Great Falls – Cascade County Historic Preservation Advisory Commission
Minutes from the August 14, 2024 meeting, held at the Great Falls Portage Overlook and the PCD
Conference Room at the Civic Center

Members Present: Chris Christiaens, Suzanne Waring, Ken Robison, David Erdmann, Jeanne Price,

Stephanie Erdmann

Members Absent: Channing Hartelius, Ken Sievert Staff Present: Samantha Long, Bruce Hamman

Ex-Officio Members Present: Kellie Pierce, Rae Grulkowski

The meeting was called to order by Chris Christiaens at 12:00 PM.

1. Approval of Meeting Minutes – July 10, 2024

• Ken Robison moved to approve the minutes as written. David Erdmann seconded, and the motion carried.

2. Rocky Mountain Building Update – Bruce Hamman

- Bruce Hamman, Building Official for the City of Great Falls, provided an update on the status of the Rocky Mountain Building at 601 Central Ave. He reported that Phase 1, hazardous materials remediation, had been completed before construction halted, but Phase 2, securing the building envelope, had not been. At this point the new CEO of Alluvion (the building owner), Bill Preston, has expressed that the Rocky Mountain Building is a top priority, and is open to exploring all options, including sale and partnership. Mr. Preston stated that a pro forma has been created for the building, which has generated some interest from potential developers. Alluvion's contractors are still under contract, which Bruce takes as a positive sign.
- Kellie Pierce asked Bruce about the timeline for removal of the shipping container sidewalk shelter on Central Ave. Bruce replied that he would investigate and get back to her.

3. HPO Report

- Sam is working with the State Historic Preservation Office to implement a pass-through of funds from the National Park Service to the Bethel Union AME Church via NPS' Civil Rights Grant program.
- Sam has been in contact with Kristi Scott from the History Museum and Rebecca Engum from Great Falls Tourism about partnering to redesign and reprint our walking tour brochures and make them available in a digital format. She will continue this conversation and report back as the project develops. Kellie Pierce recommended contacting the Downtown Association, as they may also be interested in helping.
- Downtown TIF program applications that were recently approved include sidewalk improvements at 8 5th Street S (Big Dipper) and awning refurbishment at 26 4th St N (Sun Spot). Also, the Mansfield Theater has applied and been approved for a standard TIF request for ceiling restoration, seating upgrades, and elevator improvements.
- The City Growth Policy Update will hold initial interest group meetings on August 21 and 22 to inform the continuing public input process. Sam will attend and encourages HPAC members and all interested public to attend as well.
- Sam is helping the Montana Dept. of Transportation with some research preceding a curb upgrade on 1st Ave N, reviewing plans and records for evidence of vaults under the sidewalks, which can impact construction.

4. Highland Development/Portage NHL Section 106 Report

- Samantha reported that she had relayed the comments collected at the July meeting and received resolution as follows:
 - Parking at park feature: Parking would be determined in the course of designing the park in coordination with the City Park & Recreation Dept. Adequate access will be insured.
 - Viewshed Study: The study models will be updated to reflect the discrepancy in maximum building height estimations between the study and the proposed development standards.
 - East-West protected viewshed: The MOA will be updated to include the secondary protected viewshed noted in the Master Plan.
 - Mitigation Objectives: Mitigation measures have been fleshed out. Sam noted the following items of particular interest to HPAC.
 - SHPO has provided guidance on the number and content of interpretive signs to be included in park space on the development.
 - NeighborWorks will provide a donation to the Lewis and Clark Portage Route Chapter to assist with maintenance of the Overlook site.
 - NeighborWorks will complete a Cultural Landscape Inventory in the area of potential effect.
 - Construction will conform to an Inadvertent Discover Plan.

5. Boston and Montana Barn Report

Sam shared that the day before she had received news that the roof of the Barn, which has
been structurally deteriorating for several years, had finally collapsed. She had arranged a
meeting with interested City staff on the coming Monday, and invited Rich Ecke, who was
still on the Barn Committee, as well as Channing Hartelius to attend. She hoped to get input
from architect Tony Houtz (who completed the initial architectural study) and Park &
Recreation on possible next steps.

6. Vinegar Jones Cabin Committee Report

• Ken Sievert reported that he has located a product that can coat the roof of the Vinegar Jones Cabin without the issues of toxicity and long drying time presented by traditional boiled linseed oil. Sam will get the product on order, and Park & Rec will help with the application.

7. Reports from Commissioners

• There were no reports from Commissioners.

8. Public Comment

• There was no public comment.

Chris Christiaens adjourned the meeting at 12:50.



Historic Preservation Advisory Commission Staff Report on Boston and Montana Barn Status

Staff Recommendation: HPAC chooses a recommended action to advise City Commission deliberation.

Summary: The Boston and Montana Barn is the last remaining industrial building from the smelting operations in Black Eagle, which formed the backbone of the Great Falls area economy for almost a century. HPAC has been trying to find a path to preservation of this building for almost 20 years. In August, the roof of the Barn collapsed, creating an unsafe situation and necessitating accelerated action by the City, which owns the property. HPAC is asked to advise the City Commission as they weigh potential actions.

Background:

<u>History</u>

The Boston and Montana Barn was built in 1901 to house wagons, horses, and construction equipment for the Boston and Montana Company, which pre-dated the Anaconda Copper Mining Company smelting and refining operations. Construction of the "Big" stack began in 1908, and by 1915, the properties of the Boston & Montana Company were acquired by the Anaconda Copper Mining Company. After operations at the smelter moved away from horse-driven transportation, the barn served as a garage and for a time was a fire station for the facility. According to oral reports, firemen and others liked to play basketball in the second floor, east wing and removed structural supports in order to have a clear-span, weakening the structural system. When the City acquired the Anaconda Hills golf course, it used the barn to store golf carts until it became too dilapidated to serve the purpose.

In 2005, the City declared its intention to demolish the building due to progressing deterioration. The Historic Preservation Advisory Commission (HPAC) requested a stay in order to document the building through photographs and/or drawings before demolition. The City agreed, and set a deadline of Jan. 1 2006, with demolition planned that year. Sievert & Sievert produced a set of measured floor plans and photo-documentation. (Attached) It is not clear why demolition did not proceed, but in 2010 the Montana Preservation Alliance (now Preserve Montana) chose the Boston and MT Barn as one of the most endangered historic places in the State.

HPAC promoted the future use of the Barn as an interpretive center or event venue during the Black Eagle Superfund Land Use planning process, and on 11/16/2021 the goal was listed in the OU2 Land Use Plan adopted by the County Commission.

HPAC worked with community partners to raise money to conduct a structural assessment to determine the status of the building, document its condition, and estimate the cost of stabilization. That report was completed in October of 2023. (Attached) The report identified several structural inadequacies, including failing roof supports which were pushing the walls out from the building center, an insecure foundation, and lack of weather protection.

On August 13, 2024, the failing roof partially collapsed. This exacerbated existing structural problems, creating an unsafe situation on public property. The Park & Recreation Dept. secured the building from public access with fencing as a temporary measure.

Potential Recommendations:

Pursue rehabilitation

Rehabilitation would retain a cultural resource significant to the development of Great Falls and Black Eagle and in the future could create economic development through an interpretive site or event venue. At the time of the structural assessment completed in October 2023, costs of stabilization alone, with no rehabilitation efforts, were estimated at approximately \$500,000. Since, building conditions have become more difficult and deterioration has accelerated. No formal estimate of cost increases has been made, but staff anticipates substantial increase in scope would be necessary. No source of funds has been identified.

Demolition

Controlled demolition would render the site safe for public use and resolve the City's liability in this matter. Costs of demolition have not been estimated. Demolition will destroy a cultural resource, and remove the last traces of the ACM from the smelter site.

Demolition with salvage

Some features from the building may be retained during the demolition process, either for retention by the City as part of a future interpretive effort, or for architectural salvage. Some interior timbers are likely old-growth in large spans that are very difficult to obtain by contemporary means, and weathered "barn wood" is sometimes sought for artistic or decorative purposes. These materials may be able to defray the cost of demolition if offered to an architectural salvage yard. Features that may be considered for retention for cultural value are original doors, hardware such as hinges or braces, cupolas, or artefacts such as bottles or pottery which may be uncovered during demolition. Consideration would need to be given to how such items would be stored and how they would be made available to the public.

Do nothing

Lack of action will result in a blight and a liability on City property, and will create greater expense as the situation becomes more unsafe and more difficult to manage.

Attachments/Exhibits: Preliminary Architectural Report (Oct. 2023), Photos (Aug. 2024), Sievert & Sievert Report (2010)



Boston and Montana Barn

Black Eagle, Montana

Existing Conditions Assessment

Recommendations for Stabilization and Protection

Jointly prepared by :

Cushing Terrell

TD&H Engineering

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1.0 Intent

The intent of this report is to review and assess the existing condition of the Boston and Montana Barn located in the current Anaconda Hills Golf Course; specifically to review imminent safety and/or degradation concerns and potential remediation solutions related to the structural infrastructure and the architectural envelope.

2.0 Background

The Boston and Montana Barn was built circa 1900 to house wagons, horses, and construction equipment for the Boston and Montana Company, which pre-dated the Anaconda Copper Mining Company smelting and refining operations. Construction of the "Big" stack began in 1908 and, in 1910, the properties of the Boston & Montana Company were acquired by the Anaconda Copper Mining Company.

