

Historic Artifact Repository and Fire Vehicle Inspection Facility Value Analysis

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What Is a Value Analysis?

An organized method for evaluating an item, a project, process, or system, to achieve the required functions(s) at optimum cost.

- **INVESTIGATION:** Gathering information, finding out what the project is about, looking for significant improvement or cost reduction, or both.
- **CREATIVITY AND SPECULATION:** Brainstorming and developing alternative ways to meet the primary functions(s).
- **EVALUATION:** Identifying and choosing the best alternatives.
- **DEVELOPMENT:** Forming complete descriptions of the best alternatives.
- **PRESENTATION:** Presenting findings, alternatives, and recommendations to management.

Road Map



- Overview
- Investigation
 - Performance Criteria/Function of Project
 - Important Issues
 - Key Components
- Speculation & Evaluation
- Developed Recommendations
- Questions/Answers

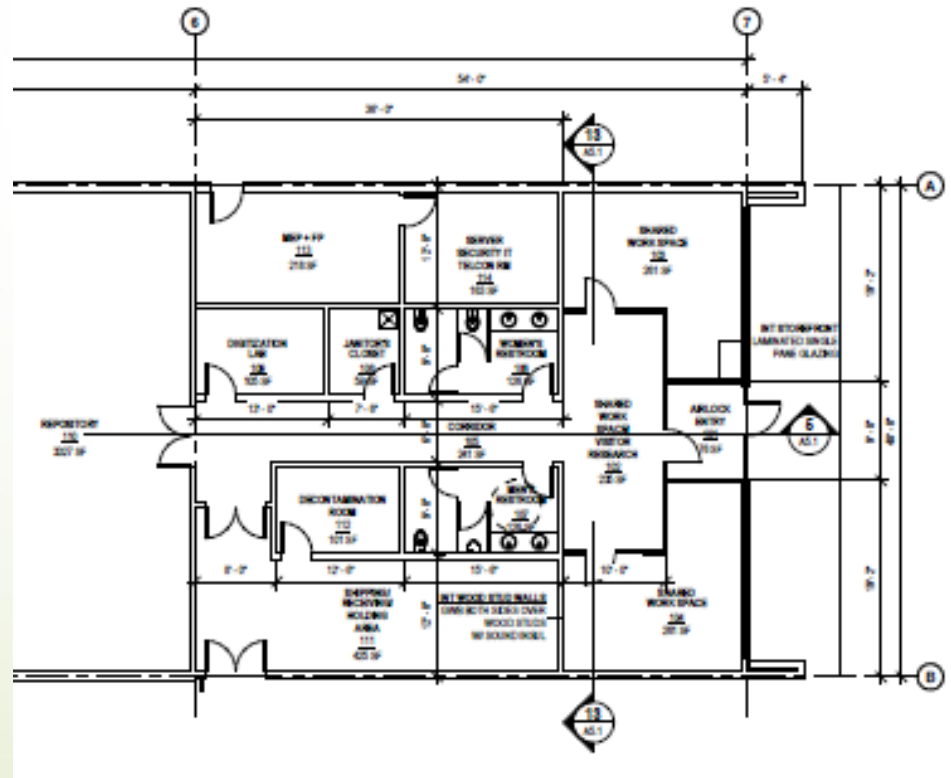
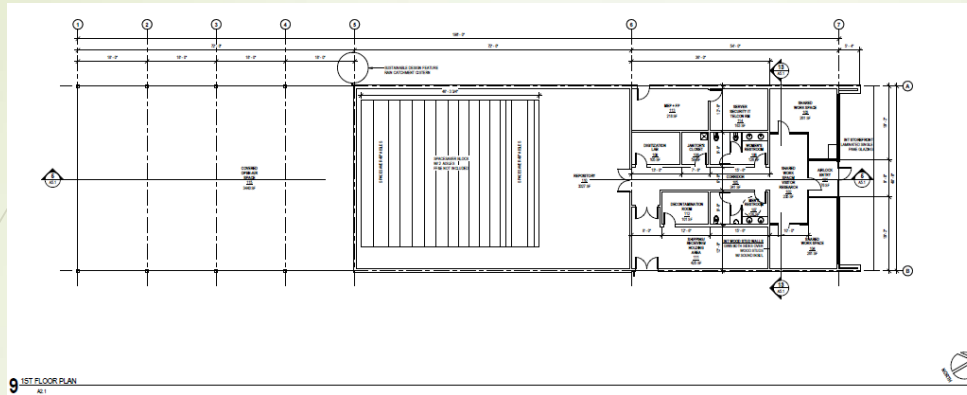
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Estimated Direct Construction Cost (30%, not final):	\$1,089,845
Estimated Cost including overhead, profit, etc.:	\$1,449,494

