ledge 4"	66	LF	4.35	\$287.10	
				\$0.00	
Subtotal				0	\$6,543
FLOOR SLAB					
1. 12" Gravel	30	CY	10	\$300.00	
2. Excav	29	CY	5	\$145.00	
3. Vapor Barrier	1	LS	150	\$150.00	
4. 4" Conc. slab	728	SF	2.95	\$2,147.60	
5. Paint	728	SF	0.36	\$262.08	
Subtotal					\$3,005
CONCRETE BLOCK					
1. 8" Perimeter Blk	1008	SF	4.80	\$4,838.40	
2. 8" Interior Blk	520	SF	4.80	\$2,496.00	
3. To underside roof	387	SF	4.80	\$1,857.60	
4. 6" Blk @ Stalls	165	SF	4.00	\$660.00	
5. 6" Blk Urinal Stalls	12	SF	4.00	\$48.00	
6. Brick @ Corners	567	SF	0.00	\$0.00	
7. Masonry Painting	3443	SF	0.36	\$1,239.48	
				0	
Subtotal				0	\$11,139
ROOF					
1. 2x10 Framing	975	SF	1.58	\$1,540.50	
2. Ceiling Framing	728	SF	0.60	\$436.80	
3. Shingles Premium	1220	SF	1.48	\$1,805.60	
4. Fascia	152	LF	0.90	\$136.80	

Fort Williams Rest Facility
and Concession Stand Site 2/B

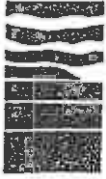
5. Misc. Flashing	1	LS	348.00	\$348.00	
6. Painting	1	LS	139.00	\$139.00	
				\$0.00	
Subtotal				0	\$4,407
				0	
PLUMBING				0	
1. Toilets Back / Back	4	EA	1,545.00	\$6,180	
2. Toilets individual	1	EA	960.00	\$960	
3. Urinals	1	EA	890.00	\$890	
4. Lavatories	3	EA	720.00	\$2,160	
5. Hose Bibs	2	EA	100.00	\$200	
6. Line drains	3	EA	150.00	\$450	
7. Floor drains	5	EA	300.00	\$1,500	
				\$0	
Subtotal				\$0	\$12,340
				0	
ELECTRICAL				0	
1. 100 Amp Service	1	LS	890.00	\$890.00	
2. Lights	728	SF	3.44	\$2,504.32	
4. Miscellaneous	1	LS	150.00	\$150.00	
				\$0.00	
Subtotal				\$0.00	\$3,544
MISCELLANEOUS				0	
1. W.C. Doors	5	EA	430.00	\$2,150.00	
2. Mirrors	2	EA	50.00	\$100.00	
3. Exterior Doors	4	EA	375.00	\$1,500.00	
4. Toilet Accessories	5	EA	20.00	\$100.00	
5. Signage	1	LS	150.00	\$150.00	
6. Scree/Shade Stctr	200	SF	0.00	\$0.00	
7. Vents	24	EA	150	\$3,600.00	
				0	
Subtotal				0	\$7,600
				0	
Total				0	\$77,648
10% Contingency	1			7,765	\$85,413
Fees and Admin	1			8,541	\$93,954
				0	
Project Total				0	\$93,954
				0	
Alternates				0	
1. Water Service Add	0	LF	10	\$0	
2. Brick @ Corners	567	SF	8	\$4,536	
3. Ledge	30	CY	100	\$3,000	
				0	\$7,536
Total					\$101,490