The barn is a two-story, wood framed, gable-roofed structure built in a T-plan oriented north-south on the south end of the Anaconda Hills golf course. The barn has a sandstone foundation and is situated on a small rise that slopes down to the east and south. It is the only remaining industrial building on the former 450 acre ACM site.



3.0 Existing Documentation

No existing documentation of construction detail has been obtained, either in hard copy or digital format. As a result, all observations and estimated methods of replacement are dependent on the observable exterior condition of the building and on-site field verification and measurement. Design teams collaborated to ascertain the existing building dimensions and visually measure, quantify, and observe the existing conditions of the structure related to the intent of this document.

4.0 Existing Conditions



The existing building is a two-story T-shaped structure in plan with gable roof. Truss bearing elevation is approximately 20' above main floor level. Trusses in the north section appear to be stick-built common-style trusses. Construction of the roof in the southern section consists of larger heavy timber trusses with purlins spanning between them. Cupolas rest on the top of both the north and south sections. Top of roof is approximately 31'-9" above main floor, and the top of the cupolas sit approximately 37' above main floor.

Both floor levels are fully wood-framed with wood flooring. The main floor is framed over crawl space, accessible in the south half, but the north section is inaccessible and was unobserved at the time of this report. Foundation walls are sandstone construction, and carry the heavy timber frame for the floor structure. The second level is framed over heavy timber primary structure and is approximately 12'6" above main floor level.



All walls are 2x framed and faced with painted narrow wood lap siding. The roof itself is sheathed and finished with wood shakes. All doors and windows are constructed completely of wood. The exterior grounds are primarily gravel and grade is typically at main floor level.

4.1 Character Defining Materials and Features

Our position is that the following features, architectural marks, and features are considerably contributing to the history and architectural character of the building and care should be undertaken to preserve and/or restore as appropriate within the guidelines of the Secretary of the Interior:

- 4.11 Roof Cupolas. The three cupolas on the roof should be preserved in form, dimension, and materiality. Due to their condition, they will need to be rebuilt. We don't think that their use as air relief vents will need to be continued, but the louvers should be retained.
- 4.12 Wood Doors. All the wood doors should be preserved in their materiality and aesthetic materiality/method of construction. Due to their condition, they will need to be replumbed and likely re-hinged.
- 4.13 Heavy Timber Trusses on the South Section. These trusses and their supporting steel rods are in reasonably good shape and should be retained.
- 4.14 Narrow-plank wood siding. In heavily-weathered condition, the barn structure itself should attempt to preserve the narrow-plank wood siding, both in dimension and materiality.
- 4.15 Sandstone Foundation. If at all possible, we would recommend preserving the externally visible sandstone foundation. Where possible, reinforce the foundation internally as necessary to stabilize the structure.
- 4.16 Opening Locations and Dimensions. No windows are currently intact, but all existing openings and window/vent patterns should remain as part of the historical nature and use of the building.
- 4.17 Heavy Timber Framing, Main Floor. The heavy timber columns, beams, and kickers on main floor showcase the methods of construction and also the affect of time on the structure. Our recommendation would be to preserve all the heavy timber framing and attempt to augment that structure rather than replace it.
- 4.18 Wood Shake Roof. Doesn't really exist in its current condition; however, the wood shakes have been the roofing material since the building was erected.

4.2 Overall maintainability and safety of the building

Current condition of the building is in overall disrepair and is unsafe for occupation. Categorical review of each of the primary building systems are as follows:

4.21 Roof

The existing shake roofing is well past its useful life and is neither complete nor capable of weather-protecting the interior of the building. Roof sheathing is heavily weathered and weakened throughout.

Stick-built trusses on the north section are broken and the bottom chords are completely sheared from the primary structure, allowing the walls to shift laterally. Hip-jacks are broken, allowing the roof to sag, especially under the weight of snow. These failures have resulted in substantial sag in the ridge of the north section.





Roof structure on the south section is relatively intact and in more serviceable condition. Lateral purlins are undersized, but in generally good working condition. No ridge exists currently. Rods that extend from the girder trusses to the floor system below are intact.

4.22 Exterior Walls, windows, doors

Exterior windows consist only of heavily weathered frames. Many of the headers have been dislodged or are broken, and their nailed connection points severed. As a result, the windows are collapsing. They don't currently keep the weather out of the building, and are open for potential rodent or avian access to the building.

Doors are wood and mounted on hinges. Most are no longer plumb and don't easily close. Wood is heavily weathered, dry, cracking, and no level of weatherstripping exists.



Exterior walls are failing. At the roof level, both the failure of the trusses on the north section as well as attempts to stabilize the structure have caused the walls to shift out of plumb heavily to the north. Much of the siding is intact, but checked in multiple areas and separating from the building.





Virtually all the corner trimboards as well as fascia boards are missing. As anticipated with a structure of this vintage, no weather barrier currently exists. Consequently, any weather events are absorbed by the sheathing boards at minimum and likely the framing as well.

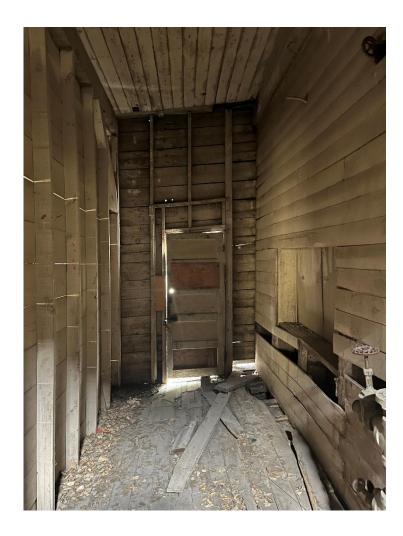
4.23 Primary Structure

Primary structure is a series of heavy timber columns and beams serving as intermediate bearing for the building. Sizing of these beams and columns are in general accordance with the loading

anticipated; however, many of the columns are suffering from dry-rot, and some of them have separations at their connecting points. The original design for the second floor required two parallel rows of columns to support the roof structure. These are all currently absent, resulting in a dangerous structural situation on the northern section. The structure is in danger of collapse.

Building lateral systems at both the roof and the walls are impaired, rendering the building unable to resist wind or seismic forces acting on the building.

Internal stairwell is stable. Main floor level is not level, but apart from some holes and gaps in the flooring, is in relatively serviceable condition. The second level south section is covered with debris but is primarily stable. Floor in the north section is noticeably out of level, primarily at the north end of the building where the exterior walls have shifted out of plumb.



Foundations in the north section are mostly unobserved due to lack of access to below-floor areas. Foundations in the south section are accessible from openings in the wall along the southeastern corner of the building. Sandstone is weathered and the joints require maintenance, but the stone is in adequate condition.

5.0 Recommendations

Due to the various degradation of different systems in the building, and considering the amount of effort required to repair and/or stabilize the existing structure, the design team recommends the following strategy for mothballing the building to protect it against further damage. Attached are full schematic drawings for the below scope of work summary. The intent of these recommendations is to fully protect the existing architecture and materials from further degradation and is not intended to replace them.

5.1 Internal Shear Wall construction

First, the interior column grid in the north section must be rebuilt, infill framed with stud wall construction, and sheathed in order to create a central stabilizing core. This core is proposed to extend up to the truss bearing point so that it can successfully tie to the exterior walls and also anchor the roof itself. Secondarily, this structural core will serve as a safe area from which to stage construction operations. Attached drawings indicate extent and preliminary design of this central stabilizing building core.

5.2 <u>Stabilize the exterior walls</u>

Following construction of the central stabilizing core, the exterior walls can be positioned more closely to plumb by anchoring them to the central core. This will ensure that subsequent envelope stabilizing strategies will succeed.

5.3 Set the north roof ridge elevation level

Once the exterior walls are plumb and the top plates are repaired as necessary, the roof can be stabilized by rebuilding the trusses and restoring a continuous, level ridge line at the roof. This will allow for resurfacing and weatherization of the roof assembly. It is our position that trying to weather-protect the



structure without first setting the ridge level will compromise the weather-resistant properties and long term durability of any roofing system, and also make any future work such as permanent roofing much more difficult and costly.

5.4 <u>Weatherprotect the Roof System</u>

Strip the existing roofing, resheathe, and provide a weather resistant roofing material capable of enduring Montana weather conditions for the length of time needed until a more permanent roof solution can be installed. Options for a protective membrane include:

5.4.1 Synthetic Roofing Underlayment. Not Advised. These underlayments are typically stapled down, and while the material itself can sometimes prove

- durable, the installation of synthetic underlayments is not intended to provide waterproof protection long term. Wind, hail, and snow can cause the system to fail if used independently.
- 5.4.2 Ice and Water Shield. Not Advised. Similar to the option in 5.4.1, these products are not intended to work independently as a primary defense against moisture intrusion. However, Ice and Water Shield, if installed appropriately, is more resilient than option 5.4.1.
- 5.4.3 Torch-down roll roofing. Installed properly, this system can wear extremely well, and also provide a base for over-shingling at a later date. Does require full manufacturer installation techniques to be followed throughout and not just reliant on nail-down fasteners. Could be a solid solution, but we recommend better benefit-to-cost solutions below.
- 5.4.4 Self-Adhered Waterproof Membrane. PolyStick TU P by PolyGlass or similar. Depending on timeframe requirements, this could be a lower budget option. Polystick TU P carries an extended exposure time of up to 36 months and is a flexible solution that can handle some shifting in the building structure. *This pricing is included in the cost estimate.*
- 5.4.5 30-mil sheet membrane roof, mechanically attached. Not advised due to cost of material and the (non) wind-resistance of the building. If mechanically attached, the membrane can handle flex in the building and still maintain weather-tightness. The material will need to be firmly adhered along all edges and joints, and drip flashing installed around the entire perimeter to keep the wind from trying to separate the membrane from the structure. Critical to ensure that the new sheathing is tight since the building itself isn't necessarily air-tight, wind and air pressure from inside the building could potentially cause fastener tear in the membrane.
- 5.4.6 30-year composite shingles. The preferred solution is to treat the edges and valleys of the roof with ice/water shield and cover the rest with synthetic underlayment. Install Style-D drip edge at the perimeter of the roof and fully install new shingled roof. While the preservation of the building fully may require wood shake installation, the pricepoint, flexibility and durability of composite shingle systems for the near future would be our preferred solution for preserving the building interior. This pricing is not included in the cost estimate and would be an upgraded approach to protecting the roof and building from moisture penetration for a longer period of time.