Overview of the Project

2



Overview of the Project

3

- The historic artifact repository will store artifacts relating to Forest Service history. It will be approximately 5,000 square feet with a large repository, a decontamination room, a digitization room, and a work room, as well as offices and ancillary spaces. There will also be a covered 3,000 square foot outdoor space for large historic equipment and artifacts.
- The fire vehicle inspection yard will provide space for parking and inspecting large vehicles and trailers, including turnaround space sufficient for low boys carrying large pieces of equipment. Offices for the fire vehicle inspectors will be provided in the repository building.
- The two functions will share support spaces.

Investigation: Performance Criteria and Project Function

- Prevent damage and loss to cultural resources and provide access for researchers.
- Provide adequate fire vehicle parking and inspection space and visual connection between offices and outside inspection area.
- Improve operational effectiveness and efficiency.
- Use passive environmental control systems where possible.
- Meet or exceed Forest Service sustainability requirements and minimize overall energy consumption.
- Meet accessibility requirements using universal design concepts.

Investigation: Important Issues

- It appears that the following preliminary tasks have not yet been accomplished:
 - Consultation with SHPO, Confederated Salish and Kootenai Tribes, Montana DOT, and current DeSmet School owner
 - Environmental analysis
 - Determining optimal location, configuration, and functioning of the Fire Vehicle Inspection Facility
 - Resolution of ownership and custody of historic artifacts at 14th and Catlin between the Forest Service and the National Museum of Forest Service History
 - Consideration of the implications and impacts of combining the repository and fire vehicle inspection facility
 - In-depth analysis of actual historic artifact storage needs
 - Future needs
 - Service-wide or only Regional artifacts
 - Whether artifacts are worthy of retaining

Investigation: Key Components 1

■ Site

- Separate employee and repository visitor parking from vehicle inspection area.
- Incorporate the stub of the future frontage road to the museum.
- Consider relocating the inspection “ring” and re-orienting the building to allow more separation from the DeSmet School.
- Consider using adjacent T&D employee parking and fenced/locked rental fleet parking.

Investigation: Key Components 2

➤ Building Plan

- Separate repository and vehicle inspection functions.
- Provide direct access from vehicle inspection area to inspection offices.
- Make restroom facilities available to truck/equipment drivers/owners.
- Consider HVAC & telecom equipment space requirements.
- Make sure office space per person is appropriate.


Investigation: Key Components 3

➤ Building Envelope

- Consider getting rid of storefront windows to maximize space available for desks & envelope energy efficiency.
- Consider using different materials for the repository to provide greater thermal stability.
- Consider changing the roof slope and material for more agricultural appearance and better leak resistance.
- Consider less expensive floor for outdoor artifact storage.
- Consider providing for future expansion.

Speculation



- ➡ Brainstorm ways to meet function of components.
 - ➡ Rank each idea for additional evaluation.
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Evaluation

- Can it be made to work
- Cost to develop
- Likelihood of acceptance
- Timely implementation

