NMJC

New Mexico Junior College

CAMPUS MASTER PLAN

UPDATE 2019



DRAFT 8.9.2019

[THIS PAGE IS LEFT BLANK INTENTIONALLY]

1. ACKNOWLEDGEMENTS

NEW MEXICO JUNIOR COLLEGE

Dr. Kelvin Sharp, *President*
Pat Chappelle, B*oard Chair*
Ron Black, B*oard Secretary*
Manny Gomez, B*oard member*
Mary Lou Vinson, *Board member*
Hector Baeza, *Board member*
Travis Glenn, *Board member*
Evelyn Rising, *Board member*
Dan Hardin, *Vice President of Finance Business Office*
Charley Carroll, *Director of Physical Plant*

NMJC FACILITY PLAN UPDATE WORKSHOP PARTICIPANTS

Bill Kunko, Cathy Mitchell, D. Kelley, Larry Sanderson, Jeff McCool, Susan Fine, Scotty Holloman, David Roybal, Debra Hicks, Nick Maxwell

DEKKER / PERICH / SABATINI

Matt McKim, AIA, *Principal / Architect*
Will Gleason, AICP, LEED AP, *Principal / Urban Planner*
Katrina Arndt, *Associate / Urban Planner*
Jessica Johnson, *Urban Planner*
Kate McMath, *Urban Planner*
Swapna Babu, *Planning Intern*

2. CONTENTS

1. ACKNOWLEDGMENTS 3

3. EXECUTIVE SUMMARY. 6

4. PLANNING PROCESS 10

5. INTRODUCTION 12

5.a-Purpose and Process 12
5.b-Location 14
5.c-History 14

6. TRENDS 16

6.a-Demographic. 16
6.b-Economy 16
6.c-Higher Education 17
NMJC Opportunities 18
6.d-HED Requirements 19

7. EXISTING CAMPUS CONDITIONS ASSESSMENT 20

7.a-Environmental assessment 20
Climate and Weather 20
Soils 20
Land Use 22
7.b-Campus Context 22
7.c-Circulation 24
7.d-Security 25
Crime Control Through Environmental Design 26

8. FACILITIES & INFRASTRUCTURE ASSESSMENT 29

8.a-Facilities 29
Watson Hall. 30
Mansur Hall. 31
John Shepherd Administration 32
Ben Alexander Student Learning Center 33
Pannell Library 34
Heidel Hall. 35
Mclean Hall 36
Central Plant. 37
Mary Hagelstein Instructional Arts Center 38
Don Whitaker Automotive Technology Center 39
Harold Runnels Residence Hall. 40
Houston Thunderbird Residence Hall. . . 41
John Watson/Carroll Leavell Student Apartments 42
Maintenance Building. 43
Bob Moran Hall 44
Larry Hanna Training & Outreach Center 45
8.b-Infrastructure 46
8.c-Campus Outdoor Spaces 48
8.d-Wayfinding & Signage 51

9. CAMPUS IMPROVEMENT PRIORITIES 52

9.a-Campus Development Goals 52
9.b-Circulation & Parking Goals 54
9.c-Facilities Goals 54
9.d-Infrastructure Goals 54
9.e-Campus Outdoor Spaces Goals 56
9.f-Wayfinding & Signage Goals and Strategies 74
10.a-Security Goals & Strategies 78

11. IMPLEMENTATION STRATEGIES 84

12. APPENDIX A - FACILITY & INFRASTRUCTURE ASSESSMENT 89

13. APPENDIX B - WORKSHOP. 90

LIST OF EXHIBITS

Exhibit 8. NMJC Future Development Framework7
Exhibit 1. NMJC Future Development Framework7
Exhibit 2. NMJC Future Development Framework9
Exhibit 3. NMJC Context Map. 13
Exhibit 2. New Mexico Context Map. 14
Exhibit 4. Original Campus Master Plan, 1965. . 15
Exhibit 5. 2005 Master Plan Concept 15
Exhibit 3. Top Industries. 17
Exhibit 4. Total Population 17
Exhibit 5. Wind Rose. 20
Exhibit 6. Average Weather Conditions. 20
Exhibit 6. Site Assessment. 21
Exhibit 7. Land Use 22
Exhibit 7. NMJC Existing campus 23
Exhibit 8. Security. 27
Exhibit 9. Infrastructure 47
Exhibit 10. Campus Outdoor Spaces. 49
Exhibit 11. NMJC Future Development Framework 53
Exhibit 12. Facilities & Infrastructure Development Framework 55
Exhibit 13. Proposed Lawn Removal Map 57
Exhibit 14. NMJC Campus Concepts Outdoor Spaces A 59
Exhibit 15. NMJC Campus Concepts Outdoor Spaces B 61
Exhibit 16. Pedestrian Pathways Alignment. 63
Exhibit 17. NMJC Campus Concepts Pedestrian Pathways. 67
Exhibit 18. Shade Structures Preferred Placement. 69
Exhibit 19. NMJC Campus Concepts - Shade Structures. 71
Exhibit 20. NMJC Campus Concepts Shade Structure Vision 73
Exhibit 21. Wayfinding & Signage Development Framework 75
Exhibit 22. NMJC Campus Concepts Signage Vision. 77
Exhibit 23. NMJC Future Campus Framework Concepts 79
Exhibit 24. NMJC Campus Concepts Vestibules Vision. 81

LIST OF TABLES

Table 1. NMJC Campus Master Plan Long-Range Development Goals 6
Table 2. Old vs. New Master Plan 12
Table 3. Overall Facility Square Footage 29
Table 4. Watson Hall Summary 30
Table 5. Mansur Hall Summary. 31
Table 6. John Shepherd Summary 32
Table 7. Ben Alexander Summary 33
Table 8. Pannell Library Summary 34
Table 9. Heidel Hall Summary. 35
Table 10. McLean Hall Summary 36
Table 11. Central Plant Summary. 37
Table 12. Mary Hagelstein Summary 38
Table 13. Don Whitaker Summary 39
Table 14. Harold Runnels Residence Hall Summary. 40
Table 15. Houston Thunderbird Residence Hall Summary. 41
Table 16. John Watson/Carroll Leavell Student Apartments Summary 42
Table 17. Maintenance Building Summary. 43
Table 18. Bob Moran Hall Summary 44
Table 19. Campus Development Goals. 52
Table 19. CPTED Strategies 82
Table 20. Development Priorities 84

3. EXECUTIVE SUMMARY

Founded in 1965, the New Mexico Junior College (NMJC) is located just north of the City of Hobbs in southeastern New Mexico. The campus serves approximately 2,800 students and is the major higher education institution in the southeast quadrant of the state. The 2019 NMJC Campus Master Plan updates the 2005 NMJC Facilities Master Plan. It articulates a new vision for the campus, prioritizing maintenance and upgrades to existing facilities, enhancing safety and security, and strengthening the campus identity.

Higher education in general is undergoing structural changes in terms of provision of education, with online classes and changes in pedagogy towards more collaborative classroom environments. As a state, New Mexico's demographics are trending towards slower overall population growth and an aging population. For NMJC, this translates to slower/flat enrollment growth but also opportunities to attract an older cohort of students – people looking to start second careers or retirees seeking educational outlets. NMJC is situated within the Permian Basin, one of the most prolific oil and gas resources worldwide. Advances in the oil and gas extraction industry have significantly increased the rate of production in Lea County. The URENCO uranium enrichment facility nearby also contributes to the booming energy sector. NMJC is uniquely positioned to help train the workforce needed for the energy industry. The NMJC Campus Master Plan focuses on how the physical campus can respond to external forces and support the NMJC vision and mission.

The 2019 NMJC Campus Master Plan carries forward relevant information from the 2005 Facilities Master Plan but makes a deliberate shift away from the concept of a dramatically expanded campus and shifts the attention to the core nucleus of the campus to maintain existing campus assets. A comprehensive Facilities Assessment was completed to inform the goals of the master plan. While the campus as a whole is in excellent condition, the Facilities Assessment identified a range of deficiencies on a building by building basis. Roof repairs, mechanical upgrades and ADA accessibility issues are among the most common items identified in the report. The Facility Condition Index (FCI) overall is excellent; McClean Hall (slated for renovation) and the Administration Building have the highest ratios of repairs needed to overall building replacement value. The campus infrastructure requires repairs to the concrete flatwork and some portions of the tunnels that run the campus heating and cooling boiler/chiller system pipes to the various buildings within the campus core.

This Campus Master Plan will be used to guide future investments in the physical campus infrastructure and facilities and prioritizes improvements of existing campus assets.

NMJC identified the following campus goals to inform future projects:

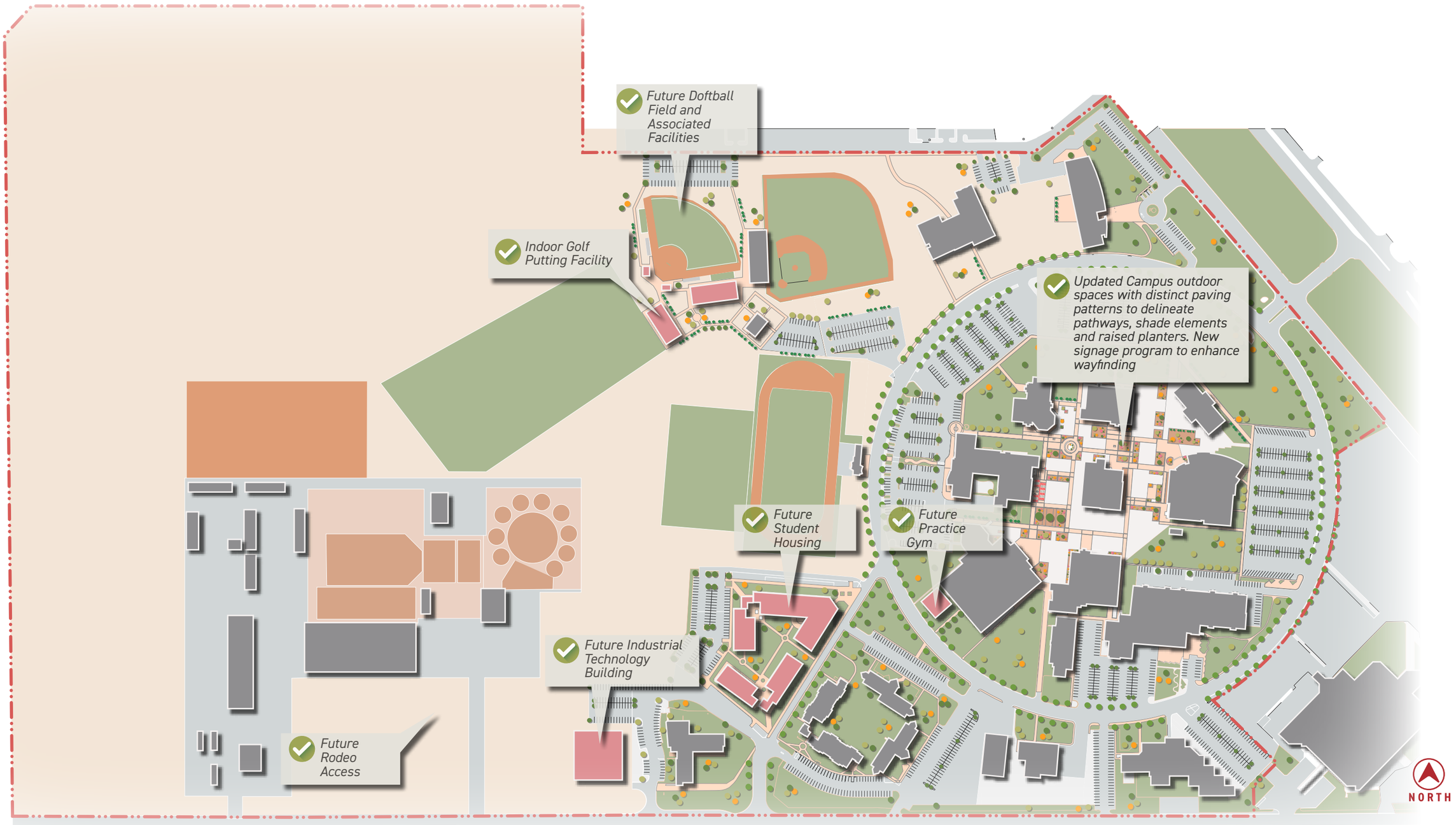
Enhance and Maintain Existing Campus Assets

> *Enhance and maintain existing facilities and infrastructure*

Create a Resilient Campus

> *Anticipate future development opportunities with infrastructure that can be extended to targeted areas*
> *Explore the potential to generate renewable energy to meet campus energy demands*

EXHIBIT 1. ***NMJC Future Development Framework***



Conceptual Campus Site Plan for Illustrative Purposes only

Create a Safe and Welcoming Campus

- *Implement Crime Prevention through Environmental Design (CPTED) strategies.*
- *Control access to the campus and individual buildings.*
- *Improve campus lighting to enhance security.*
- *Create consistent shading features.*

Enhance Campus Identity
Enhance the NMJC Brand.

- *Create a Signage and Wayfinding Plan.*
- *Create a hierarchy of signage for both vehicular and pedestrian campus users.*
- *Incorporate branding throughout the campus to strengthen campus identity.*
- *Create consistent building entry features.*
- *Create distinct and welcoming arrival points.*
- *Identify/create convenient drop off points for visitors.*

Provide Flexible, Adaptable Spaces and Support Online Instructional Delivery

- *Assess the campus to understand facility capabilities and shortcomings in terms of technology capabilities and functionalities.*
- *Enhance capacity to deliver and support online instructional classes.*

Encourage Collaboration with Communities and Business Partners

- *Create connections to communities and business partners.*
- *Identify opportunities for naming, recognition.*

The Campus Master Plan also identifies a list of Long-Range Development Priorities that fall under one or more of the Long-Range Development Goals. Each of the priorities have associated strategies that are outlined in the *"11. Implementation Strategies"* section of the Campus Master Plan. The following is the list of Long-Range Development Priorities:

CIRCULATION & PARKING GOALS

- *Shade parking areas*
- *Enhance pedestrian connection between facilities within the campus and off-campus amenities*
- *Create safe pedestrian connections*

FACILITIES GOALS

- *Upgrade and maintain facilities to last for another 50 years*
- *Add new facilities to support existing programs*

INFRASTRUCTURE GOALS

- *Maintain tunnels*
- *Maintain sewers*

CAMPUS OUTDOOR SPACES GOALS

- *Enhance hardscape/landscape areas*
- *Provide shade for public outdoor spaces*

WAYFINDING

- *Implement a comprehensive signage program for vehicular and pedestrian campus users*

SECURITY GOAL

- *Create access control to campus facilities*
- *Implement CPTED Strategies*



EXHIBIT 2. *NMJC Future Development Framework*

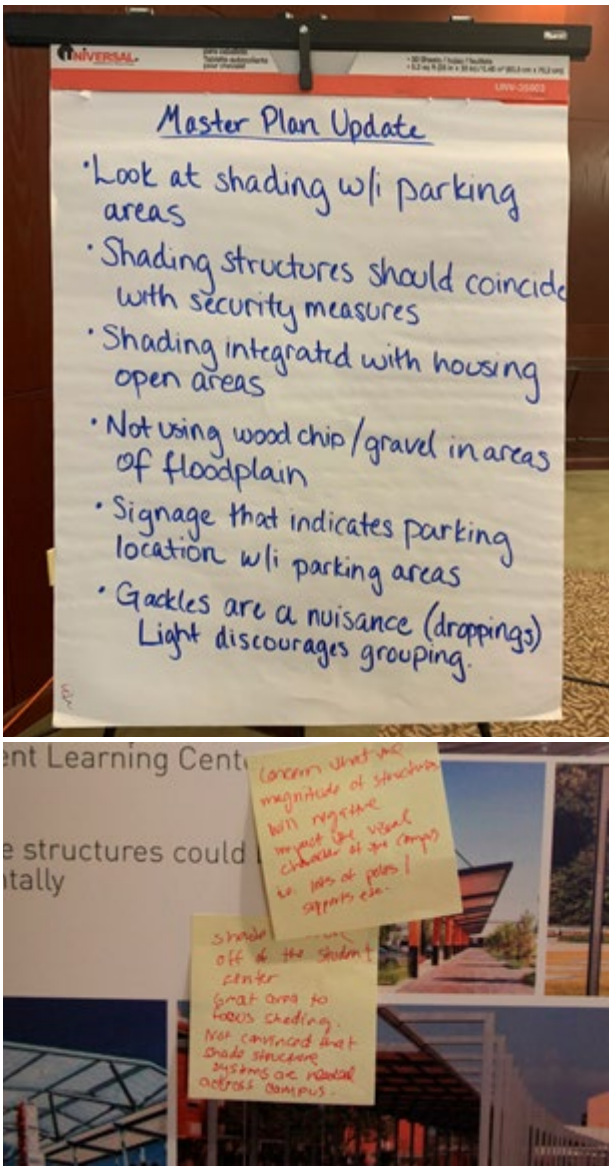
Conceptual Renderings are for Illustrative Purposes only

4. PLANNING PROCESS

The planning process section outlines the process by which the NMJC Campus Master Plan was updated and how NMJC and the project team collaborated.

In 2018, NMJC commissioned Dekker/Perich/Sabatini to update the Campus Master Plan. At the outset, the project team met with key stakeholders to identify project goals and tour the campus. The first phase of work focused on an in-depth analysis of the existing campus conditions. This analysis included a facility and infrastructure assessment to determine the state of each structure and underlying infrastructure.

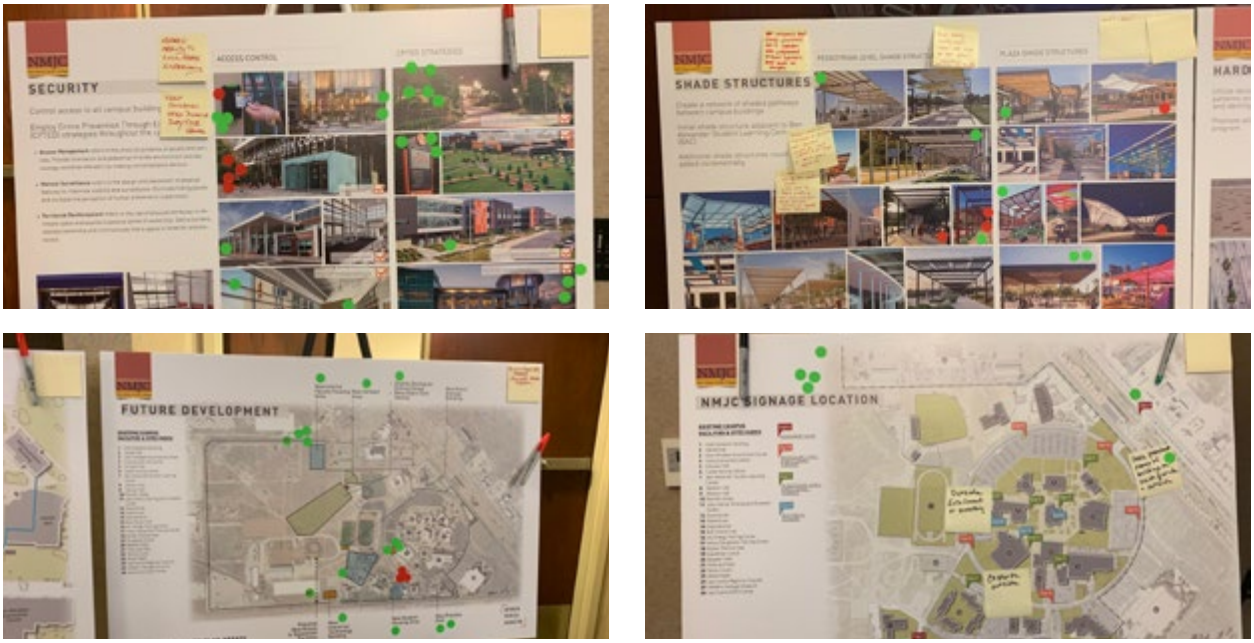
Guided by the findings of the facilities assessment, the project team developed campus concepts and strategies to achieve the goals articulated at the outset. The campus concepts and findings were presented to a larger group of NMJC stakeholders during a workshop held in June 2019. The workshop was well-attended with active participation by key stakeholders that readily shared thoughts and suggestions. Input from this workshop further informed and guided the NMJC Campus Master Plan. The project team delivered a draft of the Master Plan in August 2019 and a final version in September 2019. Over the course of the project, the project team consulted a core group of NMJC stakeholders on a bi-weekly basis.



Copious notes were taken during the workshop and feedback received informed the campus master plan update.



Following a presentation from the consultant team, participants were invited to consider a number of boards with more detailed concepts. and information.



Participants indicated their likes and dislikes with colored sticker dots on the boards, as well as additional comments on sticky notes.

5. INTRODUCTION

The introduction outlines the purpose of the NMJC Master Plan update and provides background information pertaining to the physical location and history of the campus.

5.A-PURPOSE AND PROCESS

NMJC last updated the Campus Master Plan in 2005. Since that time, the dynamics of higher education have changed, driven by shifting demographic patterns, rapidly changing economic realities, technological advances and new regulatory requirements. The overall strategic direction for NMJC has shifted, with less emphasis on campus expansion and more on maintaining and improving existing facilities to create a resilient, flexible and attractive campus that draws more students to the college and the surrounding area.

As the strategic focus of the college has changed since 2005, NMJC made the decision to generate a new Master Plan rather than updating the 2005 Master Plan. The 2019 NMJC Campus Master Plan carries forward relevant information from the 2005 Facilities Master Plan; however, it establishes a new campus framework that considers the changing demographics, economic and regulatory realities. It addresses the current campus conditions and articulates strategies for future improvements. This Campus Master Plan will be used to guide future investments in the physical campus infrastructure and facilities and identifies and prioritizes improvements that are needed to the existing campus.

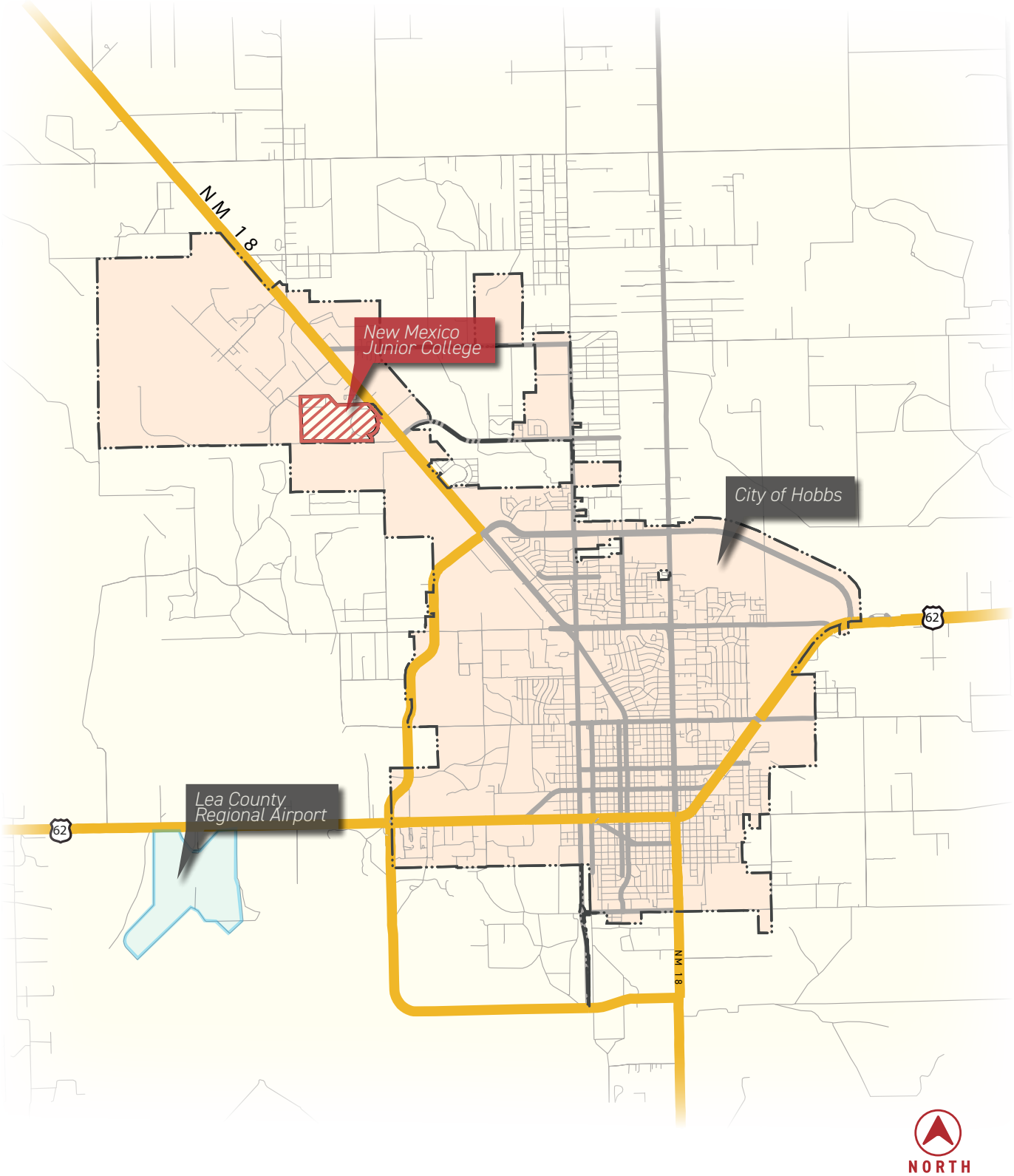
"Table 1. Old vs. New Master Plan" outlines the different focus areas of the 2005 and 2019 Campus Master Plans.

TABLE 1. *Old vs. New Master Plan*

New Mexico Junior College Facility Master Plan Update, 2005	*New Mexico Junior College Campus Master Plan, 2019*
> *Expand square footage of facilities and infrastructure* > *Continued growth within the Circle by infill and expansion* > *Completion of the array of possible facilities outside the Circle* > *Development of a "West Campus" and connection of it to the Original Campus by both pedestrian and vehicular traffic* > *Retention of the existing array of parking both inside and outside the Circle.*	> *Maintain and enhance existing facilities and infrastructure* > *Repair/protect tunnel system* > *Develop new housing* > *Develop new recreational facilities* > *Increase security of campus* > *Enhance signage and wayfinding* > *Incorporate shade elements and landscape renovations*

The 2019 Campus Master Plan is a vision for the New Mexico Junior College that provides a framework to direct future development and identifies priorities to allow the college to direct resources and grow in an organized and predictable manner.

EXHIBIT 3. *NMJC Context Map*



5. B - LOCATION

NMJC is located adjacent to the northern city limits of Hobbs, within Lea County, five miles west of the Texas border. Located at the intersection of U.S. Highway 62 and NM 18, Hobbs is also served by the nearby Lea County Regional Airport. NMJC is situated on the northwest side of Hobbs, with the main entrance along the north-south corridor of Lovington Highway (NM 18).

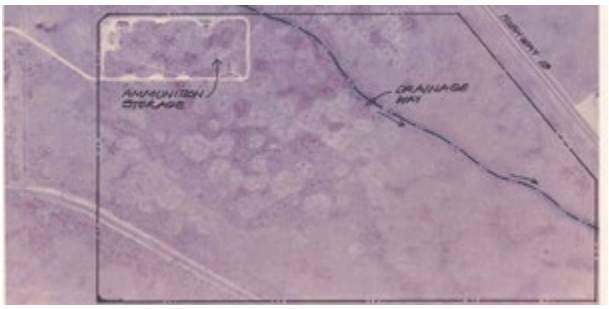
EXHIBIT 1. *New Mexico Context Map*



5. C - HISTORY

The Legislature of the State of New Mexico passed the Junior College Act in 1963 and NMJC was officially founded on July 1, 1965 as the first independent junior college in New Mexico.

NMJC acquired approximately 230 acres of land at the southwest corner of the World War II US Army Air Corps bomber training field. The eastern boundary was Lovington Highway (NM 18) and the southern boundary was a caliche road and fence line that would become Millen Drive. The site was largely unused during the war except for its northwest corner which was the ammunition and ordnance depot for the airfield.



Aerial of campus boundary in 1965



Aerial of campus, 1997

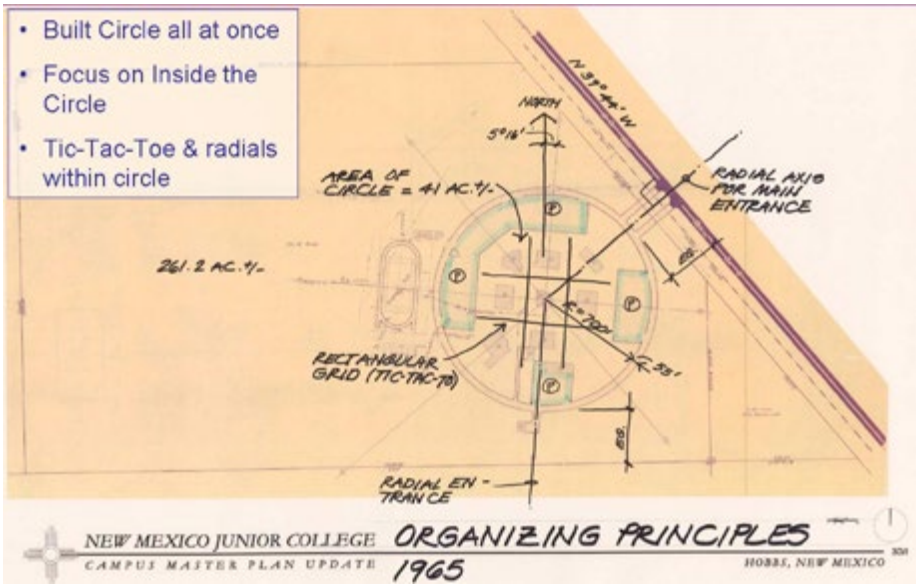


Aerial of campus, 2003



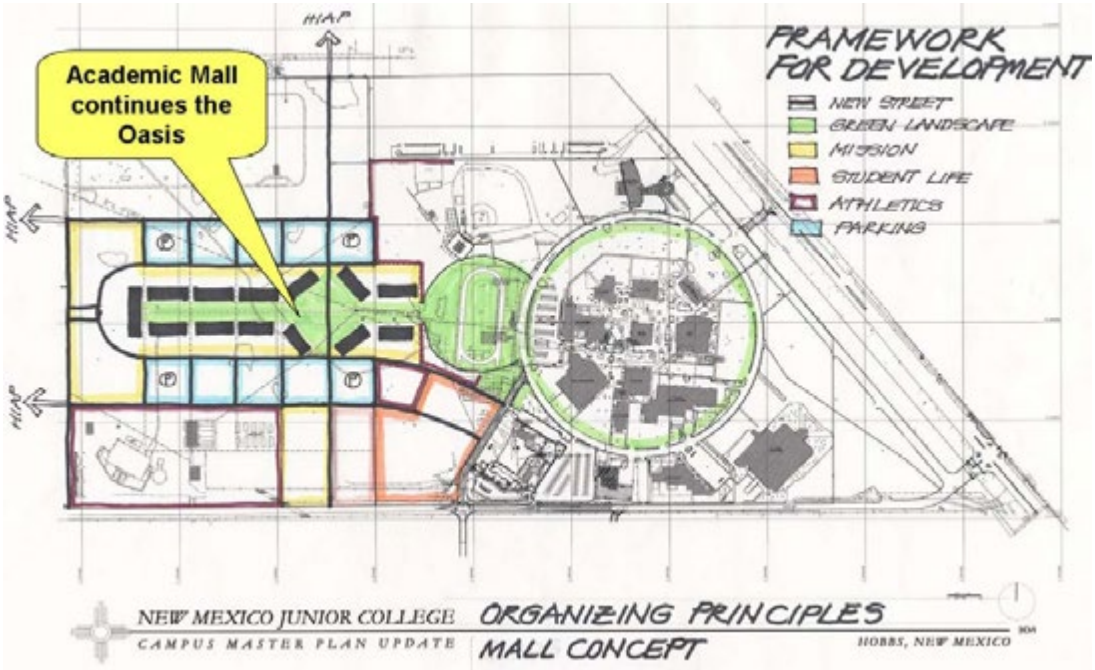
Aerial of campus, 2019

EXHIBIT 4. *Original Campus Master Plan, 1965*



Original campus Master Plan drawing of 1965

EXHIBIT 5. *2005 Master Plan Concept*



2005 Master Plan concept showing the anticipated westward expansion

Classes at NMJC began in the fall of 1966. The enrollment of NMJC has grown from 1,094 students in 1968 to 1,326 in 1988 to an enrollment of 2,720 in Fall 2018. From a population of 55,100 in 1980, Lea County has grown to an estimated 68,759 in 2017.

The original campus Master Plan and associated facilities were designed by Standhardt and Murray, Associated Architects of Roswell in 1965. The campus was designed in a circular pattern bounded by a loop road framing a grid of nine building sites as identified by *"Exhibit 4. Original Campus Master Plan, 1965"*.

By the 1970s, this first phase had been built out to the full extent of the Circle.

By the early 1980s, buildings outside the circle were planned and in 1982 a minor campus Master Plan update was prepared by Morrow & Worley, Landscape Architects of Albuquerque in 1982.

In 2005, the Master Plan was updated again. This update envisioned the campus to expand westward with a separate but closely connected campus called the "West Campus," which was envisioned to be as close in size and proximity to the original Circle as possible, as shown in *"Exhibit 5. 2005 Master Plan Concept"*. This expansion did not materialize, and today's goals and priorities have shifted in pursuit of a different vision.

6. TRENDS

The trends section outlines trends in demographics, the state and local economy and higher education to evaluate external forces that impact NMJC. This analysis allows NMJC to take the findings into consideration when drafting goals and planning for future development projects.

6.A-DEMOGRAPHIC

The population in Lea County has increased steadily over the past two decades. In 1999, the overall population accounted for 55,067 residents. In 2017, Lea County accounted for over 68,759 according to the Census. In 2017, the average median age was 31, which is younger than the population of both New Mexico (37.7) and the United States (37.8) according to the Census. Hobbs that is immediately adjacent to the NMJC campus, enjoys one of the lowest costs of living at 12% lower than the national average, according to the Council for Community and Economic Research. Its median household income is close to the national median household income at over $57,000, and higher than the New Mexican median household income that is just over $46,000.

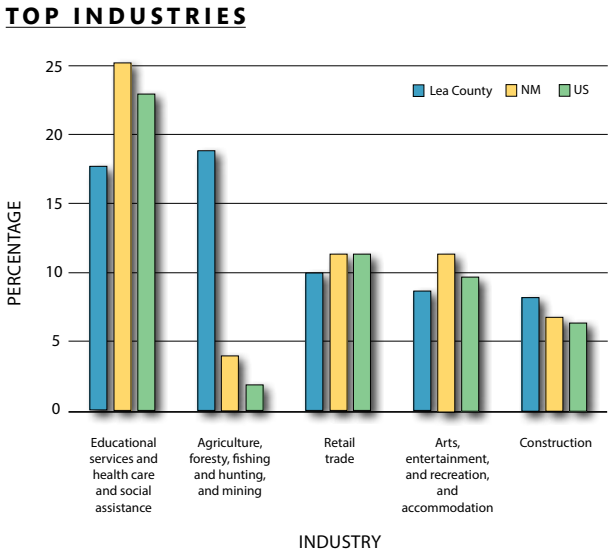
6.B-ECONOMIC

Hobbs serves as the commercial center for southeastern New Mexico and adjacent areas in Texas. The boom in the oil and natural gas industry has created new commercial growth in the City which has increased in population by a third between 2009 and 2018 according to the Economic Development Corporation (EDC). As a result of

the growing economy, housing has been in short supply. In order to stimulate the construction of residential and commercial buildings, the City of Hobbs created a number of incentives. In response, building permits issued for residential single-family homes doubled between 2016 and 2018 in Hobbs, according to the EDC. This steady growth of employment opportunities has contributed to the appeal of this region and population is expected to increase further.

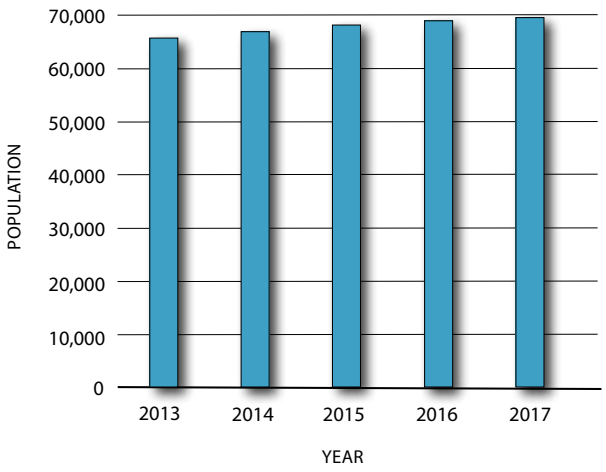
The oil and gas industry serves as the primary economic activity for this area. More than half of New Mexico's oil production in 2018 was produced in Lea County. Lea County continues to establish itself in the energy sector nationally, as it is currently ranked third in oil production in the US at the time of this update. Compared to the state and the country, Lea County employs a much higher percentage of people in mining (Agriculture, forestry, fishing and hunting, and mining industry sector) due to the success of the oil and gas industry.

EXHIBIT 2. *Top Industries*



As a result of a strong economy and the availability of high paying jobs, some potential students may opt for work over higher education, thus affecting enrollment numbers.

EXHIBIT 3. *Total Population*



6.C-HIGHER EDUCATION

Historically, higher education institutions have followed a traditional model, primarily teaching liberal arts. However, shifting demographic patterns, the pace of technological change, and the path of economic globalization necessitate a reexamination of this higher education model.

The junior or community college started out as a nearby, low-cost open enrollment vocational school. Today, colleges enroll almost half of all U.S. undergraduate students. Colleges are in an unique position to fill the gap in higher education by providing training that contributes to a faster turnaround than the traditional model.

There are a number of factors that are driving change within the job market both globally and domestically. Given population trends and trends in labor force participation rates, the U.S. workforce will continue to increase in size but at a considerably slower rate than in the past. Technological advances, such as artificial intelligence (AI), robotics and automation, have dramatically accelerated and streamlined production in recent years. Future demand of skills in complex problem-solving, cognitive abilities, and social skills will increase because of these advances in technology. Cloud technology that allows for more collaboration at greater distances has also increased productivity and changed the face of "the office."

Following these market forces and technological advances, employment trends are emerging that put pressure on the higher education system to respond. There is a growing demand for middle-skilled workers within the marketplace. These jobs require more than a high school diploma but less than a bachelor's degree and comprise about half of all U.S. jobs. Jobs that were previously available to those with high school diplomas now require specialized training. These fields fall within the training and educational domain of the junior college, providing an opportunity to design new programs to fill the gaps.

Among other trends also is the growing number of multi-generational workplaces. The young and usually more technologically savvy generations have now integrated into workplaces that also include the Baby Boomer generation who often are delaying retirement. This requires more innovative practices and policies to support extended careers. Oftentimes this means that older generations return to school to gain skills to compete or collaborate with younger generations.

With the introduction of advances in technology to higher education comes new models of learning. With online classes, distance is no longer a constraint for students who find themselves in rural areas. It also allows students taking career advancement courses greater flexibility in their schedules while working full-time or part-time. Methods of delivery are also changing with "flipped classrooms" that allow students to complete learning outside the classroom through online lectures and readings while class time is used for more practical, hands-on learning. Adaptive learning is also emerging as a successful method of delivery. This is a computer-based or online educational system that modifies the presentation of material in response to student performance, allowing a more tailored, individual learning experience.

Junior colleges like NMJC have the unique ability to quickly respond to a rapidly changing economy and emerging employment trends. Where junior and community colleges have traditionally succeeded in training a middle-skilled labor force, with specialized degrees and certificate programs, additional connections can be made to the local business sector to supply an immediate demand with graduates that have the necessary skill set. New methods of learning can accommodate the schedules and preferences of a broader range of students, incorporating advances in technology into higher education learning to produce graduates who are prepared to participate in the current economy.

NMJC OPPORTUNITIES

NMJC is already training the local workforce for industry-specific vocations and essential services. The two-year registered nursing education program, for example, educates 50 students every year, supporting the region with qualified health workers. Other programs provide technical knowledge as well as extensive practical hands-on skill developing experiences for students. Workforce training is available through continuing education courses as well.

However, with the drivers of change and employment trends in mind, there are a number of ways NMJC can respond to the changes and solidify its place in the higher education landscape.

- *Programming classrooms to offer a variety of innovative fast-track, boot camp style workforce training programs.*
- *Collaborative spaces to connect junior or community colleges to the business sector of the local economy to create opportunities for internships, apprenticeships and networking. These entrepreneurial incubator spaces host start-up companies and provide a sort of laboratory for students to interact with the local economy.*
- *Flexible classrooms where furnishings are designed to be easily rearranged.*
- *Up-to-date technology integrated into classrooms, including Virtual Reality, interactive white-boards, and videoconferencing that boosts collaboration and offers diverse learning opportunities*
- *Renovations that include creating collaborative spaces with smaller meeting room spaces with glass walls that open to larger central gathering spaces, etc.*

6. D-HED REQUIREMENTS

New Mexico Higher Education Department (NMHED) is responsible for the review and approval of public college and university Capital Projects. It is necessary for institutions to have an updated five-year Master Plan in which the institution determines the types of funding required for a given project in order to receive funding from NMHED. The institution requests legislative funding to support conceptual construction/ renovation projects from their five-year plan. NMHED determines a recommended list of projects to submit to the Governor. If approved, funding is awarded through General Obligation Bonds (GOB), Severance Tax Bonds (STB), or General Funds (GF). NMHED also holds monthly Capital Project Meetings to approve funding expenditures for construction/ renovation projects and land purchases/ leases. Based on project cost and type of school, the State Board of Finance reviews and approves. Institutions must submit all capital projects to NMHED, even if capital projects are not seeking Legislative funding.

7. EXISTING CAMPUS CONDITIONS ASSESSMENT

The existing campus condition assessment evaluates the existing campus conditions to help NMJC determine future projects and priorities and informs the development goals and implementation strategies set forward in subsequent sections.

7.A-ENVIRONMENTAL ASSESSMENT

CLIMATE AND WEATHER

The NMJC campus is located in southeastern New Mexico, an area known for its harsh climate and strong winds. During the spring and summer months, the campus experiences winds from the south, peaking in April. During the winter months, wind direction shifts to the west. Because the terrain is flat, winds can be destructive to the built environment and must be considered for overall campus improvements. Hobbs also experiences tornadoes, with over 15 events recorded since 1950 with a magnitude of 2 or above.

EXHIBIT 4. *Wind Rose*

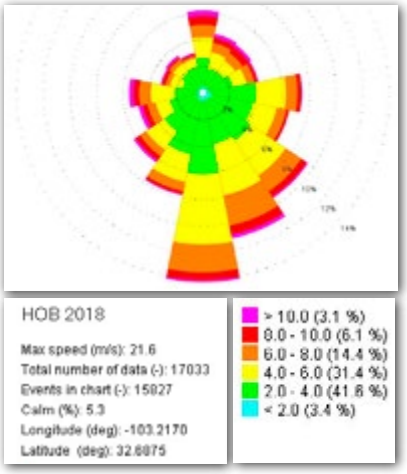


EXHIBIT 5. *Average Weather Conditions*

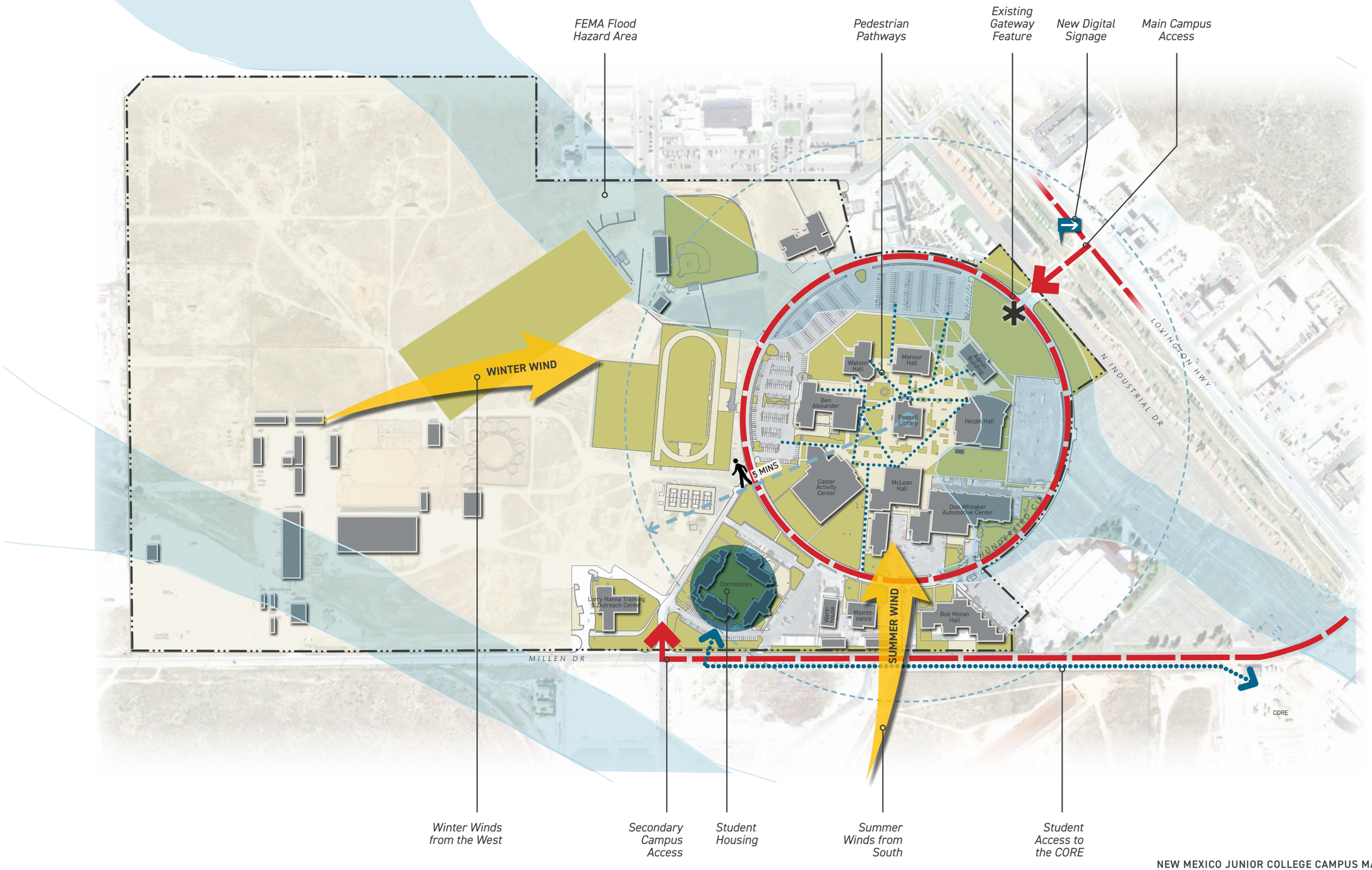
avg.	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
mph	9	9	10	11	10	9	7	6	6	7	8	9
	0.4"	0.3"	0.3"	0.9"	2.0"	0.9"	1.6"	1.7"	2.1"	1.8"	0.2"	0.1"
	1.5"	2.7"	1.5"	0.1"	0.0"	0.0"	0.0"	0.0"	0.0"	0.0"	0.7"	0.2"
	42	46	51	59	69	79	80	79	72	62	49	44

www.enviroware.com

The above graph illustrates average weather conditions in Hobbs

According to the FEMA National Flood Hazard Layer, parts of the campus are located in the floodplain. Although Hobbs averages 16 inches of annual precipitation, major floods have occurred in Hobbs on several occasions that have caused significant damage. There is anecdotal evidence that the campus has flooded significantly and boats were used to maneuver the campus floating on the loop road. Storm events generally occur between May and October. Most of the flooding occurs as sheet flow with a depth of one to three inches. Since soil depths are very shallow, the propensity for flash flood events during the monsoon season in the summer are increased.

EXHIBIT 6. ***Site Assessment***



SOILS

Soils within the NMJC campus are composed primarily of Kimbrough gravelly loam and the Kimbrough-Lea complex, according to the USDA Web Soil Survey. The typical vegetation consists of short and mid grasses and shrubs and is unsuitable for agricultural use. The surface layer is dark grayish-brown about 6 inches thick with beds of caliche underneath which pose challenges to landscaping as plant root systems can only penetrate to a depth of 6 to 16 inches. For NMJC this means that new landscape areas have to be excavated first and backfilled with more suitable topsoil, requiring additional labor and increasing project costs.

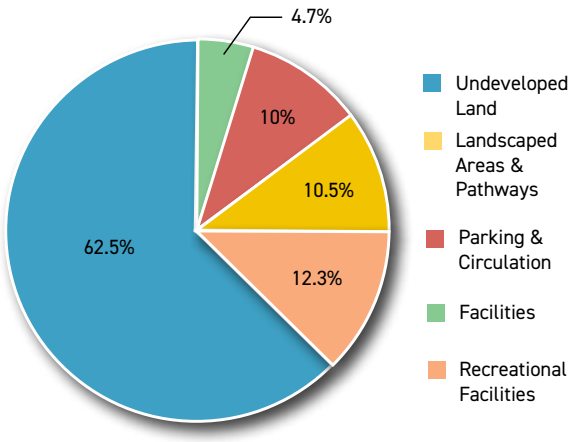
As such, the recommendations provided in this Master Plan take into consideration this particular challenge for future projects.

Hobbs is located at an elevation of over 3,600 feet. This elevation, combined with a generally dry climate and lack of natural tree canopy, has a harsh impact on exterior materials, from signage to building facades. During the winter months, the sun's southerly path results in high solar exposure on the southeast- and southwest-facing walls of facilities. The summer months bring a higher intensity of rays and sustained high temperatures.

LAND USE

There are several existing land uses on-campus with specific physical characteristics and location considerations. Since almost two-thirds of the campus is currently undeveloped, it is important to consider the existing percentages of land uses as goals and strategies are identified for future development opportunities. Over 62% of land is currently undeveloped, while 12% is occupied by recreational uses, such as the baseball and track and field facilities. 10% is occupied by parking and almost 5% by facilities. The college has an ample supply of land for future expansion if new facilities are required.

