

# INNOVATION DISTRICT MASTER PLAN

RAPID CITY, SOUTH DAKOTA

JULY 10, 2017



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# ACKNOWLEDGMENTS



We are grateful for the opportunity to conduct this feasibility analysis for the Rapid City Economic Development Foundation. We also appreciate the cooperation and regional coordination efforts of economic development partners, such as: Rapid City Economic Development Partnership, the City of Rapid City, Pennington County, South Dakota School of Mines & Technology, Black Hills Community Economic Development, Governor's Office of Economic Development, Black Hills Business Development Center, and numerous other institutions and private industries.

And, we wish to express our thanks to the numerous individuals and community leaders that were kind enough to participate in our in-depth community interviews as we gathered information and thoughts for this study.

## STEERING COMMITTEE

Terri Haverly, Rapid City Economic Development Foundation

Pat Burchill, Rapid City Economic Development Foundation

Benjamin Snow, Rapid City Economic Development Partnership

## PROJECT TEAM

Prime Consultant: Strang, Inc. – Wayne Whiting, Principal/Project Manager; Peter Tan, Principal/Project Planner

Sub-Consultant: FourFront Design, Inc. - Bryan Vulcan, President/CEO; Eirik Heikes, Principal Landscape Architect/Planner

# EXECUTIVE SUMMARY



## BACKGROUND

The Rapid City Economic Development Foundation (RCEDF) is actively exploring the development of land and building capable of supporting a new Innovation Center for entrepreneurship, technology transfer, commercialization, and economic development/growth. The purpose of this feasibility study is to understand whether necessary factors are present within the region to support an innovation center. This would be the second entrepreneurial building to the area, after the first building, the Black Hills Business Development Center. Critical factors for consideration include:

- » Existing experience with research/innovation/commercialization.
- » The culture of innovation and entrepreneurship.
- » Trends and factors influencing changes in the environment for research/innovation/commercialization.
- » Capacity to finance new ventures.
- » Capacity to support new ventures with technical resources.
- » Partnerships with key regional businesses/governments/institutions/economic development

organizations to support and drive tenants to an innovation center.

- » Champion to build support for and leadership to implement an operating plan.
- » The facility and support needs of possible spin-off companies.
- » Development & operating costs relative to revenue stream and deal flow.
- » Sources of support to fund capital costs.

In addition to studying the factors that contribute to the success of an innovation center, there was a site analysis component for these phases of the study that involved analysis of seven areas of the City for the potential location of an innovation center.

The RCEDF contracted with a consulting team consisting of Strang, Inc. and FourFront Design, Inc. to complete this analysis. The consulting team has facilitated on-line surveys, had on-site interviews of key community leaders, and completed research on the conditions/data for the region.

## SUMMARY OF FEASIBILITY

A facility-based innovation center of at least 30,000/sf is feasible under the following assumptions:

- » Facility operating revenue is not used to cover facility debt-service. That is, the capital costs of the facility must be covered by a combination of grants, donations and partner contributions, not rent.
- » The service area for the facility is a 60 mile radius around a “downtown” area.
- » There is a high probability of achieving operational break-even by Year-Five, incurring accumulated losses of ~\$250,000 which are covered by the facility’s capital budget.
- » Facility occupancy rate achieves 90% after a 24-36 month period.

The study estimates the capital budget for an innovation center is in the range of \$7-9 million, which covers a downtown site, design, construction and pre-operations development. This cost is based upon utilizing the City owned site at Main Street and East Boulevard. This cost does not include site acquisition, equipment, and furnishings. Very minor savings could potentially be achieved at two smaller sites because of size; however, site acquisition costs could be potentially much higher since they are privately owned. Downtown sites have elements supporting an innovation environment such as proximity to individuals with diverse interests and ready access to some business support amenities.

The innovation center should have a focus on manufacturing, technology, SDSMT program specialties, and creative activities. Specialty opportunities were found in information technology, software development, metal fabrication, coatings, and nanomaterials. The Bureau of Labor Statistics recently indicated occupations in science, technology, engineering, and mathematics are projected to grow by almost 20 percent by 2022

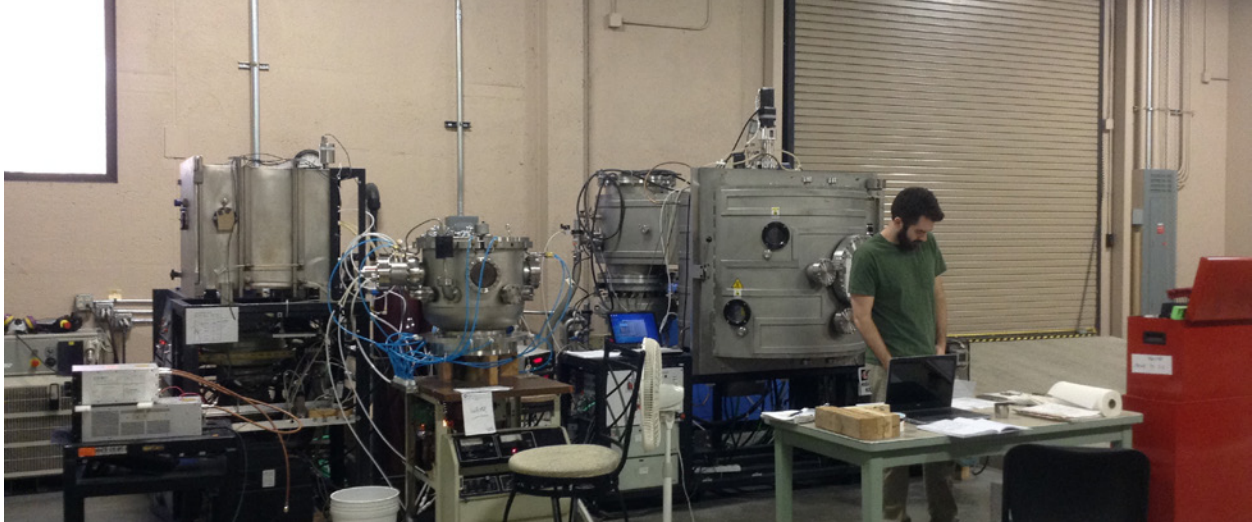
Regional institutions and economic development organizations exhibited strong support for an innovation center. The study recommends the innovation center be the hub for a regional innovation network that takes advantage of innovation-related resources throughout the region.

Emerging opportunities at the South Dakota School of Mines & Technology and within the region are significant factors in the feasibility of an innovation center. Such opportunities include:

- » A new emphasis on a culture of entrepreneurship, commercialization and technology transfer at SDSMT.
- » A developing linkage between SDSMT and economic entities in the area which centers around the importance of a commercialization strategy for regional economic development.
- » Developing centers of excellence at SDSMT driven by federal partnerships/research grants on STEM (science, technology, engineering, math).