5.5 Seal the windows and doors

Windows can then be framed over, **protecting** the existing original window frames, trim, and other defining elements, while still allowing for protection from the elements, rodent and avian penetration. Doors shall all be closed and screwed shut to prevent leaking and/or intrusion. One door to remain operational for maintenance purposes only. We recommend this approach over trying to board up the window openings from the interior due to the lack of plumb/level conditions in the building and also because keeping water and snow out of the building will be difficult to accomplish unless handled from the exterior.

5.6 <u>Seal the foundation wall openings</u>

The building now stabilized, openings in the foundation wall should be enclosed with materials capable of handling contact with the ground, but fully sealed to limit rodent intrusion into the building. An access door shall be installed for maintenance purposes only.

5.7 Protect the exterior

Lap siding boards to be removed from the building, stored and marked in a safe place for future re-use/re-installation and the structure wrapped with weather barrier, secured per manufacturer's instructions for long term exposure, with all seams lapped for positive drainage and seam tape applied.

6.0 Potential Construction Costs

See attached cost exhibit for opinion of probable costs relative to the scope of work outlined in item 5 above. The Cost exhibits represent all the work indicated above – where funds are limited, measures to stabilize the core, strengthen the roof, and weather-protect the roof are of primary priority.

7.0 Conclusion

The Barn structure currently located at the Anaconda Hills Golf Course, in its current state, can be salvaged and preserved, both for use and for its inherent historic value. For it to be preserved, the structure must be stabilized to prevent further movement and weatherized to prevent further degradation of the critical structural systems.



Structural Stabilization Opinion of Probable Cost

NOTE: Data from 2021 RSMeans has been adjusted for a total 12.9% inflation. Bare values are RSMeans 2021 listed values, inflation is accounted for in the respective O&P columns. Material and equipment O&P costs include 10% profit, labor O&P includes cost of labor burden and 10% profit. Labor burden is an estimate from back calculations. This estimate is for the temporary shoring and stabilization of the structure only. This estimate does not include any costs for permanent structural rehabilitation and retrofitting.

Section #	Section Description	Task #	Task Description	Unit Type	Unit Total	Bare Material	Material O&P	Bare Labor	Labor O&P	Unit O&P	Total O&P	Source	Notes
01 52	Field Offices and Sheds: Offices and Storage Space	13.20 0550	50x12 storage trailer (rent)	month	4					\$540.00	\$2,160.00	RSMeans Online	Estimated duration of repairs
Construction Aids:	33.40 2200	10kW gas generator	month	4					\$895.00	\$3,580.00	RSMeans Online	Estimated duration of repairs	
013.	Equipment Rental		40 ton telehandler	month	4					\$10,527.00	\$42,108.00	RSMeans Online	Estimated duration of repairs
01 56	Temporary Barricades: Temporary Fencing	26.50 0200	Rented 6' high > 1000' up to 12 months	LF	650					\$5.68	\$3,692.00	RSMeans Online	
02 43	Building Relocation	13.13 0040	Wood Frame Bldg.	SF	4000	ć 0.00		¢0.05	646.57	\$17.06	\$68,240.00	RSMeans Online	Temporary building shoring
		05.10 3160	Beams 10"x12"	LF	300	\$0.00		\$9.85	\$16.57	\$16.57	\$4,970.93	2021 RSMeans	
		05.10 4280	Joists, 2"x12"	LF	250			\$0.81	\$1.36	\$1.36	\$340.65	2021 RSMeans	
		05.10 5480	Posts, 8"x8"	LF	84			\$2.37	\$3.99	\$3.99	\$334.89	2021 RSMeans	Initial estimate: 7 posts @12'
	Selective Demo Wood	05.10 5688	Rafters, 2x6 @ 24" OC	SF	200			\$0.64	\$1.08	\$1.08	\$215.32	2021 RSMeans	
06 05	Framing	05.10 6056	2x6 Rafter tie	LF	680			\$0.73	\$1.23	\$1.23	\$835.05	2021 RSMeans	
	110111119	05.10 6096	Board sheathing from roof	SF	5200			\$0.51	\$0.86	\$0.86	\$4,461.22	2021 RSMeans	
			Subfloor/roof deck, w/ togue									2021 RSMeans	
		05.10 6159	and groove boards	SF	450			\$0.36	\$0.61	\$0.61	\$272.52	2021 KSIVIEALIS	
			Wall Framing Inc. Studs,										
		05.10 6740	Plates, Blocking,2x6 Wood Blocking, 2x4,	SF	360			\$0.74	\$1.24	\$1.24	\$448.14	2021 RSMeans	
		10.02 2625	Pneumatic Nailing Joist Framing, 2x14,	MBF	1.82	\$1,050.00	\$1,304.00	\$2,075.00	\$3,490.59	\$4,794.58	\$8,726.14	2021 RSMeans	
		10.18 2765	Pneumatic Nailing	MBF	2	\$1,525.00	\$1,893.90	\$425.00	\$714.94	\$2,608.84	\$5,217.67	2021 RSMeans	
		10.16 2705	Partitions, 2x6x12, 16" OC	LF	500	\$1,323.00	\$16.02	\$10.40	\$17.49	\$33.52	\$16,757.75	2021 RSMeans	
		10.26 1205		LF	300	\$12.90	\$10.02	\$10.40	\$17.49	\$55.52	\$10,757.75	2021 KSIVIEALIS	Character and differen
06 11	Wood Framing	10.30 7000	Roof Framing, Rafters, 2x6, <4:12 Pitch	MBF	0.4	\$1,075.00	\$1,335.04	\$875.00	\$1,913.51	\$3,248.56	\$1,299.42	2021 RSMeans	Steep slope addition included in labor O&P
		10.30 7300	Hip and Valley Rafters, 2x6	MBF	0.07	\$1,075.00	\$1,335.04	\$1,150.00	\$2,514.90	\$3,849.95	\$269.50	2021 RSMeans	Steep slope addition included in labor O&P
		Jack Rafters, 2x6 10.30 7540 MBF	0.3	\$1.075.00	\$1,335.04	\$1.450.00	\$3 170 07	\$4 506 01	\$1,351.80	2021 RSMeans	Steep slope addition included in labor O&P		
		10.30 7780	Steep Slope Addition	30%	0.5	\$1,075.00	71,333.04	71,430.00	\$0.00	\$ 4 ,500.01	\$0.00	2021 RSMeans	included in labor Oct
			Beams, 8x16						Ş0.00			RSMeans Online	
		23.10 0100	beams, oxio	MBF	2.1					\$2,927.55	\$6,147.86	Nowleans Online	
06 13	Heavy Timber Construction		Columns, Structural Grade,									RSMeans Online	
		23.10 0400	8x8	MBF	1.65					\$7,143.00	\$11,785.95	KSIVIEATIS OTITITE	
		23.10 0900	Floor Planks, 2"x10"	MBF	0.9					\$5,647.95	\$5,083.16	RSMeans Online	
			5/8 Roof OSB, Pneumatic									2024 2014	Steep slope addition
06 16	Sheathing	36.10 4605	Nailing 7/16 Wall OSB, Pneumatic	SF	5000	\$1.05	\$1.30	\$0.67	\$1.47	\$2.77	\$13,846.00	2021 RSMeans	included in labor O&P
		36.10 4615	Nailing	SF	6000	\$0.41	\$0.51	\$0.59	\$0.99	\$1.50	\$9,010.10	2021 RSMeans	
·		33.10 4013	Huming	J.		Ψ0.41	Ţ0.31	40.33	40.33	71.50	O&P total \$211,154.06		

Permit							
Base permit		Additional fee	Total Permit	Commercial plan	review		
\$1,091.02 \$710.27			\$1,801.29	\$1,170.84			
			Project Estimate				
10% Contingency		\$21,115.41		Total Estimate:	\$235,241.60		