EXHIBIT 6. *Land Use*



7. B - CAMPUS CONTEXT

The NMJC campus is comprised of a cluster of facilities located within the circle, bound by the Thunderbird Circle loop road. The first phase of the campus was developed within the circle and facilities located here are referred to as within the circle. Most NMJC academic programs and campus functions are located within the circle, while support services like maintenance and student housing are located outside the circle. Outside the circle to the west are the athletic fields and golf driving range as well as a rodeo and equestrian facilities.

EXHIBIT 7. *NMJC Existing campus*

FACILITIES INDEX

01 John Shepherd Administration Building (JSA)
02 Heidel Hall (HH)
03 Greenhouse (GH)
04 Don Whitaker Automotive Technology Center (WAC)
05 Mary Hagelstein Instructional Arts Center (HAC)
06 Central Plant (CP)
07 McLean Hall (MC)
08 Caster Activity Center (CAC)
09 Ben Alexander Student Learning Center (BAC)
10 Watson Hall (WH)
11 Mansur Hall (MH)
12 Pannell Library (PL)
13 Bob Moran Hall (BMH)
14 Maintenance Building (MB)
15 Auction Warehouse (AW)
16 Harold Runnels Residence Hall (RRH)
17 Glen & Rosemary Houston Thunderbird Hall (HRH)
18 John Watson Student Apartments (JWA)
19 Carroll Leavell Student Apartments (CLA)
20 Larry Hanna Training and Outreach Center (HTO)
21 Transportation Safety Training Center (TTC)
22 Don Bratton Building 1 (DB1)
23 Don Bratton Building 2 (DB2)
24 Don Bratton Building 3 (DB3)
25 Don Bratton Building 4 (DB4)
26 Dan Berry Rodeo Arena (BRA)
27 Equine Building (E)
28 Driving Range (DR)
29 Baseball Field House
30 Ray Birmingham Thunderbird Baseball Field (BBF)
31 Concession Stand (CS)
32 Track Field (TF)
33 Field House (FH)
34 Tennis Courts (TC)
35 Sand Volleyball Area (VA)
36 Allied Health Building (AHB)
37 Western Heritage Museum (WHM)
38 Lea Regional Medical Center
39 Lea County Event Center
40 The CORE

LEGEND

- Ben Alexander Student Service Center
- Lea Regional Medical Center
- Western Heritage Museum
- Watson Hall Theater
- Pannel Library
- Larry Hanna Training and Outreach Center (HTO)
- Caster Activity Center
- Driving Range
- Ray Birmingham Thunderbird Baseball Field (BBF)
- Track and Field
- Equestrian Facilities

NORTH



Aerial of NMJC campus looking northwest, 2019

To the southwest, located at the secondary entrance off of Millen Drive, is the Larry Hanna Training and Outreach Center which offers continuing education, instrumentation and controls, oil and gas technology, transportation training, and workforce training. Also located to the southwest and outside the loop road is student housing.



Aerial of NMJC campus looking west. Located to the southwest is student housing, 2019.

To the southeast and outside the campus boundary is the Lea County Event Center and the CORE Center of Recreational Excellence. Both facilities are utilized by NMJC students and coordinate with the college to offer complementary programs.

The Western Heritage Museum of Lea County is located in the north of the campus, just outside the circle. In 2019, the Allied Health building was added to the west of the Western Heritage Museum. The Allied Health building is strategically located adjacent to the Lea County Regional Medical Center to create a physical and programmatic adjacency benefiting the hospital and NMJC nursing students; walkways connect the Allied Health building to the medical center site to the north.



Aerial of NMJC campus looking southwest from the main gateway into the campus from Lovington Highway. To the north is the newly constructed Allied Health building, 2019.

7. C-CIRCULATION

The campus is accessed through two points with the primary access located on the east off of Lovington Highway and a secondary access located on the south side of the campus off of Millen Drive. Thunderbird Circle serves as a loop road and internal arterial, dividing the campus into areas within the circle or loop road and facilities outside the circle. Facilities within the circle are organized around Pannell Library at the center, facing inwards with parking fields located adjacent to Thunderbird Circle. Equestrian facilities to the east of the campus are accessed through a dirt road north of the tennis courts and south of the Track Field facilities. If new student dorms are constructed to the west of the exciting dorms, NMJC expressed the desire to create a new access road off of Millen Drive to service the equestrian facilities.

The college includes approximately 730 parking spaces which sufficiently serve the college. Parking fields are located adjacent to Heidel Hall , Mansur Hall, Watson Hall and Ben Alexander as well as the Don Whitaker Automotive Technology Center. There are additional parking fields outside the circle serving Bob Moran Hall, the Maintenance Building, student housing, the Larry Hanna Training and Outreach Center, the tennis courts, track field, and baseball facilities. Parking fields are not numbered or identified by names and with the exception of the parking area to the west of Ben Alexander, lack landscaping or shade. During discussions with NMJC stakeholders the desire for covered parking was expressed to protect users and their vehicles from exposure to the sun.



Parking field looking north.

Pedestrian movement occurs throughout the campus, primarily concentrated within the circle as students move from class to class. No vehicular access is permitted within the circle, allowing pedestrians full access; however, the pedestrian pathways are poorly defined. Outside the circle, pedestrian activity occurs primarily between Ben Alexander and the athletic field/baseball field, between student housing and Caster Activity Center as well as between the Allied Health building and the parking lot adjacent to Watson and Mansur Halls. Other pedestrian routes are between the student housing and the CORE. During discussions it was mentioned that this connection needed to be enhanced to create a safer and more pleasant pedestrian environment when traveling to and from the CORE.



Access within the circle is restricted to pedestrians and bicyclists and includes an extensive network of concrete pathways and landscaped areas.

7. D - SECURITY

Much of the core NMJC campus was planned and constructed in the early 1960s and 1970s. At that time, the main focus was providing accessibility, resulting in a porous campus with a multitude of access points. Today, heightened security concerns have changed the focus. NMJC leadership wants to implement access control measures as well as other security measures to make the campus safer for all users.



Building entrances with automated sliding doors, creates challenges for maintaining the building temperature and controlling access.

One of the main security concerns is the large number of building entrances distributed throughout the campus. Many buildings have more entrances than required serving no specific purpose. A majority of the entrances are not equipped with vestibules which are necessary to implement access control measures. NMJC stakeholders expressed the desire to install access control measures on all entrances to restrict access to buildings.



During the workshop, NMJC stakeholders commented on a board prepared to discuss security issues and introduce concepts to enhance security on campus.

CRIME PREVENTION THROUGH ENVIRONMENTAL DESIGN

Crime Prevention Through Environmental Design (CPTED) principles are strategies that use site and building design methods to reduce the incidence and fear of crime.

Older campus facilities are not designed or located to maximize visibility or to eliminate hiding places. The conscious placement and design of outdoor spaces and buildings increase the perception of human presence and supervision. This deters unwanted intrusion and behaviors that creates a natural surveillance system. Part of this system includes proper illumination in buildings and walkways. Currently the campus lacks a comprehensive lighting scheme within and around campus facilities. A majority of outdoor areas are not well-lit, creating dark corners and the perception of a lack of supervision.



A majority of facilities on campus are not designed or located to maximize visibility or to eliminate hiding places.

Renovations and new facility design projects should take into consideration the location, design and orientation of buildings and openings to enhance safety and oversight throughout the campus. An improved and coordinated lighting system would further improve overall safety.

The campus 'Security' map indicates the location of doors on most campus facilities. Most facilities were constructed during the 60s and 70s with a focus on access so that facilities have more doors than required by code.

FACILITIES INDEX

01 John Shepherd Administration Building (JSA)
02 Heidel Hall (HH)
03 Greenhouse (GH)
04 Don Whitaker Automotive Technology Center (WAC)
05 Mary Hagelstein Instructional Arts Center (HAC)
06 Central Plant (CP)
07 McLean Hall (MC)
08 Caster Activity Center (CAC)
09 Ben Alexander Student Learning Center (BAC)
10 Watson Hall (WH)
11 Mansur Hall (MH)
12 Pannell Library (PL)
13 Bob Moran Hall (BMH)
14 Maintenance Building (MB)
15 Auction Warehouse (AW)
16 Harold Runnels Residence Hall (RRH)
17 Glen & Rosemary Houston Thunderbird Hall (HRH)
18 John Watson Student Apartments (JWA)
19 Carroll Leavell Student Apartments (CLA)
20 Larry Hanna Training and Outreach Center (HTO)
21 Transportation Safety Training Center (TTC)
22 Don Bratton Building 1 (DB1)
23 Don Bratton Building 2 (DB2)
24 Don Bratton Building 3 (DB3)
25 Don Bratton Building 4 (DB4)
26 Dan Berry Rodeo Arena (BRA)
27 Equine Building (E)
28 Driving Range (DR)
29 Baseball Field House
30 Ray Birmingham Thunderbird Baseball Field (BBF)
31 Concession Stand (CS)
32 Track Field (TF)
33 Field House (FH)
34 Tennis Courts (TC)
35 Sand Volleyball Area (VA)
36 Allied Health Building (AHB)
37 Western Heritage Museum (WHM)
38 Lea Regional Medical Center
39 Lea County Event Center
40 The CORE

LEGEND

- Existing Door to Remain
- Existing Vestibule
- New Outdoor Vestibule
- New Indoor Vestibule
- Conversion to Maintenance Entrance Only
- Conversion to Exit Only
- Door to be Removed

N LOVINGTON HWY
N INDUSTRIAL DR
THUNDERBIRD CIR
W MILLEN DR

Conceptual Campus Site Plan for Illustrative Purposes only

Throughout the campus, there is a lack of signage, wayfinding measures, branding and pathway delineation which creates ambiguous spaces that are confusing to use and are likely to invite unwanted behavior. Currently there is no comprehensive signage system with a general lack of pedestrian-level signage inside the circle and a lack of building-applied signage. Pathways are largely not delineated. For example, the pedestrian areas between facilities within the circle have large expanses of lawn and pavement broken up by seemingly random landscape pieces. These areas are in need of more structured delineation to better orient users. This, accompanied by a comprehensive signage system, would contribute to better wayfinding and territorial reinforcement that enhances security.

The campus facilities assessment revealed that many of the pedestrian hardscape walkways are in need of repairs and maintenance. The network of tunnels that are below some walkways also need repairs that necessitate the reconstruction of the sidewalks above.

The following outlines general CPTED strategies which should be considered for renovation and new construction projects. More targeted strategies are outlined in the *"9. CAMPUS IMPROVEMENT PRIORITIES"* section.

Natural Access Control

> *Natural access control refers to a design strategy that is directed at decreasing crime opportunity. The primary goal of an access control strategy is to deny access to a crime target and to create a perception of risk to the offender. Design features attempt to deny offenders access to targets, reduce escape opportunities and guide legitimate users through the environment.*

Natural Surveillance

> *Natural surveillance refers to a design strategy that is directed at keeping intruders under observation. Designing for natural surveillance involves providing ample opportunity for legitimate users engaged in their normal activities to observe the space around them. Design strategies revolve around the placement of physical features, activities and/or people that maximize natural visibility or observation.*

Territorial Reinforcement

> *Territorial reinforcement refers to a design strategy that realizes that physical design can create or extend a sphere of influence over a property. Design features are used to clearly delineate a space as public, semi-public, or private space and to create appropriate ownership of that space.*

Maintenance

> *Maintenance refers to the continued use of a space for its intended purpose. It also serves as an additional expression of ownership. A good maintained campus creates a sense of ownership, which helps to deter criminals.*

Implementing CPTED strategies throughout the NMJC campus will help with crime prevention while also enhancing the visual qualities of the campus.

8. FACILITIES & INFRASTRUCTURE ASSESSMENT

The facility and infrastructure assessment section outlines the findings of the assessment performed on NMJC facilities and infrastructure.

8.A-FACILITIES

As part of this Master Plan update, a Facilities Assessment was conducted to analyze the state of each facility. The existing total square footage covers over 480,000 square feet. The assessment found that most of the facilities are in good shape with minor repairs and maintenance required including but not limited to roof repairs and exterior/interior cosmetic repairs. In addition, due to the age of most facilities, some buildings must be brought into compliance with code requirements including utilities, ADA accessibility and emergency lighting and signage systems.

Most facilities within the circle have sufficient space to accommodate the existing college programs. Outside the circle, some new facilities are required to cover program expansions and support existing functions. One major proposed addition includes a new Industrial Technology Building for welding, vocational training and outreach programs. This is tentatively planned for a site west of the current student housing. Due to a housing shortage in the greater Hobbs area, the need for interim faculty housing was expressed.

The NMJC athletic and sports programs are growing and require facility expansions, including an indoor putting and chipping area to support the existing driving range, a softball field adjacent to the existing baseball field with ancillary facilities, and a practice gym adjacent to Caster Activity Center.

TABLE 2. *Overall Facility Square Footage*

Building	*SQFT*
Watson Hall	*14,536*
Mansur Hall	*15,499*
John Shepherd Administration Building	*11,447*
Ben Alexander Student Learning Center	*45,023*
Pannell Library	*29,514*
Caster Activity Center	*57,697*
Heidel Hall	*38,914*
McLean Hall	*22,853*
Central Plant	*5,850*
Mary Hagelstein Instructional Arts Center	*11,533*
Don Whitaker Automotive Technology Center	*65,763*
Harold Runnels Residence Hall	*18,160*
Glen & Rosemary Houston Thunderbird Hall	*18,160*
John Watson/Carroll Leavell Student Apartments	*67,326*
Maintenance Building	*12,328*
Bob Moran Hall	*31,043*
Larry Hanna Training and Outreach Center	*15,207*

(The full Facilities Assessment Report can be found in the Appendices.)

WATSON HALL

Watson Hall is in generally good condition, but is in need of substantial cosmetic repairs and upgrades. Some of the main capital investment areas include renovating the theater to be accessible, mechanical corrections/upgrades, installing a fire suppression system, and cleaning and repointing exterior brick.

Description	*A single-story fine arts/theater building*
Year Built	*1967*
Structure	*Steel columns and beams with bar-joist and gypsum deck roof construction. The floor is a slab-on-grade concrete floor.*
Additions/ Renovations	*Two additions constructed in 1986 and 1994*



The mosaic tile walls on the exterior of the theater have some portions that are missing.

STAFF NOTES

- *Water out of faucets runs rust-colored for a few minutes*
- *Plumbing backs up*
- *Exterior doors stick open or closed*
- *Lighting control has several issues*
- *Windows in Room 121 generate too much heat gain in the afternoon*

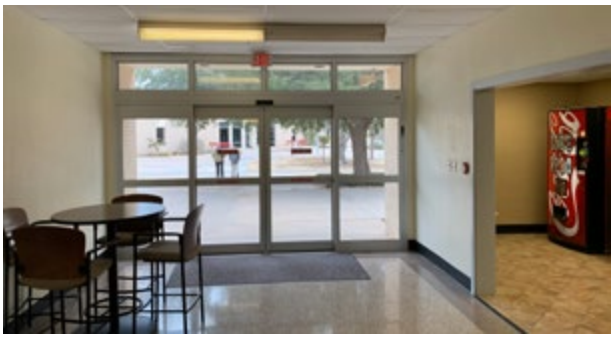
TABLE 3. *Watson Hall Summary*

Facility Deficiencies
Clean and repoint brick
Correct accessibility issues in restrooms
Electrical corrections/upgrades
Install accessible door hardware
Install compliant signage
Install emergency lighting system, incl. exit signs
Install fire suppression system
Install vestibules at each entry (Incl. replacing existing door)
Mechanical corrections/upgrades
New LED light fixtures
Plumbing corrections/upgrades
Re-finish terrazzo
Renovate plumbing system
Renovate theater to be accessible
Replace ceiling tiles and grid
Replace other flooring
Replace windows in cosmetology
Roof repair
Upgrade Fire alarm system

MANSUR HALL

Mansur Hall is in generally good condition, but is in need of substantial cosmetic repairs and upgrades. Some of the main capital investment areas include mechanical and electrical corrections/upgrades, cleaning and repointing the exterior brick, and upgrading the fire alarm system.

Description	*A single-story classroom building*
Year Built	*1966*
Structure	*Steel columns and beams with bar-joist and gypsum deck roof construction. The floor is a slab-on-grade concrete floor.*
Additions/ Renovations	*None*



Upgrades are needed at building entrances/exits that include vestibules in order to better control access and regulate temperatures.

STAFF NOTES

- *Women's restroom has bad odor*
- *Exterior doors stick open or closed*
- *No windows*
- *WI-FI is not consistent*

TABLE 4. *Mansur Hall Summary*

Facility Deficiencies
Clean and repoint brick
Correct accessibility issues in restrooms
Electrical corrections/upgrades
Install accessible door hardware
Install compliant signage
Install emergency lighting system, incl. exit signs
Install exhaust fans in restrooms
Install vestibules at each entry (incl. replacing existing door)
Mechanical corrections/upgrades
New LED light fixtures
Plumbing corrections/upgrades
Re-finish terrazzo
Renovate plumbing system
Repair (patch, remove debris, clean drains, replace ballast)
Replace ceiling tiles and grid
Replace existing /install new drinking fountains
Replace other Flooring
Upgrade Fire alarm system

JOHN SHEPHERD ADMINISTRATION

John Shepherd is in generally good condition, but is in need of cosmetic repairs and upgrades. Some of the main capital investment areas include mechanical and electrical corrections/upgrades, sprinkle building, and replace alarm system.

Description	*A single-story administration building*
Year Built	*1966*
Structure	*Steel columns and beams with bar-joist and gypsum deck roof construction. The floor is a slab-on-grade concrete floor.*
Additions/ Renovations	*Original entry was closed and main entry was relocated to the north side.*



Sidewalks need to be replaced that surround the building

TABLE 5. *John Shepherd Summary*

Facility Deficiencies
Adjust sticking storefront door at entrance near 131
Electrical corrections/upgrades
Fire alarm system
Localized repair
Mechanical corrections/upgrades
Plumbing corrections/upgrades
Re-landscape
Repair door trim 141
Repair drywall
Repair hole in wall above door 121
Repair holes in finance office door
Replace auto door opener at entrance near 106
Replace auto door opener at entrance near 131
Replace blinds in storage
Replace ceiling tiles
Replace door 114 cracked
Replace flooring
Replace lighting
Replace sidewalks around building
Replace signage
Replace storefront door near 106
Sprinkle building

BEN ALEXANDER STUDENT LEARNING CENTER

Ben Alexander is in generally good condition, but is in need of substantial cosmetic repairs and upgrades. Some of the main capital investment areas include renovate kitchen, electrical and mechanical corrections/upgrades, and clean and repoint brick.

Description	*A two-story student building with student activity center, cafeteria/kitchen, bookstore and student services*
Year Built	*1969*
Structure	*Steel columns and beams with bar-joist and gypsum deck roof construction. The floor is a slab-on-grade concrete floor.*
Additions/ Renovations	*Addition in 2005*



The kitchen floor tiles are aged and the walls are in poor condition

STAFF NOTES

- *Kitchen is inefficient and poorly laid out*
- *Kitchen equipment is old and in need of replacement*
- *Flooring in kitchen is very poor*

TABLE 6. *Ben Alexander Summary*

Facility Deficiencies
Clean and repoint brick
Correct accessibility issues in restrooms
Electrical corrections/upgrades
Install accessible door hardware
Install compliant signage
Install vestibules at each entry (incl. replacing existing door)
Mechanical corrections/upgrades
New LED light fixtures
New VCT
Plumbing corrections/upgrades
Re-finish terrazzo
Renovate kitchen
Repair (patch, remove debris, clean drains, replace ballast)
Replace ceiling tiles and grid

PANNELL LIBRARY

Pannell Library is in excellent condition, with a few minor cosmetic repairs and replacements. Some of the main capital investment areas include mechanical and electrical corrections/upgrades and replacing toilet partitions.

Description	*A two-story library building*
Year Built	*1960s*
Structure	*Load-bearing masonry and steel columns and beams as well as concrete column and beams on the lower level*
Additions/ Renovations	*Two additions/renovations in 1980 and 2010, adding second story and entry/circulation vestibule*



Exterior stair and stair structure (including railing) need to be re-painted



LVT flooring is coming up in between mobile storage units

TABLE 7. *Pannell Library Summary*

Facility Deficiencies
Electrical corrections/upgrades
Mechanical corrections/upgrades
Re-paint exterior stair
Repair LVT at mobile storage units
Replace carpet at 241
Replace toilet partitions

HEIDEL HALL

Heidel Hall is in good condition, with substantial cosmetic repairs and replacements. Some of the main capital investment areas include mechanical and electrical corrections/upgrades, replacing flooring and fire alarm system, and re-roofing.

Description	*A single-story educational building*
Year Built	*1966*
Structure	*Steel columns and beams with bar-joist and gypsum deck roof construction. Floor is slab-on-grade concrete floor.*
Additions/ Renovations	*Addition in 1995*



Flooring in certain locations is in disrepair and is recommended to be replaced

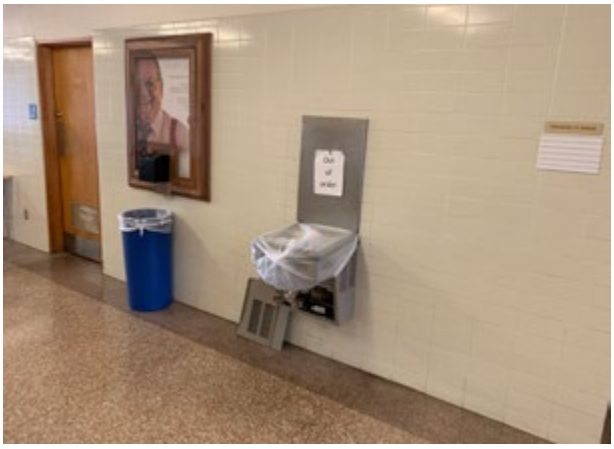
TABLE 8. *Heidel Hall Summary*

Facility Deficiencies
ADA fixtures in bathroom 105
Blinds in public safety replace
Ceiling cracked in hallway 200 outside 204
Ceiling tile replacement
Dedicated sanitary line
Electrical corrections/upgrades
Fan not working 105
Flooring repair/replacement
Install seal
Landscaping repair/replacement
Lighting replacement
Mechanical corrections/upgrades
Mismatched tiles
Painting
Plumbing corrections/upgrades
Remove door opener button pedestal
Repair corner brick cracking outside 102
Repair door scratches
Repair water damaged drywall at entry
Replace benches near door 130 hallway
Replace cracked sidewalks around building
Replace fire alarm system
Replace roof
Storage
Store 133 needs shelving and chem cabinets
Window repair/replacement

McLEAN HALL

McLean Hall is in good condition, with substantial cosmetic repairs and replacements. Some of the main capital investment areas include mechanical and electrical corrections/upgrades, cleaning and repointing brick, and upgrading fire alarm system.

Description	*A single-story building housing IT and classrooms*
Year Built	*1966*
Structure	*Steel columns and beams with bar-joist and gypsum deck roof construction. Floor is slab-on-grade concrete floor.*
Additions/ Renovations	*Addition in 1977*



Out-of-order water fountains should be replaced

STAFF NOTES

- *Vocational addition is cold*
- *Exterior doors stick open or closed*

TABLE 9. *McLean Hall Summary*

Facility Deficiencies
Clean and repoint brick (Incl. '66 central plant)
Correct accessibility issues in restrooms
Electrical corrections/upgrades
Install accessible door hardware
Install accessible restroom
Install compliant signage
Install emergency lighting system, incl. exit signs
Install vestibules at each entry (Incl. replacing existing door)
Mechanical corrections/upgrades
New LED light fixtures
Paint
Plumbing corrections/upgrades
Re-finish terrazzo
Repair roof
Replace ceiling tiles and grid
Replace door with insulated unit, 105A exterior
Replace existing/Install new drinking fountains
Replace other flooring
Upgrade Fire alarm system

CENTRAL PLANT

Central Plant is in good condition, with substantial cosmetic repairs and replacements. Some of the main capital investment areas include mechanical and electrical corrections/upgrades, upgrading fire alarm system, and re-roofing.

Description	*A single-story building housing boilers and chillers for campus mechanical systems*
Year Built	*1966*
Structure	*Steel columns and beams with bar-joist and gypsum deck roof construction. Floor is slab-on-grade concrete floor.*
Additions/ Renovations	*Additions in 1990, 1997, and 2010*



Ponding occurs frequently on the roof and must be replaced



Exposed concrete areas are heavily stained in areas and could potentially be damaged from the various drains

TABLE 10. *Central Plant Summary*

Facility Deficiencies
Clean brick
Electrical corrections/upgrades
Install emergency lighting system, incl. exit signs
Mechanical corrections/upgrades
New LED light fixtures
Paint
Plumbing corrections/upgrades
Replace exterior doors
Replace roof (not incl. '66 portion; incl. modify drainage)
Re-surface floor
Upgrade Fire alarm system

MARY HAGELSTEIN INSTRUCTIONAL ARTS CENTER

Mary Hagelstein is in good condition, with substantial cosmetic repairs and replacements. Some of the main capital investment areas include mechanical and electrical corrections/upgrades, reconstructing the demo kiln/storage room, and cleaning and repointing brick.

Description	*A single-story educational building*
Year Built	*1976*
Structure	*Steel columns and beams with bar-joist and gypsum deck roof construction. Floor is slab-on-grade concrete floor.*
Additions/ Renovations	*Addition recently*



Exterior brick is stained and needs cleaning and repointing

STAFF NOTES

- *Fan coil units loud and leaky*
- *Poor hot water; takes a very long time*
- *No windows*
- *Roof leaks*

TABLE 11. *Mary Hagelstein Summary*

Facility Deficiencies
Clean and repoint brick
Correct accessibility issues in restrooms
Demo kiln /storage room, reconstruct
Electrical corrections/upgrades
Install accessible door hardware
Install compliant signage
Install emergency lighting system, incl. exit signs
Install fire suppression system
Install vestibules at each entry (Incl. replacing existing door)
Mechanical corrections/upgrades
Plumbing corrections/upgrades
Re-finish terrazzo
Renovate photo lab (plate making, dark room, etc.)
Renovate plumbing system
Repaint
Replace ceiling tiles and grids
Replace drinking fountains
Replace other flooring
Re-roof
Upgrade Fire alarm system

DON WHITAKER AUTOMOTIVE TECHNOLOGY CENTER

Don Whitaker is in good condition, with substantial cosmetic repairs and replacements. Some of the main capital investment areas include electrical corrections/upgrades, sprinkling building, re-roofing, and replacing fire alarm system.

Description	*A single-story educational building*
Year Built	*1976*
Structure	*CMU brick and some framed gypsum walls with bar-joist and gypsum deck roof construction*
Additions/ Renovations	*Addition in 1999*



Ductwork located on the roof was not properly supported after the last re-roof or roof repair.

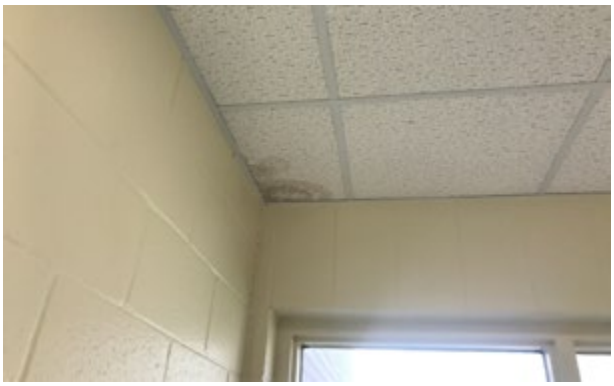
TABLE 12. *Don Whitaker Summary*

Facility Deficiencies
Clean brick
Electrical corrections/upgrades
Install ventilation
Mechanical corrections/upgrades
Mezzanine repairs
Paint
Plumbing corrections/upgrades
Re-landscape
Remove AC unit, install HVAC
Remove toxic waste containers from 112
Repair broken brick at gas storage
Replace bowed rafters in new classroom inside 110
Replace ceiling tiles
Replace Doors & Hardware
Replace fire alarm system
Replace flooring
Replace plumbing
Replace sinks and wash areas
Replace toilet fixtures and partitions 124
Replace water fountain
Replace windows 203
Re-roof facility
Reroute trough drain 111
Seal split face block
Sprinkler building
Wash sink plumbing 111
Welding and automotive labs

HAROLD RUNNELS RESIDENCE HALL

Harold Runnels is in good condition, with some cosmetic repairs and replacements. Some of the main capital investment areas include electrical and mechanical corrections/upgrades, replacing fire alarm system, and replacing HVAC piping and equipment.

Description	*A two-story dormitory building*
Year Built	*1991*
Structure	*Steel columns and beams with bar-joist and gypsum deck roof construction. Floors are slab-on-grade concrete floor.*
Additions/ Renovations	*None*



Numerous stained and damaged ceiling tiles were observed

TABLE 13. *Harold Runnels Residence Hall Summary*

Facility Deficiencies
Electrical corrections/upgrades
Mechanical corrections/upgrades
Paint facility
Plumbing corrections/upgrades
Re-landscape for drainage
Repair brick corner
Replace ACT in facility
Replace ACT in lobby
Replace ACT in stairwells
Replace auto door opener
Replace exterior doors and hardware
Replace fire alarm
Replace flooring
Replace HVAC piping and equipment
Replace lighting in lobby
Replace screens
Replace VCT in hallways and rooms 1st floor
Replace VCT in hallways and rooms 2nd floor
Replace windows
Replace windows near entry
Re-roof facility

HOUSTON THUNDERBIRD RESIDENCE HALL

Houston Thunderbird is in good condition, with some cosmetic repairs and replacements. Some of the main capital investment areas include electrical and mechanical corrections/upgrades, painting facilities, and replacing windows.

Description	*A two-story dormitory building*
Year Built	*1991*
Structure	*Steel columns and beams with bar-joist and gypsum deck roof construction. Floors are slab-on-grade concrete floor.*
Additions/ Renovations	*None*



Doors are in good condition but need adjustment and weather stripping

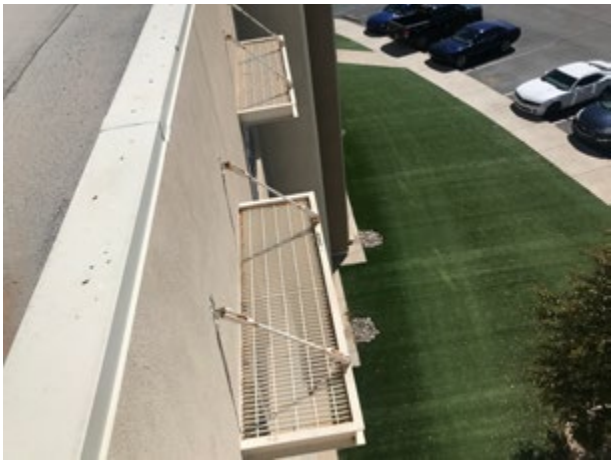
TABLE 14. *Houston Thunderbird Residence Hall Summary*

Facility Deficiencies
Electrical corrections/upgrades
Mechanical corrections/upgrades
Paint facility
Plumbing corrections/upgrades
Repair brick corner
Replace ACT in lobby
Replace ACT in stairwells
Replace doors and hardware
Replace HVAC piping and equipment
Replace screens
Replace VCT in hallways and rooms 1st floor
Replace VCT in hallways and rooms 2nd floor
Replace windows
Re-roof facility

JOHN WATSON/CARROLL LEAVELL STUDENT APARTMENTS

John Watson/Carroll Leavell Student Apartments are in good condition, with a few minor cosmetic repairs and replacements. Some of the main capital investment areas include electrical corrections/upgrades, repair cracked stucco including roof parapets, and replacing rusted structure and concrete at stairs.

Description	*Three-story dormitory buildings*
Year Built	*2007*
Structure	*Steel columns and beams with bar-joist and gypsum deck roof construction. Floors are slab-on-grade concrete floor.*
Additions/ Renovations	*None*



Structural shades show signs of wear and need to be re-painted

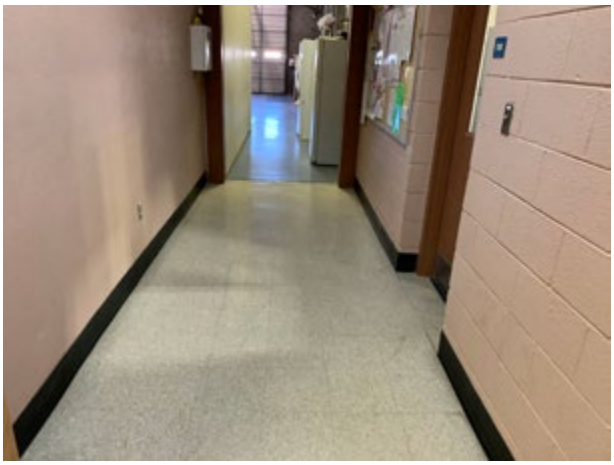
TABLE 15. *John Watson/Carroll Leavell Student Apartments Summary*

Facility Deficiencies
Electrical corrections/upgrades
Paint roof ladders and structural shades
Plumbing corrections/upgrades
Remove storage from electrical closet C102
Repair cracked stucco including roof parapets
Repair holes in ceiling and caulk penetrations
Repair holes in wall at elevator room
Replace exhaust covers
Replace lighting
Replace roof
Replace rusted structure and concrete at stairs

MAINTENANCE BUILDING

The Maintenance Building is in good condition, with a few minor cosmetic repairs and replacements. Some of the main capital investment areas include electrical corrections/upgrades, installing fire sprinkler system, and cleaning and repointing brick.

Description	*A single-story maintenance and classroom building with a shop*
Year Built	*1966*
Structure	*Steel columns and beams with bar-joist and gypsum deck roof construction. Floors are slab-on-grade concrete floor.*
Additions/ Renovations	*Addition in 1985*



VCT flooring is in very poor condition with signs of wear and deterioration

TABLE 16. *Maintenance Building Summary*

Facility Deficiencies
Clean and repoint brick
Electrical corrections/upgrades
Install accessible door hardware
Install accessible Restrooms
Install compliant signage
Install conductor heads and downspouts
Install emergency lighting system, incl. exit signs
Install exhaust fans in restrooms
Install fire sprinkler system
Install new drinking fountains
Paint (Incl. floors in shops)
Plumbing corrections/upgrades
Renovate plumbing system
Repair (patch, remove debris, clean drains, replace ballast)
Repair roof deck at evap cooler penetrations
Replace ceiling tiles and grid
Replace other Flooring
Replace VCT
Replace windows
Upgrade Fire alarm system

BOB MORAN HALL

Bob Moran Hall is in good condition, with a few minor cosmetic repairs and replacements. Some of the main capital investment areas include mechanical and electrical corrections/upgrades, replacing the roof, and replacing lighting.

Description	*A single-story educational and dormitory type building*
Year Built	*1967*
Structure	*Steel columns and beams with bar-joist and gypsum deck roof construction. Floors are slab-on-grade concrete floor.*
Additions/ Renovations	*Addition in 2011*



Water pools in places at the edge of building. It is recommended to install landscaping to drain water away from building.

TABLE 17. *Bob Moran Hall Summary*

Facility Deficiencies
Electrical corrections/upgrades
Landscape for drainage away from building
Mechanical corrections/upgrades
Paint tile on exterior of building
Replace access hatch
Replace blinds
Replace carpet in lecture hall
Replace ceiling tiles in facility due to leaks
Replace lighting
Replace lighting
Replace roof
Replace VCT
Replace windows

LARRY HANNA TRAINING & OUTREACH CENTER

Hannah Training and Outreach is in very good condition, with very few minor cosmetic repairs and replacements. Some of the main capital investment areas include replacing cracked and chipped concrete and some upgrade, and replacing cracked and chipped concrete and upgrades to the electrical system.

Description	*A single-story educational and administration type building*
Year Built	*2007*
Structure	*Steel columns and beams with bar-joist and gypsum deck roof construction. Floors are slab-on-grade concrete floor.*
Additions/ Renovations	*None*



Exterior structural steel needs to be painted

TABLE 18. *Larry Hanna Training & Outreach Center Summary*

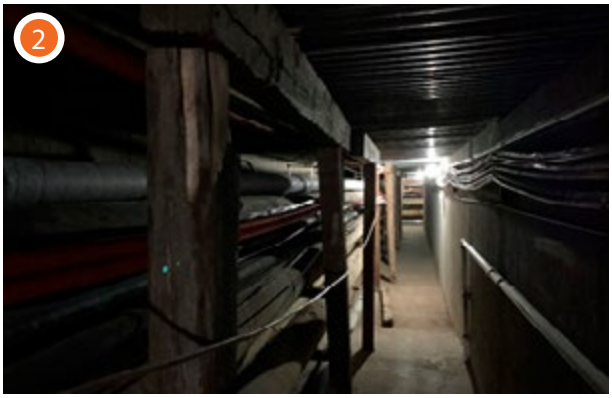
Facility Deficiencies
Electrical corrections/upgrades
Paint all exterior structural steel
Replace cracked and chipped concrete

8. B - INFRASTRUCTURE

A system of tunnels was constructed in 1966 and provides for the campus heating and cooling boiler/chiller system pipes to the various buildings within the circle. It also serves to distribute electrical and communications systems throughout the campus. The tunnel system is a valuable asset for the campus and it is a major objective to maintain these functional capabilities. As part of the Master Plan update, an assessment of the tunnels was conducted to evaluate their structural integrity. The tunnels are constructed of reinforced concrete walls and floor with the ceiling constructed of reinforced concrete that is cast on a metal form material called Corruform. Overall, the assessment concluded that the tunnels are in good condition; however, some areas are in need of repairs. For instance, some of the Corruform is rusting and deteriorating causing it to separate from the reinforced concrete above and hang down into the tunnels.

Some sections also show water damage in locations where tunnels are located under buildings. In these instances, one of the exterior tunnel walls is the foundation of the building wall above. Some of these sections that pass underneath McLean Hall and Pannell Library require grading modifications to correct the pooling and seepage under the foundation of the building and into the tunnels.





Tunnels generally resemble the above conditions with intact ceilings

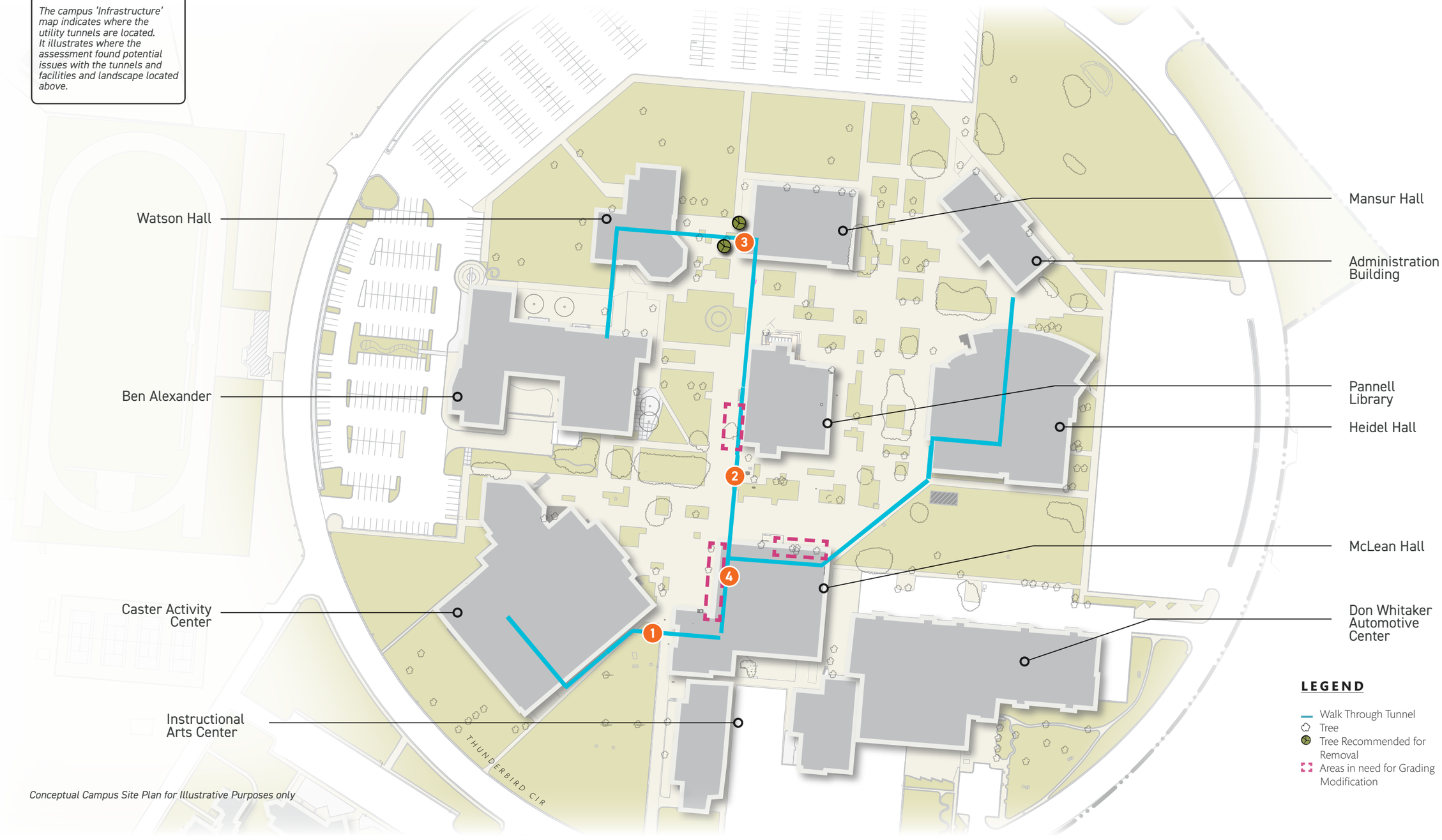




Water seeping into tunnel causes rust and panel separation from ceiling

EXHIBIT 9. ***Infrastructure***

The campus 'Infrastructure' map indicates where the utility tunnels are located. It illustrates where the assessment found potential issues with the tunnels and facilities and landscape located above.



LEGEND

- Walk Through Tunnel
- Tree
- Tree Recommended for Removal
- Areas in need for Grading Modification

Conceptual Campus Site Plan for Illustrative Purposes only

8.C-CAMPUS OUTDOOR SPACES

In its current state, the campus outdoor spaces primarily consist of large expanses of lawn and pavement intersected by pedestrian pathways and accented planting areas. NMJC has an existing landscape Master Plan created in 2007 that identifies and addresses general design guidelines and concepts for the landscape and public realm of the campus. It establishes three main principles: cultivate and create a strong community, establish connectivity and foster resilience. Goals and strategies associated with each principle are intended to provide guidance for future decision-making related to campus expansion, design, renovations, operations and maintenance. While NMJC expressed support for their existing landscape Master Plan to guide landscape improvements, the larger NMJC Master Planning effort identified targeted issues (as outlined below) that needed to be addressed within this update. Additionally, the existing landscape Master Plan should be updated to include detailed strategies for how to coordinate a unifying scheme for the issues outlined below.



The existing campus consists of large expanses of pavement and lawn areas that don't serve a specific purpose. The college expressed the desire to eliminate some of the lawn areas to reduce overall maintenance and water consumption.



The expansive paved areas lack delineation of pedestrian pathways.



The campus also lacks shade structures to protect campus users from the sun during the hot summer months.

While manicured and well-maintained, a majority of the natural turf areas within the campus circle are not necessary for the campus identity or functions. Removing smaller, more remnant swaths of turf areas would reduce maintenance and water consumption and create more opportunities to congregate in these spaces.

The existing planting areas provide maintenance challenges. A shallow soil profile with underlying caliche requires pit excavations and soil amendment to sufficiently support trees and vegetation. Utilizing raised planters to minimize pit excavations was seen as a favorable alternative



EXHIBIT 10. *Campus Outdoor Spaces*



This exhibit shows precedent images presented during the workshop with NMJC stakeholders to demonstrate how raised planters could help delineate outdoor spaces and create seating opportunities for campus users.

and could be utilized as an interim solution to break the expansive hardscape areas and delineate public spaces and pedestrian pathways.

Paving within the circle consists exclusively of plain gray concrete. NMJC expressed the desire to enhance public spaces with more distinct materials and patterns to add interest and identity to the campus and serve as wayfinding elements.

The campus outdoor space generally lacks shade; adding shade elements within these outdoor spaces would increase the time that students and faculty could spend outside during the fall and spring semesters. New shade structures could target areas that are already activity nodes like the outdoor seating areas adjacent to the Ben Alexander Student Learning Center and within the courtyard space between formed by the student housing buildings. Shade structures could also be used to define and shade pedestrian pathways.



This exhibit shows paving strategies to help delineate the campus outdoor spaces

8.D-WAYFINDING & SIGNAGE

The NMJC campus is located along Lovington Highway, the major corridor that connects Hobbs with Lovington, Texas and cities beyond. Recently the college has installed a monument sign at the main entrance at Lovington Highway to enhance its visibility. The sign includes a digital component to communicate events and information. Upon entering the campus, signage is sparse and at times concealed. Signage along the perimeter road is faded and/or missing. Signage on buildings is largely not visible from the loop road. The campus also lacks pedestrian-level signage and maps and the signage on buildings is often not visible. To enhance the wayfinding, a comprehensive signage system should be developed with a hierarchy of signs to better facilitate movement to and within the campus and to allow users to orient themselves and find their destinations with ease.



Signage along the loop road is faded and does not follow a unified design theme.



Signage is hard to read and does not include elements of the NMJC brand identity.





No pedestrian signage is found within the circle to guide campus users and building applied signage is often not visible.

9. CAMPUS IMPROVEMENT PRIORITIES

The Campus Improvement Priorities section identify specific projects that will enhance the overall campus. Major deficiencies identified in the Existing Conditions Assessment are addressed to direct future campus projects and implement the campus vision identified in this plan.

9.A - CAMPUS DEVELOPMENT GOALS

At the outset of the project, the project team and key stakeholders drafted development goals to guide the strategic direction of the Master Plan update and set a framework for future development projects. The updated development goals focus on enhancing and maintaining existing campus assets, creating resilience, enhancing safety, enhancing the campus brand and wayfinding, creating flexible and adaptable campus facilities and encouraging collaboration with communities and business partners. These goals help ensure that future projects are aligned with the campus strategic vision and implement this vision into the campus environment.

Table 19. Campus Development Goals

Enhance and Maintain Existing Campus Assets

- *Enhance and maintain existing facilities and infrastructure*

Create a Resilient Campus

- *Anticipate future development opportunities with infrastructure that can be extended to targeted areas*
- *Explore the potential to generate renewable energy to meet campus energy demands*

Create a Safe and Welcoming Campus

- *Implement Crime Prevention through Environmental Design (CPTED) strategies.*
- *Control access to the campus and individual buildings.*
- *Improve campus lighting to enhance security.*
- *Create consistent shading features.*

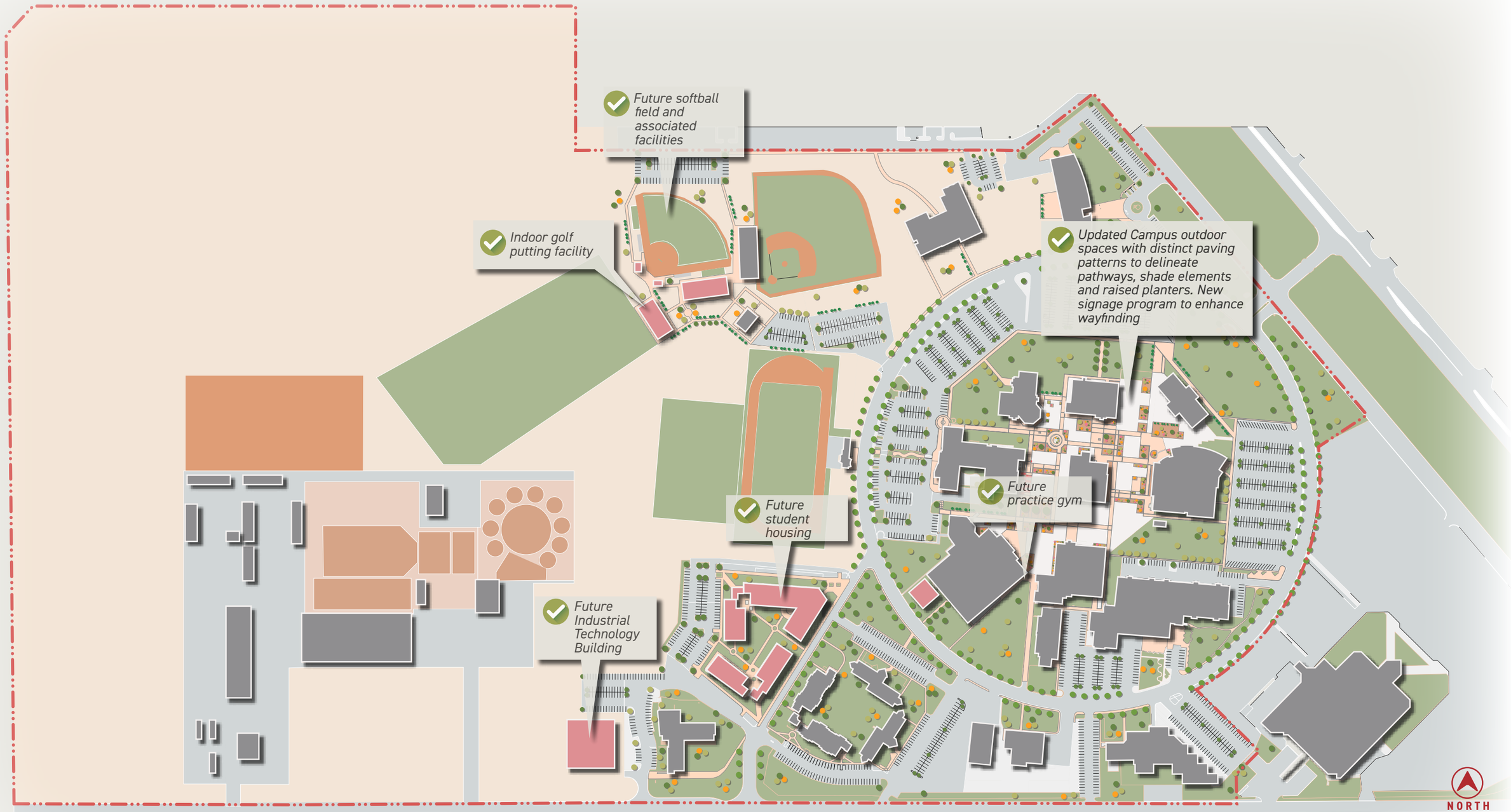
Enhance Campus Identity/ Enhance the NMJC Brand

- *Create a Signage and Wayfinding Plan.*
- *Create a hierarchy of signage for both vehicular and pedestrian campus users.*
- *Incorporate branding throughout the campus to strengthen campus identity.*
- *Create consistent building entry features.*
- *Create distinct and welcoming arrival points.*
- *Identify/create convenient drop off points for visitors.*

Provide Flexible Spaces & Support Online Instructional Delivery

- *Assess the campus to understand facility capabilities and shortcomings in terms of technology capabilities and functionalities.*
- *Enhance capacity to deliver and support online instructional classes.*

EXHIBIT 11. ***NMJC Future Development Framework***



Conceptual Renderings are for Illustrative Purposes only

Encourage Collaboration with Communities & Business Partners

- *Create connections to communities and business partners.*
- *Identify opportunities for naming, recognition.*

9. B - CIRCULATION & PARKING GOALS

To enhance access, circulation and parking conditions, it is a goal to install shade elements within targeted areas of parking fields to create a more pleasant parking experience. Shade elements could also accommodate photovoltaic arrays (solar panels). It is also proposed to evaluate all pedestrian connections between facilities within and outside the circle to implement measures that make the pedestrian environment safer and enhance the user experience. Each connection should be evaluated and specific measures designed including but not limited to delineating pathways with decorative pavers, installing enhanced pedestrian where pathways cross a road, and installing periodic shade elements and signage to direct users to and from destinations. If new dorms are constructed, a new road to access the equestrian facilities is required and should be installed to allow better access and prevent conflicts with residents of the dorms.