Fort Williams Concession
Stand 12'x20' CMU

Fort Williams Concession Stand					
Concept Design Estimate 1 CMU					
New Facility 12x20'		rev1/18/1995			
Terrien Architects Inc.					
Item	Quantity	Unit	Unit Price	Total	Subtotals
SITE					
1. Clear and Grub	0.07	Acres	2,000	\$140.00	
2. Tree remov	1	LS	350	\$350.00	
3. Found Excav	33	CY	8	\$264.00	
4. Backfill	22.5	CY	20	\$450.00	
5. Sidewalks	320	SF	1	\$320.00	
6. Loam & Seed	2.3	MSF	300	\$690.00	
7. Water service	20	LF	35	\$700.00	
8. Septic System					
Subtotal					\$2,914
FOUNDATION					
1. Footings (8"x24")	64	LF	22	\$1,408.00	
2. 4' Frost Wall 8"th	64	LF	27.65	\$1,769.60	
3. Brick ledge 4"	32	LF	4.35	\$139.20	
Subtotal					\$3,317
FLOOR SLAB					
1. 12" Gravel	13	CY	20	\$260.00	
2. Excav	12	CY	5	\$60.00	
3. Vapor Barrier	1	LS	50	\$50.00	
4. 4" Conc. slab	240	SF	2.95	\$708.00	
5. Paint	240	SF	0.36	\$86.40	
Subtotal					\$1,164
CONCRETE BLOCK					
1. 8" Perimeter Blk	512	SF	4.80	\$2,457.60	
2. 8" Interior Blk		SF	4.80		
3. To underside roof	144	SF	4.80	\$691.20	
4. 6" Blk @ Stalls		SF	4.00		
5. 6" Blk Urinal Stalls		SF	4.00		
6. Brick @ Corners	256	SF	8.00	\$2,048.00	
7. Masonry Painting	656	SF	0.36	\$236.16	
Subtotal					\$5,433
ROOF					
1. 2x10 Framing	308	SF	1.58	\$486.64	
2. Ceiling Framing	192	SF	0.60	\$115.20	
3. Shingles Premium	308	SF	1.48	\$455.84	
4. Fascia	72	LF			
5. Misc. Flashing	1	LS	200.00	\$200.00	

Fort Williams Concession
Stand 12'x20' CMU

6		LS			
Subtotal					\$1,258
PLUMBING					
1. Toilets Back / Back		EA	1,545.00		
2. Toilets individual		EA	960.00		
3. Urinals		EA	890.00		
4. Lavatories	1	EA	720.00	\$720	
5. Hose Bibs	1	EA	100.00	\$100	
6. Line drains	1	EA	150.00	\$150	
7. Floor drains	1	EA	300.00	\$300	
Subtotal					\$1,270
ELECTRICAL					
1. 100 Amp Service	0.5	LS	890.00	\$445.00	
2. Lights	240	SF	3.44	\$825.60	
3. Service Entry	20	LF	9.75	\$195.00	
4. Miscellaneous	1	LS	150.00	\$150.00	
Subtotal					\$1,616
MISCELLANEOUS					
1. Case Work L.S.	1	LS	500.00	\$500.00	
2. Mirrors		EA	50.00		
3. Exterior Doors	3	EA	375.00	\$1,125.00	
4. Accessories	1	LS	200.00	\$200.00	
5. Signage	1	LS	100.00	\$100.00	
6. Scree/Shade Stctr	100	SF	10.00	\$1,000.00	
7. Vents	2	EA	150	\$300.00	
Subtotal					\$3,225
Total					\$20,196
10% Contingency	1			2,020	\$22,216
Fees and Admin	1			2,222	\$24,438
Other		Allowance			
Project Total					\$24,438
Alternates					
1. Water Service Add		LF	10		
2. Brick @ Corners		SF	8		
3. Ledge	10	CY	100	\$1,000	
Total					\$1,000
					\$25,438



Albert Frick Associates, Inc.

Soil Scientists & Site Evaluators
95A County Road Gorham, Maine 04038
(207) 839-5563 FAX (207) 839-5564

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DEC 12 1994

Terrien Architects, Inc.

