

# THE NATURE LAB

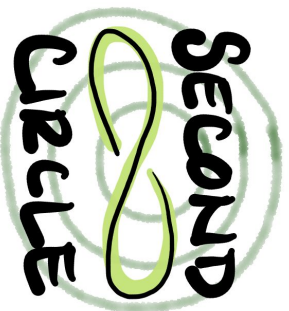
Vision for Montecito Union School Adjacent Property

Developed in collaboration with MUS Community

Approved May 19, 2020 by MUS Board of Trustees

Funded and supported by Montecito Union School Foundation

# OUR APPROACH

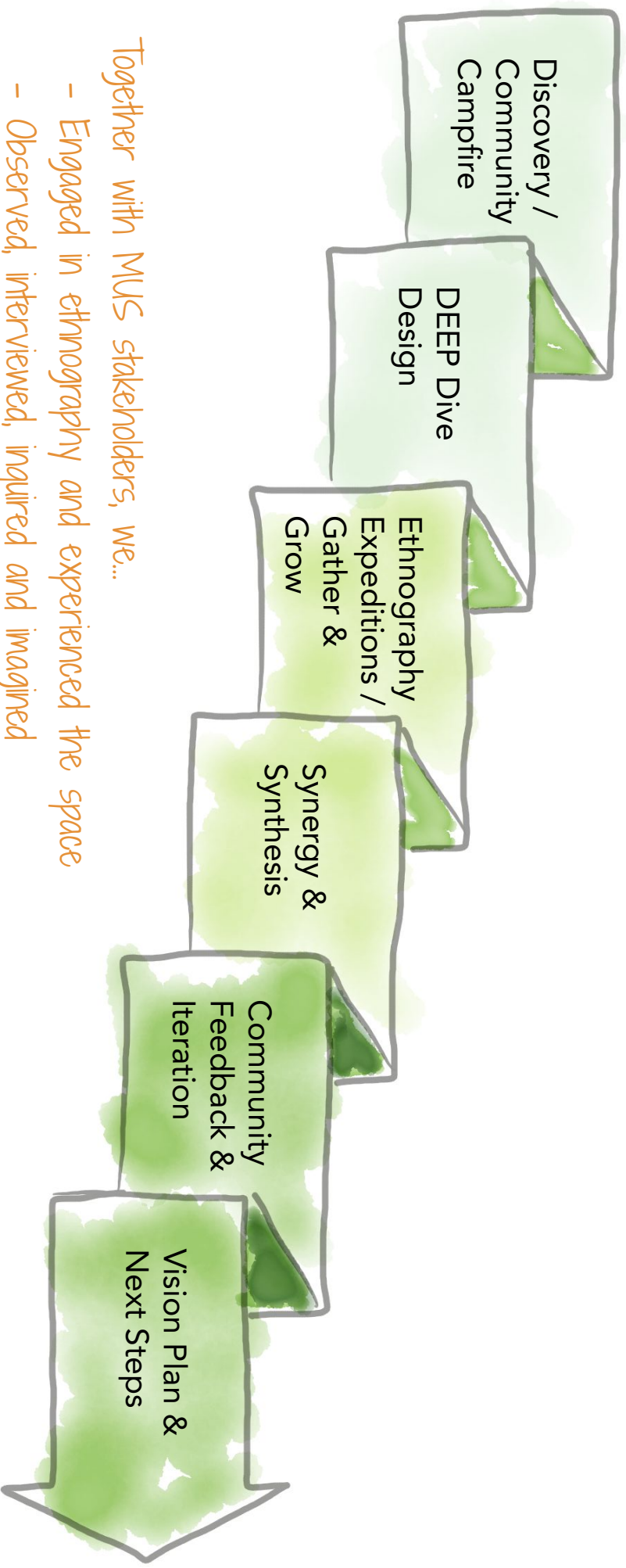


We believe that people, through their innate curiosity, creativity and intelligence, are the engine of innovation. Nurturing, inspiring and developing the designer in every learner is at the heart of our work. Our approach holds students, faculty, and community members at the center -- as design partners -- in uncovering and voicing their needs and desires, and turning them into reality.

Wonder, discovery, and inquiry stoke the creative confidence that empowers children to be lifelong learners, explorers, and problem-solvers. An outdoor space such as the one we are co-creating will grow innovators who offer meaningful and lasting contributions in their own lives, their communities, and the world.

Through human-centered design, radical collaboration and play, we will work alongside Montecito to formulate a mission-aligned concept and vision for learning to maximize the enduring impact environment plays in children's lives.

**How might we** reimagine an undefined outdoor space into an inspiring, empowering and natural extension of learning and play-based exploration for our students?



Together with MUS stakeholders, we...