Architectural and Weatherization Opinion of Probable Cost

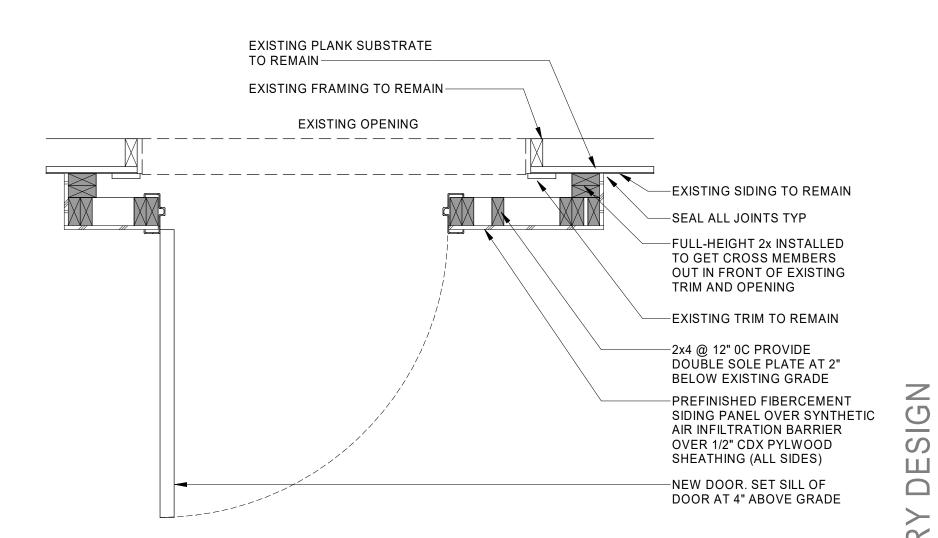
Cushing Terrell - Cost Estimating System

		g roman coot Louinian	g cycle			
Project Name Project Descript	Boston Ba	arn		Project Number	(CITYGFCC
r roject Descript	diori.			Billing Group		BARN
				Building Area		1
				Perimeter		0
				Construction Months		5
				Bid ENR Index		8642
Estimate based	on bid date of: 12/1/2023			Estimate Date		4/12/2023
Division	Description	Material Total	Labor Total	Extended Total	Cost/SF	% Total
06	Wood, Plastics, and Composites	23,274	15,159	38,433	\$38,433	36%
07	Thermal and Moisture Protection	27,976	26,774	54,749	\$54,749	52%
08		10,828	1,636	12,465	\$12,465	12%
	Subtotal	62,078	43,569	105,647		
	General Contractor's Markup @ 12%	7,449	5,228	12,678		12%
	Construction Total	69,527	48,797	118,325	\$118,325	
	General Conditions	11%	0	11,621		
	scope inclusion	10%	0	10,565		
	Prevailing Wages, 1% GRT, Bonding	5%	0	5,282		
	Project Cost Subtotal	69,527	48,797	145,793		
	Contingency @ 10%			11,832		
	Total Project Cost	69,527	48,797	157,625	\$157,625	

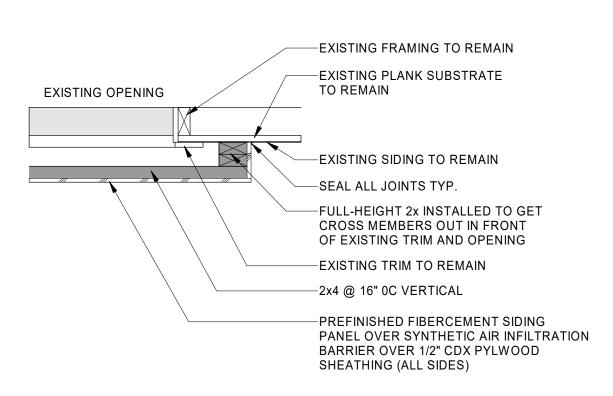
Item Number	Description	Qty	Unit	Material	Material Total	Labor	Labor Total	Unit	Total
Division 06	Wood, Plastics, and Composites	Qty	Oiiit	Material	material lotal	Labor	Labor Iotal	Ome	Iotai
	MISCELLANEOUS FRAMING Wood framing, miscellaneous, nailers, treated, wood construction, 2" x 4", pneumatic nailed	5.400	LE	1.78	9,608	1.39	7.533	3	17,141
400010	WALL FRAMING	,			,		,		•
0370	Wall framing, window buck, king studs, jack studs, rough sill, cripples, header and accessories, 2" x 6" wall, 6' wide, 8' high Total Spec 1110	5	Ea.	217.96	1,090 10,698	24.71	124 7.656	243	1,213 18,354
	·				10,000		7,000		10,001
	SHEATHING Sheathing, plywood on walls, CDX, 5/8" thick, pneumatic nailed	3,000	S.F.	1.83	5,493	0.96	2,889	3	8,381
	Total Spec 1636				5,493		2,889		8,381
	Division 06 Subotal				16,191		10,545		26,736
	Remote factor @ 15%				2,429		1,582		4,010
	Subtotal Size factor @ 25%				18,619 4,655		12,127 3,032		30,746 7,687
D	Subtotal				23,274		15,159		38,433
Division 07 072510100010	Thermal and Moisture Protection WEATHER BARRIERS								
3000	Weather barriers, building paper, spun bonded polyethylene	3,000	S.F.	0.21		0.27	813	0	1,430
	Total Spec 2510				618		813		1,430
	ASPHALT ROOF SHINGLES	62	Sq.	270.35	16,762	251.83	15,613	522	32,375
0630	36 month exposure rubberized asphalt underlayment Total Spec 3113		Sq.	270.55	16,762	201.00	15,613	522	32,375
4213300010	STEEL SIDING								
	Steel siding, colored, corrugated or ribbed, on steel frame, 10 year finish, 24 gauge, incl. fasteners	140	S.F.	3.38		2.09	293	5	766
	Total Spec 4213				473		293		766
	FIBER CEMENT SIDING								
0210	Fiber cement siding, accessories, fascia, 5/4" x 5-1/2" Total Spec 4646		L.F.	3.35	938 938	3.69	1,034 1,034	7	1,972 1,972
	·						1,00-1		1,072
	DRIP EDGE, RAKE EDGE, ICE BELTS Aluminum drip edge, white finish, .016" thick, 5" wide	520	L.F.	1.29	671	1.68	872	3	1,544
	Total Spec 7143				671		872	•	1,544
	Division 07 Subotal				19,461		18,625		38,087
	Remote factor @ 15%				2,919		2,794		5,713
	Subtotal Size factor @ 25%				22,381 5,595		21,419 5,355		43,800 10,950
D: : : 00	Subtotal				27,976		26,774		54,749
Division 08 081213130010	Openings STANDARD HOLLOW METAL FRAMES								
0100	Frames, steel, knock down, hollow metal, single, 16 ga., up to 5-3/4" deep, 3'-0" x 7'-0"		Ea.	246.01		75.75	76	322	322
	Total Spec 1213				246		76		322
	STANDARD HOLLOW METAL DOORS Doors, commercial, steel, insulated, full panel, 18 ga., 3'-0" x 7'-0" x 1-3/4" thick	1	Ea.	779.17	779	76.69	77	856	856
1700	Total Spec 1313		La.	119.11	779	70.03	77	000	856
3113100010	TYPES OF FRAMED ACCESS DOORS								
	Doors, specialty, access, fire rated, with lock, metal, 48" x 48"		Ea.	702.95		77.08	154	780	1,560
	Total Spec 3113				1,406		154		1,560
7120050015	Hardware Group 3-Exterior, Hinges, HD cyl.lock, closer, thrshd, wth strp		Ea.	1,134.90		486.90	487	1,622	1,622
	Total Spec 7120				1,135		487		1,622
	STEEL LOUVERS	_		10.1 -	200	045:	22	400	005
	Wall louvers, galvanized steel, fixed blades, commercial grade, 24" x 24" Wall louvers, galvanized steel, fixed blades, commercial grade, 48" x 48"		Ea. Ea.	431.34 776.04		34.51 68.98	69 276	466 845	932 3,380
	Division 08 Subtotal				7,533		1,138		8,671
	Remote factor @ 15.0% Subtotal				1,130 8,663		171 1,309		1,301 9,972
	Size factor @ 25.0%				2,166		327		2,493
	Subtotal Grand Total				10,828 62,078		1,636 43,569		12,465 105,647
	Orana rotal				,0		,		

KEYNOTES FLOOR PLAN:

