

MADISON COUNTY CONSERVATION CENTER



SPLIT ROCK
STUDIOS

Schematic Design II
February 28, 2019

Madison County Conservation Center

Madison County Conservation Board

Winterset, Iowa

*Schematic Design II
February 2019*



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STUDIOS

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Project Background

Established in 1974, the Madison County Conservation Board is one of the younger conservation boards in the state of Iowa, but they already have a legacy worth furthering. After just over four decades of environmental stewardship including land consolidation, habitat preservation, and public engagement through successful education and recreational programming, they're ready to build a visitor center, which will engage wider audiences and further their mission for decades to come.

The site of the Madison County Conservation Center (MCC Center) is atop Backbone Ridge in Pammel State Park, an area with a unique and rich story—geologically, ecologically, and historically.

In spring 2018, the Madison County Conservation Board contracted Split Rock Studios (SRS) to complete Schematic Design I for the center's exhibits. Since then, the board has completed a significant portion of fundraising for this project, and provided detailed feedback to the initial design that SRS presented. In January 2019, board staff and stakeholders visited SRS to further brainstorm development of exhibit components.

This Submittal

This submittal is Schematic Design II (SDII). It builds on the initial design and incorporates the subsequent team conversations. This is still a big picture phase where we finalize the floorplan and major components. We have added exhibit codes to each component that you'll see throughout the rest of design and production. The next step is Design Development (DDI and DDII, to be contracted), in which we add further detail to the design and content manual, draft the exhibit text, and select images for graphics.

Audience

The primary audience focus for the MCC Center will be youth, for the two primary reasons that (1) the MCCB has proven successful with programming aimed at children, and (2) the MCCB has found that children are the primary drivers of their family's activities. In short: if we build it, and the kids like it, the parents will come—ideally again and again.

Youth / Group audiences include:

- School groups, K-12
 - Camps, primarily ages 3-15
 - School-year groups, ages 3-18
- Home schoolers, their families and collectives
- Families with multiple kids
- Two-parent families
- Single-parent families
- Grandparents (overlap with “non-steppers” audience, see below)

The above groups share other commonalities. They may be outdoorsy people in search of adventure, accidental tourists in town for other local destinations, or “busy people” just briefly stopping in. They may be “non-steppers” (visitors using walkers and wheelchairs), of whom the MCC Center would like to attract more. The MCCB would also like to attract more repeat visitors, including locals, residents from the next residential ring out (within a 20-minute drive), and out-of-towners.

In order to attract and maintain such a diverse group of visitors, the new MCC Center must elicit emotions and excitement as much as it educates. It should primarily cater to children’s interests and attention spans, and be attractive and accessible to youth of all abilities, backgrounds, and learning styles. This means the exhibits should include some updatable and “special” elements that may change from visit to visit as well as evergreen experiences that are immersive and stimulating, that not only stand up to repeat visits but actually facilitate them. Experiences should be “bold” — colorful, inviting, with components designed such that visitors are able to absorb memorable, lifelong lessons with an emphasis on touching, looking, and listening, and not on reading. These same elements can also contribute to an attractive visitor experience for adults, one that helps them get excited about and feel connected to exhibit elements that are as fresh as they are familiar.

Themes, Goals, and Outcomes

SRS and the MCCB steering committee discussed themes, goals, and outcomes at our kickoff meeting in 2018. All exhibit components will be guided by these ideas. The “Big Idea” is a distilled version of MCCB’s highest-priority takeaways, the idea every visitor should walk away knowing. The Big Idea acts like the thesis of the exhibits, so that each exhibit component relates back to this idea:

This ecosystem is special, I am already part of it. Therefore, I have to step up my efforts to protect it in whatever way I can.

From the above conversations, several themes emerged. These themes will appear throughout the exhibits and help visitors make connections between dispersed experiences and content.

- **The “Why” (What + How)** – Everything the visitor sees on the Drift Plain is there for a reason. Why is it here, why is it this way, and why does it matter?
- **The “What Next?”** – Now that I have learned What, what can I do next? Where can I find what I just learned about in the actual wild? How can I apply this to my own life?
- **Only on the Drift Plain!** – There are things happening on the Drift Plain that I can’t see anywhere else. I must learn how to spot those things and try to see as many as I can before they’re gone! (And I have to come back as many times as it takes!)
- **The Whole Picture** – How the many unique, diverse aspects of the Drift Plain area are inextricably connected (geological, biological, historical = one giant, ancient, ongoing ecosystem)
- **Walking the Talk** – The builders of the building itself considered these exact elements in designing and building the space in which I stand. (And I can do these things, too!)

These themes lent themselves to specific visitor goals. Through their time in the exhibit, visitors will:

- Come to understand what makes the Drift Plain area unique and what those unique features have provided to the inhabitants of the area.
- Feel grateful that such a unique area is here to be enjoyed and connected to this area.
- Connect the exhibit to a greater cultural shift towards curiosity about nature and sustainability.
- Realize “If we don’t protect this land, who will?”

Finally, these goals translate into specific visitor outcomes, measurable changes in behavior that the MCCB would like to see in its visitors. These outcomes serve as a benchmark for visitor experiences throughout the design process and help gauge the success of completed exhibits:

- Visitors will understand that Madison County’s natural world is rich and complex.
- Visitors will literally and figuratively get out of the house and engage with nature, seeing it with new and informed eyes.
- Visitors will recognize that they have an environmental conscience and consider how they are using, abusing, or protecting Madison County’s natural resources.

