INTRODUCTION

PURPOSE

The Design Team for this update to the Campus Master Plan was assembled by the campus leadership to analyze the existing Master Plan, and provide an update to the document to reflect changes in our world and our campus. The updated Campus Master Plan represents the first phase of work on campus development that will help ensure that the overall mission of South Dakota Mines remains the same. The updated Campus Master Plan will inform the long-term strategic development of the campus and provide an update to the document in order to support major decisions on campus for the next decade. The ultimate direction of the updated Campus Master Plan is to provide a realistic, achievable, actionable plan for campus development over the next ten years while keeping the end goals of supporting the unique needs of our students and the unique potential of our campus.

Through a process of Listen, Discover, Design, the design team sought to understand the underlying potential behind this campus in order to support the University’s unique needs and goals. The design team worked closely with the steering committee to develop realistic and actionable plans for the near-term development of the campus, and then to provide an overall direction that will support the goals and initiatives meant to unleash that potential. We identified several key areas of focus: programming, community, and then the physical environment. The next phase of master planning for this campus will include plans to leverage the existing Master Plan to develop a more comprehensive strategy for the campus.

D E S I G N S Y N C H R O N I C I T Y

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EXECUTIVE SUMMARY

- World-class, innovative engineering and science buildings with a pristine exterior and arrangement around the world.
- Campus community engaged in research problem-solving with strong connections between students and faculty.
- Innovative research facilities that attract world-class researchers, including an advanced laboratory facility, advanced interdisciplinary science, engineering research building, and advanced computing research facility.
- Strongly ties the community by encouraging growth to the campus.
- Prominent campus building as the gateway to the campus while also clearly communicating the values of the university to the public.
- Facilitates opportunities within the existing campus core build and expand the opportunities that are already established.

GUIDING PRINCIPLES

• Provide top-notch research facilities that showcase the world-class technology school.
• Reinforce the Values of the Campus Community
• Engage the City
• Define the Gateway/Front Door

LAND-SCAPING AND THE PUBLIC-SPACE

- Design, plan, and construct a comprehensive landscape plan for the campus.
- Line streets and promote walkability in the campus.
- Improve accessability campus-wide.
- Create a cohesive, inviting, and welcoming urban setting.
- Create a sense of place for the campus that can be used as a living classroom of environmental design strategies.
- Work with neighboring institutions and senior officials to achieve a goal of making the campus a part of the community.
- Strengthen connections to existing City blacktopped paths.

REFERENCES AND PROJECTED COMPLETION

- Research and Development Center: 2023
- Student Union Construction: 2023
- Residence Hall Construction: 2023
- Engineering School: 2023
- Science Building: 2023
- Precast Bridge: 2023
- Flumes for additional water availability
- Academic Programs Experience: 2023
- Welcome Center Expansion: 2023
- Building and library to add more to the campus
- Design for student performances as well as good speakers and performers.
- Long Road Extension:
- Renovation of existing buildings at City Hall:
- Visitors will be on the site to provide outside public experience on City Street.

*Estimated costs in the site report completed in 2019.
LISTEN | GROUP LISTENING SESSIONS

While it may appear obvious, taking the time to really listen to you is our first step.
What is your philosophy of pedagogy?
What does active learning mean to you?
How do you facilitate creativity and new ideas?
How does that impact indoor spaces as well as the campus?
What are your growth and space needs projections?
How can we best illustrate Hardrocker values in your places, landscaping, signage, facilities and campus access?
What does a "one stop shop" look like to you?
What makes a "front door" distinct?
We want to hear you and your constituents weigh in on these questions. Most importantly, we want to clarify your objectives.
ATHLETICS

Please define the unique identity of the South Dakota School of Mines and Technology (SDSMT) in a way that captures the essence of what makes it special and distinctive from other institutions. SDSMT is a unique community that is best described as a small, technologically focused institution with a strong sense of community and tradition. SDSMT is known for being hard-working, small-scale, and student-focused. SDSMT is a place where students are passionate about their studies and excited about being a part of a community that values hard work and dedication.

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COMMUNITY
Please define the uniqueness of the South Dakota School of Mines and Technology and what it means to be a Hardrocker.

How can the most positive aspects of the campus be further enhanced?

What are the challenges and problems on campus that can be improved upon?

STUDENTS
Please define the uniqueness of the South Dakota School of Mines and Technology and what it means to be a Hardrocker.

How can the most positive aspects of the campus be further enhanced?