- 1. REMOVE EXISTING DOOR LEAF AND STORE INSIDE IN WEATHERSAFE LOCATION. ATTACH TO AN INTERIOR WALL AND ELEVATE OFF THE FLOOR. KEEP FRAME AND HINGES IN EXISTING CONDITION. PREP EXTERIOR OF DOOR WAY TO ACCOMMODATE MOTHBALL COVERING AND NEW ACCESS DOOR PER PLAN DETAIL 2/A101.
- 2. SINGLE DOOR. PRESERVE ALL EXISTING DOOR CONSTRUCTION. PROVIDE (2) THUMBTURN-STYLE HASP AT INTERIOR FACE OF DOOR. SET HASPS TO HOLD DOOR TIGHTLY SHUT. INSTALL BACKER ROD AT JAMBS AND HEAD OF DOOR TO FULLY SEAL ALL GAPS. PROVIDE ADJUSTABLE NEOPRENE SWEEP AT BOTTOM EDGE OF DOOR SET TIGHT TO FLOOR. INSTALL SIGN "NOT AN EXIT" ON INTERIOR FACE OF DOOR. PREP EXTERIOR OF DOOR TO ACCOMMODATE MOTHBALL COVERING PER DETAIL 3/A101.
- 3. DOOR PAIR. PRESERVE ALL EXISTING DOOR CONSTRUCTION. PROVIDE (2) THUMBTURN-STYLE HASP AT INTERIOR FACE OF DOOR. SET HASPS TO HOLD DOOR TIGHTLY SHUT. INSTALL BACKER ROD AT JAMBS AND HEAD OF DOOR TO FULLY SEAL ALL GAPS. PROVIDE ADJUSTABLE NEOPRENE SWEEP AT BOTTOM EDGE OF DOOR SET TIGHT TO FLOOR. INSTALL SIGN "NOT AN EXIT" ON INTERIOR FACE OF DOOR. PREP EXTERIOR OF DOOR TO ACCOMMODATE MOTHBALL COVERING PER DETAIL 3/A101.
- 4. SLIDING DOOR. PRESERVE ALL EXISTING DOOR CONSTRUCTION. PROVIDE (2) THUMBTURN-STYLE HASP AT INTERIOR FACE OF DOOR. SET HASPS TO HOLD DOOR TIGHTLY SHUT. INSTALL BACKER ROD AT JAMBS AND HEAD OF DOOR TO FULLY SEAL ALL GAPS. PROVIDE ADJUSTABLE NEOPRENE SWEEP AT BOTTOM EDGE OF DOOR SET TIGHT TO FLOOR. INSTALL SIGN "NOT AN EXIT" ON INTERIOR FACE OF DOOR. PREP EXTERIOR OF DOOR TO ACCOMMODATE MOTHBALL COVERING PER DETAIL 3/A101.
- 5. WINDOW. PRESERVE ALL EXISTING WINDOW CONSTRUCTION. SEE DETAIL 3/A101 FOR HEAD/JAMB/SILL CONDITION TO ENCLOSE WINDOW OPENING AND PROTECT FROM WEATHER.
- 6. FOLLOWING STRUCTURAL REINFORCEMENT OF FLOOR STRUCTURE, PIECE IN FLOORING WITH WOOD TO MATCH FINISH, DIMENSION AND SPECIES OF EXISTING . SCOPE ONLY IN THE DAMAGED AREA.
- 7. INFILL FRAME FROM 6" BELOW GRADE TO BOTTOM OF FLOOR FRAMING W/ P.T. 2x6 STUDS @ 12" O.C. FACE WITH WEATHERBARRIER AND 24 GA 7/8" PREFINISHED CORRUGATED METAL SIDING PANELS SPANNING HORIZONTALLY. PROVIDE CONTINUOUS DRIP EDGE AT TOP OF PANELS TYP.
- 8. INSTALL NEW METAL LOUVERS IN EXISTING OPENINGS. SIZE TO MATCH OPENING. PROVIDE METAL INSERT SCREENS, SEE ENTIRE PERIMETER OF LOUVER TO EXISTING BUILDING.
- 9. SEE STRUCTURAL DRAWING FOR AREAS OF FLOOR TO BE REMOVED AND REPLACED FOLLOWING STRUCTURAL IMPROVEMENTS. CARE TO BE TAKEN TO PRESERVE ALL FLOORING AND REINSTALL TO MATCH EXISTING CONDITIONS.



OPERABLE DOOR OPENING DTL ∖ A101 /



OPENING COVER DTL 1" = 1'-0"

Cushing Terrell.

cushingterrell.com 800.757.9522

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CONSTRUCTION 04.27.2023

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REVISIONS

FIRST FLOOR PLAN

SCALE: 1/4" = 1'-0"

NORTH REF

KEYNOTES FLOOR PLAN:

- 1. REMOVE EXISTING DOOR LEAF AND STORE INSIDE IN WEATHERSAFE LOCATION. ATTACH TO AN INTERIOR WALL AND ELEVATE OFF THE FLOOR. KEEP FRAME AND HINGES IN EXISTING CONDITION. PREP EXTERIOR OF DOOR WAY TO ACCOMMODATE MOTHBALL COVERING AND NEW ACCESS DOOR PER PLAN DETAIL 2/A101.
- 2. SINGLE DOOR. PRESERVE ALL EXISTING DOOR CONSTRUCTION. PROVIDE (2) THUMBTURN-STYLE HASP AT INTERIOR FACE OF DOOR. SET HASPS TO HOLD DOOR TIGHTLY SHUT. INSTALL BACKER ROD AT JAMBS AND HEAD OF DOOR TO FULLY SEAL ALL GAPS. PROVIDE ADJUSTABLE NEOPRENE SWEEP AT BOTTOM EDGE OF DOOR SET TIGHT TO FLOOR. INSTALL SIGN "NOT AN EXIT" ON INTERIOR FACE OF DOOR. PREP EXTERIOR OF DOOR TO ACCOMMODATE MOTHBALL COVERING PER DETAIL 3/A101.
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- 8. INSTALL NEW METAL LOUVERS IN EXISTING OPENINGS. SIZE TO MATCH OPENING. PROVIDE METAL INSERT SCREENS, SEE ENTIRE PERIMETER OF LOUVER TO EXISTING BUILDING.
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Cushing Terrell.

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SECOND FLOOR PLAN

KEYNOTES ROOF PLAN:

NORTH REF

- SEE STRUCTURAL DRAWINGS FOR ROOF STABILIZATION AND SETTING RIDGE AND ROOF SLOPE AT FINAL POSITION.
- REMOVE EXISTING SHAKE SHINGLES. EXISTING SUBSTRATE PLANKS TO REMAIN.
- PROVIDE NEW STYLE D DRIP EDGE AROUND ENTIRE PERIMETER OF ALL ROOFS.
- 4. PROVIDE 36"W METAL VALLEY FLASHING AT ALL VALLEYS TYPICAL.
- INSTALL POLYSTICK TU P OR APPROVED EQUAL ELASTOMERIC BITUMEN UNDERLAYMENT (MINIMUM 36 MONTH EXPOSURE). LAY FOR POSITIVE DRAIN,

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ROOF PLANS

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SCALE: 1/4" = 1'-0"

KEYNOTES ELEVATIONS:

- CUPOLA LOUVERS. PRESERVE ALL EXISTING DOOR CONSTRUCTION. PROVIDE (2) THUMBTURN-STYLE HASP AT I NTERIOR FACE OF DOOR. SET HASPS TO HOLD DOOR TIGHTLY SHUT. INSTALL BACKER ROD AT JAMBS AND HEAD OF DOOR TO FULLY SEAL ALL GAPS. PROVIDE ADJUSTABLE NEOPRENE SWEEP AT BOTTOM EDGE OF DOOR SET TIGHT TO FLOOR. INSTALL SIGN "NOT AN EXIT" ON INTERIOR FACE OF DOOR. PREP EXTERIOR OF DOOR TO ACCOMMODATE MOTHBALL COVERING PER DETAIL 3/A101
- 2. CORNER TRIM BOARDS. REMOVE EXISTING CORNER TRIMBOARDS IF STILL IN PLACE. REPLACE WITH NEW HARDWOOD TRIM, PREPPED AND PAINTED. MATCH DIMENSION TO EXISTING SIDING EDGES. FULLY SEAL JOINT ALONG OUTSIDE CORNER, TYP ALL.
- 3. FOUNDATION VENT LOUVER WITH INSECT SCREEN.
- 4. LOUVER INSTALL. INSTALL NEW METAL LOUVERS IN EXISTING OPENINGS. SIZE TO MATCH OPENING. PROVIDE METAL INSERT SCREENS, SEE ENTIRE PERIMETER OF LOUVER TO EXISTING BUILDING.
- 5. FULLY SEAL GAP BETWEEN BUILDINGS WITH FLEXIBLE SEALANT.
- 6. CRAWL SPACE ACCESS DOOR. PROVIDE 24"H x 42"W PREFINISHED LOCKING HM ACCESS DOOR.
- 7. INFILL FRAME FROM 6" BELOW GRADE TO BOTTOM OF FLOOR FRAMING W/ P.T. 2x6 STUDS @ 12" O.C. FACE WEATHERBARRIER AND 24 GA 7/8" PREFINISHED CORRUGATED METAL SIDING PANELS SPANNING HORIZONTALLY. PROVIDE CONTINUOUS DRIP EDGE AT TOP OF PANELS TYP

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FOR

EXTERIOR ELEVATIONS

SCALE: 1/4" = 1'-0"

KEYNOTES ELEVATIONS:

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- 2. CORNER TRIM BOARDS. REMOVE EXISTING CORNER TRIMBOARDS IF STILL IN PLACE. REPLACE WITH NEW HARDWOOD TRIM, PREPPED AND PAINTED. MATCH DIMENSION TO EXISTING SIDING EDGES. FULLY SEAL JOINT ALONG OUTSIDE CORNER, TYP ALL.
- 3. FOUNDATION VENT LOUVER WITH INSECT SCREEN.
- 4. LOUVER INSTALL. INSTALL NEW METAL LOUVERS IN EXISTING OPENINGS. SIZE TO MATCH OPENING. PROVIDE METAL INSERT SCREENS, SEE ENTIRE PERIMETER OF LOUVER TO EXISTING BUILDING.
- 5. FULLY SEAL GAP BETWEEN BUILDINGS WITH FLEXIBLE SEALANT.
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- 7. INFILL FRAME FROM 6" BELOW GRADE TO BOTTOM OF FLOOR FRAMING W/ P.T. 2x6 STUDS @ 12" O.C. FACE WEATHERBARRIER AND 24 GA 7/8" PREFINISHED CORRUGATED METAL SIDING PANELS SPANNING HORIZONTALLY. PROVIDE CONTINUOUS DRIP EDGE AT TOP OF PANELS TYP