As a side note, a research park is not recommended at this time as little evidence was found that the University/ Institutions could drive the location decisions of firms on the basis of research. The consultant team expects this to change over time as the innovation center becomes established and SDSMT emphasis on applied research, commercialization and entrepreneurial culture matures and gains more recognition.





## SUMMARY OF OPERATIONS

The innovation center operating plan provides guidance to the RCEDF regarding the various aspects of establishing and operating an innovation center in Rapid City.

The study recommends the innovation center be incorporated as a 501(c)3, non-profit corporation. Specifically, the center should not be part of any other organization, but rather its own corporate entity.

Initial staffing should be limited to two full time positions: Executive Director, and a combination Administrative Assistant/Receptionist. As an alternate, the current staff of the Black Hills Business Development Center could take on this responsibility for a smaller additional cost.

A marketing plan for the innovation center should be implemented as soon as practical, marketing the services to be provided, and detailing the concept. The marketing plan, included in the study, is targeted to potential stakeholders, tenants/affiliate members, professional service providers and the community at-large.

Board of Directors responsibilities are out-lined, as is recommended composition of the Board. Recommended committee structure is discussed, a staffing plan is detailed, and performance metrics are suggested.

Tenant/affiliate recruitment will ultimately depend upon the innovation center's ability to provide value to both tenant/

affiliates and stakeholders. Admission guidelines should simultaneously be stringent but flexible. Graduation criteria are highly subjective, and should be dependent upon the recommendations of the Executive Director. An option to gain early traction for tenants is to look for ways to move some of the current, growing tenants out of the Black Hills Business Development Center and looking to backfill the current center with smaller possible start-ups.

The provision of services, tailored to the needs of each individual business is a critical component of an innovation center. Although there are numerous common services, such as bundled office services, each tenant/affiliate has unique needs based upon the market being pursued, stage of maturity, capabilities of management team, and other factors. The two most important services that can be offered to start-up businesses are

- » access to capital
- » development of appropriate mentors and professional service providers

Short, intermediate, and long-term goals are suggested to move the project through to completion. A key component of bringing the innovation center to fruition will be the identification and recruitment of both an institutional and individual Champion to take responsibility for moving the project forward to completion.

### RECOMMENDATIONS

The RCEDF, and others, should move forward with development of an approximate 30,000 s.f. Innovation Center located in Rapid City.

Primary consideration for location of an Innovation Center should be in the area between the downtown and the SDSMT campus. As noted previously, the City owned property at the corner of Main Street and East Boulevard should be considered for the primary site. This area provides:

- » ease of access by students who could work in the facility
- » a closer connection to potential amenities
- » a potential low cost to obtain the site
- » opportunities to reuse the existing buildings on the site for production functions or maker-space.
- » a possible genesis to this area of the community to become a catalysis for innovated development and support amenities

Establish a regional innovation network to focus regional resources on the innovation process and provide multiple pathways for new business formation, new product development and commercialization.

SDSMT should continue its effort to make its culture more entrepreneurial around applied research and develop a clear intellectual property policy that rewards innovators and risk-takers while providing a small stream of revenue back to the University.

SDSMT (and other higher education institutions) should strengthen its (their) out-reach to regional area manufacturers and technology businesses to understand ways they can help these sectors innovate and keep their product lines fresh and relevant.



## PROJECT IMPACTS

A more dynamic regional economy resulting from new products being developed and improved, leading to greater manufacturing activity, higher corporate sales with higher profit margins, higher wages and better employment opportunities.

- » Greater professional challenges
- » Greater learning and growth opportunities
- » Diversified income opportunities for faculty, staff and students
- » Intellectual property revenue to the University
- » Better career starts for students
- » Greater student and faculty retention
- » Greater collaboration between disciplines
- » Better student engagement
- » Greater ability to recruit faculty and students
- » Enhanced reputation
- » Summer opportunities on campus for students
- » Greater support for University self-determination

A higher quality of life for residents of the Rapid City and greater ability to attract new residents to the City resulting from:

- » Increased tax base
- » Higher wages which can support more retail and commercial services
- » Stronger educational opportunities
- » Better career opportunities

## NEXT STEPS

- » Obtain commitments from these entities to “partner” and engage as a core stakeholder group to develop the Innovation Center
  - » Economic Development agencies
  - » SDSMT
  - » Venture/Angel/Regional investors
- » Secure real estate
- » Establish a 501(c)(3) non-profit organization to operate the innovation center (or expand the current BHBDC organization to take on this project/endeavor)
- » Select a project Champion
- » Hire a Project Manager
- » Begin fundraising
- » Establish a brand image
- » Begin marketing

# SITE + FACILITY ASSESSMENT

## INITIAL SITE EVALUATION PROCESS

The initial site evaluation process for the potential innovation center began with the development of criteria for evaluating seven general areas selected by the steering committee and study team. Based on familiarity with site development issues, the consultant team developed criteria based on several major categories:

### SITE SIZE

- » **Sites are evaluated based on its capacity to** accommodate the Innovation Center (assuming a 25,000-square foot building foot print, 1-2 stories in height, initially). Site size evaluation was based on the amount of land available, or in more developed areas, on the condition of surrounding buildings and the location of properties currently for sale.

### SITE SUITABILITY

- » Topography: terrain conditions (rolling, steep, flat);  
areas of steep slopes or especially low areas
- » Constructability: ease of construction deliveries (site access), access to adequate staging areas, coordination with adjacent traffic patterns (lane closures, safety barriers), phasing, ease of constructing foundations, vertical circulation (more stairs, elevators, mechanical shafts, larger footings, etc.)
- » Utilities/Stormwater: proximity and ease of connection to existing water and sewer service; stormwater requirements; proximity and ease of connection to electric/gas/telephone/fiber.
- » Environment: Depth to bedrock, proximity to wetlands  
or waters, thermal control requirements, floodplain issues, LUST/brownfield evidence, previous mining location, existing vegetation or structures.

### COMPATIBILITY WITH SURROUNDING LAND USES

- » Sites are evaluated for compatibility with existing zoning, surrounding zoning/land use, the Comprehensive Plan, and municipal jurisdiction.

### SITE TRANSPORTATION AND ACCESS

- » Site evaluation for transportation and access issues included the potential for semi-truck access from adjacent roadways (necessity of turn lanes, difficult turning maneuvers), distance to and route from major highways, parking potential, proximity to SDSMT and downtown (for pedestrian circulation), building setbacks, proximity of State/County highways (access restrictions), and the overall condition of main access routes.