Albert Frick SS, SE
James Logan SS, SE
Matthew Logan SE

December 8, 1994

Tom Emery
Terrien Architects
4 Milk Street
Portland, ME 04101

Re: Fort Williams Park, Cape Elizabeth

Dear Tom:

I met with you and Robert Malley on October 13, 1994 for the purpose of reviewing soils and sites at Fort Williams Park for a rest area to serve the recreation facility.

Following is a summary of our findings:

DESIGN FLOW:

Quantifying the proposed flows for the proposed restroom facility is very difficult because of many unknown variables. The State of Maine Subsurface Wastewater Disposal Rules projects a theoretical flow of 5 gallons/day per attendee. The difficulty is projecting the number of attendees and the nature of the use. There are numerous visitors to the park that sightsee without having the need to utilize the restroom facilities. It appears that the day picnickers and people utilizing the beach for a day event may require use of the facility but it appears that the numerous short staying attendees do not require use of rest room facilities.

I understand that you and Bob Malley studied the project design in more detail and it appears that a 1200 to 1500-gallons/day design is appropriate.

PROPOSED SITES:

The on-site evaluation analysis focused on three potential areas in and around the proposed restroom facility area as shown on attached aerial plan.

Site A (Parking Lot):

This site was in an existing level parking area. This area is shallow to bedrock and site modification would be needed, to utilize this area along with a disposal area designed for vehicular traffic (if the area is to remain as parking). This site was deemed not to be practical due to limited area shallow to bedrock soil conditions and the need for extensive soil modification.

Site B (Officer Quarters):

This site is downslope from the proposed restroom facility in a gently sloping lawn area. This area is limited in area (confined by roadway, and bedrock outcropping and steep slopes), however, it is sufficient to accommodate a 1500 gpd disposal area. The advantage with Site B is that it allows for gravity flow from the proposed rest area facility site and does not require cutting of existing pavement, etc. The disadvantages of Site B are that the site is limited and will not allow for significant expansion in the future if needed, and the site would require significant site modification (fill) due to the underlying depth to bedrock and slope gradients.

Site C (Parade Ground):

This site is in a large, level lawn area. Site C has an extension area of suitable soils to accommodate the proposed rest area facility flows and substantially more. The advantage to Site C is that it is relatively large in area and relatively deep to bedrock and will require less site modification (fill) than Site B. The disadvantage with this area is that it would probably require a pump station to access from the proposed rest area facility and would require cutting of pavement to access unless there is an existing buried conduit from the military use that would reach the proposed site.

PROPOSED SUBSURFACE WASTEWATER DISPOSAL DESIGN

The soil profiles observed revealed a shallow to bedrock, sandy loam, glacial till soil which is classified by the State of Maine Subsurface Wastewater Disposal Rules as 2A which has a hydraulic loading rate of 1.7 square feet/gpd. The soil on this site requires a minimum separation of 24 inches from the bottom of the proposed disposal area to the underlying bedrock.

The proposed design flow of 1500 gpd would require a minimum of 102 plastic chambers (biodiffuser or infiltrator) $[1500 \text{ gpd} \times 1.7 \text{ sq. ft/gpd} \div 25 \text{ sq.ft/unit} = 102]$

A conceptual layout for Site B would be 6 or 7 rows of 16 plastic chambers per row (33' to 39' wide) (100' long) stepped down the slope with fill above existing grade.

A conceptual layout for Site C would be 4 rows of 24 plastic chambers (21' wide, 150' long), constructed level with modest site modification.

CONCLUSIONS AND RECOMMENDATIONS REGARDING SUBSURFACE WASTEWATER DISPOSAL POTENTIAL

Site A should be avoided for consideration of subsurface wastewater disposal for the



proposed rest area facility. Sites B and C are the preferred sites. Site B will require more site modification but will not require a pump. Site C will require substantially less site modification but will require a pump and perhaps disturbance of existing roadway. Subsurface Wastewater Disposal System proposed on Sites B and C will be relatively similar in total costs for construction.

