Caledonia Courthouse Building Stabilization

Wednesday, January 22, 2014



History

- The original Caledonia Courthouse is an historic masonry building built in the 1850's.
- Interior Renovation took place in the 1930's.
- An addition was built on the Eastern side in 1999 by EH Danson. At that time, the foundation was repaired along the eastern wall.
- Building Maintenance noticed the movement of the northern gable end wall as evidenced by gaps in the interior finishes and a bulge around the second floor in the exterior wall.
- A preliminary structural inspection report, prepared by EH Danson with consultation from
 Dewolfe Engineering, documented the foundation deterioration and instability around the
 north, south, and western walls, as evidenced by movement and bulges in the gable end wall
 and a bulge in the western wall, as well as framing issues throughout the building causing
 buckling and cracks in the historic finishes and uneven flooring.

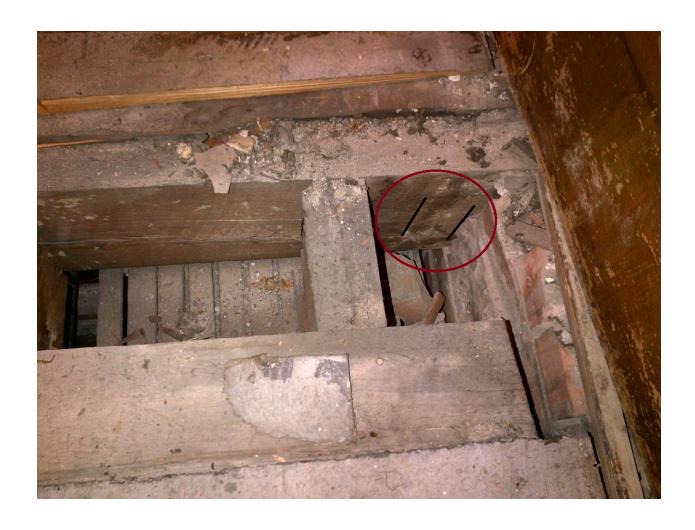
Scope of Work

- Excavate the north, south and western perimeters of the building.
- Provide temporary bracing and shoring to support the building during construction.
- Remove the dry stacked stone foundation and replace with a concrete foundation.
- Pin the masonry walls back to the structure of the building.
- Repair interior framing issues by reinforcing beams and joists not adequately sized for the span they are supporting.
- Exterior masonry will be repointed and cracks repaired.
- Historic interior finishes will be repaired to historic condition.

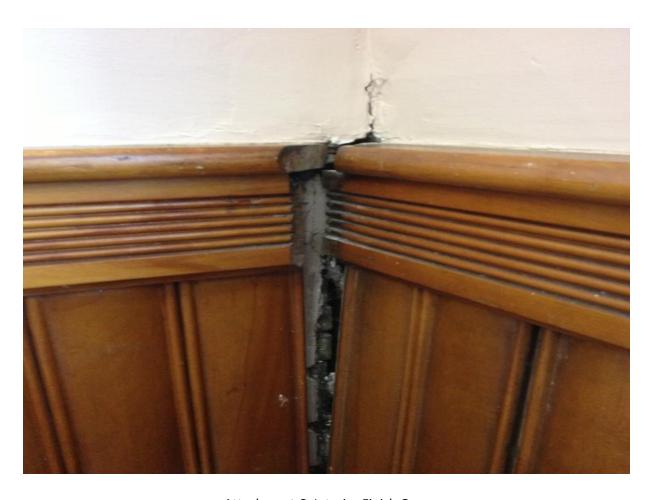




Attachment A: Voids in Dry Stacked Stone Foundation



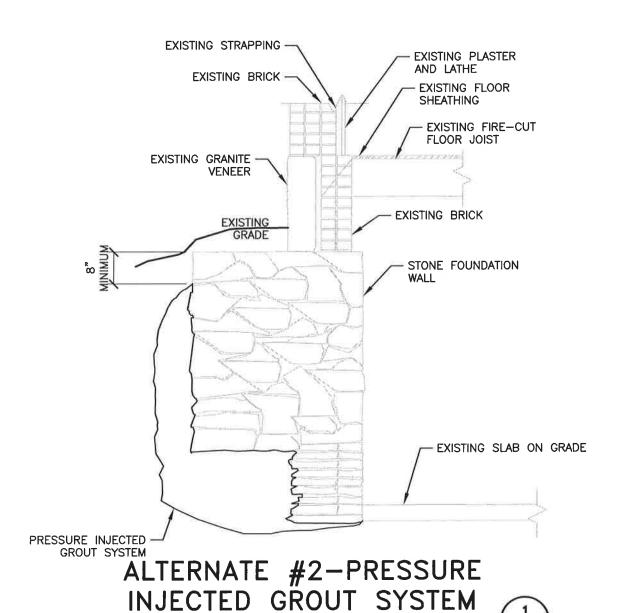
Attachment B: Top view of beam showing movement of masonry wall away from structural members (approximately 3-4").