Design & Interpretation

At their best, exhibits educate via transformative experiences for visitors—they evoke emotions, spark curiosity, even prompt behavior changes. To create these kinds of experiences, SRS designs interactive exhibit components, immersive spaces, and multisensory moments that teach through action more than exposition. When considering content, we prioritize stories that help visitors develop connections between exhibit ideas and their own experiences. This helps visitors prepare to take the story with them when they go, making them more likely to adopt new conservation behaviors out in their daily lives and return to the exhibit space again and again.

Interpretive Principles

For this project’s interpretive approach, SRS is guided by four main principles:

- **One with One’s Surroundings** – Just as plans for the building itself, exhibits should not only compliment the surrounding area, but literally orient the visitor in the area, in time, space, and ecosystem. Content and components encourage visitors to get outdoors and explore, but also empower them to do so, giving them the tools they need to rush into nature with new understanding of where they are and what’s going on around them.
- **Making the Invisible Visible** – Because the center’s exhibits should encourage outdoor exploration, exhibit components should not duplicate what visitors can see out-of-doors, but rather illuminate the unseen elements that influence the area’s visible landscape and organisms. Such elements include what’s happening around the visitor at the micro scale, at the macro scale, events that happened in the past on a grand time scale, and what might happen in the future—in the next minute or millennia. Presenting these different lenses helps the visitor define their own lens through which to experience Madison County’s natural world.
- **Action-Based** – When designing for kids and people in a hurry, the best component is one that allows the visitor to understand the lesson by doing. Not only does the visitor understand the lesson more readily by doing than reading, they are literally taking that understanding into their own hands. This sets the tone that curiosity will be rewarded, which is valuable out-of-doors. Once you’re in the field (just as in action-based exhibits) the person who heightens their senses, opens their mind, and starts asking questions will have the most fun.

- **Updateable Content Without Relying on AV Technology** – Part of this action-based principle is the choice to keep AV components to a minimum and opt out of screen time. Graphics throughout the exhibits can be updated and animals on display can rotate over time, but the overall experience reminds visitors that they can engage with science while turning off their screens.

Together, the above principles should amount to a visitor feeling that the following movement is seamless: from outdoors to the MCC Center to the exhibits and back to nature.

Design Approach

You Are Here: Pammel Park Map as Context – The central feature of the exhibition area is a relief map of the Devil’s Backbone Trail and Ridge in Pammel Park, which serves as a focal point around which visitors can orient themselves. From where they stand, visitors can instantly “zoom out” to consider Madison County’s topography, landcover, and associated ecosystems, or “zoom in” to specific ecosystems, specific plants and animals within them, and even the microscopic world underfoot. They can travel through time: backwards, via layers of bedrock and eras of evolution, and forward towards a future in which their choices already play a part—starting right then and there in Pammel Park.

In the physical space, the Pammel Park structure helps ground the visitor experience in a central, low-profile area that doesn’t disrupt visitors’ sightlines out the building’s many windows. At a glance, visitors can see where they are in the park, then look up to see the park around them. In between the Pammel Park Map and the out-of-doors are topic-specific areas, which connect to the central map via Geopins. Atop the Pammel Park Map are larger-than-life color-coded pins—freestanding graphics that connect physical features of the landscape to topic-specific areas around the rest of the exhibit space. This repeating graphic element allows the visitor to contextualize the content they’re seeing in the other topic areas.

Graphic Hierarchy

In order to create a visual hierarchy and make it easy for visitors to navigate through the space, we propose using a standardized series of graphic panels as follows:

- **Journey Through Time Graphics:** this graphic type appears outdoors as visitors approach the center. They are focused on particular points in geologic history as they relate to the formation of the Devil’s Backbone and the Madison County landscape. This panel type aims for approximately 50 words of text, with accompanying image or illustration.
- **Topic Panels:** this graphic type addresses a single topic—such as water as habitat or rock formations in Pammel Park—rather than a larger theme. These panels dive into interpreting a single story. This panel type aims for 75-100 words total, with accompanying images or illustrations.
- **Geopins:** this graphic type draws from familiar iconography and focuses visitor attention on particular locations. The graphics could be color coded based on topic, and include brief text, approximately 25 words in total. This shape is also repeated through other elements of the exhibit design, reinforcing the visual connection between the Geopins and points of interest for visitors.

- **Interactive Graphics:** this graphic type invites visitors to engage interactive experiences, whether lift-doors, spinners, or lift-and-drops. These graphics need to function for visitors and be easily moveable, so they're relatively small in size; text is short and to the point, with approximately 25 words of text.
- **Tank Labels:** this graphic type accompanies terrariums and aquariums throughout the center. They are small in nature, intended to convey basic content about the species on display—species common name and perhaps a memorable factoid. This graphic type aims for no more than 25 words of text.

How to Read the Content Manual

The **Content Manual** is the exhibit script; the permanent record of text and sources. It lists the Text, Graphics, and Artifacts that comprise the new interpretive exhibits.