### INTANGIBLES

- » The final evaluation category covered the intangible elements of each site, including visibility from major traffic corridors, traffic counts on adjacent roadways, pedestrian connections from campus and downtown, and availability of business support services (printing, shipping, legal, accounting, food, hotels, etc.).

The team also utilized the following criteria from the RCEDF, of which are covered/noted in the previous criteria as well:

- » Location Advantages
- » Location Challenges
- » Site Ownership
- » Site Characteristics
- » Existing Facilities/Activities at the Site
- » Parking/Utilities



## MAIN STREET AND EAST BOULEVARD

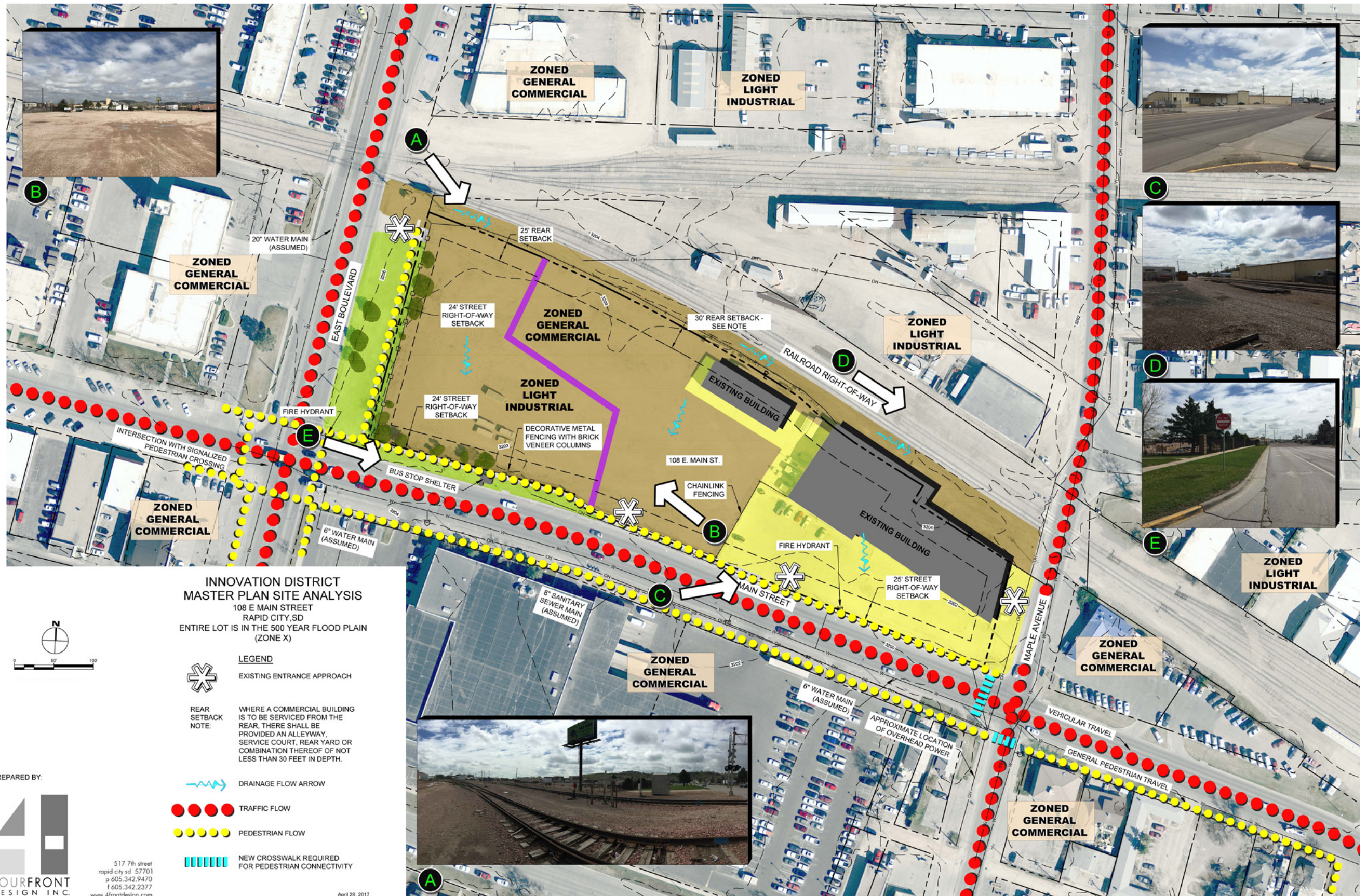
OWNER	City of Rapid City and Others.
ADDRESS	108 E. Main Street, and others.
SIZE	4-6 acres.
ZONING	Presently: General Commercial/Light Industrial. Future: Urban Commercial District.
ADJACENCIES	General Commercial and light industrial. Post office, fire department.
COMPATIBILITY	Similar to other functions/operations nearby.
SITE SUITABILITY	Within the 500-year floodplain (protected by levee), flat site, adjacent to railroad tracks. Brownfield conditions are unknown. Access to utility services is very good. Easy site for construction staging.
TRANSPORTATION/ACCESS	Multiple access points, good connectivity to downtown & SDSMT. Public transportation route. Parking available on site. Truck accessible. Loading areas at existing buildings.
INTANGIBLES	Some support amenities nearby. Highly visible site. Post office & Fire Department across street.
LOCATION ADVANTAGES	Proximity to downtown and SDSMT. Easy access by SDSMT students. Crossroads of major arterial roads. Pedestrian access is easy. Parking.
LOCATION CHALLENGES	Adjacent railroad could create vibration concerns for some tenants. Costs to upgrade existing on-site buildings. Not many amenities nearby. Hotels are more than ½-mile away.
OTHER NOTES	Possible low cost to obtain site for use via ground lease from City
INITIAL DEVELOPMENT SUITABILITY RATING	Good to Very Good



The potential opportunity to work with the City to obtain the site and the prominent location on some major arterial roads are a plus. Also, its location could become that catalysis in the area for development between downtown and the SDSMT campus. An open area on the west side of the site would be a great location for a new innovation center. An interesting option for this site is the potential to utilize the existing structures for some large tenants who require large space or for maker-type-space. There is also plenty of space for on-site parking and for expansion of the new innovation center. The only shortcomings are the: potential vibration from the adjacent railroad and limited nearby amenities. With the City looking to rezone this area, the amenities will ultimately begin to infill the area.

If the City can make the whole site available for “innovation use,” another interim option with this site involves using the existing buildings as the first step of creating an “innovation district.” By renovating the existing buildings, for a smaller initial investment, some tenants could be moved into those structures while a fund raising effort could under taken for a new “innovation center” building on the southwest corner of the site.