- Engaged in ethnography and experienced the space
- Observed, interviewed, inquired and imagined
- Visited and learned from inspiring spaces and people
- Prototyped, gathered feedback, iterated, refined and aligned

# MUS STEAM CONTEXT

At MUS, we believe in integrating all content areas to create relevant and engaging student learning. STEAM learning design (science, technology, engineering, art, and mathematics) provides for just this kind of rich interdisciplinary integration.

Integration and STEAM learning occur daily in classrooms and spaces throughout our campus. In the Science Lab, hands-on science experiments combine seamlessly with measuring, charting, and other mathematics skills. Applied computer science skills are combined with research techniques in the I-Lab. In our Outdoor Classroom and STEAM Playground, students work on engineering and group experiences which require mastery of skills from a variety of different disciplines. The Art Studio features lessons using computer-aided design (CAD) alongside traditional materials. Our Makerspace includes a laser cutter where students' designs can take shape, combining engineering, art, measurement, and a whole range of skills.

Integrated learning and STEAM instruction are vibrant practices at MUS, and The Nature Lab will both complement and enrich our current offerings. We can't wait to bring it to life!

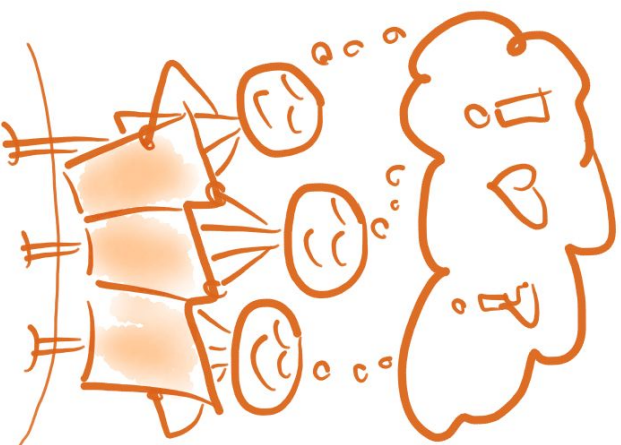
- Anthony Ranii, MUS Superintendent



# COLLABORATIONS WITH MUS COMMUNITY

## CONSULTANT ETHNOGRAPHY

Campus tour & discovery  
Faculty PLC  
Instructional Support Staff  
STEAM Specialists  
Virtual Town Hall (2)



## STUDENT ENGAGEMENTS

G5 AP Observations  
G6 Affinity Mapping  
G6 Needfinding Interviews  
K-6 Provocation Stations  
K-6 Sketch & Prototype

## 9-TEAM COLLABORATIONS

Launch & HMW  
POV, Prototype, Draft Vision  
Testing & Feedback Sessions (8)  
Virtual Sessions (3)

## EVENTS ON ADJACENT PROPERTY

Civic Dinner  
K-6 Explore the Land  
MUS Pop-up Meet Up

## EXPEDITIONS OFFSITE

Besant School  
Kidspace Museum  
Poco Farms  
RC Makes

# KEY LEARNINGS

Design for:

- Immersion in nature / “wild” space
- Unstructured/unscheduled opportunities to discover, “be,” play and learn
- Sense of wonder and connectedness
- Both flexible & planned
- Empowered kid-led learning & problem-solving
- Opportunities to get messy
- Everyone gets to use this space
- Extending what’s possible



# VISION

*The Nature Lab* invites learners to imagine, build, and get messy in nature as they care for the planet and one another.

We do this by creating an *experiential outdoor ecosystem* that combines...

- Biodynamic/Regenerative Agriculture
- Nature-Inspired Making & Arts Collaboratory
- Environment as Agent of Challenge & Wonder

... providing endless possibilities to grow within a unique and ever-evolving natural setting.