Content Manual Format

In general, all left-justified lines in the Content Manual have to do with the organization or descriptions of exhibit components. This includes codes, sources, and other notes. Lines that are indented show the text that will appear on the panels.

Exhibit codes are shown in bold type and correspond to the floor plan and elevations. The exhibit codes follow each element through the production process of estimating, graphic design, CAD drawings, production, and installation. Codes are established in the concept phase and are not changed, except to correct obvious mistakes. When elements are removed in the development process, the code numbers are retained to avoid confusion and are labeled “deleted.”

Each of the exhibits is coded using an alphanumeric system: first by exhibit area, then by individual exhibit. Basic exhibit coding follows this pattern:

Area A	Use capital letter for large exhibit areas
A.1.a.1	Alternate numbers and letters and use periods to separate characters.
A.2	Major components are coded first. This keeps their codes short. “A.2” could represent a graphic panel, an interactive, or a mural in Area A.
A.2.a	Parts of the major components are given more specific codes. This code could represent the main text and header on a graphic panel, or a segment of a diorama, etc.
A.2.b	In the case of images, list the image first. Include the source and credit line.

Exhibit elements are named in italics under the codes. Paying attention to whether the element is main text, secondary text, or a caption etc. will help you recognize the varying levels of interpretation and their relative emphasis.

Sources of information are also written in italics. In the final submittal, we will include a complete bibliography.

Word count is included for all text blocks of 20 words or more. The word count is a constant reminder of the importance of keeping the text short. If it is too long, visitors will not read it. Exhibit research and anecdotal information have established that text segments should be no longer than 50 words. (See *Interpretive Master Planning* by John A. Veverka, p. 109; *Interpretation for the 21st Century* by Larry Beck and Ted Cable, p. 120.) While it is difficult to adhere to this standard in every instance, we do follow this axiom: it is better to tell a little and have some visitors actually read it, than tell a lot and have no one read it.

Headers and text, secondary text, captions, etc. These titles identify the text that will actually appear on the panels. The text itself is indented for easy reading. Titles are printed in bold and the text in normal type.

Layers of Interpretation

Although museum studies show that people do not read long text blocks, we have found that they can be enticed into reading quite a bit of information when it is presented in various formats and locations on the panel. Ideas can be included in the main text, secondary text, captions, and labels and can be illustrated with drawings, photos, and diagrams.

Information can be layered so that a visitor reading only the headlines on the panels will get a rough idea of the main interpretive message. A person choosing to read the headlines and main text blocks will go home with a more complete idea of the message, and a person reading all of the text will have a good understanding. This is sometimes called the 3-30-3 approach based on the length of time the visitor spends reading: 3 seconds, 30 seconds, or 3 minutes.

Grade Level

To ensure that exhibits are accessible to a range of visitors, SRS recommends writing exhibits at approximately a 4th grade reading level. This range will make interpretive content accessible to students (MCCB's target audience) and adults alike, keeping in mind that clear, simple language and sentence structure can still convey complex ideas and connections. Text tone will be informal and active, including questions and comparisons to visitors' everyday lives.

Style Sheet

In order to maintain accuracy and consistency in the punctuation and grammar, we generally follow the rules as established by these reference books:

Associated Press Stylebook
The New York Public Library Writer's Guide to Style and Usage
The Chicago Manual of Style
The American Heritage Dictionary

In addition, for this project we have established these specific standards:

1. Use active, conversational, and engaging language where possible, rather than passive or flat descriptions.
2. Whole numbers below 10 are spelled out and numerals are used for 10 and above. But, "five otters and 12 fish" might appear awkward and so would be written either, "5 otters and 12 fish" or "five otters and twelve fish," depending on the situation.
3. A comma is used before "and" in a series. "Otters eat fish, clams, and mussels."
4. A comma is not used after an introductory prepositional phrase unless the phrase is very long or when omitting it would cause confusion. "In 1823 the first settlers moved to this area."
5. Only one space is used between sentences.
6. All words in headlines will be capitalized except prepositions shorter than four letters.
7. Photo and art credits do not include the words "Courtesy of" or "Photo courtesy of..." The order we generally follow is: Name of artist/photographer, name of piece, name of lending institution. If the institution requests a different credit, we comply.
8. If items in a credit line are not put on separate lines, they are separated by commas. No punctuation is used at the end of the lines.
9. In general, when using a long quote with several ellipsis points (...), we will try to obtain permission to excerpt the quote without using the ellipses in order to simplify the text for the casual reader.
10. Common names of species are used instead of scientific names. When used in body text, common species are not capitalized, except proper nouns (e.g., red-tailed hawk vs. Swainson's hawk). In headlines, the names are capitalized as with all headlines.