What are the challenges and problems on campus that can be improved upon?

What do other campuses do well that you would like to see incorporated into the SOUTD campus?
EXECUTIVE SUMMARY

Please define the unique identity of the South Dakota School of Mines and Technology and what it means to be a Hardrocker.

- Hardrockers are innovative, creative students who are mission-driven and resourceful, and highly valued by employers.
- The small campus gives the University a more residential feel. Visitors comment about how impressive it is to see students using spaces for studying, especially at Upper Surbeck Center.
- Campus landmarks could be reinforced. The Arch, Grubby Statue, Unique topography could accommodate walking paths and bike trails in a way most campuses cannot.

How can the most positive aspects of the campus be further enhanced?

- Small campus and tight-knit community are the most sacred and valuable things.
- Need more spaces that allow for collaboration across disciplines. Current opportunities, like CAMP, require students to seek out these opportunities.
- Need to find ways to put more technology on display; the technology should reflect the great things students are doing here.

What are the challenges and problems on campus that can be improved upon?

- The library is the space with the most potential, could recreate what is already working well at Upper Surbeck Center. Need food, 24-hour access, better lighting, and a variety of spaces that can serve many student needs.
- Parking on St. Joseph Street is not a good front-door, need to do something to screen and create a more positive face for campus.

What do other campuses do well that you would like to see incorporated into the SDSMT campus?

- Other campuses have more capacity to host larger public events. Performances, lectures, science fairs, career fairs, etc.
- Create an identity at the front door of campus and throughout community through consistent and cohesive branding. Black Hills State, SDSU, Creighton all do this well.

What is your vision for the future look and feel of the SDSMT campus?

- Value tradition and historical components of the University while also forging a more futuristic and innovative aesthetic.
- Branding needs to be more clear and cohesive.

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What are the challenges and problems on campus that can be improved upon?

- Accessibility challenges on campus, especially behind O’Harra Building.
- Current spaces are prohibitive to updating educational pedagogy. There are not enough active learning spaces on campus, and certainly not enough technology that reflects the great things students are doing here.
- Need more multi-disciplinary research spaces, as opposed to current departmental, siloed research spaces. Faculty would like to collaborate with other disciplines and other schools to take on multi-faceted projects.

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- There are only a few Schools of Mines in the country, so that aspect needs to be enhanced.
- This is a geek school, not a party school. We have high standards and expect excellence, but we also have fun tackling challenges and solving problems.
- You have to come into this experience already knowing that this is what you want to do. This isn’t somewhere that people come to find themselves.

How can the most positive aspects of the campus be further enhanced?

- Large enough to represent almost every interest through student organizations, but small enough that students feel like they are part of a tightly-knit community.
- The unique geology of the area is on display right on campus.
- SDSMT is the closest school to Sanford Lab that offers PhD programs. Need to enhance collaboration with the programs there in all fields.
- Students do the same kinds of work here that they’ll do when they graduate; everyone knows what to expect.

What is your vision for the future look and feel of the SDSMT campus?

- Blend old-style historical buildings and futuristic tech aesthetic.
**Executive Summary**

**Key Decisions:**

- **Front Door/Gateways**
  - Reclaim St. Joseph Street for the pedestrian
  - Create a campus town atmosphere
  - Set aspirational goals for campus growth rather than artificially limiting expansion to the West

- **One-Stop Shop and Admissions**
  - Co-locate financial aid, cashier, and the registrar for a more efficient student experience
  - Move admissions out of O’Harra to the front door of campus

- **Parking**
  - Relocate parking to the perimeter of campus
  - Create a more positive pedestrian experience along major axes

- **Surbeck Center and Library**
  - Redefine the paradigm for two prominent buildings on campus
  - Library: prioritize academic services and student success
    - Provide active learning spaces and collaborative study spaces
    - Needs food to draw students here
  - Surbeck Center: prioritize community-building services
    - Dining hall
    - Student organizations
    - Events and conferences

- **Research**
  - Phase 1: Need to bring major research facilities, CAPE, AMP, and Direct Write labs on St. Patrick Street, on campus in order to encourage and facilitate inter-departmental collaboration through research
  - Current Ascent Innovation building on campus would be a great location
  - Phase 2: 40,000-50,000sf Advanced Materials and Manufacturing lab
  - Expand CAMP to improve access to this unique student program

- **Academic Space Needs**
  - Mineral Industries needs major renovation or a new building

**Steering Committee**
After listening, we collect, review and analyze your input and existing conditions on your campus. This analysis facilitates discovery of unique opportunities inherent to you and your project. By drilling down and challenging assumptions, we discover what your true needs are and use them for design.