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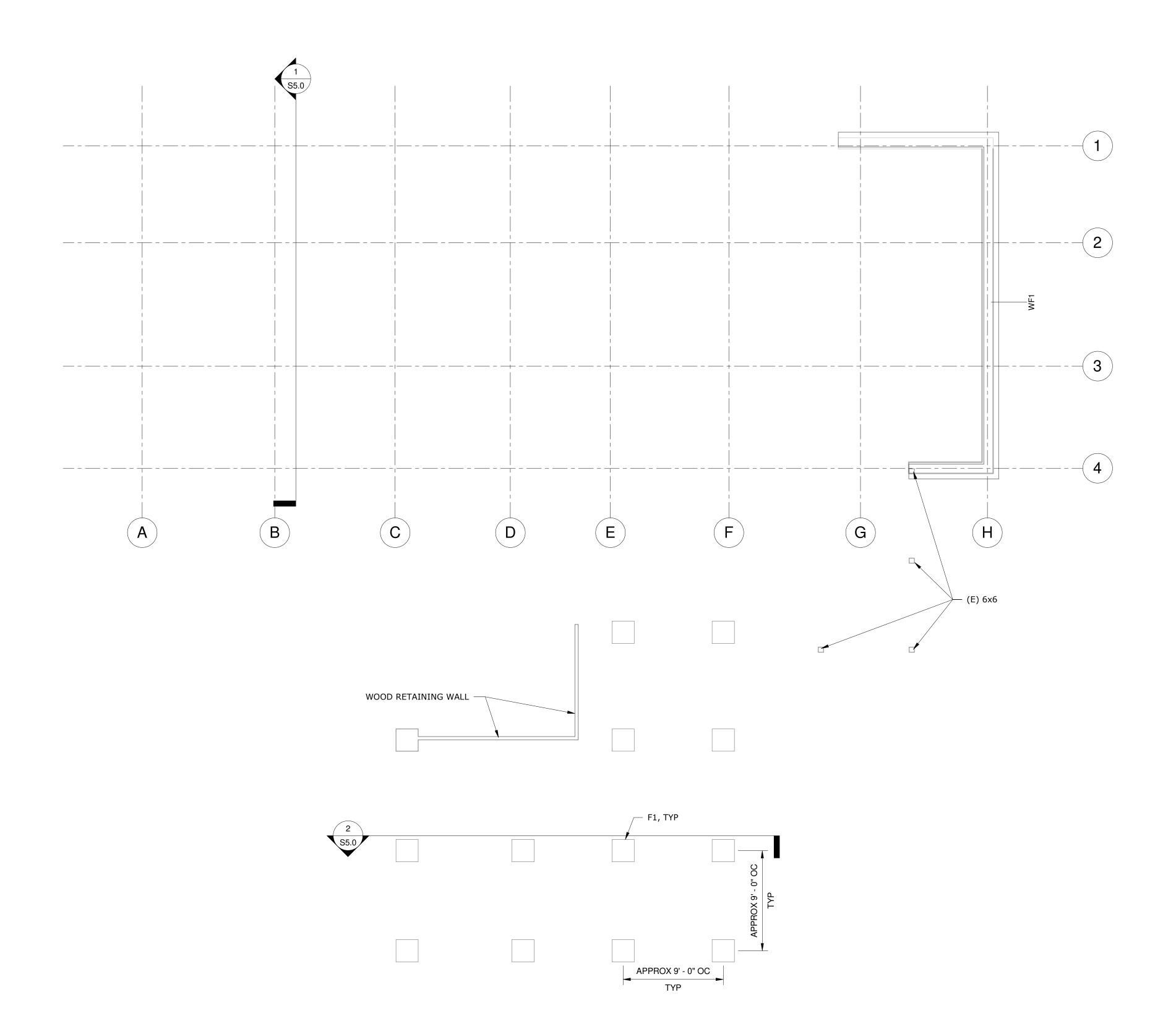
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CONSTRUCTION

EXTERIOR ELEVATIONS

1/4" = 1'-0"

FOUNDATION PLAN



GENERAL NOTES

UNVERIFIED FOUNDATION ELEMENTS NOT INCLUDED. WF1 WALL ASSUMED AROUND PERIMETER NORTH SECTION. F1 ASSUMED SUPPORTING COLUMNS IN SOUTH SECTION.

<u>LEGEND</u>

STONE WALL FOOTING, WIDTH UNKNOWN.

F1 APPROX 2'x2' STONE SPREAD FOOTING

4/12/2023 9:21:20 AM | Project# 23-058 |

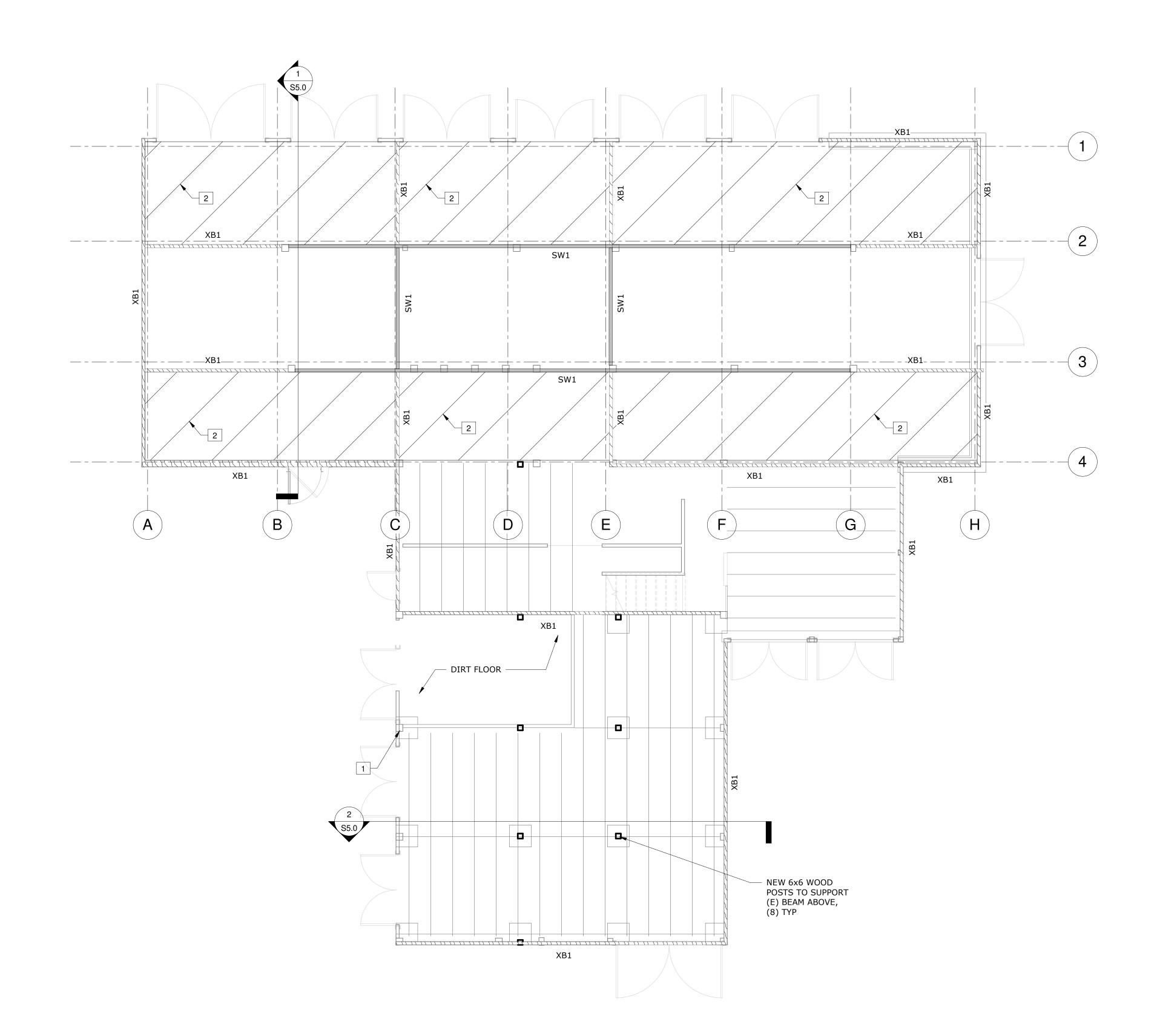


CONSTRUCTION 4/12/2023 PROJ# | 23-058 DESIGNED BY | ATR DRAWN BY | RLT REVIEWED BY | Checker

REVISIONS

MAIN FLOOR FRAMING

PLAN



FLAG NOTES

- DETERIORATED POST. REMOVE AND REPLACE PRIOR TO INITIAL BRACING.
- 2 2x4 LAID FLAT @ 4'-0" OC W/ (2) 16d NAILS INTO EA JOIST, MIN (3) JOIST LAP.