Exhibit Components

Area A: Journey Through Time

- A.1 Welcome Panel
- A.2 Panel 1: From Sea to Carboniferous Sea
- A.3 Panel 2: Eons of Erosion
- A.4 Panel 3: Grinding Glaciers
- A.5 Panel 4: What's the Fuss About Loess?
- A.6 Panel 5: Slow Drag: Geology on a Human Time-Scale
- A.7 Human Timeline
- A.8 Center Conservation

Area B: Wildlife Wall

- B.1 Composite Photomural
- B.2 Wildlife & Habitat Panel
- B.3 Conservation Panel
- B.4 Larger Than Life Lift-Doors (3)
- B.5 Life-Cycle Spinner
- B.6 Madison County Seasons
- B.7 Bobcat [by client]
- B.8 Terrariums [by client]
- B.9 Sculpted Animals [ADD/ALT]

Area C: Oak Ecosystem

- C.1 Terrarium Tree
- C.2 Terrarium [by client]
- C.3 Tree ID Spinners
- C.4 Tree Species Graphics
- C.5 Forest Layers Reading Rail
- C.6 Decomposition Graphics

Area D: Geology

- D.1 The Devil's Backbone
- D.2 Backbone Graphic
- D.3 Madison County Foundations Graphic
- D.4 Rock Layers Roll-Out
- D.5 Tunnel Experience
- D.6 Water Graphic
- D.7 Water Roll-Out
- D.8 Glacial Drift Reading Rail
- D.9 Fire Lift-and-Drops
- D.10 Life Beneath the Surface Roll-Out
- D.11 Geopins (15)
- D.12 Soil Pod

Area E: Water as Habitat

- E.1 Water Quality

- E.2 Water as Habitat
- E.3 People and Water
- E.4 Aquariums [by client]

Area A: Journey Through Time

The Madison County Conservation visitor experience begins before the visitor lays eyes on the building. Instead, visitors will park their vehicles a distance away from the building, allowing them to leave behind their modern life as they transition into nature. To compliment this sentiment, the trail doubles as a visualization of Earth's geological time scale. Trail waysides on the walk mark geological and biological events so visitors understand the long scope of the planet's history and how the current landscape was formed.

Entering the lobby, a large graphic continues the timeline experience from outside, by zooming into the human history of Madison County and Pammel Park. As visitors orient themselves to the building and wait for their group to gather, they examine this in-depth timeline and are intrigued to learn how events on a national scale impacted life in Madison County.

Key content for this area includes:

- Geologic eras that contributed to Madison County's landscape
- Human events influencing Madison County
 - National, state, and local events
 - Changes in environment and habitat
 - Key conservation individuals

Exhibit Components

A.1 Welcome Panel

A large freestanding graphic panel welcomes visitors to the Madison County Conservation Center and introduces them to the geologic history of Madison County. The vertical graphic catches visitors' eyes as they begin to walk along a 200- to 300-foot trail (exact length TBD) from the parking lot to the center's entrance. The graphic prepares them for additional markers they'll find along the trail, which together help them understand the deep geological history of the land around them. By engaging with this content at such a distance from the main exhibit space, visitors come to understand that the geological time-scale that the content represents is unimaginably big compared to their usual frame of reference

Size: TBD

A.2 Panel 1: From Sea to Carboniferous Sea

The first stop on the Journey Through Time includes a small freestanding graphic panel, describing the geological processes at work during the Carboniferous Period (359 to 299 million years ago). This graphic could discuss alternating shallow-sea and dry-land environments of the Carboniferous Era in this region. It could explain how Madison County's bedrock—which is mostly limestone—was created through the deposition of calcium carbonate on the sea floor, much of it derived from early marine lifeforms. The panel could highlight that limestone is the primary rock type in the "backbone."

Size: TBD

A.3 Panel 2: Eons of Erosion

A freestanding graphic panel explores erosion—both by wind and water—which was the dominating geological force in Madison County for millions of years after the shallow sea finally receded and before glaciers covered the land. This panel could discuss, for example, how rivers slowly cut ravines into flat landscapes.

Size: TBD

A.4 Panel 3: Grinding Glaciers

A freestanding graphic panel helps visitors understand how glaciers re-shaped the landscape. This panel could show the maximum extent of glaciers during the Pre-Illinoian stages of the last ice age (about 2.5 million to 191,000 years ago), when glaciers last covered Madison County. Content could explain that the topography visitors see today—hills, valleys, flat plains, and ridges like the “backbone”—has been shaped mostly in the years since the retreat of the last glaciers.

Size: TBD

A.5 Panel 4: What’s the Fuss About Loess?

A freestanding graphic panel encourages visitors to think about soil—specifically loess deposits that cover bedrock in parts of Madison County as deep as 18 feet. Content focuses on the formation of loess: silt from eroding glacial till on the Missouri River flood plain, which was blown east by the prevailing winds. The panel could describe the relationship between glaciers and loess by explaining that most of Iowa’s loess was deposited during the end of the Wisconsin glaciation period, 24,500 to 14,000 years ago. This panel could also include “Did you know?” text about the German origin of the word “loess” to help visitors learn to pronounce it.

Size: TBD

A.6 Panel 5: Slow Drag: Geology on a Human Time-Scale

A final freestanding graphic panel near the center entrance helps visitors transition from the geological time-scale of the walking path to the human time-scale of the exhibits inside. Content again focuses on erosion, the primary geological process at work since the last ice age. The panel could mention that the landscape visitors see today is similar to how the first humans in the region found it about 12,000 years ago. At the same time, text could remind visitors that geologic processes like erosion continue to shape the landscape today, for example the Middle River cutting against the base of the “backbone” from both sides.

Size: TBD

A.7 Human Timeline

As visitors enter the building, they move into the era of human habitation in Madison County and the unique landscape created throughout the geological eras. In the lobby, a large, wall-mounted graphic installation gives visitors an overview of the relevant history of the region, with particular emphasis on events, trends, and individuals related to conservation and changes in the landscape.