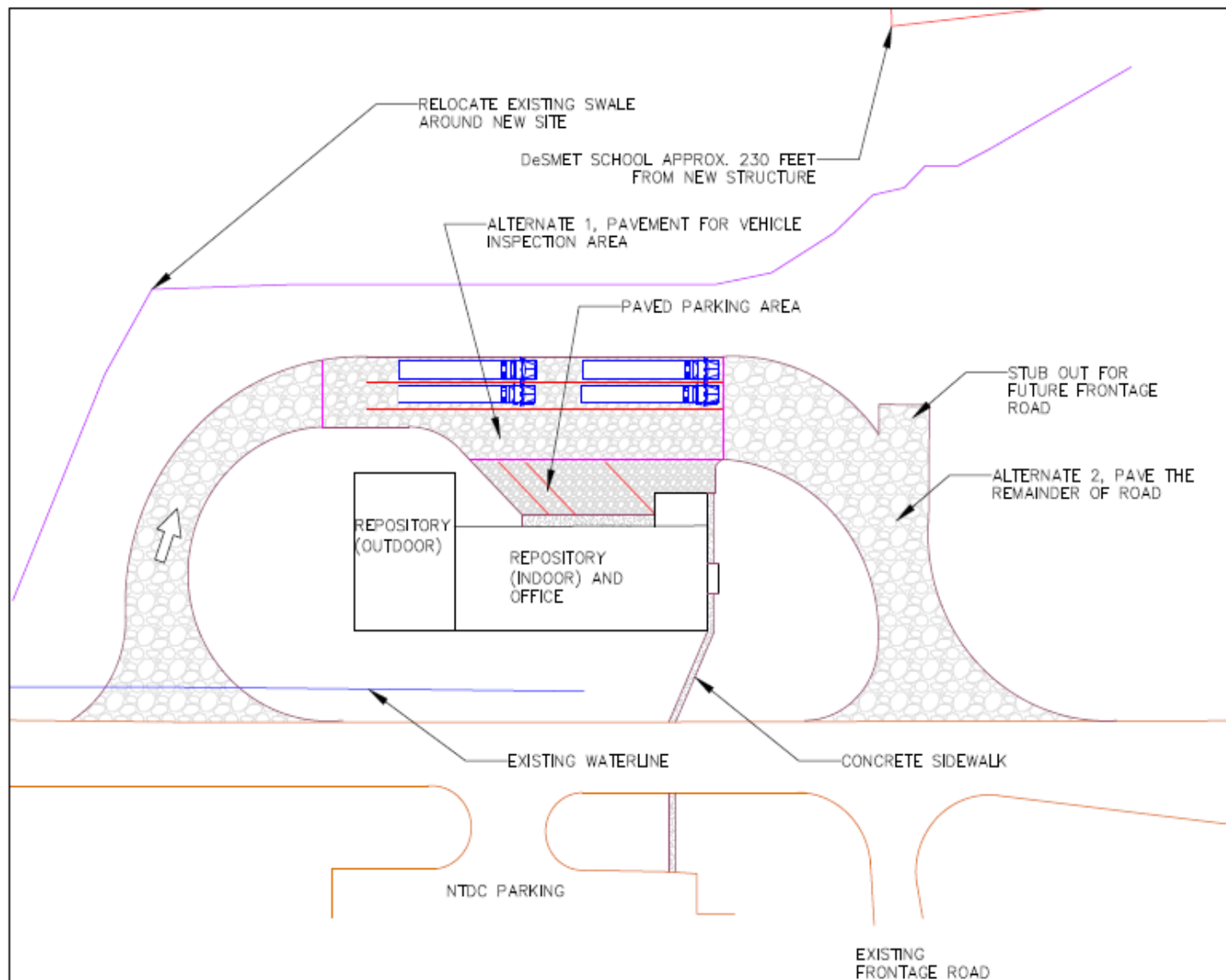
Rank each idea from 0-3. A "0" in any column eliminates that idea. CONSIDER ALL IDEAS	Can it be made to work? 3 = Excellent Chance 0 = No chance	Cost to develop 3 = No Cost 0 = Prohibitive	Probability of acceptance 3 = Excellent Chance 0 = No Chance	Timely Implementation 3 = Excellent Chance 0 = No Chance	TOTAL
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Development



- How will the new idea work?
- How can disadvantages be overcome?
- What will be the total cost?
- What will be the life cycle cost?
- Why is the new way better?
- Will it meet all performance requirements?
- Are quality requirements met?
- Are reliability and operational requirements met?

