4th Avenue Well Facilitated Resident Working Group Meeting

Monday, March 16, 2020

Meeting Agenda & Goals

1 Introductions
2 Review where we are in the process and what's next
3 Recap design parameters and what we heard from you
4 Present architectural rendering options
5 Discuss sound mitigation elements

The Timeline

INTRO:
TIMELINE

- Facilitated working meeting October 22, 2019
- Facilitated working meeting December 2, 2019
- Facilitated working meeting February 27, 2020
- **Facilitated working meeting March 16, 2020**

What's Next

- Virtual public open house March 30, 2020 – 10 – 11 am www.facebook.com/SLCGovernment/
- Submit packet to SLC Planning and Historic Landmark Commission April 2020
- Historic Landmark Commission public hearing May/June 2020
- Council briefing spring/summer 2020
- Procurement spring/summer 2020
- Construction fall/winter 2020/21

Design Parameters

INTRO: BACKGROUND

- Around 500- to 600-square-foot building needs to be designed to house well components
- The building will need to be around 14 feet tall
- A partial fence is needed to cover external electrical box

Design Parameters

INTRO: PARAMETERS

- Meet the project's purpose and need
- Meet the needs and standards of the project's owner, SLCDPU
- Follow city codes and ordinances
- Follow and maintain the guidelines defined by the Historic Landmark Commission
- Take into account public input

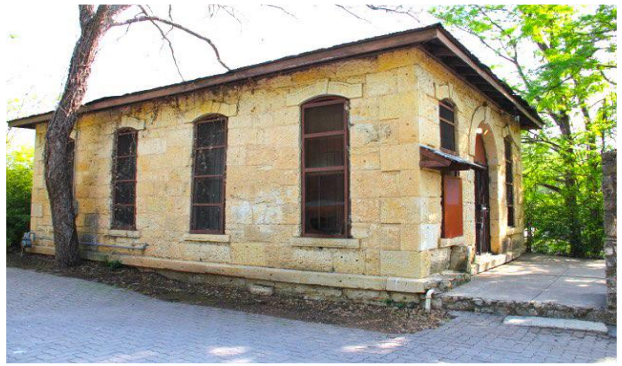
Highlights Of What We've Heard

INTRO: AESTHETICS INPUT HIGHLIGHTS

- Timeless, simple, unobtrusive and aesthetically pleasing
- Like historic more than modern
- Design elements should pull from historic pump houses
- Like small brick, stone or stucco
- Like old tumbled bricks not shiny finished brick
- Want brick that is the right color for the area
- Needs to age well
- Have elements that emphasize the corners of the building or that have nice little details
- Want design that reduces size but not at the expense of aesthetics
- Like pitched, flat, stepped or tapered roof; a design that makes it look small
- Don't want it to look like a house
- Could have an element like a historic chimney stack that houses the highest element
- Support windows or a façade that can keep sound low
- Pursue hybrid that draws from the park and the surrounding houses
- Interested in the stone wall idea but want to see it in a rendering