A portion of the timeline focuses on events, at the local, state, and national level, that affected conservation efforts in Madison County. Another segment focuses on individuals key to this storyline; could include changeable graphic components so that visitors don't meet all these historic individuals at once, but a handful on each visit. A final segment of the timeline could highlight changes seen in the Madison County landscape—significant changes from prairie and oak savannah to agriculture, efforts to restore segments of the prairie, etc. These changes represent trends, rather than concrete events that took place at a specific time.

Size: TBD

Possible individuals to highlight include:

- *Judge Henry Lewis*
- *George W. Carver*
- *Pammel*
- *Aldo Leopold*
- *Ding Darling, USFWS*
- *John Lacey*
- *Sylvan Ruckel, CCC*
- *Rachel Carson*
- *Gladys Black, Red Lake, birds*
- *Henry Wallace*
- *Ed Jensen*

A.8 Center Conservation

Placed throughout the building at relevant points, small graphics draw visitor attention to the different elements of the building itself that support conservation efforts. Graphics could be placed on specific building materials, in bathrooms talking about water conservation, or near lighting to discuss electricity and where our power comes from (solar power; wind power). Exact content and locations TBD as the building is further designed and materials are selected. Anticipate 5-7 graphics total.

Size: TBD

Area B: Wildlife Wall

When you set foot in a nature preserve, what's the first thing you do? Look for the animals! While live animals are dispersed throughout the exhibit, a comprehensive graphic immerses visitors in the different ecosystems of the county and where animals live. Visitors—especially the younger ones—are eager to seek and find throughout the graphic, lift doors, push spinners, and discover the animals that call Madison County home. As visitors move from one habitat to the next, they're surprised to discover that some inset terrariums let them view snakes from the MCCB collection.

As they soak in this area's visuals, visitors are excited to get outside and try and find some of these iconic species as they explore Pammel Park and beyond.

Key content for this area includes:

- Biodiversity of Madison County
- County's species of greatest conservation needs
- Connections between animals and different habitats

B.1 Composite Photomural

Occupying a larger wall and corner in the exhibit space, a long photomural draws visitors into learning about Madison County's wildlife. The photomural is a composite of several photographs, showing key area ecosystems: rolling prairie and oak savannah, wetland marsh, meandering rivers, and timbered bluffs. As visitors move from left to right, they transition from daytime to dusk, providing an opportunity to focus interpretation on nocturnal and crepuscular animals like owls, bats, foxes, and moths. Utilizing additional photographs, animals (and even fungi!) appear throughout the photomural in their appropriate habitat.

List of animals TBD, but will include the major animal groups; could include both animals that visitors are likely to see in Pammel Park and Madison County as well as those that are less common.

The detailed nature of this component could be used for a seek-and-find activity, whether built into the photomural itself or as a staff- or handout-led activity.

Size: TBD

B.2 Wildlife & Habitat Panel

An organically-shaped graphic panel mounted atop the B.1 Composite Photomural helps visitors connect to the content of the image. An attention-grabbing headline draws visitors in, while brief, high-level text reminds visitors of Madison County's biodiversity and encourages them to look for animals during their visit to Pammel Park. Additional text introduces visitors to the foundational idea that they'll see different animals in different ecosystems because animals have adapted to specific habitats.

Size: TBD

B.3 Conservation Panel

A second organically-shaped panel mounted atop the B.1 Composite Photomural explains the importance of conservation when it comes to the county's wildlife. Text explains what species of greatest conservation need in the state, and which of those species can be found in Madison County. Text could tell visitors to look for a specific icon throughout the Wildlife Wall (and other components in the exhibit if relevant), calling out the Indiana bat, timber rattlesnake, meadowlark, and Pleistocene snail. Complete list TBD.

Size: TBD

B.4 Larger Than Life Lift-Doors (3)

Most visitors probably don't think about all the tiny insects and organisms that surround us, but here they get a chance to see these creatures larger than life! Using a series of lift-doors, visitors reveal magnified insects or other organisms (list TBD), giving the illusion that they're looking through a magnifying glass or microscope. On the front of the lift-door, visitors could see the insect at full-scale or the graphic could include a brief prompt encouraging visitors to look underneath.

B.5 Life-Cycle Spinner

Adding further interactivity to the Wildlife Wall, a spinning graphic gives visitors another tactile experience. Placed low enough on the wall for the center's younger visitors, this spinner lines up with the riparian habitat depicted in the B.1 Composite Photomural. As visitors spin the graphic, they reveal different stages in the amphibian life-cycle, showing how they move between different environments depending on stage in the life-cycle.

B.6 Madison County Seasons

A portion of the Wildlife Wall is backed with steel, transforming it into a magnet wall for visitors. A small cubby (off-the-shelf) houses magnets depicting plants and animals found in Madison County. Magnets could be seasonal, showing different flora and fauna (or flora and fauna with seasonal coloring) for the appropriate time of year. Visitors could be encouraged to place magnets on the wall representing the plants and animals they saw during their visit to Pammel Park. Current budget assumes 40 small magnets total (10 per season).

