

technical field notes  
M&K&MX A;pril 1st 2025

Experiment:  
Hydrophones

hydrophones are microphones for the water. They use piezoelectric material to pick up sounds from the vibrations of flowing water.  
I used the hydrophone to analyze the sound and flow of different parts along the moshassuck river.  
My hypothesis was that the microphone would only pick up low frequencies because the mic was underwater, but it actually picked up a range of frequencies.  
I did this experiment because in my program the sound of the water being amplified through the space is extremely important in creating the ambiance for the space.  
This would be for the active speaker design, where the hydrophone will be connected to some place on the river, and connected to a speaker amplifier that will amplify the sound into the existing horn / pavillion space.

Manual:  
This manual is a guide to the existing site conditions, , pictures and findings, experiments in collecting audio field recordings and visualizing them, site intervention sketches, acoustic studies of different materials and horn shapes, and different programs and uses for the intervention.

can be used in water as a microphone.  
When struck or flexed, when combined with a material such as silicon or resin, they  
made from piezoelectric material that outputs an electrical charge  
I've been thinking about piezo pickups and hydrophones. Piezo pickups are  
33035052  
technical field notes



field notes 2025-02-16  
all saints drain  
build by the work projects administration from 1935-1940

cold  
low water level  
full of snow, ice, leaves twigs  
channel build with bricks  
sun glistens along the narrow strip of ice, with unfrozen pockets underneath thin  
sheets, and apertures of light inbetween

surrounded by trees, reaching together over  
the scoop  
~~pawtucket-meaning~~  
pawtucket, meaning "at the falls in the river" or "river falls"

much of it has lasted, but not all of it  
guarding the gate, a metal grate, there are concrete parts, repairs

the water flows out of the drain, not into the  
drain

one end is muddy swamp, the other is a river.  
to walk in drains, two strides on the left, and two on the right  
like a sine wave

---The--hot-tub-pa--

The Dumpster Hot Tub Party

shifting the program of the dumpster, a part of the infrastructure of waste and sewage  
, into a ritual experience, a community gathering and interaction with water, a  
public demonstration of the physics of water flow  
the water not being that hot presented it sort of as an endurance test, the more  
people that decided to make the plunge at once the more- warmer the water got  
reminding me of collective effort and ingenious ritual practices  
a ritual that gives thanks to the land, through water flow and the body  
abstracting the architecture of the 30ft dumpster  
the flow of water, in terms of where it ends up also  
water gives its life everywhere

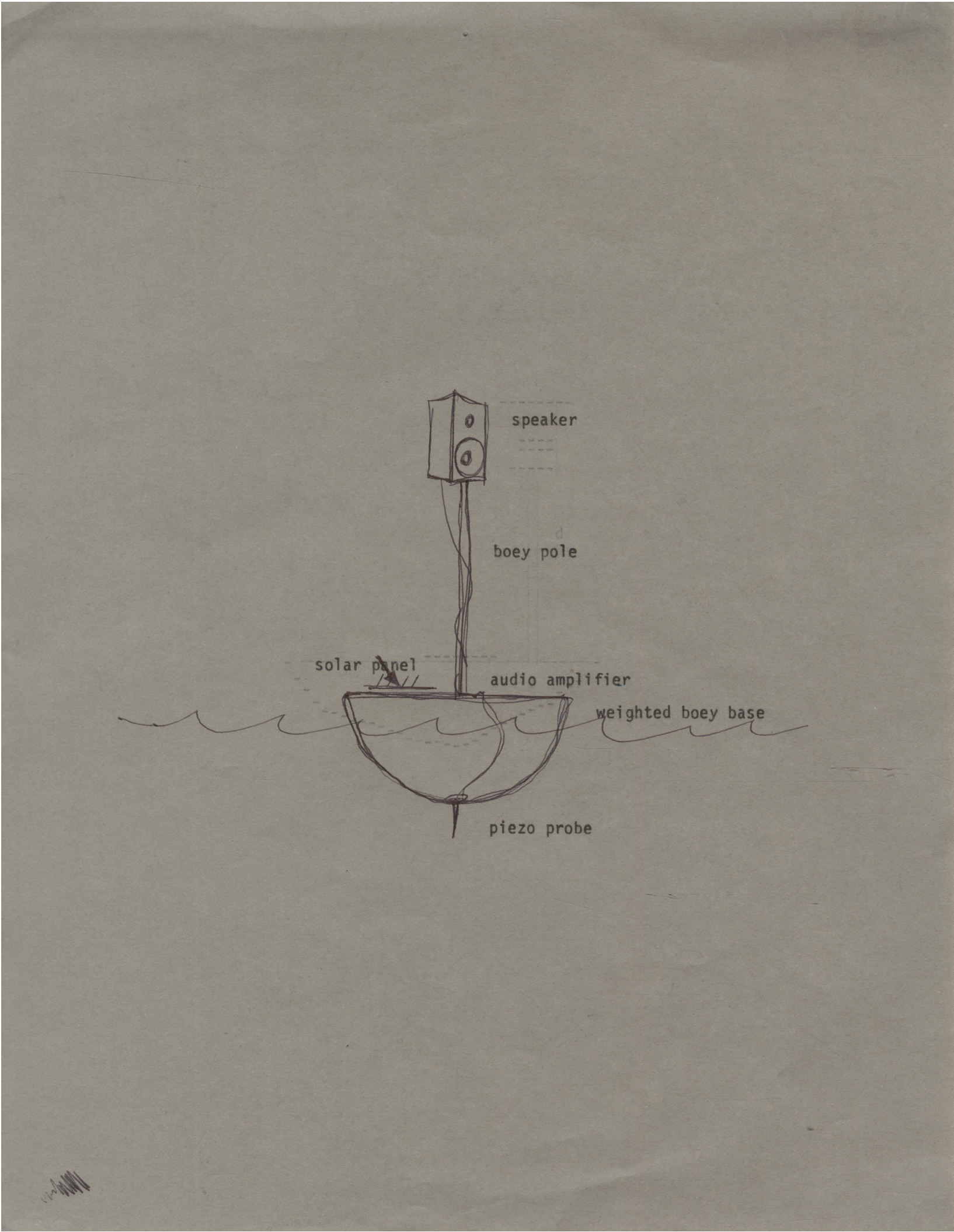
The acoustics of the tunnel

as the drain tunnel elongates the path for water in one direction to flow  
it does the same with sound, impulses elongate and echo and reverberate, transporting  
them further than they would have been otherwise  
the sound is also transformed by the end of its path, but the water is not/  
a metal pipe hit at one end of the tunnel will be loud and full  
but maybe by the other end, only certain resonant frequencies are heard  
or the quality of the sound is washed, not so sharp, less attack  
is this the way to transform infrastructure into a ritual  
noise into ambiance

The "moshassuck river"

Zoning laws for site





Field Notes: Field Recordings, Existing Site Conditions and Thoughts



field notes  
2025-02-06

#### instrumentation

this is the first time im pleasantly surprized and excited about real instrumentation!!  
~~anarch~~ anarchestra has presented to me my entire eithos on experimental inreuments . -

i have been looking for a reeded insrument to play as part of the entire experimental anarchist insrument for milenia. the reeded pipe saxophone flute hybrid made by the guy who made all the weird instruments at anarchestra has found me and has imbedded its mystical magical fantasy non-leniar unquantized magia into my world and i am a absolutely obsessed.