## •LEGEND•

- |   |   |
|---|---|
| ① 10' WIDE BIKE PATH WITH BOULEVARD         | ⑧ PRIVATE PATIO WITH FUNCTIONING DOOR/<br>WINDOW SYSTEM |
| ② PEDESTRIAN, LOW LEVEL AREA LIGHT, TYPICAL | ⑨ PRIVATE SPACE   |
| ③ BIKE RACK                                 | ⑩ PUBLIC SPACE  |
| ④ WASTE RECEPTACLE                          | ⑪ EXISTING BUS STOP SHELTER                             |
| ⑤ SEPARATION WALL, TYPICAL                  | ⑫ LOADING AREA  |
| ⑥ BENCH, TYPICAL                            |   |
| ⑦ PUBLIC WALK                               |   |

### PARKING REQUIREMENTS (PER CITY OF RAPID CITY ORDINANCE SEC 17.50 AND PROPOSED DOWNTOWN ZONING DISTRICT)

**PROPOSED MIXED USE BUILDINGS:**  
 -- FIVE SPACES PER 1,000 SFGFA  
 OFFICE AREA = 74,700 SFGFA  
 MINIMUM REQUIRED = 374 SPACES

**WAREHOUSE (EXISTING BUILDINGS):**  
 -- ONE-QUARTER SPACES PER 1,000 SFGFA  
 WAREHOUSE AREA = 30,000 SFGFA  
 MINIMUM REQUIRED = 8 SPACES

**REDUCTION FOR DOWNTOWN PEDESTRIAN ORIENTED DEVELOPMENT:**  
 -- 35% OF ZONING DISTRICT REQUIREMENT  
 TOTAL PARKING REQUIRED BY DISTRICT = 382 SPACES  
 ALLOWED REDUCTION = 248 SPACES

**TOTAL REQUIRED / PROVIDED PARKING SPACES = 134 SPACES**

**ACCESSIBLE PARKING REQUIRED:**  
 ACCESSIBLE  
 -- TOTAL SPACES IN LOT: 101-150  
 MINIMUM REQUIRED = 5 SPACES ( 1 VAN )

Prepared By:



DESIGNS FOR LIFE  
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30 15 0 30

June 8, 2017

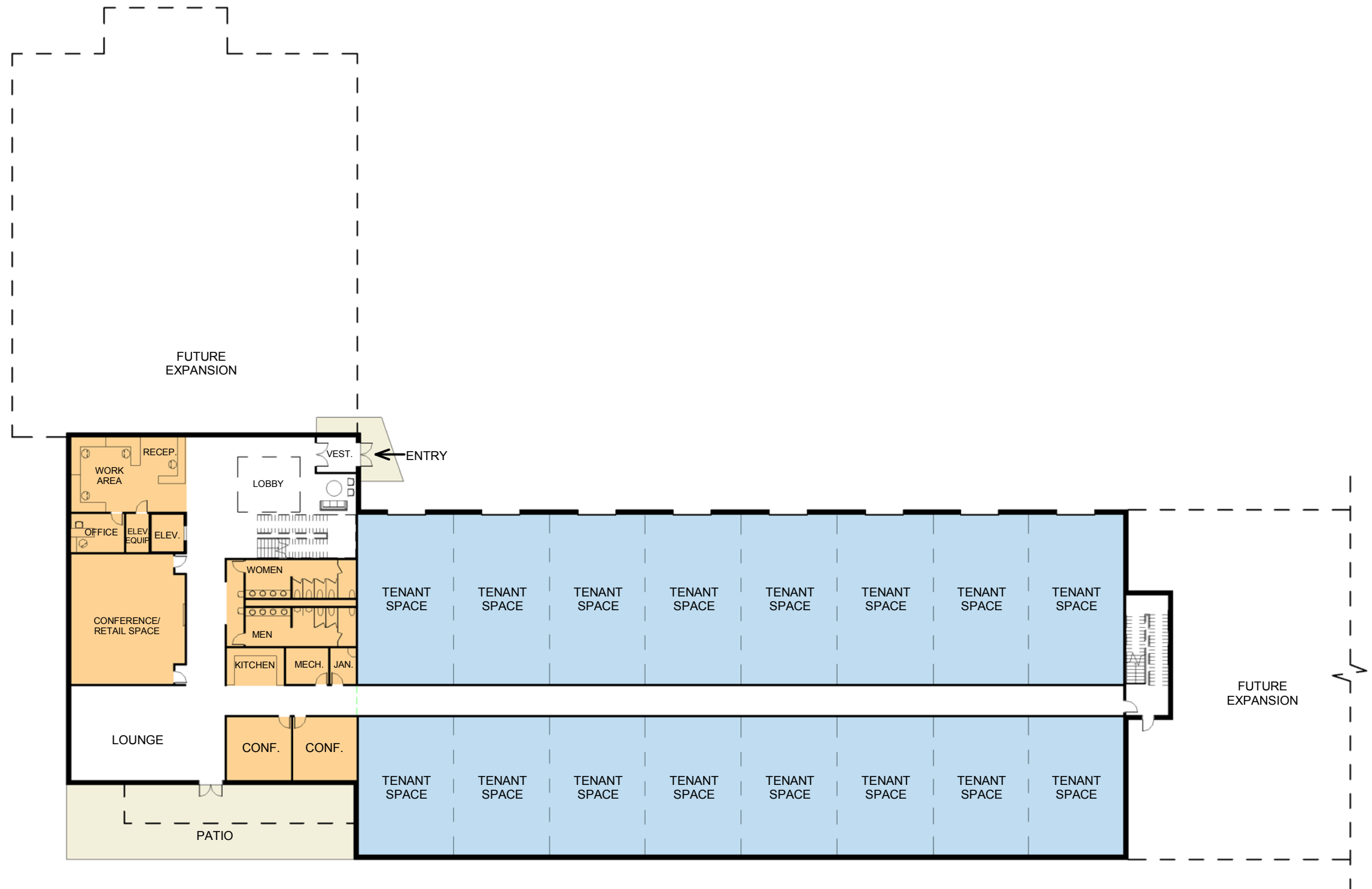
**Stormwater Note:**  
 Parcel is within Downtown Drainage  
 Basin. Stormwater detention is not  
 required. Water quality treatment will  
 be required in conformance with city  
 standards.