B.7 Bobcat [by client]

An existing bobcat mount provides a surprise for visitors who look up from the Wildlife Wall. The bobcat could rest atop the wall or on a small shelf protruding from the B.1 Composite Photomural. This placement not only provides a seek-and-find experience for visitors, but protects the taxidermy from visitors and touching, ensuring its longevity. Taxidermy mount provided by MCCB.

B.8 Terrariums [by client]

Two terrariums rest on shelves with a lip built into the wall. The terrariums are intended to house reptiles from MCCB's collections; the terrariums are accessible from the front for maintenance and care. Terrariums and animals by MCCB.

Includes two tank labels, mounted to the top of the B.1 Composite Photomural, allowing MCCB staff to change out the labels as the animals on display change. Tank labels by SRS.

B.9 Sculpted Animals [ADD/ALT]

Future expansion of this area could include sculpted, touchable animals placed in the appropriate habitat. Shelves could be mounted to the wall to house the animals, providing additional dimensionality to the Wildlife Wall. Animal species TBD, but likely could include songbirds or small mammals like racoons or rabbits.

Area C: Oak Ecosystem

Oaks as a group are emblematic of Iowa, and there is no better place in the state to experience oaks than Madison County. Pammel Park is home to many of Iowa's oak species, and even boasts the oldest individual oak in Iowa! This area of the exhibit teaches visitors about the ecological role of oaks in Madison County, highlighting oaks as a key feature in a variety of landcovers and tree species—from woodlands to oak savannah to wetland.

Approaching the tree island in the building, visitors are engaged in learning about the various ways of interpreting the trees they see outside on a daily basis. Using graphic spinners and opening graphic doors, visitors are engaged in active discovery that relates directly to their outdoor experiences.

Key content for this area includes:

- Identifying iconic Madison County trees
- Different layers of a forest
- How material is decomposed within a woodland

C.1 Terrarium Tree

Visitors are drawn to a fabricated tree, made to look like a snag or other fallen tree. This tree serves two purposes: it disguises a building column and houses the C.2 Terrarium to introduce visitors to treefrogs. The tree also signals to visitors that the entire component is focused on trees and forests in Madison County. Tree species TBD.

The fabricated tree includes space for a tank label, so visitors can learn about the treefrogs on display, as well as a lockable housing for the C.2 Terrarium that gives staff easy access for maintenance and care.

C.2 Terrarium [by client]

A small terrarium rests inside the C.1 Terrarium Tree, housing animals from MCCB's collections. This terrarium is intended to introduce visitors to Copes grey treefrogs (Rexy and Eddie). Terrarium and animals by MCCB. Current design allows for a 12" x 12" x 12" terrarium.

C.3 Tree ID Spinners

As visitors explore Pammel Park and Madison County, they'll encounter many types of trees—but most visitors won't be skilled at identifying which trees are which species. This interactive gives visitors the base knowledge they'll need to identify key species in the park, helping them see the world around them in a different way after visiting the exhibits.

Five barrel spinners focus visitors' attention on different elements involved in identifying trees: bark, leaf shape, leaf structure, tree shape, and fruit/berries. Each barrel is focused on a different element, while graphics wrapping the barrel showcase that element for a different species. Species

are color coded so that visitors can line up all the identifying elements of a single tree; for example, visitors can match oak bark with its leaf shape, leaf structure, tree shape, and fruit/berries. The component includes space for five different tree species; exact list TBD. Could include oak, walnut, and shagbark hickory, in addition to others.

C.4 Tree Species Graphics (5)

Above the C.3 Tree ID Spinners, a series of circular graphics give visitors insight into what's unique about the five tree species featured on the interactive. The graphic about oak trees, for example, could alert visitors to the fact that the oldest oak tree in Iowa is in Pammel Park. These quick, bite-sized pieces of information enhance visitors' understanding of the role these trees play in the park, county, and state.

Size: TBD

C.5 Forest Layers Reading Rail

While the first side of the tree component focuses on identifying different types of trees, the other immerses visitors in the forests of Madison County. What are the different layers of a forest? How do they work together to support a healthy ecosystem? What plants grow at different levels? A reading rail addresses these key questions, reminding visitors that trees aren't the only thing that grows in a forest and encouraging them to look for fungi and diverse plants when they explore outdoors.

Size: TBD

C.6 Decomposition Graphics (5)

Above the C.5 Forest Layers Reading Rail and opposite the C.4 Tree Species Graphics, a series of small circular graphics helps visitors understand the process of decomposition as it takes place in a forest. Each graphic has a hinged front, revealing a step in the process or what role that plant/animal/organism plays.

Size: TBD

Area D: Geology

There are two major features of Madison County and the Southern Iowa Drift Plain: rock and soil. But each is packed with more history and mystery than meets the eye. As visitors enter the building, they're struck by a large freestanding island in the space—they're eager to get close and explore. They're in luck, as this large component is touchable and interactive, encouraging visitors to discover this intriguing geologic and environmental history.

Through a variety of components, visitors learn the many factors that have contributed to Madison County's unique geological makeup by taking a trip through time and space, over sea and air, and getting up-close and personal with the area's soils and sediments.