One of the ultimate goals of this master plan is to enhance the pedestrian experience on the campus by increasing the extent to which the public realm permeates every corner of the built environment.

In 1748, Italian Architect and Surveyor Giambattista Nolli completed a 12 year survey of the ‘Eternal City,’ and published one of the most influential maps in history. The map is presented as a figure-ground map, representing the buildings in black and the streets and plazas in white, as earlier maps of Rome had also done; however, Nolli chose to represent the public space within buildings in the same manner as the public plazas outside, and forever questioned the way architects and urban planners interpret urban spaces. This is not a map for carts or horses (or cars); it is a map for pedestrians, which illustrates the way that people experience and interact with the city. Urban planners continue to emulate Nolli plans to this day, in order to evaluate and understand the extent to which the public realm permeates the built environment on cities and campuses around the world.

The design team employed a Nolli Plan of the School of Mines as a tool to help study and evaluate the relationships between the major exterior places and the primary interior public spaces on campus. Our suggested interventions build off of the relationships identified, in order to further enhance the public realm of the campus.

DISCOVER | IDENTIFYING CORE VALUES AND NEEDS
INITIAL DECISIONS: BUILDINGS

- Match needs to opportunities
- Future Expansion
- Building L
- Research Expansion
- Current Ascent building
- Expansion at Building I
- Mineral Industries
- Buildings E, G, or K

INITIAL DECISIONS: TRAFFIC

CIRCULATION AND PARKING

- Relocate parking to perimeter
- Relocate parking East of Surbeck
- Reconfigure Parking South of Peterson
- Identify opportunities for parking
- Double parking at King Center
- Expand parking at Day Care site
- Expand parking in the Gap

IMPROVE PEDESTRIAN EXPERIENCE AND THE PUBLIC REALM

- Reinforce existing critical pedestrian axes and establish new circulation paths
- Provide contiguous interior/exterior transition spaces
- Enhance the character of public spaces
- Establish landscape standards
EXECUTIVE SUMMARY

Building Cost: $22.5 - 26.5 million

Loop, some additional cost considerations due to vibration

Will be some public private shared costs associated with the upgrades

Timing is dependent on city's pedestrian friendly re-design of St. Joseph Street

Vibrations from railroad affecting sensitive lab equipment - need to relocate existing physics lab

Off-campus utilities or significant investment connecting to campus

May require a stoplight or stop sign to support pedestrian crossing; or increased cost for a pedestrian tunnel

Potential living laboratory to research "complete streets/ green streets"

Stormwater management of Main and St. Joseph Street (Image: Complete streets)

Could catalyse a more "complete streets" and "green streets" approach to safe walkability of Main Street and downtown Rapid City

Aligns with Urban Commercial Zoning; i.e. setbacks.

Foundation as Owner

Potentially a catalyst for city buy-in regarding future traffic calming strategies on St. Joseph Street

Great access to public transportation

Creates "College Town by engaging St. Joseph Street and downtown Rapid City

Extends campus into public realm; consistent with Ascent Innovation Center theory of connecting campus that will leave a lasting impression

LISTEN

CAMPUS MASTER PLAN | UPDATE 2023

DESIGN22

Site Suitability Consider as potential location for Mineral Industries

Cost Additional cost considerations of increased maintenance and increased utility costs if not on the campus

Disadvantages Must cross St. Joseph Street

Advantages Creates gateway to campus and provides an opportunity to showcase innovative green building strategies

Adjacencies Housing, Transportation, Innovation District, Railroad

Size 3.5 acres total (Buildings A&B), could accommodate up to 106,000 sf and 250 parking spaces

Site Designation Building A

Building Cost: $13 - 17 million

Departments will be in multiple areas

Will be some public private shared costs associated with the upgrades

Vibrations from railroad affecting sensitive lab equipment - need to relocate existing physics lab

Off-campus utilities or significant investment connecting to campus

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Site Suitability Welcome Center, Admissions, Building Community among students: Dining, Events, Student Organizations

Cost Some additional cost considerations due to utilities, vibration

Disadvantages Site is too constrained to accommodate a suitable Event Space

Advantages Enhances Surbeck Center as a resource for students and community

Adjacencies Campus Edge, Housing, Student Services, Quad, Parking

Size Approximately 25,000sf addition to existing Surbeck Center

Site Designation Building C

Building Cost: $6.8 - 7.8 million

Landscape/ Site Costs: $403,000.00

No electrical extension costs - power is already here

Project has been designed and awaiting funding

The use of virtual reality (online photo) Use of passive space. (online photo)

Advantages Tie into main campus utility loop (200')

Adjacencies Campus Edge, Student Services, Railroad, Quad

Building Cost: $12.4 - 14.75 million

Reduces Surbeck Parking—must be phased with other projects to increase parking elsewhere

Block views into campus?