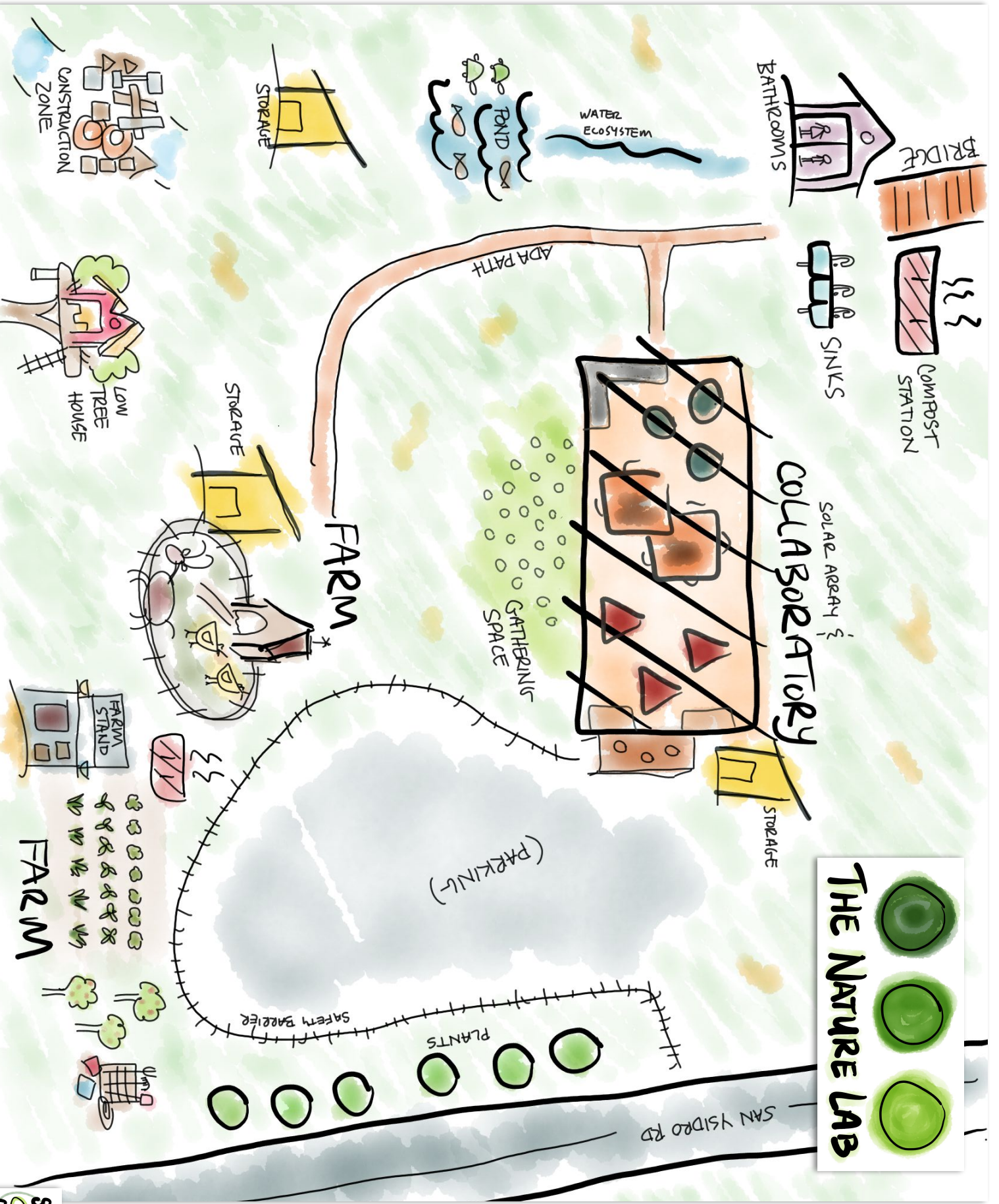


# AN INTERDEPENDENT + SYNERGETIC ECOSYSTEM





# THE NATURE LAB

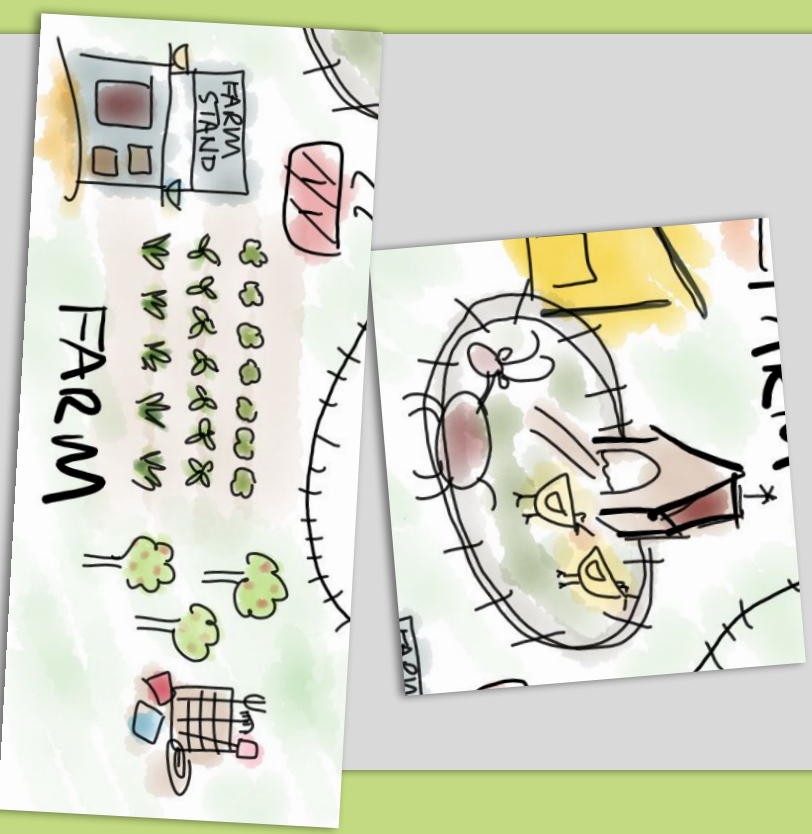




# BIOHYNAMIC / RESTORATIVE AGRICULTURE

- Model of **self-sustaining agriculture**
  - Produce (local, quick-growing)
  - Livestock (chickens, goats)
- Four-season learning & life cycle ecosystem
- Student-driven **community farmstand**
  - Grow, harvest, make and sell
  - Business development, budgeting, marketing
  - Service learning / community engagement

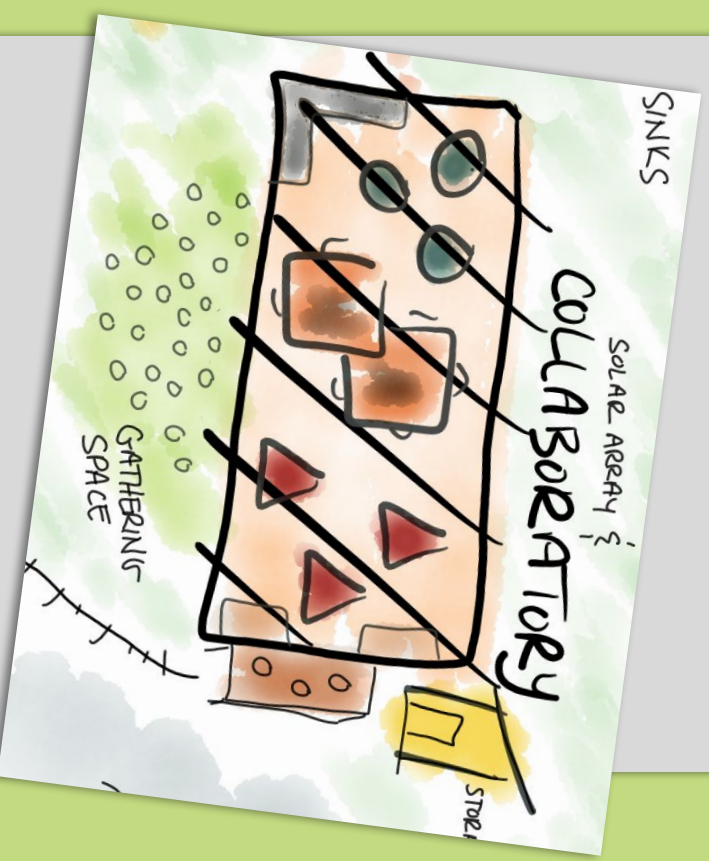
organic farm + social  
entrepreneurship +  
stewardship



## NATURE-INSPIRED MAKING & ARTS COLLABORATORY

- Host to **collaborators in residence** (artists, makers, farmers, storytellers, STEAM experts)
- Nature-inspired making and tinkering (pottery, collage, wood/metal working, weaving/textiles, soapmaking, painting, dye, mixed-media, etc)
  - Flexible/durable/natural furniture
  - Traditional + specialized tools
  - Earth oven / rustic kitchen
- Community gathering / gallery / performance
- Support for farm industry and learning
- **Creative collisions** of all kinds

open-air studio +  
workshop + versatile  
gathering space



## ENVIRONMENT AS AGENT OF CHALLENGE & WONDER

- We act on the world and the world acts on us
  - Every moment an **opportunity to discover, create, relate and connect**
  - Elicits *Responding with Wonderment and Awe* (Habits of Mind)
- Inspires, supports, extends all areas of curriculum and integrated learning
  - Student-led inquiry and pedagogy of play
  - Balance of **organic + planned**
  - Voice + choice + ownership = **student agency**
- Launching inspired thinkers!