#### urban metabolism:

i think my intervention will be very simpæ. i do not want o buikd architecture.  
i want to build boeys. a boey that sits on the water, free floating, its powered by the sun and the flow of the water. there is a speaker that is posted, on a long pole flying in the wind, rocking backin and forsth, but never touching the water  
the speaker on the post, floating endlessly in the river, on the beach, or far out to sea connected to an amplifier, and a piwxæo probe connected to the bottom of the boey, the purpose is to amplify the sounds of the water and the wildlife,, its path and its journey  
the piezo probe amplifier is powered by the solar panel on the boey.  
this free standing self sustaining everlasting sound installation object free floats, as f free as the water, endlessly, locally, traveling, history.  
maybe the sound is  
there is no wifi

the sound is broadcasted on a shortwave radio frequency so you can tune in to the sound w when it is local to your nearby environment or city

shortwave radio solar powered water amplifier boey system.  
for the anarchist post apocalyptic providence.  
what is the architectural intervention for the boey?  
an acoustic space that amplifies the boey stop points. along the river.  
a concrete wall or acoustically treated minimal move system or design that creates an open air-/-semi enclosed space for deep listening and ambiance  
what is the space that is furthest frim infrustructural sound/the quietest space  
what is the space that is interacting with both the wildlife and the humans and their desired path  
along the path pof the humans and along the path of the wildlife,'  
and along the path of the water, that makes ints own path/

what might i design this architectually along the consturction site of where the site is, locally ,  
code

avoid

and

the absract reoirntation of water, or even teh intentioanl disorientation in the eothos of annikas project  
the sign

to siorient

as watwer flows,

it reoirients itslef, it makes

the desired

paths as we make deire paths, it eordes without hesitation, it makes a history



stop  
ok  
heavy lift

the daxophone  
the oragnic materiality  
the local wood  
the harvested mind  
the magiciaon  
the tool of technology  
to have an aetherial cnnnection to nature as insrumentation  
this is the new spirituality for music,  
all insrumentations should be invented'  
first by ritual practuce'a  
and not the modernity of acedamia or societal norms of what and in srument should be  
the daxophone

is wooden  
the magic of piezoelectronics  
in the same way thaty woodcc metal pipes uded for infrustructure  
for plumming and the structure of buildings, heat and water and hvac, just with a few ho  
holes and the right connectpors, can be turned into saxophones, anarhophones,  
magicohones fantacofones and sonofphones, with ther=ir sonic infomatiojn  
information retreival headquarters traveling distance with impossible acoustics

I Longed for this maintnesnte  
i longed for this Capital M Musical Maintnence  
i need to rosin my bow  
i need to change my reeds, i need to suck on the reed, i need the right reeds, i  
need to rehair my bow, i need to rosnin my bow, i need the right lengthe for my bow.  
i wqanted this  
and to have it in the anarchist form  
is the best blessing, only i wish i invented it myslef  
buy you can only go so far with invention

..  
u s b the best b that u can b to u s b and u will see.  
that all insrument

s  
are locally located  
amid the great derangement  
locally

in the pit of what  
add the dumpster hot tup  
the clack click from the typewriter is beginnig to make my ears hort, as all  
experiences in documentation whould be physical in therir most organic form.

Field Notes: Field Recordings, Existing Site Conditions and Thoughts



field notes  
2025-02-13

today i went to the end of the spillway, where it merges into the river, near the highway. the spillway was a lot quieter near the highway than i had anticipated which is perfect for an acoustic or ambient intervention. the zoning in that area is marked as an industrial development zone, ~~xxxxxxx~~ prioritized for industrial infrastructural projects and warehouse/factories.

i walked through the parking lot next to the small bridge, next to the mills, the lot was filled with abandoned RVs and trailers. where it met the abandoned foresty land there was a gate, and what seemed like a pathway that led to no where. the path led down to the spillway end and the river. i found out the river flows in the other direction upon further inspection.

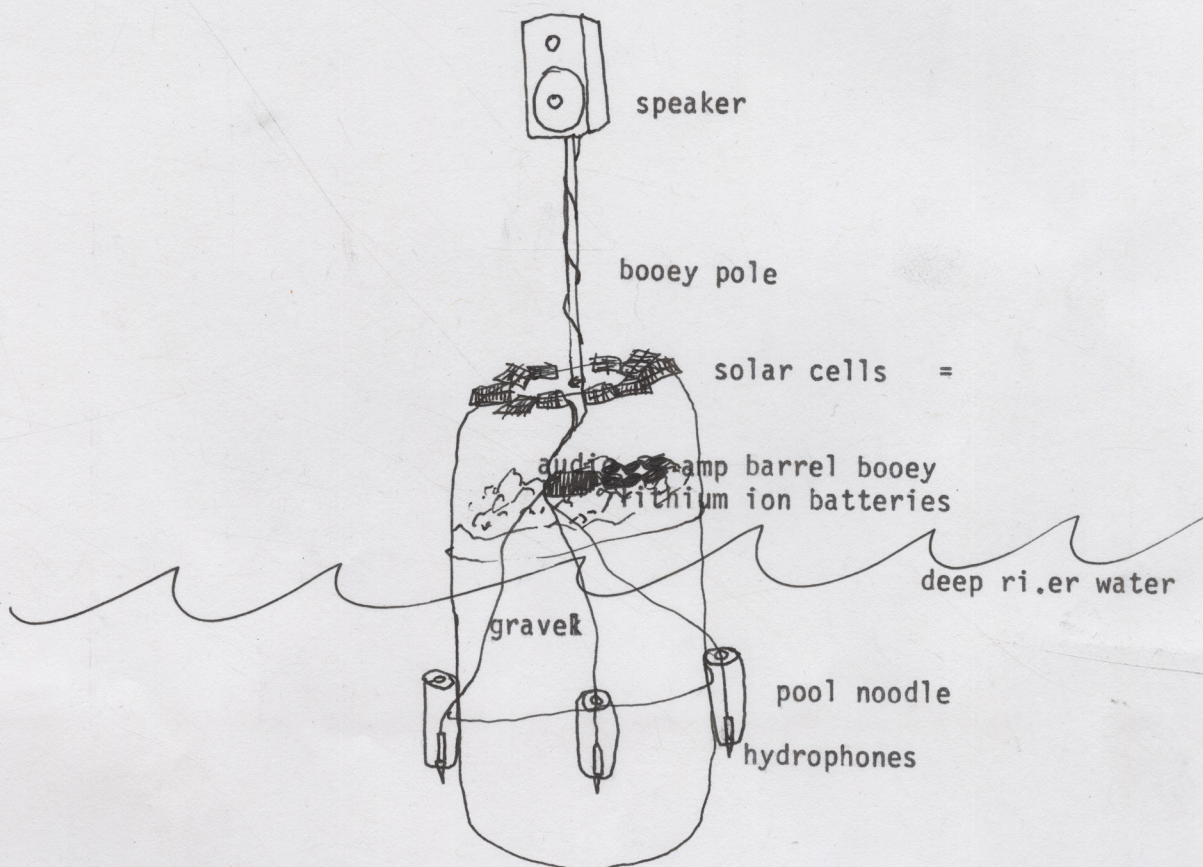
i took a couple of field recordings along the path, one at the bridge and one walking along the path, and another at the end of the spillway.

in one of the abandoned rvs there was a small panasonic crt tv that i want.

i took some more footage on the vhs camera

there was a small garden along the path of the river, that looked like it had not been tended too in a long time. there was a small platou near the river, but when it rains or the river is full, that platou most likely is flooded. this made me think of spaces for an architectural "intervention"

PO



Field Notes: Field Recordings, Existing Site Conditions and Thoughts



field notes  
2025-03-20

program diagram

winter

the menhaden are migrating upstream in the river

the snow creates another layer of sound absorption and isolation for spaces for performance, meditation and research.

the pavillion gets indirect sunlight from the winter sun, as ints oriented for the summer.

the sound of the water running over ice in the river reflects into the acoustic space .

spring

the garden blooms. the trees and bushes are overgrown. the vines, intetwined along

the structure. scientists begin theor research and experiemnts near the river.

spring yoga and sound bath events happen along the river.

summer

the river is low, making space for more active events. people sit by the river after

or during rainy summer seasons, listing to the rushing water in the hot summer fog

shows and sound installations take place.