CIRCULATION & PARKING GOALS

- *Shade parking areas*
- *Enhance pedestrian connection between facilities within the campus and off-campus amenities*
- *Create safe pedestrian connections*
- *Construct access road to equestrian facilities*

PRECEDENT IMAGES 1. ***Parking Field Shade Structures***



Covered parking within targeted areas of the NMJC parking fields

9. C - FACILITIES GOALS

To enhance the overall functional organization of the campus, it is a goal to built upon the existing site framework and strengthen the existing connections, nodes and facilities. The overall site framework is envisioned to be designed as illustrated in *"Exhibit 12. Facilities & Infrastructure Development Framework""*. While the overall placement and delineation of facilities within the circle will remain, outside the circle a number of new support facilities and recreational projects are planned. For existing facilities, emergency fire alarm systems, emergency lighting systems, and fire sprinkler systems should be upgraded or installed as directed by the facility assessment. Some interior/exterior maintenance is proposed for all facilities within the circle, including maintenance of roofs, replacing flooring and ceiling tiles, cleaning and repointing brick and replacing lighting, while a re-roof of the entire building is recommended for some facilities. Many of the recommendations include replacing lighting controls to improve overall campus energy savings.

FACILITIES GOALS

- *Upgrade and maintain facilities to last for another 50 years*
- *Add new facilities to support existing programs*

EXHIBIT 12. *Facilities & Infrastructure Development Framework*



Conceptual Campus Site Plan for Illustrative Purposes only

9.D - INFRASTRUCTURE GOALS

To enhance and maintain the campus infrastructure, repair projects identified by the infrastructure assessment should be made in a timely manner to ensure the tunnels can fulfill their function without disruption and serve the campus for the future. Tunnel repair should be coordinated with site/flatwork to incorporate other improvements identified within this Master Plan.

There are some cosmetic repairs that are recommended to maintain the integrity and function of the tunnel system. It is recommended to remove two trees adjacent to the tunnel corridor, as the roots may potentially impact the structural integrity of the tunnels. Where water pools against the foundation of buildings, grading modifications are recommended to correct drainage and prevent damage to NMJC facilities. It is also recommended to remove the Corruform ceiling concrete forms as these serve no structural purpose and are separating from the concrete above, creating safety issues to those passing through the tunnels (as identified on *"Exhibit 13. Proposed Lawn Removal Map"*).

INFRASTRUCTURE GOALS

- *Maintain tunnels*
- *Maintain sewers*

9.E - CAMPUS OUTDOOR SPACES GOALS

To enhance and maintain outdoor spaces, it is a goal to enhance the campus identity, increase usability and make public spaces more secure. Removing unnecessary and oddly placed turf areas within the circle as identified on *"Exhibit 13. Proposed Lawn Removal Map"*, will allow for more usable public spaces and logical pedestrian routes. Turf removal should be coordinated with other site improvements identified within this Master Plan to determine if they should be replaced with concrete, decorative pavers or raised planters.

PRECEDENT IMAGES 2. ***Outdoor Spaces Delineated by Pavers and Planters***

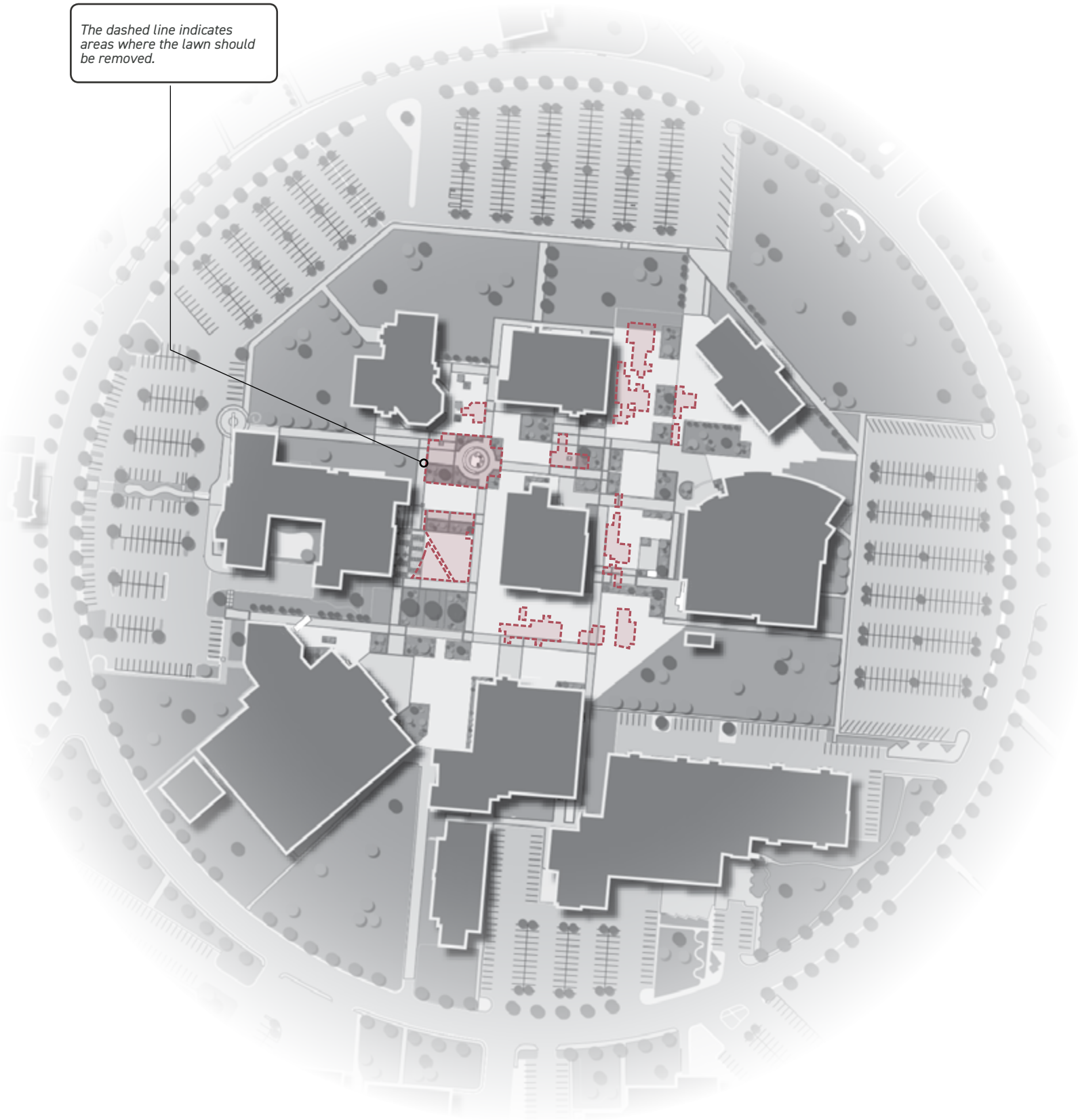




A outdoor space delineated by decorative pavers and planters

Decorative paving or other modular unit pavers should be incorporated into the paving scheme of newly constructed or renovated outdoor spaces and/or major pedestrian walkways within the circle to help delineate pathways and public spaces and introduce colors and textures to the campus. As such projects are likely to happen

EXHIBIT 13. *Proposed Lawn Removal Map*





Conceptual Renderings are for Illustrative Purposes only

EXHIBIT 14. *NMJC Campus Concepts Outdoor Spaces A*





Conceptual Renderings are for Illustrative Purposes only



EXHIBIT 15. *NMJC Campus Concepts Outdoor Spaces B*

incrementally, a coordinated paving scheme that identifies appropriate colors and patterns should be created prior to the first phase of implementation to ensure a unified hardscape character is achieved throughout the campus. This enhanced paving scheme should consider the inclusion of an Alumni Brick Program that features engraved pavers that display the name of an alumnus along with his or her degree and graduation year. Such a program could fulfill several goals including enhancing pedestrian connections and wayfinding through a revenue-generating, branding opportunity.

PRECEDENT IMAGES 3. ***Decorative Paving & Alumni Brick Program***





Decorative paving or other modular unit pavers can be installed to delineate pedestrian routes and introduce colors and textures to the campus

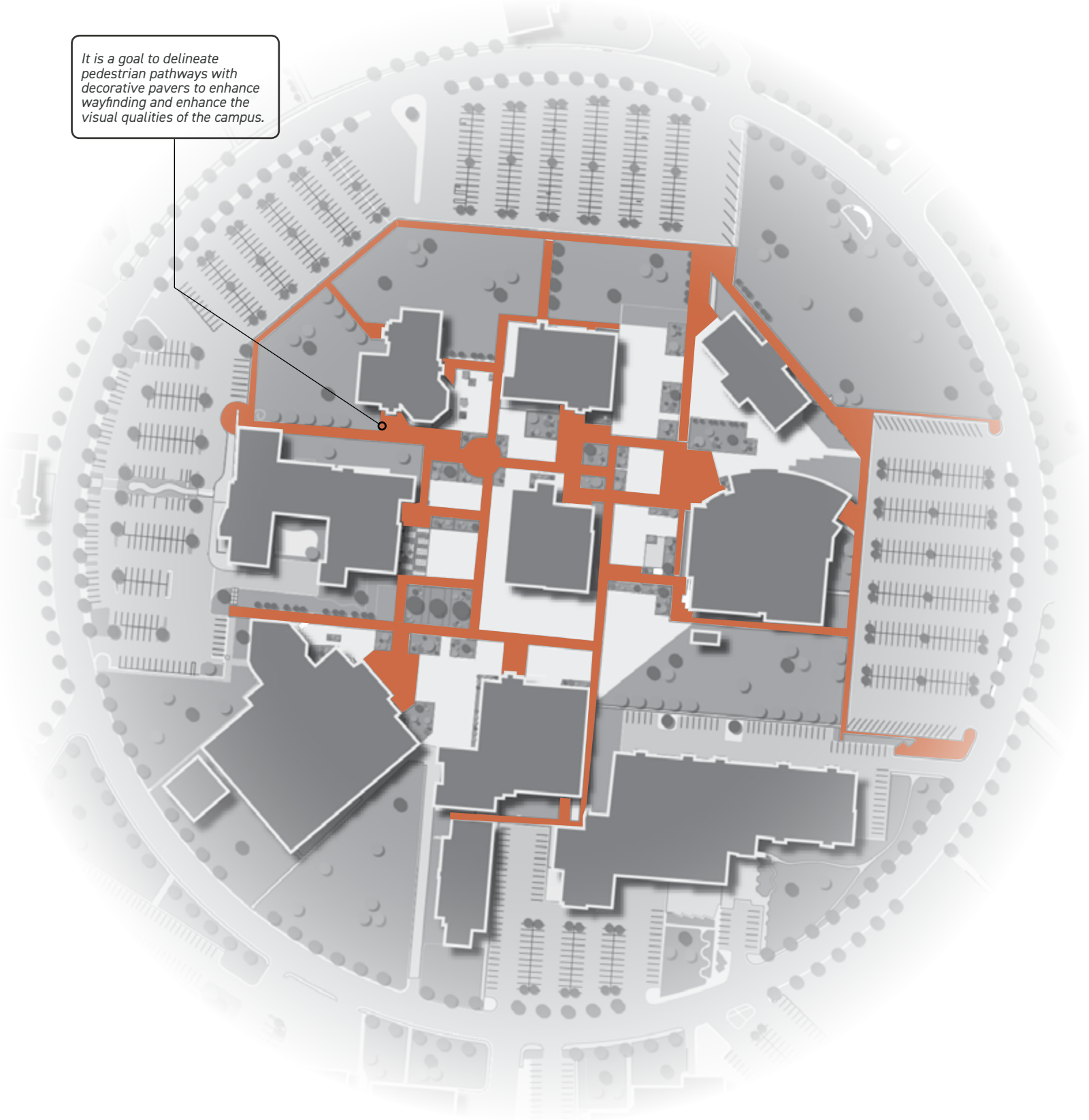






Alumni Brick Program that features engraved pavers that display alumni names

EXHIBIT 16. *Pedestrian Pathways Alignment*





Conceptual Renderings are for Illustrative Purposes only

EXHIBIT 17. *NMJC Campus Concepts Alumni Brick Program*



Raised planters are another proposed feature to help delineate public spaces and walkways while also providing seating and planting areas. Raised planters should be utilized to create additional landscape and seating opportunities as well as introduce color and interest to the outdoor spaces.

PRECEDENT IMAGES 4. ***Raised Planters***







Raised planters to delineate pathways and create landscape nodes and opportunities for seating

The programming of campus outdoor spaces should include site elements like site furnishing, lighting, signage and planters to create a pleasant campus environment for students, staff and visitors, particularly along major pedestrian pathways and public spaces. All site elements, including shade structures, should be compatible with the campus' existing architectural style and utilize common features such as color, material and design. Coordination among site elements will create a more cohesive and identifiable campus character.

Site furnishings should be coordinated and utilized to introduce interesting shapes and colors to the campus to tie the campus visually together. Their shape in particular can add contemporary accents and elevate the look and feel of the campus as a whole.

Site furnishings can support the NMJC brand identity with the choice of color and particular shape. Simple but elegant designs should be utilized to create an overall timeless and lasting campus design.

PRECEDENT IMAGES 5. *Site Furnishings*





Site furnishings that introduce interesting shapes and colors and support the NMJC brand identity.





Simple but elegant designs should be chosen that are timeless and durable.



Coordinated site furnishings tie the campus visually together.

The implementation of an enhanced campus lighting scheme is crucial to improving the overall safety and character of the campus. Lighting should be provided within outdoor spaces and along major pedestrian routes to define these areas, improve their visibility and enhance their security. All campus light fixtures should be consistent in respect to design, material and color as well as coordinated with the other site furnishing provided throughout the campus. Utilize simple but elegant designs that are timeless and durable to tie the proposed site furnishings and other campus elements visually together. Lights could also be equipped with cameras to help survey the campus.



Light fixtures illuminate pedestrian pathways and outdoor gathering spaces. The design is coordinated with the site furnishings to tie the campus together visually.

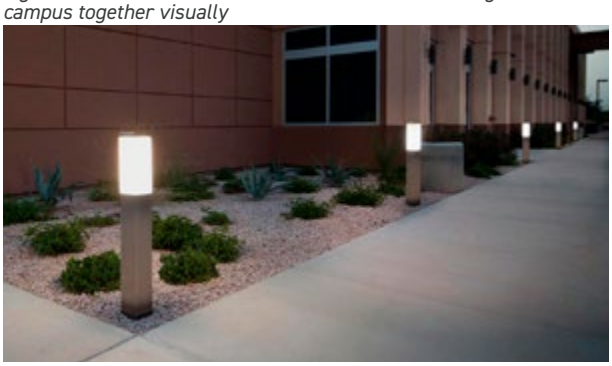
EXHIBIT 18. *NMJC Campus Concepts*
Pedestrian Pathways



PRECEDENT IMAGES 6. *Campus Lights*



Light fixtures should coordinate with the site furnishings to tie the campus together visually



Contemporary light fixtures that delineate pedestrian pathways and create a more secure campus environment

Providing shade to public spaces and major pedestrian walkways is identified as a major goal of the Plan. Priority areas identified to be shaded are the courtyard of student housing and the space between Ben Alexander and Pannell Library *(as identified on "Exhibit 19. Shade Structures Preferred Placement")*. Additional shade elements should be installed in high activity areas during the construction of new or renovation of existing campus facilities. Shade elements should also be considered for targeted parking areas to protect users and their cars from the sun and other weather-related exposure. Shade structures should be constructed of quality materials that is coordinate with the campus' existing architectural styles as well as selected site furnishings.

PRECEDENT IMAGES 7. *Shade Structures*



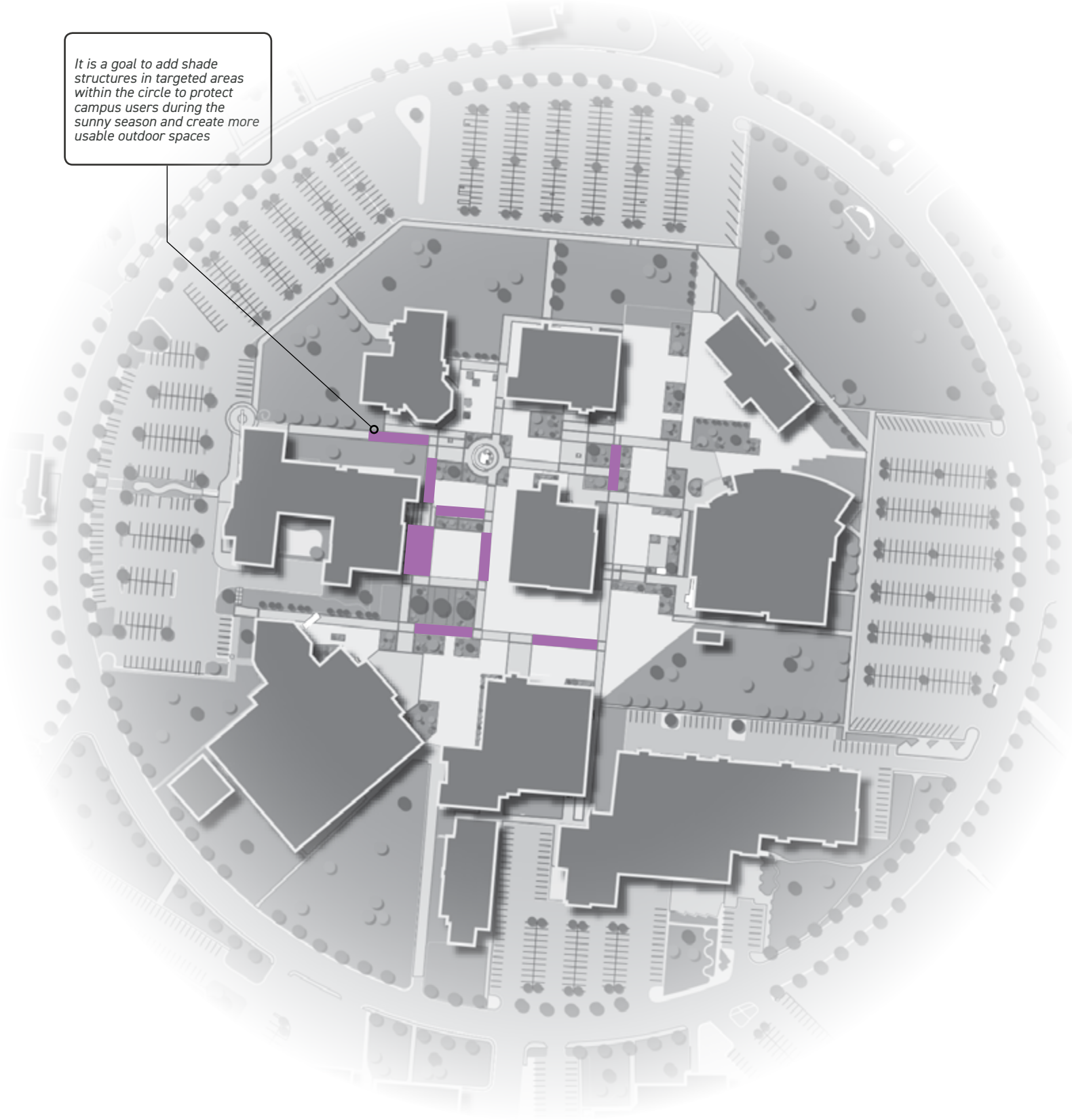


Shade elements that shade key outdoor areas and pedestrian pathways

CAMPUS OUTDOOR SPACES GOALS

- *Enhance hardscape/landscape areas*
- *Provide shade for public outdoor spaces*
- *Eliminate unnecessary lawn areas*

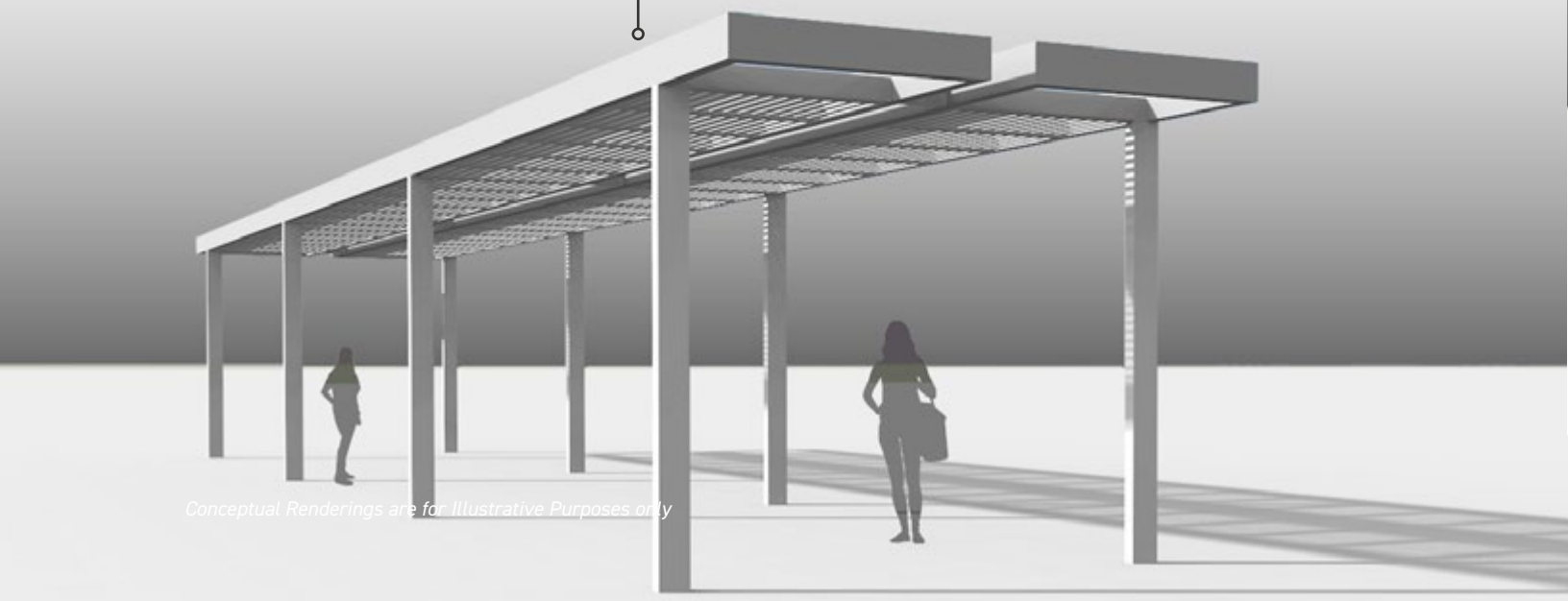
EXHIBIT 19. *Shade Structures Preferred Placement*



The proposed pedestrian shade structures come in two different versions. One version includes a 7' x 88' 6" panel. This version should be employed for areas that are oriented east to west.

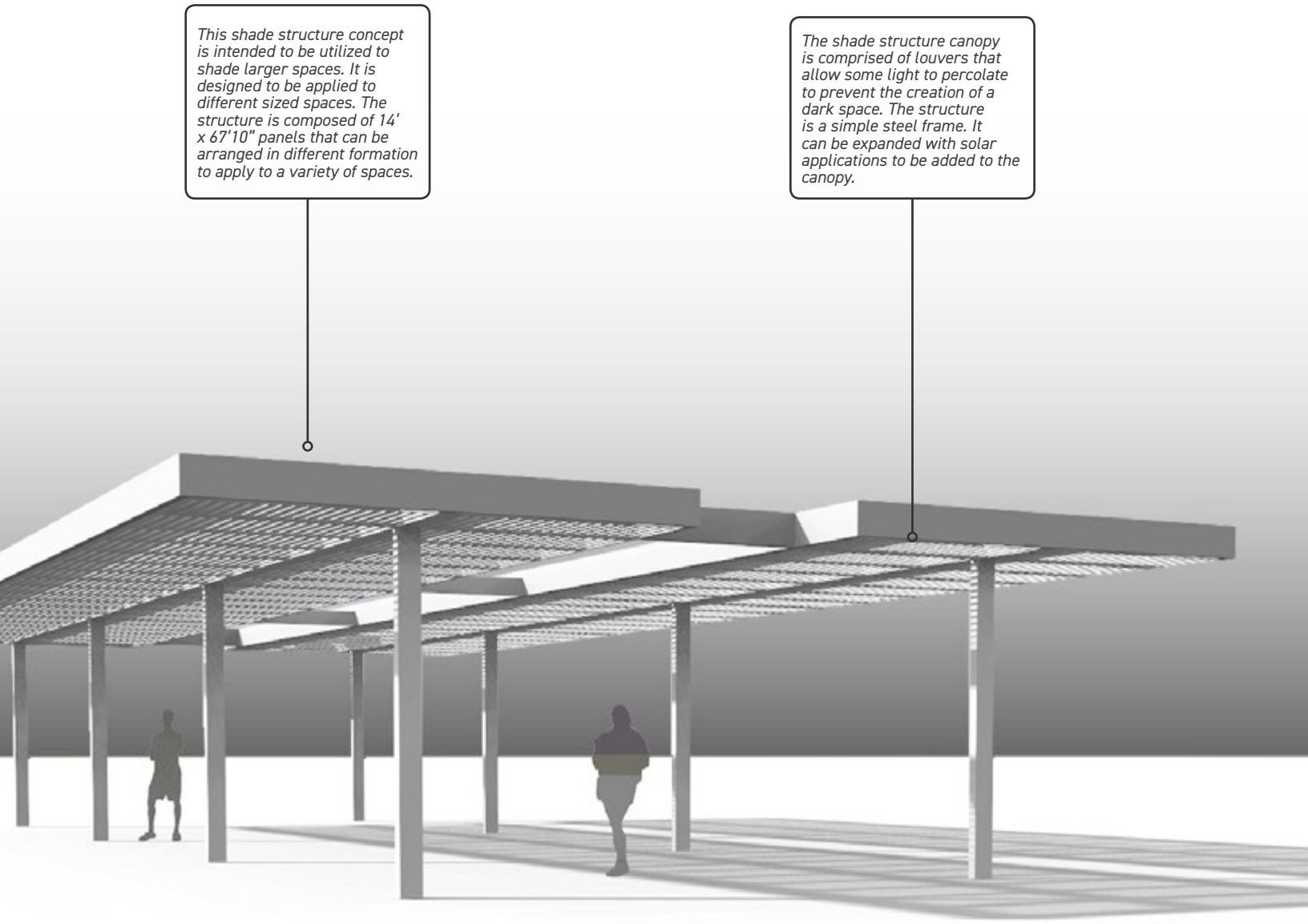


The other version includes two panels of 5'6" x 67'10" and should be employed for areas that are oriented north to south to provide better shade during the sunny season.



Conceptual Renderings are for Illustrative Purposes only

EXHIBIT 20. *NMJC Campus Concepts - Shade Structures*





Conceptual Renderings are for Illustrative Purposes only

EXHIBIT 21. *NMJC Campus Concepts Shade Structure Vision*



9.F - WAYFINDING & SIGNAGE GOALS AND STRATEGIES

To enhance wayfinding and create a cohesive signage system, it is a goal to create a comprehensive signage program that addresses wayfinding outside and inside the circle. Signage should be installed to better guide vehicular and pedestrian traffic to, from and within the campus. Signage can be provided in the form of pedestrian-level and vehicular-level signage.

The NMJC Comprehensive Signage Plan should be consulted to identify the location, number and design of signage and wayfinding elements. A cohesive signage program also provides an opportunity to tie the campus together visually and implement branding elements throughout the campus. All signage products should be of high quality and last in weather conditions of southeastern New Mexico. Specifically, signage products should be able to withstand extended sun exposure and high winds. Signage should also comply with ADA requirements and should not create hazards for campus users. As directed by NMJC, signage should be attached to buildings where feasible. Signage should also be coordinated with the overall design theme and add visual interest to the campus environment.

WAYFINDING & SIGNAGE SPACES GOALS

> *Implement a comprehensive signage program for vehicular and pedestrian campus users*



Monument Sign *Vehicular-level sign* *Pedestrian-level sign*



Building-applied signage



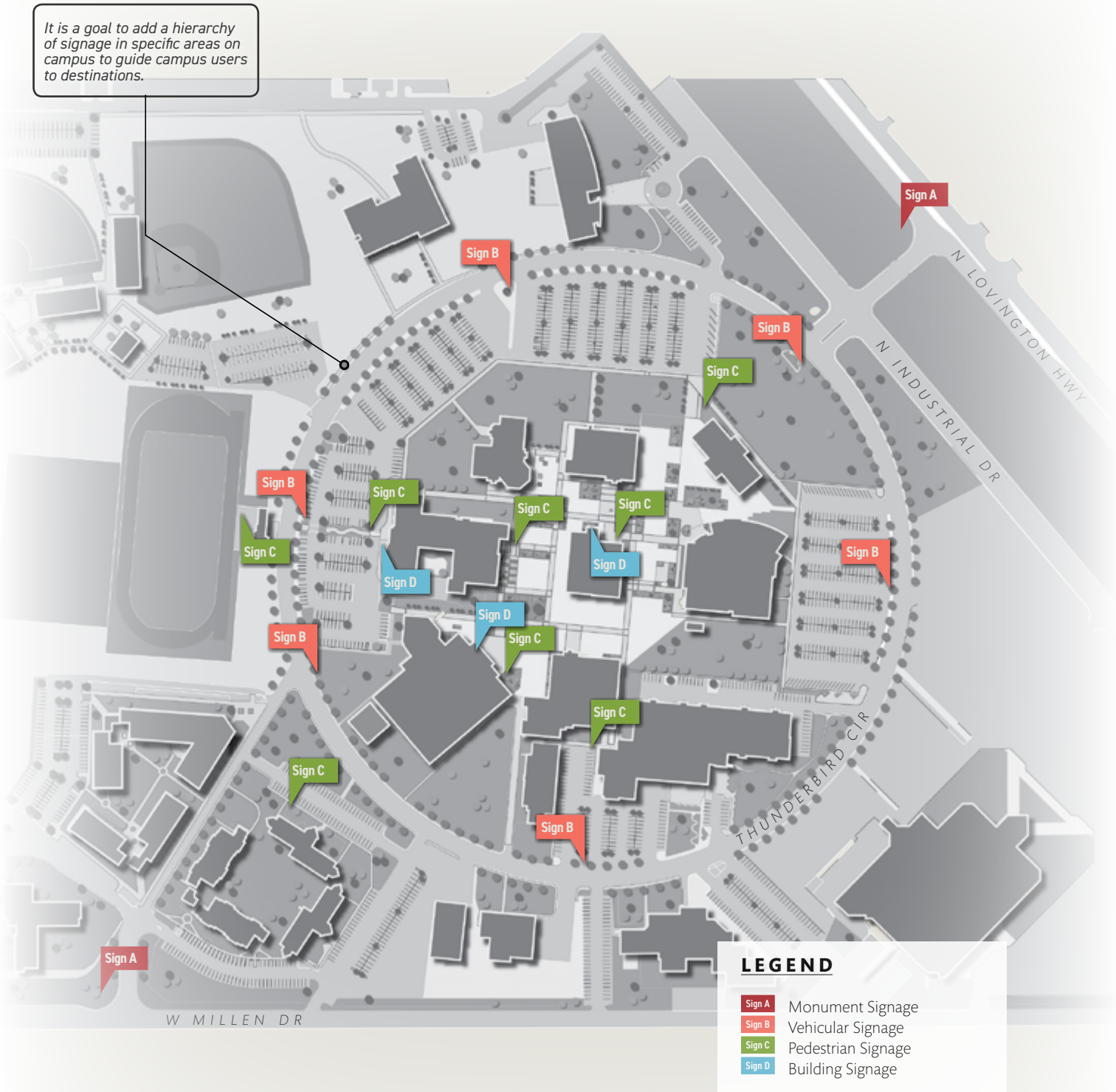
Information displayed at eye level

Map included to help orient campus users



Pedestrian-Level Pole Sign delivers directional information to primary campus destinations

EXHIBIT 22. *Wayfinding & Signage Development Framework*





Signage, coordinated throughout the campus, supports the NMJC brand identity, introduce branded colors to the campus and enhances the user experience by providing a comprehensive wayfinding system.



EXHIBIT 23. *NMJC Campus Concepts Signage Vision*

10. A-SECURITY GOALS & STRATEGIES

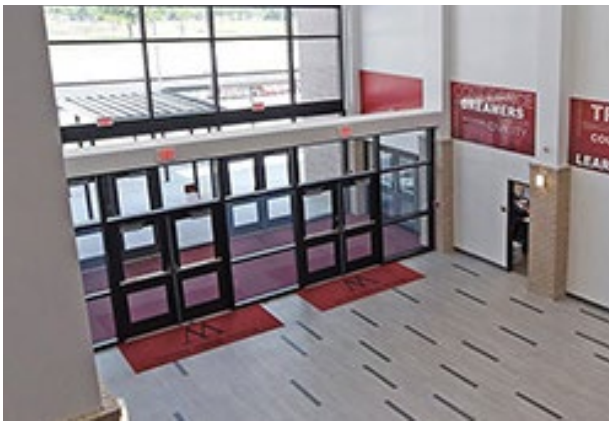
To enhance security access to campus facilities should be controlled. The long-range development framework strategy for access control involves the construction of vestibules at all primary entrances, the conversion of appropriate doorways to exit only or maintenance entrances and the complete removal of unnecessary doorways as identified in map X. Additionally, all primary building entrances that feature vestibules should be modified to include key-card access systems.

Going forward, CPTED strategies outlined in *"Table 19. CPTED Strategies"* should be integrated into campus projects to further enhance safety and prevent crime as appropriate.

SECURITY GOALS & STRATEGIES

- *Create Access control to campus facilities*
- *Implement CPTED Strategies*

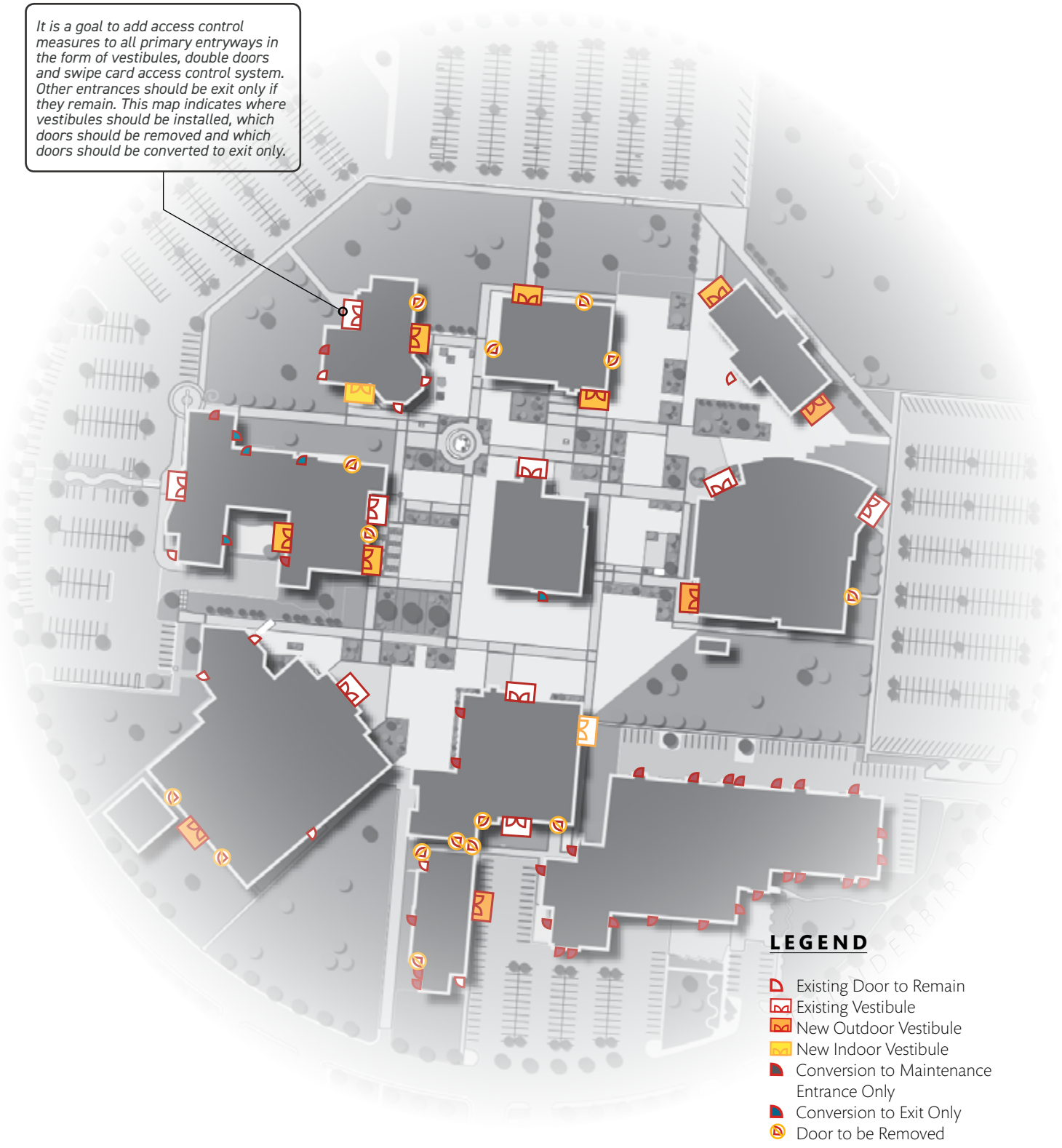




Vestibules provide an additional level of security with the ability to utilize key-card access



EXHIBIT 24. *NMJC Future Campus Framework Concepts*





Conceptual Renderings are for Illustrative Purposes only

EXHIBIT 25. *NMJC Campus Concepts*
Vestibules Vision



The following table outlines CPTED strategies and associated actions that can be considered for renovation projects and new constructions.

TABLE 19. *CPTED Strategies*

CPTED Principle	Strategy	Action
Natural Access Control	Design features that clearly indicate public routes and discourage access to private spaces. Such design features include placement of entrances and exits, fencing, and landscaping to control traffic flow.	Employ elements like walls, fences and gates to create a secured site perimeter and limit access with selected entry points.
		Create clearly marked transition zones that delineate movement from public, semi-public, and private spaces.
		Direct pedestrian circulation to a few selected entry points and
		Develop a comprehensive wayfinding system to guide clearly guide students, staff and visitors.
		Utilize vestibules to provide a central point of controlled building access
		Secure building access using card/key pad or similar systems and additional monitoring of building entrances.
		Use Personal Messaging Alert systems to warn students, employees, visitors, and parents of an impending emergency. Can include cell
Territorial Reinforcement	Design features that clearly express ownership of the campus. The sense of territory and ownership by an individual is reinforced through regularly scheduled activities, inspections, and maintenance.	Activate campuses space with signage, landscape and public art to physically express signs of caring and ownership.
		Implement a clear wayfinding signage system throughout the campus.
		Accentuate building entrances with architectural elements to guide visitor and announce the transition from public to private space.

TABLE 19. *CPTED Strategies*

CPTED Principle	Strategy	Action
Natural Surveillance	Design features that increase the visibility of the campus. These features maximize the ability of persons in the area to see persons in the vicinity and avoid trouble and allow external activities to be seen from adjacent building structures by persons who could call for help. Such design features include landscaping, lighting, window and stairway placement, and building entrance and garage layouts.	Orient building entrances so that they are clearly visible.
		Keep the campus environment well lit, with particular emphasis on pedestrian walkways, public spaces, parking areas and building entrances.
		Fully illuminate all doorways that open to the outside.
		Ensure building entrances are visible from adjacent streets, parking areas, walkways or public spaces.
		Install windows on all sides of campus building to provide to increase the visual connection between interior building spaces and campus walkways, public spaces and parking areas.
		Construct elevators and stairwells to be open and well-lit, not enclosed behind building walls.
		Provide appropriate illumination to doorways and open to the outside and sidewalks.
		Select, install and maintain appropriate landscaping that will allow unobstructed views of building doors and windows from adjacent streets, parking areas, walkways or public spaces. Avoid landscaping that might create blind spots.
		Ensure parking areas are visible from nearby windows and doors.
Maintenance		Buildings should be neat and in good repair. This includes
		Appropriate colors and adequate lighting. A building that looks as if no one cares will only encourage poor behavior and negative feelings about the campus.
		Maintain signs and fencing and remove graffiti promptly.
		Maintain parking areas to high standards without potholes or trash.
		Use exterior lights at night and keep it in working order.
		Keep trees and shrubs trimmed back from windows, doors and walkways. Keep shrubs trimmed to 3 feet and prune lower branches of trees up to 7 feet to maintain clear visibility.

11. IMPLEMENTATION STRATEGIES

The following section outlines implementation strategies for the Campus Improvement Priorities identified earlier. The first table combines all goals with associated implementation strategies as a road-map to implement the physical campus framework. The second table outlines the NMJC project priorities that lists the priority projects identified by NMJC.

TABLE 20. *Development Goals and Strategies*

Goal	Strategies
Circulation & Parking Goals & Strategies	
Shade parking areas	*> Identify priority areas to install shade structures*
	> Determine the right type of shade structure (solar vs. non-solar)
	> Install shade structures
Enhance pedestrian connection between facilities within the campus and off-campus amenities	*> Identify amenities outside the circle* *> Formalize crossing and pathways* *> Implement buffer between sidewalk and street* *> Add signage to direct pedestrians to and from off-site campus amenities as identified on map "Exhibit 23. NMJC Campus Concepts Signage Vision" on page 77*
Create safe pedestrian connections	*> Assess pedestrian connection between facilities within the circle and outside the circle*
	>Determine which connections need to be enhanced
Enahance & maintain vehicular connections	*>Construct new access road off of Millen Drive to service equestrian facilities*

TABLE 20. *Development Goals and Strategies*	
Goal	**Strategies**
Facilities Goals & Strategies	
Renew and maintain existing facilities	*> Consult the Facility Assessment to determine facilities that require upgrades/maintenance*
	>Install emergency fire alarm system, emergency lighting system, and fire sprinkler systems as necessary in facilities that lack these as required by the code
	>Replacing Air Handlers in Heidel Hall, Mary Hagelstein, Pannell Library, Bob Moran Hall, and replace the roof of Ben Alexander Student Center and Western Heritage Museum
	> Repair interior and exterior including replacing flooring and ceiling tiles, cleaning and repainting exterior brick, and replacing lighting, lighting controls to improve overall campus energy savings, and re-roof as necessary
	> Renovation and re-purpose of Watson Hall
Add new facilities to support existing programs	*> Build softball building/playing field & bleachers*
	> Indoor Arena Expansion - Add bleachers/restrooms/concession/ HVAC/ sound system and warm-up area
	Golf Building - Indoor putting and chipping area
	Industrial Technology Building - Build new building for welding, vocational and training and outreach programs

TABLE 20. *Development Goals and Strategies*

Goal	Strategies
Infrastructure Goals & Strategies	
Maintain tunnels	> *Consult the Tunnel Assessment to determine which tunnels require maintenance and prioritize projects*
	> *Coordinate projects with site/flatwork*
	> *Remove Corruform*
	> *Address grading issues under McLean Hall and Pannell Library*
	> *Remove trees that are in conflict with underlying tunnel system*
Maintain sewers	> *Assess sewers*
Campus Outdoor Spaces Goals & Strategies	
Enhance hardscape/landscape areas	> *Update Landscape Master Plan to include a coordinated strategy for landscape and hardscape improvements.*
	> *Eliminate unnecessary turf areas*
	> *Incorporate decorative paving into the construction of new or the renovation of campus plazas, courtyards and primary pedestrian pathways to demarcate and brand them.*
	> *Introduce an engraved Alumni Brick Program within the enhanced paving scheme for the campus*
	> *Introduce raised planters to delineate public space and major pedestrian paths and provide additional opportunities for landscape and seating.*
Provide shade for public outdoor spaces	> *Develop a shade plan to shade primary public spaces and pedestrian pathways*
	> *Install shade elements between Ben Alexander and Pannell Library.*
	> *Install shade in the courtyard at Carroll Leavell Student Apartments.*
	> *Install additional shade elements during the construction of new or renovation of existing campus facilities.*
Wayfinding Goals & Strategies	
Improve wayfinding	> *Implement a comprehensive signage program for vehicular and pedestrian campus users*

TABLE 20. *Development Goals and Strategies*	
Goal	**Strategies**
Security Goals & Strategies	
Create Access control to campus facilities	> *Construct vestibules at all entrances and incorporate key-card access systems*
	> *Doors not required should be removed or converted to exit only*
	> *Implement CPTED strategies*
	> *Enhance lighting across the campus*
	> *Campus Access Control integrated in building vestibule construction*
	> *Repair cement sidewalk*
Implement CPTED Strategies	> *Include and consider CPTED strategies with each new project and renovation*

TABLE 21. *Project Priorities*			
Project	**Description**	**Time Frame**	**Priority**
Safety & Security	*Campus Access Control integrated in building vestibule construction , cement sidewalk repairs, tunnel repairs, and shading upgrades*	*2020-2021*	*1*
Watson Hall Renovation	*Renovation and re-purpose of Watson Hall*	*2019-2020*	*1*
Indoor Arena Expansion	*Add bleachers/restrooms/concession/HVAC/ sound system and warm-up area*	*2019-2020*	*1*
Golf Building	*Indoor putting and chipping area*	*2019-2020*	*1*
Industrial Technology Building	*Build new building for welding, vocational and training and outreach programs*	*2021-2022*	*1*
Air handler and roof replacement	*Replacing Air Handlers in Heidel Hall, Mary Hagelstein, Pannell Library, Bob Moran Hall, and replace the roof of Ben Alexander Student Center and Western Heritage Museum*	*2023-2024*	*2*
Softball Field	*Build softball building/playing field & bleachers*	*2021-2022*	*2*

TABLE 21. *Project Priorities*

Project	Description	Time Frame	Priority
Vocational B HVAC	*Tie Voc B to Central Plant add air handler*	*2022-2023*	*3*
Heidel Hall Renovation	*Renovation and update Heidel Hall*	*2023-2024*	*2*
Campus Housing	*Build new housing*	*2022-2023*	*3*
John Shepherd Administration Building	*Renovation and update John Shepherd Administration Building*	*2024-2025*	*3*

12. APPENDIX A - FACILITY & INFRASTRUCTURE ASSESSMENT

NMJC

New Mexico Junior College

FACILITY CONDITION ASSESSMENT

2019

DEKKER PERICH SABATINI

BRIDGERS & PAXTON

Table of Contents

Executive Summary....3
Goal / Process....5
Facilities Assessment....6
Watson Hall |1 Thunderbird Circle, Hobbs, NM....7
Mansur Hall |1 Thunderbird Circle, Hobbs, NM....17
John Shepherd Administration |1 Thunderbird Circle, Hobbs, NM....26
Ben Alexander Student Learning Center | 1 Thunderbird Circle, Hobbs, NM....33
Pannell Library | 1 Thunderbird Circle, Hobbs, NM....44
Heidel Hall |1 Thunderbird Circle, Hobbs, NM....50
McLean Hall |1 Thunderbird Circle, Hobbs, NM....59
Central Plant |1 Thunderbird Circle, Hobbs, NM....67
Mary Hagelstein Instructional Arts Center |1 Thunderbird Circle, Hobbs, NM....74
Don Whitaker Automotive Technology Center |1 Thunderbird Circle, Hobbs, NM....83
Harold Runnels Residence Hall |1 Thunderbird Circle, Hobbs, NM....94
Glen & Rosemary Houston Thunderbird Residence Hall |1 Thunderbird Circle, Hobbs, NM....101
John Watson/Carroll Leavell Student Apartments |1 Thunderbird Circle, Hobbs, NM....105
John Watson Student Apartments Summary Table....110
Carroll Leavell Student Apartments Summary Table....111
Maintenance Building |1 Thunderbird Circle, Hobbs, NM....112
Bob Moran Hall |1 Thunderbird Circle, Hobbs, NM....120
Larry Hanna Training & Outreach Center |1 Thunderbird Circle, Hobbs, NM....126
Service Tunnels |1 Thunderbird Circle, Hobbs, NM....131
Appendix A - Mechanical, Electrical, and Plumbing Systems - Campus Building Assessments....134

EXECUTIVE SUMMARY

Introduction

The NMJC Facility Condition Assessment report evaluates the overall condition of buildings and campus infrastructure on the Hobbs campus. The Facility Condition Index (FCI) score is a ratio of the costs to repair deficiencies divided by the cost to replace the entire facility. Scores below .50 are generally considered "Excellent". Most of the campus facilities are in good condition. Watson Hall, Mary Hagelstein Instructional Arts Center and the Central Plant building have the highest FCI scores. This report includes a more detailed breakdown for each building of costs to repair deficiencies such as the building's accessibility, structure, roof, mechanical, electrical, and plumbing (MEP) systems.