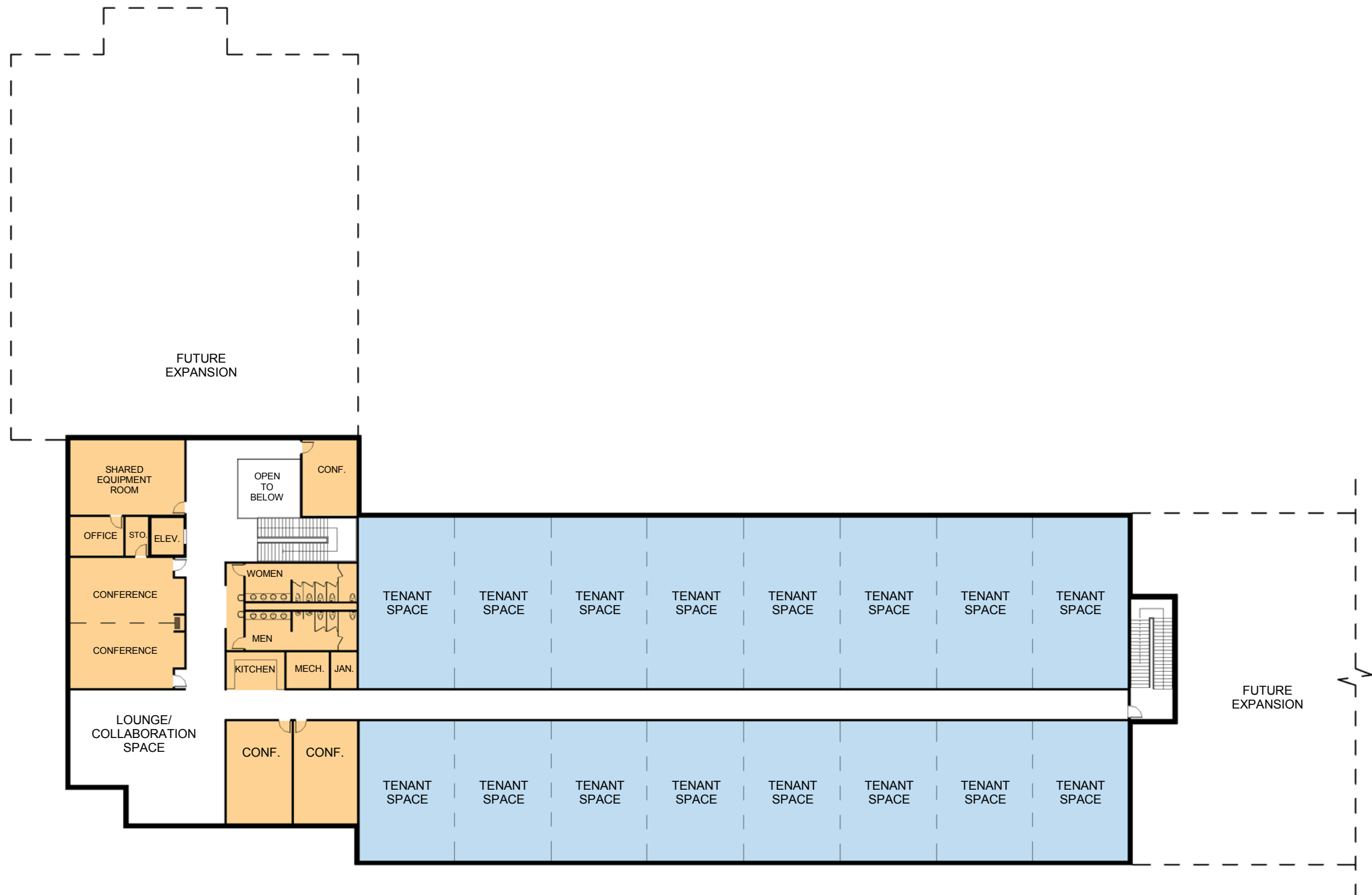
## SCHEMATIC BUILDING LAYOUT - FIRST FLOOR PLAN

SCALE: 1" = 30'-0"