Case Studies

DESIGN:
CASE STUDIES



Design Renderings

OPTION 1A

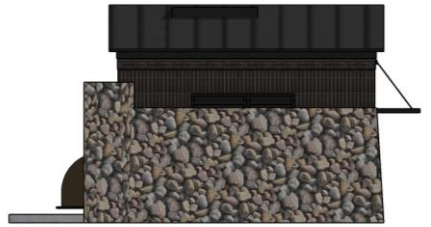
Design Renderings

OPTION 1A

WEST ELEVATION

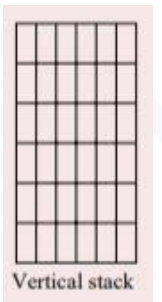
SOUTH ELEVATION

EAST ELEVATION



NORTH ELEVATION

13’-0” tall



Design Renderings

OPTION 1B

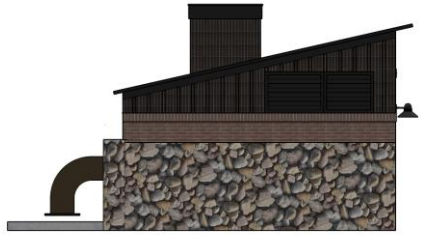
Design Renderings

OPTION 1B

WEST ELEVATION

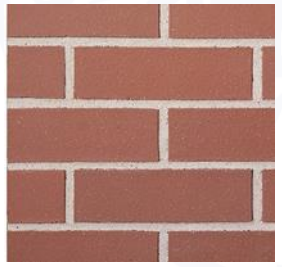
SOUTH ELEVATION

EAST ELEVATION



NORTH ELEVATION

12’-0” tall



Design Renderings

OPTION
2A

Design Renderings

OPTION
2A

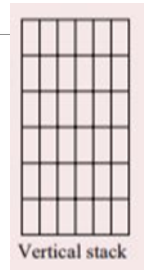
WEST ELEVATION

SOUTH ELEVATION

EAST ELEVATION

NORTH ELEVATION

12′-6″ tall



Design Renderings

OPTION
2B

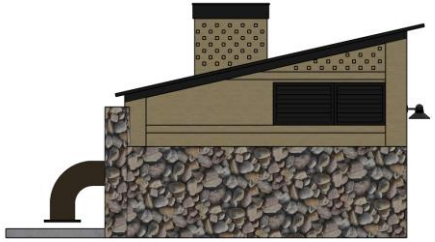
Design Renderings

OPTION
2B

WEST ELEVATION

SOUTH ELEVATION

EAST ELEVATION



NORTH ELEVATION

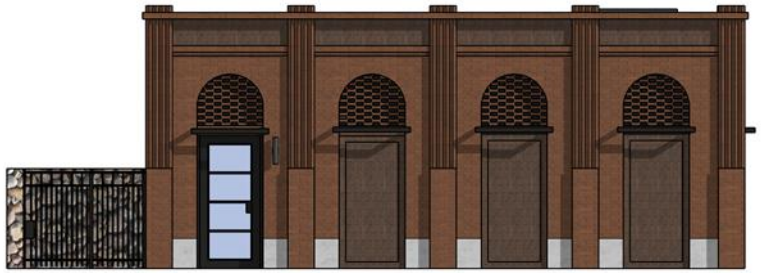
12'-0" tall

Design Renderings

OPTION
3A

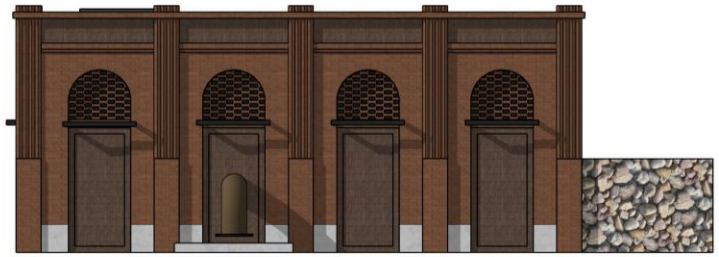
Design Renderings

OPTION
3A



WEST ELEVATION

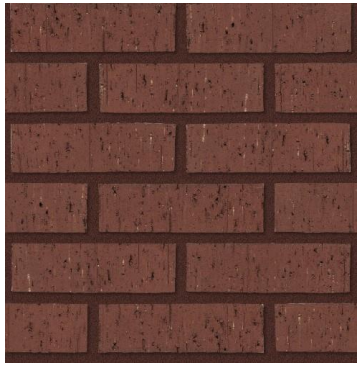
SOUTH ELEVATION



EAST ELEVATION

NORTH ELEVATION

12’-6” tall



Design Renderings

OPTION
3B

Design Renderings

OPTION
3B

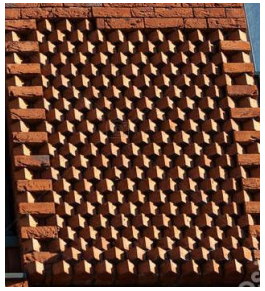
WEST ELEVATION

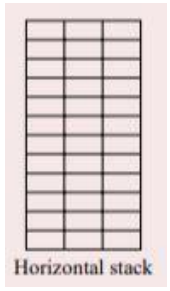
SOUTH ELEVATION

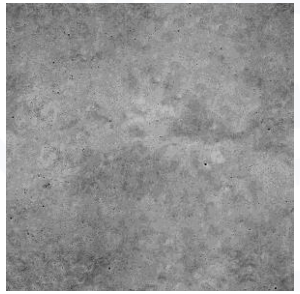
EAST ELEVATION

12’-6” tall

NORTH ELEVATION







Sound Mitigation

SOUND MITIGATION

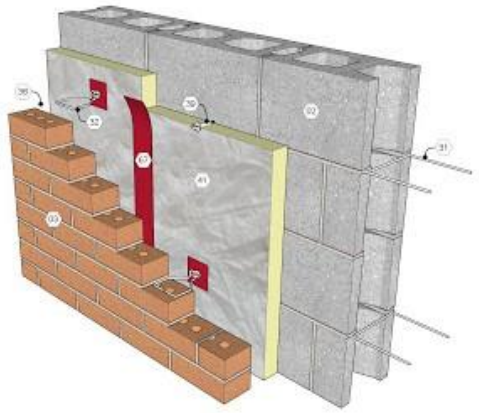
We are designing the envelope to meet or be lower than the maximum 50 db outside noise at all frequencies, which meets county regulations and is less than ambient for an urban neighborhood. We will try to get it as low as possible and 30 db may be obtainable.