interconnected,  
ever-changing and  
responsive learning  
ecosystem



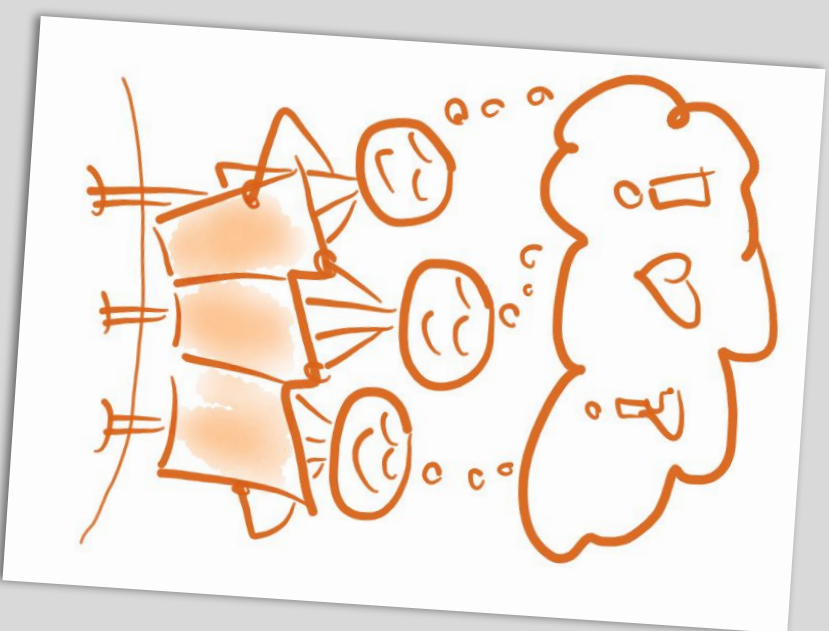
# APPENDICES

Appendix A:  
Process Artifacts

Appendix B:  
Resources

Appendix C:

Acknowledgements



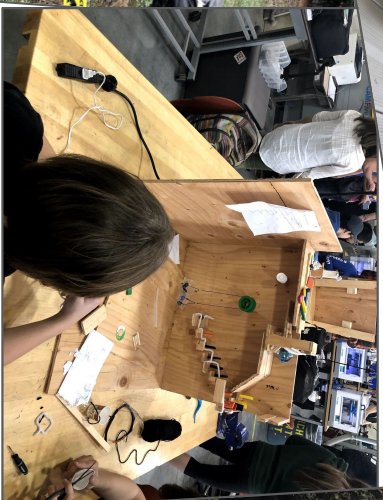
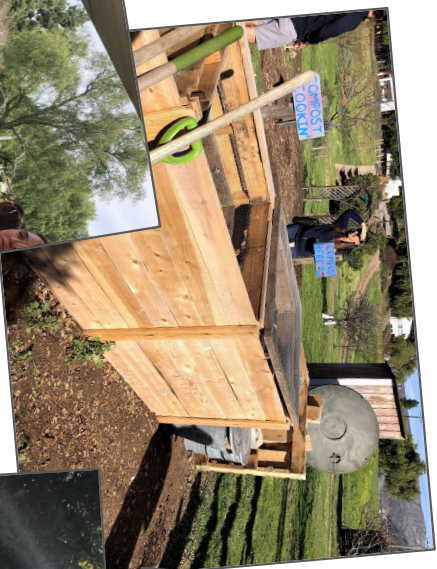


# FEBRUARY 2020 COMMUNITY ENGAGEMENTS





# EXCURSION PHOTOS (2.27.20)





# DESIGN TEAM INITIAL PROTOTYPES

Guiding principles:

- engage with nature
- find joy in messy unplannedness
- be inspired to care for planet and one another
- inspire curiosity and agency



# EMERGENT RECOMMENDATIONS | of 2 (3.6.20)

## Safe Bet

1. Tear down building; Repurpose as much material as possible
2. Build bathrooms
3. Grade (include ADA access) /drain + minimal landscape/xeriscape for natural, flexible play and workspace
4. Build a grade level or larger meeting space, complete with shade elements; flexible seating
5. Closed loop (conservation/catchment) water feature
6. Animal/garden element (assuming no liability issues)
7. Tools and loose parts

## Most Meaningful

1. Engage with students and faculty on aspects of the building to be repurposed, reclaimed, & recycled (there should be several items)
  - a. During tear down process, provide opportunities for students to make sketches, notes, and observations of the process
  - b. Show them how the materials are turned back to raw form
  - c. Take measurements of footprint.... Before and after for example
  - d. Other curricular, STEAM and sustainability connections -- as many as possible
2. Learners collaborate to research, design and build aspects of "This Place," such as
  - a. Mobile chicken coop
  - b. Garden: location (shadow study), size, types of gardens (herb, medicinal, vegetable, wildflower, etc), Kind: straight in the ground rows, raised beds, garden containers (buckets & wooden), What will be grown? Where?
  - c. PVC Greenhouses for gardens
  - d. Pallet compost bins (owned and managed by students and not experts)
  - e. Tool shed and selection of tools
  - f. Art installations
  - g. Water catchment/conservation
3. Continue to plan and engage in differentiated/phased professional learning such as pedagogy of play, maker-centered learning, regenerative/closed loop agriculture, art in nature, etc...