Key content for this area includes:

- Rock layers; bedrock, limestone, fossils, and creation of the Backbone
- Water's impact on the landscape
- Glacial drift: what it is, where it is, and how it got here
- Loess soil: what is it, why it's special, and where in the county it wound up
- Human impacts on the landscape; the tunnel and ford, controlled burns

D.1 The Devil's Backbone

The central structure of the visitor center represents the Devil's Backbone topographically. The 3D map is touchable, encouraging visitors to explore with multiple senses, but the structure is designed to discourage climbing. Throughout the base, local materials and rocks are integrated into the structure, giving visitors an even stronger tie to nature. These natural materials blur into a photomural of Madison County limestone, extending the visual effect of the rock work.

Interactives and graphics are integrated into this structure, giving visitors an immersive, 360-degree experience of the area's geology and how it relates to the county's plants, animals, waters, and people. The map and structure also include a color change for the areas of Pammel Park, calling attention to this area for visitors.

D.2 Backbone Graphic

A horizontal graphic on the front side of D.1 The Devil's Backbone orients visitors to both the visitor center and the large component in front of them. Engaging text reminds visitors that the geology of the area is the foundation upon which all life has been built—from soils to plants to animals to people. Text encourages visitors to explore the area and find connections between these key elements of an ecosystem and discover ways they can experience—and conserve—the area's unique natural resources.

Size: TBD

D.3 Madison County Foundations Graphic

Though visitors likely experienced Area A: Journey Through Time and may have some idea that geologic processes shaped the region's landscape, this area dives into geology more deeply. A

horizontal graphic mounted to D.1 *The Devil's Backbone* introduces visitors to the concept that what's beneath our feet is as important as what's visible! Interpretive text encourages visitors to use the D.4 *Rock Layers Roll-Out* to get a below-the-surface look at Madison County.

Size: TBD

D.4 Rock Layers Roll-Out

Visitors use a Geopin-shaped handle to roll out a section of D.1 *The Devil's Backbone*. Each side of the roll-out provides an engaging experience about the foundations of Madison County. On one side, an art fab cross-section shows the transition from one rock formation to the next, all the way up to ground level with dirt and mud.

The other side features an interpretive graphic; the graphic could address how limestone is formed with an infographic of sorts showing the deposition and compression of aquatic life forms. The graphic could then encourage visitors to seek out fossils of these same creatures in the rock applied to the base of D.1 *The Devil's Backbone*. Because the roll-out component is at a relatively low height, text for both sides will need to be kept to a minimum.

D.5 Tunnel Experience

The Harmon Tunnel is a distinctive feature of the area and Pammel State Park. Dug in the 1850s to complete a waterway to provide water power to a mill, the tunnel cuts directly underneath the *Devil's Backbone*. At the MCC Center, visitors get the chance to crawl through this iconic tunnel, while an interpretive graphic mounted to the top of D.1 *The Devil's Backbone* introduces visitors to the story of how and why it was built. A surprise awaits visitors who enter the tunnel—a rattlesnake inset into the tunnel reminds visitors that this is key rattlesnake habitat! The entrance to the tunnel on each side is surrounded by natural rock material attached to the face of D.1 *The Devil's Backbone* (rockwork by stone mason, not in SRS scope).

D.6 Water Graphic

A horizontal graphic reminds visitors that water has had a significant impact on Madison County—the landscape, plants and animals, and people. Standing on a lazy river running under one of Madison County's famous bridges, most folks wouldn't think of water as a powerful force that shaped Iowa's Southern Drift Plain into the unique area it is today. Through this graphic and accompanying D.6 *Water Pull-Out*, visitors will experience the transformative effects water has had on this area, connecting ancient oceans and early animals to the mighty rockfaces of the *Devil's Backbone* and massive glacial melts to the rich river ecosystems of today. Panel content focuses on water's role in creating this landscape, including the melting of the Des Moines Lobe and the role of water in settling glacial drift, as well rivers eroding the landscape and exposing bedrock.

Size: TBD

D.7 Water Roll-Out

To actively engage visitors in learning about the interactions between water and rock, a roll-out segment of D.1 *The Devil's Backbone* provides additional insight for visitors. On the face of the roll-out, a stand-off Geopin acts as the handle for the component.

One side of the roll-out could feature an art-fabricated cross-section showing how water moves through layers of limestone, eventually reaching aquifers deep underground. The other side includes graphics describing how water continues to impact our landscape today through flooding, eroding river banks, and carving new river channels. This interactive is placed adjacent to Area E: Water as Habitat to help visitors make connections between water as part of the landscape to water as habitat.

D.8 Glacial Drift Reading Rail

A long reading rail along the backside of D.1 The Devil's Backbone provides ample space to interpret the role of glacial drift in the county's geologic, environmental, and human history. The large graphic provides space to explain how the presence (and absence) of glaciers formed the landscape, why glacial drift is key to the area, and how the presence of glacial drift and loess influenced human activities like farming. The graphic could also include more interpretation of the region's limestone, in recognition of a significant project donor.

The reading rail serves another more pragmatic function: it prevents visitors from climbing onto the back of D.1 The Devil's Backbone.

Size: TBD

D.9 Fire Lift-and-Drops (3)

Tying to the Area C: Oak Ecosystems content, this series of lift-and-drops introduces visitors to the key role that fire plays in maintaining oak savannah landscapes. A brief interpretive graphic describes how fire keeps the area clear and that many species are adapted to low-intensity fires. The lift-and-drops then show visitors the process of recovery after a fire—how plants regrow over time; alternatively, the lift-and-drops could show 1) before the fire, overgrown; 2) right after the fire, cleared out; 3) recovery after fire, regrowth but not yet overgrown again.