Attachment C: Interior Finish Gaps



Attachment D: Sagging in Interior Framing





SCALE: 1"=1'-0"

81 River St., P.O. Box 1576, Montpelier, VT 05601-1576 t. 802-223-4727 f. 802-223-4740 www.dirtsteel.com

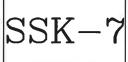
PROJECT: 13289

CALENDONIA COURTHOUSE

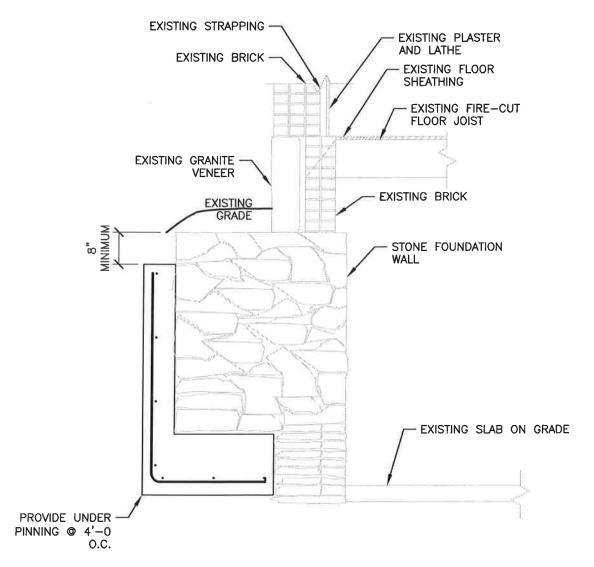
DWG REF:

DATE: JANUARY 15, 2014

REVISION NO.: \triangle REVISION DESCRIPTION:



DRAWING NO.



ALTERNATE #1-UNDER PINNNING EXISTING FOUNDATION WALL

SCALE: $\frac{1}{2}$ "=1'-0"





81 River St., P.O. Box 1576, Montpelier, VT 05601-1576 t. 802-223-4727 f. 802-223-4740 www.dirtsteel.com

PROJECT: 13289

CALENDONIA COURTHOUSE

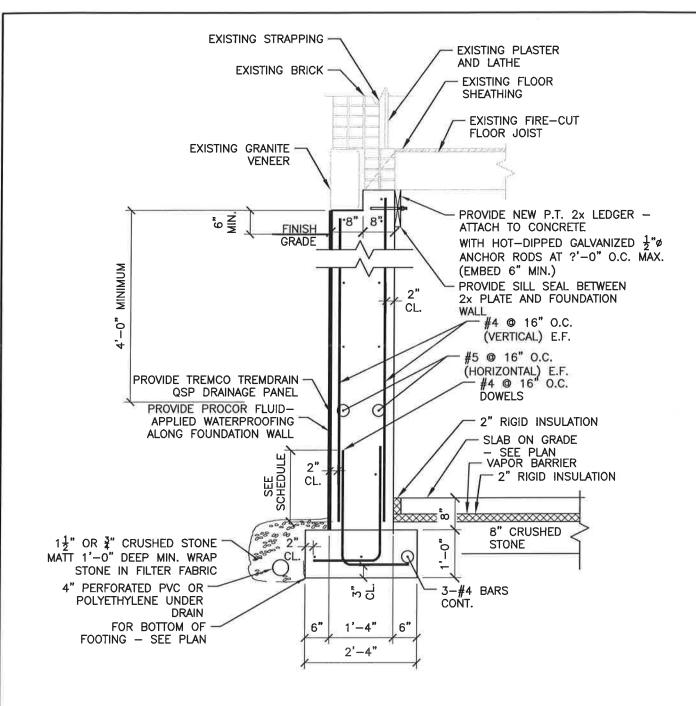
DWG REF:

DATE: JANUARY 15, 2014

REVISION NO.: \triangle

SSK-6

DRAWING NO.