fall

an orange and brown bed of leaves lies in the river and slows along the water bed.

leaves pile on top of the pavillion creating more shade as their layers grow thicker.

summer cleanup and winter preperation is in full effect.

book outline

master plan

indicating water flow, pollution, field recordings, wildlife

topology, surrounding infrastructure and noise pollution

closer plan of the waterway where your programs will be

investigating different ways of representing water, flow level

density, tempurature and chemical state (ice water fog etc.)

plan of acoustic intervention

ways of representing sound in the book, pictures of the site

experiment with different ways of representing the density of sound

or the quietness of sound throug drawings and sonic content,

what is the sound elemt of the book, is it in the book physically or is

played alongside the book, or with a video.

sectional diagrams for programs such as

performance, installation, listening, sound baths, experimentation, gardening

etc.

technical drawings of the smaller components of the site such as the speakers, horns

and shape of the pavillion and how these aspects generate ambiance or sound for

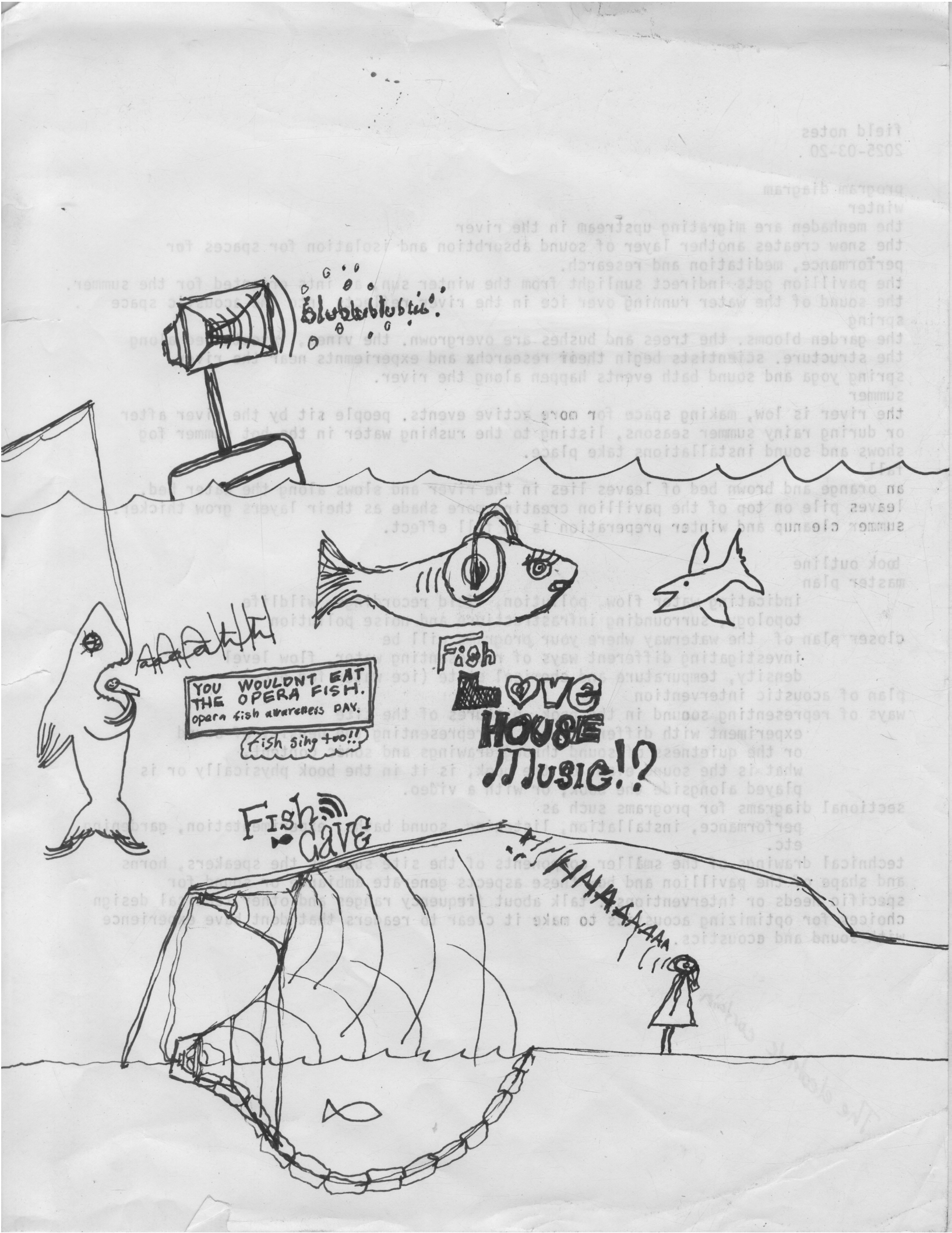
specific needs or interventions.. talk about frequency ranges and other techical design

choices for optimizing acoustics to make it clear to readers that dont have experience

with sound and acoustics.

*The electric curtain*





Field Notes: Field Recordings, Existing Site Conditions and Thoughts













General Map: Moshassuck River

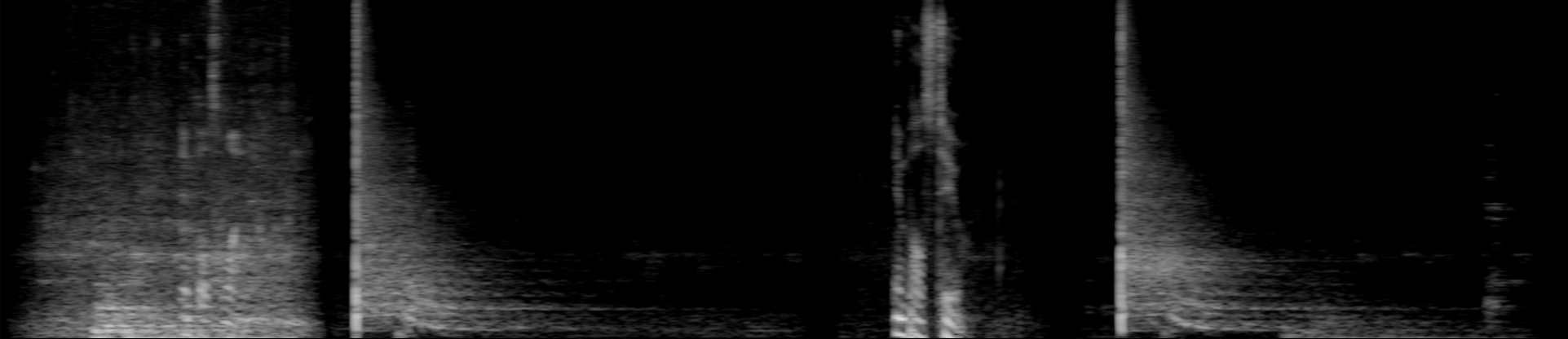




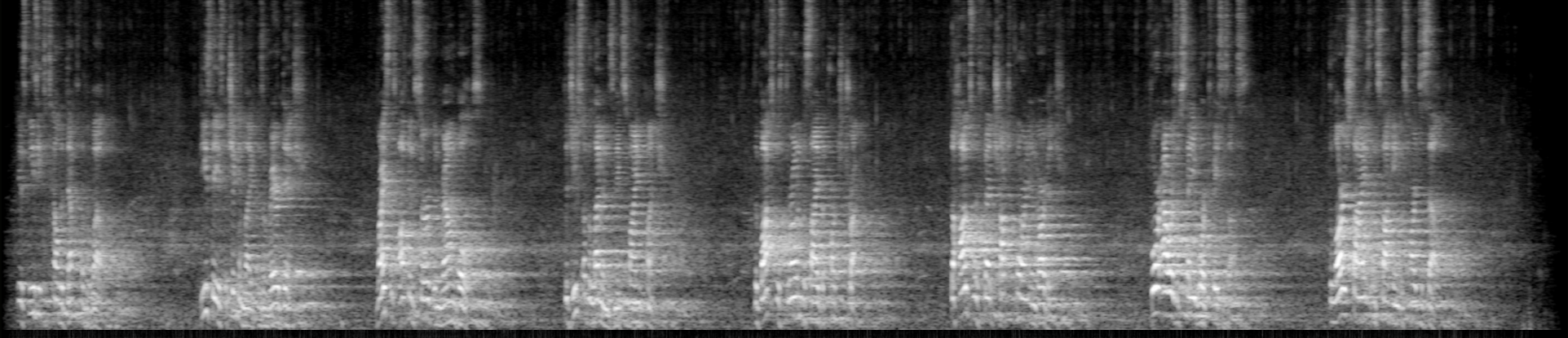
Sound Decibel Levels Map and Field Recording Locations



