

PROJECT CHANGE APPROVAL

Name of Project: Energy Technology Facility Phase 1A

(High Bay Test Modules and Site Preparation)

Location of Project: University of Alaska Fairbanks

Project Number: 2010134 ETTM

Date of Request: November 17, 2010

Project Manager: Jenny Campbell

Sr. Project Manager

Total Project Cost: \$4,700,000

Approval Required: Project Change Approval

Prior Approvals/Actions: Preliminary Administrative Approval: 03/12/09

Formal Project Approval: 09/25/09 Schematic Design Approval: 02/18/10

Reference Materials

- 1. ETF Project Summary of Events
- 2. One Page Budget
- 3. Floor Plan Layout
- 4. Site Plan

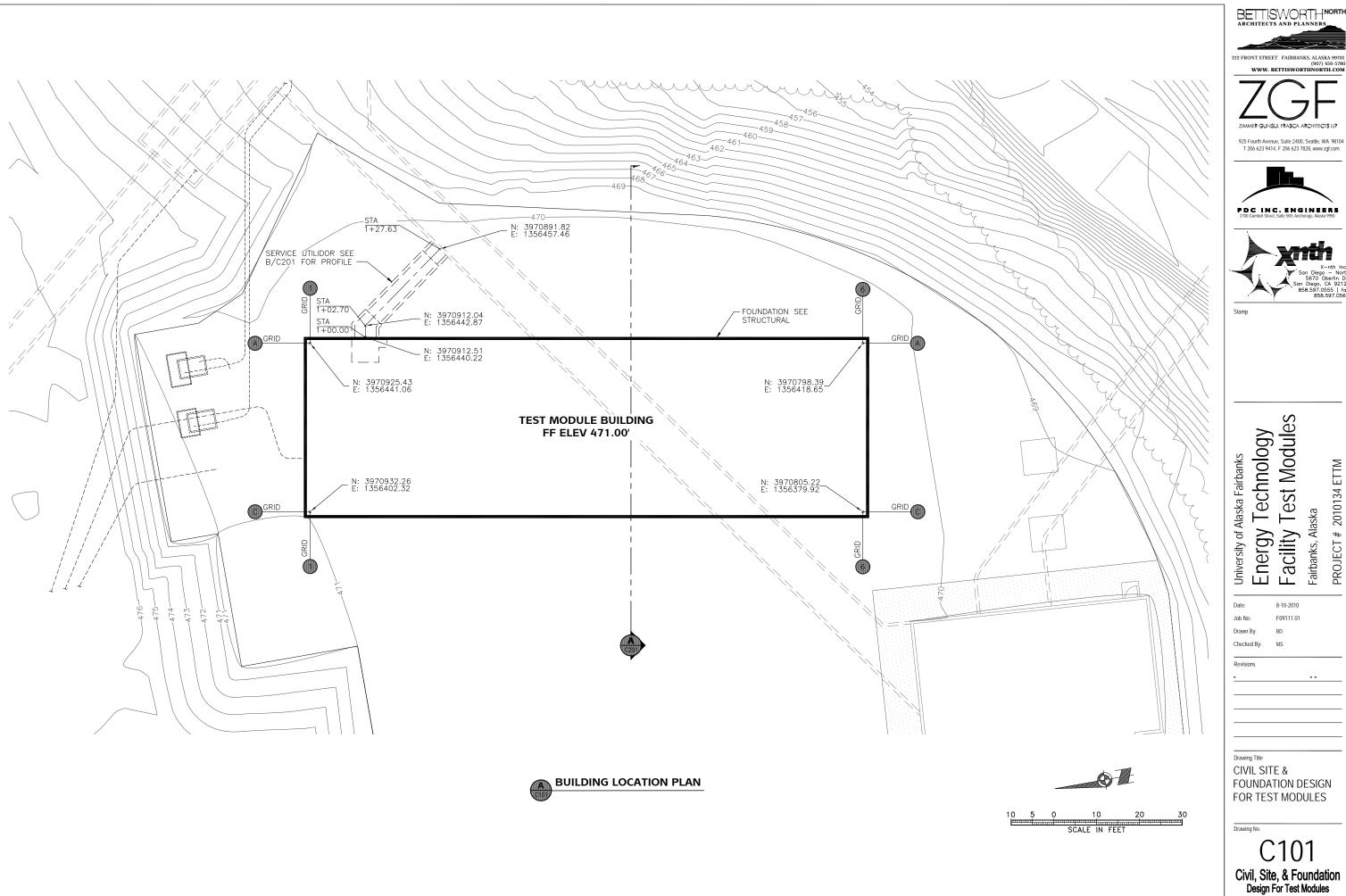
Energy Technology Facility Summary of Events (\$'s in Millions)