Has both active and passive space for campus life and social interaction; a significant landscape for the University. This area could be used for outdoor classroom outdoor learning

Great access to public transportation and parking

St. Joseph St.

Site Suitability

Cost Landscape/ Site Costs: $514,000.00

Disadvantages Railroad – must make considerations for sensitive equipment/sound

Advantages Railroad – must make considerations for sensitive equipment/sound

Building Cost: $990,000.00

LISTEN
**EXECUTIVE SUMMARY**

**Site Designation Building F**
- Size: Could accommodate a 3 story building with approx. 20,000sf footprint
- Adjacencies: Campus Core, Administration, Academics, Quad
- Advantages:
  - Reinforces major pedestrian axes
  - Potential to enhance the character of the Quad with a new façade
  - Science on Display opportunity: Lobby on axis with Quad and O’Harra
  - Adding to the density and vitality of the central core of campus
  - Screens vehicles on Technology Court
- Disadvantages:
  - Block views of O’Harra, reconfigures Quad
  - Negative Impact on greenspace/open space
- Cost:
  - Landscape/Site Costs: $258,000.00
  - Building Cost: $18 - 21 million
- Site Suitability:
  - Site was originally not slated for the next 10 years but the Mineral Industries building costs came in too high at location K. This site was reevaluated and determined to be the best and only option for the Mineral Industries building.

**Site Designation Building H**
- Size: 2 story building with 30,000 sf footprint
- Adjacencies: Parking, Athletics, Research
- Advantages:
  - Adjacencies
- Disadvantages:
  - Far from existing campus utility loop (1000’)
  - Poor soils, significant structural issues, considerable grade changes to consider in site planning
- Cost:
  - Some additional cost considerations due to disadvantages listed above
  - Landscape/Site Costs: $875,000.00
  - Building Cost: $12 - 15 million
- Site Suitability:
  - Not in 10 year plan; great for additional research expansion or athletics due to adjacencies

**Site Designation Building G**
- Size: Currently 75 parking stalls
  - Could accommodate a 3-4 story building with approx. 30,000sf footprint
- Adjacencies: Parking, Athletics, Academics, Research
- Advantages:
  - Enhance Campus connection to athletics
  - Adjacency to vehicular circulation and parking
- Disadvantages:
  - Far from existing campus utility loop (300’)
  - Poor soils, significant structural issues
- Cost:
  - Some additional cost considerations due to disadvantages listed above
  - Landscape/Site Costs: $289,000.00
  - Building Cost: $27 - 31.5 million
- Site Suitability:
  - Not in 10 year plan

**Site Designation Building E**
- Size: Could accommodate a 3 story building with approx. 35,000sf footprint
- Adjacencies: Campus Edge, Student Services, Railroad, CEBEC, Quad, Parking
- Advantages:
  - Great access to main campus utility loop
  - Establish front façade/face of campus by reinforcing the street edge
  - Great access to public transportation
  - SDSMT owns the land
  - Open Lobby: Science on Display, reinforcing East-West Axis through campus
  - Gateway facility to showcase visibility and representation to campus
  - Possible physical connection to CBEC could enhance collaboration between departments
- Disadvantages:
  - Railroad – must make considerations for sensitive equipment/sound
  - Existing building on site – Staging of existing spaces and Demolition of existing structure
  - Noise from street will impact space
- Cost:
  - Additional cost considerations due to demolition of existing structure
  - Landscape/Site Costs: $546,000.00
  - Building Cost: $31.5 - 36.75 million
- Site Suitability:
  - Perfect site for future expansion of CBEC and Biomedical Engineering
  - Not in 10 year plan
**Site Designation Building J**

- **Size:** Could accommodate a 3-story building with approx. 20,000sf-25,000sf footprint.