81 River St., P.O. Box 1576, Montpelier, VT 05601-1576 t. 802-223-4727 f. 802-223-4740 www.dirtsteel.com

PROJECT: 13289

CALENDONIA COURTHOUSE

DWG REF:

DATE: JANUARY 15, 2014

REVISION NO.: \triangle REVISION DESCRIPTION:

SSK-5

DRAWING NO.

New foundations - Repairing Framing Preliminary Conceptual plans, notes

Division	DESCRIPTION	QUANTIT	UNIT	LABOR	PER	TOTAL	UNIT	MATERIAL	EQUIP.	SUB	TOTAL
CODE					HOUR	LABOR	COST	TOTAL	TOTAL	TRADES	COST
				101000			*******	**************************************			
1	General Conditions:	6.0	mo				25000			150000	
	DEDMITE SEED & INCUDANCES	-		-	-						
	PERMITS, FEES & INSURANCES	-		-	-						0.0
	BUILDING PERMITS - Town, State	 		-	_		<u> </u>			By Owner	0.0
	BUILDER'S RISK INSURANCE	<u> </u>								By Owner	0.0
Shoring	Bldg support -Temporary Shoring	1	ls							250000	250000.0
										20000	250000.0
Sitework	Excavate Around Building Penmeter, remove foundations,		Ìs							0	50000.0
	Replacing Excavated Material	+	ls							0	25000.0
	Foundations waterproofing	2097	st				1			2097	2097.0
	Foundation walls 2" rigid	2097	st				2.00			4194	4194.0
	Underslab 2" rigid - perimeter 4'-0"	952	sf				3.00			2856	2856.0
	Underslab vapor barrier - poly 15 mil perimeter 4'-0"	952	sf				0.55			524	523.6
3	Concrete:	 		-							
	New footings 3'-6" x 12" - 250'	31	yd3				450			40050	10050.0
	Foundation Walls 1'-6"x10' x 97'-0"	58	yd3				450			13950	13950.0
	Foundation Walls 1'-6"x8' x 141'-0"	66	yd3				450			26100	26100.0
	New column footings Allowance	-	"#" of unit						-	29700	29700.0
	Slab perimeter		yd3					per unit		30000	30000.0
	Modifications, cutting exist foundations, pinning/Epoxy		ls	-	-		450			8100	8100.0
	Modifications, cutting exist foundations, pinning/Epoxy	1	IS							50000	50000.00
OTHER	UVM Archaeological Team	10	"#" of Day	s			180.00	Per Day		1800	1800
	Joist Reinforcement	570	sf					st		12540	12540
	Timber Beam Reinforcement	100.00	linear ft				30.00	ft		3000	3000
	Steel Beam Reinforcement	25	linear ft				80	ft		2000	2000.00
	Masonry Repair		ls							0	10000.00
	Finish Repair	1500	sf				48	sf		72000	72000.00
		**************************************	100000000000000000000000000000000000000		********	234.00.000.000.00		0.01011.000000			***********
	SUBTOTAL					0.00		0.00	0	658860.60	743860.60
	MARK UP 4%, Liability Insurance, Bonds 2%										\$44,632
	TOTAL Construction cost budget					0.00		0.00	0	658860.60	\$ 788,492
900 V 100 W 100 V 100 V 100 V	OWNER'S ITEMS:	220369636		2000-00-00-00-00-00-00-00-00-00-00-00-00	2222			************			
					-						
	Construction and design contingency - 25%	-			-						\$ 197,123
	Architectural and civil engineering, project administration - 1 Structural engineering Budget - 4%	0%							-		\$ 78,849 \$ 31,540
				$\neg \neg$							\$ 31,540
	City, State Permits										
	Builder's Risk Insurance		WAS THE LEEK TO BE	2000018001				A 60.000 Miles		J.	
	Winter conditions		10 COLUMN 10 COL	7-57 XXX 7-50		3 - 1 - 2					
	Temporary cover and Heat										
	Hazardous materials Abatement and Disposal										
	Other				I						
		227022V		*****		**********			Control of the party	***********	*************
	TOTAL				1						\$ 1,096,004