GENERAL NOTES

- UNOBSERVED FLOOR FRAMING NOT INCLUDED. BEAMS AND JOISTS IN NORTH SECTION ASSUMED TO BE SIMILAR TO SOUTH SECTION.
- 2. PROVIDE DIAGONAL BRACING FROM BOTTOM OF WALL TO TOP OF WALL AT LARGE OPENINGS ALONG GRID LINE 1, THE WEST WALL OF THE SOUTH SECTION, AND THE SOUTH WALL IN THE SOUTHEAST SECTION.

<u>LEGEND</u>

2x6 WOOD SHEAR WALL W/ 7/16" SHEATHING, 8d NAILS @ 6" OC ALL PANEL EDGES, 12" OC FIELD. BLOCK HORIZONTAL EDGES.



BRACE WALL WITH DIAGONAL 2x4'S @ 45° FROM BOTTOM OF WALL TO TOP OF WALL. MINIMUM (3) BRACES PER WALL.



PRELIMINARY



2 2x4 LAID FLAT @ 4'-0" OC W/ (2) 16d NAILS INTO EA JOIST, MIN (3) JOIST LAP.

3 FLOOR COLLAPSE AREA. NEW FRAMING & FLOORING REQUIRED.

GENERAL NOTES

- UNOBSERVED FLOOR FRAMING NOT INCLUDED. BEAMS AND JOISTS IN NORTH SECTION ASSUMED TO BE SIMILAR TO SOUTH SECTION.
- 2. PROVIDE DIAGONAL BRACING FROM BOTTOM OF WALL TO TOP OF WALL AT LARGE OPENINGS ALONG GRID LINE 1, THE WEST WALL OF THE SOUTH SECTION, AND THE SOUTH WALL IN THE SOUTHEAST SECTION.

LEGEND

-(2)

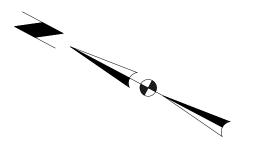
- NEW COLUMN

SUPPORT BEAMS, TYP

NEW 6x6 WOOD POSTS, TYP

2x6 WOOD SHEAR WALL W/ 7/16" SHEATHING, 8d NAILS @ 6" OC ALL PANEL EDGES, 12" OC FIELD. BLOCK HORIZONTAL EDGES.

BRACE WALL WITH DIAGONAL 2x4'S @ 45° FROM BOTTOM OF WALL TO TOP OF WALL. MINIMUM (3) BRACES PER WALL.



SECOND FLOOR FRAMING PLAN
3/16" = 1'-0"