**Adjacencies:** Administration, Academics, Parking, Major Pedestrian Routes.

**Advantages:** Near existing campus utility loop.

**Disadvantages:** Existing buildings on site.

**Cost:**
- Upgrade electrical: $30,000.00
- Landscape/Site Costs: $317,000.00
- Building Cost: $22.5 - 26.25 million

**Site Suitability:** Plan is to maintain Music Building for at least 10 years.

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**Site Designation Building K**

- **Size:** Could accommodate a three-story building with a footprint of approx. 25,000sf.

**Adjacencies:** Administration, Parking, Academics, Athletics.

**Advantages:**
- Near (200') existing main campus utility loop.
- Allows for staging for relocating existing spaces.
- Relatively far from train tracks.
- Potential to reinforce existing pedestrian axes on campus.
- Solves challenge of icy exterior stairs in winter.
- Close to Paleontology and Geology Museum.
- Relocate changes in grade to interior of building.
- Reinforce pedestrian routes with interior spaces.

**Disadvantages:** Site is very tight.

**Cost:**
- Extension of electrical: $50,000.00
- Landscape/Site Costs: $435,000.00
- Building Cost: $22.5 - 26.25 million

**Site Suitability:** Recommended site for Mineral Industries building.

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**Site Designation Building L**

- **Size:** 12,000 to 15,000sf addition to existing Civil Engineering building.

**Adjacencies:** Parking, Civil Engineering, Machine Shops.

**Advantages:**
- Retain existing synergies with CAMP and related fabrication spaces.
- Enhance north façade of Civil Engineering.
- Potential for Outdoor Classroom Space to North as part of campus parking/pedestrian/greenspace.
- Utilize roof space for further research/development of green roofs, solar, etc. Potential patio/gathering area for outdoor classroom (learning in nature).

**Disadvantages:**
- Limited Space.
- Maze-like building.
- Loss of parking.

**Cost:**
- Electrical: No extension costs - power is already here.
- Landscape/Site Costs: $576,000.00
- Building Cost: $4.5 - 5.0 million

**Site Suitability:** Future Expansion within 10 year plan.

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**Site Designation Building I**

- **Size:** 3-story addition with 18,750sf footprint.

**Adjacencies:** Parking, Research, Academics.

**Advantages:**
- Could tie in to existing campus utility loop (200').
- Potential green roof location due to roof being visible from above.

**Disadvantages:** Eliminates some parking (-33 stalls).
- Impacts stormwater storage area and natural space.

**Cost:**
- Additional cost considerations due to demolition of existing structure.
- Landscape/Site Costs: $679,000.00
- Building Cost: $14 - 16.8 million

**Site Suitability:** Expand Research in 10 year plan.

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**Green roof on top of Ford truck plant. Rapid City Regional and SD Mines green roof project.**
**Site Designation P. 1**

**Size**
- Currently 1.5 acres

**Adjacencies**
- Major roadways, transit, Surbeck

**Advantages**
- Perceived as a campus gateway, familiarity
- Adjacent to admin/student services

**Disadvantages**
- Requires buffering

**Cost**
- Landscape/Site Costs: $691,000.00

**Site Suitability**
- Eliminate 100 parking stalls leaving 136 remaining

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**Site Designation P. 3**

**Size**
- Identify strategic locations for parking along Technology Ct.

**Adjacencies**
- Academics

**Advantages**
- Increases parking for core campus buildings
- Potential area for use of pavers

**Disadvantages**
- Right of Way is narrow, confined, leaves little buffer between parking and adjacent structure

**Cost**
- Landscape/Site Costs: $81,000.00

**Site Suitability**
- Provide 12 parking stalls

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**Site Designation P. 2**

**Size**
- 2.25 acres

**Adjacencies**
- Surbeck, Civil Engineering, Primary access corridors for vehicular, quad spaces.

**Advantages**
- This space could have a significant contribution to teaching environment (living laboratory) for campus. Essentially an outdoor classroom for Civil Engineering and Sustainability (Low Impact Development (image), Vehicular/Pedestrian bridging, Infrastructure)
- Open active/passive space potential (image)
- Currently is underutilized space
- Grubby will move to a more prominent area with input from donor
- March/Dake Plaza plaques will be moved to a location within the new parking area

**Disadvantages**
- Infrastructure to be considered in design/potential impacts.
- Increase in impervious surface/stormwater drainage infrastructure

**Cost**
- Landscape/Site Costs: $1,884,000.00

**Site Suitability**
- Provide 133 new parking stalls for a total of 170

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**Site Designation Building M**