Events and Pricing	FY09		FY10		FY11	FY12	FY13
FY10 BOR Capital Budget	Nov.						
Request	2008					<u></u>	
	March						
Formal Project Agreement	2009						
		Sept.					
Formal Project Approval Schematic Design Approval-		2009					
Phase 1A, High Bay Test			Feb.				
Modules			2010				
			2010				
State of Alaska Appropriation				June			
& BoR Acceptence				2010			
Phase 1A, Total Project Cost					Dec.		
Increase Request					2010		
Pursuing Private Giving		active	active	active	active	active	active
Phase 1A, High Bay Test						Dec.	
Modules Complete						2011	N1
Anticipate FY13 BOR Capital Budget Request							Nov. 2011
·							2011
ETF Total Project Cost	40-		+05 :	+05 :	40 1		±00 - 100
estimate	\$30.6	\$29.6	\$29.6	\$29.6	\$29.6+1		\$29.6 ^{+ix3}
ETF TPC funding plan	¢15.0	#140	#140	6140	#140		140-
UA Reciepts:	\$15.3 \$15.3	\$14.3 \$15.3	\$14.3	\$14.3 \$15.3	\$14.3 \$15.3		14.3 ⁺¹ 15.3 ⁺¹
State Appropriations:	\$15.3	\$10.3	\$15.3	Φ13.3	Φ15.3		15.5
Phased Spending Plan:							
Phase 1A, High Bay Test			40.0		ф. -		
Modules			\$3.0		\$4.7		
Phase 1B, Main ETF Facility - Design within							
FPA Facility - Design within					\$1.0		
Phased Spending Plan by					φ1.U		
Source:							
UA Reciepts (ICR paid WC,							
Private Giving, Grants)			\$3.0		\$1.7		
State Appropriations			\$0.0		\$4.0		
Funding Approvals:							
BOR Finance Approval For							
Borrowing			\$3.0	\$3.0	\$3.0		
BOR Accepts State							
Appropriation for ETF ¹				\$4.0	\$4.0		
Total			\$3.0	\$7.0	\$7.0		
ETF Estimated Completion	Fall	Fall					
Date Estimated Completion Date-	2010	2011					
Phase 1A, High Bay Test			Mar.		Dec.		
Modules			2011		2011		
Estimated Completion Date-			Fall				
Phase 2, Main ETF Facility			2012		Best Case Dec. 2014		
Thase 2, Main Ell Tacility			2012		Dec. 2014		

^{1.} UAF received \$8M for UAF Engineering & Technology Project Design & Development with \$4M designated for UAF Engineering Planning & Design and \$4M for ETF Design and Development.

⁺i indicates an expected change for inflation and new estimates as design progresses and ix3 is after three years of inflation.