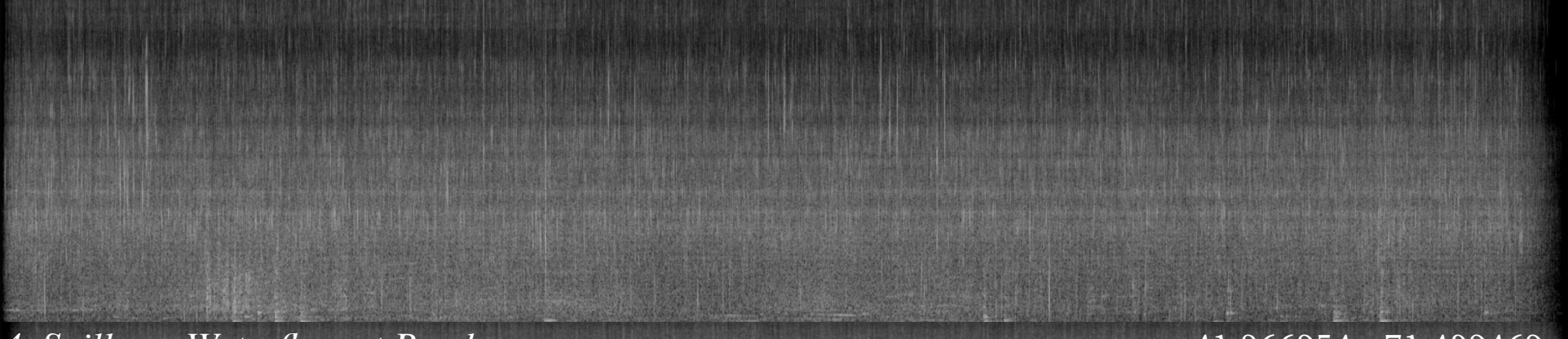
*1. Impulse Responses at Base of Tunnel* 41.865321, -71.411240



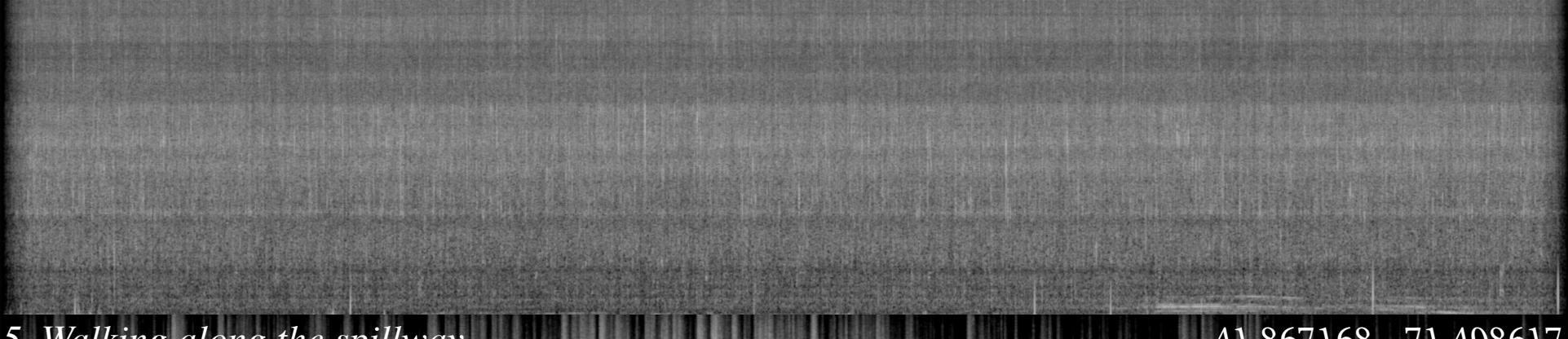
*2. Harvard Word List Tunnel Reverberation* 41.865321, -71.411240



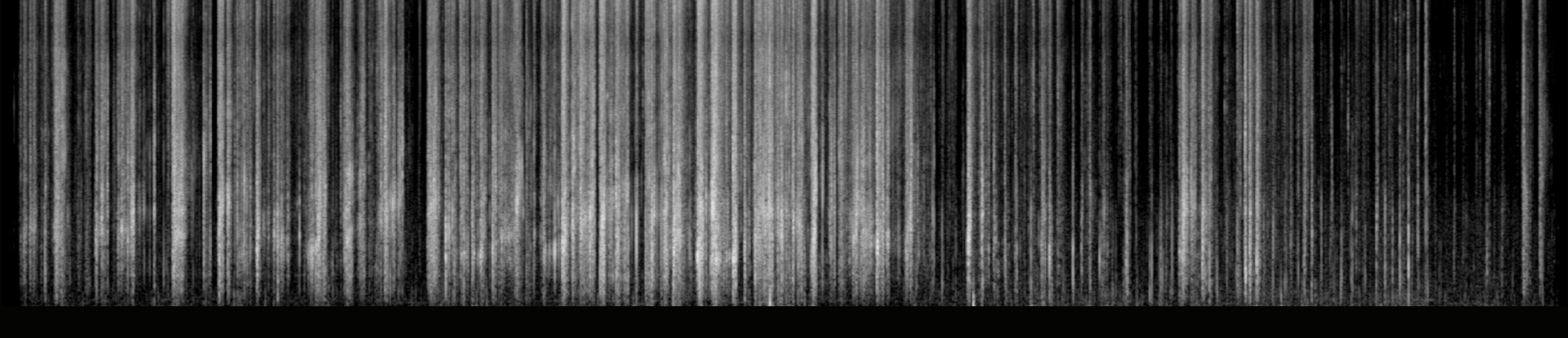
*3. Spillway Waterflow at Path Base* 41.865321, -71.411240