**Size**
- 200m track: 86,000 sf; 300m track: 115,000 sf

**Adjacencies**
- Football Field, Parking

**Advantages**
- Adjacencies
- Possible ease of public access via campus loop and connector to St. Patrick Street (if constructed)

**Disadvantages**
- Eliminates up to 280 new parking stalls in the Gap
- Poor soils, grade changes

**Cost**
- Additional cost considerations due to poor soils in the Gap
- Landscape/Site Costs: $2,160,000.00

**Building Cost**
- 300m track: 20 - 23 million, 200m track: 15 - 17 million

**Site Suitability**
- Consider beyond 10 year plan, or as funding becomes available
Site Designation P. 5
Size 0.5 acres
Adjacencies Research, Athletics
Advantages Adjacencies, increase parking
Good proximity to events
Disadvantages Grade changes will require retention, possibly walls
Cost Landscape/Site Costs: $993,000.00
Site Suitability Provide 50 Parking Stalls

Site Designation P. 7
Size 1.75 acres
Adjacencies Gap, Athletics, Research
Advantages Increase parking
An additional option as egress/ingress to campus for events, safety/security
Accommodating existing site conditions
Disadvantages Distance to Campus, relocate Baja track, Mining and Mucking field
High transient traffic through corridor
Cost Landscape/Site Costs: $1,268,000.00
Site Suitability Provide 280 parking stalls

Site Designation P. 6
Size 1.75 acres
Adjacencies Research, Athletics
Advantages Increase Parking
Accommodate existing site conditions
Additional spots here can help mitigate parking on grass north of St Joseph Street during large Dunham Field Events
Good overflow parking or as a second option for events and ingress
Disadvantages Relocate Baja track, Mining and Mucking field, must choose between parking and other projects
Cost Landscape/Site Costs: $1,197,000.00
Site Suitability Provide 250 parking stalls

Site Designation P. 4
Size 1.75 acres
Adjacencies Vehicular circulation, open space
Advantages Accommodating grades
Potential for subterranean stormwater management under parking
Close proximity to campus for walking
Disadvantages A practice facility would have to be relocated
Increases impervious surfaces
Cost Landscape/Site Costs: $1,598,000.00
Site Suitability Provide 145 parking stalls
**EXECUTIVE SUMMARY**

**Site Designation G. 1**
- Size: 1 acre
- Adjacencies: Front door of campus
- Advantages:
  - Potential for a great first impression along St. Joseph Street
  - Proximity to transit and alternative transportation
  - Great location for public art and wayfinding
  - High visibility provides an opportunity to showcase sustainable low impact development practices for landscaping/stormwater management
  - Potential for living laboratory research/education space
- Disadvantages:
  - Currently the main campus entrance in terms of perception
  - Noisy, busy street with undesirable views to north
- Cost: Landscape/Site Costs: $197,000.00
- Site Suitability: Consider screening elements, improve bus stop, provide pedestrian-scale elements along St. Joseph Street

**Site Designation G. 3**
- Size: 0.5 acres
- Adjacencies: Parking, football field
- Advantages:
  - Great pedestrian defined entry to campus
  - Potential to manage stormwater and showcase Low Impact Development
  - Good location for public art and wayfinding
- Disadvantages:
  - Noisy, busy street
- Cost: Landscape/Site Costs: $135,000.00
- Site Suitability: Improve pedestrian access from football/parking lots to campus

**Site Designation G. 2**
- Size: 1.5 acres
- Adjacencies: Quad, Surbeck, Academics
- Advantages:
  - Improve ‘front door’ of campus, reinforce major pedestrian axes throughout campus
  - Low impact development potential for managing stormwater
  - Active and passive gathering space potential (campus, special events, etc.)
  - Centralized location with good existing shade trees
  - Adjacency to parking
  - Potential for Outdoor Classroom space (image)
  - Enhance the current use of Surbeck Center as the campus gathering place
- Disadvantages:
  - Eliminate (or relocate) 100 parking stalls
  - Undesirable viewshed to north
  - Adjacency to parking
- Cost: Landscape/Site Costs: $534,000.00
- Site Suitability: Expand the Quad, reinforce major pedestrian axes