S5.0

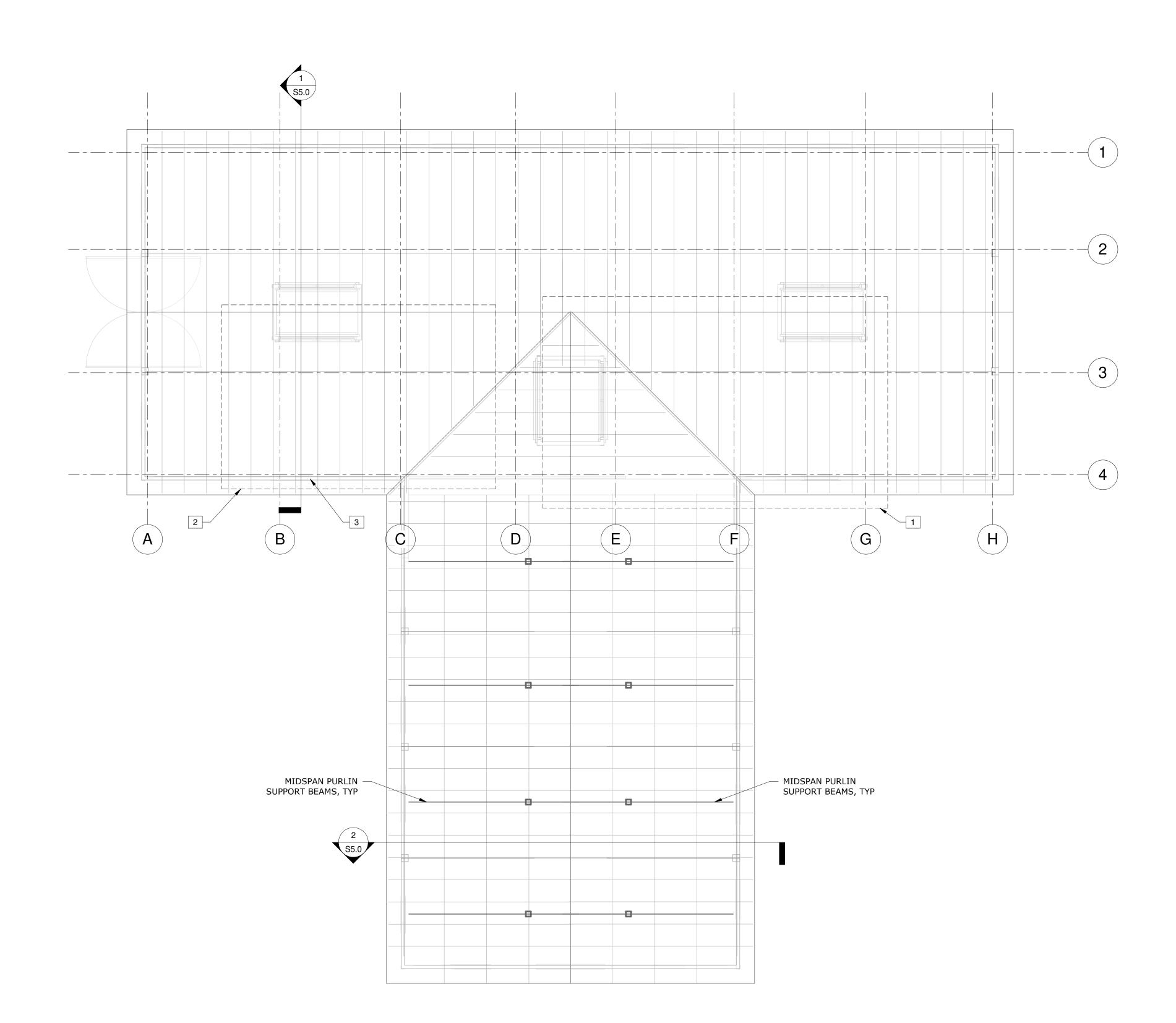
CONSTRUCTION SECOND FLOOR FRAMING PLAN

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REVISIONS

REVISIONS

ROOF FRAMING PLAN

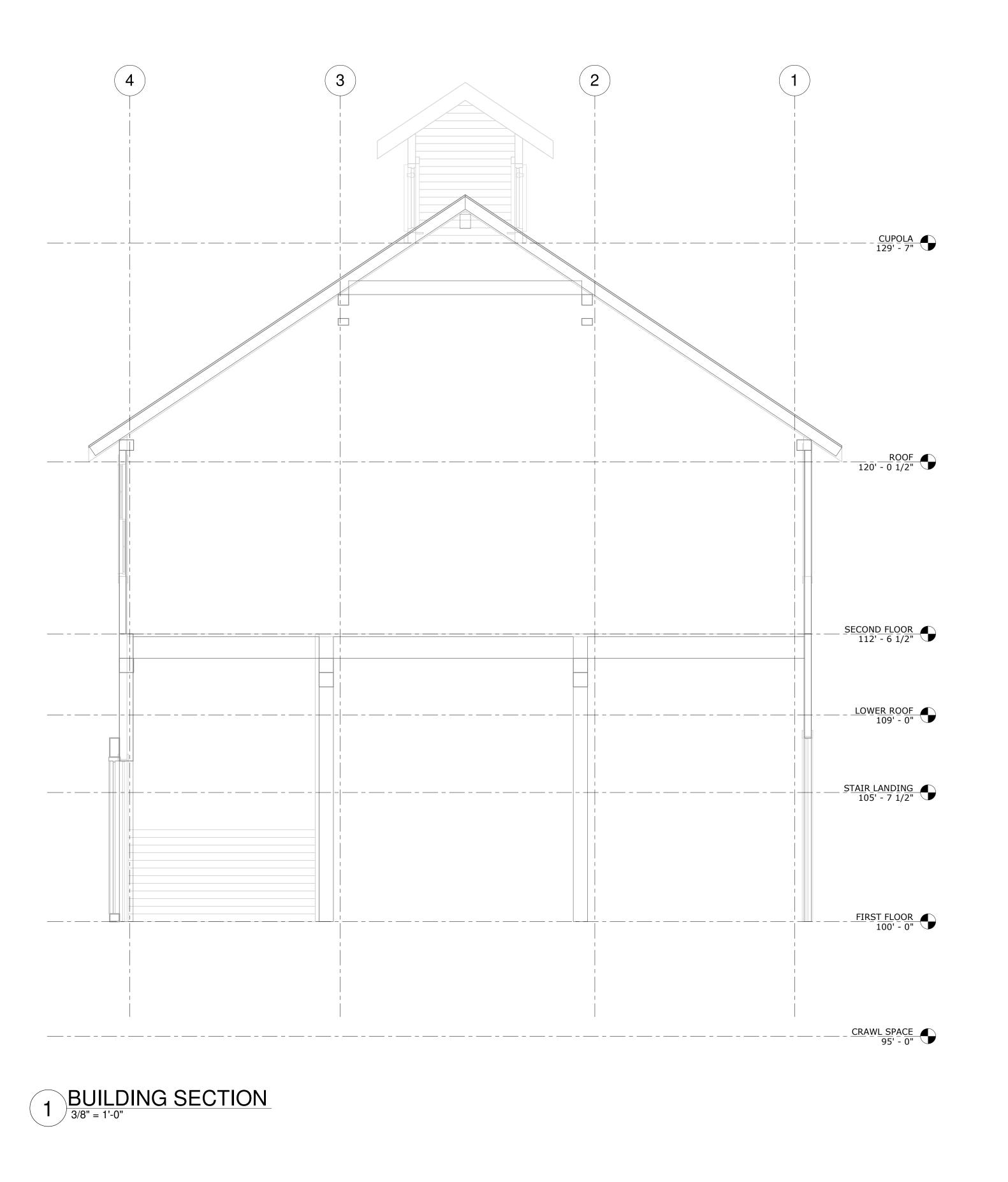


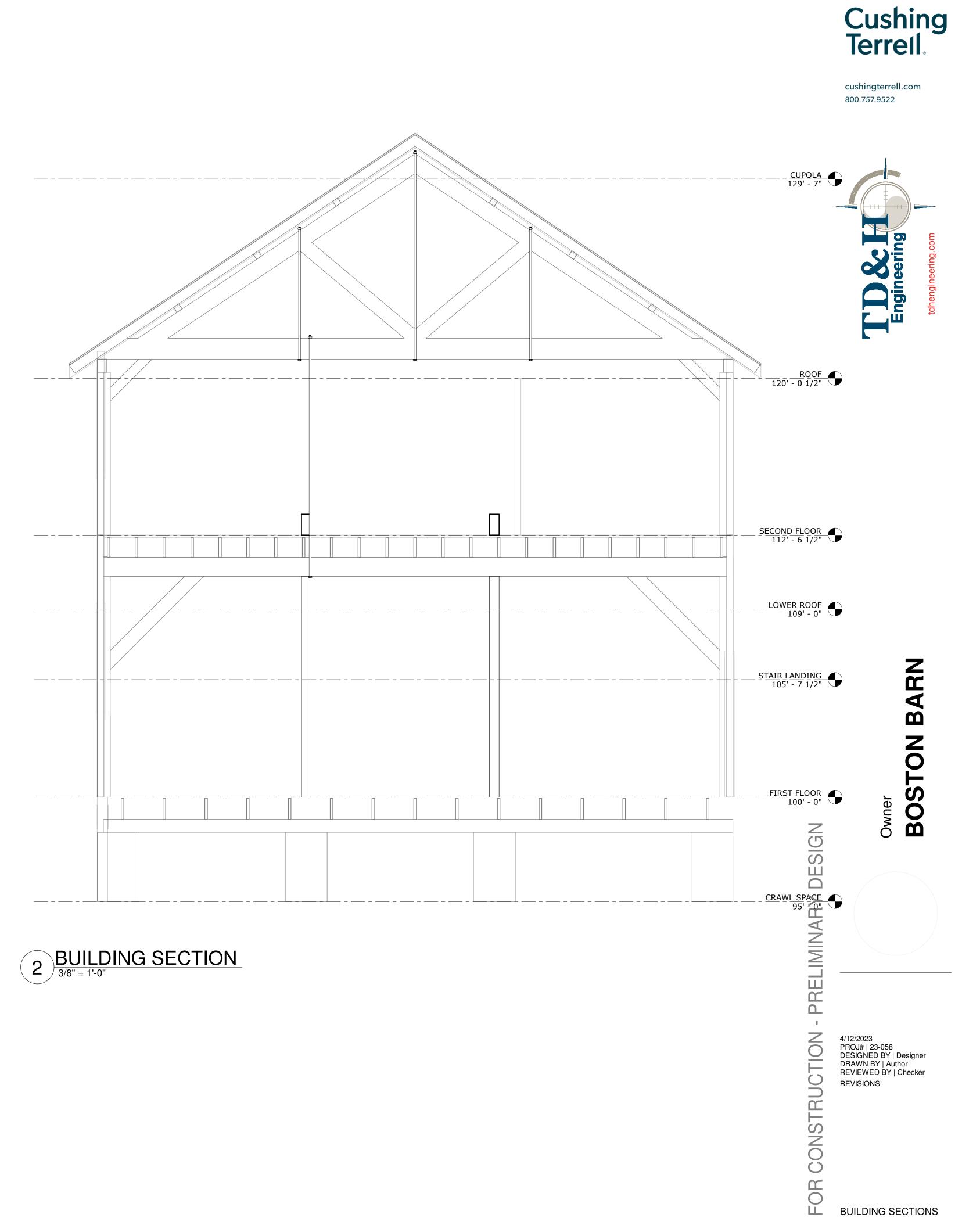
FLAG NOTES

- 1 ROOF COLLAPSE AREA, REMOVE AND REPLACE FRAMING.
- 2 RAFTERS FAILING, REMOVE AND REPLACE.
- 3 FAILED WINDOW HEADER, REMOVE AND REPLACE.

GENERAL NOTES

- ROOF SHEATHING TO BE 19/32" 40/20 RATING OSB W/ 8d NAILS @ 6" OC PANEL EDGES, 12" OC FIELD.
- WORKING PLATFORM TO BE ADDED BETWEEN WALLS ALONG GRID LINES 2 AND 3.





BUILDING SECTIONS

S5.0

PRESERVATION OF THE **COMPANY BARN & FIREHOUSE** BUILT FOR THE

BOSTON & MONTANA SMELTER

... the site, smelter, and buildings (including the barn) was acquired by the ANACONDA COPPER MINING COMPANY in 1910.....

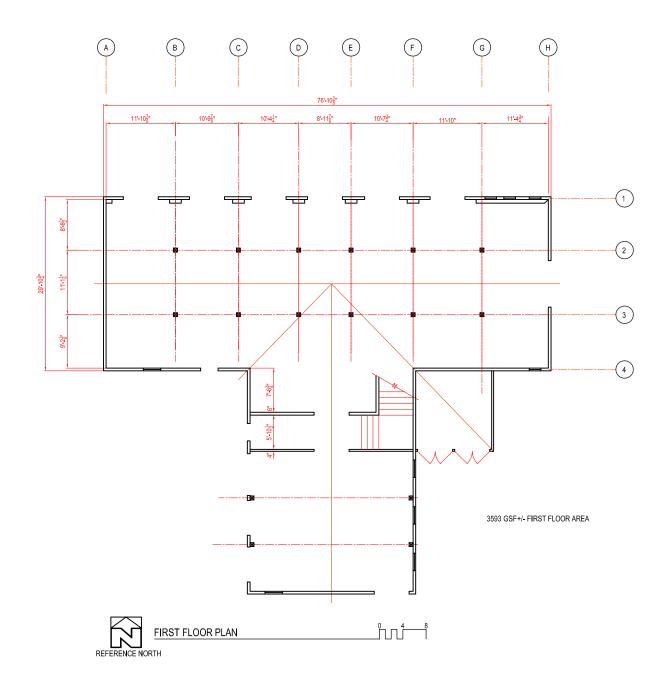






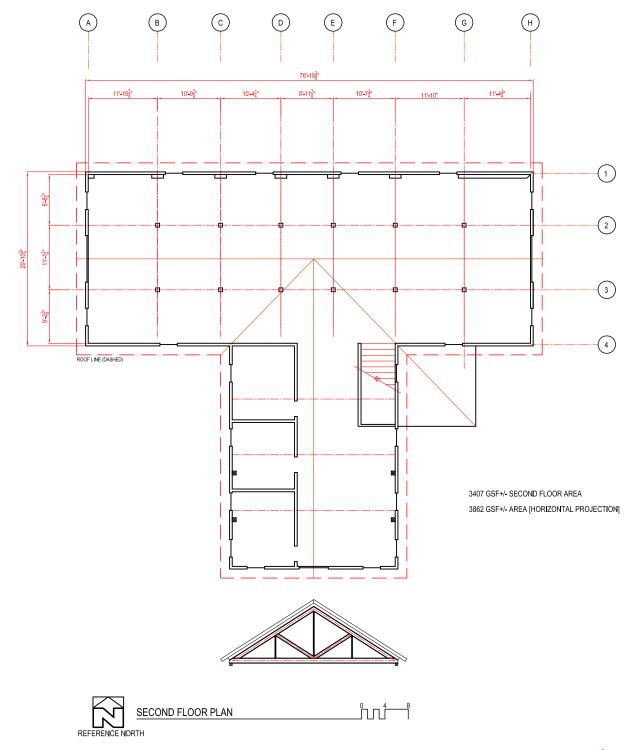
A project proposed by the City of Great Falls / Cascade County Historic Preservation Advisory Commission

BOSTON & MONTANA BARN - SMELTER HILL





BOSTON & MONTANA BARN - SMELTER HILL



















	1	2008	Civic Center
	2	2009	Vinegar Jones Cabin
	3	2010	Great Northern Depot
	4	2011	Ursaline Centre
	5	2012	Great Falls High School
	6	2013	Paris Gibson Square
	7	2014	Masonic Temple
	8	2015	CMR Cabin
	9	2016	Courthouse
1	.0	2017	Fort Shaw
1	.1	2018	Belt Theater
1	.2	2019	Milwaukee Depot
1	.3	2020	10th Street Bridge
1	.4	2021	Black Eagle Dam
1	.5	2022	Gibson Park
1	.6	2023	CMR High School