0 15 30 60

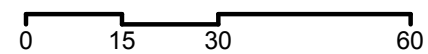


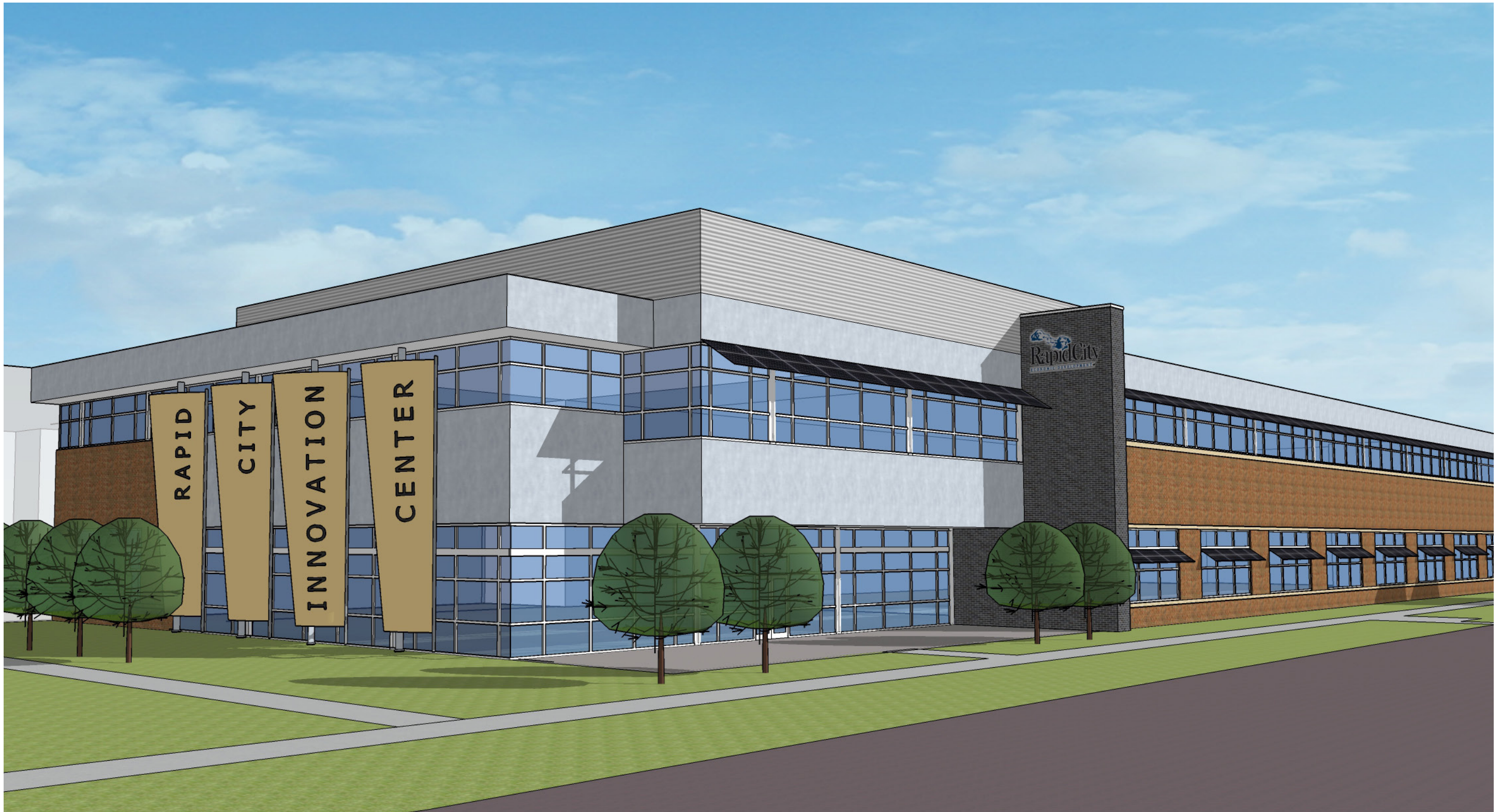




## SCHEMATIC BUILDING LAYOUT - SECOND FLOOR PLAN

SCALE: 1" = 30'-0"





## CONCEPT ART





An aerial photograph of a city street grid, showing various buildings, parking lots, and green spaces. A large white rectangular box is overlaid on the upper right portion of the image, containing the title text.

# **APPENDIX A**

## SITE DEVELOPMENT

**MAIN STREET AND EAST BOULEVARD**

# INNOVATION DISTRICT MASTER PLAN

**ENGINEER'S PROJECT NO.: 16-2357**

SITE ADDRESS: 108 E. Main Street

TAX MAP #42669

PROPERTY ID: 37-01-231-001

July 3, 2017



**RAPID CITY, SD**

517 SEVENTH STREET RAPID CITY, SD 57701

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## CONCEPTUAL SITE PLAN SUMMARY

### INTRODUCTION

The proposed innovation center, the first of its kind in Rapid City and the Black Hills region, is intended as a cross discipline hub for regional resources such as economic development entities, higher education facilities and various private and public developers and industry leaders to support research and creative activity. In using a multitude of available business and academic research resources, it will support new product development, new firm formation and existing business growth. The commercialization of innovation will add much-needed and necessary vitality to the Black Hills region economy. Although many locations have been investigated, the preferred site location for this innovation center is located at 108 East Main Street, strategically situated between downtown Rapid City and the South Dakota School of Mines and Technology (SDSMT) campus. The site development of this location is discussed in detail herein.

Rapid City is in the process of initiating and implementing a Downtown Area Master Plan (<http://www.rcdowntownplan.com/>), to guide improvements, policies and actions that advance the community. As part of that goal, the Master Plan offers recommendations to revise the zoning ordinance to create a Downtown-wide Zoning District, which would allow a more urban style of development throughout Downtown, including areas east of 5th Street, where the primary site is located. Currently the primary site is zoned General Commercial / Light Industrial but as recommended by the Master Plan is slated to be zoned within the Downtown-wide Zoning District. The area that is selected at the 108 East Main location is earmarked as an “Urban Commercial” zoning designation.

Conceptual site layout for the primary site location incorporates the use of the recommendations of the Rapid City Downtown Area Master Plan, City of Rapid City Code of Ordinances, City of Rapid City Infrastructure Design Manual and City of Rapid City Standards Specifications for Public Works Construction, among other regional and national site development standards.

### EXISTING SITE CONDITIONS

The existing site is located on the eastern side of the downtown area. It is bounded by three streets, Maple Avenue to the east, Main Street to the south and East Boulevard to the west. The Canadian Pacific railroad forms the boundary to the north. The site is previously developed. Two existing buildings are on the property – a smaller garage space located north central and a larger multi-use building on the eastern side of the parcel. The remainder of the property is predominantly impervious with a mix of asphalt, concrete and gravel. The site is currently served with water, sewer, electric, gas and communications. The site is generally level, sloping gently towards Main Street. The site does not currently have a storm drainage system – all runoff drains by surface flow to the storm drainage system within Main Street. Mature plantings are in-place in the East Boulevard right-of-way to the east. An existing bus shelter stop is located adjacent to



the property on Main Street near the intersection with East Boulevard.

## **PROPOSED LAYOUT**

The layout generally allows for maximum buildout of the previously developed parcel. Two existing warehouses on the property are slated to remain and to be utilized as large tenant maker-spaces. The western portion of the property is currently vacant and is the proposed location of the new two-story innovation center, with a prominent location on the intersection of Main Street and East Boulevard.

A unique opportunity to renovate the existing buildings as an interim first step in creating the innovation district is available. Renovating the existing buildings for immediate use while fundraising efforts to construct the innovation facility are undertaken, allows the innovation district to develop and build momentum and potential prior to the full development of the site.

## **TOPOGRAPHIC SURVEY**

A topographic and utilities survey, provided by the City of Rapid City, the current property owner, was utilized in the development of the conceptual site layout

## **ZONING**

To allow for green space along the right-of-way, 10' Setbacks are provided for the proposed facility. Pedestrian friendly elements provided on the conceptual site plan include benches, café tables/chairs, pedestrian lighting, bike racks, publicly accessible walkway along the whole-block street frontage and street trees. Conceptual site layout incorporates the proposed Downtown Area Master Plan Zoning Recommendations as the primary guide and then follows the current zoning ordinance for any outstanding items not addressed by the Master Plan. The intent is to align with *proposed* Urban Commercial criteria, as provided by Long Term Planning Division of City of Rapid City. Zoning recommendations and requirements are as follows.

### **Lot Requirements per the Downtown Area Master Plan Urban Commercial Zoning Recommendations**

#### Height Limit

Maximum of six stories

#### Setbacks

Setbacks shall be measured from the building face, covered portion of an entryway alcove, or edge of a permanent fenced or covered seating area or other public space.

Minimum: 0'

Maximum: 10'

## **Pedestrian Requirements per the Downtown Area Master Plan Zoning Recommendations (Urban Commercial)**

### **Transparency**

The required minimum transparency of the street level of all building faces fronting pedestrian oriented streets is 45% of the area measured between 2 and 8 feet in height from the level of the finished sidewalk. Exceptions may be granted by the Design Review Board.

### **Building Face Variations**

Vary the setback or materials of street-fronting building faces every 100 feet.