BUILDING	AREA (SQ. FT.)	FCI
Watson Hall	14,536	.26
Mansur Hall	15,499	.16
John Shepherd Administration Building	11,447	.16
Ben Alexander Student Learning Center	45,023	.10
Pannell Library	29,514	.04
Heidel Hall	38,914	.15
McLean Hall	22,853	.20
Central Plant Building	5,850	.28
Mary Hagelstein Instructional Arts Center	11,533	.25
Don Whitaker Automotive Technology Center	65,763	.12
Harold Runnels Residence Hall	18,160	.14
Glen & Rosemary Houston Thunderbird Hall	18,160	.11
John Watson/Carroll Leavell Student Apartments	67,326	.04
Maintenance Building	12,328	.00
Bob Moran Hall	31,043	.06
Larry Hanna Training & Outreach Center	15,207	.03
Total Facilities Square Footage	**423,156**	
RECREATIONAL/SPORTS FIELDS		**PRIORITY**
Ray Birmingham Thunderbird Baseball Field	NA	High
CAMPUS INFRASTRUCTURE PRIORITY REHABILITATION		
Service Tunnels	NA	High
Campus Sidewalks	225,613	High

NMJC has several other buildings and facilities that were not part of this assessment; Caster Hall and McLean Hall are currently undergoing major renovation projects. Small accessory buildings and facilities were not assessed as the primary scope of this project was to focus on the primary education facilities.

GOAL / PROCESS

Goal

The NMJC campus has more than 35 facilities providing education, recreation, and vocational training for its more than 3,500[1] students. These facilities were originally constructed between 1965 and 1967 and have seen several additions and renovations with the latest being completed in 2019.

The goal of the assessment is to identify deficiencies, maintenance, and replacement needs for each facility with associated costs for updating, replacing, or renovating each facility.

Process

A team of architects, engineers, and code consultants conducted field observations and informal interviews with staff and facility personnel. Interior spaces were evaluated for health, safety, accessibility, and current building and fire code compliance, the condition of interior materials and finishes, and MEP equipment and systems condition. Structural systems were reviewed to identify possible failure or deterioration. Building exteriors were evaluated for condition, safety and code compliance.

Reference Building Codes/Standards

The facilities were evaluated for compliance with various building codes and standards as adopted by the state of New Mexico and listed below:

- → *2015 International Existing Building Code (IEBC)*
- → *2015 International Fire Code (IFC)*
- → *2009 International Energy Conservation Code (IECC)*
- → *2015 Uniform Plumbing Code (UPC)*
- → *2015 Uniform Mechanical Code (UMC)*
- → *2017 National Electrical Code (NEC)*
- → *2009 ANSI 117.1 Accessible and Usable Buildings and Facilities*

The assessment reports include accessibility of the site immediately surrounding the individual buildings and building renovations. The intent of these reports and associated estimates of costs is to identify the costs for required accessibility upgrades when facility renovations occur, if an employee or student requires accessibility accommodations in a specific area, or if NMJC elects to voluntarily upgrade their facilities throughout the campus.

[1] *National Center for Education Statistics – 2018 – '19 academic year NMJC Facility Condition Assessment 2019*

FACILITIES ASSESSMENT

Summaries

Summary reports include photos and narratives documenting the on-site conditions as observed. Each summary identifies issues and corrective actions for remediation, improvements, or replacements. Each deficiency identified has a corresponding estimate of cost for the corrective action.

Facility Condition Index (FCI)

The FCI score shown within the reports is a national rating system that compares the replacement cost of the building versus the cost of repairs to the building. The lower a building's FCI, the less capital that is required to correct any deficiencies and the higher the FCI, the greater the capital needs will be. Example: an FCI of 0.15 indicates a building that has only 15% deficiencies relative to building replacement while an FCI of 0.70 would indicate that the cost to repair deficiencies is 70% of the total replacement cost. An FCI below 0.50 is considered "Excellent", between 0.50 and 0.60 would be "Good", between 0.60 and 0.70 would be "Satisfactory", and between 0.70 and 1.00 would be "Poor".

Costs

The costs shown in the assessment summaries are representative of industry standards and actual construction data. The "Deficiency Corrections Only" is limited to the work specifically needed to address the needed repair and may not represent additional necessary costs associated with other work that may be required as part of a renovation. The "Total Deficiency Corrections Project Costs" are more representative of the actual cost of construction for a renovation; it includes all identified deficiencies and overall building improvements that are a normal part of a facility update.

WATSON HALL | 1 THUNDERBIRD CIRCLE, HOBBS, NM



Watson Hall is a single-story fine arts/theater building originally constructed in 1967. Two additions totaling 2,284 square feet were constructed in 1986 and 1994.

Staff Notes

- → *Water out of faucets runs rust colored for a few minutes*
- → *Plumbing backs up*
- → *Exterior doors stick open or closed*
- → *Lighting control has several issues*
- → *Windows in Room 121 generate too much heat gain in the afternoon*

Structure

The building structure consists of steel columns and beams with bar-joist and gypsum deck roof construction. The floor is a slab-on-grade concrete floor. No structural damage was observed.

Exterior Finishes

The exterior walls are constructed of double wythe masonry with concrete masonry units (CMU) interior and face brick on the exterior with a cavity between the two walls that is filled with granular fill insulation. The bricks are in good condition with very little damage. The brick is stained from landscape sprinklers and weather. The mortar joints show indications of deterioration due to age and weathering. Entrances to the building have stucco soffits with recessed lighting. The stucco finish is in good condition with no staining or damage. The top of the walls is finished with a multi-part fascia/gravel stop that is also in good condition.

The theater portion has angled walls finished with tile mosaic. There are several areas the tiles have fallen off. There are larger areas of missing tiles at the roof level. Staff indicated that these walls occasionally leak.

Roof

The original roof is a ballasted built-up roof (BUR) system with white ½" – ¾" stone ballast. The roof appears to be in good condition with no evidence of damage. The theater roof shows signs of ponding between roof drains. The drainage is dual sump roof drain system with few drains. The primary drain exits the building above the adjacent grade onto concrete walks or into landscape areas. Secondary drains exit the building just below the roof into a conductor head/downspout and drain into landscape areas or concrete walks. Not all the drains have splash blocks or other means to channel the water away from the foundation/tunnel system. Some of the roof drains are covered with debris from trees.

The additions have parapets finished on the back with BUR flashing. The joints at the flashing show signs of deterioration. There are condensate lines running into roof drains or secondary drains causing debris to clog the drains, resulting in ponding. The rooftop HVAC equipment rests on pieces of 4x4 wood which sit on the roof membrane. The ducts penetrating the roof do not have curbs or adequate flashing. There is significant leaking in these areas. The parapet coping is screwed into the back, and in some instances, the top, without sealant. The sealant used on the corners and intersections of the parapets has deteriorated in some places.







Doors & Windows

The cosmetology reception area has 3 2-pane glazing units in aluminum frames. These windows are in good condition. Four similar windows located in room 121, currently the cosmetology classroom, have significant water damage. They are also covered on the inside with various material to reduce the amount of sunlight and heat gain. Staff reports that they are extremely hot and too bright.

The exterior entry doors are sliding glass units in aluminum frames. Though they appear to be in good condition, staff reports they stick open or closed, and they need to be manually reset. This could potentially affect the safety of the egress system when the doors are stuck closed, and when stuck open, significantly reduce the efficiency of the mechanical system used to keep the building conditioned. A couple of exterior doors are hollow metal units set in hollow metal frames. These units are in good condition though the paint is deteriorating. These doors also do not have weather-stripping or sweeps,

are very drafty, and permit water and dirt to enter the building. They are also a significant source of air leakage.

Interior doors are mostly the original wood units in wood frames. Most have the original hardware that includes knob style handles that are not accessible/useable by those with disabilities. A few doors are hollow metal doors in hollow metal frames and they are in good condition. Interior aluminum storefront units are in good condition. The original entry, located in the cosmetology lobby, is hollow metal frames with wire glass glazing, and hollow metal doors with large vision panels of wire glass. The paint on this doorway is deteriorated. The hardware appears to be functional, though is not accessible.

There are a couple of storefront windows and doors in good condition. A few of the interior doors contain wire-glass vision panels that are also in good condition.






Walls

Interior walls are constructed of metal framing with lath and textured plaster. The plaster has been repainted. There is very little cracking or other damage, and the walls are generally in good condition. There is some damage to the plaster in the janitor closet. There are some holes where electrical devices have been removed and no blank plates have been installed.

Flooring

The corridor floors are the original two-tone terrazzo flooring with 4" vinyl cove base. The base appears to be original and is dirty and aged. The terrazzo is in good condition, though aged, and shows very few cracks or other damage.

The classroom floors are VCT. The VCT floors are in poor condition with staining, broken tiles, gaps between tiles, etc.

Offices, and the theater floors are carpeted. The carpet appears to be in good condition with little wear and/or staining.

Ceilings & Lighting

Ceilings are acoustic ceiling tiles (ACT) in a suspended grid system with some surface-mounted light fixtures in the corridors, lay-in light troffers in several spaces, and some track lighting in the main entry corridor. Ceilings in the restrooms and janitor space are lath and plaster or gypsum board. There are few stained or damaged tiles. Though aged, the ceilings are generally in good condition. The suspended grids have little damage and are also in good condition. Light fixtures in the restrooms are the original surface-mounted fixtures. Though in good condition, they are outdated and aged.

The light fixtures in the corridors, including the track lighting, are outdated and inefficient. The lay-in light fixtures in the remaining spaces appear to be in good condition with little evidence of damage or failure. There was little audible buzzing associated with the lighting during the assessment. Classroom light levels seem to be adequate.

The theater ceiling is gypsum board and acoustic panels, all painted black. The lighting is connected to a control system that is unreliable when switching between house lights and production lighting. House lighting is adequate. Staff indicates that the lighting control system functions, though could be better, and there is enough light for various productions.

Fire Protection and Detection

The building has a manual fire alarm system with pull stations located at the primary exits. The fire alarm devices appear to be original to the building and their function is unknown. The fire alarm system is original to the building.

The building contains residential style smoke/carbon monoxide alarms that are local and not part of the fire alarm notification system.

Watson Hall does not contain a fire sprinkler system.

HVAC

A single air handling unit is located inside a mechanical room at the west side of the building. The air handling unit consists of an outside air inlet section, filter section, supply fan section, return air section, hot deck section with steam coil, and cold deck section with chilled water coil. A return/relief fan located in the return path is indicated on the existing controls drawings, but not observed. There is a dampered relief opening in return duct near the connection to AHU. The relief damper modulates and relieves air into the mechanical room. How the relief from the mechanical room occurs was not determined. There is a utility set exhaust fan located inside the room with an open intake to the mechanical room. The discharge of the exhaust fan appears to be connected to the floor and is believed to extend into the utility tunnel below the building. This exhaust fan was not operating at the time of the site visit. Two variable frequency drives (VFD's) are located in the mechanical room but not labelled.

It is believed that the VFD's are for the supply and return/relief fans. The air handler unit, DDC Controls, and VFD's appear to be relatively new.

The hot deck/cold deck duct distribution from the air handler unit is believed to be from the original building construction. Original construction drawings indicate this building was built in the mid to late 1960's.

There is indication of some renovation work since the original building construction, with new ductwork in some areas of the building. In general, the air distribution from the main air handling unit is connected to dual duct **vav** type boxes which provide heating and cooling control at a zone level. Air from the dual duct boxes mix hot and cold airstreams proportionally, as needed, to provide discharge air temperature that corresponds to the zone level requirement of temperature control. There are room thermostats associated with each dual duct box. Ductwork extends downstream from the dual duct boxes, to grilles, and diffusers within the zones. There appears to be approximately seventeen (17) dual duct vav boxes within this building. The main music auditorium includes underground ductwork extending from two (2) dual duct boxes. The underground ductwork wraps around the perimeter of the auditorium with branch ducts extending up from below grade, to sidewall grilles distributed around the perimeter walls of the auditorium. The underground ductwork appears to be cast in concrete.
While the air handler unit, VFD's and unit DDC controls appear to be new, the dual duct distribution and dual duct mixing boxes are believed to be original and may be considered a good location for further investigation to determine the condition and possible replacement. Additionally, the dual duct system with hot deck / cold deck sections providing simultaneous heating and cooling is generally not considered an energy efficient system.

Electrical

Secondary Power is 480Y/277V, 3Phase, 4Wire. Campus Primary distribution system serves this building. 208Y/120V power is derived from dry-type transformers in the existing electrical distribution system. Electrical Equipment Switchboards and/or Panels manufacturer is EATON. The equipment was upgraded in the last 10 to 15 years and are in good condition. Existing equipment can be maintained by NMJC M&O personnel. The existing electrical equipment did have the required code clearances. Most of the equipment was in locked rooms; either in an electrical room or mechanical room.

Recommendation for the NMJC administration of this building would be to remove all janitorial and storage items from with-in room and leave as an electrical/Technology room. Because this room has electrical equipment, only trained personnel with proper protective gear should enter this room.
During survey, it was difficult to reach equipment without moving items from the front of equipment. Visual Confirmation of Proper and Code compliant grounding was not achievable. This required an electrician to open electrical to view inside. Use of equipment ground conductors, proper conduit grounding, and overall grounding of distribution system will require verification during any redesign of this building. A Ground Bar was not present.

→ *Recommend a closer visual inspection internal to electrical equipment for a better verification of the existing grounding system.*

Receptacles in most of the older walls in the building were mounted at 1'-2" which is not to latest ADA requirements. In renovation and newer areas of the building receptacles are at 1'-6". Most devices and cover plates are the age of the building and/or latest renovations; with minimal damage to either. GFCI devices were located throughout the facility, where required, and will need verification for the latest codes. For the most part, mechanical equipment was in the mechanical room and not on the roof. Receptacles mounted near mechanical equipment on roof were not applicable in this building.

→ *Recommend relocating non-ADA compliant devices be made compliant where possible. This may require surface-mounting devices where mounted in existing CMU walls.*

Lamp types were approximately 75% fluorescent and 25% LED type luminaires; with T12 in utility spaces and T8 in most of the spaces. Luminaire types vary from 2X4, 1X4, Strips, as well as other types. Some of the luminaires were determined to be from original building construction, the lenses have damage, such as cracking, and yellowing, as well as dust build up which minimizes the lumen output of the luminaires.

→ *Recommend replacing all building lighting to 100% LED type luminaires and thereby provide additional energy savings.*

Lamp and luminaire types indicated in 4a above are used for Life Safety Illumination via a very old battery inverter. Life Safety Illumination in general seemed to not be adequate for its purpose in the building

→ *Recommend an upgrade of the entire life Safety Illumination in the building.*

Toggle-type switches were used throughout the building. No dimming switches were present. All switch control is line voltage connected. There are no low voltage type control devices. Switches in the building were mounted at between 48" and 54." In most of the older walls in the building, device locations do not meet the latest ADA requirements. In renovation and newer areas of the building switches do meet ADA requirements. Most devices and cover plates are either the age of the building and/or latest renovations; with minimal damage to either.

→ *Recommend upgrading lighting control to improve energy savings in each space and building.*

Disconnect switches on mechanical equipment appeared to be in good condition, but old and weathered on rooftop mechanical equipment. Internal to building the electrical equipment was also old.

→ *Recommend replacement to the newer equipment.*

Plumbing

Plumbing fixtures and trim vary in their age and condition. Most are in serviceable condition, but do not comply with current water consumption standards. ADA compliance was not assessed in every instance and many out-of- compliance installations are present. Emergency eye wash provisions do not meet the current ANSI-Z358.1 standard. Hair washing basins are in serviceable condition and compliant with cross-connection ordinance. The method by which hair interception is achieved is undetermined. Additional investigation by an Architect is needed to determine that code-required fixture counts and ADA compliance are met within the current layouts.

No destructive investigation was undertaken to determine material types, condition, and sizing. Rather, this assessment relied upon observation and discussions with NMJC personnel to inform the effort. Similarly, the exterior piping was not included in this assessment. The portions of the no-hub cast iron waste and vent piping that are visible appear to be in fair condition, although pipe and fittings are misaligned. Joints on the drainage system are fitted with two band rather than four band couplings. Condensate drains are of copper construction; insulation is present on many lines and needed on others. Maintenance personnel report that inadequate numbers of floor, wall and exterior cleanouts exist to allow routine maintenance.

The assessment team did not visit the roof, but the maintenance personnel stated the roof drains are in fair condition. The architectural roof drain collectors and downspouts appear to be in serviceable condition.

The visible portion of the roof drain, where the line terminates low on the exterior wall, reveals inadequate weather-proofing and proper downspout nozzles.

The exterior buried piping was not assessed as a part of this work. The facility is plumbed with a mix of galvanized and type L copper pipe/fittings with the copper materials being used on all renovations and repairs. Dielectric fittings separate dissimilar metals. Insulation is infrequent as are isolation valves. Pipe labeling is inadequate as well. Exterior wall hydrants are in various conditions; some appear to be fully functional while others show failure and conversion into a wall hydrant/hose bib. This latter conversion violates code requirements related to cross connection control.

The buried portion of the system was not evaluated under this assessment. The exposed portion of the system (at the exterior of the building and within the mechanical room) is made of screwed black steel pipe/fittings and appears sound. No evidence of failure was detected within the system. No operational deficiencies were reported. Valves were not function tested.

The domestic water heater is of recent vintage and appears to be functioning as intended. The maintenance personnel and faculty did not report any operational inadequacies. The recirculation pump appears to be functioning as intended. However, the piping arrangement lacks certain required

elements (expansion tank, automated control to take advantage of unoccupied hours of the building, balancing valve, etc.).

Restrooms

The restrooms in Watson Hall are original and not accessible to those with disabilities. The floor tile, though original and dated, is in good condition. The wall tiles are also original with very little damage and appear to be in good condition. The fixtures are not accessible to those with disabilities. Watson Hall restrooms do not contain an accessible toilet and clearances within the restrooms are inadequate.

Theater

The theater floor sheet carpet is in good condition. Seating is in very good condition. The stage is made of wood and potentially combustible fiberglass insulation. All the walls, storage platforms, and access stairs in the back of house area are made up of wood. The technical production areas are not separated from the stage/audience chamber with required fire rated walls. The exit doors that go directly to the outside do not have exit devices.

Code & Accessibility

- → *Signs throughout are not all mounted at the same height*
- → *Paper information signs cover some room signs*
- → *Exit signs do not function when the test button is pressed*
- → *Emergency lighting is inadequate*
- → *Restrooms are not accessible*
- → *There are no accessible seating areas*
- → *Stage is not accessible to those with disabilities*
- → *There are deadbolts on restrooms*
- → *Technical production areas not separated from stage/audience chamber*
- → *Stage is entirely made up of wood*

Main Capital Investment Areas:

- → *Replace ceilings, grids and light fixtures*
- → *Replace VCT flooring throughout*
- → *Correct accessibility deficiencies in the restrooms to the extent possible*
- → *Clean the exterior brick work, and clean and re-point the mortar*
- → *Construct vestibules at each entrance/exit*
- →
- → *Upgrade fire alarm system*
- → *Install accessible door hardware*
- → *Install compliant signage*
- → *Install emergency lighting system*

- → *Install fire sprinkler system throughout.*
- → *Renovate theater to address accessibility and other code concerns*
- → *Install new roofing, including new coping at the addition area and adequate roof curbs for roof mounted equipment and ductwork*
- → *Renovate plumbing system*

Watson Hall Summary Table

FACILITY DEFICIENCIES	QTY/UNIT	COST/UNIT	DEFICIENCY CORRECTIONS ONLY COST	DEFICIENCY CORRECTIONS PROJECT COST
Re-roof	14536 SF	$8.35	$121,375.60	$161,834.13
Replace ceiling tiles and grid	14536 SF	$6.40	$93,030.40	$124,040.53
New LED light fixtures	14536 SF	$7.25	$105,386.00	$140,514.67
Replace other flooring	6600 SF	$8.20	$54,120.00	$72,160.00
Re-finish terrazzo	2400 SF	$4.82	$11,568.00	$15,424.00
Correct accessibility issues in restrooms	2 EA	$2,500.00	$5,000.00	$6,666.67
Clean and re-point brick	14536 SF	$9.40	$136,638.40	$182,184.53
Install vestibules at each entry (Incl. replacing existing door)	2 EA	$10,000.00	$20,000.00	$26,666.67
Upgrade Fire alarm system	14536 SF	$8.20	$119,195.20	$158,926.93
Install fire suppression system	14536 SF	$10.20	$148,267.20	$197,689.60
Install accessible door hardware	30 EA	$350.00	$10,500.00	$14,000.00
Install compliant signage	14536 SF	$1.85	$26,891.60	$35,855.47
Install emergency lighting system, incl. exit signs	14536 SF	$3.45	$50,149.20	$66,865.60
Renovate theater to be accessible	4100 SF	$150.00	$615,000.00	$820,000.00
Renovate plumbing system	14536 SF	$3.25	$47,242.00	$62,989.33
Replace windows in cosmetology	7 EA	$800.00	$5,600.00	$7,466.67
Mechanical corrections/upgrades	14536 SF	$10.95	$159,169.20	$212,225.60
Plumbing corrections/upgrades	14536 SF	$2.78	$40,410.08	$53,880.11
Electrical corrections/upgrades	14536 SF	$12.00	$174,432.00	$232,576.00
Total of Deficiency Corrections Only Cost:				**$1,943,974.88**
Total Deficiency Corrections Project Cost:				**$2,591,966.51**

This list of was developed using 2019 mid-year unit costs and is intended to identify the building deficiencies in an effort to represent the building's overall physical condition and establish the FCI for this particular facility.

This cost is based on 2019 mid-year renovation cost to completely renovate this facility and should be used to establish total project budgets.

TOTAL FACILITY RENOVATION PROJECT COST

Total Building Renovation Project Cost:	**$5,136,053.00**

MANSUR HALL | 1 THUNDERBIRD CIRCLE, HOBBS, NM



Mansur Hall is a single-story classroom building originally constructed in 1966.

Staff Notes

- → *Women's restroom has bad odor*
- → *Exterior doors stick open or closed*
- → *No windows*
- → *Wi-Fi is not consistent*

Structure

The building structure consists of steel columns and beams with bar-joist and gypsum deck roof construction. The floor is a slab-on-grade concrete floor. No structural damage was observed.

Exterior Finishes

The exterior walls are constructed of double wythe masonry with concrete masonry units (CMU), interior and face brick on the exterior with a cavity between the two walls which is filled with granular fill insulation. The bricks are in good condition with very little damage. The brick is stained from landscape sprinklers and weather. The mortar joints show indications of deterioration due to age and weathering.

Entrances to the building have stucco soffits with recessed lighting. The stucco finish is in good condition with no staining or damage. The top of the walls is finished with a multi-part fascia/gravel stop which is also in good condition.

Roof

The roof is a ballasted built-up roof (BUR) system with white ½" – ¾" stone ballast. The roof appears to be in good condition with no evidence of leaking. The drainage is dual sump roof drain system with few drains. The primary drain exits the building above the adjacent grade, onto concrete walks or into landscape areas. Secondary drains exit the building just below the roof, into a conductor head/downspout, and drain into landscape areas or concrete walks. Not all the drains have splash blocks or other means to channel the water away from the foundation/tunnel system. Some of the roof drains are covered with debris from trees. Tree branches are resting on the roof surface and brush away ballast material. Ballast material is thin in areas, especially roof edges.





Doors & Windows

The building does not contain any windows, in any rooms. The exterior entrances are automatic sliding door units with large glazing on either side. The sliding doors are problematic, as they often stick in the closed or open position then must be manually reset to restore normal operation.

Interior doors are the mostly the original wood units, in wood frames, and most have the original hardware, which includes knob style handles that are not accessible/useable by those with disabilities.

There are a couple of storefront windows and doors that are in good condition. A few of the interior doors contain wire-glass vision panels that are also in good condition.





One exterior door to the mechanical room is a hollow metal unit, in a hollow metal frame. The door and frame appear to be in good condition. The paint is peeling, and there is some surface rust on the bottom portion of the door and frame.

Walls

Interior walls are constructed of metal framing with lath and textured plaster. The plaster has been repainted. There is very little cracking or other damage and the walls are generally in good condition. There is some damage to the plaster in the janitor closet. There are some holes where electrical devices have been removed and no blank plates have been installed.

Flooring

The corridor floors are the original two-tone terrazzo flooring with 6" black vinyl cove base. The base appears to have been replaced throughout and is in good condition. The terrazzo is in good condition, though aged, and shows very few damages or cracks.

The classroom floors are VCT. The VCT floors are in poor condition with staining, broken tiles, gaps between tiles, etc.

Offices and office area floors are carpeted. The carpet appears to be in good condition.

Ceilings & Lighting

Ceilings are acoustic ceiling tiles (ACT) in a suspended grid system with surface-mounted fluorescent light fixtures in the corridors, and a few offices, and lay-in light troffers in the classrooms and a few offices. Some ceilings, in restrooms, vending areas, and the janitor space are lath and plaster or gypsum board. There are few stained and/or damaged tiles. The ceilings are generally in good condition. The suspended grids have few damaged parts and are also in good condition.

The light fixtures in the corridors are aged, though appear to be in good condition. Though light levels appear to be adequate, only half of the fixtures are used. The lay-in light fixtures in the offices and classrooms appear to be newer, with little evidence of damage or failure. Light levels throughout Mansur Hall appear to be adequate.



Fire Protection and Detection

The building is equipped with a manual fire alarm system with pull stations located at the exits. Mansur Hall is equipped with an automatic fire sprinkler system with fire department connection on the west side of the building. The fire detection and protection systems are original to the building.

HVAC

The building is conditioned by a single air handling unit located inside a mechanical room at the southwest corner of the building. The air handling unit consists of an outside air inlet section, filter section, supply fan section, return air section, hot deck section with steam coil, and cold deck section with chilled water coil. A return/relief fan located in the return path is indicated on the existing controls drawings, but not observed. How relief exists for the building was not determined. Two variable frequency drives (VFD's) are located in the mechanical room but not labelled. It is believed that the VFD's are for the supply and return/relief fans. The air handler unit, DDC Controls, and VFD's appears to be relatively new.

The hot deck/cold deck duct distribution from the air handler unit is believed to be from the original building construction. Original construction drawings indicate this building was built in the mid to late 1960's.

In general, the air distribution from the main air handling unit is connected to dual duct mixing boxes. They provide heating and cooling control based on a zone/room sensor. Air from the dual duct boxes mixes hot and cold airstreams, proportionally, as needed to provide discharge air temperature that corresponds to the zone requirements for heating or cooling. There are room thermostats associated with each dual duct box. Pneumatic and DDC type wall thermostats were noted during the walk through of the building. Ductwork extends downstream from the dual duct boxes to grilles and diffusers within the zones. There appear to be approximately twenty-six (26) dual duct mixing boxes within this building. During this walk through, it was noted that entry door locations at opposing sides of the building promoted very drafty conditions within the central hall, when the doors open and close. It is hard to determine if this was due to windy conditions outside the building, or somehow related to pressure control of the HVAC unit, relief fan, and/or exhaust fans associated with the building.

While the air handler unit, VFD's and unit DDC controls appear to be new, the dual duct distribution and dual duct VAV boxes are believed to be original and may be considered as a good location for further investigation to determine the condition and possible replacement. Additionally, the dual duct system with hot deck / cold deck sections providing simultaneous heating and cooling is generally not considered an energy efficient system. Hot and cold air streams are mixed to a neutral temperature when no heating or cooling is required. The airflow to such zones is reduced. Regardless of heating and cooling, a minimum level of airflow is required for outside air ventilation to the zones. This is a less efficient system due to the mixing of a hot & cold air supplies for ventilation.

Electrical

Secondary Power is 480Y/277V, 3Phase, 4Wire. Campus Primary distribution system serves this building. 208Y/120V power is derived from dry-type transformers in the existing electrical distribution system. Electrical Equipment Switchboards and/or Panels manufacturer is EATON. The equipment was upgraded in the last 10 to 15 years and is in good condition. Existing equipment is maintained by NMJC M&O personnel. The existing electrical equipment did have the required code clearances and most of the equipment was located in locked rooms; either in an electrical room or mechanical room.

→ *Recommendation for the NMJC administration of this building is to remove all janitorial and storage items from with-in room and leave as an electrical/technology room. Because this room has electrical equipment, only trained personnel with proper protective gear should enter this room. During survey, it was difficult to reach equipment without moving items from the front of equipment.*

Visual Confirmation of Proper and Code compliant grounding was not achievable. An electrician is required to open electrical equipment covers to view inside. Use of equipment ground conductors, proper conduit grounding, and overall grounding of distribution system will require verification during any redesign of this building. A ground bar was not present.

→ *Recommend a closer visual internal inspection of electrical equipment for a better verification of the existing grounding system.*

Receptacles in most of the older walls in the building were mounted at 1'-2" which is not to latest ADA requirements. In renovation and newer areas of the building receptacles are at 1'-6". Most devices and cover plates are either the age of the building and/or latest renovations; with minimal damage to either. GFCI devices were located throughout the facility and will require verification for the latest codes.

Receptacles mounted near mechanical equipment per code were not present on any roof mounted equipment.

→ *Recommend non-ADA compliant devices be made compliant where possible. This may require surface-mounting devices where mounted in existing CMU walls.*

Lamp types were approximately 75% fluorescent and 25% LED type luminaires. T12 in utility spaces and T8 in most of the spaces. Luminaire types vary from 2X4, 1X4, Strips, and other types. Some of the luminaires were determined to be from original building construction, with damage to lenses such as cracking, and yellowing of the lens, as well as dust build up which minimize the lumen output of the luminaires.

→ *Recommend replacing all building lighting to 100% LED type luminaires and thereby provide additional energy savings.*

Lamp and luminaire types indicated in 4a above are used for Life Safety Illumination via a very old battery inverter. Life Safety Illumination in general seemed to not be adequate for its purpose in the building.

→ *Recommend an upgrade of the entire life Safety Illumination in the building.*

Toggle-type switches were used throughout the building. No dimming switches were present. All switch control is line voltage connected. There are no low voltage type control devices. Switches in the building were mounted at between 48" and 54." Device locations do not meet the latest ADA requirements in most of the older walls in the building. Building switches do meet ADA requirements in renovation and newer areas of the building.

Most devices and cover plates are the age of the building and/or latest renovations; with minimal damage to either.

→ *Recommend upgrading lighting control to improve energy savings in each space and building.*

Disconnect switches on mechanical equipment appeared to be in good condition, but old and weathered on rooftop mechanical equipment. Internal to building, the electrical equipment was also old.

→ *Recommend replacement to the newer equipment.*

Plumbing

Plumbing fixtures and trim are in very good condition. Most appear to comply with current water consumption standards and ADA compliance where appropriate. Additional investigation by an Architect is needed to determine that code-required fixture counts and ADA compliance are met within the current layouts. A vacuum breaker associated with the Janitor's Closets has leaked, causing damage to the wall surface.

No destructive investigation was undertaken to determine material types, condition, and sizing. Rather, this assessment relied upon observation and discussions with NMJC personnel to inform the effort. Similarly, the exterior piping was not included in this assessment. No portions of the system are visible for inspection. Floor drains and a modest amount of exposed vent piping in the mechanical room are in serviceable condition.

Maintenance personnel report that inadequate numbers of floor-, wall-, and exterior cleanouts exist to allow ready routine maintenance.

The assessment team did not visit the roof, but the maintenance personnel stated the roof drains are in fair condition. The architectural roof drain collectors and downspouts appear to be in serviceable condition. The visible portion of the roof drain where the line terminates low on the exterior wall termination, reveals inadequate weather- proofing and proper downspout nozzles.

The exterior buried piping was not assessed as a part of this work. The facility is plumbed with a type L copper pipe/fittings with the copper materials. Insulation is present, properly jacketed, and labeled. Sufficient numbers of isolation valves are present to allow for routine maintenance. Exterior wall hydrants are in various conditions; some appear to be fully functional while others show failure and conversion into a wall hydrant/hose bib. This latter conversion violates code requirements related to cross connection control.

The facility is not served by a natural gas system.

The domestic water heater is of recent vintage and appears to be functioning as intended. The maintenance personnel and faculty did not report any operational inadequacies.

The exterior supply system was not evaluated as a part of this work. The facility is protected by a wet pipe fire sprinkler system equipped with the appropriate code-required accoutrements. All portions of system appear to be fully functional and in compliance with the appropriate codes and standards. The inspection logs indicate currency with all required testing and inspection intervals. No evidence of cross connection prevention could be found.

Restrooms

The restrooms were remodeled in 2015. The remodel included new toilets and flush valves, countertops with integral sinks, grab bars, accessories (i.e. toilet paper dispenser, soap dispenser, etc.), and partitions. The walls and floors received new tile throughout, as well. Portions of the renovation are not compliant with the accessibility standards of the buildings code such as mounting heights of elements, lavatory drains are not wrapped with protective covers, toilet paper dispenser is mounted to close to the grab bar in the accessible stall.

There is no exhaust system for the restrooms.

Code & Accessibility

- → *Signs throughout are not all mounted at the same height*
- → *Paper classroom information cover some room signs*
- → *Exit signs do not function when the test button is pressed*
- → *Inadequate emergency lighting in corridors*
- → *Under sink protection not installed*
- → *Vertical grab bar not installed*
- → *Toilet paper dispenser in accessible stall mounted too close to grab bar*

→ *There are deadbolts on restrooms*

Main Capital Investment Areas:

→ *Replace ceilings, grids, light fixtures, and HVAC registers*
→ *Replace VCT flooring throughout*
→ *Correct accessibility deficiencies in the restrooms to the extent possible*
→ *Clean the exterior brick work and clean and re-point the mortar*
→ *Install dual height drinking fountains*
→ *Construct vestibules at each entrance/exit*
→ *Upgrade fire alarm system*
→ *Install accessible door hardware*
→ *Install compliant signage*
→ *Install emergency lighting system*
→ *Install exhaust fans in restrooms*

Mansur Hall Summary Table

FACILITY DEFICIENCIES	QTY/UNIT	COST/UNIT	DEFICIENCY CORRECTIONS ONLY COST	DEFICIENCY CORRECTIONS PROJECT COST
Repair (patch, remove debris, clean drains, replace ballast)	15499 SF	$1.75	$27,123.25	$36,164.33
Replace ceiling tiles and grid	15499 SF	$6.40	$99,193.60	$132,258.13
New LED light fixtures	15499 SF	$7.25	$112,367.75	$149,823.67
Replace other Flooring	8034 SF	$8.20	$65,878.80	$87,838.40
Re-finish terrazzo	4365 SF	$4.13	$18,027.45	$24,036.60
Correct accessibility issues in restrooms	2 EA	$2,500.00	$5,000.00	$6,666.67
Clean and re-point brick	15499 SF	$9.40	$145,690.60	$194,254.13
Install vestibules at each entry (incl. replacing existing door)	4 EA	$10,000.00	$40,000.00	$53,333.33
Upgrade Fire alarm system	15499 SF	$8.20	$127,091.80	$169,455.73
Install accessible door hardware	40 EA	$350.00	$14,000.00	$18,666.67
Install compliant signage	15499 SF	$1.85	$28,673.15	$38,230.87
Install emergency lighting system, incl. exit signs	15499 SF	$3.45	$53,471.55	$71,295.40

FACILITY DEFICIENCIES	QTY/UNIT	COST/UNIT	DEFICIENCY CORRECTIONS ONLY COST	DEFICIENCY CORRECTIONS PROJECT COST
Renovate plumbing system	15499 SF	$3.25	$50,371.75	$67,162.33
Replace existing /install new drinking fountains	4 EA	$1,895.00	$7,580.00	$10,106.67
Install exhaust fans in restrooms	2 EA	$785.00	$1,570.00	$2,093.33
Mechanical corrections/upgrades	15499 SF	$12.27	$190,172.73	$253,563.64
Plumbing corrections/upgrades	15499 SF	$3.33	$51,611.67	$68,815.56
Electrical corrections/upgrades	15499 SF	$12.00	$185,988.00	$247,984.00
Total of Deficiency Corrections Only Cost:				**$1,223,812.10**
Total Deficiency Corrections Project Cost:				**$1,631,749.47**

This list of was developed using 2019 mid-year unit costs and is intended to identify the building deficiencies in an effort to represent the building's overall physical condition and establish the FCI for this particular facility.

TOTAL FACILITY RENOVATION PROJECT COST

This cost is based on 2019 mid-year renovation cost to completely renovate this facility and should be used to establish total project budgets.

Total Building Renovation Project Cost:	**$5,476,313.00**

JOHN SHEPHERD ADMINISTRATION | 1 THUNDERBIRD CIRCLE, HOBBS, NM



John Shepherd is a single story administration building originally constructed in 1966.. The original entry, was at some point, closed and the main entry is now on the North side.

Staff Notes

None

Structure

The building structure consists of steel columns and beams with bar-joist and gypsum deck roof construction. The floor is a slab-on-grade concrete floor. No structural damage was observed.

Exterior Finishes

The exterior walls are constructed of double wythe masonry with concrete masonry units (CMU) interior, and face brick on the exterior with a cavity between the two walls that is filled with granular fill insulation. The bricks are in good condition with very little damage. The mortar joints show indications of deterioration due to age and weathering. Entrances to the building have stucco soffits with recessed lighting. Windows have stucco soffits as well. The stucco finish is in good condition with no staining or damage. The top of the walls is finished with a multi-part fascia/gravel stop that is also in good condition.

Roof

The roof is a ballasted built-up roof (BUR) system with white ½" – ¾" stone ballast. The roof appears to be in good condition with little evidence of damage. The drainage is a dual sump roof drain (one drain with a primary and overflow secondary in one unit) system. The addition uses a double roof drain with separate primary and secondary drains.

Most of the roof does not have a parapet, and uses a gravel stop and multi part fascia. Where there is a parapet, the coping is secured to the roof with screws through the face of the coping into the roof membrane below. This could potentially cause leaking and damage to the roofing membrane.

The vertical joints in the parapet flashing membrane are deteriorated with fabric showing through. There are some electrical components (conduit, frame structure, etc.) on the roof that are abandoned. This loose material has the potential to cause damage to the roof.





There is a build-up of debris around some of the roof drains from a nearby tree. This could potentially clog the roof drain. There are a few spots where the ballast material has moved from the edges where it is needed the most.

Doors & Windows

The windows are 2-pane glazing units in aluminum frames. These windows appear to be in good condition. The finish around the interior of the windows requires cosmetic touch up.

The exterior entry doors are aluminum storefront. They appear to be in good condition and need adjustment tokeep them from sticking. The ADA opener on the main entry appears to be operational. The ADA on the south entry utilizes a wheel mounted on an arm that opens the door by rolling against the face of the door. The wheel has left marks on the door. The weather-stripping and sweeps should be replaced.

Interior doors are mostly the original wood units in wood frames and most have the original hardware which includes knob style handles not accessible/useable by those with disabilities. Some doors and hardware in upgraded areas are newer, with window lites, aluminum frames and lever type locksets.

Walls

Interior walls are constructed of metal framing with lath and textured plaster with some of the newer areas comprised of metal framing and textured gyp walls. There is very little cracking or other damage and the walls are in good condition. Main corridor walls are ceramic tile. Restrooms have been remodeled and have ceramic tilewalls.

Flooring

Some offices have carpet. Newer offices have resilient flooring, simulated wood type planking. Those without carpeting or resilient flooring have tile.

Corridors and Common 101 have terrazzo. Common 101 has an inlaid thunderbird in the center of the floor. Restrooms have been remodeled and have ceramic floor tile. The main corridor floors are polished concrete. Offices such as 111 have ceramic floor tile with vinyl base.

Storage type rooms are VCT.

Ceilings & Lighting

Ceilings are acoustic ceiling tiles (ACT) in a suspended grid system with some surface-mounted light fixtures in the corridors. No stained tiles or damaged tiles were observed. The suspended grids have no damage and are in good condition. The center of the building (101) has lath and plaster or gypsum board with square surface-mounted lighting.

Fire Protection and Detection

The building has a manual fire alarm system with pull stations located at the primary exits. The fire alarm devices appear to be original to the building and their function is unknown. The fire alarm system is original to the building.

HVAC

A single air handling unit is located inside a mechanical room at the southeast corner of the building. The air handling unit consists of an outside air inlet section, filter section, supply fan section, return/relief fan section, hot deck section with steam coil, and cold deck section with chilled water coil. A return/relief fan relief section includes relief dampers that modulate open to the mechanical room. The mechanical room has a large louver with barometric dampers that open to release air out of the mechanical room and building. Two variable frequency drives (VFD's) are located in the mechanical room, but not labelled. It is believed that the VFD's are for the supply and return/relief fans. The air handler unit, DDC Controls, and VFD's within the mechanical room appear to be in new condition.

The hot deck/cold deck duct distribution from the air handler unit is believed to be from the original building construction. As part of a recent air handling unit replacement renovation project, there were three (3) dual duct VAV boxes along with ductwork that where replaced or added. Original construction drawings indicate that the building was built in the mid to late 1960's.

In general, the air distribution from the main air handling unit is connected to dual duct (VAV) type boxes which provide heating and cooling control at a zone level. Air from the dual duct boxes mix hot and cold airstreams, proportionally, as needed to provide discharge air temperatures that corresponds to zone temperature sensors / thermostats. There are thermostats associated with each dual duct

mixing box. DDC type wall thermostats were noted during the walk through of the building. Single supply ducts extend from the discharge end of the mixing boxes, downstream, to grilles and diffusers within the zones. There appear to be approximately thirty-one (31) dual duct VAV mixing boxes within this building.

While the air handler unit, VFD's and unit DDC controls appear to be new, the dual duct distribution and dual duct VAV boxes are believed to be original and may need additional investigation. Dual duct systems with hot deck / cold deck sections are generally not considered energy efficient system. This is due to the mixing of a hot & cold air supplies only ventilation is required.

Electrical

Secondary Power is 480Y/277V, 3Phase, 4Wire. Campus Primary distribution system serves this building. 208Y/120V power is derived from dry-type transformers in the existing electrical distribution system. Electrical equipment switchboards and/or panels manufacturer is EATON. The equipment was upgraded in the last 10 to 15 years and is in good condition. Existing equipment can be maintained by NMJC M&O personnel. The existing electrical equipment did have the required code clearances. Most of the equipment was located in locked rooms; either in an electrical room or mechanical room.

Some panels are located in the halls of the building recessed in the wall.
Visual confirmation of proper and code compliant grounding was not achievable. This requires an electrician to open electrical equipment to view inside. Use of Equipment ground conductors, proper conduit grounding, and overall grounding of distribution system will require verification during any redesign of this building. A ground bar was not present.

→ *Recommend a closer visual inspection internal to electrical equipment for a better verification of the existing grounding system.*

Receptacles in most of the older walls in the building were mounted at 1'-2" which is not to latest ADA requirements. Most devices and cover plates are the age of the building with minimal damage to either. GFCI devices were located throughout the facility, where required, and will require verification for the latest codes. For the most part mechanical equipment was in the mechanical room and not on the roof. Receptacles mounted near mechanical equipment on roof not applicable in this building.

→ *Recommend non-ADA compliant devices be made compliant where possible. This may require surface-mounting devices where mounted in existing CMU walls.*

Lamp types were approximately 75% Fluorescent and 25% LED type luminaires. T12 in utility spaces and T8 in most of the spaces. Luminaire types vary from 2X4, 1X4, Strips, and other types. Some of the luminaires were determined to be from original building construction, with damage to some lenses such as cracking, and yellowing of the lens, as well as dust build up which minimize the lumen output of the luminaires.

→ *Recommend replacing all building lighting to 100% LED type luminaires and thereby provide additional energy savings.*

Upon visual inspection it did not appear that existing Life Safety Illumination was present. We did not see a battery invert located in the building and internal battery to the luminaires did not appear to be present. Life Safety Illumination, in general, seemed not to be adequate for it purpose in the building.

→ *Recommend an upgrade of the entire life Safety Illumination in the building.*

Toggle-type switches were used throughout the building. No dimming switches were present. All switch control is line voltage connected. There are no low voltage type control devices. Switches in the building were mounted at between 48" and 54." In some instances, device locations do not meet the latest ADA requirements in most of the older walls in the building. In renovation and newer areas of the building switches do meet ADA requirements. Most devices and cover plates are the age of the building and/or latest renovations; with minimal damage to either.

→ *Recommend upgrading lighting control to improve energy savings in each space and building. Disconnect switches on mechanical equipment appeared to be old, but good condition.*
→ *Recommend replacement to the newer and latest manufacturer equipment.*

Plumbing

Except for the electric water coolers, the plumbing fixtures and trim are in very good condition. Most appear to comply with current water consumption standards and ADA compliance where appropriate. Additional investigation by an Architect is needed to determine that code-required fixture counts and ADA compliance are met within the current layouts.

No destructive investigation was undertaken to determine material types, condition, and sizing. Rather, this assessment relied upon observation and discussions with NMJC personnel to inform the effort. Similarly, the exterior piping was not included in this assessment. No portions of the system are visible for inspection. Floor drains and a modest amount of exposed vent piping in the mechanical room are in serviceable condition.

Maintenance personnel report that inadequate numbers of floor-, wall-, and exterior cleanouts exist to allow ready routine maintenance.

The assessment team did not visit the roof, but the maintenance personnel stated the roof drains are in fair condition. The exterior terminations appear to be functioning as intended with no evidence of erosion or undermining of hardscape.

The exterior buried piping was not assessed as a part of this work. The piping within the tunnel was not assessed as a part of this work. The facility is plumbed with a type L copper pipe/fitting with the copper materials.

Insulation is present, and properly jacketed. Pipe labels are inadequate in numbers. Sufficient numbers of isolation valves are present to allow for routine maintenance. Exterior wall hydrants are in various conditions; some appear to be fully functional while another is incorrected installed to meet code related cross connection requirements.

The facility is not served by a natural gas system.

The domestic water heater is of recent vintage and appears to be functioning as intended. An expansion tank is needed in the installation. The maintenance personnel and faculty did not report any operational inadequacies. The recirculation pump is non-functional and requires proper wiring and control.

John Shepherd Administration Building Summary Table

FACILITY DEFICIENCIES	QTY/UNIT	COST/UNIT	DEFICIENCY CORRECTIONS ONLY COST	DEFICIENCY CORRECTIONS PROJECT COST
Replace sidewalks around building	10000 SF	$9.00	$90,000.00	$120,000.00
Replace signage	1 EA	$500.00	$500.00	$666.67
Adjust sticking storefront door at entrance near 131	1 EA	$250.00	$250.00	$333.33
Replace auto door opener at entrance near 131	1 EA	$1,000.00	$1,000.00	$1,333.33
Storage near 131 cluttered	1 EA	$0.00	$0.00	$0.00
Repair drywall around window 123	10 SF	$6.00	$60.00	$80.00
Repair drywall around door 130	10 SF	$6.00	$60.00	$80.00
Repair drywall around window 122	10 SF	$6.00	$60.00	$80.00
Microwave and water cooler blocking door at 128	1 EA	$0.00	$0.00	$0.00
Repair hole in wall above door 121	10 SF	$6.00	$60.00	$80.00
Fire alarm system	11447 SF	$8.20	$93,865.40	$125,153.87
Replace lighting	11447 SF	$7.25	$82,990.75	$110,654.33
Replace auto door opener at entrance near 106	1 EA	$1,000.00	$1,000.00	$1,333.33
Replace storefront door near 106	1 EA	$1,000.00	$1,000.00	$1,333.33
Replace ceiling tiles at entry near 106	85 sf	$1.44	$122.40	$163.20

FACILITY DEFICIENCIES	QTY/UNIT	COST/UNIT	DEFICIENCY CORRECTIONS ONLY COST	DEFICIENCY CORRECTIONS PROJECT COST
Replace door 114 cracked	1 EA	$800.00	$800.00	$1,066.67
Replace blinds in storage	9 EA	$75.00	$675.00	$900.00
Repair holes in finance office door	1 EA	$50.00	$50.00	$66.67
Replace ceiling tiles 139 storage	200 SF	$1.44	$288.00	$384.00
Replace ceiling tiles 140	125 SF	$1.44	$180.00	$240.00
Repair door trim 141	1 EA	$100.00	$100.00	$133.33
Replace flooring	5000 SF	$8.20	$41,000.00	$54,666.67
replace ceiling tiles 133	182.5 SF	$1.44	$262.80	$350.40
Electrical corrections/upgrade	11447 SF	$12.00	$137,364.00	$183,152.00
Re-landscape	1 EA	$20,000.00	$20,000.00	$26,666.67
Localized repair	11447 SF	$8.35	$95,582.45	$127
Sprinkle building	11447 SF	$10.20	$116,759.40	$155,679.20
Plumbing corrections/upgrades	11447 SF	$2.13	$24,382.11	$32,509.48
Mechanical corrections/upgrades	11447 SF	$13.97	$159,914.59	$213,219.45
Total of Deficiency Corrections Only Cost:				**$868,326.90**
Total Deficiency Corrections Project Cost:				**$1,157,769.20**

This list of was developed using 2019 mid-year unit costs and is intended to identify the building deficiencies in an effort to represent the building's overall physical condition and establish the FCI for this particular facility.

TOTAL FACILITY PROJECT RENOVATION

This cost is based on 2019 mid-year renovation cost to completely renovate this facility and should be used to establish total project budgets.

Total Building Renovation Project Cost:	**$4,044,607.00**

BEN ALEXANDER STUDENT LEARNING CENTER | 1 THUNDERBIRD CIRCLE, HOBBS, NM



Ben Alexander Student Learning Center was originally constructed in 1969. It contains the student activity center, cafeteria/kitchen, bookstore and student services. An addition to Ben Alexander Student Center in 2005 included a renovation to parts of the original building, including the game room, corridors, and snack bar/lounge area. The addition consists of a two-story building and basement.

Staff Notes

- → *Kitchen is inefficient and poorly laid out*
- → *Kitchen equipment is old and in need of replacement*
- → *Flooring in kitchen is very poor*

Structure

The original building structure consists of steel columns and beams with bar-joist and gypsum deck roof construction. The 2005 addition structure consists of a steel structural frame with steel stud framing forming the exterior walls. Floors are cast in place slab-on-grade and concrete-on-structural floor deck while the roof structure consists of steel joists and composite steel deck.

Exterior Finishes

The exterior walls at the original portion are constructed of double wythe masonry with (CMU) interior, and face brick on the exterior with a cavity between the two walls filled with granular fill insulation. The

bricks are in good condition with very little damage. The brick is stained from landscape sprinklers, weather and age. The mortar joints show indications of deterioration due to age and weathering.