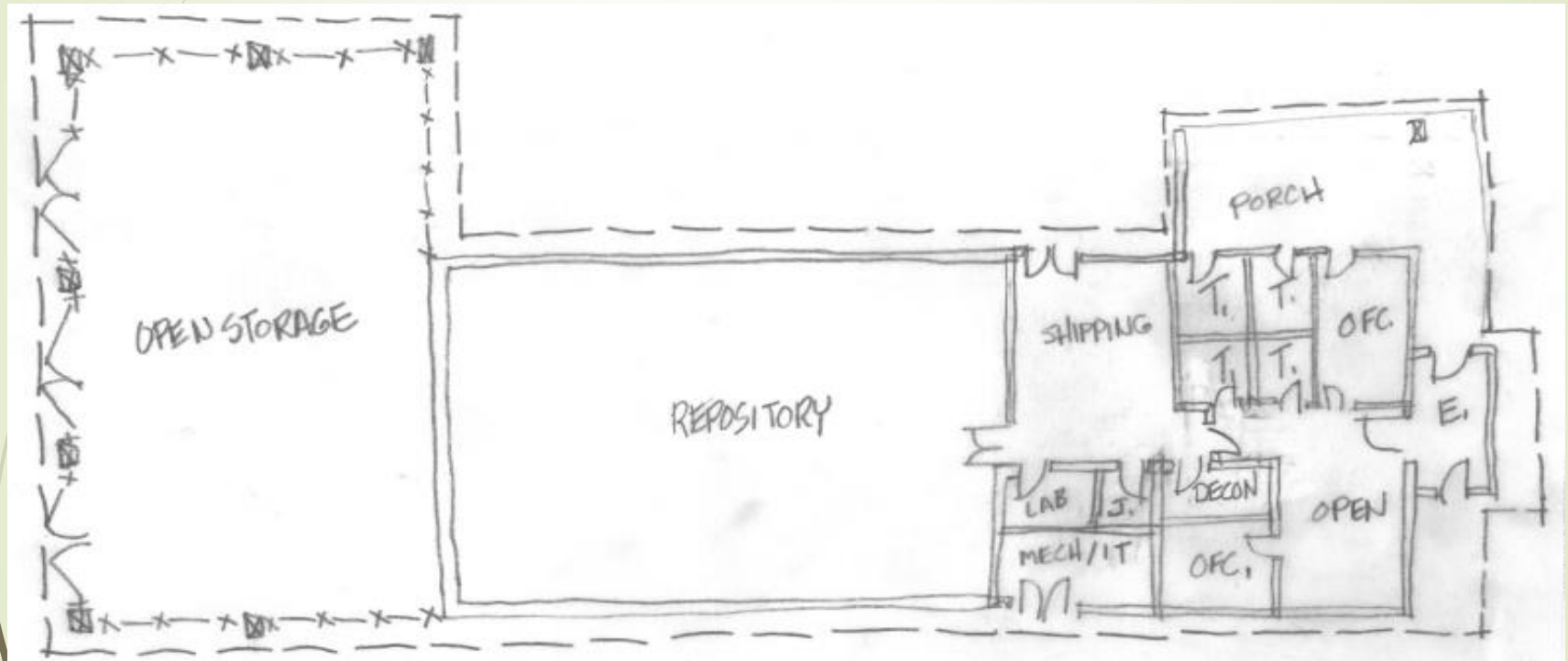
Recommendations: Site Design



Recommendations: Site Design

- Move the building farther from the DeSmet school.
- Relocate the inspection “ring” to surround the repository building and incorporate the stub of the future frontage road to the museum.
- Provide employee parking at T&D.
- Provide rental fleet parking at T&D inside the fence.
- Address fire vehicle inspection staff concerns and needs.
- Separate fire vehicle inspection from curatorial functions.