*4. Spillway Waterflow at Bend* 41.866954, -71.409469

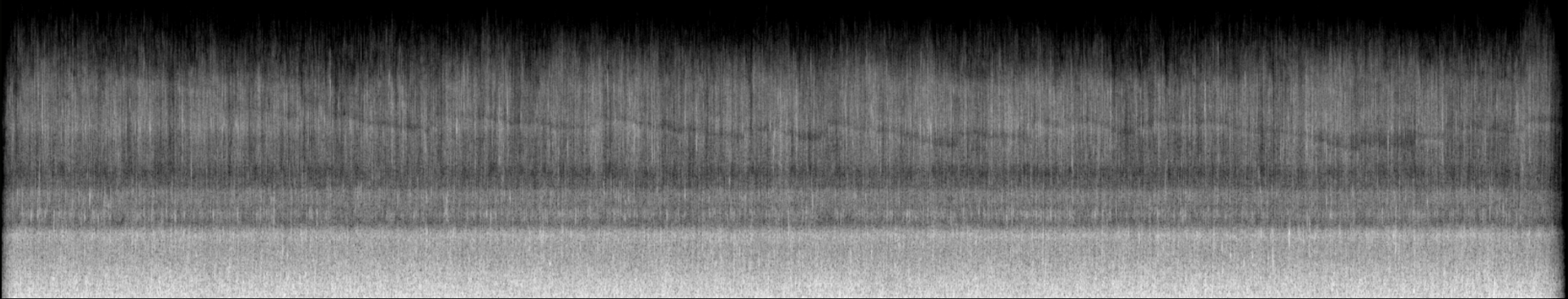


*5. Walking along the spillway* 41.867168, -71.408617

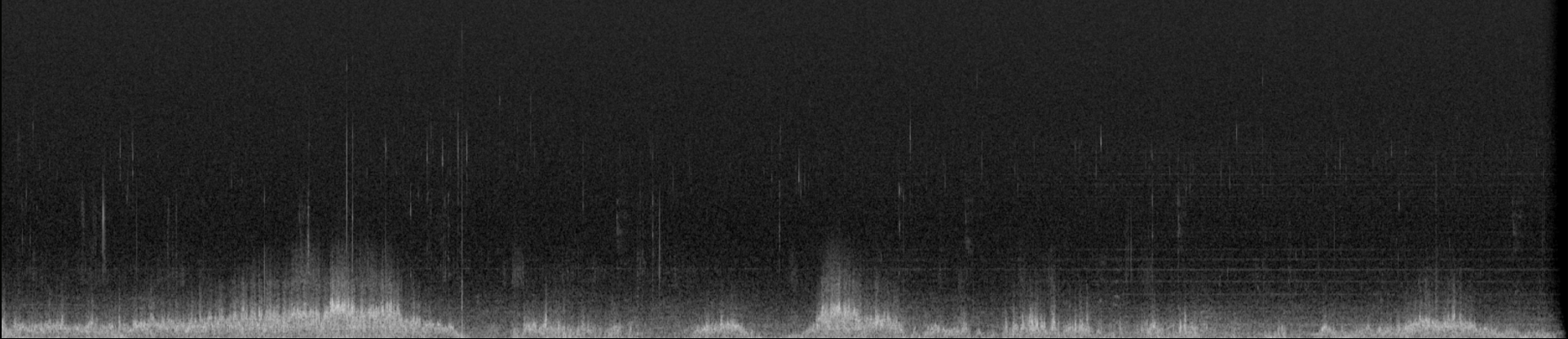




6. *Woonasquatucket River Bikeway Fish Ladder* 41.818691, -71.448964



7. *Fuller Speed Shop, Recording 2* 41.817504, -71.446474



9. *Eagle Square Bike Path* 41.824602, -71.438291



10. *Under the Providence Place Mall* 41.827664, -71.417608



11. *Michael S. Van Leesten Memorial Bridge* 41.820216, -71.405015





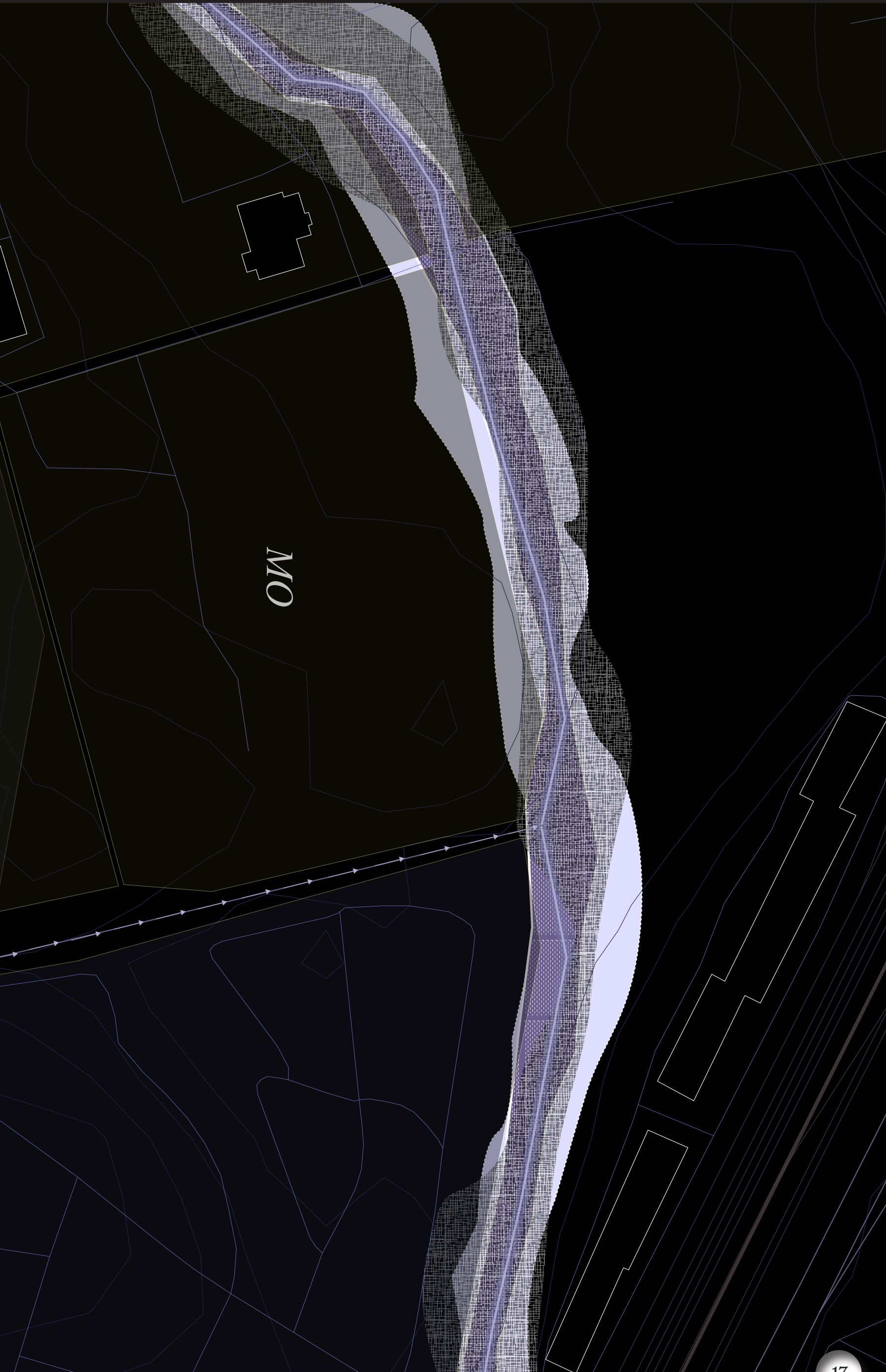
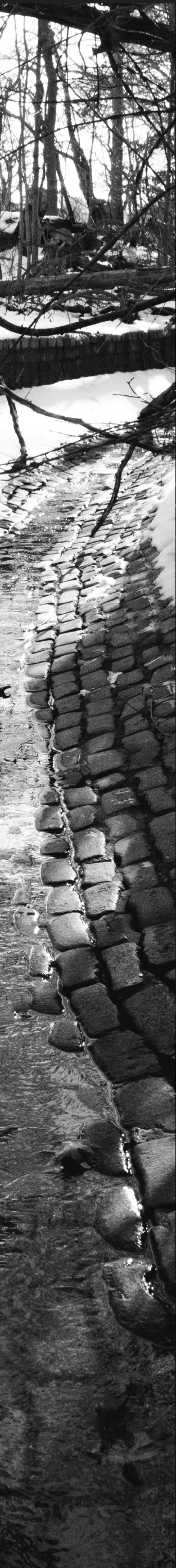