PROPOSED DISPOSAL AREA ESTIMATES

COSTS	SITE B	SITE C
Septic Tank - 2 (1500 gal) @ \$1860	\$ 3,720	\$ 3,720
Pump Station (115 v) (simplex/duplex pump-see attached)	----	\$ 1100-\$ 2460
Chambers - 102 units @ \$60/unit	\$ 6,120	\$ 6,120
Fill: (125' x 50' x 3' = 700 yd) (175' x 30' x 1.5' = 315 yd)	\$ 3,500 ----	---- \$ 1,575
SUBTOTAL	\$ 13,340	(\$ 12,515 - \$ 13,875)¹

PROJECTED CONSTRUCTION COSTS	\$ 20,000 - \$ 28,000	\$ 20,000 - \$ 28,000
-------------------------------------	----------------------------------	----------------------------------

¹ Does not include electrical service costs, paving, conduit, pressure sewer line

Please contact me if you have any questions or matters for additional discussion.

Respectfully,

Albert Frick

Albert Frick

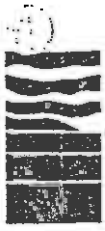
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DEC 12 1994
Frien Architects, Inc.

X 12 X



Albert Frick Associates, Inc.
 Soil Scientists & Site Evaluators
 95A County Road Gorham, Maine 04038
 (207) 839-5563

received

DEC 12 1994

Terrien Architects, Inc.

Town, City, Plantation CAPE ELIZABETH Street, Road, Subdivision FORT WILLIAMS PARK Owners Name TOWN OF CAPE ELIZABETH

SOIL DESCRIPTION AND CLASSIFICATION

Observation Hole A1 Test Pit Boring
 " Depth of Organic Horizon Above Mineral Soil _____

Texture	Consistency	Color	Mottling
COBBLY		DARK	
STONEY		BROWN	
SAND	FRIABLE		
(FILL)			
BEDROCK			

Soil Profile 2 Classification A Slope _____% Limiting Factor 26 Ground Water Restrictive Layer Bedrock

Observation Hole B1 Test Pit Boring
 " Depth of Organic Horizon Above Mineral Soil _____

Texture	Consistency	Color	Mottling
GRAVELLY		DARK BROWN	
SAND			
(FILL)			
	FRIABLE		
COBBLY			
SANDY			
LOAM			
BEDROCK			

Soil Profile 2 Classification A Slope _____% Limiting Factor 42 Ground Water Restrictive Layer Bedrock

SOIL DESCRIPTION AND CLASSIFICATION

Observation Hole B2 Test Pit Boring
 " Depth of Organic Horizon Above Mineral Soil _____

Texture	Consistency	Color	Mottling
SANDY		DARK BROWN	
LOAM			
	FRIABLE		
GRAVELLY		DARK YELLOWISH BROWN	
LOAMY SAND			
BEDROCK			

Soil Profile 2 Classification A Slope _____% Limiting Factor 36 Ground Water Restrictive Layer Bedrock

Observation Hole C1 Test Pit Boring
 " Depth of Organic Horizon Above Mineral Soil _____

Texture	Consistency	Color	Mottling
SANDY		DARK BROWN	
LOAM			
	FRIABLE		
GRAVELLY		DARK YELLOWISH BROWN	
SANDY LOAM			
COBBLY			
SANDY LOAM			
BEDROCK			

Soil Profile 2 Classification A Slope _____% Limiting Factor 46 Ground Water Restrictive Layer Bedrock

Albert Frick

163

10/13/94

CC-2

Date



Albert Frick Associates, Inc.
 Soil Scientists & Site Evaluators
 95A County Road Gorham, Maine 04038
 (207) 839-5563

received
 DEC 12 1994
 Terrien Architects, Inc.