# EMERGENT RECOMMENDATIONS 2 of 2 (3.6.20)

## Moonshot

1. Develop a phased plan (2-3 years) with hard targets for installations starting in 9 months i.e. building torn down, construction of bathrooms, water feature, canvas classroom
2. Spend the next 6-9 months "living in" the space
3. Create numerous learning opportunities for students, teachers, and parents i.e. Grace & Poco Farms, Besant Students & Faculty, Pedagogy of Play, others TBD
4. Create intentional opportunity in individual and class schedules to simply "be" in the space + go further to do things beyond "just showing up"
5. Re-imagine the empty classroom near i-Lab as a true Makerspace: prep, research, plan, design, and build for all learners (young and old); hire an experienced/expert Maker to move this from concept to reality (emphasize learner agency)
6. Consider how to use staffing resources to direct and lead this work
7. Prototype, prototype, prototype: pallets, pvc, logs, sticks, scraps of wood, lumber, tools, and allow for similar prototypes to exist at the same time e.g. multiple gardens, organic play structures, engineering projects, art projects, experiments
8. Document and capture! Closely attend to and design for culture shifts, mindset growth, and learner agency. (Kids do more, teachers/leaders/facilities do less)
9. Communicate and celebrate. Tell stories.





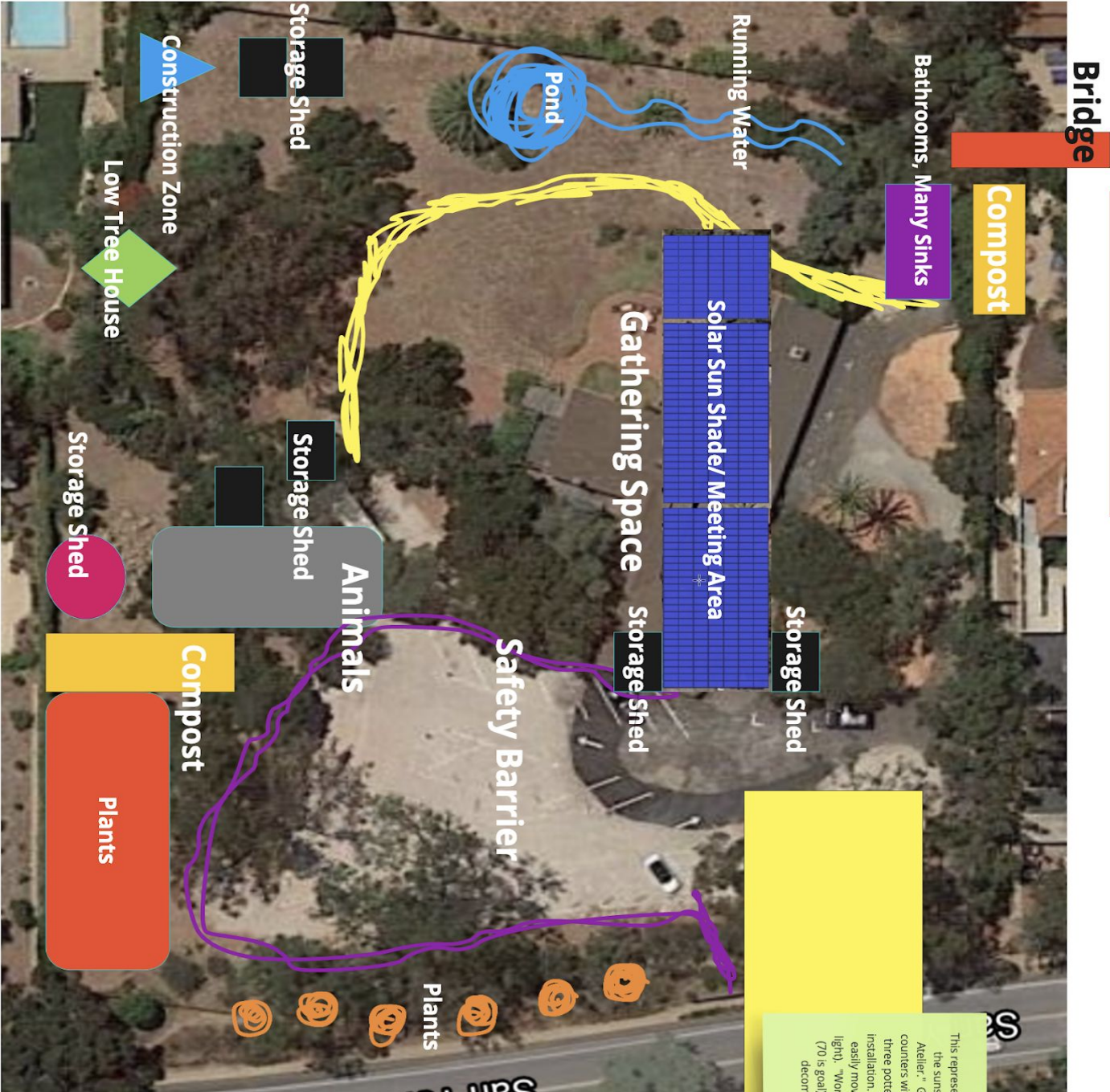
# APRIL 2020: COVID-19 PIVOT TO DIGITAL WORKSPACE!