Entrances to the original building have stucco soffits. The stucco finish is in good condition with little staining or damage. The tops of the walls are finished with a metal fascia and gravel stop that is also in good condition though finish is very poor.

The exterior of the addition consists of brick veneer, stone veneer, metal panel and stucco. There are some areas of the lighter colored brick that is dirty from weather, but is otherwise in very good condition. Sealant joints at the metal panel are dirty but the panels are otherwise in very good condition. The stone and stucco finishes are also in very good condition.

Roof

The roof is a modified built-up membrane system consisting of multiple layers of bitumen sheets and reinforcing felts with an asphalt impregnated cap sheet.

The roof over the original portion is generally in poor condition. The top sheet granules have become dislodged and are migrating around the roof in valleys and low spots. There is severe ponding at a couple of roof drain locations. Roof edges are deteriorated and lifting.







The gas lines and conduits on the roof are supported by wood blocks that are deteriorating and no longer able to perform their function. There are several CMU blocks scattered about portions of the roof, and holding down equipment that is no longer used. Some roof drains are missing the “cage” that keeps debris out of the drains. Several of the drains are surrounded with debris which is preventing proper drainage. Various joints between different materials are poorly sealed, possibly permitting water to enter the wall cavities. Ponding that has become stagnant was observed on the cafeteria roof. The water, showing the beginnings of organic growth indicating that it had been on the roof for an extended period of time. Masonry window sills at the addition high windows are not adequately sealed allowing moisture to enter the wall.





There are several tunnel-like skylights in the cafeteria that have holes, cracks, and other damage. There are a couple of expansion joints which are severely deteriorated with intersections as well as end terminations that are inadequate. The grease hood in the kitchen does not properly trap grease and it's accumulating on the roof, potentially causing damage to the roofing membranes. The finish on coping on the kitchen parapets is completely gone in most places

Portions of the roof do not appear to drain at all, based on the accumulation of dirt and debris, in these areas. Rooftop equipment is not adequately mounted.





The added portion of the roof is the same composition and is also in poor condition, with joints showing fabric through the mastic, migrating cap sheet granules that have become dislodged, and severe "alligator skin" of cap sheet and joints.

Doors & Windows

The original building has an existing window that is made up of 3 glazing units set in a hollow metal frame. The glazing is in poor condition with heavy water deposits and etching from landscape sprinklers. The sealant is deteriorated, and the frames show signs of heavy rusting at the intersection of vertical and horizontal framing members. The paint on the frame is peeling, subjecting the frame to further damage.

The doors at the original portion are a mixture of hollow metal doors in hollow metal frames and aluminum storefront style doors. The hollow metal doors are generally in good condition, though the paint is deteriorated, and the door seals are poor. The hardware on some of these doors is the original hardware and is in mostly very poor condition. The main entry to the original portion is the same horizontal sliding automatic door found elsewhere on campus. This door appears to be in good condition, though it does occasionally stick open or closed and must be reset to function again.

The windows in the addition are all aluminum storefront units with thermal glazing and metal infill panels or aluminum framed curtain wall system with thermal glazing units and metal infill panels. These windows are in excellent condition showing very little signs of age.

Most of the exterior doors at the addition portion are part of the storefront or curtain wall systems, and are also in excellent condition. There are few hollow metal doors in hollow metal frames on the added portion. These are in good condition, though the finish is deteriorated, and in need of re-painting.

Interior doors in the original portion of Ben Alexander are the original wood units set in wood frames. These original doors are mostly fair condition with hardware that does not meet accessibility requirements. The doors in the serving area of the cafeteria are in very poor condition.

At the addition, the interior doors are mostly solid core wood units and a few hollow metal units. All are set in hollow metal frames, are part of an aluminum storefront system. All of these are in very good condition.

Walls

Some interior walls are constructed of metal framing with lath and textured plaster. The plaster has been repainted. There is very little cracking or other damage and the walls are generally in good condition. Some of the walls are of painted CMU construction. These walls are in excellent condition with very little damage and no observed cracking.

Walls in the kitchen have many holes and other damage from repair efforts, equipment mounting, general impacts, etc. The walls in this area are in poor condition.

Interior walls throughout the 2005 addition are painted gypsum over light gage steel framing. These walls are in very good condition. Few cracks were observed at the open office area of student services.

Flooring

The flooring in the office areas is a combination of VCT and carpet carpeted areas. The VCT is generally in poor condition with lots of wear and staining. The carpeted areas are mostly fair condition.

Flooring throughout the common areas are terrazzo. These floors are in very good condition, though the original terrazzo floors are aged and need to be refinished. The terrazzo floors in the addition are generally in good condition though there are many cracks that should be repaired.

Floors in most of the kitchen area are painted concrete. The paint is in very poor condition. The remaining areasare quarry tile. The grout is very dirty, and the tiles are very aged. The serving areas have VCT that is old and shows signs of wear. These floors are in poor condition.

The cafeteria and recreation room also have terrazzo. These floors are generally in good condition though there were a few cracks and poor repairs made in the past.

The bookstore stock room is painted concrete. The concrete does not show signs of structural damage though the paint is very poor.

The stair treads are covered with vinyl tread caps. These are generally in good condition though the leading edges are separating from the stair risers creating a potential tripping hazard. Enclosed stairs are finished with painted treads and floor area under the stair. The painted finish in these areas is in fair/good condition.

Ceilings & Lighting

Ceilings in the original portion are a combination of new acoustic ceiling tiles (ACT) set in suspended grids, original ACT or painted gypsum board. The ACT ceilings that were not replaced as part of the 2005 renovation are in fair to poor condition while the ceilings in the kitchen and serving area are very poor. Ceilings in the restrooms, in the original portion, were not replaced as part of the 2015 renovation. These ceilings are also in very poor condition. The ceiling tiles in the addition under the roof have many stains and other damage due to roof leaks.

Some of the office spaces in the shop areas have textured gypsum board ceiling with surface-mounted lights. Though the lighting seems to be adequate, the fixtures are probably close to the end of their service life.

Fire Protection and Detection

The building is equipped with a manual fire alarm system, with pull stations located at the exits and an automatic fire sprinkler system. Fire alarm and sprinkler system were upgraded as required during the 2005 addition/renovation.

HVAC

This building includes original building construction and a newer two-level addition located at the northeast side of the building. This building has multiple HVAC systems. Most of the building is conditioned with two types of air handling units. The main air handlers for these two systems are located in a basement level mechanical room, both air handling units were installed in 2005 (approximate). Chilled water piping and steam piping extends from the central plant to the basement mechanical room. A steam-to-hot water heat exchanger with hot water circulating pumps is located in the same mechanical room. Additionally, a steam-to-hot water heat exchanger and two hot water circulating pumps associated with the new Allied Health building are located in the same mechanical room. A condensate receiver / pump is also located in the basement mechanical room. The condensate from the two heat exchangers is directed to this device. There was a PVC pipe temporarily piped to the receiver tank, like a drain.

This PVC pipe / connection was leaking steam. If steam is coming out of the receiver, it may be an indication that there is a faulty steam trap leaking steam.

The older portion of the building is served by a hot deck/cold deck type unit with hot water heating coil and chilled water coil, airside economizer, return/ relief and supply fans. The fan speed of each type of fan is controlled by VFD's. The supply and return air ductwork associated with this unit is existing. The dual duct mixing boxes located inside the building are existing. Each mixing box has an associated Zone level thermostat for space temperature control.

The new two-level addition part of the building is served by a VAV single supply duct-type unit. The unit includes airside economizer and filters, hot water preheat coil, chilled water coil, supply and return relief fans controlled by VFD's. The supply ductwork from the unit extends from the mechanical room to the newer addition. This network of supply duct includes VAV boxes with hot water reheat coils for zone control. This type of system is more energy efficient compared to the dual duct system serving the original portion of the building. There are two electrical rooms with transformers in the new addition that utilize transfer air and exhaust to condition these spaces.

These rooms do not appear to have adequate cooling. The rooms are notably hotter than the adjacent spaces and transformers are buzzing; which could be due to excessive heat or lack of cooling.
In addition to the two primary HVAC systems, there are some unique type of spaces conditioned by other type HVAC systems. The kitchen area includes several packaged DX/Gas rooftop units, a kitchen makeup unit and grease exhaust fan. The new addition has two Data / IT rooms served by Mini Split cooling units.

Temperature in 1st floor and 2nd Electrical Rooms was noted as hot. The electrical transformers were noisy.

Electrical

Secondary Power is 480Y/277V, 3Phase, 4Wire. Campus Primary distribution system serves this building. 208Y/120V power is derived from dry-type transformers in the existing electrical distribution system. Electrical equipment switchboards and/or panels manufacturer is EATON. The equipment was part of an addition and renovation to the building in the last 10 to 15 years and are in good condition. In the basement of this building and in the kitchen/cafeteria portion of the building the equipment is older, Square D equipment. Existing equipment is able to be maintained by NMJC M&O personnel. However, equipment in the basement is in need of upgrade. The existing electrical equipment did have the required code clearances and most of the equipment was in locked rooms; either in an electrical room or mechanical room.

→ *Recommendation for the NMJC administration of this building would be to remove all janitorial and storage items from with-in room and leave as an electrical/Technology room. Because this room has electrical equipment only trained personnel with proper protective gear should enter*

this room. During survey it was difficult to reach equipment without moving items from the front of equipment.

Visual Confirmation of Proper and Code compliant grounding was not achievable. This requires an electrician to open electrical equipment to view inside. Use of equipment ground conductors, proper conduit grounding, and overall grounding of distribution system will require verification during any redesign of this building. A ground bar was not present.

→ *Recommend a closer visual inspection internal to electrical equipment for a better verification of the existing grounding system.*

Receptacles in most of the older walls in the building were mounted at 1'-2" which is not to latest ADA requirements. In renovation and newer areas of the building receptacles are at 1'-6". Most devices and cover plates are the age of the building and/or latest renovations; with minimal damage to either. GFCI devices were located throughout the facility and will require verification for the latest codes. Receptacles mounted near mechanical equipment per code were not present on any roof mounted equipment. The only location that had rooftop equipment was over the kitchen area.

→ *Recommend non-ADA compliant devices be made compliant where possible. This may require surface-mounting devices where mounted in existing CMU walls.*

Lamp types were T8 lamps were in the majority of the spaces. Luminaire types vary from 2X4, 1X4, Strips, and other various types. Luminaires were determined to be from the latest building additions and renovations approximately 10 to 15 years ago, with minimal damage to lenses and housings. Some cleaning is required on all luminaire to remove dust and debris build up, which minimize the lumen output of the luminaires.

→ *Recommend replacing all building lighting to 100% LED type luminaires and thereby provide additional energy savings.*

Some Lamp and luminaire types indicated in 4a above are used for Life Safety Illumination appeared to have internal battery packs. Existing battery inverter located in basement appeared not be in use, however, in the older section of the building, it may very well be used. If used, it needs an upgrade, if not being used it needs to be removed. Life Safety Illumination, in general, seemed adequate for its purpose in the building.

→ *Recommend a review of the existing life Safety Illumination in the building and where needed add bug-eyes or maintain the internal battery pack installation in luminaires.*

Toggle-type switches were used throughout the building. No dimming switches were present. All switch control is line voltage connected. There are no low voltage type control devices. Switches in the building were mounted at between 48" and 54." In renovation and newer areas of the building switches do meet

ADA requirements. Most devices and cover plates are the age of the building and/or latest renovations; with minimal damage to either.

→ *Recommend upgrading lighting control to improve energy savings in each space and building.*

Disconnect switches on mechanical equipment appeared to be in good condition, but old and weathered on exterior of building mechanical equipment. Internal to building, the electrical equipment located in the basement was also older.

→ *Recommend replacement to the newer equipment where in older portions of building and on older equipment.*

Plumbing

Plumbing fixtures and trim are, in general, very good condition. Most appear to comply with current water consumption standards and ADA compliance when appropriate. Additional investigation by an Architect is needed in the older portions of the facility to determine that code-required fixture counts and ADA compliance are met within the current layouts.

A vacuum breaker associated with the Janitor's Closets has leaked causing damage to the wall surface. The service sink faucet in the Janitor's alcove within Thunderbird Café kitchen is a non-code compliant installation and requires a vacuum breaker. The requirement for indirect discharge in all kitchen food prep sinks, sanitizing sinks, and ice maker installations has been improperly executed and should be corrected. It was not clear that the kitchen and scullery areas are served by a grease interceptor. The maintenance personnel and staff could not identify the location for this device and one could not be located on the premises. Grease interception is a code requirement. It was not evident that the appropriate backflow preventer was present in the soft drink carbonizer system. If missing, one should be added to the domestic water supply line serving this system.

No destructive investigation was undertaken to determine material types, condition, and sizing. Rather, this assessment relied upon observation and discussions with NMJC personnel to inform the effort. Similarly, the exterior piping was not included in this assessment. Limited portions of the system are visible for inspection (i.e. the basement and portions of the kitchen). Floor drains, floor sinks, and a limited amount of exposed waste and vent piping in the basement are in serviceable condition. Discharge from the condensate return pumps enters the sanitary sewer at temperatures greater than code allowed maximum temperature of 140°F. An aftercooler should be installed to rectify this condition. Maintenance personnel report that inadequate numbers of floor-, wall-, and exterior cleanouts exist to allow ready routine maintenance.

The roof and overflow drains are in serviceable condition and functioning as intended. Maintenance personnel stated the roof and overflow piping is in fair condition. The terminations are properly executed and functional.

The exterior buried piping was not assessed as a part of this work. Piping within the tunnels was not evaluated as a part of this work. The facility is plumbed predominately with type L copper pipe/fittings with an indeterminate amount of galvanized pipe/fittings found in the older portions of the facility. Insulation is present and properly jacketed but labeling is absent. Sufficient numbers of isolation valves are present to allow for routine maintenance. Exterior wall hydrants are in various conditions; some appear to be fully functional while others show failure and conversion into a wall hydrant/hose bib. This latter conversion violates code requirements related to cross connection control. The newer addition suffers from none of these conditions.

The facility is served by a natural gas system that appears to be in serviceable condition. The maintenance personnel report no known operational deficiencies.

The domestic water heater appears to be functioning as intended. The maintenance personnel and faculty did not report any operational inadequacies. The booster heater in the scullery area is performing as intended. The kitchen equipment was not evaluated within this assessment, other than to confirm with the maintenance personnel and staff there are no known operational deficiencies. Water treatment within the scullery area appeared, at the time of evaluation, to the effective as evidenced by the interior of the dishwashing machine and the lack of scaling. The sump pump located adjacent to the fire riser appears to be a simplex unit which conflicts with code; duplex pump sets are required. The twin sump pumps located adjacent to the areaway are duplexed and are reported to be fully functional. The simplex water softener is functioning as intended with no known operational deficiencies.

Restrooms

The restrooms were remodeled in 2015. The remodel included new toilets and flush valves, countertops with integral sinks, accessories (i.e. toilet paper dispenser, soap dispenser, etc.), and partitions. The walls and floors received new tile throughout as well. Portions of the renovation are not compliant with the accessibility standards of the buildings code, such as mounting heights of elements; no vertical grab bar, accessories mounted too close to the horizontal grab bar, etc. The ceilings were not replaced and are in poor condition

Code & Accessibility

- → *Signage is inadequate throughout original portion*
- → *Exit signs do not function in areas*
- → *Restrooms are not completely accessible*
- → *There are deadbolts on restrooms*
- → *Smoke detectors covered with original packaging*
- → *Drinking fountains not at the correct height or quantity.*

Main Capital Investment Areas:

- → *Repaint fascia and gravel stop at original portion*

- → *Clean the brick at addition*
- → *Clean the exterior brick work throughout and clean and re-point the mortar at original*
- → *Re-roof entire building*
- → *Replace coping throughout original portion*
- → *Replace skylights*
- → *Replace ceiling tiles and grid where not replaced with 2005 renovation*
- → *Install accessible doors and hardware throughout original portion*
- → *Renovate kitchen and cafeteria*
- → *Refinish terrazzo floors in common areas and cafeteria in original portion*
- → *Install new flooring in original portion.*
- → *Correct accessibility deficiencies in the restrooms to the extent possible in original portion*
- → *Install dual height drinking fountains in original portion*
- → *Install accessible door hardware in original portion*
- → *Install compliant signage in original portion*
- → *Replace exterior hollow metal doors and hardware in original portion*
- → *Replace windows in original portion*
- → *Replace wood handrail at top of main stair*

Ben Alexander Student Learning Center Summary Table

FACILITY DEFICIENCIES	QTY/UNIT	COST/UNIT	DEFICIENCY CORRECTIONS ONLY COST	DEFICIENCY CORRECTIONS PROJECT COST
Repair (patch, remove debris, clean drains, replace ballast)	17087 SF	$1.75	$29,902.25	$39,869.67
Replace ceiling tiles and grid	17087 SF	$6.40	$109,356.80	$145,809.07
New LED light fixtures	17087 SF	$7.25	$123,880.75	$165,174.33
New VCT	8034 SF	$8.20	$65,878.80	$87,838.40
Re-finish terrazzo	4365 SF	$4.13	$18,027.45	$24,036.60
Correct accessibility issues in restrooms	2 EA	$2,500.00	$5,000.00	$6,666.67
Clean and re-point brick	17087 SF	$9.40	$160,617.80	$214,157.07
Install vestibules at each entry (incl. replacing existing door)	4 EA	$10,000.00	$40,000.00	$53,333.33
Install accessible door hardware	40 EA	$350.00	$14,000.00	$18,666.67
Install compliant signage	17087 SF	$1.85	$31,610.95	$42,147.93
Renovate kitchen	3720 SF	$225.00	$837,000.00	$1,116,000.00
Mechanical corrections/upgrades	45203 SF	$4.23	$191,208.69	$254,944.92
Plumbing corrections/upgrades	45203 SF	$0.72	$32,546.16	$43,394.88

Electrical corrections/upgrades	45203 SF	$12.00	$542,436.00	$723,248.00
Total of Deficiency Corrections Only Cost:				**$2,201,465.65**
Total Deficiency Corrections Project Cost:				**$2,935,287.53**

This list of was developed using 2019 mid-year unit costs and is intended to identify the building deficiencies in an effort to represent the building's overall physical condition and establish the FCI for this particular facility.

TOTAL FACILITY RENOVATION PROJECT COST

This cost is based on 2019 mid-year renovation cost to completely renovate this facility and should be used to establish total project budgets.

Total Building Renovation Project Cost:	**$15,908,127.00**

PANNELL LIBRARY | 1 THUNDERBIRD CIRCLE, HOBBS, NM



Pannell Library was constructed in the 1960's as a single story library building. An addition and renovation in 1980 added square footage to the original and a second floor. In 2010, the building underwent a complete renovation that included an entry/circulation vestibule.

Structure

Pannell Library's structure is comprised of load bearing masonry and steel columns and beams as well as concrete column and beams on the lower level. There is no evidence of structural issues.

Exterior Finishes

The exterior is finished in exposed face bricks and painted concrete. The exterior finishes are in very good condition.

Roof

The roof is a fully adhered single membrane TPO system. There is no evidence of failure or damage beyond normal wear. The roof is in good condition.

Doors & Windows

Exterior doors are aluminum storefront units that were all new in 2010. A few hollow metal doors set in hollow metal frames are also in excellent condition.

The windows are either aluminum storefront or aluminum curtain wall with thermal glazing, all of which are in excellent condition.

Interior doors are mostly solid core wood units set in hollow metal frames, aluminum framed storm front units with doors and glazing or hollow metal units set in hollow metal frames. Interior doors are in very good condition.

Walls

Most walls are painted gypsum board on metal framing and are in excellent condition. A few of the walls have exposed brick that is in excellent condition.

Flooring

The flooring is made up of ceramic tile, carpet, VCT, LVT and painted concrete. The flooring is generally in excellent condition. Room 241 has carpet that appears to have joints that are heaving. The carpet on level 1 was replaced with LVT. This flooring has many places where it is coming up.

An exterior exit stair is painted concrete. The paint is in very poor condition

Ceilings & Lighting

Lighting and ceilings were all new in 2010. There are several stained/water damaged ceiling tiles. A few light fixtures have debris in them that is seen through the lenses. The ceilings are generally in excellent condition as is the lighting.

Fire Protection and Detection

The building fire alarm system and fire sprinkler system were installed in 2010. No issues were noted or observed.

HVAC

The mechanical systems in this building includes three VAV air handling units with economizer, steam preheat, chilled water coil, supply and return/relief fans. The chilled water and steam piping for these units are connected to the piping extending from the central plant. The piping connects to piping mains located in utility tunnels below the building. The building has two mechanical rooms with air handlers and mechanical equipment. A mechanical room at the ground level includes a single (new condition) air handler. Ductwork from this unit extends into the building from the west side of the building. A second mechanical room is located on the roof of the building. Thismechanical room includes two air handling units that appear to be part of the original construction. The steam coil on air handler designated AHU-2 appears to be leaking condensate at the bottom of the coil. A chilled water booster pump located in the penthouse mechanical room appears to be in poor condition with lots of corrosion. This pump boost pressure from the chilled water delivered from the central plant and is connected to both air handling units in the penthouse.

A small 2-ton (cooling only) roof mounted packaged unit is located over the computer classroom on the second floor. The area served by the packaged unit is unknown, but it is likely the computer classroom

which requires additional cooling other than the VAV box from the central air handler is capable of delivering.

Supply ductwork from the three air handling units extends to forty-four (44) VAV box terminal units with hot water reheat coils located in the ceiling spaces of the building. A steam-to-hot water heat exchanger, gas fired boilers, and hot water circulating pumps generate the hot water circulated to the VAV box terminal units. It is believed that the boilers were installed in addition to the steam to hot water heat exchanger because steam from the central plant is not available during the summer months. It was noted one of the hot water pumps appears to have a motor that is damaged. The motor has burned surfaces. It was unknown if the pump is operational. Also noted, was a chemical pot feeder associated with the hot water side of the exchanger, which has lots of corrosion and appears to be in poor condition. The air handling units in the penthouse are connected to sidewall intake louvers at the north and south sides of the penthouse. It was noted, the penthouse mechanical room has two general exhaust fans located near the intake of the unit designated AHU-1. These fans are less than ten (10) ft. from the intake louver. Each air handler has dampered relief openings that relieve air into the penthouse. A large relief louver (out of the room) is located on the east side of the penthouse near the door of the room.

Electrical

Secondary Power is 480Y/277V, 3Phase, 4Wire. Campus Primary distribution system serves this building. 208Y/120V power is derived from dry-type transformers in the existing electrical distribution system. The manufacturers of electrical equipment switchboards and/or panels: FPE, which is no longer in manufacture and parts are hard to come by, ITE (Westinghouse-Siemens), and Square D. Some of the equipment was upgraded in the last 10 to 15 years and are in good condition. Other equipment was older and part of the original installation. Existing equipment can be maintained by NMJC M&O personnel except for the FPE equipment. The existing electrical equipment did have the required code clearances and most of the equipment was in locked rooms; either in an electrical room or mechanical room.

Some equipment needs upgrade to newer equipment to further the life off the building.

→ *Recommendation for the NMJC administration of this building would be to remove all janitorial and storage items from within room and leave as an electrical/technology room. Because this room has electrical equipment, only trained personnel with proper protective gear should enter this room. During survey it was difficult to reach equipment without moving items from the front of equipment.*

Visual confirmation of proper and code compliant grounding was not achievable, as this required an electrician to open electrical to view inside. Use of equipment ground conductors, proper conduit grounding, and overall grounding of distribution system will require verification during any redesign of this building. A ground bar was not present.

→ *Recommend a closer visual inspection internal to electrical equipment for a better verification of the existing grounding system.*

Receptacles in most of the older walls in the building were mounted at 1'-2" which is not to latest ADA requirements. In renovation and newer areas of the building receptacles are at 1'-6". Most devices and cover plates are the age of the building and/or latest renovations; with minimal damage to either. GFCI devices were located throughout the facility and require verification for the latest codes. Receptacles mounted near mechanical equipment per code were not present on any roof mounted equipment.

→ *Recommend non-ADA compliant devices be made compliant where possible. This may require surface-mounting devices where mounted in existing CMU walls.*

Lamp types were for the most part fluorescent. T12 in utility spaces and T8 in the majority of the spaces. Luminaire types vary from 2X4, 1X4, Strips, and other types. Some of the luminaires require cleaning due to dust build-up on the lenses, which minimizes the lumen output of the luminaires.

→ *Recommend replacing all building lighting to 100% LED type luminaires and thereby provide additional energy savings.*

Lamp and luminaire types indicated in 4a above are used for Life Safety Illumination via internal batteries in luminaires and/or bug-eye type luminaires. Life Safety Illumination in general seemed adequate for it purpose in the building.

→ *Recommend an upgrade of the entire life Safety Illumination in the building when changing luminaires to LED.*

Toggle-type switches were used throughout the building. No dimming switches were present. All switch control were line voltage connected. There are no low voltage type control devices. Switches in the building were mounted at between 48" and 54." In renovation and newer areas of the building switches do meet ADA requirements. Most devices and cover plates are the age of the building and/or latest renovations; with minimal damage to either.

→ *Recommend upgrading lighting control to improve energy savings in each space and building.*

Disconnect switches on mechanical equipment appeared to be in good condition, but old and weathered on rooftop mechanical equipment. Internal to building the electrical equipment was also old.

→ *Recommend replacement to the newer equipment.*

Plumbing

Plumbing fixtures and trim are in generally very good condition. Most appear to comply with current water consumption standards and ADA compliance where appropriate. Additional investigation by an Architect is needed in the older portions of the facility to determine that code-required fixture counts and ADA compliance are met within the current layouts.

No destructive investigation was undertaken to determine material types, condition, and sizing. Rather, this assessment relied upon observation and discussions with NMJC personnel to inform the effort. Similarly, the exterior piping was not included in this assessment. Limited portions of the system are visible for inspection.

Floor drains and floor sinks are in serviceable condition. Maintenance personnel report that adequate numbers of floor-, wall-, and exterior cleanouts exist to allow ready routine maintenance.

The roof and overflow drains are in serviceable condition and functioning as intended. Maintenance personnel stated the roof and overflow piping is in fair condition. The terminations are properly executed and functional with a couple of exceptions.

The exterior buried piping was not assessed as a part of this work. The facility is plumbed with type L copper pipe/fittings. Insulation is present and properly jacketed but labeling is absent. Sufficient numbers of isolation valves are present to allow for routine maintenance. Exterior wall hydrants are in a serviceable condition.

The facility is served by a natural gas system that appears to be in serviceable condition. The maintenance personnel report no known operational deficiencies.

The domestic water heater appears to be functioning as intended. The maintenance personnel and faculty did not report any operational inadequacies.

The facility is protected by a wet pipe fire sprinkler system equipped with the appropriate code-required accoutrements. All portions of system appear to be fully functional and in compliance with the appropriate codes and standards. The inspection logs indicate currency with all required testing and inspection intervals.

Restrooms

The restrooms are all accessible and in excellent condition except for the toilet partitions. The partitions are plastic, they are warped and appear to be failing.

Code & Accessibility

N/A

Main Capital Investment Areas:

→ *Re-paint exterior stair and stair structure (incl. railing)*
→ *Replace toilet partitions*

Pannell Library Summary Table

FACILITY DEFICIENCIES	QTY / UNIT	COST/UNIT	DEFICIENCY CORRECTIONS ONLY COST	DEFICIENCY CORRECTIONS PROJECT COST
Replace toilet partitions	12 EA	$875.00	$10,500.00	$14,000.00
Repair LVT at mobile storage units	300 SF	$6.40	$1,920.00	$2,560.00
Replace carpet at 241	900 SF	$4.80	$4,320.00	$5,760.00
Re-paint exterior stair	1 EA	$3,280.00	$3,280.00	$4,373.33
Mechanical correction/upgrades	29514 SF	$5.29	$156,129.06	$208,172.08
Electrical corrections/upgrades	29514 SF	$12.00	$354,168.00	$472,224.00
Total of Deficiency Corrections Only Cost:				**$530,317.06**
Total Deficiency Corrections Project Cost:				**$707,089.41**

This list of was developed using 2019 mid-year unit costs and is intended to identify the building deficiencies in an effort to represent the building's overall physical condition and establish the FCI for this particular facility.

TOTAL FACILITY RENOVATION PROJECT COST
This cost is based on 2019 mid-year renovation cost to completely renovate this facility and should be used to establish total project budgets.

Total Building Renovation Project Cost:	**$10,428,280.00**

HEIDEL HALL | 1 THUNDERBIRD CIRCLE, HOBBS, NM



Heidel Hall is a single story educational building originally constructed in 1966 with an addition in 1995.

Staff Notes

None

Structure

The building structure consists of steel columns and beams with bar-joist and gypsum deck roof construction. The floor is a slab-on-grade concrete floor. No structural damage was observed.

Exterior Finishes

The exterior walls are constructed of double wythe masonry with concrete masonry units (CMU) interior, and face brick on the exterior with a cavity between the two walls that is filled with granular fill insulation. The bricks are in good condition with some staining from landscaping and some corner damage apparently caused by a small vehicle. The mortar joints show indications of deterioration due to age and weathering. The main entrances to the building have storefront sliding doors under a steel canopy. Some windows have stucco soffits while others are flush with the exterior brick. Some windows with stucco soffits are damaged and need repair. The top of the walls are finished with a multi-part fascia/gravel stop that is also in good condition.

Roof

X

Doors & Window

The windows in the original construction are 2-pane glazing units in aluminum frames. These windows appear to be in good condition. The windows from the new construction are storefront and 2-pane glazing units in aluminum frames. Several of the storefront windows appear to have lost their seal and need to be replaced.

The main exterior entry doors are electrically actuated sliding double aluminum mounted to storefront. They appear to be in good condition and need adjustment and weather-stripping. The east doors are electrically actuated sliding double aluminum with the sliding frame mounted to the exterior of the building. The double doors to the west are aluminum mounted in a hollow metal frame and require weather-stripping. The windows in the hollow metal frames have embedded wire. The frame and windows should be replaced.

Interior doors are mostly the original wood units in wood frames and most have the original hardware that includes knob style handles that are not accessible/useable by those with disabilities. Some doors and hardware in upgraded areas are newer with window lites, aluminum frames, and lever type locksets.

Walls

Interior walls are constructed of metal framing with lath and textured plaster, some of the newer areas comprised of metal framing and textured gyp walls. There is very little cracking or other damage and the walls are in good condition. Main corridor walls are ceramic tile on one side with brick on the other. The newer section has tile three quarters of the way up the wall. Some exposed and painted CMU are in storage rooms. Restrooms have ceramic tile walls. Offices in the newer section have storefront.

Flooring

Offices have carpet with the newer offices having terrazo.

Corridors have terrazzo with some cracking at corners. Restrooms have 1" ceramic floor tile. Some classrooms have VCT that needs to be replaced while others have carpet that should be replaced.

Storage type rooms are VCT and exposed concrete.

Ceilings & Lighting

Ceilings are acoustic ceiling tiles (ACT) in a suspended grid system with lay-in lighting. Numerous stained tiles and damaged tiles were observed. The main entry has gyp ceiling with evidence of damage from roof leaks. The curving corridor in the new section has gyp ceiling with can lights.

Fire Protection and Detection

The building is sprinkled.

HVAC

This building includes HVAC system installed during the original construction of the building. There are two mechanical rooms with air handling equipment. Inside the building at the ground level, there is an existing air handler with a hot deck/cold deck, arrangement. This unit has an airside economizer, roof mounted intake and relief hood, steam coil, chilled water coil, supply and return/relief fans. The steam and chilled water piping to the unit appears to be extremely corroded on the exterior visible surface. The extents of this corrosion is unknown. The chilled water and steam piping extend from the central plant to this mechanical room via an underground campus tunnel system. The chilled water mains extend up from this mechanical room up to the penthouse mechanical room.

A second mechanical room is located above the roof in a penthouse. There are two air handling units within this space. These units are somewhat unique as they act together. One unit serves as a hot deck and the remaining unit acts as a cold deck source of conditioned air. The supply ductwork from each unit extend down into the building and connects to dual duct mixing boxes for zone control.

The hot deck unit has a single in intake that draws return air from the room, a steam coil for heating, and a supply fan with VFD. The cold deck unit has a mixing section with outside air and return air dampers. The return air damper is open to the mechanical room. The outside air damper is connected to a duct that extends up through roof to an intake hood. Air from the mixing section is drawn through a steam preheat to maintain minimum temperature then passes through a chilled water coil and then is drawn into a supply fan section with VFD. Air from each air handler is maintained at the appropriate temperatures associated with the hot deck and cold deck duct systems. Air from the hot deck and cold deck duct systems is mixed at zone level dual-duct mixing boxes for temperature control within the building zones. Zone level thermostats provide control input to the mixing boxes for space temperature control. A separate return/relief fan is located in the northwest corner of the mechanical room. The return air from the building is drawn from the ceiling plenum below and circulated into the mechanical room. The return air within the room is drawn into the hot deck and cold deck units as needed. Any remaining return air within the mechanical room is relieved through a large relief damper/opening located on the west side of the mechanical room.

The penthouse mechanical room also includes a chilled water booster pump associated with the cold deck air handler cooling coil. The piping and control valve configuration at the inlet of the pump is unusual. There is a 3-way and 2-way valve located associated with the chilled water-cooling coil and booster pump. The 3-way valve is piped like a diverting valve.

The penthouse mechanical room also includes a steam flash tank and condensate receiver / pump associated with the preheat and heating coil in the two air handlers.

There are numerous exhaust fans located on the roof. These include general exhaust, laboratory fume hood exhaust, and chemical storage room exhaust. The exhaust fans appear to range in age from original construction to fairly new. The operation of fans was not verified.

Electrical

Secondary Power is 480Y/277V, 3Phase, 4Wire. Campus Primary distribution system serves this building. 208Y/120V power is derived from dry-type transformers in the existing electrical distribution system. Electrical equipment switchboards and/or panels manufacturer is EATON. The equipment was upgraded in the last 10 to 15 years and are in good condition. Existing equipment is able to be maintained by NMJC M&O personnel. The existing electrical equipment did have the required code clearances and most of the equipment was in locked rooms; either in an electrical room or mechanical room.

→ *Recommendation for the NMJC administration of this building is to remove all janitorial and storage items from within room and leave as an electrical/Technology room. Because this room has electrical equipment only trained personnel with proper protective gear should enter this room. During survey it was difficult to reach equipment without moving items from the front of equipment.*

Visual Confirmation of Proper and Code compliant grounding was not achievable this required an electrician to open electrical to view inside. Use of equipment ground conductors, proper conduit grounding, and overall grounding of distribution system will require verification during any redesign of this building. A ground bar was not present.

→ *Recommend a closer visual inspection internal to electrical equipment for a better verification of the existing grounding system.*

Receptacles in most of the older walls in the building were mounted at 1'-2" which is not to latest ADA requirements. In renovation and newer areas of the building receptacles are at 1'-6". Most devices and cover plates are the age of the building and/or latest renovations; with minimal damage to either. GFCI devices were located throughout the facility and will require verification for the latest codes. Receptacles mounted near mechanical equipment per code were not present on any roof mounted equipment.

→ *Recommend relocating non-ADA compliant devices be made compliant where possible. This may require surface-mounting devices where mounted in existing CMU walls.*

Lamp types were fluorescent. T12 in utility spaces and T8 in the majority of the spaces. Luminaire types vary from 2X4, 1X4, Strips, and other types. Some of the luminaires were aged to be from original building construction, with damage to lenses such as cracking, and yellowing of the lens, as well as dust build up which minimize the lumen output of the luminaires.

→ *Recommend replacing all building lighting to 100% LED type luminaires and thereby provide additional energy savings.*

Lamp and luminaire types indicated in 4a above are used for Life Safety Illumination via a very old battery inverter. Life Safety Illumination in general seemed to not be adequate for it purpose in the building.

→ *Recommend an upgrade of the entire life Safety Illumination in the building.*

Toggle-type switches were used throughout the building. No dimming switches were present. All switch control is line voltage connected. There are no low voltage type control devices. Switches in the building were mounted at between 48" and 54." In some instances, device locations do not meet the latest ADA requirements in most of the older walls in the building. In renovation and newer areas of the building switches do meet ADA requirements.

Most devices and cover plates are the age of the building and/or latest renovations; with minimal damage to either.

→ *Recommend upgrading lighting control to improve energy savings in each space and building.*

Disconnect switches on mechanical equipment appeared to be in good condition, but old and weathered on rooftop mechanical equipment. Internal to building the electrical equipment was also old.

→ *Recommend replacement to the newer equipment.*

Plumbing

Plumbing fixtures and trim are generally in very good condition. Most appear to comply with current water consumption standards and ADA compliance where appropriate. Additional investigation by an Architect is needed in the older portions of the facility to determine that code-required fixture counts and ADA compliance are met within the current layouts. Hair washing basins are in serviceable condition and compliant with cross-connection ordinance. The method by which hair interception is achieved is undetermined. The science room sinks are in serviceable condition as are the faucets and fume hood services.

No destructive investigation was undertaken to determine material types, condition, and sizing. Rather, this assessment relied upon observation and discussions with NMJC personnel to inform the effort. Similarly, the exterior piping was not included in this assessment. Limited portions of the system are visible for inspection. Hair washing basins are in serviceable condition and compliant with cross-connection ordinance. The method by which hair interception is achieved is undetermined. The chemical resistant drain system in the science rooms appears to be functioning as intended. The exterior neutralizer was not inspected under this evaluation. Floor drains and floor sinks are in serviceable condition. Maintenance personnel report that adequate numbers of floor-, wall-, and exterior cleanouts exist to allow ready routine maintenance.

The presence of a sediment interceptor to serve the greenhouse drainage system could not be confirmed.

The roof and overflow drains are in serviceable condition and functioning as intended. Maintenance personnel stated the roof and overflow piping is in fair condition. The terminations are properly executed and functional.

The exterior buried piping was not assessed as a part of this work. Piping within the tunnels was not evaluated as a part of this work. The facility is plumbed with a mix of galvanized and type L copper pipe/fittings. Within the original facility, insulation is incomplete as is jacketing and labeling. Sufficient numbers of isolation valves are present to allow for routine maintenance. Exterior wall hydrants are in a serviceable condition. The piping serving the greenhouse appears to be serviceable and functioning as intended. The means by which cross connection prevention is achieved with the water treatment equipment located in the science prep room could not be confirmed.

The facility is served by a natural gas system that appears to be in serviceable condition. The maintenance personnel report no known operational deficiencies.

The domestic water heaters are of recent vintage and appear to be functioning as intended. The maintenance personnel and faculty did not report any operational inadequacies. Expansion tanks are needed at both water heaters. A thermostatic mixing valve is needed at the small water heater.
Piping within the tunnels was not evaluated as a part of this work. The facility is protected by a wet pipe fire sprinkler system equipped with the appropriate code-required accoutrements. All portions of system appear to be fully functional and in compliance with the appropriate codes and standards. The inspection logs indicate currency with all required testing and inspection intervals. No evidence of cross connection prevention can be found.

Restrooms

None

Code & Accessibility

None

Main Capital Investment Areas:

None

Heidel Hall Summary Table

FACILITY DEFICIENCIES	QTY/UNIT	COST/UNIT	DEFICIENCY CORRECTIONS ONLY COST	DEFICIENCY CORRECTIONS PROJECT COST
Remove door opener button pedestal	1 EA	$500.00	$500.00	$666.67
Clean and paint awning main entry	300 SF	$6.00	$1,800.00	$2,400.00
Repair water damaged drywall at entry	100 SF	$6.00	$600.00	$800.00
flooring cracked near entry	10 SF	$20.00	$200.00	$266.67
Blinds in public safety replace	2 EA	$100.00	$200.00	$266.67
Ceiling cracked in hallway 200 outside 204	100 SF	$6.00	$600.00	$800.00
VCT replace men & women vestibule	71.14 SF	$2.00	$142.28	$189.71
Replace windows to outside atrium with lost seals	20 EA	$600.00	$12,000.00	$16,000.00
Replace ceiling tiles corridor 208	1450 SF	$3.00	$4,350.00	$5,800.00
Replace lighting corridor 208	4 EA	$225.00	$900.00	$1,200.00
repair door scratches 210	1 EA	$100.00	$100.00	$133.33
Replace ceiling tiles 224	200 SF	$3.00	$600.00	$800.00
Replace lighting 224	5 EA	$225.00	$1,125.00	$1,500.00
Replace ceiling tiles 225	200 SF	$3.00	$600.00	$800.00
Replace lighting 225	7 EA	$225.00	$1,575.00	$2,100.00
Mismatched tiles in 227	200 EA	$3.00	$600.00	$800.00
Replace lighting in 227	15 EA	$225.00	$3,375.00	$4,500.00
Mismatched tiles in 230	200 EA	$3.00	$600.00	$800.00
Replace lighting in 230	15 EA	$225.00	$3,375.00	$4,500.00
Mismatched in 231	200 SF	$3.00	$600.00	$800.00
Replace lighting in 231	15 EA	$225.00	$3,375.00	$4,500.00
Stor 133 needs shelving and chem cabinets	8 EA	$250.00	$2,000.00	$2,666.67
Dedicated sanitary line	1 EA	$3,000.00	$3,000.00	$4,000.00
VCT 136, 137 replace	205 SF	$2.00	$410.00	$546.67
Storage	1 EA	$500.00	$500.00	$666.67
Install seal	1 EA	$250.00	$250.00	$333.33
Windows broken at 101 replace	9 EA	$800.00	$7,200.00	$9,600.00
Replace old and water stained ceiling tiles 101	200 SF	$3.00	$600.00	$800.00
Fan not working 105	1 EA	$300.00	$300.00	$400.00
ADA fixtures in bathroom 105	6 EA	$500.00	$3,000.00	$4,000.00
Ceiling tiles replace 106108A, 108B, 108C, 108D, 108E, 108F	691 SF	$3.00	$2,073.00	$2,764.00

FACILITY DEFICIENCIES	QTY/UNIT	COST/UNIT	DEFICIENCY CORRECTIONS ONLY COST	DEFICIENCY CORRECTIONS PROJECT COST
Lighting replace 106108A, 108B, 108C, 108D, 108E, 108F	14 EA	$225.00	$3,150.00	$4,200.00
Carpet replace 106108A, 108B, 108C, 108D, 108E, 108F	691 SF	$3.50	$2,418.50	$3,224.67
Ceiling tiles replace 108	200 SF	$3.00	$600.00	$800.00
Carpet replace 108	1355 SF	$3.50	$4,742.50	$6,323.33
Ceiling tiles replace 101	200 SF	$3.00	$600.00	$800.00
Ceiling tiles replace 125	200 SF	$3.00	$600.00	$800.00
Lighting replace 125	9 EA	$225.00	$2,025.00	$2,700.00
Ceiling tiles replace 200	200 SF	$3.00	$600.00	$800.00
Lighting replace 200	20 EA	$225.00	$4,500.00	$6,000.00
Ceiling tiles replace 103	200 SF	$1.44	$288.00	$384.00
Lighting replace 103	10 EA	$225.00	$2,250.00	$3,000.00
Replace benches near door 130 hallway	2 EA	$500.00	$1,000.00	$1,333.33
Paint steel overhang	200 SF	$6.00	$1,200.00	$1,600.00
Replace windows 209	40 EA	$800.00	$32,000.00	$42,666.67
Slope landscaping away from building	1 EA	$20,000.00	$20,000.00	$26,666.67
Repair soffit at window at end of 224	20 SF	$6.00	$120.00	$160.00
Remove bushes against building and re-landscape	1 EA	$15,000.00	$15,000.00	$20,000.00
Replace cracked sidewalks around building	2700 SF	$9.00	$24,300.00	$32,400.00
Paint electrical switch gear cabinet	40 SF	$6.00	$240.00	$320.00
Paint coping	1494 SF	$6.00	$8,964.00	$11,952.00
Repair corner brick cracking outside 102	10 SF	$5.00	$50.00	$66.67
Paint metal awning at entry	200 SF	$6.00	$1,200.00	$1,600.00
Replace all ceiling ACT	38914 SF	$6.40	$249,049.60	$332,066.13
Replace roof	38914 SF	$8.35	$324,931.90	$433,242.53
Replace flooring	38914 SF	$8.20	$319,094.80	$425,459.73
Replace fire alarm system	38914 SF	$8.20	$319,094.80	$425,459.73
Electrical corrections/upgrades	38914 SF	$12.00	$466,968.00	$622,624.00
Plumbing corrections/upgrades	38914 SF	$0.45	$17,511.30	$23,348.40
Mechanical corrections/upgrades	38914 SF	$22.42	$872,451.88	$1,163,269.17
Total of Deficiency Corrections Only Cost:				**$2,751,500.56**
Total Deficiency Corrections Project Cost:				**$3,668,667.41**

This list of was developed using 2019 mid-year unit costs and is intended to identify the building deficiencies in an effort to represent the building's overall physical condition and establish the FCI for this particular facility.

TOTAL FACILITY RENOVATION PROJECT COST

This cost is based on 2019 mid-year renovation cost to completely renovate this facility and should be used to establish total project budgets.

Total Building Renovation Project Cost:	**$13,749,613.00**

MCLEAN HALL | 1 THUNDERBIRD CIRCLE, HOBBS, NM



McLean Hall is a single-story building that houses IT and classrooms. It was originally constructed in 1966 with the original central mechanical plant. A classroom addition was constructed in 1977. The Central Plant facility is part of McLean Hall and with three additions constructed in 1990, 1997 and 2010.

Staff Notes

- → *Vocational addition is cold*
- → *Exterior doors stick open or closed*

Structure

The building structure consists of steel columns and beams with bar-joist and gypsum deck roof construction. The floor is a slab-on-grade concrete floor. No structural damage was observed.

Exterior Finishes

The exterior walls are constructed of double wythe masonry with concrete masonry units (CMU) interior, and face brick on the exterior with a cavity between the two walls that is filled with granular fill insulation. The exterior bricks are in good condition with very little damage though stained from landscape sprinklers and age. The mortar joints show indications of deterioration due to age and weathering. Entrances to the building have stucco soffits with recessed lighting. The stucco finish is in good condition with no staining or damage. The top of the walls is finished with a multi-part fascia/gravel stop on the original portion and metal wall panels with coping at the vocational addition, both elements are in good condition.

Roof

The original roof is a ballasted built-up roof (BUR) system with pea gravel ballast material. The roof membrane shows signs of deterioration and damage around the edges where the ballast has exposed the membrane. The ballast in very thin or not present around most of the roof boundary. Evidence of ponding near one of the rood drains was observed. Two turbine style vents are not operational due to severe damage. The parapets at the vocational addition are very low placing the bottom of the coping right at the roof level. Several garbage bins are on the roof. The roof membrane has damage and the ballast is not present at the location of these bins.





Doors & Windows

McLean Hall does not have any windows other than those adjacent to the doors. These are part of the storefront system at the main entries.

The exterior entry doors are sliding glass units in aluminum frames. Though they appear to be in good condition, staff reports that they stick open or closed and they need to be manually reset. This could potentially affect the safety of the means of egress system when the doors are stuck closed, and significantly reduce the efficiency of the mechanical system to keep the building conditioned, when stuck open. The doorway at the vocational addition is a single hollow metal, fully glazed, door in a hollow metal frame that is original. The glazing in this unit is wire glass. These do not appear to be thermal glazing units. The framing door and glazing system appears to be in good condition though the paint is deteriorated.

Room 105A has an exterior door unit is an aluminum storefront type double door. The doors have metal spandrel panels, instead of glazing, that are not insulated. This door unit is in very good condition.

Interior doors are mostly the original wood units in wood frames. Most have the original hardware which includes knob style handles that are not accessible/useable by those with disabilities. A few doors are hollow metal doors in hollow metal frames and they are in good condition. Interior aluminum storefront units are in good condition. The original entry located in corridor 101A is hollow metal frame with wire glass glazing and hollow metal doors with large vision panels of wire glass. The paint on this doorway is deteriorated.

The doors located in “Computer Services” are new wood units set in wood frames. These doors are in very good condition with compliant hardware.

Walls

Interior walls are constructed of metal framing with lath and textured plaster. The plaster has been repainted. There is very little cracking or other damage and the walls are generally in good condition. There is some damage to the plaster in the janitor closet. There are some holes where electrical devices have been removed and no blank plates have been installed.

The walls in "Computer Services" are all new steel framed with textured and painted gypsum board finish. These walls are in very good condition.

Walls throughout the common areas are finished with glazed ceramic tile wainscot that is 7-feet in height with painted plaster above. These tile walls are in very good condition. Very few damaged tiles, the grout is mostly clean and in good condition.

Flooring

The corridor floors are the original two-tone terrazzo flooring with 4" vinyl cove base in spots and no base in others. The terrazzo is in fair condition with many cracks and chips.

The classroom floors are VCT. The VCT floors are in poor condition with staining, broken tiles, gaps between tiles, etc.

The floors in "Computer Services" are finished in ceramic tile and carpet. These finishes are new and in very good condition.

Ceilings & Lighting

Ceilings are acoustic ceiling tiles (ACT) in a suspended grid system with most light fixtures being surface-mounted and few lay-in light troffers in several spaces. Some ceilings are lath and plaster or gypsum board ceilings in restrooms and janitor space. The ACT ceilings are in poor condition. Light fixtures are functional though are aged with some uneven lighting in various spaces.

Ceilings in "Computer Services" are acoustic tiles set in a suspended grid with lay-in lighting troffers. The ceilings are in very good condition as are the light fixtures. The air registers are also new and in very good condition.

Fire Protection and Detection

The building has a manual fire alarm system with pull stations located at the primary exits. The fire alarm devices were upgraded throughout the building as part of the "Computer Services" renovation.

McLean has an automatic fire sprinkler system that is original. Portions have been upgraded/modified as areas are renovated.

HVAC

The building footprint is connected with the central plant. An air handling unit located in the central plant serves this building. The air handler includes a hot deck / cold deck arrangement with vav supply and return/relief fans. This unit is believed to be forty (40) plus years old. Existing drawings of the McClean building indicating ductwork and piping within the building were not available during the site visit. The unit is a built-up unit utilizing the room walls as part of the air handler. The hot deck coil is believed to be connected to the steam system, although the existing control diagrams indicate that the hot deck is connected to the hot water piping. The cold deck is connected to the chilled water piping within the central plant. Intake and relief hoods are located on the roof above the air handling unit. This hot duct and cold deck supply ductwork extends to dual duct mixing boxes located within the ceiling space of the building. Additionally, there are existing exposed type fan coil units located in the corridors of the building. It is believed that the fan coil units are connected to chilled water and hot water piping extending through the building. This building is scheduled for renovation work soon. The ceiling space is some areas appears to be limited. A possible good replacement option for this building would be two new VAV air handling units located on the roof with hot water preheat coils, chilled water coils, single duct VAV boxes, ductwork and piping. Multiple air handling units would allow smaller ductwork to be utilized in the ceiling along with distributing the weight across the roof. This system would include approximately 30-35 zones of control depending on the new layout of the building.