Town, City, Plantation CAPE ELIZABETH	Street, Road, Subdivision FORT WILLIAMS PARK	Owners Name TOWN OF CAPE ELIZABETH
-------------------------------------------------	--------------------------------------------------------	----------------------------------------------

SOIL DESCRIPTION AND CLASSIFICATION

Observation Hole <u>C2</u>	<input type="checkbox"/> Test Pit	<input type="checkbox"/> Boring
" Depth of Organic Horizon Above Mineral Soil		

Texture	Consistency	Color	Mottling
0		DARK	
6		BROWN	
15		DARK	
20	SANDY LOAM	FRIABLE	REDDISH BROWN
30		LIGHT OLIVE	
40		BROWN	FEW, FAINT
50	BEDROCK		

Soil Profile <u>2</u>	Classification Condition <u>A/C</u>	Slope %	Limiting Factor <u>AB</u>	<input type="checkbox"/> Ground Water	<input type="checkbox"/> Restrictive Layer	<input checked="" type="checkbox"/> Bedrock
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Observation Hole <u>C3</u>	<input type="checkbox"/> Test Pit	<input type="checkbox"/> Boring
" Depth of Organic Horizon Above Mineral Soil		

Texture	Consistency	Color	Mottling
0		DARK	
6	SANDY LOAM	FRIABLE	BROWN
15			
20		BEDROCK	
30			
40			
50			

Soil Profile <u>2</u>	Classification Condition <u>A</u>	Slope %	Limiting Factor <u>10-16</u>	<input type="checkbox"/> Ground Water	<input type="checkbox"/> Restrictive Layer	<input checked="" type="checkbox"/> Bedrock
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SOIL DESCRIPTION AND CLASSIFICATION

Observation Hole _____	<input type="checkbox"/> Test Pit	<input type="checkbox"/> Boring
" Depth of Organic Horizon Above Mineral Soil		

Texture	Consistency	Color	Mottling
0			
6			
10			
15			
20			
30			
40			
50			

Soil Profile _____	Classification Condition _____	Slope %	Limiting Factor _____	<input type="checkbox"/> Ground Water	<input type="checkbox"/> Restrictive Layer	<input type="checkbox"/> Bedrock
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Observation Hole _____	<input type="checkbox"/> Test Pit	<input type="checkbox"/> Boring
" Depth of Organic Horizon Above Mineral Soil		

Texture	Consistency	Color	Mottling
0			
6			
10			
15			
20			
30			
40			
50			

Soil Profile _____	Classification Condition _____	Slope %	Limiting Factor _____	<input type="checkbox"/> Ground Water	<input type="checkbox"/> Restrictive Layer	<input type="checkbox"/> Bedrock
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Albert Frick

163

10/13/94



SUPERIOR CONCRETE CO INC

982 Minot Avenue P.O. Box 223
Auburn, Maine 04212-0223

MAINE WATS 1-800-482-7417 OFFICE 207-784-9144
FAX (207) 784-9647

DATE

12/2/94

BUDGET PRICES

TELEPHONE QUOTATION

Job:	Location:	received
Architect: AL FRICK	Bid Date:	DEC 12 1994
Contractor:	Phone:	Terrien Architects, Inc.
Address:	Name:	

List other contractors on back side

QTY	ITEM DESCRIPTION	AMOUNT	
		Each	Total
1-	#K-3160B -300GAL Pump Station Simplex w/ EH512L (START-UP IS NOT INCLUDED)	\$1100.00	
1-	DUPLEX PUMP STATION 300 GAL w/2- EH512L AND DUPLEX CONTROL PANEL (START-UP AND MOUNTING OF JUNCTION BOX IS PROVIDED BY OTHER)	\$2460.00	
	Plus 6% state sales tax if applicable		
	Grand Total		

EXCEPTIONS OR MATERIAL NOT INCLUDED

<input checked="" type="checkbox"/>	Delivered and set	
<input type="checkbox"/>	Delivered and unloaded	Terms
<input type="checkbox"/>	Delivered, unloaded by others	Lead time required
<input type="checkbox"/>	Picked up in our yard	Price good for _____ days