# COMPONENT PROTOTYPE

(v5 - April 2020)





# INSPIRATION PHOTOS - FARM + FARM STAND



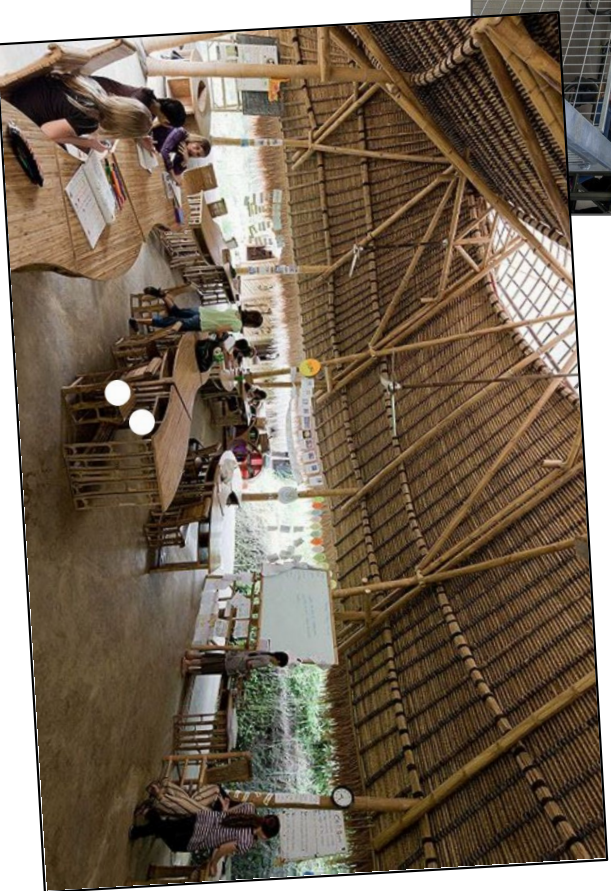
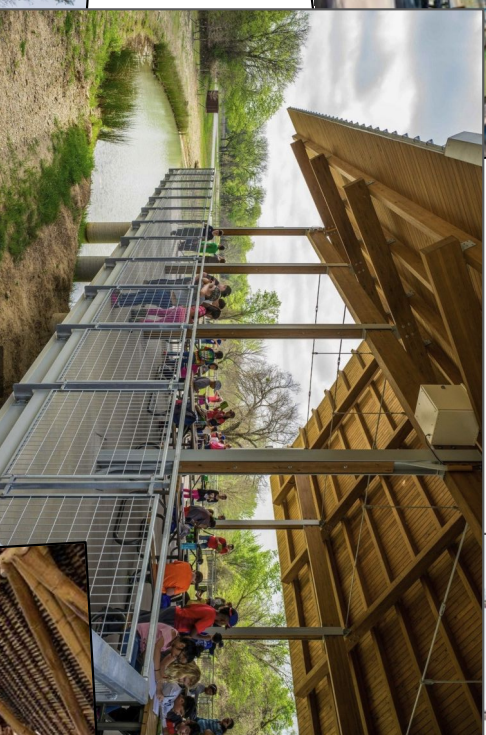
## Photo URLs

1. [Chicken Coop](#)
2. [Farmstand](#)
3. [Outdoor Sink](#)
4. [Teacher Shed](#)
5. [Poco Farm Goats](#)
6. [Kids in Field](#)
7. [Oranges](#)
8. [Kids Planting](#)





# INSPIRATION PHOTOS - COLLABORATORY + GATHERING SPOT



## Photo URLs

1. [Bamboo Spaces](#)
2. [Solar Canopy](#)
3. [Shipping Container](#)
4. [Outdoor Learning](#)



# INSPIRATION PHOTOS - COLLABORATORY + GATHERING SPOT



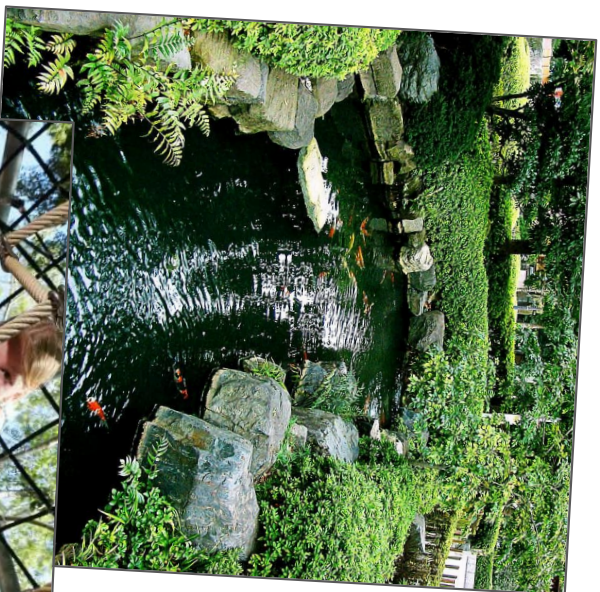
## Photo URLs

1. [Mud Kitchen](#)
2. [Gathering Stand](#)
3. [Wood Workshop](#)
4. [Kiln](#)
5. [Earth Oven](#)
6. [Art Kiln](#)
7. [Office Studio](#)