**Site Designation P. 8**
- Size: 437’ of new road+ widen 655’ of existing upper ramp
- Adjacencies: Athletics
- Advantages:
  - Simplify traffic patterns throughout campus by prioritizing loop road
  - Improve drainage throughout campus by rerouting to follow new road
  - Improved safety and security of site during academic and events
  - Could allow current university loop campus access by physical plan to be de-emphasized, improving pedestrian experience in that area
- Disadvantages:
  - Cost: Difficult terrain, poor soils, limited geometry, slope challenges
  - Cost: Landscape/Site Costs: $2,473,000.00
- Site Suitability: Recommended when funds are available
SITE DESIGNATION G. 5
Size 1.5 acres
Adjacencies Athletics, parking
Advantages Accommodating site conditions
Additional option for campus ingress egress
Potential to expand and connect campus activity and lifestyle to south
Disadvantages Remote location
Transient travel corridor
Cost Landscape/ Site Costs: $699,000.00
Site Suitability
Relocate throwing fields or provide 150 additional parking stalls

SITE DESIGNATION G. 4
Size 0.5 acres
Adjacencies Parking, New expansions
Advantages Showcases stormwater strategies and low impact development
Passive space for walking and reflection, therapeutic
Potential to make a more safe and visible pedestrian crossing
Disadvantages Limitations to patrolability due to grades and landform
Cost Landscape/ Site Costs: $359,000.00
Site Suitability
Improve pedestrian experience to access the Gap
Will need to consider good pedestrian lighting as part of efforts

LIGHTING
- Pedestrian scale areas, vehicular parking areas, building, and landscaping
- Updated the century-old property by integrating Dark Sky compliant lighting
- Provide beauty while maintaining safety

SIGNAGE
- Manual on Uniform Traffic Control Devices (MUTCD) type
- Wayfinding
- Gateway, Vehicular, Pedestrian, Building, University, Interior

SITE FURNISHINGS
- Create an overall campus theme and make furnishings ADA compliant
- Nearly 15 different styles of furnishings used
- Standard campus furnishings can help to integrate the campus environment and provide a more organized, unified, and beautiful campus

DEVELOP CONSISTENT STANDARDS FOR CAMPUS
- Create an overall campus theme and make furnishings ADA compliant
- Nearly 15 different styles of furnishings used
- Standard campus furnishings can help to integrate the campus environment and provide a more organized, unified, and beautiful campus
EXECUTIVE SUMMARY

DEVELOP A VIBRANT STREETSCAPE
- Merges pedestrian and vehicular areas in several areas utilizing nodes and changes in tactile surfacing.
- Manager stormwater and direct it away from pedestrian areas.
- Create visible environments that are easy to navigate.

PUBLIC SAFETY THROUGH ENVIRONMENTAL DESIGN STANDARDS
- Appropriately designed entrances, exits, fencing, landscaping, and lighting direct and provide pedestrian and vehicular access and egress wherever they need to go.
- Campus Action Plan:
  - Light the right areas
  - Identify hazardous conditions
  - Create clear boundaries
  - Use effective visible signage

ACTIVE SPACE AT THE DROP OFF LOCATION
- Gateway into campus that is an active gathering spot
- Separation between vehicular and pedestrian travel corridors
- Highly visible focal point of many pathways that can be used to display events, networking, and campus themes
- Possible amphitheater for events

GREEN INFRASTRUCTURE ON CAMPUS
- Develop large expanses of bio-swales and stormwater mitigating spaces as part of teaching/research laboratories. Consider large quad area and a connected network corridor.
- EPA Campus Rain Works Challenge is held every year!

LANDSCAPE
- Appropriate palettes for shade, ornamental, buffer, groundcover, seasonal appeal, and sight & visibility
- Key pedestrian corridors and waypoints to be complemented with landscaping
- Consistent standards for signage, wayfinding, site furnishings, and lighting, etc.
Our team won’t be designing anything until we have completed the first two steps in our methodology. The Listen and Discover phases necessarily inform Design. We may iterate through these steps to get to the best master plan. As we steward your vision, you are engaged as co-creators resulting in a design that perfectly fits your mission, budget and schedule.
New buildings and interventions on campus should evolve the history, values, and identity of the South Dakota School of Mines while also incorporating a blend of traditional and contemporary elements. This includes the use of materials and transparency, with science on display through the building’s transparent glass walls. In addition, new entries need to be built into existing blocks, providing connections to classrooms and labs. New buildings should establish links throughout the community, as well as partnerships with other campuses and surrounding communities. These links should be showcased as learning opportunities, wherever possible.