### **Pedestrian Elements on Private Property on the Primary Building Frontage**

- a. Provide a minimum of one of the following:
- b. Transparency of 66% or greater on the street-facing first floor building face.
- c. 2 benches or café tables with chairs, accessible from the public right-of-way per each 50 feet of frontage.
- d. 4 or more fixtures of downcast, pedestrian-scale lighting per each 50 feet of frontage, adequately spaced to create even light distribution.
- e. Bike racks designed to hold 10 or more bikes per 50 feet of frontage.
- f. A primary access door that is street facing. A corner door may meet the requirement for two frontages.
- g. On a development that extends an entire block face, a publicly accessible, well-lit interior or exterior passageway that grants access through the block.
- h. Urban landscaping features:
  - i. 2 street trees;
  - ii. 12 square horizontal feet of irrigated planter boxes or hanging baskets; OR
  - iii. 20 square feet of vertical trellised wall area with adequate irrigated planting area to support plant coverage of the trellis.
  - iv. On existing buildings, these landscaping elements may encroach the sidewalk so long as a minimum clear zone is maintained.
- i. One piece of interactive art accessible to the public per each 50-feet of frontage.
- j. Other art or design elements approved for alternative compliance by the Design Review Board, and by the Historic Preservation Commission within a Historic District.

## **GEOTECHNICAL SOIL SURVEY REPORT**

A report of subsurface investigations will be required as the site layout and design progresses. This report shall include information on seismic data and geologic formations, analysis of soil fertility, organic content, and pH measurement. Depths to rock, ground water and the existence of aquifers and perched water tables or springs will be identified within the top ten feet of the existing ground profile.

## **SITE GRADING**

The parcel is 4.52 acres in area. Approximately 75% of the parcel, 3.25 acres will be disturbed in order to achieve full development. Limited demolition and clearing will be required. The site is previously disturbed and graded, draining southerly towards the storm drainage system within Main Street. Proposed topography will closely match existing so minimal cut/fill grading will be necessary.

The site is within the Downtown Drainage Basin. Therefore, stormwater management for the site is not required as this drainage basin is treated downstream by city detention facilities. However, water quality treatment of runoff from the site shall be addressed on-site per the Rapid City Stormwater Quality Manual.

## **ROADWAYS AND PARKING**

Vehicular traffic on site allows for primary access on the west at an existing entrance, from East Boulevard, with traffic flow then generally in an easterly direction, with exit/entrance also available on the east side of the property, on Maple Avenue. Existing vehicular entrances on the east and west sides of the property will remain in use. To allow for a pedestrian friendly design, the two existing entrances on Main Street should be removed.

To the greatest extent practicable, given the locations of existing buildings, parking is located away from the Main Street frontage. Where parking is adjacent to Main Street, a wide green-space and pedestrian bike corridor with a multitude of street trees are provided to enhance the walkability of the district. This will also align with goals for a pedestrian and bike corridor along the frontage and minimize vehicular pedestrian impacts along the frontage.

### **Parking Requirements per the Downtown Area Master Plan Zoning Recommendations**

- Parking lots must be located in back of or to the side of the primary building, rather than occupying the majority of the primary street frontage.
- The requirement for non-residential uses shall be 35% of the requirement in the GC district.
- Reduction of 1 required space is allowed for every 5 covered, secured bike parking spaces for occupant use, up to a total reduction of 2 spaces or 10% of the total parking requirement, whichever is greater.

### **Parking Requirements per Ordinance Section 17.50**

In developing the conceptual layout, the existing buildings/maker-space was assumed to be warehouses for the purposes of developing parking requirements. The proposed facility was presumed to mixed use office space. The General Commercial Zoning Ordinance for these uses requires one-quarter space per 1,000 SF of gross floor area for warehouse space and five spaces per 1,000 SF of gross floor area for office space. Total parking spaces required by general business district is 382 spaces.

- After considering the Downtown Area Master Plan Recommendation, specifically as per considered within the Urban Commercial criteria, which

reduces the required number of general business district spaces by 65% for the purpose of reducing negative impacts of parking areas on pedestrian appeal, the required amount of parking spaces for full development is 134 spaces.

The conceptual site layout provides 134 spaces, including five required handicap accessible spaces, as required by Accessible Design Standards for Accessible Design. At this time, the exterior bike racks were considered to be uncovered and were not accounted for in the parking space calculation.

## **BUS SHELTER**

An existing bus stop shelter is conveniently located adjacent to the innovation center. It is located in the right-of-way on Main Street near the intersection with East Boulevard. The bus shelter is a wonderful asset to the facility, providing good connectivity to downtown and the SDSMT campus. Not only will the center usher in a culture of innovation and entrepreneurship to the downtown area, it will also serve as a flagship project promoting alternative transportation and walkability. As shown on the conceptual site plan, a wide pedestrian walkway is to be accommodated along the length of Main Street in front of the parcel. The pedestrian route will include crosswalks at Maple Avenue to facilitate foot traffic from the east, particularly the SDSMT campus.

It is the desire of planners for the development of the innovation center district to act as catalyst to for innovative development and amenities. Additional site furnishings, signage, amenities and landscape will provide enhancement to the shelter to encourage ridership. The reduction of parking also will be dependent upon alternative transportation to alleviate needs.

## **INCREASED PEDESTRIAN AND BIKE FACILITIES**

Accessibility of the site from SDSMT campus as well as the surrounding residential and business area shall be of key consideration during design. A much more walkable and attractive frontage will be part of development efforts, including off-site recommendations for improvements to walks, crossings, signage, etc.

## **UTILITIES**

### **Storm Drainage**

Minimal storm drainage improvements are expected to be necessary to support the new facility. Existing surface runoff drains to the south into Main Street, where the runoff is intercepted by the roadway storm drainage system. The existing drainage pattern is assumed to remain the same during development.

The site is within the Downtown Drainage Basin. Therefore, stormwater management for the site is not required as this drainage basin is treated downstream by city detention facilities. However, water quality treatment of runoff from the site shall be addressed on-site per the Rapid City Stormwater Quality Manual.

Due to the total area of disturbance expected an erosion and sediment control plan shall be prepared during design to minimize sediment transportation from construction activities. Further, the contractor shall apply for a Stormwater Pollution Prevention Plan (SWPP) permit from the South Dakota Department of Natural Resources and maintain it during construction.

### **Sanitary Sewer**

A new sanitary sewer service for the proposed new building is anticipated, including a new connection to the sewer main, located in the southern shoulder of Main Street. The garage building does not currently have sewer service, however for the purposes of the conceptual site plan it is presumed that sewer service will be provided to the existing garage space, which would be connected to the new building service. Further, exterior improvements to the existing on-site sewer system may be required as the design progresses.

Sanitary sewer design shall be in conformance with City of Rapid City Infrastructure Design Manual. Construction shall be in accordance with City of Rapid City Standards Specifications for Public Works Construction. A Utility Permit form the Rapid City Public Works/Engineering services shall be obtained by the Contractor prior to performing the work within the right-of-way.