Corresponding Field Recording Locations



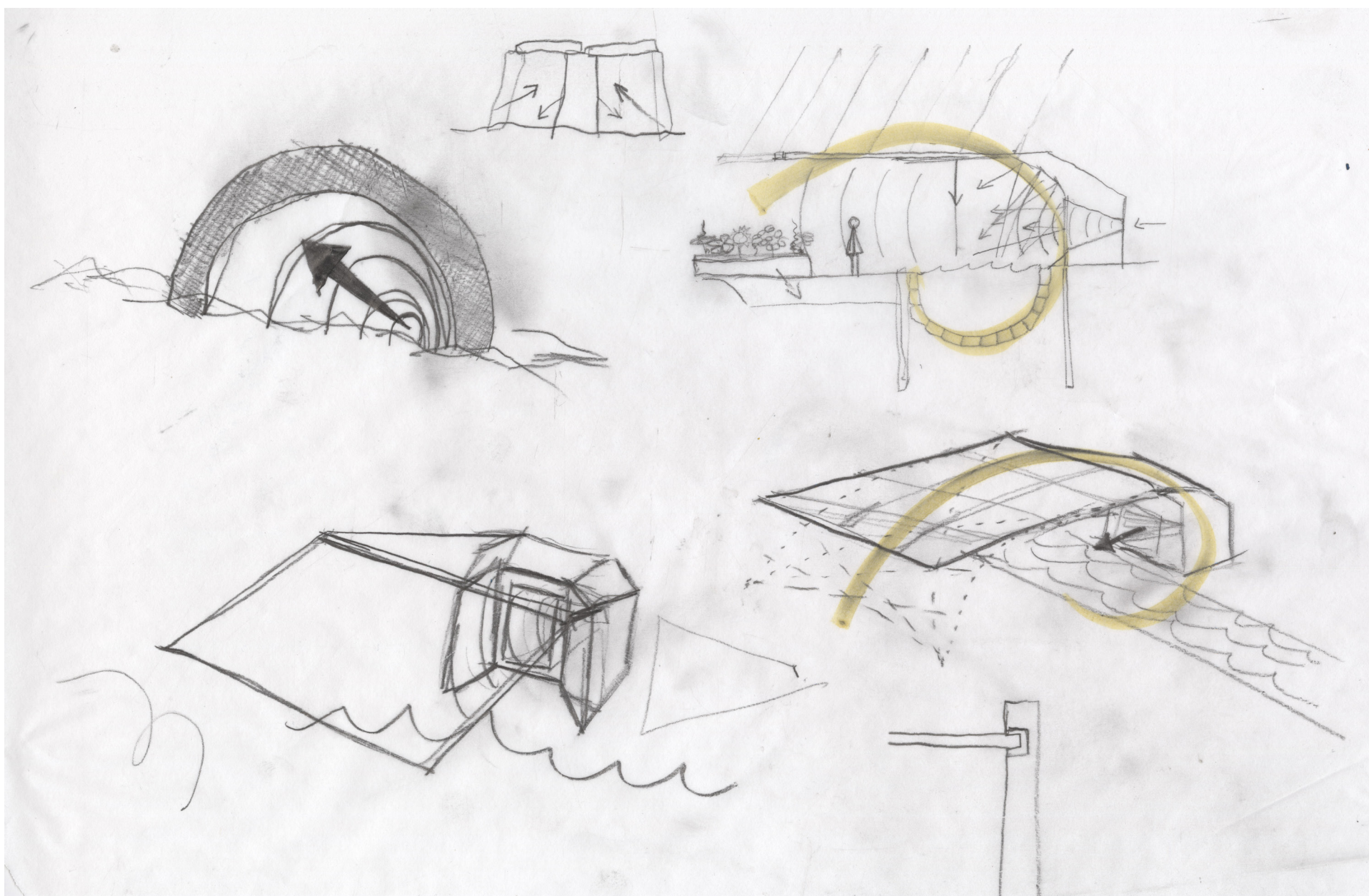






Water Topology Detail





#### program diagram

##### winter

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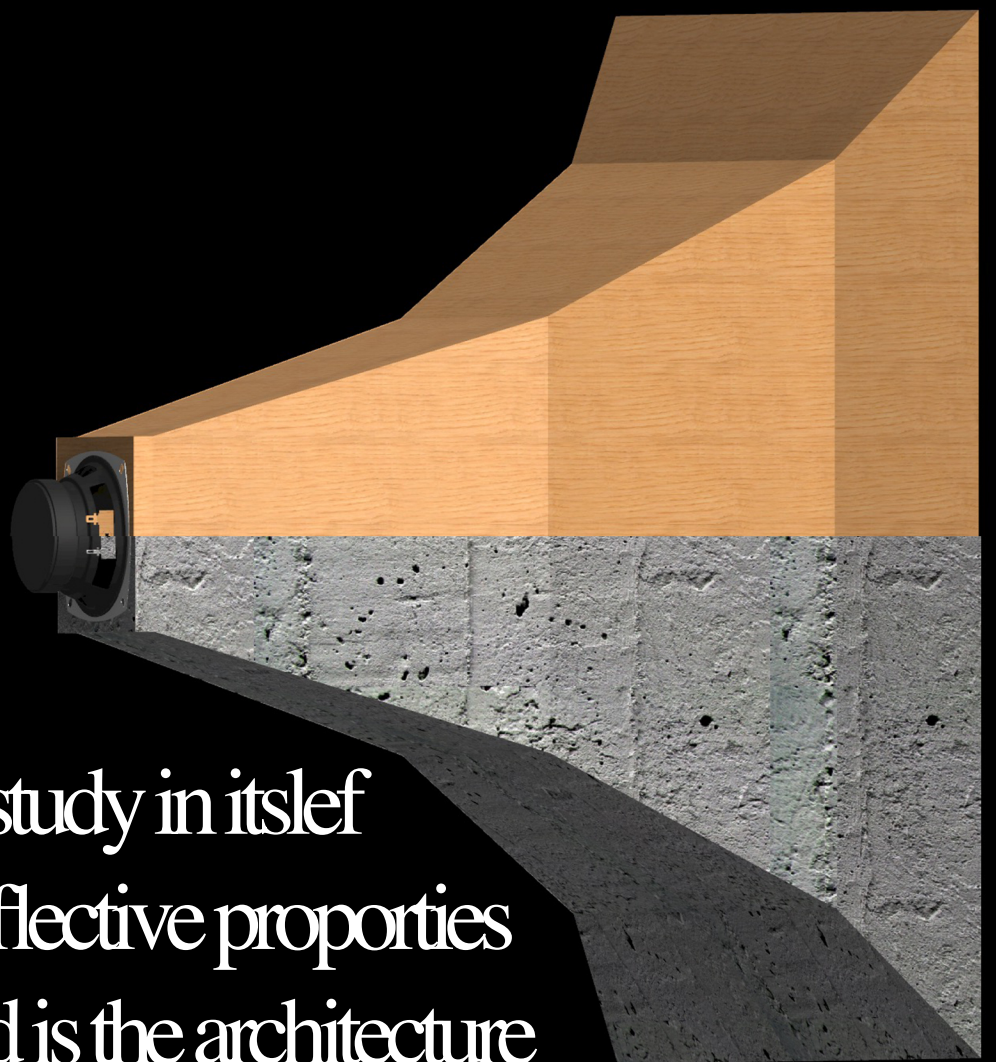
##### fall

an orange and brown bed of leaves lies in the river and slows along the water bed.