Electrical

Secondary Power is 480Y/277V, 3Phase, 4Wire. Central Plant building #10 provides the power to this building and the Central Plant is derived from the Campus Primary distribution system serves this building. 208Y/120V power is derived from dry-type transformers in the existing electrical distribution system. An existing generator for stand-by power for the IT equipment and technology is present for this building. Equipment is relatively new and any upgrades, if requested, should consider the loads this generator serves or additions that may be added. Electrical equipment switchboards and/or panels manufacturer is EATON. Most of equipment was upgraded in the last 10 to 15 years and are in good condition. Some older equipment is Square D and is in good condition. Existing equipment can be maintained by NMJC M&O personnel. The existing electrical equipment did have the required code clearances and most of the equipment was in locked rooms; either in an electrical room or mechanical room.

- → *Recommend separating this building from the central plant so it has its own utility transformer served from the Campus Primary distribution. This would help in new design of the building and any new possible loads. And eliminate having to increase the size of the Central Plant equipment from where it is served.*
- → *Recommendation for the NMJC administration of this building would be to remove all janitorial and storage items from with-in room and leave as an electrical/technology room. Because this room has electrical equipment, only trained personnel with proper protective gear should enter this room. During survey it was difficult to reach equipment without moving items from the front of equipment.*

Visual confirmation of proper and code compliant grounding was not achievable, as this required an electrician to open electrical in order to view inside. Use of equipment ground conductors, proper conduit grounding, and overall grounding of distribution system will require verification during any redesign of this building. A ground bar was not present.

→ *Recommend a closer visual inspection internal to electrical equipment for a better verification of the existing grounding system.*

Receptacles in most of the older walls in the building were mounted at 1'-2" which is not to latest ADA requirements. In renovation and newer areas of the building receptacles are at 1'-6". Most devices and cover plates are the age of the building and/or latest renovations; with minimal damage to either. GFCI devices were throughout the facility and will require verification for the latest codes. Receptacles mounted near mechanical equipment per code were not present on any roof mounted equipment.

→ *Recommend non-ADA compliant devices be made compliant where possible. This may require surface-mounting devices where mounted in existing CMU walls.*

Lamp types were fluorescent. T12 in utility spaces and T8 in most of the spaces. Luminaire types vary from 2X4, 1X4, Strips, and other types. Some of the luminaires were determined to be from original building construction, with damage to lenses such as cracking and yellowing of the lens, as well as dust build up which minimize the lumen output of the luminaires.

→ *Recommend replacing all building lighting to 100% LED type luminaires and thereby provide additional energy savings.*

Lamp and luminaire types indicated above are used for Life Safety Illumination via internal batteries in luminaires and some bug-eyes. Life Safety Illumination in general seemed to not be adequate for its purpose in the building.

→ *Recommend an upgrade of the entire life Safety Illumination in the building.*

Toggle-type switches were used throughout the building. No dimming switches were present. All switch control is line voltage connected. There are no low voltage type control devices. Switches in the building were mounted at between 48" and 54." In some instances, in most of the older walls in the building, device locations do not meet the latest ADA. In renovation and newer areas of the building switches do meet ADA requirements.

Most devices and cover plates are the age of the building and/or latest renovations; with minimal damage to either.

→ *Recommend upgrading lighting control to improve energy savings in each space and building.*

Disconnect switches on mechanical equipment appeared to be in good condition, but old and weathered on rooftop mechanical equipment. Internal to building, the electrical equipment was also old.

→ *Recommend replacement to the newer equipment.*

Plumbing

Plumbing fixtures and trim are in generally very good condition. Most appear to comply with current water consumption standards and ADA compliance where appropriate. Additional investigation by an Architect is needed in the older portions of the facility to determine that code-required fixture counts and ADA compliance are met within the current layouts. The mock medical headwalls are in useable condition and there was no determination made regarding the viability of any plumbed services.
No destructive investigation was undertaken to determine material types, condition, and sizing. Rather, this assessment relied upon observation and discussions with NMJC personnel to inform the effort. Similarly, the exterior piping was not included in this assessment. Limited portions of the system are visible for inspection.

Floor drains and floor sinks are in serviceable condition. Maintenance personnel report that inadequate numbers of floor-, wall-, and exterior cleanouts exist to allow ready routine maintenance.
The roof and overflow drains are in serviceable condition and functioning as intended. Maintenance personnel stated the roof and overflow piping is in fair condition. The terminations are properly executed and functional.

The exterior buried piping was not assessed as a part of this work. Piping within the tunnels was not evaluated as a part of this work. The facility is plumbed with a mix of galvanized and type L copper pipe/fittings. Within the original facility insulation is incomplete as is jacketing and labeling. Sufficient numbers of isolation valves are present to allow for routine maintenance. Exterior wall hydrants are in a serviceable condition.

Portions of the facility are served by a propane system that appears to be in serviceable condition. The maintenance personnel report no known operational deficiencies.

The domestic water heaters are of recent vintage and appear to be functioning as intended. The maintenance personnel and faculty did not report any operational inadequacies. Expansion tanks are needed at both water heaters. A thermostatic mixing valve is needed at the small water heater.
The exterior piping system was not evaluated as a part of this work. The facility is protected by a wet pipe fire sprinkler system equipped with the appropriate code-required accoutrements. All portions of system appear to be fully functional and in compliance with the appropriate codes and standards. The inspection logs indicate currency with all required testing and inspection intervals. No evidence of cross connection prevention can be found.

Restrooms

The restrooms were remodeled in 2015. The remodel included new toilets and flush valves, countertops with integral sinks, accessories (i.e. toilet paper dispenser, soap dispenser, etc.), and partitions. The walls and floors received new tile throughout as well. Portions of the renovation are not compliant with the accessibility standards of the buildings code such as mounting heights of elements and no accessible stall

Code & Accessibility

- → *Signs throughout are not all mounted at the same height*
- → *Paper classroom information covers some room signs*
- → *Exit signs do not function when the test button is pressed*
- → *Inadequate emergency lighting in corridors*
- → *No accessible restroom stalls*
- → *There are deadbolts on restrooms*

Main Capital Investment Areas:

- → *Replace ceilings, grids, and light fixtures*
- → *Replace VCT flooring throughout*
- → *Replace/refurbish terrazzo floor*
- → *Correct accessibility deficiencies in the restrooms to the extent possible*
- → *Clean the exterior brick work and clean and re-point the mortar*
- → *Construct vestibules at each entrance/exit*
- → *Upgrade fire alarm system*
- → *Install accessible door hardware*
- → *Install compliant signage*
- → *Install emergency lighting system*
- → *Install new roofing including new coping at the vocational addition and removal of abandoned roof curbs*

McLean Hall Summary Table

FACILITY NEEDS	QTY/UNIT	COST/UNIT	DEFICIENCY CORRECTIONS ONLY COST	DEFICIENCY CORRECTIONS PROJECT COST
Correct accessibility issues in restrooms	2 EA	$2,500.00	$5,000.00	$6,666.67
Install accessible door hardware	76 EA	$350.00	$26,600.00	$35,466.67
Install compliant signage	22853 SF	$1.85	$42,278.05	$56,370.73
Replace ceiling tiles and grid	22853 SF	$6.40	$146,259.20	$195,012.27

FACILITY NEEDS	QTY/UNIT	COST/UNIT	DEFICIENCY CORRECTIONS ONLY COST	DEFICIENCY CORRECTIONS PROJECT COST
Replace door with insulated unit, 105A exterior	2 EA	$1,200.00	$2,400.00	$3,200.00
Clean and re-point brick (Incl. '66 central plant)	22853 SF	$9.40	$214,818.20	$286,424.27
Upgrade Fire alarm system	22853 SF	$8.20	$187,394.60	$249,859.47
Re-finish terrazzo	5900 SF	$4.13	$24,367.00	$32,489.33
Replace other flooring	12000 SF	$8.20	$98,400.00	$131,200.00
Install vestibules at each entry (Incl. replacing existing door)	4 EA	$10,000.00	$40,000.00	$53,333.33
New LED light fixtures	22853 SF	$7.25	$165,684.25	$220,912.33
Install emergency lighting system, incl. exit signs	22853 SF	$3.45	$78,842.85	$105,123.80
Replace existing/Install new drinking fountains	4	$1,895.00	$7,580.00	$10,106.67
Repair roof	22853 SF	$1.35	$30,851.55	$41,135.40
Install accessible restroom	2 EA	$38,600.00	$77,200.00	$102,933.33
Paint	22853 SF	$6.00	$137,118.00	$182,824.00
Mechanical corrections/upgrades	22853 SF	$20.64	$471,685.92	$628,914.56
Plumbing corrections/upgrades	22853 SF	$2.24	$51,190.72	$68,254.29
Electrical corrections/upgrades	22853 SF	$15.00	$342,795.00	$457,060.00
Total of Deficiency Corrections Only Cost:				**$2,150,465.34**
Total Deficiency Corrections Project Cost:				**$2,867,287.12**

This list of was developed using 2019 mid-year unit costs and is intended to identify the building deficiencies in an effort to represent the building's overall physical condition and establish the FCI for this particular facility.

TOTAL FACILITY RENOVATION PROJECT COST

This cost is based on 2019 mid-year renovation cost to completely renovate this facility and should be used to establish total project budgets.

Total Building Renovation Project Cost:	**$8,074,727.00**

CENTRAL PLANT | 1 THUNDERBIRD CIRCLE, HOBBS, NM



The Central Plant building is a single-story building that houses the boilers and chillers for the campus mechanical systems. It was originally constructed in 1966 as a portion of McLean Hall and consists of 3,650 square feet of original construction and 3 additions totaling 4,050 square feet were constructed in 1990, 1997 and 2010. The total building area of just the Central Plant building is approximately 7,700 square feet.

Structure

The building structure consists of steel columns and beams with bar-joist and gypsum deck roof construction. The floor is a slab-on-grade concrete floor. No structural issues were observed.

Exterior Finishes

The exterior walls at the original portion are constructed of double wythe masonry with concrete masonry units (CMU) interior, and face brick on the exterior with a cavity between the two walls that is filled with granular fill insulation. The exterior bricks are in good condition with very little damage, though stained from landscape sprinklers, weather, and age. The mortar joints show indications of deterioration due to age and weathering. The top of the central plant building houses the cooling components which are screened with a metal panel louver system secured to a steel frame made up of hollow steel tube frameworks. The metal louver system is in good condition. The support frame is in good condition though the paint is deteriorating allowing steel elements to rust.

Roof

The roof is a TPO single ply membrane roof. This roof is in poor condition with wear and deterioration due to the cooling units located on the roof that deposit water and minerals from the cooling process onto the roof surface. This accumulation of water and minerals need to be cleared regularly. This has been an ongoing task for maintenance personnel as is evidenced by the presence of the removal tools

and containers scattered all over the roof. These items also contribute to roofing damage. During this assessment standing water was observed under the cooling units. It appears that there is always standing water on the roof from the cooling units.







The roof drains on the additions are open secondary with debris scattered around them, clogging the primary drain that can potentially permit debris to enter the open drain.

Doors & Windows

The central plant building has one set of windows from the 1997 boiler addition. They are steel frame units with tinted double pane glazing set between structural columns. These windows are in good condition with no evidence of failure.

All the interior and exterior doors are hollow metal units set in hollow metal frames. These doors are in good condition though the paint is deteriorated and peeling. The boiler room exterior door pair is lacking doors seals where they meet and at the threshold.

A couple of the doors that lead into the original portion of the building have knob style hardware that are not functioning well.

Walls

The few walls located in the building are of painted CMU and are in good condition. A portion of the boiler room addition has gypsum board walls above the masonry walls that appear to be in good condition.

Flooring

Floors are a combination of exposed concrete and painted concrete. The exposed concrete areas are heavily stained in areas and could potentially be damaged from the various drains from the chillers and boilers. The painted floors are in poor condition.

Ceilings & Lighting

The ceilings in the Central Plant building are open to structure. Lighting is suspended fluorescent fixtures that are original. The light level appears to be adequate.

Fire Protection and Detection

The building has a manual fire alarm system with pull stations located at the primary exits. Central plant building contains an automatic fire sprinkler system.

HVAC

The Central Plant includes much of the heating and cooling capacity for the campus. Approximately 10 years ago the cooling portion of the central plant was upgraded. The central plant includes two Trane chillers (older), two York chillers (10 yrs. old), chilled water primary associated with the chillers, campus chilled water pumps, and four (4) cooling towers located on the roof of the building. Most of the cooling equipment, with the exception of the cooling towers appears to be in good working order. It was noted that cooling towers need to be cleaned of scale build up.

The heating plant includes three (3) large Kewanee steam boilers, deaerator, flash tanks, and shell and tube steam to hot water heat exchangers and pumps. The shell and tube heat exchangers serve a limited portion of the system. The deaerator condensate return side of the system along with valves, and steam traps at building entrances should be investigated for corrosion and deterioration. It was also noted in some buildings that the exterior surfaces of piping for chilled water and steam piping have corrosion. The interior surface condition is unknown. Heidel Hall and Whitaker Auto Technology Center and Dorm buildings had signs of exterior corrosion.

The cause should be addressed and possible replacement of the piping is recommended. Any piping with dissimilar metals or direct buried piping could be susceptible to galvanic corrosion. Possibly some kind dielectric unions or cathodic protection utilizing sacrificial anodes could be provided.

Electrical

Secondary Power is 480Y/277V, 3Phase, 4Wire. Campus Primary distribution system serves this building. 208Y/120V power is derived from dry-type transformers in the existing electrical distribution system. Electrical equipment switchboards and/or panels manufacturer varied from very old and original equipment such as Square D and GE, to new equipment such as EATON. The newer equipment was upgraded in the last 10 to 15 years and are in good condition. The older equipment looks like it is original and additional sections added to the original section in some renovations. Existing equipment is able to be maintained by NMJC M&O personnel. The existing electrical equipment did have the required code clearances and most of the equipment was in locked rooms; either in an electrical room or mechanical room. This Central Plant electrical distribution served other buildings in the area such as McClean Hall, Caster Hall, a portion of Don Whitakers welding shop area, the equipment in the Central Plant, and other outlying equipment and buildings surrounding the Central Plant.

→ *Recommend buildings such as McClean Hall and Caster Hall be separated from the Central Plant and utilize their own connections to the Campus Primary distribution. This would allow those buildings to be on their own and not associated with the Central Plant should the Central Plant lose power.*
→ *Recommendation for the NMJC administration of this building would be to remove all janitorial and storage items from within room and it leave as an electrical/technology room. Because this room has electrical equipment, only trained personnel with proper protective gear should enter this room. During survey it was difficult to reach equipment without moving items from the front of equipment.*

Visual confirmation of proper and code compliant grounding was not achievable as it required an electrician to open electrical panels. Use of equipment ground conductors, proper conduit grounding, and overall grounding of distribution system will require verification during any redesign of this building. A ground bar was not present.

→ *Recommend a closer visual inspection internal to electrical equipment for a better verification of the existing grounding system.*

Receptacles in most of the older walls in the building were mounted at 1'-2" which is not to latest ADA requirements. In renovation and newer areas of the building receptacles are at 1'-6". Most devices and cover plates are the age of the building and/or latest renovations; with minimal damage to either. GFCI devices were throughout the facility and will require verification for the latest codes. Receptacles mounted near mechanical equipment per code were not present on any roof mounted equipment.

→ *Recommend non-ADA compliant devices be made compliant where possible. This may require surface- mounting devices where mounted in existing CMU walls.*

Lamp types were approximately 75% Fluorescent and 25% LED type luminaires. T8 in utility spaces and in most of the spaces. Luminaire types were mostly industrial strips and other types. Some of the luminaires were determined to be from original building construction with some damage to lenses and wire guards, as well as dust build up which minimize the lumen output of the luminaires.

→ *Recommend replacing all building lighting to 100% LED type luminaires and thereby provide additional energy savings.*

Lamp and luminaire types indicated in 4a above are used for Life Safety Illumination via internal batteries to luminaires and some bug-eyes. Life Safety Illumination in general seemed to not be adequate for it purpose in the building.

→ *Recommend an upgrade of the entire life Safety Illumination in the building.*

Toggle-type switches were used throughout the building. All switch control is line voltage connected. There are no low voltage type control devices. Switches in the building were mounted at between 48" and 54." In most of the older walls in the building, device locations do not meet the latest ADA requirements. In additions and newer areas of the building switches do meet ADA requirements. Most devices and cover plates are the age of the building and/or latest renovations; with minimal damage to either.

Disconnect switches on mechanical equipment appeared to be in good condition, but to be old on mechanical equipment.

→ *Recommend replacement to the newer equipment.*

Plumbing

Plumbing fixtures and trim are in generally poor condition. Additional investigation by an Architect is needed in the older portions of the facility to determine that code-required fixture counts, water conservation goals, and ADA compliance are met within the current layouts. Emergency eye wash/shower provisions merit additional scrutiny by an Architect along with compliance with tepid water requirements.

No destructive investigation was undertaken to determine material types, condition, and sizing. Rather, this assessment relied upon observation and discussions with NMJC personnel to inform the effort. Similarly, the exterior piping was not included in this assessment. Limited portions of the system are visible for inspection. Floor drains and floor sinks are in serviceable condition. Maintenance personnel report that adequate numbers of floor-, wall-, and exterior cleanouts exist to allow ready routine maintenance.

The roof and overflow drains are in serviceable condition and functioning as intended. Maintenance personnel stated the roof and overflow piping is in fair condition. The terminations are properly executed and functional.

Piping within the tunnels was not evaluated as a part of this work. The facility is plumbed with a mix of galvanized and type L copper pipe/fittings. Insulation is generally intact and lines are properly jacketed and labeled. Sufficient numbers of isolation valves are present to allow for routine maintenance. Exterior wall hydrants are in a serviceable condition.

The facility is served by a natural gas system that appears to be in serviceable condition. The maintenance personnel report no known operational deficiencies. Piping within the tunnels was not evaluated as a part of this work.

The system is comprised of a combination of steel and copper pipe and fittings. The system shows no outward signs of failure.

The domestic water heater is in serviceable condition and appears to be functioning as intended. The maintenance personnel and faculty did not report any operational inadequacies. Expansion tanks are needed at both water heaters. A thermostatic mixing valve is needed at the small water heater. A pair of air compressors, a refrigerated air drier, and surge tank serve various needs and reportedly meet the facility's needs. No known operational deficiencies are noted. The rotary screw compressor is of recent vintage, while the reciprocating compressor is of 1980's vintage. A defunct vacuum pumping system is present and nonfunctional. The water softening system appears to be fully functional and able to meet the needs of the facility.

Piping within the tunnels was not evaluated as a part of this work.

The facility is protected by a wet pipe fire sprinkler system equipped with the appropriate code-required accoutrements. All portions of system appear to be fully functional and in compliance with the appropriate codes and standards. The inspection logs indicate currency with all required testing and inspection intervals

Code & Accessibility

There were no code or accessibility issues observed during this assessment

Main Capital Investment Areas:

- → *Repaint exposed steel components and exterior doors*
- → *Re-coat floor*
- → *Clean the exterior brick work and clean and re-point the mortar*
- → *Upgrade fire alarm system*
- → *Install new roofing membrane, increase drainage*

Central Plant Summary Table

FACILITY NEEDS	QTY/UNIT	COST/UNIT	DEFICIENCY CORRECTIONS ONLY COST	DEFICIENCY CORRECTIONS PROJECT COST
Clean brick	4030 SF	$2.30	$9,269.00	$12,358.67
Upgrade Fire alarm system	7660 SF	$8.20	$62,812.00	$83,749.33
Re-surface floor	7660 SF	$6.80	$52,088.00	$69,450.67
New LED light fixtures	7660 SF	$7.25	$55,535.00	$74,046.67
Install emergency lighting system, incl. exit signs	7660 SF	$3.45	$26,427.00	$35,236.00
Replace roof (not incl. '66 portion; incl. modify drainage)	4030 SF	$14.65	$59,039.50	$78,719.33

Paint	7660 SF	$6.00	$45,960.00	$61,280.00
Replace exterior doors	6 EA	$1,200.00	$7,200.00	$9,600.00
Mechanical corrections/upgrades	7660 SF	$23.83	$182,537.80	$243,383.73
Plumbing corrections/upgrades	7660 SF	$1.00	$7,660.00	$10,213.33
Electrical corrections/upgrades	7660 SF	$25.00	$191,500.00	$255,333.33
Total of Deficiency Corrections Only Cost:				**$700,028.30**
Total Deficiency Corrections Project Cost:				**$933,371.07**

This list of was developed using 2019 mid-year unit costs and is intended to identify the building deficiencies in an effort to represent the building's overall physical condition and establish the FCI for this particular facility.

TOTAL FACILITY RENOVATION PROJECT COST

This cost is based on 2019 mid-year renovation cost to completely renovate this facility and should be used to establish total project budgets.

Total Building Renovation Project Cost:	**$2,067,000.00**

MARY HAGELSTEIN INSTRUCTIONAL ARTS CENTER | 1 THUNDERBIRD CIRCLE, HOBBS, NM



Mary Hagelstein was constructed in 1976. A later addition was constructed more recently and serves as a ceramics kiln room and ceramic storage.

Staff Notes

- → *Fan coil units loud and leaky*
- → *Poor hot water; takes a very long time*
- → *No windows*
- → *Roof leaks*

Structure

The building structure consists of steel columns and beams with bar-joist and gypsum deck roof construction. The floor is a slab-on-grade concrete floor. No structural damage was observed.

Exterior Finishes

The exterior walls are constructed with load bearing concrete masonry units (CMU) with face brick veneer on the exterior. The bricks are in good condition with very little damage. The brick is stained from age. The mortar joints show indications of deterioration due to age and weathering.

The few windows have stucco panels above them. The stucco is in good condition.

The tops of the exterior walls are finished with metal wall panels that are in good condition. The primary entrance is constructed of a metal panel soffit system that also appears to be in good condition.

The ceramics storage addition walls are finished with an exterior insulation finish system (EIFS). The finish has a lot of damage exposing the insulation below to the elements and allowing moisture to enter the wall.

Roof

The roof is a ballasted built-up roof (BUR) system with pea gravel ballast. The roof appears to be in fair condition with staff reports of leaking. The drains exit the building above the adjacent grade onto concrete walks. The runoff is causing damage to the concrete in places. Some of the roof drains are covered with debris. Ballast material is thin in areas, especially roof edges.

Doors & Windows

There are three exterior windows in the entire building. These windows are located in the infill wall where there was once an overhead door for the building trades program. There are aluminum storefront window units with thermal glazing. These units appear to be in good condition, though staff reports that they are extremely hot and are kept covered with vertical blinds. The main entry doors and the exterior doors into the print room are aluminum storefront units that are in excellent condition. The remainder of the exterior doors are the original hollow metal units in hollow metal frames. These doors are in poor condition with original hardware that is not fully functional. These doors are in poor condition.

Interior doors are the original hollow metal units in hollow metal frames and most have the original hardware that includes knob style handles that are not accessible/useable by those with disabilities. Some are in good condition and others are in poor condition. Many have vision panels of wire glass. A few doors have been replaced with wood doors that are in good condition though the hardware is not accessible.

There are some hollow metal frame glazing units throughout the building with infill panels in the lower portion of the frames. These are in good condition though contain wire glass.

There are a couple of storefront windows and doors that are in good condition. A few of the interior doors contain wire-glass vision panels that are also in good condition.







One exterior door to the mechanical room is a hollow metal unit in a hollow metal frame. The door and frame appear to be in good condition. The paint is peeling and there is some surface rust on the bottom portion of the door and frame.

Walls

Some interior walls are constructed of metal framing with lath and textured plaster. The plaster has been repainted. There is very little cracking or other damage and the walls are generally in good condition. Some of the walls are of painted CMU construction. These walls are in excellent condition with very little damage and no observed cracking.

The common area walls are finished with tile wainscot that is in good condition. Some grout is stained and dirty. Corridor 105 is a combination of plaster and a panel similar to a tackboard in the middle of the walls. These areas are frequently used to post things though the condition is still good.

Flooring

The corridor floors are the original two-tone terrazzo flooring. These floors are in good condition though aged and stained

The remainder of the floors are finished with various types of paint/coatings. Some of the paint is in good condition however, most is worn and the paint has deteriorated.

A few spaces have sheet carpeting that is in poor condition with stains, water damage, and other damage. A couple of other spaces have VCT. These floors are in poor condition.

Ceilings & Lighting

Ceilings are acoustic ceiling tiles (ACT) in a suspended grid system with a combination or suspended fluorescent light fixtures and flush mount fixtures. There are many stained and damaged ceiling tiles throughout the building. Many of the surface-mounted light fixtures show signs of damage and/or are not functioning.

Fire Protection and Detection

The building is equipped with a manual fire alarm system with pull stations located at the exits.

HVAC

This building was constructed in the mid 1970's. The building HVAC system includes ceiling mounted fan coil units, hot water unit heaters, and several small packaged rooftop units with gas fired heat exchangers and DXcooling.

The fan coil units include hot water and chilled water coils. Chilled water and hot water piping extends from the Central Plant in an underground tunnel. Ventilation air is provided through roof openings with hoods and gooseneck fittings. Hot water unit heaters are provided in storage rooms. A packaged rooftop unit is provided in, what was originally, an Industrial Arts shop classroom along with a central sawdust collector with exhaust ductwork extending to shop tools. A large inlet/makeup hood is located above the same area served by the sawdust collector. There are several areas that also have packaged rooftop units, some are heat pump type units and some include gas heat and DX cooling. These units appear to have been added after the original buildingconstruction.

The unit sizes range from 2 to 4 ton in size. At least one packaged unit is believed to have R22 refrigerant based on operating pressure listed on name plate.

There are roof mounted exhaust fans on the building's roof; some are for restrooms and others for class specific functions. A small addition was added to the south end of the building after the original construction. The drawings available do not indicate this addition area. The newer addition contains ceramic pottery kilns with overhead exhaust hoods for heat removal. The kilns range in size from small electric type to a large gas fired type. The kiln room has a roof mounted evaporative cooler.
It was noted that the sawdust collector exhaust fan belt was broken and appeared to be in poor condition due to age and was possibly abandoned. It was not determined if this device was required for the type of classes provided. A small portable dust collector was noted in the industrial art type room.

Electrical

Secondary Power is 480Y/277V, 3Phase, 4Wire. Campus Primary distribution system serves this building. 208Y/120V power is derived from dry-type transformers in the existing electrical distribution system. Electrical equipment switchboards and/or panels manufacturer is EATON. The equipment was upgraded in the last 10 to 15 years and are in good condition. Existing equipment is able to be maintained by NMJC M&O personnel. The existing electrical equipment did have the required code clearances and most of the equipment was in locked rooms; either in an electrical room or mechanical room.

→ *Recommendation for the NMJC administration of this building would be to remove all janitorial andstorage items from within the room and leave as an electrical/technology room. Because this room has electrical equipment, only trained personnel with proper protective gear should enter*

this room. During survey it was difficult to reach equipment without moving items from the front of equipment.

Visual confirmation of proper and code compliant grounding was not achievable, as this required an electrician to open electrical to view inside. Use of equipment ground conductors, proper conduit grounding, and overall grounding of distribution system will require verification during any redesign of this building. A ground bar was not present.

→ *Recommend a closer visual inspection internal to electrical equipment for a better verification of the existing grounding system.*

Receptacles in most of the older walls in the building were mounted at 1'-2" which is not to latest ADA requirements. In renovation and newer areas of the building receptacles are at 1'-6". Most devices and cover plates are the age of the building and/or latest renovations; with minimal damage to either. GFCI devices were throughout the facility and will require verification for the latest codes. Receptacles mounted near mechanical equipment per code were not present on any roof mounted equipment.

→ *Recommend non-ADA compliant devices be made compliant where possible. This may require surface-mounting devices where mounted in existing CMU walls.*

Lamp types were fluorescent. T12 in utility spaces and T8 in most of the spaces. Luminaire types vary from 2X4, 1X4, Strips, and other types. Some of the luminaires were determined to be from original building construction, with damage to lenses such as cracking, and yellowing of the lens, as well as dust build up which minimize the lumen output of the luminaires.

→ *Recommend replacing all building lighting to 100% LED type luminaires and thereby provide additional energy savings.*

Lamp and luminaire types indicated in 4a above are used for Life Safety Illumination via a very old battery inverter. Life Safety Illumination in general seemed to not be adequate for it purpose in the building.

→ *Recommend an upgrade of the entire life Safety Illumination in the building.*

Toggle-type switches were used throughout the building. No dimming switches were present. All switch control is line voltage connected. There are no low voltage type control devices. Switches in the building were mounted at between 48" and 54." In most of the older walls in the building, in some instances, device locations do not meet the latest ADA requirements. In renovation and newer areas of the building, switches do meet ADA requirements.

Most devices and cover plates are the age of the building and/or latest renovations; with minimal damage to either.

→ *Recommend upgrading lighting control to improve energy savings in each space and building.*

Disconnect switches on mechanical equipment appeared to be in good condition, but old and weathered on rooftop mechanical equipment. Internal to building the electrical equipment was also old.

→ *Recommend replacement to the newer equipment.*

Plumbing

There are two drinking fountains, one is the original unit and the other has been replaced at some point. Both units are in fair/poor condition.

Plumbing fixtures and trim within the restrooms are in fine condition. Elsewhere throughout the facility the fixtures and trim are in generally poor condition. Additional investigation by an Architect is needed in the older portions of the facility to determine that code-required fixture counts, water conservation goals, and ADA compliance are met within the current layouts. Emergency eye wash/shower provisions merit additional scrutiny by an Architect along with compliance with tepid water requirements.

No destructive investigation was undertaken to determine material types, condition, and sizing. Rather, this assessment relied upon observation and discussions with NMJC personnel to inform the effort. Similarly, the exterior piping was not included in this assessment. Limited portions of the system are visible for inspection. Floor drains and floor sinks are in serviceable condition. Maintenance personnel report that adequate numbers of floor-, wall-, and exterior cleanouts exist to allow ready routine maintenance. The need for chemical neutralization at the wet process photo developing suite merits further attention. The need for sediment interception at all sinks subject to contaminants merits further attention.

The roof and overflow drains are in serviceable condition and functioning as intended. Maintenance personnel stated the roof and overflow piping is in fair condition. The terminations are properly executed and functional with few exceptions.

Piping within the tunnels was not evaluated as a part of this work. The facility is plumbed with a mix of galvanized and type L copper pipe/fittings. Insulation is generally intact and lines are properly jacketed and labeled. Several lines have been added to support mission changes and, in these instances, proper pipe support, insulation, labeling, etc. is inadequate. Sufficient numbers of isolation valves are present to allow for routine maintenance. Exterior wall hydrants are in a serviceable condition.

The facility is served by a natural gas system that appears to be in serviceable condition. The maintenance personnel report no known operational deficiencies. The kilns are properly piped and fitted with the necessary interlocks.

The piping system is comprised of galvanized steel pipe and fittings. The observable portions of the system exhibit no outward signs of failure. Point-of-use regulator/filter assemblies are functional but vary widely in their make-up and condition.

Restrooms

The restrooms were remodeled in 2015. The remodel included new toilets and flush valves, countertops with integral sinks, accessories (i.e. toilet paper dispenser, soap dispenser, etc.), and partitions. The walls and floors received new tile throughout as well. Portions of the renovation are not compliant with the accessibility standards of the buildings code such as mounting heights of elements, lavatory drains are not wrapped with protective covers, toilet paper dispensers are possibly installed at the incorrect height.

There is no exhaust system for the restrooms.

Code & Accessibility

- → *Signs throughout are not all mounted at the same height*
- → *Paper classroom information covers some room signs*
- → *Exit signs do not function when the test button is pressed*
- → *Inadequate emergency lighting in corridors*
- → *Under sink protection not installed*
- → *Restrooms are not accessible*
- → *There are deadbolts on restrooms*
- → *No accessible entrance*

Main Capital Investment Areas:

- → *Replace ceilings, grids, light fixtures, and HVAC registers*
- → *New floor finishes; refurbish terrazzo*
- → *Correct accessibility deficiencies in the restrooms to the extent possible*
- → *Clean the exterior brick work and clean and re-point the mortar*
- → *Install dual height drinking fountains*
- → *Construct vestibule at each entrance/exit*
- → *Upgrade fire alarm system*
- → *Install accessible door hardware*
- → *Install compliant signage*
- → *Install emergency lighting system*
- → *Replace fan coil units*
- → *Install exhaust fans in restrooms*
- → *Replace exterior hollow metal doors and hardware*
- → *Replace roof*

Mary Hagelstein Instructional Arts Center Summary Table

FACILITY DEFICIENCIES	QTY/UNIT	COST/UNIT	DEFICIENCY CORRECTIONS ONLY COST	DEFICIENCY CORRECTIONS PROJECT COST
Re-roof	11533 SF	$1.75	$20,182.75	$26,910.33
Demo kiln /storage room, reconstruct	1170 SF	$150.00	$175,500.00	$234,000.00
New LED light fixtures	11533 SF	$7.25	$83,614.25	$111,485.67
Replace other flooring	10622 SF	$5.60	$59,483.20	$79,310.93
Re-finish terrazzo	500 SF	$4.13	$2,065.00	$2,753.33
Correct accessibility issues in restrooms	2 EA	$2,500.00	$5,000.00	$6,666.67
Clean and re-point brick	11533 SF	$9.40	$108,410.20	$144,546.93
Install vestibules at each entry (Incl. replacing existing door)	1 EA	$10,000.00	$10,000.00	$13,333.33
Upgrade Fire alarm system	11533 SF	$8.20	$94,570.60	$126,094.13
Install fire suppression system	11533 SF	$10.20	$117,636.60	$156,848.80
Install accessible door hardware	40 EA	$350.00	$14,000.00	$18,666.67
Install compliant signage	11533 SF	$1.85	$21,336.05	$28,448.07
Install emergency lighting system, incl. exit signs	11533 SF	$3.45	$39,788.85	$53,051.80
Renovate plumbing system	11533 SF	$3.25	$37,482.25	$49,976.33
Renovate photo lab (plate making, dark room, etc.)	550 SF	$135.00	$74,250.00	$99,000.00
Repaint	11533 SF	$6.00	$69,198.00	$92,264.00
Replace drinking fountains	2 EA	$1,895.00	$3,790.00	$5,053.33
Replace ceiling tiles and grids	11533 SF	$6.40	$73,811.20	$98,414.93
Mechanical corrections/upgrades	11533 SF	$22.60	$260,645.80	$347,527.73
Plumbing corrections/upgrades	11533 SF	$1.30	$14,992.90	$19,990.53
Electrical corrections/upgrades	11533 SF	$12.00	$138,396.00	$184,528.00
Total of Deficiency Corrections Only Cost:				**$1,424,153.65**
Total Deficiency Corrections Project Cost:				**$1,898,871.53**

This list of was developed using 2019 mid-year unit costs and is intended to identify the building deficiencies in an effort to represent the building's overall physical condition and establish the FCI for this particular facility.

TOTAL FACILITY RENOVATION PROJECT COST

This cost is based on 2019 mid-year renovation cost to completely renovate this facility and should be used to establish total project budgets.

Total Building Renovation Project Cost:	**$4,074,993.00**

DON WHITAKER AUTOMOTIVE TECHNOLOGY CENTER | 1 THUNDERBIRD CIRCLE, HOBBS, NM



Don Whitaker Automotive Technology Center is a single story educational building originally constructed in 1976 with an addition in 1999.

Staff Notes

None

Structure

The original building structure consists of CMU brick and some framed gypsum walls with bar-joist and gypsum deck roof construction.

The newer structure consists of CMU walls in the interior and Split face CMU on the exterior. The floor is a slab-on- grade concrete floor. No structural damage was observed.

Exterior Finishes

The original building exterior walls are constructed of double wythe masonry with concrete masonry units (CMU) interior and face brick on the exterior with a cavity between the two walls that is filled with granular fill insulation. The bricks are in good condition with some staining from landscaping. Some bricks were noted to be missing at the corner of the fence on the south side. The mortar joints show indications of deterioration due to age and weathering.

The newer building exterior walls are constructed of split face CMU, not insulated and have traces of water permeation.

Roof

The roof is a ballasted built-up roof (BUR) system with white ½" – ¾" stone ballast. The roof appears to be in good condition with little evidence of damage. The drainage is a combination of dual roof drains (a primary and a secondary drain) and dual sump roof drain (one drain with a primary and overflow secondary in one unit), some through wall scuppers and gutters and downspouts. Joints in the parapet flashing membrane are deteriorated with fabric showing through.

Ductwork located on the roof was not properly supported after the last re-roof or roof repair. The supports are on top of the equipment or resting on the roof. This lack of support is causing damage to the duct, the roof penetration, and the mechanical unit. This could also possibly have a negative effect on airflow.

Exhaust units on the roof are supported with vibration isolation springs. It appears that the isolation springs are not secured to the curb or platform the unit rests on and some are sliding off the mount.







There are several light monitors that are roofed with standing seam panels, on the roof that provide natural light into the interior of the building. These panels are in fair condition. The finish is deteriorated and there are signs of rust along the edges and on the fasteners. The fascia have all been repainted but the paint is peeling.

Most of the coping is secured to the roof, with screws through the face of the coping into the roof membrane below. This could potentially cause leaking and damage to the roofing membrane. There are also several places where the counter flashing is screwed into the roof membrane that could potentially cause damage or leaking.





The building has several skylights that are constructed of translucent fiberglass sandwich panels. The main entry canopy is constructed of structural steel and the same translucent panels. These panels appear to be deteriorating and are in poor condition. All the exposed structural steel has paint that is peeling, fading, or otherwise deteriorated.

Some areas that do not have a parapet and use a gutter and downspout to facilitate drainage. The gravel stop in these areas are not adequately performing their intended function and the gutters are have a lot of ballast material in them. This could potentially cause blocking of the downspouts creating water damage issues at the roof and walls.

There is a mast mounted light attached to the higher portion of the existing building. This mast is not connected and moves around quite a bit. This has the potential of causing damage to the wall, roof, and electrical system.

Doors & Window

The main exterior entrance doors to the original building are aluminum storefront double doors with an ADA operator and are in need of adjustment and weather-stripping. The main entry to the newer building are aluminum storefront double doors.

Most windows are storefront except for windows above the garage doors on the North side in the new building, which are double pane in hollow metal frames. These windows appear to be in good condition.

Some interior doors in the older building are the original wood units in steel frames and most have the original hardware that includes knob style handles that are not accessible/useable by those with disabilities. Some interior doors in the older building are steel units in steel frames and most have the original hardware that includes knob style handles that are not accessible/useable by those with disabilities.

Doors in the newer building are primarily wood in steel frames with lever type locksets. Doors leading to storerooms and warehouse type environments are steel with steel frames.

Walls

Interior walls in the older and newer building are constructed primarily of exposed CMU with some exposed brick in the restrooms. Some walls in the classrooms of the newer building are constructed of metal framing with lath and textured plaster with some of the newer areas comprised of metal framing and textured gyp walls. There is very little cracking or other damage and the walls are in good condition in the newer building. Restrooms have CMU lined with lockers.

The older building has mezzanines that are cluttered and have wood structures.

Flooring

Offices have VCT.

Some corridors in the old building have square quarry tile. Most garage bays and welding areas have painted concrete or exposed concrete floors. Restrooms have 1" ceramic floor tile. Some classrooms have VCT that needs to be replaced.

Flooring in the newer building are VCT in the classrooms and painted and polished concrete throughout the rest of the facility.

Ceilings & Lighting

Ceilings in the old building are open to deck with adequate levels of lighting. Classrooms have acoustic ceiling tiles (ACT) in a suspended grid system with lay in lighting.

Ceiling tiles in the new building are consistently warped and need to be replaced. Numerous stained tiles and damaged tiles were observed which suggests roof leaks.

Fire Protection and Detection

The older building has the original fire alarm system and is not sprinkled. The newer building is sprinkled.

Ventilation

The older building has a welding shop that appears to have either inadequate or inoperative ventilation. Smoky haze was observed as a result of welding operations. The grinding booth exhibited the same conditions.

HVAC

This building consists of original construction from mid-1970's and with several newer additions. The newest addition area completed in the late 1990's. Hot water piping extends from the central plant to this building. This piping enters the building at two locations along the west side of the building. There

are two sets of piping mains, one set for the original building construction, and one set for the newer addition. The newer addition and piping set also includes chilled water piping.

The original part of the building is the southwest corner of the building. This area includes welding shop and class, machine shop, storage areas, two auto shop bays, restrooms, locker rooms, and shop office. The HVAC for this area includes evaporative coolers, makeup air units with hot water heating coils, blower coil units with hot water coils and gas fired unit heaters. There is a packaged DX/Gas rooftop unit that serves the small office area.

Additionally, there are numerous exhaust fans on the roof that serve the auto shop and welding areas. It was noted that the welding shop class has numerous stations with filter /recirculating type hoods that where added after the original construction. The restroom/locker area needs better ventilation. Reviewing the original construction drawings, it is not apparent that there is any exhaust, makeup, or temperature control for the restroom areas. The welding shop area is served by evaporative cooler and makeup air units with hot water heating coils. The makeup units include dampered outside air and return openings, three-way mixing valves, and recirculating pumps for freeze protection of the coil. The makeup air units appear to be in poor condition and have likely exceeded their normal service life. The hot water piping and insulation appear to be poor condition in places.

A small addition to the southeast corner of the building includes a two auto shop bays and small classroom. This area's HVAC includes gas fired makeup air unit with dampered outside and return openings. Two evaporative coolers provide cooling to the space. The shop bays have vehicle exhaust with ductwork routed from sidewall exhaust fans located high in the ceiling space down to under slab to tail pipe connect points. The evaporative cooling and heating unit supply ducts were noted as being fabricated from painted duct board, not sheet metal material. It is recommended that type of ductwork to be replaced, especially on ductwork associated with evaporative cooling.

The newer north half of the building was constructed in the late 1990's. This area consists of auto shop bays, small classroom areas, and miscellaneous support spaces. The HVAC for this area includes nine (9) roof mounted air handlers with chilled water and hot water coils outside air and return openings. Several units have additional hot water reheat for additional zoning control. The auto shop bays include vehicle exhaust and general exhaust fan.

The equipment on the new addition appears to be good condition.

Electrical

Secondary Power is 480Y/277V, 3Phase, 4Wire. There are two incoming services for this building; one from the Campus Primary distribution system and another from the Central Plant. The building was not labeled that the two services serve this building, but the building had two main switchboards in the building. One service appeared to serve the old Original building (1966) and the other served the newest addition to the building (1980). 208Y/120V power is derived from dry-type transformers in the existing electrical distribution system. Electrical Equipment Switchboards and/or Panels manufacturer in the

1966 portion of the building were Square D and from the original construction with some newer EATON panels added later in the welding and automotive shops of this section of the building.

With the newer equipment upgraded in the last 10 to 15 years and are in good condition. In the 1980 addition was mainly Square D manufactured equipment and in good condition. The existing equipment in both sections of the building is able to be maintained by NMJC M&O personnel. The existing electrical equipment did have the required code clearances and most of the equipment was in locked rooms in the 1980 portion of the building and all other locations was exposed in the various shops.

- → *Recommendation for the NMJC administration of this building would be to remove all janitorial and storage items from with-in room and leave as an electrical/Technology room. Because this room has electrical equipment only trained personnel with proper protective gear should enter this room. During survey it was difficult to reach equipment without moving items from the front of equipment.*
- → *Recommend that if there are two separate services that they be combined onto one service and connected to the Campus Primary distribution and not be connected through the Central Plant.*

Visual confirmation of proper and code compliant grounding was not achievable this required an electrician to open electrical to view inside. Use of Equipment ground conductors, proper conduit grounding, and overall grounding of distribution system will require verification during any redesign of this building. A ground bar was not present.

- → *Recommend a closer visual inspection internal to electrical equipment for a better verification of the existing grounding system.*
- → *Recommend that if there are two service they be combined into one and grounding be upgraded with the new service.*

Receptacles in most of the older walls of the building were mounted at 1'-2" which is not to latest ADA requirements. In renovation and newer areas of the building receptacles are at 1'-6". Most devices and cover plates are the age of the building and/or latest renovations; with minimal damage to either. GFCI devices were throughout the facility and will require verification for the latest codes. Receptacles mounted near mechanical equipment per code were not present on any roof mounted equipment.

- → *Recommend non-ADA compliant devices be made compliant where possible. This may require surface- mounting devices where mounted in existing CMU walls.*
- → *Recommend the welding exhaust system be reviewed carefully. The electrical equipment, devices, lighting were filled with welding debris and basically all devices were dirty to the touch and appeared to be warn. If electrical equipment is replaced throughout the welding area it would be a good idea to clean the room and equipment to a satisfactory level for use during the next 20 years. If not, and we replace devices, the devices should be in covers that will help to protect from welding debris and exhaust.*

Lamp types were approximately 75% Fluorescent and 25% LED type luminaires. T12 in utility spaces and T8 in most of the spaces. Some of the luminaires in the 1966 Auto shop area had some LED luminaires. Luminaire types vary from 2X4, 1X4, Industrial Strips, and other types. Some of the luminaires were determined to be from original building construction, with damage to lenses, such as cracking, and yellowing of the lens, as well as dust build up which minimize the lumen output of the luminaires.

→ *Recommend replacing all building lighting to 100% LED type luminaires and thereby provide additional energy savings.*

Lamp and luminaire types indicated in 4a above are used for Life Safety Illumination via a very old battery inverter, internal batteries in luminaires, and some bug-eyes in some locations. Life Safety Illumination in general seemed to not be adequate for it purpose in the building.

→ *Recommend an upgrade of the entire life Safety Illumination in the building.*

Toggle-type switches were used throughout the building. No dimming switches were present. All switch control is line voltage connected. There are no low voltage type control devices. Switches in the building were mounted at between 48" and 54." In most of the older walls of the building, in some instances, device locations do not meet the latest ADA requirements. In renovation and newer areas of the building, switches do meet ADA requirements.

Most devices and cover plates are the age of the building and/or latest renovations; with minimal damage to either.

→ *Recommend upgrading lighting control to improve energy savings in each space and building.*

Disconnect switches on mechanical equipment appeared to be in good condition but old and weathered on rooftop mechanical equipment. Electrical equipment was also old in the basement. All equipment added within the past 12 years appeared to be in good condition. In the older, renovated section the equipment was older and in need of some upgrades.

→ *Recommend replacement to the newer equipment where in the older section of the building.*

Plumbing

Plumbing fixtures and trim throughout the original facility are in poor condition while fixtures and trim throughout the addition are in fine condition. The older fixtures and trim consume enough water as to suggest the flush valves have failed. Additional investigation by an Architect is needed in the older portions of the facility to determine that code-required fixture counts, water conservation goals, and ADA compliance are met within the current layouts.

Emergency eye wash/shower provisions merit additional scrutiny by an Architect along with compliance with tepid water requirements.

No destructive investigation was undertaken to determine material types, condition, and sizing. Rather, this assessment relied upon observation and discussions with NMJC personnel to inform the effort. Similarly, the exterior piping was not included in this assessment. Limited portions of the system are visible for inspection. Floor drains and floor sinks are in serviceable condition. Maintenance personnel report that adequate numbers of floor-, wall-, and exterior cleanouts exist to allow ready routine maintenance. The need for sediment interception on piping serving floor drains within the welding bay merits further attention.

The roof and overflow drains are in serviceable condition and functioning as intended. Maintenance personnel stated the roof and overflow piping is in fair condition. Some leakage was noted around roof drain bodies and roofing interface. The terminations are properly executed and functional.
On-site buried water piping was not evaluated as a part of this work. The original facility is plumbed primarily with galvanized pipe and fittings while the addition is plumbed with type L copper pipe and fittings. Similarly, the original facility generally lacks proper insulation, jacketing, and labeling, however, the addition is properly insulated, jacketed, and labeled. Sufficient numbers of isolation valves are present to allow for routine maintenance. Exterior wall hydrants are in a serviceable condition.
The facility is served by a natural gas system that appears to be in serviceable condition. The maintenance personnel report no known operational deficiencies. Exterior buried piping was not evaluated as a part of this work.

The system is comprised of a combination of steel and copper pipe and fittings. The system shows no outward signs of failure. Terminations (hose reel, hose rack, quick disconnects, and pressure regulators) appear to be functioning as intended.

Piping serving the carbon dioxide, argon, oxygen, and acetylene systems is properly supported and shows no signs of failure. Regulators are in generally poor condition. The supply manifolds are properly mounted and configured.

However, the required shade canopy is missing and should be added.

The domestic water heater is in serviceable condition and appears to be functioning as intended. The maintenance personnel and faculty did not report any operational inadequacies. Expansion tanks are needed at both water heaters.

Piping within the tunnels was not evaluated as a part of this work. The existing facility is not protected by a fire sprinkler system. The new facility is protected by a wet pipe fire sprinkler system equipped with the appropriate code-required accoutrements. All portions of system appear to be fully functional and in compliance with the appropriate codes and standards. The inspection logs indicate currency with all required testing and inspection intervals.