UN	IVERSITY O	F ALASKA			
	ect Name:		Facility Test Module	S	
MAI		UAF			
	ding:	0	Date:		November 17, 2010
Cam	npus:	UAF	Prepared By:		J Campbell
	ect #:	2010134 ETTM	Account No.:		571306 - 50216, 571302 - 50216
		ed by Project:	5400		
PRC	JECT BUDGE	Т		FPA Budget	SDA Budget
A.	Professional	Services			
,	Advance Planni	ing, Program Developme	ent		\$0
	Consultant: Design Services			\$254,186	
	Consultant: Construction Phase Services			\$30,000	
	Consul: Extra Services (List:)			\$55,000	
:	Site Survey				\$0
:	Soils Testing &	Engineering			\$0
:	Special Inspecti	ions			\$10,000
	Plan Review Fe	es / Permits			\$4,000
	Other				\$0
			al Services Subtotal		\$353,186
B.	Construction	1			
	General Constr	uction Contract (s)			\$3,062,138
	Other Contract	ors (List:)		\$500,519
	Construction Co	ontingency			\$320,639
			Construction Subtotal		\$3,883,296
		Cost per GSF			<i>\$719.13</i>
C.	Building Com	pletion Activity			
	Equipment				\$0
	Fixtures				\$0
	Furnishings				\$0
		construction contract			\$0
	Move-Out Cost	/Temp. Reloc. Costs			\$0
	Move-In Costs				\$0
	Art				\$0
	Other (List:)		\$0
	OIT Support				\$10,000
	Maintenance/C	Operation Support			\$0
			on Activity Subtotal		\$10,000
D.	Owner Activi	ities & Administrativ	ve Cost		
	Project Plannin	g and Staff Support			\$191,092
	Project Manage	ement			\$241,774
		Advertising, Printing, Su			\$20,000
	Owner A	Activities & Administ	rative Cost Subtotal		\$452,865
E. T	otal Project				\$4,699,347
	-	ct Cost per GSF			\$870.25
F. T	otal Appropi	riation(s)			\$4,000,000