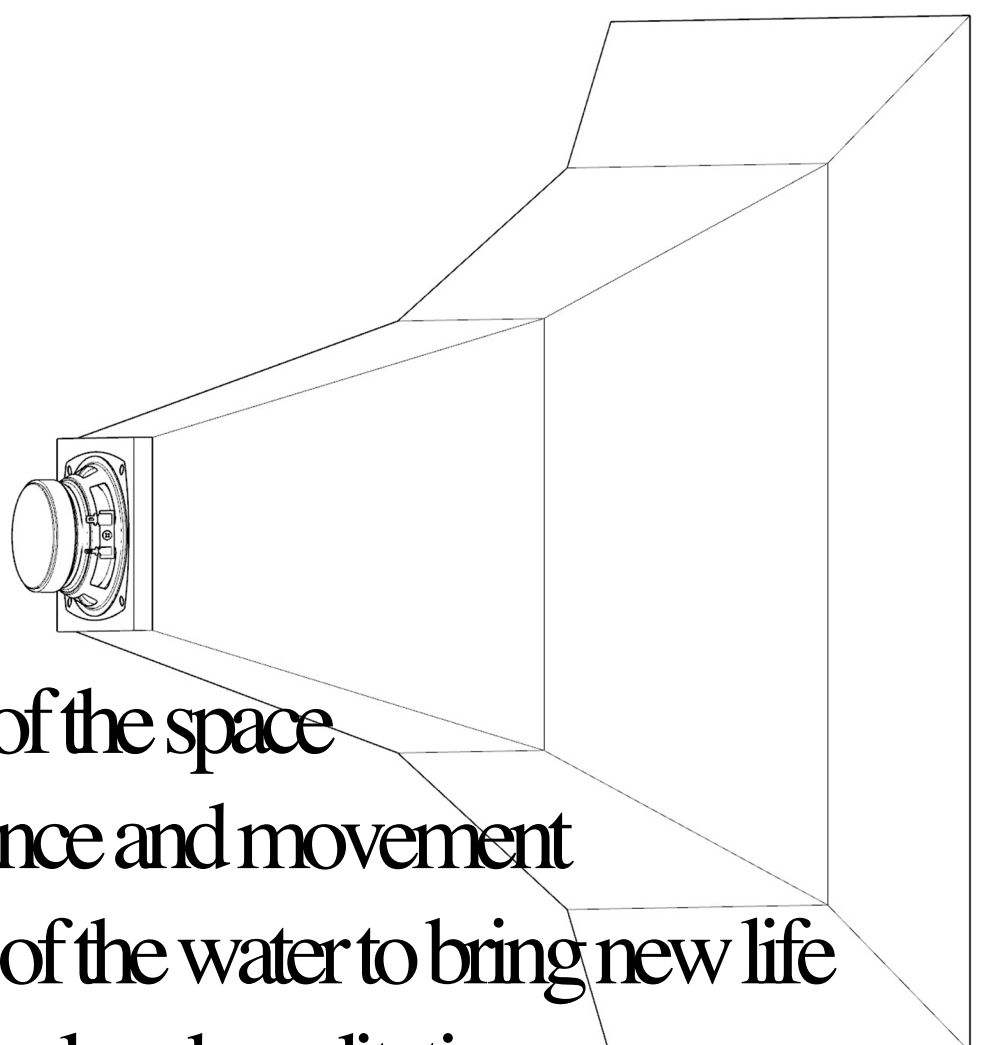
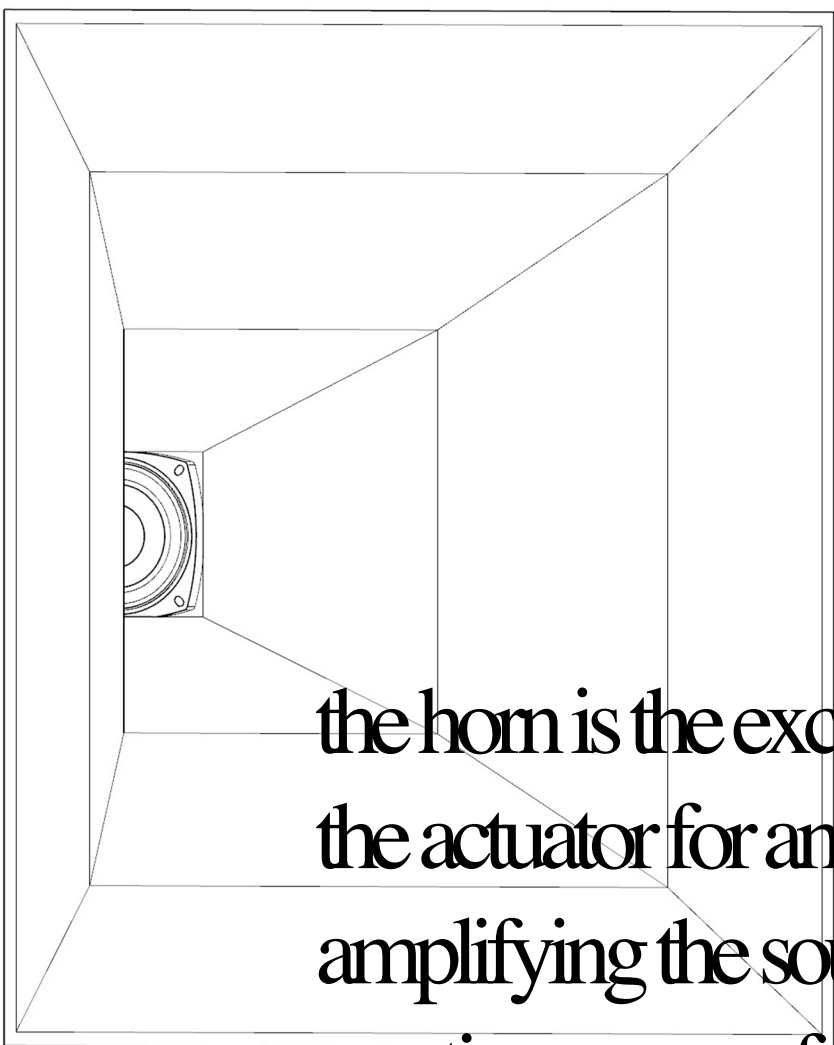
leaves pile on top of the pavillion creating more shade as their layers grow thicker.

summer cleanup and winter preperation is in full effect.





the horn is a material study in itself  
amplifying with its reflective properties  
the evolution of sound is the architecture  
surrounding it



the horn is the exciter of the space  
the actuator for ambiance and movement  
amplifying the sound of the water to bring new life  
creating a space for ritual and meditation