### **Water Service**

Water service, both domestic and fire, is anticipated for the proposed new building via a new connection to the water main, located within Main Street. The garage building does not currently have water service. However, for the purposes of the conceptual site plan it is presumed that it will be provided to the existing garage space and be served by the existing on-site water service. Further, exterior improvements to the existing on-site domestic water service may be required as the design progresses.

Water system design shall be in conformance with City of Rapid City Infrastructure Design Manual. Construction shall be in accordance with City of Rapid City Standards Specifications for Public Works Construction. A Utility Permit form the Rapid City Public Works/Engineering services shall be obtained by the Contractor prior to performing the work within the right-of-way.

### **Power**

Power will be provided by Black Hills Energy (BHE) from overhead lines along Main Street to serve the new building. Exterior electrical service, transformer and meter will be required. The latest International Building Code (IBC), Institute of Electrical and Electronics Engineers (IEEE), and National Fire Protection Association (NFPA) codes and standards are the minimum requirements for materials and installation.

### **Lighting**

Exterior pole-mounted site lighting is recommended for parking areas and drives. Low-level area lights are recommended to light pedestrian routes and gathering areas. Dark skies criteria is recommended for design approach, and this will likely need to be aligned with City of Rapid City Lighting future plans for Main Street and Innovation District.



Lighting system design shall be in conformance with City of Rapid City Infrastructure Design Manual. The latest International Building Code (IBC), Underwriters Laboratories, Inc. (UL), Institute of Electrical and Electronics Engineers (IEEE), and National Fire Protection Association (NFPA) codes and standards are the minimum requirements for materials and installation.

### **Communications**

New communications distribution for the proposed new building is anticipated. Exterior improvements to the existing on-site communications system may be required as the design progresses. The existing garage building has limited communications served from the existing mixed-use building. It is presumed exterior improvements to the garage service will be required. Several service providers are available and include Midco and Vast Broadband. The latest National Electric Code (NEC), Nationally Recognized Laboratories (NRTL), National Television System Committee (NTSC), and National Fire Protection Association (NFPA) codes and standards are the minimum requirements for materials and installation.

### **Natural Gas**

A new natural gas connection for the proposed building is anticipated, including new meter. Service shall be provided by Montana-Dakota Utilities Company. Existing buildings are served by an existing gas service located within Main Street.

The latest American Petroleum Institute (API), American Society of Mechanical Engineers (ASME), National Fire Protection Agency (NFPA) and American Society for Testing and Materials (ASTM) codes and standards are the minimum requirements for materials and installation.

### **Irrigation**

Installation of an irrigation system is recommended for the development. Main lines shall be sized to accommodate the development potential of the site. Sprinkler irrigation is recommended for turf areas while drip type conveyance shall be considered for tree planting areas, planting beds and assembly areas. All irrigation shall be permanent type.

The latest American Society of Mechanical Engineers (ASME), American Society for Testing and Materials (ASTM) and American Water Works Association (AWWA) codes and standards are the minimum requirements for materials and installation.

## **VEGETATION**

### **Landscape Requirements per the Downtown Area Master Plan Zoning Recommendations**

- a. Urban landscaping elements of the Pedestrian Friendly Elements (refer to Zoning section of this report) may be counted toward all or a portion of the landscaping requirement.
- b. Landscaped buffers for parking lots and outdoor storage may be counted toward all or a portion of the landscaping requirement.

- c. For any expansion of an existing building, in the case of demonstrated hardship, the Planning Director may approve alternative compliance for all or a portion of the landscaping requirement through provision of non-irrigated planters, hanging baskets, or similar.

### **General Commercial Landscape Requirement**

The amount of material is based on a point system. The square footage of the developed portion of the lot not covered by a building shall equal the required number of points. The developed area of asphalt and concrete paving for the site is approximately 98,000 SF, thus 98,000 points of material is required. Trees (small, medium and large), hedges, shrubs, ground covers and grasses are acceptable landscape material.

### **Turf**

Sod will be placed on all areas that will be irrigated and within 20' of building entrances and assembly/gathering spaces. All other areas will be a native seed mix with topsoil bed that resembles the existing species in the Black Hills Region.

### **Plantings**

New trees and shrubs will be provided on site as shown on the conceptual design layout and will be located at the entryway or in between burial sections. The species of trees will reflect four season appeal, and will include some ornamental types that provide spring bloom, Summer Foliage and Shade, or Fall Color. Hardy shrubs and perennials will be selected for entry areas and assembly areas.

### **Signage**

A combination of Wayfinding and MUTCD type signage will be utilized for the project in addition to engaging facility signage for the innovation district and the individual companies it will be comprised of.

### **Sign Regulations per the Downtown Area Master Plan Zoning Recommendations**

Carry forward sign provisions of the CBD and modify as below:

1. Blade signs allowed.
2. Increase in allowed signage area by 30% for sculptural art signs.
3. Allow pedestrian-scale tenant signage on the front face of mixed use, multi-story buildings to display the names of business tenants that do not have floor level or street-facing units.
4. Allow pedestrian-scale signage on the side face of corner buildings to display the names of businesses located on the side street within one block.

## **SITE FURNISHINGS**

Refer to the Pedestrian Requirements per the Downtown Area Master Plan Zoning Recommendations listed in the Zoning section herein. Per the Conceptual Site Layout, the following items are proposed:

### Benches

Six benches are proposed in the conceptual design concept. These benches are expected to be by Victor Stanley or approved equal.

### Waste Receptacles

Six waste receptacles are proposed in the conceptual design concept. These benches are expected to be by Victor Stanley or approved equal.

### Bike Racks

Three bike racks are proposed in the conceptual design concept. The bike racks are expected to be artistic in nature.

### Café Tables/Chairs

Nine café tables with chairs are proposed in the conceptual design concept. These benches are expected to be by Victor Stanley or approved equal.

## **OPINION OF PROBABLE COST - SITE IMPROVEMENTS ONLY**

The construction cost estimate has been separated into two phases. The first phase allows for initial development of the site utilizing the existing buildings. The second allows for full development of the site, particularly the new facility and all associated work.

First phase work has been estimated at a cost of \$940,055. The cost includes a one-year escalation to assumed construction start of June 2018. It has been presumed that the first development area includes the existing buildings and the area immediately south of the existing buildings to Main Street. Full parking, roadway, walkway, landscape and signage improvements are expected. Limited improvements to the existing utility services are expected.

Second phase work has been estimated at a cost of \$1,994,106. The cost includes a three-year escalation to an assumed construction start of June 2020. The second development phase area includes the remainder of the property improvements. In addition to the new building; parking, roadway, walkway, landscape, site furnishings and signage improvements will be completed for the site. New utility connections and services are expected for the new building.

Again, the costs noted above are for site improvements only. Costs for renovating the existing buildings on Site #1 and the new building at the southwest corner are not included in the numbers above.



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