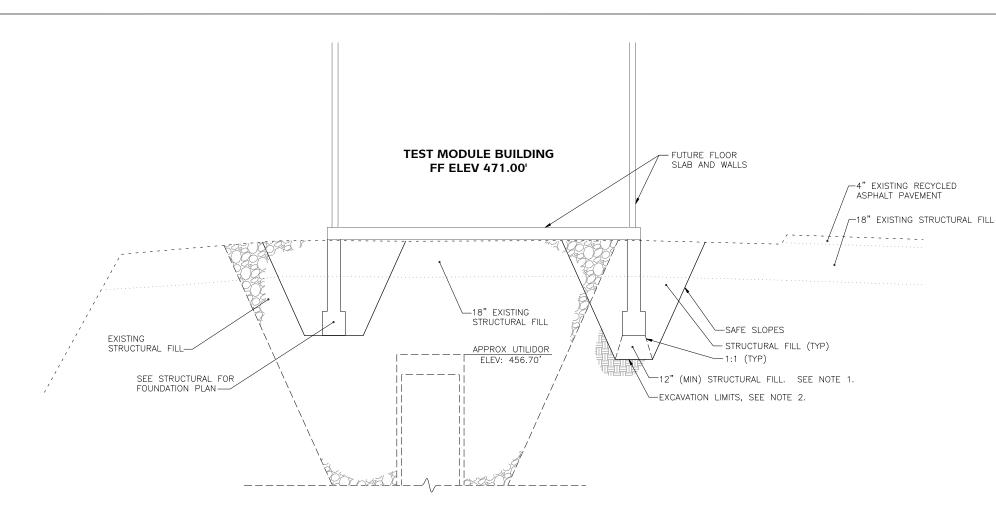


BETTISWORTH NORTH ARCHITECTS AND PLANNERS

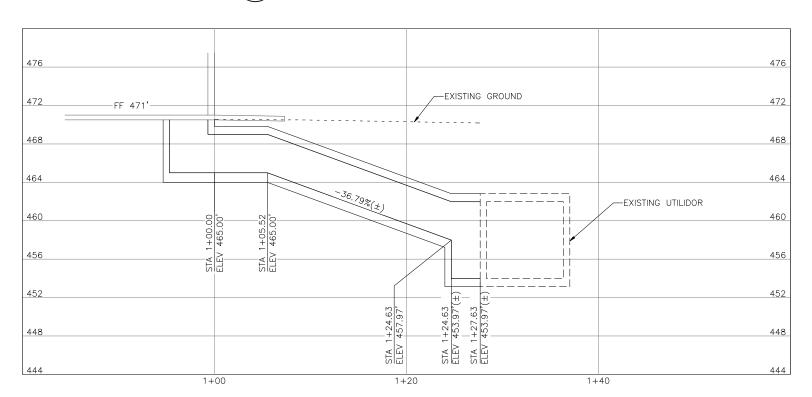
925 Fourth Avenue, Suite 2400, Seattle, WA 98104







SECTION: TEST MODULE BUILDING NOT TO SCALE



PROFILE: SERVICE UTILIDOR

TYPICAL SECTION NOTES

 STRUCTURAL FILL SHALL CONSIST OF FREE DRAINING GRAVELLY SAND OR SANDY GRAVEL THAT IS FREE OF COBBLES AND BOULDERS. THE MATERIAL SHALL BE UNFROZEN, FREE OF VEGETABLE MATTER, LUPS, OR EXCESSIVE AMOUNTS OF CLAY AND OTHER OBJECTIONABLE FOREIGN SUBSTANCES. PIT RUN MATERIAL WHICH MEETS THE REQUIREMENTS SPECIFIED MAY BE USED. CONTRACTOR SHALL SCREEN PIT RUN AS REQUIRED TO MEET GRADATION REQUIREMENTS FOR STRUCTURAL FILL.

THE AGGREGATE SHALL MEET THE REQUIREMENTS OF THE GRADATION
GIVEN BELOW WHEN TESTED IN ACCORDANCE WITH ASTM C136 AND

> PERCENT PASSING SIZE 3-INCH 100 No. 4 SIEVE 30-60 200 MESH LESS THAN 5

2. OUTSIDE OF THE GROUND DISTURBED BY THE UTER UTILIDOR, EXCAVATION FOR FOOTINGS SHALL BE A MINIMUM OF 12 INCHES BELOW THE BOTTOM OF FOOTING. WHEN THIS DEPTH HAS BEEN REACHED, NOTIFY THE PROJECT ENGINEER SO THAT AN INSPECTION OF THE SUBGRADE SOILS MAY BE SCHEDULED. ANY ADDITIONAL EXCAVATION THAT MAY BE WARRANTED TO REMOVE SILTS AND FROST SUSCEPTIBLE SOILS WILL BE IDENTIFIED TO THE CONTRACTOR AT THE COMPLETION OF THE INSPECTION.



ZIMMER GUNSUL FRASCA ARCHITECTS LLP

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Facility Test Modules Technology