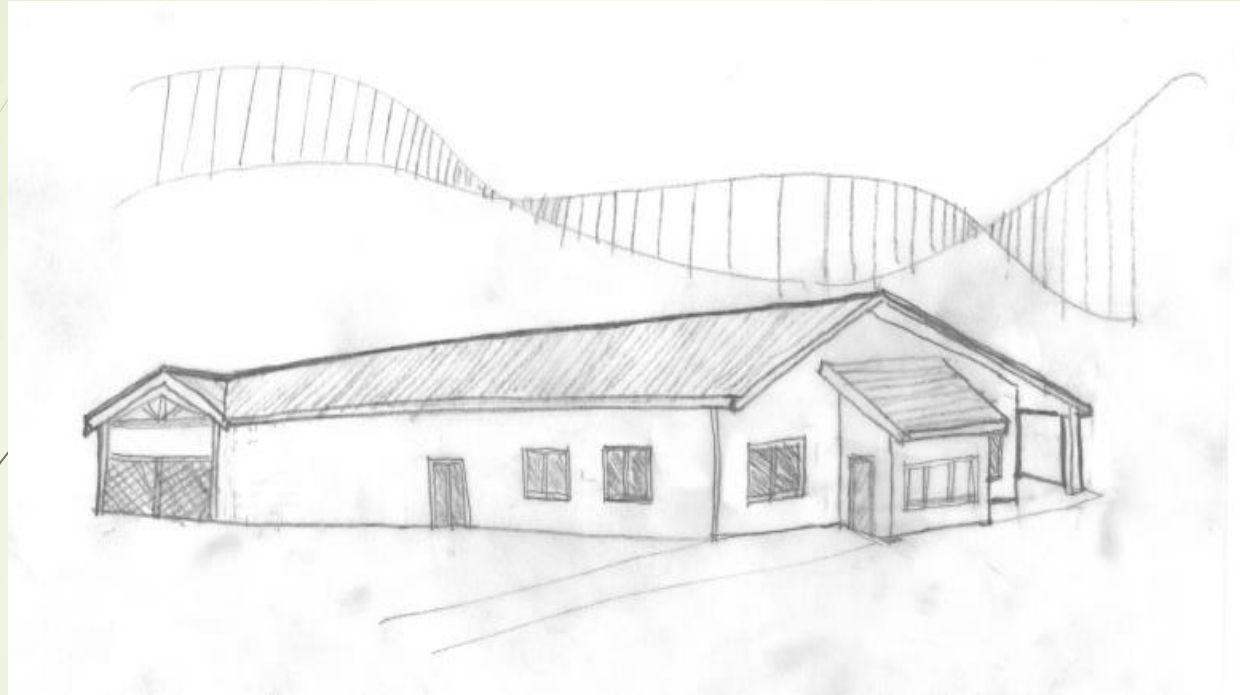
Recommendations: Building Plan



Recommendations: Building Plan

- Provide direct access from the vehicle inspection area to the inspection offices.
- Separate the repository functions from the vehicle inspection functions.
- Make restrooms available to truck/equipment drivers/owners.
- Adjust size of spaces as appropriate for their use.
- Provide covered outdoor waiting space.

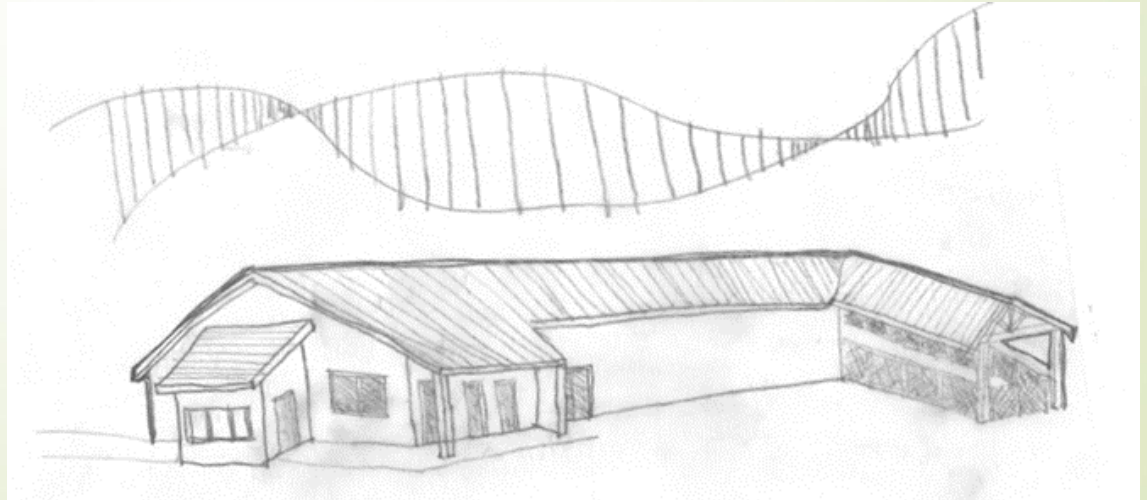
Recommendations: Envelope



- Eliminate storefront windows.
- Change the roof slope.
- Provide airlock vestibule outside main building space.

Recommendations: Savings

- Savings from recommended changes: \$73,296
- Savings from optional changes: \$120,400
- Miscellaneous savings opportunities: \$8,875
- Increased design cost for changes: (\$15,000)
- NET (DIRECT COST) SAVINGS: \$187,571



Recommendations: Other

- Complete the preliminary tasks identified in Slide 8 before going further with the design.
- Evaluate wall performance, specifically whether moisture from inside the repository will create a freeze point within the extra thick wall insulation
- Sort the artifacts to make sure they're worthy of keeping; toss or recycle/donate stuff that's not; digitize where appropriate.

Take Home Points

- A copy of the PowerPoint and Workbook will be provided to Management.
- Provide a&e Architects with clarification on design requirements.





QUESTIONS??

ANSWERS



Thank you!



The epitome is to have choices...the agony is to decide.