CONSIDERATIONS & OPTIONS PUBLIC SPACES

One of the most exciting opportunities is to utilize the South Dakota School of Mines campus as the aesthetic exemplar, with the goal of being an educational and research institution. New buildings should reflect the campus commitment to sustainability by adhering to LEED criteria, at a minimum. As a step above-and-beyond this minimum criteria, sustainability strategies should be showcased as learning opportunities, wherever possible.

Co-production of Public Spaces

Taking a cue from existing buildings on campus, like the PRL, the significant opportunity of urban public spaces can be created to extend a cohesive campus culture. These spaces should reflect the student’s values and cultures, representing diverse student and faculty groups.

New buildings and interventions on campus should also reflect the campus commitment to sustainability by attaining LEED Gold certification, at a minimum. As a step above-and-beyond this minimum criteria, sustainability strategies should be showcased as learning opportunities, wherever possible.

Additionally, these continuous indoor-outdoor public spaces facilitate grade changes within the building and create a stately, collegiate atmosphere that should be maintained in new buildings on campus.

New buildings and interventions on campus should serve to reinforce the history, values, and identity of the South Dakota School of Mines, while also conveying the aesthetic of a forward-thinking tech institution with international recognition. A blend of timeless materials and transparency, with science on display through the building’s transparent glass walls, will serve Surbeck and quad spaces as a gateway. The renovated space in proximity to Civil Engineering that creates a safe transition from vehicular space to pedestrian space through use of tiering, revetment, and a living landscape.

UNITED STATES OF AMERICA | SOUTH DAKOTA | SOUTH DAKOTA SCHOOL OF MINES & TECHNOLOGY | CAMPUS MASTER PLAN | UPDATE 2023

EXECUTIVE SUMMARY

Aggregating Context

South Dakota School of Mines campus is the dramatic topography and culture oriented towards inter-departmental collaboration. Through the interplay of traditional and tech-focused aesthetics, large expanses of glass emphasised in the McLaury building signify historical and significant meaningful indoor public spaces can be created. These spaces create a perfect opportunity to create exciting showcases of the unique work that occurs throughout the community, reinforcing a cohesive campus culture rooted in tradition, yet always ready to branch into unexplored fields.

LONG-TERM BUILDING IMPROVEMENTS

The renovated space in proximity to Civil Engineering that will serve both faculty and students as a gateway. This environment synthesizes vehicular and alternative transportation, pedestrian active and passive space, demonstrating student-agency and inter-departmental collaboration. The development of this space could be for an extended study and educational opportunities in the form of teaching window displays, interactive educational systems, multipurpose lecture settings and features, a learning environment, essentially. Implementing these systems can be coupled with student, faculty, and public involvement.

LONG-TERM LANDSCAPE IMPROVEMENTS

Creating a safe transition from vehicular space to pedestrian space through use of tiering, revetment, and a living landscape. Bioswales that improve stormwater quality while buffering velocity through use of tiering, revetment, and a living landscape. Various pavement hierarchy to establish use association as (banners, canopies, ramps, stairs, etc.) and furnishings, lighting, geology, and placemaking fabric. Various pavement hierarchy to establish use association as (banners, canopies, ramps, stairs, etc.)

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SOUTH DAKOTA SCHOOL OF MINES & TECHNOLOGY

LONG-TERM UTILITY IMPROVEMENTS

CAMPUS MASTER PLAN | UPDATE 2023

FUTURE EXPANSION [L]

LONG-TERM UTILITY IMPROVEMENTS

The campus primary electrical service loop is fed from two service points, one from the south and one from the north. Existing electrical distribution equipment within the campus primary loop should be evaluated for replacement. The building is currently connected to the chilled water and steam loops on campus. The existing chilled water and steam loops will continue to serve the existing facility. The building is currently connected to the chilled water and steam loops on campus. The existing chilled water and steam loops will continue to serve the existing facility.

Mechanical

The mechanical system types will be based on the final site utility improvements. Depending on the final site utility improvements, the systems will be a direct expansion (DX) system or chilled water. For site locations J and K, the systems are to be designed for use of space. Depending upon the size (electrical load) of the addition, and what the mechanical system types will be based on the final site utility improvements. Depending on the final site utility improvements, the systems will be a direct expansion (DX) system or chilled water. For site locations J and K, the systems are to be designed for use of space.

Electrical

The HVAC systems design will be provided to maximize energy efficiency and lower maintenance. The systems will be designed to maximize energy efficiency and lower maintenance. The systems will be designed to optimize the overall end user experience. The systems will be designed to optimize the overall end user experience. The systems will be designed to optimize the overall end user experience.

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