Size: TBD

D.10 Life Beneath the Surface Roll-Out

While visitors have learned that the rocks under our feet play a role in our landscape and ecosystems, they're less familiar with the idea that animals and other organisms actually live beneath the surface! In this roll-out interactive, visitors are immersed in this living world below ground. An interpretive graphic mounted to the top of D.1 The Devil's Backbone describes the importance of these subterranean creatures, while the roll-out itself provides more in-depth information. One side of the roll-out includes an art-fabricated cross-section of below ground; could be life-size or magnified earthworms, insects, and even a small mammal like a mole. The other side includes text and illustrations explaining how these living things survive underground, while still impacting our lives up-top!

D.11 Geopins (15)

Geopins placed throughout the topographic map highlight significant locations for visitors. The graphics are oversized map pins, referencing a popular and familiar icon for visitors. The Geopins

could be color coded, referencing sites for viewing wildlife, visiting historical sites, or observing geological features along the Backbone, both within Pammel Park and other spaces.

List of Geopins to be further developed in conjunction with MCCB; the current estimate assumes 15 locations. Possible sites include:

- Bird blinds
- MCC Center
- The historic mill site
- The tunnel
- The ford
- Park yurts
- Oldest oak trees in Iowa
- Rock outcroppings

D.12 Soil Pod

Most visitors don't think about soil on a regular basis, but after exploring D.1 The Devil's Backbone and understanding how geology underpins all our activities, they'll have a new appreciation for dirt! This freestanding component taps into that interest and gives visitors additional insight into the connections between soil, plants, and conservation.

One side of the soil pod focuses on the region's soil—what defines it and how the plants that grow here can actually help protect and replenish this resource. Referencing native prairie grasses, a hand-crank interactive gives visitors the chance to see just how deep these roots go—and how they help bind the soil to prevent erosion. Visitors turn a crank, raising up a prairie plant and exposing its roots beneath.

The other side of the pod focuses on contemporary soil conservation efforts—and why those practices are so important. Visitors learn that it takes 500 years to produce one inch of soil, but that we depend on this soil for the vast majority of our food! Interpretive text and images introduce visitors to the role that farmers can play in conservation and that their large footprint on the landscape actually means they're poised to have a significant impact. By combining agriculture and conservation, this component helps bridge the gap between the MCCB and the area's farming economy.

Area E: Water as Habitat

Visitors are excited as they approach the back corner of the exhibit space—this area is teeming with aquariums and live animals! As visitors get closer to observe the aquatic species native to Madison County, they're drawn into simple interactives about cause-and-effect outcomes of water quality and the biodiversity of the area. Visitors come to appreciate that water—just like oak savannah and woodlands—is habitat for Madison County's plants and animals.

Key content for this area includes:

- What affects water quality? What water quality do plants and animals require?
- Water as habitat for diverse species; which aquatic and riparian species live in Madison County?
- What role do humans play? How can we impact water quality—for good and bad?

E.1 Water Quality

A long, freestanding structure supports an aquarium and interpretive graphics. If visitors look closely at the structure in profile, they'll recognize the shape of the Ford in Pammel Park. The structure could include lockable doors for storage below the aquarium.

This component is focused on water quality—a reading rail with lift-doors engages visitors in understanding how sediment and temperature can affect water quality and habitat for plants and animals. A small tank label next to the aquarium lets visitors know what animals are on display; the label can be removed and replaced if and when the animal in the tank changes.

E.2 Water as Habitat

What animals make their homes in Madison County's waters? At this freestanding tank structure, visitors can discover what fish and amphibians they're likely to see as they explore outdoors. Reading rail graphics emphasize the biodiversity beneath the water's surface and how a range of animals rely on the region's streams and rivers for survival. A flipbook focuses attention on specific species (whether species of greatest conservation need or species visitors are most likely to see), letting visitors dig deeper into the county's biodiversity if they're interested.

The structure holds three aquariums with various frogs, salamanders, and turtles, accompanied by small, changeable tank labels. Like the E.1 Water Quality structure, this piece could include lockable doors for storage below the tanks.

E.3 People and Water

Visitors are drawn to a monstrous aquarium along the back wall of the exhibits. The tank is built into the wall, leaving wall space for interpretive materials. A wall-mounted graphic panel explains the relationship between people and water and highlights how humans can have both positive and negative impacts on water quality (and, as a result, habitat for wildlife). The panel could introduce the topic of low head dams and/or fisheries and their effect on water quality. A small changeable tank label is also mounted to the wall, letting visitors know which animals are in the tank.

E.4 Aquariums [by client]

Four smaller tanks resting on the E.1 Water Quality and E.2 Water as Habitat structures house animals from MCCB's collections. A larger tank is inset into the wall framing the classroom space; access to the tank for maintenance is built into the classroom side. The aeration filter system for the large tank could be constructed to resemble the Ford at Pammel Park, tying together visitors' understanding of low head dams and the impact of people on water quality. All tanks and animals by MCCB. Animals could include frogs, salamanders, and turtles.