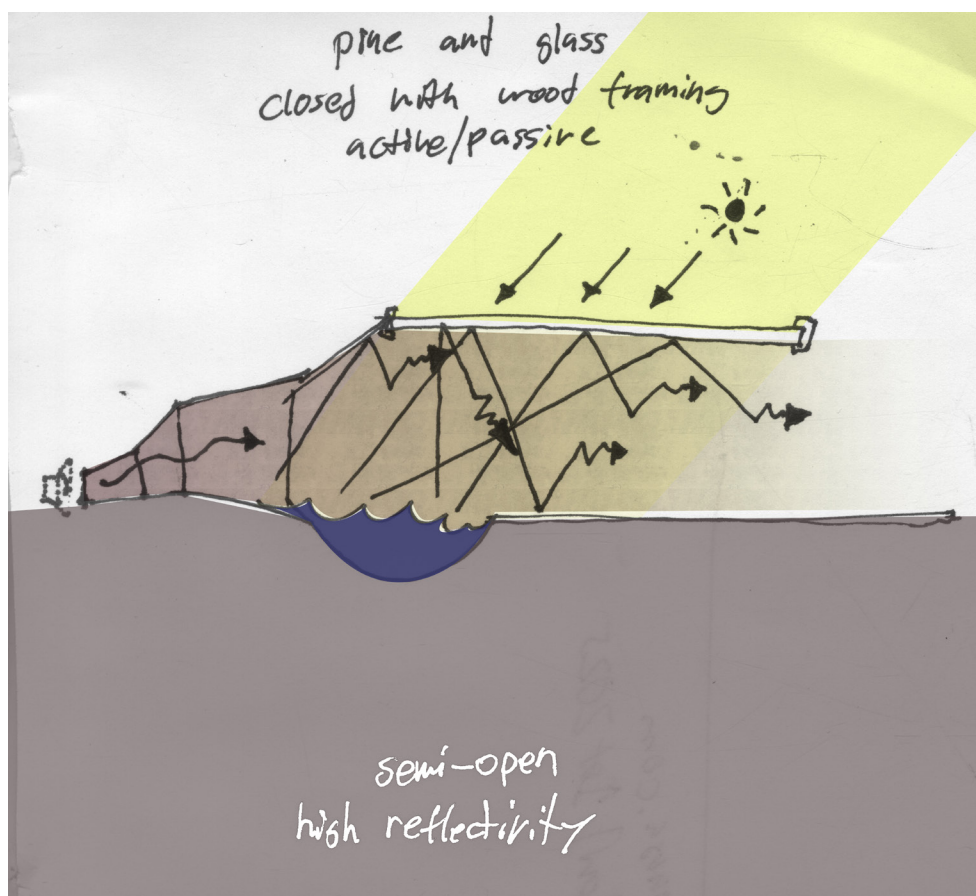












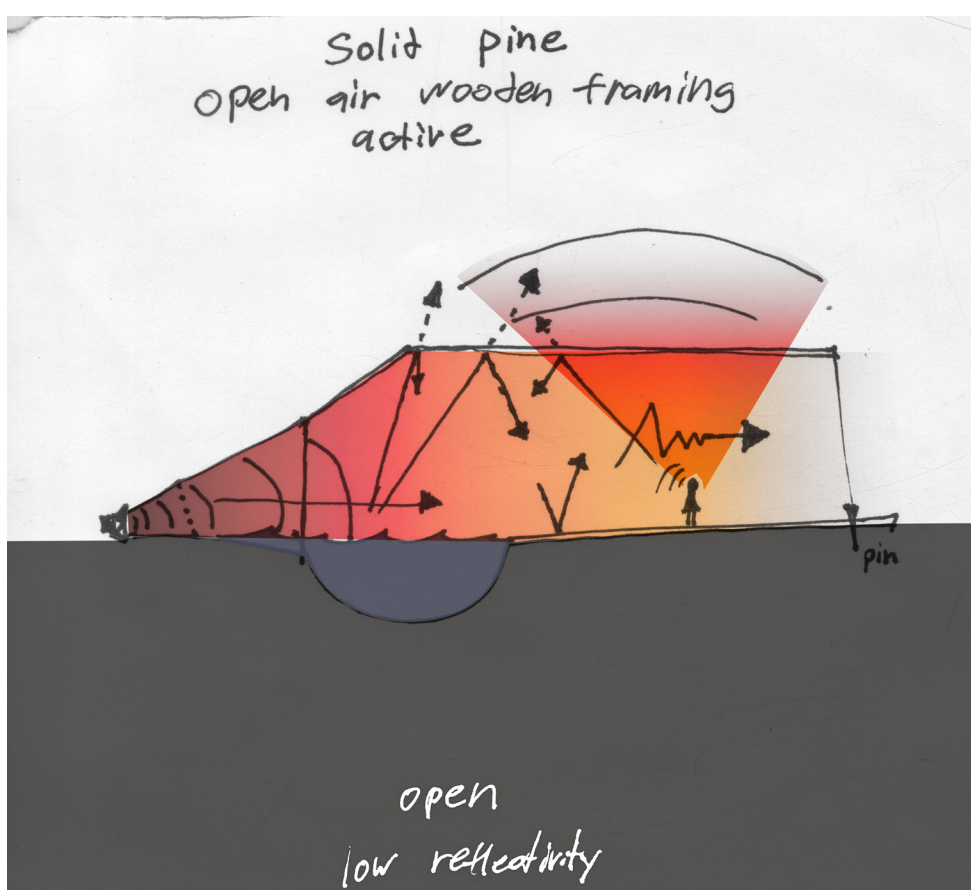
## Pine and Glass Closed with Wood Framing Active/Passive

This design utilized glass as a reflective material for sound. Sound will bounce in the space, actively from the speaker cone, or passively from the horn design embedded in the pavilion.

The lightweight wood framing provides structure to hold the horn and glass pane(s).

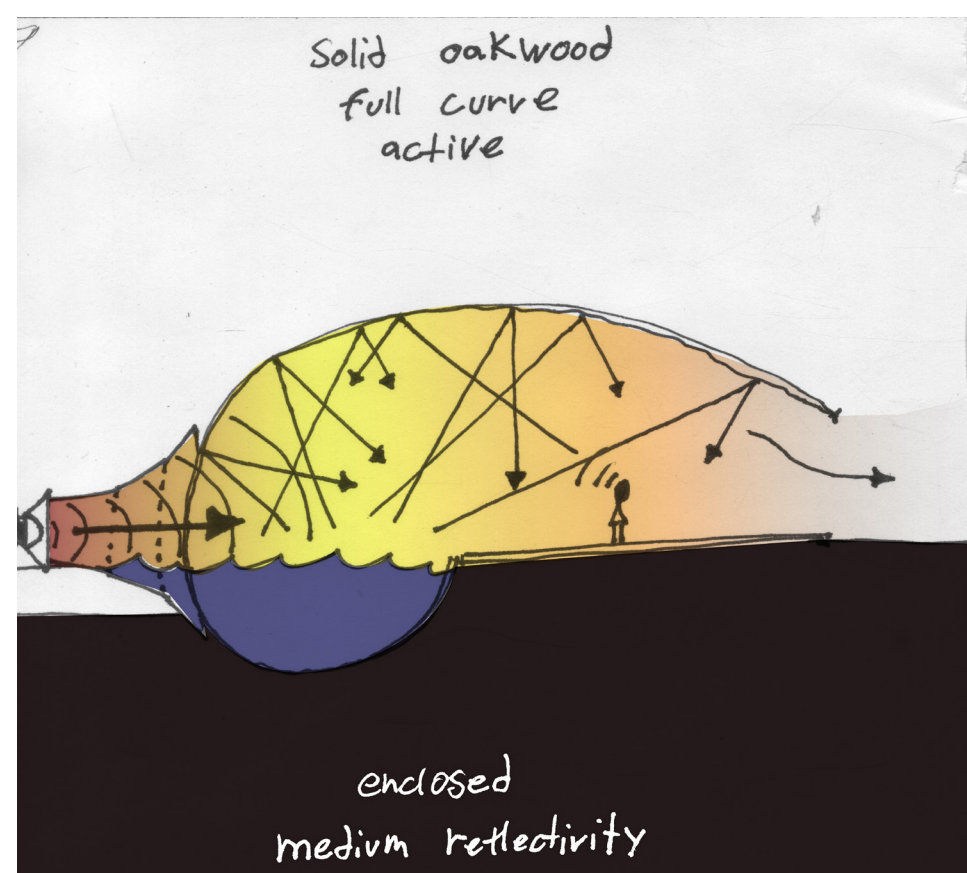
Glass NRC (Noise Reduction Level): 0.05  
Pine NRC: 0.3

Wood and Sheet Metal are the most reflective materials, I want reflective material for the horn, to amplify sound, so the horn will most likely be a hardwood or steel.



## Solid Pine Open-Air Wooden Framing Active Speaker

This design uses only the horn as the solid enclosed space, with the idea that the sound of the water is amplified into the framed space, but there is no reflective properties of the space. This can be an option for a program in the idea that the space is modular in that capacity. Maybe the wood framing holds a textile like reflate that is reflective, and can be places there during performances or ritual events. Whereas in other seasons or site conditions it is more helpful to be open.



## Solid Oak Full Curve Active

This design utilizes the idea of a solid curved oak pavilion, that curves up from the end of the river onto the land, with a weighted hardwood underneath the horn. This design is for optimal deep listening. The sound of the water acoustically reflects off of the rounded oak walls to encapsulate the sound, this program is for ambient rituals such as yoga, meditation and listening. This design can be passive, with the horn amplifying the existing nature behind, of active using a speaker driver at the throat of the horn to amplify sound, but it is not necessary.