Code & Accessibility

None

Main Capital Investment Areas:

None

Don Whitaker Automotive Technology Center Summary Table

FACILITY NEEDS	QTY/UNIT	COST/UNIT	DEFICIENCY CORRECTIONS ONLY COST	DEFICIENCY CORRECTIONS PROJECT COST
Replace doors and hardware 102 to 201	2 EA	$1,200.00	$2,400.00	$3,200.00
Replace doors and hardware 101 exterior	2 EA	$1,200.00	$2,400.00	$3,200.00
Replace doors and hardware 119 exterior	2 EA	$1,200.00	$2,400.00	$3,200.00
Replace doors and hardware 116 exterior	1 EA	$1,200.00	$1,200.00	$1,600.00
Replace doors and hardware 102 exit by 121 exterior	1 EA	$1,200.00	$1,200.00	$1,600.00
Replace doors and hardware 110 exterior	1 EA	$1,200.00	$1,200.00	$1,600.00
Replace doors and hardware 129 exterior	2 EA	$1,200.00	$2,400.00	$3,200.00
Welding and automotive labs	29 EA	$1,200.00	$34,800.00	$46,400.00
Paint all walls 101	1944 SF	$6.00	$11,664.00	$15,552.00
Remove wall AC unit 105 and install HVAC	1 EA	$2,500.00	$2,500.00	$3,333.33
install ventilation in grinding booth 117	1 EA	$10,000.00	$10,000.00	$13,333.33
Paint all walls 117	275 SF	$6.00	$1,650.00	$2,200.00
Install ventilation in welding 116	1 EA	$15,000.00	$15,000.00	$20,000.00
Paint all walls 116	2535 SF	$6.00	$15,210.00	$20,280.00
Replace sink in 116	1 EA	$1,000.00	$1,000.00	$1,333.33
Paint all walls 119	330 SF	$6.00	$1,980.00	$2,640.00
Replace door threshold exterior 116	1 EA	$250.00	$250.00	$333.33
Replace doors and hardware 119 exterior	2 EA	$1,200.00	$2,400.00	$3,200.00
Repair broken brick at gas storage	20 SF	$10.00	$200.00	$266.67
Paint coping	500 SF	$6.00	$3,000.00	$4,000.00
Paint all walls 121, 122	216 SF	$6.00	$1,296.00	$1,728.00
Replace carpet 121, 122	216 SF	$8.40	$1,814.40	$2,419.20
Replace ceiling tiles 121, 122	216 SF	$3.00	$648.00	$864.00
Replace VCT 120	560 SF	$8.40	$4,704.00	$6,272.00
Replace ceiling tiles 120	560 SF	$3.00	$1,680.00	$2,240.00
Paint all walls 120	560 SF	$6.00	$3,360.00	$4,480.00

FACILITY NEEDS	QTY/UNIT	COST/UNIT	DEFICIENCY CORRECTIONS ONLY COST	DEFICIENCY CORRECTIONS PROJECT COST
Replace ceiling tiles 102	1254 SF	$3.00	$3,762.00	$5,016.00
Replace water fountain	1 EA	$1,200.00	$1,200.00	$1,600.00
Replace toilet fixtures and partitions 124	1 EA	$15,000.00	$15,000.00	$20,000.00
Replace ceiling tiles with hard lid	159 SF	$12.00	$1,908.00	$2,544.00
Replace carpet 114	197 SF	$6.00	$1,182.00	$1,576.00
Paint all walls 114	197 SF	$6.00	$1,182.00	$1,576.00
Paint all walls 102	1254 SF	$6.00	$7,524.00	$10,032.00
115	1 EA	$20,000.00	$20,000.00	$26,666.67
Paint all walls 115	554 SF	$6.00	$3,324.00	$4,432.00
Paint all walls 113	58 SF	$6.00	$348.00	$464.00
Stairs to mezzanine too steep and railing inadequate 110	1 EA	$5,000.00	$5,000.00	$6,666.67
Wood walls demo mezzanine at 110	2 EA	$1,000.00	$2,000.00	$2,666.67
Junk storage in mezzanine at 110	1 EA	$1,000.00	$1,000.00	$1,333.33
Guardrail inadequate in mezzanine at 110	1 EA	$5,000.00	$5,000.00	$6,666.67
Replace bowed rafters in new classroom inside 110	5 EA	$600.00	$3,000.00	$4,000.00
Paint walls in 110	3982 SF	$6.00	$23,892.00	$31,856.00
Wash area 111	4 EA	$500.00	$2,000.00	$2,666.67
Paint walls in 111	375 SF	$6.00	$2,250.00	$3,000.00
Remove toxic waste containers from 112	2 EA	$600.00	$1,200.00	$1,600.00
Then to sanitary. Trough drain 110 runs under electrical panels re-	1 EA	$6,000.00	$6,000.00	$8,000.00
route	1 EA	$5,000.00	$5,000.00	$6,666.67
Replace hand wash sinks and fixtures at entry to 129	2 EA	$1,000.00	$2,000.00	$2,666.67
Stairs to mezzanine too steep and railing inadequate at wash area at entry to 129	1 EA	$5,000.00	$5,000.00	$6,666.67
Junk storage in mezzanine at 129	1 EA	$1,000.00	$1,000.00	$1,333.33
Guardrail inadequate in mezzanine at 129	1 EA	$5,000.00	$5,000.00	$6,666.67
Paint walls in 129	4424 SF	$6.00	$26,544.00	$35,392.00
129 and install HVAC	1 EA	$5,000.00	$5,000.00	$6,666.67
235 replace ceiling tiles	787 SF	$3.00	$2,361.00	$3,148.00
236 replace ceiling tiles	787 SF	$3.00	$2,361.00	$3,148.00
Replace transition strip 236	1 EA	$125.00	$125.00	$166.67
241 replace ceiling tiles	787 SF	$3.00	$2,361.00	$3,148.00

FACILITY NEEDS	QTY/UNIT	COST/UNIT	DEFICIENCY CORRECTIONS ONLY COST	DEFICIENCY CORRECTIONS PROJECT COST
242 replace ceiling tiles	787 SF	$3.00	$2,361.00	$3,148.00
212 replace ceiling tiles	787 SF	$3.00	$2,361.00	$3,148.00
218 replace ceiling tiles	787 SF	$3.00	$2,361.00	$3,148.00
Replace windows 203	42 EA	$800.00	$33,600.00	$44,800.00
Paint soffit	500 SF	$6.00	$3,000.00	$4,000.00
Clean brick	200 SF	$4.00	$800.00	$1,066.67
Seal split face block	13838 SF	$6.00	$83,028.00	$110,704.00
Re-landscape	1 EA	$30,000.00	$30,000.00	$40,000.00
Re-roof facility	64367 SF	$8.35	$537,464.45	$716,619.27
Replace fire alarm system	64376 SF	$8.20	$527,883.20	$703,844.27
Sprinkler building	64376 SF	$10.20	$656,635.20	$875,513.60
Replace plumbing	64375 SF	$3.25	$209,218.75	$278,958.33
Replace ACT	20000 SF	$6.40	$128,000.00	$170,666.67
Replace flooring	20000 SF	$8.20	$164,000.00	$218,666.67
Mechanical corrections/upgrades	65763 SF	$2.36	$155,200.68	$206,934.24
Plumbing corrections/upgrades	65763 SF	$0.35	$23,017.05	$30,689.40
Electrical corrections/upgrades	65763 SF	$15.00	$986,445.00	$1,315,260.00
Total of Deficiency Corrections Only Cost:				**$3,835,255.73**
Total Deficiency Corrections Project Cost:				**$5,113,674.31**

This list of was developed using 2019 mid-year unit costs and is intended to identify the building deficiencies in an effort to represent the building's overall physical condition and establish the FCI for this particular facility.

TOTAL FACILITY RENOVATION PROJECT COST

This cost is based on 2019 mid-year renovation cost to completely renovate this facility and should be used to establish total project budgets.

Total Building Renovation Project Cost:	**$23,236,260.00**

HAROLD RUNNELS RESIDENCE HALL | 1 THUNDERBIRD CIRCLE, HOBBS, NM



Harold Runnels Residence Hall is a two-story dormitory building originally constructed in 1991.

Staff Notes

None

Structure

The building structure consists of steel columns and beams with bar-joist and gypsum deck roof construction. The floors are a slab-on-grade concrete floor. No structural damage was observed.

Exterior Finishes

The exterior walls are constructed of double wythe masonry with concrete masonry units (CMU) interior, and face brick on the exterior with a cavity between the two walls that is filled with granular fill insulation. The bricks are in good condition with some staining from landscaping. The mortar joints show indications of deterioration due to age and weathering. The main entrance to the building is aluminum storefront. Windows are flush with the exterior brick. The top of the walls are finished with a multi-part fascia/gravel stop that is also in good condition.

Roof

The original roof is a ballasted built-up roof (BUR) system with white 1/4" – 1/2" stone ballast. The roof appears to be in good condition however, multiple locations at the parapets and penetrations appear to have been caulked to remedy leaks. Drainage slopes to roof drains. The drainage is dual sump roof drain system with few drains. The primary drain exits the building above the adjacent grade onto concrete walks or into landscape areas. Secondary drains exit the building just below the roof, into a conductor

head/downspout, and drain into landscape areas or concrete walks. All the drains have splash blocks or other means to channel the water away from the foundation/tunnel system.

The additions have parapets that are finished on the back with BUR flashing. The joints at the flashing are showing signs of deterioration. There is abandoned piping and conduit at several locations. The ducts penetrating the roof do not have curbs or adequate flashing. There is significant leaking in these areas. The parapet coping is screwed into the back of the parapet, and in some instances the top, without sealant. The corners and intersections of the parapets use sealant that is deteriorated in some places.

Doors & Window

The windows are 2-pane glazing units in steel frames. These windows appear to be in good condition. Window blinds are in poor shape and need to be replaced.

The main exterior entry doors are double aluminum storefront with ADA actuator. They appear to be in good condition but need adjustment and weather-stripping.

Interior doors are mostly the original wood units in hollow metal frames. Dormitory rooms have lever locksets with built in combination locks.

Walls

Interior walls are constructed of CMU.

Flooring

Offices have carpet.

All other spaces are VCT.

Ceilings & Lighting

Ceilings are acoustic ceiling tiles (ACT) in a suspended grid system with lay in lighting. Numerous stained tiles and damaged tiles were observed.

Fire Protection and Detection

The building is sprinkled.

HVAC

The Zia and Thunderbird two-story dorms were constructed in 1990 (approximately). These buildings are very similar to one another in construction. The HVAC system these buildings consists of 4-pipe fan coils. Hot water and chilled water piping extends from the Central Plant. The piping is direct buried to these

bldgs. The piping mains serve both these two buildings along with the newer John Watson and Carroll Leavell student apartment buildings.

The dorm rooms and all rooms in general, are conditioned with 4-pipe fan coils. The bathrooms in each dorm room have ceiling mounted exhaust fans with ductwork extending up to the roof. There are chilled water and hot water booster pumps located inside a small closet at the piping entrance of each building. The observable piping and the booster pumps within these two dorm buildings are in poor condition. The exterior surfaces of the piping and pumps within the closets has lots of corrosion. Some of the corrosion is severe enough, that it is recommended the interior surface condition of the piping and equipment be investigated.

The cause of this corrosion is unknown. Corrosion was observed in many of the buildings. The climate in the Hobbs area may be much more humid, promoting corrosion. Also, corrosion may be due to some kind of galvanic action. The piping systems should be further investigated for dielectric unions, and cathodic protection measures. If piping is replaced, these types of measures should be added, or upgraded, if not already in place. Structural members and metal hangers, etc. have corrosion in places. It was noted that the dryers within the laundry area were not working adequately. The distance from the dry vent connections to the discharge locations was noted as much longer than normally utilized in residential / light commercial dryers. One possible solution would be to obtain dryers that are specifically rated for longer venting distances. Additionally, the vents should be thoroughly cleaned or replaced.

Electrical

Secondary Power is 208Y/120V, 3Phase, 4Wire. Campus Primary distribution system serves this building. Electrical equipment switchboards and/or panels manufacturer is Siemens. The equipment was upgraded in the last 10 to 15 years and are in good condition. Existing equipment is able to be maintained by NMJC M&O personnel. The existing electrical equipment did NOT have the required code clearances and most of the equipment was in locked rooms; either in an electrical room or mechanical room. IT equipment racks impeded the working clearance of the electrical panels in the main electrical room.

- → *Recommend creating additional space for the IT equipment and relocating that equipment or expand the existing space into an adjacent room and provide proper clearances.*
- → *Recommendation for the NMJC administration of this building would be to remove all janitorial and storage items from within room and leave as an electrical/technology room. Because this room has electrical equipment, only trained personnel with proper protective gear should enter this room. During survey it was difficult to reach equipment without moving items from the front of equipment.*

Visual confirmation of proper and code compliant grounding was not achievable this required an electrician to open electrical to view inside. Use of equipment ground conductors, proper conduit

grounding, and overall grounding of distribution system will require verification during any redesign of this building. A ground bar was not present.

→ *Recommend a closer visual inspection internal to electrical equipment for a better verification of the existing grounding system.*

Receptacles in most of the older walls in the building were mounted at 1'-2" which is not to latest ADA requirements. In other locations such as in the dorm rooms and gathering areas of the building receptacles, are at 1'-6" or higher. Most devices and cover plates are the age of the building and/or latest renovations; with minimal damage to either. GFCI devices were located throughout the facility and will require verification for the latest codes. Receptacles mounted near mechanical equipment per code were not present on any roof mounted equipment.

Most Mechanical equipment was internal to the building.

→ *Recommend non-ADA compliant devices be made compliant where possible. This may require surface-mounting devices where mounted in existing CMU walls.*

Lamp types were fluorescent. T12 in utility spaces and T8 in the majority of the spaces. Luminaire types vary from 2X4, 1X4, Strips, and other types. Some of the luminaires were determined to be from original building construction, with damage to lenses such as cracking and yellowing of the lenses as well as dust build up which minimize the lumen output of the luminaires.

→ *Recommend replacing all building lighting to 100% LED type luminaires and thereby provide additional energy savings.*

Lamp and luminaire types indicated in 4a above are used for Life Safety Illumination via internal batteries in the luminaires and bug-eyes located trough out the corridors. Life Safety Illumination in general seemed to not be adequate for its purpose in the building.

→ *Recommend an upgrade of the entire life Safety Illumination in the building.*

Toggle-type switches were used throughout the building. No dimming switches were present. All switch control is line voltage connected. There are no low voltage type control devices. Switches in the building were mounted at between 48" and 54." Most devices and cover plates are the age of the building and/or latest renovations; with minimal damage to either.

→ *Recommend upgrading lighting control to improve energy savings in each space and building. Provide Occupancy type sensors in some of the rooms throughout the dorm building.*

Disconnect switches on mechanical equipment appeared to be old and weathered but in good condition. Internal to building the electrical equipment was also old.

→ *Recommend replacement to the newer equipment.*

Plumbing

Plumbing fixtures and trim are in generally fine condition. Additional investigation by an Architect is needed in the older portions of the facility to determine that code-required fixture counts, water conservation goals, and ADA compliance are met within the current layouts.

No destructive investigation was undertaken to determine material types, condition, and sizing. Rather, this assessment relied upon observation and discussions with NMJC personnel to inform the effort. Similarly, the exterior piping was not included in this assessment. Limited portions of the system are visible for inspection. Floor drains and floor sinks are in serviceable condition. Maintenance personnel report that inadequate numbers of floor-, wall-, and exterior cleanouts exist to allow ready routine maintenance.

The roof and overflow drains are in serviceable condition and functioning as intended. Maintenance personnel stated the roof and overflow piping is in fair condition. The terminations are properly executed and functional.

Exterior buried piping was not evaluated as a part of this work. The facility is plumbed with a mix of galvanized and type L copper pipe/fittings. Insulation is generally intact and lines are properly jacketed and labeled. Sufficient numbers of isolation valves are present to allow for routine maintenance. Exterior wall hydrants are in a serviceable condition.

The facility is served by a natural gas system that appears to be in serviceable condition. The maintenance personnel report no known operational deficiencies. Exterior buried piping was not evaluated as a part of this work.

The domestic water heater is in serviceable condition and appears to be functioning as intended as is the case with the hot water storage tanks. The maintenance personnel and faculty did not report any operational inadequacies. Expansion tanks are needed at both water heaters. A thermostatic mixing valve and expansion tank are needed.

Exterior buried piping was not evaluated as a part of this work. The facility is protected by a wet pipe fire sprinkler system equipped with the appropriate code-required accoutrements. All portions of system appear to be fully functional and in compliance with the appropriate codes and standards. The inspection logs indicate currency with all required testing and inspection intervals. No evidence of cross connection prevention can be found.

Code & Accessibility

None

Main Capital Investment Areas:

None

Harold Runnels Residence Hall Summary Table

FACILITY DEFICIENCIES	QTY/UNIT	COST/UNIT	DEFICIENCY CORRECTIONS ONLY COST	DEFICIENCY CORRECTIONS PROJECT COST
Replace windows near entry	4 EA	$800.00	$3,200.00	$4,266.67
Replace auto door opener	1 EA	$1,200.00	$1,200.00	$1,600.00
Replace ACT in lobby	665 SF	$1.44	$957.60	$1,276.80
Replace lighting in lobby	10 EA	$150.00	$1,500.00	$2,000.00
Paint facility	8709 SF	$6.00	$52,254.00	$69,672.00
Replace VCT in hallways and rooms 1st floor	8709 SF	$2.00	$17,418.00	$23,224.00
Replace VCT in hallways and rooms 2nd floor	8709 SF	$2.00	$17,418.00	$23,224.00
Replace exterior doors and hardware	3 EA	$1,200.00	$3,600.00	$4,800.00
Replace HVAC piping and equipment	1 EA	$75,000.00	$75,000.00	$100,000.00
Replace ACT in stairwells	610 SF	$1.44	$878.40	$1,171.20
Re-roof facility	8709 SF	$5.55	$48,334.95	$64,446.60
Replace screens	60 EA	$50.00	$3,000.00	$4,000.00
Re-landscape for drainage	1 EA	$50,000.00	$50,000.00	$66,666.67
Repair brick corner	20 SF	$50.00	$1,000.00	$1,333.33
Replace windows	78 EA	$800.00	$62,400.00	$83,200.00
Replace flooring	8709 SF	$8.20	$71,413.80	$95,218.40
Replace ACT in facility	8709 SF	$6.40	$55,737.60	$74,316.80
Replace fire alarm	18160 SF	$8.20	$148,912.00	$198,549.33
Electrical corrections/upgrades	18160 SF	$15.00	$272,400.00	$363,200.00
Plumbing corrections/upgrades	18160 SF	$2.25	$40,860.00	$54,480.00
Mechanical corrections/upgrades	18160 SF	$17.34	$314,894.40	$419,859.20
Total of Deficiency Corrections Only Cost:				**$1,242,378.75**
Total Deficiency Corrections Project Cost:				**$1,656,505.00**

This list of was developed using 2019 mid-year unit costs and is intended to identify the building deficiencies in an effort to represent the building's overall physical condition and establish the FCI for this particular facility.

TOTAL FACILITY RENOVATION PROJECT COST

This cost is based on 2019 mid-year renovation cost to completely renovate this facility and should be used to establish total project budgets.

Total Building Renovation Project Cost:	**$6,416,533.00**

GLEN & ROSEMARY HOUSTON THUNDERBIRD RESIDENCE HALL | 1

THUNDERBIRD CIRCLE, HOBBS, NM



Glen & Rosemary Houston Thunderbird Residence Hall is a two story dormitory building originally constructed in 1991.

Staff Notes

None

Structure

The building structure consists of steel columns and beams with bar-joist and gypsum deck roof construction. The floor is a slab-on-grade concrete floor. No structural damage was observed.

Exterior Finishes

The exterior walls are constructed of double wythe masonry with concrete masonry units (CMU) interior and face brick on the exterior with a cavity between the two walls that is filled with granular fill insulation. The bricks are in good condition with some staining from landscaping. The mortar joints show indications of deterioration due to age and weathering. The main entrance to the building is aluminum storefront. Windows are flush with the exterior brick. The top of the walls are finished with a multi-part fascia/gravel stop that is also in good condition.

Roof

The original roof is a ballasted built-up roof (BUR) system with white 1/4" – 1/2" stone ballast. The roof appears to be in good condition however; multiple locations at the parapets and penetrations appear to have been caulked to remedy leaks. Drainage slopes to roof drains. The drainage is dual sump roof drain

system with few drains. The primary drain exits the building above the adjacent grade onto concrete walks or into landscape areas. Secondary drains exit the building just below the roof into a conductor head/downspout and drain into landscape areas or concrete walks. All the drains have splash blocks or other means to channel the water away from the foundation/tunnel system.

The additions have parapets that are finished on the back with BUR flashing. The joints at the flashing are showing signs of deterioration. There are abandoned piping and conduit at several locations. The ducts penetrating the roof do not have curbs or adequate flashing. There is significant leaking in these areas. The parapet coping is screwed into the back of the parapet and in some instances the top, without sealant.

Doors & Window

The windows are 2-pane glazing units in steel frames. These windows appear to be in good condition. Window blinds are in poor shape and need to be replaced.

The main exterior entry doors are double aluminum storefront with ADA actuator. They appear to be in good condition but need adjustment and weather-stripping.

Interior doors are mostly the original wood units in hollow metal frames. Dormitory rooms have lever locksets with built in combination locks.

Walls

Interior walls are constructed of CMU.

Flooring

Offices have carpet.

All other spaces are VCT.

Ceilings & Lighting

Ceilings are acoustic ceiling tiles (ACT) in a suspended grid system with lay in lighting. Numerous stained tiles and damaged tiles were observed.

Fire Protection and Detection

The building is sprinkled.

HVAC

(See Runnels Residence Hall)

Electrical

(See Runnels Residence Hall)

Plumbing

(See Runnels Residence Hall)

Code & Accessibility

Main Capital Investment Areas:

Glen & Rosemary Houston Thunderbird Hall Summary Table

FACILITY NEEDS	QTY/UNIT	COST/UNIT	DEFICIENCY CORRECTIONS ONLY COST	DEFICIENCY CORRECTIONS PROJECT COST
Replace doors and hardware	6 EA	$1,200.00	$7,200.00	$9,600.00
Replace windows	78 EA	$800.00	$62,400.00	$83,200.00
Repair brick corner	20 SF	$9.40	$188.00	$250.67
Replace ACT in lobby	665 SF	$1.44	$957.60	$1,276.80
Paint facility	17418 SF	$6.00	$104,508.00	$139,344.00
Replace VCT in hallways and rooms 1st floor	8709 SF	$2.00	$17,418.00	$23,224.00
Replace VCT in hallways and rooms 2nd floor	8709 SF	$2.00	$17,418.00	$23,224.00
Replace screens	60 EA	$800.00	$48,000.00	$64,000.00
Replace HVAC piping and equipment	1 EA	$25,000.00	$25,000.00	$33,333.33
Replace ACT in stairwells	610 SF	$1.44	$878.40	$1,171.20
Re-roof facility	8709 SF	$5.55	$48,334.95	$64,446.60
Mechanical corrections/upgrades	18160 SF	$17.34	$314,894.40	$419,859.20
Plumbing corrections/upgrades	18160 SF	$0.50	$9,080.00	$12,106.67
Electrical corrections/upgrades	18160 SF	$15.00	$272,400.00	$363,200.00
Total of Deficiency Corrections Only Cost:				**$928,677.35**
Total Deficiency Corrections Project Cost:				**$1,238,236.47**

This list of was developed using 2019 mid-year unit costs and is intended to identify the building deficiencies in an effort to represent the building's overall physical condition and establish the FCI for this particular facility.

TOTAL FACILITY RENOVATION PROJECT COST

This cost is based on 2019 mid-year renovation cost to completely renovate this facility and should be used to establish total project budgets.

Total Building Renovation Project Cost:	**$6,416,533.00**

JOHN WATSON/CARROLL LEAVELL STUDENT APARTMENTS |1 THUNDERBIRD CIRCLE, HOBBS, NM



John Watson/Carroll Leavell Student Apartments are three story dormitory buildings originally constructed in 2007.

Staff Notes

None

Structure

The building structure consists of steel columns and beams with bar-joist and gypsum deck roof construction. The floor is a slab-on-grade concrete floor. No structural damage was observed.

Exterior Finishes

The exterior walls are constructed of metal frame and stucco or brick. The bricks are in good condition with some staining from landscaping and some corner damage apparently caused by a small vehicle. The mortar joints show indications of deterioration due to age and weathering. The stucco shows cracking, especially bad at the soffits. The two buildings are joined by a common stair. The concrete stairs are cracked and need to be replaced. The steel structure supporting the stairs shows extensive rust. Individual apartments open to a covered balcony.

Roof

The roof is a modified built-up membrane system consisting of multiple layers of bitumen sheets and reinforcing felts with an asphalt impregnated cap sheet.

The roof over the original portion is generally in poor condition. The top sheet granules have become dislodged and are migrating around the roof in valleys and low spots. There is severe ponding at a couple of roof drain locations. Roof edges are deteriorated and lifting.

The roof membrane has separated from a skylight curb and is causing a leak below.



Doors & Window

The windows are 2-pane glazing units in aluminum frames. These windows appear to be in good condition. Windows in stucco are flush with the stucco in most cases while windows in the brick are inset.

Doors to electrical rooms and other common areas are steel in hollow metal frames

Walls

Interior walls are constructed of metal framing and textured gyp walls. Rooms were not observed.

Flooring

Laundry room floors are VCT.
Flooring in electrical rooms and other common areas is exposed concrete.

Ceilings & Lighting

Ceilings are gyp in the laundry area with surface-mount fluorescent lighting. Ceilings under the common areas and balconies are stucco over gyp.

Fire Protection and Detection

The building is sprinkled.

HVAC

This building along with Carroll Leavell student apartments are similar in design and construction. These buildings were constructed in approximately 2006. These two apartment buildings share a common mechanical room where chilled water, and hot water mains extend and continue from the Zia and Thunderbird dorm buildings. The piping enters the centrally located mechanical room. Within the mechanical room are booster circulating pumps. The chilled and hot water piping branch to the two-apartment building and connect to 4-pipe fan coils with supply ductwork extending to individual rooms within each apartment. Each dorm also includes ceiling mounted exhaust fans within the bathroom areas. The exhaust fan discharge is ducted through chases to the roof of the building.

There is an electrical room adjacent to the mechanical room which was noted as needing additional cooling capacity. In general, the HVAC equipment including piping within the mechanical space was noted to be in good condition.

Electrical

Secondary Power is 208Y/120V, 3Phase, 4Wire. Campus Primary distribution system serves this building. Electrical equipment switchboards and/or panels manufacturer is Square D. The equipment was installed in the last 10 to 15 years and are in good condition. Existing equipment can be maintained by NMJC M&O personnel. The existing electrical equipment did have the required code clearances in most apartments and most of the equipment was not locked in apartments. Main switchboard in the main electrical room did not have the required code clearances and entrances based on size of electrical equipment.

- → *Recommend providing a second entrance on opposite side of the existing electrical room. Presently the room does not have 8'-0" clear in front of the 1200A switchboard and there are also items stored in this room that should not be. With a second entrance the clearance required is 4'-0".*
- → *Recommendation for the NMJC administration of this building would be to remove all janitorial and storage items from within room and leave as an electrical/technology room. Because this room has electrical equipment, only trained personnel with proper protective gear should enter this room. During survey it was difficult to reach equipment without moving items from the front of equipment.*

Visual confirmation of proper and code compliant grounding was not achievable; this required an electrician to open electrical to view inside. Use of equipment ground conductors, proper conduit grounding, and overall grounding of distribution system will require verification during any redesign of this building. A ground bar was present.

- → *Recommend a closer visual inspection internal to electrical equipment for a better verification of the existing grounding system.*

Receptacles in most walls in the building were mounted at ADA requirements. Most devices and cover plates are the age of the building and/or latest renovations; with minimal damage to either. GFCI devices were throughout the facility and will require verification for the latest codes. Receptacles mounted near mechanical equipment per code were not present on any roof mounted equipment since all equipment is internal to the building.

Lamp types were fluorescent. T12 in utility spaces and T8 in the majority of the spaces. Luminaire types vary from Surface-mounted round bedroom luminaires, 1X4 surface-mounted, Strips, and other types. Some of the luminaires were determined to be from original building construction, with lenses in need of cleaning from dust and debris build up, which minimize the lumen output of the luminaires.

→ *Recommend replacing all building lighting to 100% LED type luminaires and thereby provide additional energy savings.*

Lamp and luminaire types indicated in 4a above are used for Life Safety Illumination via internal batteries in the luminaires and bug-eyes located throughout the exterior corridors. Life Safety Illumination in general seemed to be adequate for its purpose in the building.

→ *Recommend an upgrade of the entire life Safety Illumination in the building to LED.*

Toggle-type switches were used throughout the building. No dimming switches were present. All switch control were line voltage connected. There are no low voltage type control devices. Switches in the building were mounted at between 48" and 54." Most devices and cover plates are the age of the building and/or latest renovations; with minimal damage to either.

→ *Recommend upgrading lighting control to improve energy savings in each space and building. Provide Occupancy type sensors in some of the rooms throughout the apartments.*

Disconnect switches on mechanical equipment appeared to be in good condition.

Plumbing

Plumbing fixtures and trim are in generally fine condition. Additional investigation by an Architect is needed in the older portions of the facility to determine that code-required fixture counts, water conservation goals, and ADA compliance are met within the current layouts.

No destructive investigation was undertaken to determine material types, condition, and sizing. Rather, this assessment relied upon observation and discussions with NMJC personnel to inform the effort. Similarly, the exterior piping was not included in this assessment. Limited portions of the system are visible for inspection. Floor drains and floor sinks are in serviceable condition. Maintenance personnel report that inadequate numbers of floor-, wall-, and exterior cleanouts exist to allow ready routine maintenance.

The architectural gutters and downspouts are in serviceable condition and functioning as intended. Maintenance personnel stated there are no known operational problems.

Exterior buried piping was not evaluated as a part of this work. The facility is plumbed with type L copper pipe/fittings. Insulation is generally intact, and lines are properly jacketed and labeled. Sufficient numbers of isolation valves are present to allow for routine maintenance. Exterior wall hydrants are in a serviceable condition.

The facility is served by a natural gas system that appears to be in serviceable condition. The maintenance personnel report no known operational deficiencies. Exterior buried piping was not evaluated as a part of this work.

The domestic water heaters are in serviceable condition and appear to be functioning as intended, as is the case with the hot water storage tanks. The maintenance personnel and faculty did not report any operational inadequacies. Expansion tanks are needed at both water heaters. A thermostatic mixing valve and expansion tank are needed.

Exterior buried piping was not evaluated as a part of this work. The facility is protected by a wet pipe fire sprinkler system equipped with the appropriate code-required accoutrements. All portions of system appear to be fully functional and in compliance with the appropriate codes and standards. The inspection logs indicate currency with all required testing and inspection intervals.

Code & Accessibility

Main Capital Investment Areas:

JOHN WATSON STUDENT APARTMENTS SUMMARY TABLE

FACILITY NEEDS	QTY/UNIT	COST/UNIT	DEFICIENCY CORRECTIONS ONLY COST	DEFICIENCY CORRECTIONS PROJECT COST
Remove storage from electrical closet C102	1 EA	$500.00	$500.00	$666.67
Repair holes in ceiling and caulk penetrations	2 EA	$500.00	$1,000.00	$1,333.33
Replace rusted structure and concrete at stairs	3 EA	$30,000.00	$90,000.00	$120,000.00
Repair holes in wall at elevator room	1 EA	$150.00	$150.00	$200.00
Replace lighting	10 EA	$150.00	$1,500.00	$2,000.00
Replace VCT	SF	$2.00	$0.00	$0.00
Replace roof	11347 SF	$5.55	$62,975.85	$83,967.80
Repair cracked stucco including roof parapets	11347 SF	$8.00	$90,776.00	$121,034.67
Replace exhaust covers	5 EA	$50.00	$250.00	$333.33
Paint roof ladders and structural shades	300 SF	$6.00	$1,800.00	$2,400.00
Plumbing corrections/upgrades	34401 SF	$1.41	$48,505.41	$64,673.88
Electrical corrections/upgrades	34401 SF	$12.00	$412,812.00	$550,416.00
Total of Deficiency Corrections Only Cost:				**$710,269.26**
Total Deficiency Corrections Project Cost:				**$949,203.17**

This list of was developed using 2019 mid-year unit costs and is intended to identify the building deficiencies in an effort to represent the building's overall physical condition and establish the FCI for this particular facility.

TOTAL FACILITY RENOVATION PROJECT COST

This cost is based on 2019 mid-year renovation cost to completely renovate this facility and should be used to establish total project budgets.

Total Building Renovation Project Cost:	**$12,155,020.00**

CARROLL LEAVELL STUDENT APARTMENTS SUMMARY TABLE

FACILITY NEEDS	QTY/UNIT	COST/UNIT	DEFICIENCY CORRECTIONS ONLY COST	DEFICIENCY CORRECTIONS PROJECT COST
Replace lighting	32295 SF	$8.00	$258,360.00	$344,480.00
Replace VCT	25512 SF	$2.00	$51,024.00	$68,032.00
Replace roof	10413 SF	$5.55	$57,792.15	$77,056.20
Repair cracked stucco including roof parapets	9000 SF	$8.00	$72,000.00	$96,000.00
Plumbing corrections/upgrades	32295 SF	$1.41	$45,535.95	$60,714.60
Electrical corrections/upgrades	32295 SF	$12.00	$387,540.00	$516,720.00
Total of Deficiency Corrections Only Cost:				**$872,252.10**
Total Deficiency Corrections Project Cost:				**$1,163,002.80**

This list of was developed using 2019 mid-year unit costs and is intended to identify the building deficiencies in an effort to represent the building's overall physical condition and establish the FCI for this particular facility.

TOTAL FACILITY RENOVATION PROJECT COST

This cost is based on 2019 mid-year renovation cost to completely renovate this facility and should be used to establish total project budgets.

Total Building Renovation Project Cost:	**$11,410,900.00**

MAINTENANCE BUILDING | 1 THUNDERBIRD CIRCLE, HOBBS, NM



The original maintenance building was constructed in 1966 as shop/warehouse. A later addition was constructed in 1985 as a classroom building with a shop. The entire facility is now the maintenance building.

Structure

The original building structure consists of steel columns and beams with bar-joist and gypsum deck roof construction. The 1985 addition is constructed of load bearing concrete masonry units (CMU). The floor is a slab-on-grade concrete floor. Most of the structure does not show signs of fatigue or damage. The roof deck however, shows significant damage from the roof mounted evaporative cooling units.

Exterior Finishes

The exterior walls are constructed with load bearing (CMU) with face brick veneer on the exterior. The bricks are in good condition with very little damage. The brick is stained from and age. The mortar joints show indications of deterioration due to age and weathering. There are a few stucco accents above doors and the main entry that are in good condition.

Roof

The roof is a ballasted built-up roof (BUR) system with white ½" – ¾" stone ballast. The roof appears to be in good condition with no evidence of damage. The drainage is dual sump roof drain system with few drains. The original portion of the building does not have parapets and utilizes gravel stop edge with

gutters and downspouts. The gutters appear to be in good condition. The ballast material appears to be migrating toward the middle of the roof, away from the edges where

The addition portion utilizes parapets with coping with the same roofing composition. It is unclear where the roof drains terminate in this portion of the building though the secondary drains exit the parapets at roof level and do not have conductor heads or downspouts.

There are a few areas that show evidence of ponding at the intersection of original building and the 1985 addition.

Doors & Windows

The original portion of the building has a few windows that are single pane glazing nits in steel frames. These have awning type middle section. It is unknown if these still operate. The steel frames show signs of wear and age. These window units are in poor condition.

The 1985 addition has a few windows in the front of the building. These are insulated glazing units set in hollow metal frames. The glazing and frames are in good condition.

Exterior doors are hollow metal units set in hollow metal frames. The glazed entry units are in good condition, though could use new paint. The exterior doors in the shop areas are in poor condition. The paint is peeling, doors are damaged and do not operate well. They do not have any weather-stripping, this allows conditioned air to escape and moisture and dirt to enter the building. The shops contain several overhead sectional doors. These are uninsulated, thin gage steel units with some glazed panels. These doors are in poor condition with impact damage, poor operation, and inefficient.

Interior doors are a combination of glazed hollow metal, hollow core wood, solid core wood and non-glazed hollow metal units. Most doors are in fair condition. There are very few doors that have accessible hardware, the others all have knob style hardware that is not compliant with accessibility codes.

Walls

Some interior walls are constructed of metal framing with lath and textured plaster. The plaster has been repainted. There is very little cracking or other damage and the walls are generally in good condition. Some of the walls are of painted CMU construction. These walls are in excellent condition with very little damage and no observed cracking.

The common area walls are finished with tile wainscot that is in good condition. Some grout is stained and dirty. Corridor 105 is a combination of plaster and a panel similar to a tackboard in the middle of the walls. These areas are frequently used to post things though the condition is still good.

Flooring

The flooring in the office areas is VCT with a few carpeted areas. Both of these flooring elements are in very poor condition with signs of wear and deterioration such as cracked tiles, wide gaps between tiles and lots of surface damage and wear.

The shops have raw concrete floors.

Ceilings & Lighting

Ceilings in the office areas are acoustic ceiling tiles (ACT) in a suspended grid system with a combination of suspended fluorescent light fixtures and flush mount fixtures. There are many stained and damaged ceiling tiles throughout the building. Many of the surface-mounted light fixtures show signs of damage and/or are not functioning. A couple of light fixture lenses have water damage from roof leaks.

Some of the office spaces in the shop areas have textured gypsum board ceiling with surface-mounted lights. Though the lighting seems to be adequate, the fixtures are probably close to the end of their service life.

Fire Protection and Detection

The building is equipped with a manual fire alarm system with pull stations located at the exits. There is no fire sprinkler system in this building.

HVAC

This building was constructed in 1986 approximately. Approximately two-thirds (2/3) of the building includes large storage and shop areas with roll up doors. The remaining one-third (1/3) of the building includes classrooms, offices, and restroom groups.

The large shop and storage spaces have approximately five (5) evaporative coolers and seven (7) gas fired unit heaters for temperature control. Relief hoods located on the roof relieve air from the spaces below when evaporative coolers are being utilized. Additionally, four (4) office spaces were added to the large storage bay areas after the original construction. These offices have a residential gas furnace unit with A-coil (cooling coil) and roof mounted condensing unit for temperature control.
The remaining classroom/office area has three (3) packaged gas/dx rooftop units for space control. The larger classroom has a dedicated unit, while the two smaller classrooms share a single rooftop unit. A small office area is conditioned by the remaining rooftop unit. The restroom groups have an exhaust fan, but no air conditioning.

The evaporative coolers appear to relatively new. The gas furnace with cooling coil appears to be in new condition. The original gas unit heaters, exhaust fans, and packaged rooftop units appear to be in good conditions.

Electrical

Secondary Power is 480Y/277V, 3Phase, 4Wire. Campus Primary distribution system serves this building. This Campus system is derived from an overhead pole located on the west side of this building. 208Y/120V power is derived from dry-type transformers in the existing electrical distribution system. Electrical equipment switchboards and/or panels manufacturer is EATON. The equipment was upgraded in the last 10 to 15 years and are in good condition. Existing equipment can be maintained by NMJC M&O personnel. The existing electrical equipment did have the required code clearances and most of the equipment was locked and in shop areas.

- → *Recommendation for the NMJC administration of this building would be to remove all janitorial and storage items from within clearance of panel. Because this clearance has electrical equipment, only trained personnel with proper protective gear should be in front of equipment. During survey it was difficult to reach equipment without moving items from the front of equipment.*
- → *Location was in shop areas so equipment was not clean. Recommend that NMJC clean equipment of dust and debris.*

Visual confirmation of proper and code compliant grounding was not achievable this required an electrician to open electrical to view inside. Use of Equipment ground conductors, proper conduit grounding, and overall grounding of distribution system will require verification during any redesign of this building. A ground bar was not present.

- → *Recommend a closer visual inspection internal to electrical equipment for a better verification of the existing grounding system.*

Receptacles in most of the older walls of in the building were mounted at 1'-2" which is not to latest ADA requirements. In newer areas of the building receptacles are at 1'-6". Most devices and cover plates are the age of the building and/or latest renovations; with minimal damage to either. GFCI devices were throughout the facility and will require verification for the latest codes. Receptacles mounted near mechanical equipment per code were not present on any roof mounted equipment.

- → *Recommend non-ADA compliant devices be made compliant where possible. This may require surface-mounting devices where mounted in existing CMU walls.*

Lamp types were approximately 85% Fluorescent and 15% LED type luminaires. T12 in utility spaces and T8 in the majority of the spaces. Luminaire types vary from 2X4, 1X4, Industrial strips, and other types. Some of the luminaires were determined to be from original building construction, with damage to lenses such as cracking, and yellowing of the lenses, as well as dust build up which minimize the lumen output of the luminaires.

- → *Recommend replacing all building lighting to 100% LED type luminaires and thereby provide additional energy savings. Lamp and luminaire types indicated in 4a above are used for Life Safety Illumination via internal batteries to luminaires and/or the use of bug-eyes in various areas. Life Safety Illumination in general seemed to not be adequate for it purpose in the building.*
- → *Recommend an upgrade of the entire life Safety Illumination in the building.*

Toggle-type switches were used throughout the building. No dimming switches were present. All switch control were line voltage connected. There are no low voltage type control devices. Switches in the building were mounted at between 48" and 54." In some instances device locations do not meet the latest ADA requirements in most of the older walls in the building. In newer areas of the building switches do meet ADA requirements. Most devices and cover plates are the age of the building and/or latest renovations; with minimal damage to either.

- → *Recommend upgrading lighting control to improve energy savings in each space and building.*

Disconnect switches on mechanical equipment appeared to be old but in good condition.

- → *Recommend replacement to the newer equipment.*

Plumbing

Plumbing fixtures and trim are in generally fine condition. Additional investigation by an Architect is needed in the older portions of the facility to determine that code-required fixture counts, water conservation goals, and ADA compliance are met within the current layouts.

No destructive investigation was undertaken to determine material types, condition, and sizing. Rather, this assessment relied upon observation and discussions with NMJC personnel to inform the effort. Similarly, the exterior piping was not included in this assessment. Limited portions of the system are visible for inspection. Floor drains and floor sinks are in serviceable condition. Maintenance personnel report that inadequate numbers of floor-, wall-, and exterior cleanouts exist to allow ready routine maintenance.

The architectural gutters and downspouts are in serviceable condition and functioning as intended. Maintenance personnel stated there are no known operational problems.

Exterior buried piping was not evaluated as a part of this work. The facility is plumbed with type L copper pipe/fittings. Insulation is generally intact, and lines are properly jacketed and labeled. Sufficient numbers of isolation valves are present to allow for routine maintenance.

The facility is served by a natural gas system that appears to be in serviceable condition. The maintenance personnel report no known operational deficiencies.

Exterior buried piping was not evaluated as a part of this work.

The domestic water heater is in serviceable condition and appear to be functioning as intended. The maintenance personnel and faculty did not report any operational inadequacies. A thermostatic mixing valve and expansion tank are needed.

Restrooms

The restrooms were remodeled in 2015. The remodel included new toilets and flush valves, countertops with integral sinks, accessories (i.e. toilet paper dispenser, soap dispenser, etc.), and partitions. The walls and floors received new tile throughout as well. Portions of the renovation are not compliant with the accessibility standards of the buildings code such as mounting heights of elements, lavatory drains are not wrapped with protective covers, toilet paper dispensers are possibly installed at the incorrect height.

There is no exhaust system for the restrooms.

Code & Accessibility

- → *Signage is inadequate*
- → *Exit signs do not function when the test button is pressed*
- → *Inadequate emergency lighting in corridors*
- → *Under sink protection not installed*
- → *Restrooms are not accessible*
- → *There are deadbolts on restrooms*
- → *Furniture in the corridor*

Main Capital Investment Areas:

- → *Replace ceilings, grids, light fixtures, and HVAC registers*
- → *Install new flooring throughout*
- → *Correct accessibility deficiencies in the restrooms to the extent possible*
- → *Clean the exterior brick work and clean and re-point the mortar*
- → *Install dual height drinking fountains*
- → *Upgrade fire alarm system*
- → *Install accessible door hardware*
- → *Install compliant signage*
- → *Install emergency lighting system*
- → *Install fire sprinkler system*
- → *Replace exterior hollow metal doors and hardware*
- → *Replace windows*
- → *Install downspouts at secondary roof drains*
- → *Replace exterior walk doors and sectional doors*

Maintenance Building Summary Table

FACILITY DEFICIENCIES	QTY/UNIT	COST/UNIT	DEFICIENCY CORRECTIONS ONLY COST	DEFICIENCY CORRECTIONS PROJECT COST
Repair (patch, remove debris, clean drains, replace ballast)	12328 SF	$1.75	$21,574.00	$28,765.33
Replace ceiling tiles and grid	4120 SF	$6.40	$26,368.00	$35,157.33
Replace other Flooring	3290 SF	$8.20	$26,978.00	$35,970.67
Replace VCT	830 SF	$4.13	$3,427.90	$4,570.53
Install accessible Restrooms	2 EA	$25,000.00	$50,000.00	$66,666.67
Clean and re-point brick	12328 SF	$9.40	$115,883.20	$154,510.93
Install exhaust fans in restrooms	2 EA	$785.00	$1,570.00	$2,093.33
Upgrade Fire alarm system	12328 SF	$8.20	$101,089.60	$134,786.13
Install accessible door hardware	40 EA	$350.00	$14,000.00	$18,666.67
Install compliant signage	12328 SF	$1.85	$22,806.80	$30,409.07
Install emergency lighting system, incl. exit signs	12328 SF	$3.45	$42,531.60	$56,708.80
Renovate plumbing system	12328 SF	$3.25	$40,066.00	$53,421.33
Install new drinking fountains	2 EA	$1,895.00	$3,790.00	$5,053.33
Paint (Incl. floors in shops)	12328 SF	$1.75	$21,574.00	$28,765.33
Repair roof deck at evap cooler penetrations	400 SF	$12.30	$4,920.00	$6,560.00
Install fire sprinkler system	12328 SF	$10.20	$125,745.60	$167,660.80
Replace windows	8 EA	$800.00	$6,400.00	$8,533.33
Install conductor heads and downspouts	8 EA	$720.00	$5,760.00	$7,680.00
Plumbing corrections/upgrades	12328 SF	$1.40	$17,259.20	$23,012.27
Electrical corrections/upgrades	12328 SF	$12.00	$147,936.00	$197,248.00
Total of Deficiency Corrections Only Cost:				**$799,679.90**
Total Deficiency Corrections Project Cost:				**$1,066,239.87**

This list of was developed using 2019 mid-year unit costs and is intended to identify the building deficiencies in an effort to represent the building's overall physical condition and establish the FCI for this particular facility.

TOTAL FACILITY RENOVATION PROJECT COST

This cost is based on 2019 mid-year renovation cost to completely renovate this facility and should be used to establish total project budgets.

Total Building Renovation Project Cost:	**$4,355,893.00**

BOB MORAN HALL | 1 THUNDERBIRD CIRCLE, HOBBS, NM



Bob Moran Hall is a single story educational and dormitory type building originally constructed in 1967 with an addition in 2011.

Staff Notes

None

Structure

The building structure consists of steel columns and beams with bar-joist and gypsum deck roof construction. The floor is a slab-on-grade concrete floor. No structural damage was observed.

Exterior Finishes

The exterior walls are constructed of double wythe masonry with concrete masonry units (CMU) interior and face brick on the exterior with a cavity between the two walls that is filled with granular fill insulation. The bricks are in good condition with very little damage. The mortar joints show indications of deterioration due to age and weathering. Entrances to the building have stucco soffits with recessed lighting. Windows are installed flush with the brick. The stucco finish is in good condition with no staining or damage. Painted ceramic tile are installed in the brick and the paint is peeling. The tops of the walls are finished with a multi-part fascia/gravel stop that is also in good condition.

Roof

The original roof is a ballasted built-up roof (BUR) system with white 1/4" – 1/2" stone ballast. The roof appears to be in good condition however, multiple locations at the parapets and penetrations appear to have been caulked to remedy leaks. Drainage slopes to roof drains. The drainage is dual sump roof drain system with few drains. The primary drain exits the building above the adjacent grade onto concrete walks or into landscape areas. Secondary drains exit the building just below the roof into a conductor

head/downspout and drain into landscape areas or concrete walks. All the drains have splash blocks or other means to channel the water away from the foundation/tunnel system.

The additions have parapets that are finished on the back with BUR flashing. The joints at the flashing are showing signs of deterioration. There are abandoned piping and conduit at several locations. The ducts penetrating the roof do not have curbs or adequate flashing. There is significant leaking in these areas. The parapet coping is screwed into the back of the parapet, and in some instances the top, without sealant. The corners and intersections of the parapets use sealant that is deteriorated in some places.

Doors & Windows

The windows are 2-pane glazing units in steel frames. These windows appear to be in good condition. Window blinds are in poor shape and need to be replaced.

The exterior entry doors are sliding aluminum storefront. They appear to be in good condition and need adjustment and weather-stripping.

Interior doors in the dormitory are wood units in hollow metal frames and have a combination type lever lock hardware. Some doors and hardware in upgraded areas are newer with window lites, aluminum frames and lever type locksets.

The other areas of the older building have upgraded wood doors with pull handle type hardware. Walls Interior walls are comprised of metal framing and textured gyp walls with ceramic tile in the corridor. There is very little cracking or other damage and the walls are in good condition. Restrooms have ceramic tile walls with some damage from door hardware.

Flooring

Corridors are terrazzo. The corridor in the dorm area is VCT and needs to be replaced. Conference rooms and classrooms have carpet that is in poor shape and needs to be replaced. VCT in break rooms and classrooms need to be replaced.

Ceilings & Lighting

Ceilings are acoustic ceiling tiles (ACT) in a suspended grid system with lay-in light fixtures in the corridors. Evidence of roof leaks are on ceiling tile throughout the building. The suspended grids have no damage and are in good condition.

Fire Protection and Detection

The building is sprinkled

HVAC

The building HVAC system is primarily a variable air volume (VAV) system. A single VAV packaged air handling unit located at the south side of the building includes and economizer with filters, return/relief fan, hot water coil, chilled water, and supply fan section. The unit circulates air through a medium pressure duct system to VAV boxes with hot water reheat coils. There are several fan coil units located at entry vestibules. Direct buried chilled water and hot water piping extends from the central plant to the building. Booster pumps are included at the chilled water and hot water piping mains entering the building. Small exhaust fans are installed at restrooms, electrical, and mechanical spaces within the building. The music portion of the building was renovated in 2016 approximately. The music renovation included approximately half of the building. This renovation included new supply duct, VAV boxes, hot water piping, grilles and diffusers. The remaining half of the building is now a police academy with classrooms, and dormitory rooms. This police academy area is believed to have occurred in the 2015 time period. The extent of HVAC renovation at this area is unknown. Overall the building and HVAC systems to be in goodcondition.