OCTAVE BAND CENTER FREQUENCY (HERTZ)	SOUND PRESSURE LEVELS MEASURED IN A REVERBERANT SOUND ROOM PER IEEE 85, CORRECTED TO FREE FIELD CONDITIONS REFERENCE: .0002 DYNES/CM² WEIGHTING NETWORK 'A'	
	148128	MPI (Ref)
	450.00	HP
	4	POLES
	60	HZ
31.5	---	DECIBELS
63	46.0	DECIBELS
125	58.5	DECIBELS
250	70.9	DECIBELS
500	79.2	DECIBELS
1000	82.5	DECIBELS
2000	79.4	DECIBELS
4000	74.9	DECIBELS
8000	67.1	DECIBELS
OVERALL	86.0	DECIBELS

Noise Quote of Design Pump Motor

Sound Mitigation

SOUND MITIGATION



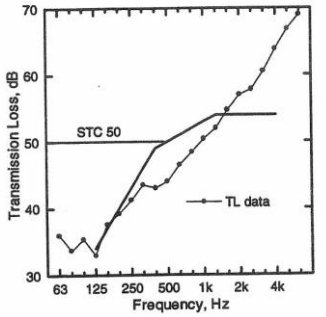
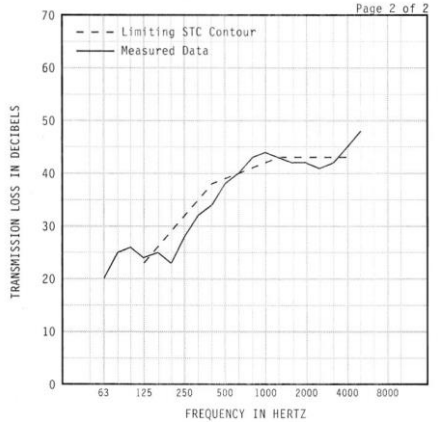


Fig. 1: Sound Transmission Loss for a 190 mm Concrete Block Wall with a Sound Transmission Class (STC) of 50.

Test Frequency (Hz)	Pump Quote (db)	Transmission Reduction(db)	Transmission (db)
63	46.0	-35	11
125	58.5	-39	19.5
250	70.9	-43	27.9
500	79.2	-45	34.2
1000	82.5	-50	32.5
2000	79.4	-58	21.4
4000	74.9	-65	9.9
8000	67.1	-70	0

Sound Mitigation

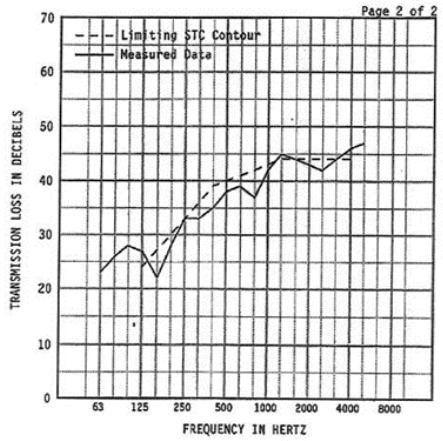
SOUND MITIGATION



Test Frequency (Hz)	Pump Quote (db)	Transmission Reduction(db)	Transmission (db)
63	46.0	-20	26
125	58.5	-24	34.5
250	70.9	-28	42.9
500	79.2	-38	41.2
1000	82.5	-44	38.5
2000	79.4	-42	37.4
4000	74.9	-45	29.9
8000	67.1	-48	19.1

Sound Mitigation

SOUND MITIGATION



Test Frequency (Hz)	Pump Quote (db)	Transmission Reduction(db)	Transmission (db)
63	46.0	-23	23.0
125	58.5	-27	31.5
250	70.9	-33	37.9
500	79.2	-38	41.2
1000	82.5	-42	40.5
2000	79.4	-43	36.4
4000	74.9	-46	28.9
8000	67.1	-47	20.1

Sound Mitigation

SOUND MITIGATION

Octave Band Frequency (Hz)	Free Field Noise Reduction (db) Ruskatherm Blanket
1/63	9
2/125	11
3/250	9
4/500	11
5/1000	15
6/2000	17
7/4000	16
8/8000	16

To calculate Transmission Loss (db), subtract 6 db from Free Field Noise Reduction (db).

Test Frequency (Hz)	Pump Quote (db)	Transmission Reduction(db)	Transmission (db)
63	46.0	-3 x 2 = -6	40.0
125	58.5	-5 x 2 = -10	48.5
250	70.9	-3 x 2 = -6	64.9*
500	79.2	-5 x 2 = -10	69.2*
1000	82.5	-9 x 2 = -18	64.5*
2000	79.4	-11 x 2 = -22	57.4*
4000	74.9	-10 x 2 = -20	54.9*
8000	67.1	-10 x 2 = -20	47.1

*Does not meet acoustic goals. We are working with mechanical engineer to mitigate noise.

DISCUSSION