PROJECT # 2010134 ETTM

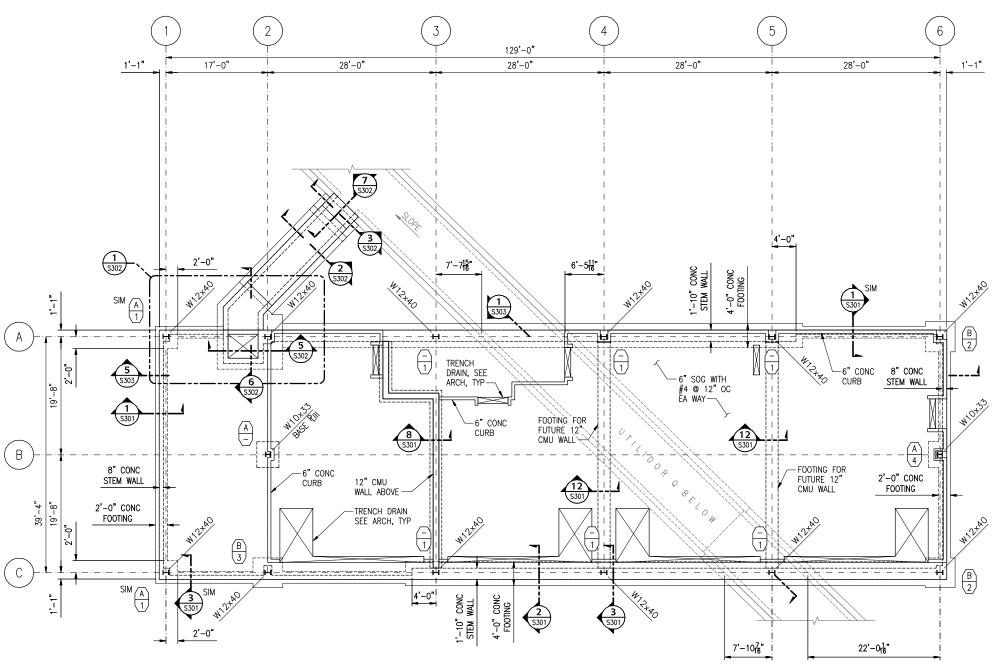
Fairbanks, Alaska

DETAILS

Drawing No.

Civil, Site, & Foundation **Design For Test Modules**

University of Alaska Fairbanks Energy Date: 8-10-2010 F09111.01 Job No: Drawn By: Checked By:



TITLE NAME LINE BOTTOM

8 4 0 8 16 24

FEET

SHEET NOTES

1. THESE DRAWINGS HAVE BEEN PREPARED TO SHOW THE WORK REQUIRED IN ORDER TO CONSTRUCT THE EXTERIOR FOUNDATION AND UTILIDOR CONNECTOR THIS CONSTRUCTION SEASON (2010). THE WORK IS TO BE ACCOMPLISHED BY KIEWIT AS PART OF THE UTER PROJECT CONTRACT. THE EXTENT OF THE WORK IS TO CONSTRUCT EVERYTHING FROM THE ANCHOR BOLTS DOWN. NO SLABS ARE TO BE POLIFED AT THIS TIME



BETTISWORTH NORTH

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Stamp

University of Alaska Fairbanks Energy Technology Facility Test Modules

PROJECT # 2010134 ETTM

Date: 8-10-2010

Job No: F09111.01

Drawn By: WTH/DJM

Checked By:
Revisions

- --

Drawing Title
STRUCTURAL
FOUNDATION AND SLAB
PLAN

Drawing No.

\$201 Civil, Site, & Foundation Design For Test Modules

FOOTING SCHEDULE REINFORCING MARK SIZE (LxW) THICKNESS REFERENCE BOTTOM TOP (5) #5, EA WAY A* 3'-8"x4'-4" 1'-0" 5'-0"x5'-0" 1'-0" (6) #5, EA WAY (6) #5, EA WAY

FOOTING TYPE

SEE SCHEDULE

- PEDESTAL TYPE

SEE SCHEDULE

PEDESTAL SCHEDULE

DETAIL

4/S301

5/S301

6/S301

7/S301

3

BASE PL

MARK I

MARK II

MARK II

MARK III

 $^{^{}st}$ AT A 'SIM' USE DIMENSIONS SHOWN ON PLAN AND REINFORCING SHOWN IN FOOTING SCHEDULE.



BETTISWORTH NORTH



ENGINEERING STRUCTURAL CIVIL MECHANICAL ELECTRICAL PDC Engineers, Inc 2700 Gambell Street Suite 500 Anchorage, Alaska 9950

LAB CONSULTANT X-nth 5670 Oberlin Drive San Diego, California 92121

University of Alaska Fairbanks Energy Technology Facility

Fairbanks, Alaska

Drawing Title

SITE PLAN

Checked By:

A1.01

15% Design