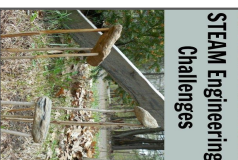




# INSPIRATION PHOTOS - ENVIRONMENT AS AGENT



Nature  
Sculpture



STEAM Engineering  
Challenges



## Photo URLs

1. [Messy Fort](#)
2. [Adventure Playground](#)
3. [Tree house](#)
4. [Large Blocks](#)
5. [Kids Climbing](#)
6. [Zip Line](#)
7. [Nature Sculpture Challenges](#)
8. [Kids Reading](#)
9. [Picking Flowers](#)
10. [Pond](#)





## THE NATURE LAB

Resources to seed inspiration and planning!

### BIO-DYNAMIC / REGENERATIVE AGRICULTURE

- National Ag in the Classroom
- The Collective School Garden Network
- Farm to School - Resources
- California - Learn About AG
- Green Bronx Machine
- Urban Agriculture

### NATURE-INSPIRED MAKING & ARTS COLLABORATORY

- Worlds of Learning
- MAKERED
- Art & Music Outdoors
- Outdoor Classroom
- Learning is Open Toolkits

### ENVIRONMENT AS AGENT OF CHALLENGE & WONDER

- Learning Through Landscapes
- Tree People
- Green Schools Initiative
- Tinkergarten
- Loose Parts Play
- Children & Nature Network
- NEEF Environmental Ed Resources



# ADDITIONAL RESOURCES & ARTIFACTS

- d.Team Initial Synthesis
- Emergent recommendations
- First prototype feedback
- G5 Observation Organizer
- G6 Affinity Mapping
- G6 Ethnography Organizer
- Ideas for 'Wonder Space' (inspiration from Alyssa)
- Ideas for Science Learning (inspiration from Vanessa)
- Photo Album of 1st Site Visit
- Playwork Primer / 4A's Protocol
- Project Zero's Pedagogy of Play
- Stop Light Protocol (PLC)
- Question Starts (VTR)
- Question Sorts (VTR)
- Student challenges (K, 5, 6)



# ACKNOWLEDGEMENTS

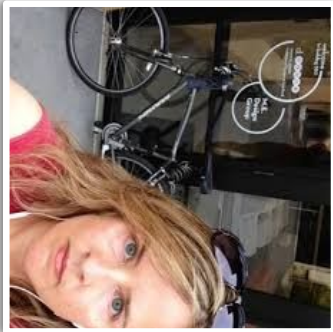
With tremendous gratitude for the entire MUS community and special thanks to:

MUS Board of Trustees  
MUS Foundation  
The Amazing d.TEAM  
Autumn, Anthony, Nick & Jesse  
Besant School  
Civic Dinner Attendees  
Facilities Team  
Faculty & Staff of MUS  
Grades 5 & 6 Teachers and Students  
KidSpace Museum  
Poco Farms  
RC Makes  
STEAM Specialists





# ABOUT US



Shelley Paul provides professional coaching, strategic consulting and facilitation for school leaders and teams. Her most recent school role was serving as Head of Research and Learning Design at Atlanta International School.

With more than 20 years of experience in independent/international education and adult learning, she brings a unique background and deep experience in collaborative leadership, participatory problem-solving and decision-making, strategic process design and group facilitation to her work and engagement with school leaders, teams and communities.

Shelley is a Stanford d.school trained design thinker and team mentor. She models and facilitates ways of working that work. She will draw you a stick figure version of anything you request.



**Mary Cantwell** is an empathy engineer who collaborates with organizations to design and implement learning experiences and spaces through workshops, presentations, and consultative partnering. She works with schools to infuse design thinking into their curriculum, culture, and communities. She drives sustained culture change through serving as a valued catalyst, partner and futurist for individuals and organizations.

Among her current projects, Mary works with Fujitsu Americas to design and facilitate professional learning experiences across the U.S. for K12 education. Mary utilizes her experiences as a Stanford d.School trained design thinker and coach as well as her 20+ years of a K12 educator, innovator, and creator to drive her unique design approach.

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