Electrical

Secondary Power is 480Y/277V, 3Phase, 4Wire. Campus Primary distribution system serves this building. 208Y/120V power is derived from dry-type transformers in the existing electrical distribution system. Electrical Equipment switchboard was a GE fused switchboard and appeared to be from the original building construction. Other panels manufacturer is EATON and this equipment was upgraded in the last 10 to 15 years and are in good condition. Existing equipment can be maintained by NMJC M&O personnel. The existing electrical equipment did have the required code clearances and most of the equipment was in locked rooms; either in an electrical room or mechanical room.

→ *Recommendation for the NMJC administration of this building would be to remove all janitorial and storage items from with-in room and leave as an electrical/technology room. Because this room has electrical equipment, only trained personnel with proper protective gear should enter this room. During survey it was difficult to reach equipment without moving items from the front of equipment.*

Visual confirmation of proper and code compliant grounding was not achievable this required an electrician to open electrical to view inside. Use of Equipment ground conductors, proper conduit grounding, and overall grounding of distribution system will require verification during any redesign of this building. A ground bar was not present.

→ *Recommend a closer visual inspection internal to electrical equipment for a better verification of the existing grounding system.*

Receptacles in most of the older walls in the building appeared to be mounted to ADA requirements. In renovation and newer areas of the building receptacles are at 1’-6”. Most devices and cover plates are the age of the building and/or latest renovations with minimal damage to either. GFCI devices were

throughout the facility and will require verification for the latest codes. Receptacles mounted near mechanical equipment per code were not present on any roof mounted equipment.

→ *Recommend non-ADA compliant devices, where found, be made compliant where possible. This may require surface-mounting devices where mounted in existing CMU walls.*

Lamp types were fluorescent. T12 in utility spaces and T8 in the majority of the spaces. Luminaire types vary from 2X4, 1X4, Strips, and other types. Most of the luminaires were determined to be from latest renovations and/or additions, with minimal damage to lenses.

→ *Recommend replacing all building lighting to 100% LED type luminaires and thereby provide additional energy savings.*

Lamp and luminaire types indicated in 4a above are used for Life Safety Illumination via a very old battery inverter. Life Safety Illumination in general seemed to not be adequate for it purpose in the building.

→ *Recommend an upgrade of the entire life Safety Illumination in the building.*

Toggle-type switches were used throughout the building. No dimming switches were present. All switch control were line voltage connected. There are no low voltage type control devices. Switches in the building were mounted at between 48" and 54." In renovation and newer areas of the building switches do meet ADA requirements. Most devices and cover plates are the age of the building and/or latest renovations; with minimal damage to either.

→ *Recommend upgrading lighting control to improve energy savings in each space and building.*

Disconnect switches on mechanical equipment appeared to be in good condition, but old.

→ *Recommend replacement to the newer equipment.*

Plumbing

Plumbing fixtures and trim are in generally fine condition. Additional investigation by an Architect is needed in the older portions of the facility to determine that code-required fixture counts, water conservation goals, and ADA compliance are met within the current layouts.

No destructive investigation was undertaken to determine material types, condition, and sizing. Rather, this assessment relied upon observation and discussions with NMJC personnel to inform the effort. Similarly, the exterior piping was not included in this assessment. Limited portions of the system are visible for inspection. Floor drains and floor sinks are in serviceable condition. Maintenance personnel

report that adequate numbers of floor-, wall-, and exterior cleanouts exist to allow ready routine maintenance.

The architectural gutters and downspouts are in serviceable condition and functioning as intended. Maintenance personnel stated there are no known operational problems.

Exterior buried piping was not evaluated as a part of this work. The facility is plumbed with type L copper pipe/fittings. Insulation is generally intact, and lines are properly jacketed and labeled. Sufficient numbers of isolation valves are present to allow for routine maintenance. Exterior wall hydrants are in a serviceable condition. The facility is served by a natural gas system that appears to be in serviceable condition. The maintenance personnel report no known operational deficiencies. Exterior buried piping was not evaluated as a part of this work.

The domestic water heaters are in serviceable condition and appear to be functioning as intended as is the case with the hot water storage tanks. The maintenance personnel and faculty did not report any operational inadequacies.

Exterior buried piping was not evaluated as a part of this work. The facility is protected by a wet pipe fire sprinkler system equipped with the appropriate code-required accoutrements. All portions of system appear to be fully functional and in compliance with the appropriate codes and standards. The inspection logs indicate currency with all required testing and inspection intervals.

Code & Accessibility

Main Capital Investment Areas:

Bob Moran Hall Summary Table

FACILITY NEEDS	QTY/UNIT	COST/UNIT	DEFICIENCY CORRECTIONS ONLY COST	DEFICIENCY CORRECTIONS PROJECT COST
Paint tile on exterior of building	300 SF	$6.00	$1,800.00	$2,400.00
Replace ceiling tiles in facility due to leaks	21901 SF	$1.44	$31,537.44	$42,049.92
replace lighting	220 EA	$150.00	$33,000.00	$44,000.00
Replace vct	10000 SF	$2.00	$20,000.00	$26,666.67
Replace carpet in lecture hall	1837 SF	$3.50	$6,429.50	$8,572.67
Replace blinds	20 EA	$150.00	$3,000.00	$4,000.00
Landscape for drainage away from building	1 EA	$30,000.00	$30,000.00	$40,000.00
Replace windows	8 EA	$800.00	$6,400.00	$8,533.33
Replace access hatch	1 EA	$3,500.00	$3,500.00	$4,666.67

Replace roof	31043 SF	$5.55	$172,288.65	$229,718.20
Mechanical corrections/upgrades	31043 SF	$4.03	$125,103.29	$166,804.39
Electrical corrections/upgrades	31043 SF	$12.00	$372,516.00	$496,688.00
Total of Deficiency Corrections Only Cost:				**$805,574.88**
Total Deficiency Corrections Project Cost:				**$1,074,099.84**

This list of was developed using 2019 mid-year unit costs and is intended to identify the building deficiencies in an effort to represent the building's overall physical condition and establish the FCI for this particular facility.

TOTAL FACILITY RENOVATION PROJECT COST

This cost is based on 2019 mid-year renovation cost to completely renovate this facility and should be used to establish total project budgets.

Total Building Renovation Project Cost:	**$10,968,527.00**

LARRY HANNA TRAINING & OUTREACH CENTER | 1 THUNDERBIRD CIRCLE, HOBBS, NM



Larry Hanna Training & Outreach Center is a single-story educational and administration type building originally constructed in 2007.

Staff Notes

None

Structure

The building structure consists of steel columns and beams with bar-joist and gypsum deck roof construction. The floor is a slab-on-grade concrete floor. No structural damage was observed.

Exterior Finishes

The exterior walls are constructed of double wythe masonry with concrete masonry units (CMU) interior and face brick on the exterior with a cavity between the two walls that is filled with granular fill insulation. The bricks are in excellent condition. Parts of the building are steel frame construction with metal panels. The main entrance to the building is storefront. Windows in stucco are flush with the stucco while windows in brick are inset. Exposed steel structure is in need of paint.

Roof

The roof was not observed

Doors & Window

The windows are 2-pane glazing units in aluminum frames. These windows appear to be in good condition.

The main exterior entry doors double aluminum mounted to storefront with ADA actuator. They appear to be in good condition.

Ceilings & Lighting

Ceilings are acoustic ceiling tiles (ACT) in a suspended grid system with lay in lighting and are in great shape.

Fire Protection and Detection

The building is sprinkled.

HVAC

This building was constructed in the 2007 approximately. This building is not connected to the central plant for cooling or heating capacity. The HVAC equipment for this building includes three packaged rooftop units with gas heating and DX cooling.
The largest and main rooftop unit is a variable air volume (VAV) unit with economizer, filters, return/relief fan, DX coil and associated refrigeration components, VAV supply fan and gas furnace section. This unit delivers supply air to a network of supply ductwork connected to VAV boxes with hot water reheat coils. This unit conditions most of the building except for a computer lab and a high bay training room.

A mechanical room within the building contains to high efficiency gas fired boilers to generate hot water. Primary pumps and building hot water circulating pumps are also located in the boiler room. The boilers and pumps circulate hot water to the VAV boxes, and unit heaters located in the building.

The remaining two packaged rooftop units serve the computer lab and high bay training space. The unit serving the computer lab delivers variable air volume supply air to underfloor terminal units with hot water reheat coils. The rooftop unit serving the high bay training room is a constant volume unit delivering supply air to ductwork within the room.

Roof mounted exhaust fans are provided for restroom groups. Two small cooling only ductless split systems serve two data rooms within the building. A small wall mounted indoor unit is located within each data room with refrigeration piping extending up to a condensing unit located on the roof for each unit.
This building and equipment appear to be in good condition.

Electrical

Secondary Power is 480Y/277V, 3Phase, 4Wire. Appeared that Xcel Energy provided the Primary distribution system that serves this building. This building was outside the Campus Primary Distribution System. 208Y/120V power is derived from dry-type transformers in the existing electrical distribution system. Electrical equipment switchboards and/or panels manufacturer is Square D. The equipment was part of the building construction in the last 10 to 15 years and are in good condition. Existing equipment is able to be maintained by NMJC M&O personnel. The existing electrical equipment did have the required code clearances and most of the equipment was in locked rooms; either in an electrical room or mechanical room.

→ *Recommendation for the NMJC administration of this building would be to remove all janitorial and storage items from within room and leave as an electrical/technology room. Because this room has electrical equipment only trained personnel with proper protective gear should enter this room. During survey it was difficult to reach equipment without moving items from the front of equipment.*

Visual confirmation of proper and code compliant grounding was not achievable this required an electrician to open electrical to view inside. Use of equipment ground conductors, proper conduit grounding, and overall grounding of distribution system will require verification during any redesign of this building. A ground bar was present. The grounding overall is assumed to be in code compliance since the building was constructed recently.

→ *Recommend a closer visual inspection internal to electrical equipment for a better verification of the existing grounding system.*

Receptacles in the building were mounted to latest ADA requirements at 1'-6". Most devices and cover plates are the age of the building and/or latest renovations; with minimal damage to either. GFCI devices were throughout the facility and will require verification for the latest codes. Receptacles mounted near mechanical equipment per code were not present on any roof mounted equipment.

→ *Recommend non-ADA compliant devices if found, to be made compliant where possible. This may require surface-mounting devices where mounted in existing CMU walls.*

Lamp types were fluorescent. T8 in the majority of the spaces. Luminaire types vary from 2X4, 1X4, Strips, and other types. Some of the luminaires were determined to be from original building construction with minimal damage found. Cleaning of existing lenses from debris and dust build should be conducted.

→ *Recommend replacing all building lighting to 100% LED type luminaires and thereby provide additional energy savings.*

Lamp and luminaire types indicated in 4a above are used for Life Safety Illumination via internal batteries to the luminaires and some bug-eyes. Life Safety Illumination in general seemed adequate for it purpose in the building.

→ *Recommend a closer review and an upgrade of the entire life Safety Illumination in the building if needed.*

Toggle-type switches were used throughout the building. No dimming switches were present. All switch control is line voltage connected. There are no low voltage type control devices. Switches in the building were mounted at between 48" and 54." Most devices and cover plates are the age of the building with minimal damage to either.

→ *Recommend upgrading lighting control to improve energy savings in each space and building.*

Disconnect switches on mechanical equipment appeared to be in good condition.

Plumbing

Plumbing fixtures and trim are in generally fine condition. Additional investigation by an Architect is needed in the older portions of the facility to determine that code-required fixture counts, water conservation goals, and ADA compliance are met within the current layouts.

No destructive investigation was undertaken to determine material types, condition, and sizing. Rather, this assessment relied upon observation and discussions with NMJC personnel to inform the effort. Similarly, the exterior piping was not included in this assessment. Limited portions of the system are visible for inspection. Floor drains and floor sinks are in serviceable condition. Maintenance personnel report that adequate numbers of floor-, wall-, and exterior cleanouts exist to allow ready routine maintenance.

The hard-piped roof and overflow drainage system is in serviceable condition and functioning as intended. Maintenance personnel stated there are no known operational problems.

Exterior buried piping was not evaluated as a part of this work. The facility is plumbed with type L copper pipe/fittings. Insulation is generally intact, and lines are properly jacketed and labeled. Sufficient numbers of isolation valves are present to allow for routine maintenance. Exterior wall hydrants are in a serviceable condition.

The facility is served by a natural gas system that appears to be in serviceable condition. The maintenance personnel report no known operational deficiencies. Exterior buried piping was not evaluated as a part of this work.

The domestic water heater is in a serviceable condition and appears to be functioning as intended, as is the case with the hot water storage tanks. The maintenance personnel and faculty did not report any operational inadequacies.

Exterior buried piping was not evaluated as a part of this work. The facility is protected by a wet pipe fire sprinkler system equipped with the appropriate code-required accoutrements. All portions of system appear to be fully functional and in compliance with the appropriate codes and standards. The inspection logs indicate currency with all required testing and inspection intervals.

Code & Accessibility

Main Capital Investment Areas

Larry Hanna Training & Outreach Center Summary Table

FACILITY DEFICIENCIES	QTY/UNIT	COST/UNIT	DEFICIENCY CORRECTIONS ONLY COST	DEFICIENCY CORRECTIONS PROJECT COST
Paint all exterior structural steel	300 SF	$6.00	$1,800.00	$2,400.00
Replace cracked and chipped concrete	100 SF	$9.00	$900.00	$1,200.00
Electrical corrections/upgrades	15,207 SF	$12.00	$182,484.00	$243,312.00
Total of Deficiency Corrections Only Cost:				**$185,184.00**
Total Deficiency Corrections Project Cost:				**$246,912.00**

This list of was developed using 2019 mid-year unit costs and is intended to identify the building deficiencies in an effort to represent the building's overall physical condition and establish the FCI for this particular facility.

TOTAL FACILITY RENOVATION PROJECT COST

This cost is based on 2019 mid-year renovation cost to completely renovate this facility and should be used to establish total project budgets.

Total Building Renovation Project Cost:	**$5,373,140.00**

SERVICE TUNNELS | 1 THUNDERBIRD CIRCLE, HOBBS, NM



The tunnel system below the campus was started in 1966 with the construction of McLean Hall and the original Central Plant. It provides for distribution of the campus's heating and cooling boiler/chiller system pipes to the various buildings. It also serves to distribute electrical and communications systems throughout the campus.

Staff Notes

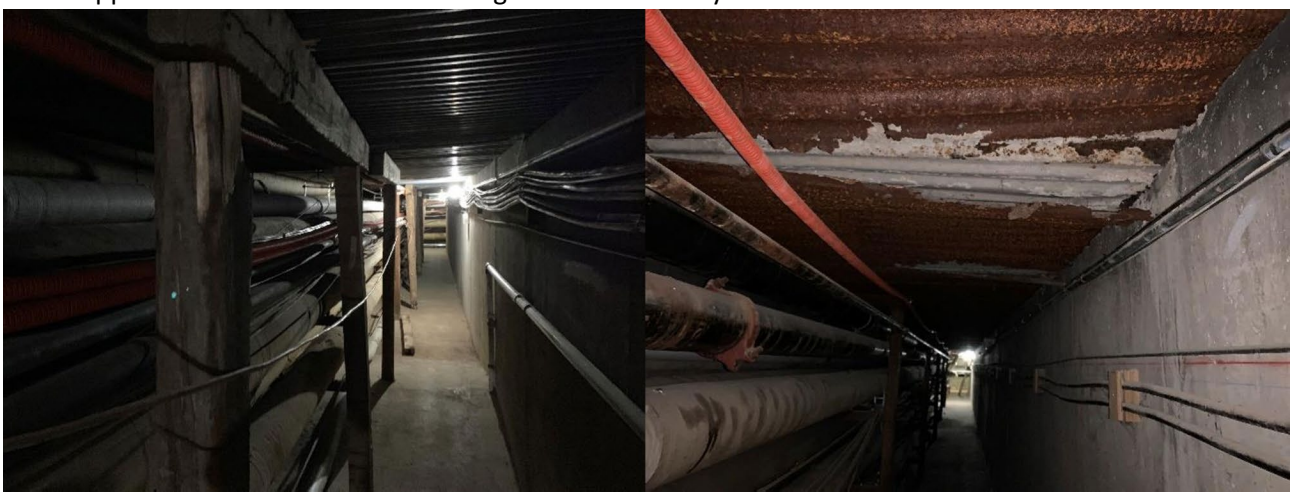
- → *Ceiling is falling*
- → *Standing water in spots*

Structure

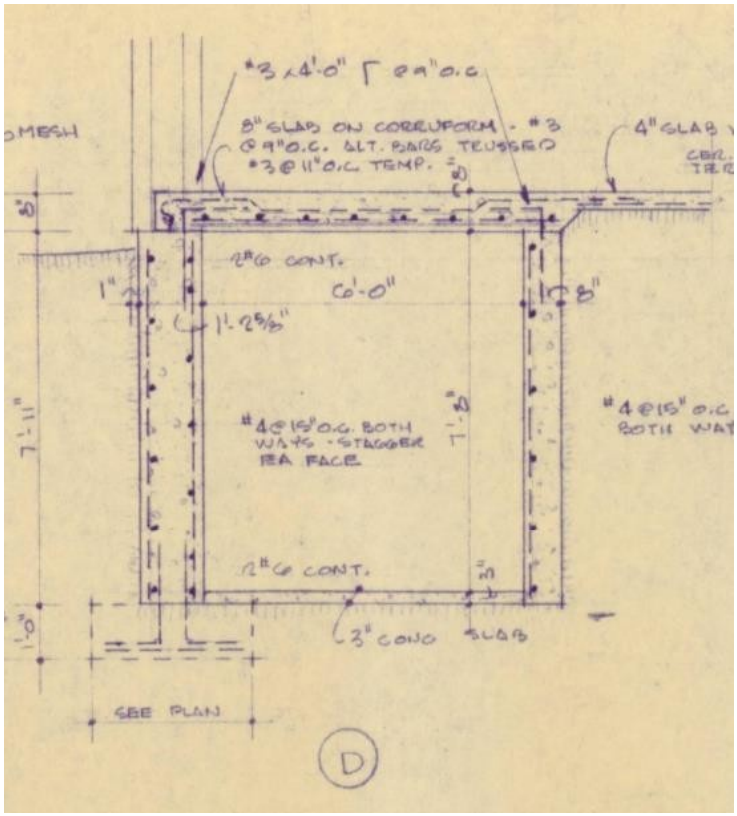
Where the tunnel is located under a building, one of the exterior walls is the foundation of the wall above. Where the tunnels cross open space, the ceiling is the walking surface above.

The tunnels are constructed of reinforced concrete walls and floor. The ceiling is constructed of reinforced concrete that is cast on a metal form material called Corruform. This form material has a lot of rusting and general deterioration. It is falling in many areas due to corrosion eating the material and has

been supported in various manners throughout the tunnel system.



The only section in which we were able to evaluate the tunnel lids is from the 1966 Caster Hall drawings, section D on sheet 35, which is an interior condition (see image below). From a quick analysis, the reinforced concrete lid shown in that section has the capacity to serve as a walking surface. Therefore, based upon this section, the Corruform was more than likely used as leave in place form work to cast the lid and can be removed if the concrete/reinforcement from the lid and walls are found free of deterioration.



It is assumed that the tunnels under open space are built similar to section D on sheet 35 in the 1966 Caster Hall set, i.e., span/reinforcement/thickness, etc. and the concrete lid and walls are found to be free of deterioration, the Corruform can be removed there as well. Given that the lid of the exterior tunnels is acting not only as a walking surface, but as a weather barrier to prevent moisture from entering the tunnels; a structural concern is the reinforcement/concrete may be deteriorated to the point that repair of the tunnel lid/walls might be required. Any repair to the tunnels should include a topical sealer to prevent any further deterioration or moisture intrusion into the tunnels.

Main Capital Investment Areas

- → *Remove Corruform ceiling concrete forms*
- → *Repair damaged areas and associated site.*
- → *Repair/Cleanup electrical throughout the tunnels*

Service Tunnels Summary Table

FACILITY DEFFICIENCIES	QTY/UNIT	COST/UNIT	DEFICIENCY CORRECTIONS ONLY COST	DEFICIENCY CORRECTIONS PROJECT COST
Remove Corruform @ ceilings	2178 LF	$3.45	$7,514.10	$10,018.80
Repair damaged ceilings	2400 SF	$12.00	$28,800.00	$38,400.00
Repair/cleanup electrical	13068 SF	$3.15	$41,164.20	$54,885.60
Total of Deficiency Corrections Only Cost:				**$77,478.30**
Total Deficiency Corrections Project Cost:				**$103,304.40**

This list was developed using 2019 mid-year unit costs and is intended to identify the building deficiencies in an effort to represent the building's overall physical condition and establish the FCI for this particular facility.

APPENDIX A - MECHANICAL, ELECTRICAL, AND PLUMBING SYSTEMS - CAMPUS BUILDING ASSESSMENTS

Prepared for Dekker/Perich/Sabatini
Prepared by Bridgers and Paxton

EXECUTIVE SUMMARY

A campus verification of the existing condition of the existing Mechanical, Electrical, and Plumbing Systems of various existing buildings was conducted. The verification was to find out if each building had adequate systems equipment, age of systems equipment, condition of systems equipment, function of each systems equipment, and verify that all systems are meeting applicable codes of today. This report includes verification on 18 buildings of the 39 buildings on campus.

This report would provide information to help NMJC leaders on how to approach upgrading the existing buildings reviewed for use over the next 25 to 30 years.

It is the intent of this Assessment Report to provide a basic understanding of each buildings existing systems and recommendations for upgrades that will inform decisions for building renovations by NMJC.

MECHANICAL, ELECTRICAL, AND PLUMBING PER BUILDING

Below you will find a list of each building surveyed and the existing conditions, concerns and recommendations.

WATSON HALL (WH) BUILDING #2

Existing Building is a single story building with Classrooms for Music and Cosmetology, Offices, Storage, Restrooms, Utility Spaces, and a Theater. The building approximately - 14,526Sq.ft.

MECHANICAL

A single air handling unit located inside a mechanical room at the west side of the building. The air handling unit consists of an outside air inlet section, filter section, supply fan section, return air section, hot deck section with steam coil, and cold deck section with chilled water coil. A return/relief fan located in the return path is indicated on the existing controls drawings but not observed. There is a dampered relief opening in return duct near the connection to AHU. The relief damper modulates and relieves air into the mechanical room. How the relief from the mechanical room occurs was not determined. There is a utility set exhaust fan located inside the room with an open intake to the mechanical room. The discharge of the exhaust fan appears to be connected to the floor and is believed to extend into the utility tunnel below the building. This exhaust fan was not operating at the time of the site visit. Two variable frequency drives (VFD's) are located in the mechanical room but not labelled. It is believed that the VFD's are for the supply and return/relief fans. The air handler unit, DDC Controls, and VFD's appear to be relatively new.

The hot deck/cold deck duct distribution from the air handler unit is believed to be from the original building construction. Original construction drawings indicate this building was built in the mid to late 1960's.

There is indication of some renovation work since the original building construction with new duct work in some areas of the building. In general, the air distribution from the main air handling unit is connected to dual duct vav type boxes which provide heating and cooling control at a zone level. Air from the dual duct boxes mixes hot and cold airstreams proportionally as needed to provide discharge air temperature that corresponds to the zone level requirement of temperature control. There are room thermostats associated with each dual duct box. Ductwork extends downstream from the dual duct boxes to grilles and diffusers within the zones. There appears to be approximately seventeen (17) dual duct vav boxes within this building. The main music auditorium includes underground ductwork extending from two (2) dual duct boxes. The underground ductwork wraps around the perimeter of the auditorium with branch ducts extending up from below grade to sidewall grilles distributed around the perimeter walls of the auditorium. The underground ductwork appears to be cast in concrete.

While the air handler unit, vfd's and unit DDC controls appear to be new, the dual duct distribution and dual duct mixing boxes are believed to be original and may be considered as a good location for further investigation to determine the condition and possible replacement. Additionally, the dual duct system with hot deck / cold deck sections providing simultaneous heating and cooling is generally not considered an energy efficient system.

PLUMBING

Plumbing Fixtures
Plumbing fixtures and trim vary in their age and condition. Most are in serviceable condition, but do not comply with current water consumption standards. ADA compliance was not assessed in every instance and many out-of-compliance installations are present. Emergency eye wash provisions do not meet the current ANSI-Z358.1 standard. Hair washing basins are in serviceable condition and compliant with cross-connection ordinance. The method by which hair interception is achieved is undetermined. Additional investigation by an Architect is needed to determine that code required fixture counts and ADA compliance are met within the current layouts.

Sanitary Sewer Piping
No destructive investigation was undertaken to determine material types, condition, and sizing. Rather, this assessment relied upon observation and discussions with NMJC personnel to inform the effort. Similarly, the exterior piping was not included in this assessment. The portions of the no-hub cast iron waste and vent piping that are visible appear to be in fair condition although pipe and fittings are misaligned. Joints on the drainage system are fitted with two band rather than four band couplings. Condensate drains are of copper construction; insulation is present on many lines and needed on others. Maintenance personnel report that inadequate numbers of floor-, wall-, and exterior cleanouts exist to allow ready routine maintenance.

Roof Drain Piping
The assessment team did not visit the roof, but the maintenance personnel stated the roof drains are in fair condition. The architectural roof drain collectors and downspouts appear to be in serviceable condition. The visible portion of the roof drain where the line terminates low on the exterior wall termination reveals inadequate weather-proofing and proper downspout nozzles.

Domestic Water Piping
The exterior buried piping was not assessed as a part of this work.

The facility is plumbed with a mix of galvanized and type L copper pipe/fittings with the copper materials being used on all renovations and repairs. Dielectric fittings separate dissimilar metals. Insulation is infrequent as are isolation valves. Pipe labeling is inadequate as well.

Exterior wall hydrants are in various conditions; some appear to be fully functional while others show failure and conversion into a wall hydrant/hose bib. This latter conversion violates code requirements related to cross connection control.

Natural Gas Piping
The buried portion of the system was not evaluated under this assessment. The exposed portion of the system (at the exterior of the building and within the mechanical room) is of screwed black steel

pipe/fittings and appears sound. No evidence of failure was detected within the system. No operational deficiencies were reported. Valves were not function tested.

Equipment
The domestic water heater is of recent vintage and appears to be functioning as intended. The Maintenance personnel and faculty did not report any operational inadequacies. The recirculation pump appears to be functioning as intended. However, the piping arrangement lacks certain required elements (expansion tank, automated control to take advantage of unoccupied hours of the building, balancing valve, etc.).

Fire Protection
This facility is not protected by a fire sprinkler system.

ELECTRICAL

Electrical Distribution
Secondary Power is 480Y/277V, 3Phase, 4Wire. Campus Primary distribution system serves this building. 208Y/120V power is derived from dry-type transformers in the existing electrical distribution system.

Electrical Equipment Switchboards and/or Panels manufacturer is EATON. The equipment was upgraded in the last 10 to 15 years and are in good condition. Existing equipment is able to be maintained by NMJC M&O personnel. The existing electrical equipment did have the required code clearances and most of the equipment was in locked rooms; either in an electrical room or mechanical room.

→ *Recommendation for the NMJC administration of this building would be to remove all janitorial and storage items from with-in room and leave as an electrical/Technology room. Because this room has electrical equipment only trained personnel with proper protective gear should enter this room. During survey it was difficult to get to equipment without moving items from the front of equipment.*

Grounding
Visual Confirmation of Proper and Code compliant grounding was not achievable this required an electrician to open electrical to view inside. Use of Equipment ground conductors, proper conduit grounding, and overall Grounding of distribution system will require verification during any redesign of this building. A Ground Bar was not present.

→ *Recommend a closer visual inspection internal to electrical equipment for a better verification of the existing grounding system.*

General Purpose Power
Receptacles in the building were mounted at 1'-2" which is not to latest ADA requirements in most of the older walls in the building. In renovation and newer areas of the building receptacles are at 1'-6". Most devices and cover plates are the age of the building and or latest renovations; with minimal damage to either. GFCI devices were located throughout the facility where required and will require verification for the latest codes. For the most part mechanical equipment was in the mechanical room and not on the roof. Receptacles mounted near mechanical equipment on roof not applicable in this building.

→ *Recommend relocating non ADA compliant devices be made compliant where possible. This may require surface mounting devices where mounted in existing CMU walls.*

Lighting
Lamp types were approximately 75% Fluorescent and 25% LED type luminaires. T12 in utility spaces and T8 in the majority of the spaces. Luminaire types vary from 2X4, 1X4, Strips, and other types. Some of the luminaires were aged to be from original building construction, with damage to lenses such as cracking, andyellowing of the lens as well as dust build up which minimize the lumen output of the luminaires.

→ *Recommend replacing all building lighting to 100% LED type luminaires and thereby provide additional energy savings.*

Life Safety Illumination
Lamp and luminaire types indicated in 4a above are used for Life Safety Illumination via a very old battery inverter. Life Safety Illumination in general seemed to not be adequate for its purpose in the building.

→ *Recommend an upgrade of the entire life Safety Illumination in the building.*

Lighting Control
Switch types throughout building were toggle type switches. No dimming switches were present. All switch control were line voltage connected. There are no low voltage type control devices. Switches in the building were mounted at between 48" and 54." In some instances device locations do not meet the latest ADA requirements in most of the older walls in the building. In renovation and newer areas of the building switches do meet ADA requirements. Most devices and cover plates are the age of the building and or latest renovations; with minimal damage to either.

→ *Recommend upgrading lighting control to improve energy savings in each space and building.*

Electrical Disconnect Switches and other control equipment.
Disconnects Switches at mechanical equipment appeared to be in good condition, but old and weathered on roof top mechanical equipment. Internal to building the electrical equipment was also old.

→ *Recommend replacement to the newer equipment.*

Opinion of Probable cost to upgrade this buildings various systems indicated above: a. 14,526Sq.ft. X $12/Sq.ft. = $174,312.00.

This cost does not include unforeseen conditions that may exist in concealed walls and ceilings.

This cost does not include any service upgrades that may be required should NMJC increase square footage and/or load requirements in this building.

MANSUR HALL (MH) BUILDING #3

Existing Building is a single story building with Standard Classrooms, Computer Classrooms, Offices, Storage, Utility Spaces, and Restrooms. The building is approximately 15,499Sq.ft.

MECHANICAL

The building is conditioned by a single air handling unit located inside a mechanical room at the southwest corner of the building. The air handling unit consists of an outside air inlet section, filter section, supply fan section, return air section, hot deck section with steam coil, and cold deck section with chilled water coil. A return/relief fan located in the return path is indicated on the existing controls drawings but not observed. How relief exists the building was not determined. Two variable frequency drives (VFD's) are located in the mechanical room but not labelled. It is believed that the VFD's are for the supply and return/relief fans. The air handler unit, DDC Controls, and VFD's appears to be relatively new.

The hot deck/cold deck duct distribution from the air handler unit is believed to be from the original building construction. Original construction drawings indicate this building was built in the mid to late 1960's.

In general, the air distribution from the main air handling unit is connected to dual duct mixing boxes which provide heating and cooling control based on a zone/room sensor. Air from the dual duct boxes mixes hot and cold airstreams proportionally as needed to provide discharge air temperature that corresponds to the zone requirements for heating or cooling. There are room thermostats associated with each dual duct box. Pneumatic and DDC type wall thermostats where noted during the walk through of the building. Ductwork extends downstream from the dual duct boxes to grilles and diffusers within the zones. There appears to be approximately twenty six (26) dual duct mixing boxes within this building. During this walk through, it was noted that entry door locations at opposing sides of the building promoted very drafty conditions within the central hall when the doors open and close. It is hard to determine if this was due to windy conditions outside the building, or somehow related to pressure control of the HVAC unit, relief fan, and/or exhaust fans associated with the building.

While the air handler unit, vfd's and unit DDC controls appear to be new, the dual duct distribution and dual duct vav boxes are believed to be original and may be considered as a good location for further investigation to determine the condition and possible replacement. Additionally, the dual duct system with hot deck / cold deck sections providing simultaneous heating and cooling is generally not considered an energy efficient system. Hot and cold air streams are mixed to a neutral temperature when no heating or cooling is required. The airflow to such zones is reduced, however a minimum level of airflow is required for outside air ventilation to the zones regardless of heating and cooling. This is a less efficient system due to the mixing of a hot & cold air supplies for the purpose of ventilation.

PLUMBING

Plumbing Fixtures
Plumbing fixtures and trim are in very good condition. Most appear to comply with current water consumption standards and ADA compliance where appropriate. Additional investigation by an Architect is needed to determine that code required fixture counts and ADA compliance are met within the current layouts.

A vacuum breaker associated with the Janitor's Closets has leaked causing damage to the wall surface.

Sanitary Sewer Piping
No destructive investigation was undertaken to determine material types, condition, and sizing. Rather, this assessment relied upon observation and discussions with NMJC personnel to inform the effort. Similarly, the exterior piping was not included in this assessment. No portions of the system are visible for inspection. Floor drains and a modest amount of exposed vent piping in the mechanical room are in serviceable condition. Maintenance personnel report that inadequate numbers of floor-, wall-, and exterior cleanouts exist to allow ready routine maintenance.

Roof Drain Piping
The assessment team did not visit the roof, but the maintenance personnel stated the roof drains are in fair condition. The architectural roof drain collectors and downspouts appear to be in serviceable condition. The visible portion of the roof drain where the line terminates low on the exterior wall termination reveals inadequate weather-proofing and proper downspout nozzles.

Domestic Water Piping
The exterior buried piping was not assessed as a part of this work.

The facility is plumbed with a type L copper pipe/fittings with the copper materials. Insulation is present, properly jacketed, and labeled. Sufficient numbers of isolation valves are present to allow for routine maintenance.

Exterior wall hydrants are in various conditions; some appear to be fully functional while others show failure and conversion into a wall hydrant/hose bib. This latter conversion violates code requirements related to cross connection control.

Natural Gas Piping
The facility is not served by a natural gas system.

Equipment
The domestic water heater is of recent vintage and appears to be functioning as intended. The Maintenance personnel and faculty did not report any operational inadequacies.

Fire Protection
The exterior supply system was not evaluated as a part of this work.

The facility is protected by a wet pipe fire sprinkler system equipped with the appropriate code-required accoutrements. All portions of system appear to be fully functional and in compliance with the appropriate codes and standards. The inspection logs indicate currency with all required testing and inspection intervals.

No evidence of cross connection prevention could be found.

ELECTRICAL

Electrical Distribution.
Secondary Power is 480Y/277V, 3Phase, 4Wire. Campus Primary distribution system serves this building. 208Y/120V power is derived from dry-type transformers in the existing electrical distribution system.

Electrical Equipment Switchboards and/or Panels manufacturer is EATON. The equipment was upgraded in the last 10 to 15 years and are in good condition. Existing equipment is able to be maintained by NMJC M&O personnel. The existing electrical equipment did have the required code clearances and most of the equipment was in locked rooms; either in an electrical room or mechanical room.

→ *Recommendation for the NMJC administration of this building would be to remove all janitorial and storage items from with-in room and leave as an electrical/Technology room. Because this room has electrical equipment only trained personnel with proper protective gear should enter this room. During survey it was difficult to get to equipment without moving items from the front of equipment.*

Grounding
Visual Confirmation of Proper and Code compliant grounding was not achievable. This requires an electrician to open electrical equipment covers to view inside. Use of Equipment ground conductors, proper conduit grounding, and overall Grounding of distribution system will require verification during any redesign of this building. A Ground Bar was not present.

→ *Recommend a closer visual inspection internal to electrical equipment for a better verification of the existing grounding system.*

General Purpose Power
Receptacles in the building were mounted at 1'-2" which is not to latest ADA requirements in most of the older walls in the building. In renovation and newer areas of the building receptacles are at 1'-6". Most devices and cover plates are the age of the building and or latest renovations; with minimal damage to either. GFCI devices were throughout the facility and will require verification for the latest

codes. Receptacles mounted near mechanical equipment per code were not present on any roof mounted equipment.

→ *Recommend non ADA compliant devices be made compliant where possible. This may require surface mounting devices where mounted in existing CMU walls.*

Lighting
Lamp types were approximately 75% Fluorescent and 25% LED type luminaires. T12 in utility spaces and T8 in the majority of the spaces. Luminaire types vary from 2X4, 1X4, Strips, and other types. Some of the luminaires were aged to be from original building construction, with damage to lenses such as cracking, and yellowing of the lens as well as dust build up which minimize the lumen output of the luminaires.

→ *Recommend replacing all building lighting to 100% LED type luminaires and thereby provide additional energy savings.*

Life Safety Illumination
→ *Lamp and luminaire types indicated in 4a above are used for Life Safety Illumination via a very old battery inverter. Life Safety Illumination in general seemed to not be adequate for its purpose in the building.*
→ *Recommend an upgrade of the entire life Safety Illumination in the building.*

Lighting Control.
Switch types throughout building were toggle type switches. No dimming switches were present. All switch control were line voltage connected. There are no low voltage type control devices. Switches in the building were mounted at between 48" and 54." In some instances device locations do not meet the latest ADA requirements in most of the older walls in the building. In renovation and newer areas of the building switches do meet ADA requirements. Most devices and cover plates are the age of the building and or latest renovations; with minimal damage to either.

→ *Recommend upgrading lighting control to improve energy savings in each space and building.*

Electrical Disconnect Switches and other control equipment
Disconnects Switches at mechanical equipment appeared to be in good condition, but old and weathered on roof top mechanical equipment. Internal to building the electrical equipment was also old.

→ *Recommend replacement to the newer equipment.*

Opinion of Probable cost to upgrade this buildings various systems indicated above: a. 15,499Sq.ft. X $12/Sq.ft. = $185,988.00.

- → *This cost does not include unforeseen conditions that may exist in concealed walls and ceilings.*
- → *This cost does not include any service upgrades that may be required should NMJC increase square footage and/or load requirements in this building.*

JOHN SHEPHERD ADMINISTRATION (JSA) BUILDING #4

Existing Building is a single story building with Administrative Offices, Storage, Utility Spaces, and Restrooms. The building approximately 11,447Sq.ft.

MECHANICAL

A single air handling unit located inside a mechanical room at the southeast corner of the building. The air handling unit consists of an outside air inlet section, filter section, supply fan section, return/relief fan section, hot deck section with steam coil, and cold deck section with chilled water coil. A return/relief fan relief section includes relief dampers that modulate open to the mechanical room. The mechanical room has a large louver with barometric dampers that open to relief air out of the mechanical room and building. Two variable frequency drives (VFD's) are located in the mechanical room but not labelled. It is believed that the VFD's are for the supply and return/relief fans. The air handler unit, DDC Controls, and VFD's within the mechanical room appear to be in new condition.

The hot deck/cold deck duct distribution from the air handler unit is believed to be from the original building construction. As part of a recent air handling unit replacement renovation project, there were three (3) dual duct vav boxes along with ductwork that where replaced or added. Original construction drawings indicate this building was built in the mid to late 1960's.

In general, the air distribution from the main air handling unit is connected to dual duct (VAV) type boxes which provide heating and cooling control at a zone level. Air from the dual duct boxes mix hot and cold airstreams proportionally as needed to provide discharge air temperatures that corresponds to zone temperature sensors / thermostats. There are thermostats associated with each dual duct mixing box. DDC type wall thermostats where noted during the walk through of the building. Single supply ducts extend from the discharge end of the mixing boxes downstream to grilles and diffusers within the zones. There appears to be approximately thirty one (31) dual duct vav mixing boxes within this building.

While the air handler unit, vfd's and unit DDC controls appear to be new, the dual duct distribution and dual duct vav boxes are believed to be original and may need additional investigation. Dual duct systems with hot deck / cold deck sections are generally not considered energy efficient system. This is due to the mixing of a hot & cold air supplies only ventilation is required.

PLUMBING

Plumbing Fixtures
With the exception of the electric water coolers, the plumbing fixtures and trim are in very good condition. Most appear to comply with current water consumption standards and ADA compliance where appropriate. Additional investigation by an Architect is needed to determine that code required fixture counts and ADA compliance are met within the current layouts.

Sanitary Sewer Piping
No destructive investigation was undertaken to determine material types, condition, and sizing. Rather, this assessment relied upon observation and discussions with NMJC personnel to inform the effort. Similarly, the exterior piping was not included in this assessment. No portions of the system are visible for inspection. Floor drains and a modest amount of exposed vent piping in the mechanical room are in serviceable condition. Maintenance personnel report that inadequate numbers of floor-, wall-, and exterior cleanouts exist to allow ready routine maintenance.

Roof Drain Piping
The assessment team did not visit the roof, but the maintenance personnel stated the roof drains are in fair condition. The exterior terminations appear to be functioning as intended with no evidence of erosion or undermining of hardscape.

Domestic Water Piping
The exterior buried piping was not assessed as a part of this work.

The piping within the tunnel was not assessed as a part of this work.

The facility is plumbed with a type L copper pipe/fittings with the copper materials. Insulation is present, and properly jacketed. Pipe labels are inadequate in numbers. Sufficient numbers of isolation valves are present to allow for routine maintenance.

Exterior wall hydrants are in various conditions; some appear to be fully functional while another is incorrected installed to meet code related cross connection requirements.

Natural Gas Piping
The facility is not served by a natural gas system.

Equipment
The domestic water heater is of recent vintage and appears to be functioning as intended. An expansion tank is needed in the installation. The Maintenance personnel and faculty did not report any operational inadequacies. The recirculation pump is non-functional and requires proper wiring and control.

Fire Protection
The facility is not protected by a wet pipe fire sprinkler system.

ELECTRICAL

Electrical Distribution
Secondary Power is 480Y/277V, 3Phase, 4Wire. Campus Primary distribution system serves this building. 208Y/120V power is derived from dry-type transformers in the existing electrical distribution system.

Electrical Equipment Switchboards and/or Panels manufacturer is EATON. The equipment was upgraded in the last 10 to 15 years and are in good condition. Existing equipment is able to be maintained by NMJC M&O personnel. The existing electrical equipment did have the required code clearances and most of the equipment was in locked rooms; either in an electrical room or mechanical room. Some panels are located in the halls of the building recessed in the wall.

Grounding
Visual Confirmation of Proper and Code compliant grounding was not achievable. This requires an electrician to open electrical equipment to view inside. Use of Equipment ground conductors, proper conduit grounding, and overall Grounding of distribution system will require verification during any redesign of this building. A Ground Bar was not present.

→ *Recommend a closer visual inspection internal to electrical equipment for a better verification of the existing grounding system.*

General Purpose Power
Receptacles in the building were mounted at 1'-2" which is not to latest ADA requirements in most of the older walls in the building. Most devices and cover plates are the age of the building with minimal damage to either. GFCI devices were located throughout the facility where required and will require verification for the latest codes. For the most part mechanical equipment was in the mechanical room and not on the roof. Receptacles mounted near mechanical equipment on roof not applicable in this building.

→ *Recommend non ADA compliant devices be made compliant where possible. This may require surface mounting devices where mounted in existing CMU walls.*

Lighting
Lamp types were approximately 75% Fluorescent and 25% LED type luminaires. T12 in utility spaces and T8 in the majority of the spaces. Luminaire types vary from 2X4, 1X4, Strips, and other types. Some of the luminaires were aged to be from original building construction, with damage to some lenses such as cracking, and yellowing of the lens as well as dust build up which minimize the lumen output of the luminaires.

→ *Recommend replacing all building lighting to 100% LED type luminaires and thereby provide additional energy savings.*

Life Safety Illumination
Upon visual inspection it did not appear that existing Life Safety Illumination was present. We did not see a battery invert located in the building and internal battery to the luminaires did not appear to be present. Life Safety Illumination in general seemed to not be adequate for it purpose in the building.

→ *Recommend an upgrade of the entire life Safety Illumination in the building.*

Lighting Control.
Switch types throughout building were toggle type switches. No dimming switches were present. All switch control were line voltage connected. There are no low voltage type control devices. Switches in the building were mounted at between 48" and 54." In some instances device locations do not meet the latest ADA requirements in most of the older walls in the building. In renovation and newer areas of the building switches do meet ADA requirements. Most devices and cover plates are the age of the building and or latest renovations; with minimal damage to either.

→ *Recommend upgrading lighting control to improve energy savings in each space and building.*

Electrical Disconnect Switches and other control equipment
Disconnects Switches at mechanical equipment appeared to be in good condition, but old.

→ *Recommend replacement to the newer and latest manufacturer equipment.*

Opinion of Probable cost to upgrade this buildings various systems indicated above: a. 11,447Sq.ft. X $12/Sq.ft. = $137,364.00.

→ *This cost does not include unforeseen conditions that may exist in concealed walls and ceilings.*
→ *This cost does not include any service upgrades that may be required should NMJC increase square footage and/or load requirements in this building*

BEN ALEXANDER STUDENT LEARNING CENTER (BAC) BUILDING #5

Existing Building is a two story building with Classrooms, Student Services Offices, Book Store, Cafeteria Dining, Kitchen, Snack Bar, Game Room, Security Office, Storage, Restrooms, and Utility Spaces. The building approximately 45,023Sq.ft.

MECHANICAL

This building includes original building construction and a newer two level addition located at the northeast side of the building. This building has multiple HVACsystems.

The majority of the building is conditioned with two types of air handling units. The main air handlers for these two systems are located in a basement level mechanical room, both air handling units where installed in 2005 (approximate). Chilled water piping and steam piping extends from the central plant to the basement mechanical room. A steam to hot water heat exchanger with hot water circulating pumps are located in the same mechanical room. Additionally, a steam to hot water heat exchanger and two hot water circulating pumps associated with the new Allied Health building are located in the same mechanical room. A condensate receiver / pump is also located in the basement mechanical room. The condensate from the two heat exchangers is directed to this device. There was a PVC pipe temporarily piped to the receiver tank similar to a drain.

This PVC pipe / connection was leaking steam. If steam is coming out of the receiver, it may be an indication that there is a faulty steam trap that is leaking steam.

The older portion of the building is served by a hot deck/cold deck type unit with hot water heating coil and chilled water coil, airside economizer, return/ relief and supply fans. The fan speed of each type fan is controlled with VFD's. The supply and return air ductwork associated with this unit is existing. The dual duct mixing boxes located inside the building are existing. Each mixing box has an associated Zone level thermostat for space temperature control.

The new two level addition part of the building is served by a VAV single supply duct type unit. The unit includes airside economizer and filters, hot water preheat coil, chilled water coil, supply and return relief fans controlled by VFD's. The supply ductwork from the unit extends from the mechanical room to the newer addition. This network of supply duct includes VAV boxes with hot water reheat coils for zone control. This type of system is more energy efficient compared to the dual duct system serving the original portion of the building. There are two electrical rooms with transformers in the new addition that utilize transfer air and exhaust to condition these spaces. These rooms do not appear to have adequate cooling. The rooms are notably hotter than the adjacent spaces and transformers are buzzing; which could be due to excessive heat or lack of cooling.

In addition to the two primary HVAC systems, there are some unique type of spaces conditioned by other type HVAC systems. The kitchen area includes several packaged DX/Gas roof top units, a kitchen

makeup unit and grease exhaust fan. The newaddition has two Data / IT rooms served by Mini Split cooling units.

Temperature in 1st floor and 2nd Electrical Rooms was noted as hot. The electrical transformers were noisy.

PLUMBING

Plumbing Fixtures
Plumbing fixtures and trim are in generally very good condition. Most appear to comply with current water consumption standards and ADA compliance where appropriate. Additional investigation by an Architect is needed in the older portions of the facility to determine that code required fixture counts and ADA compliance are met within the current layouts.

A vacuum breaker associated with the Janitor's Closets has leaked causing damage to the wall surface.

The service sink faucet in the Janitor's alcove within Thunderbird Café kitchen is a non-code compliant installation and requires a vacuum breaker.

The requirement for indirect discharge at all kitchen food prep sinks, sanitizing sinks, and ice maker installations has been improperly executed and should be corrected.

It was not clear that the kitchen and scullery areas are served by a grease interceptor. The maintenance personnel and staff could not identify the location for this device and one could not be located on the premises. Grease interception is a code requirement.

It was not evident that the appropriate backflow preventer was present in the soft drink carbonizer system. If missing, one should be added to the domestic water supply line serving this system.

Sanitary Sewer Piping
No destructive investigation was undertaken to determine material types, condition, and sizing. Rather, this assessment relied upon observation and discussions with NMJC personnel to inform the effort. Similarly, the exterior piping was not included in this assessment. Limited portions of the system are visible for inspection (i.e. the basement and portions of the kitchen). Floor drains, floor sinks, and a limited amount of exposed waste and vent piping in the basement are in serviceable condition. Discharge from the condensate return pumps enters the sanitary sewer at temperatures greater than code allowed maximum temperature of 140°F. An aftercooler should be installed to rectify this condition. Maintenance personnel report that inadequate numbers of floor-, wall-, and exterior cleanouts exist to allow ready routine maintenance.

Roof Drain Piping
The roof and overflow drains themselves are in serviceable condition and functioning as intended. Maintenance personnel stated the roof and overflow piping is in fair condition. The terminations are properly executed and functional.

Domestic Water Piping
The exterior buried piping was not assessed as a part of this work.

Piping within the tunnels was not evaluated as a part of this work.

The facility is plumbed predominately with type L copper pipe/fittings with an indeterminate amount of galvanized pipe/fittings found in the older portions of the facility. Insulation is present and properly jacketed, but labeling is absent. Sufficient numbers of isolation valves are present to allow for routine maintenance.

Exterior wall hydrants are in various conditions; some appear to be fully functional while others show failure and conversion into a wall hydrant/hose bib. This latter conversion violates code requirements related to cross connection control. The newer addition suffers from none of these conditions.

Natural Gas Piping

→ *The facility is served by a natural gas system that appears to be in serviceable condition. The maintenance personnel report no known operational deficiencies.*

Equipment
The domestic water heater appears to be functioning as intended. The Maintenance personnel and faculty did not report any operational inadequacies. The booster heater in the scullery area is performing as intended.

The kitchen equipment was not evaluated within this assessment other than to confirm with the maintenance personnel and staff there are no known operational deficiencies. Water treatment within the scullery area appeared at the time of evaluation to the effective as evidenced by the interior of the dishwashing machine and the lack of scaling.

The sump pump located adjacent to the fire riser appears to be a simplex unit which conflicts with code; duplex pump sets are required. The twin sump pumps located adjacent to the areaway are duplexed and are reported to be fully functional.

The simplex water softener is functioning as intended with no known operational deficiencies.

Fire Protection
The facility is protected by a wet pipe fire sprinkler system equipped with the appropriate code-required accoutrements. All portions of system appear to be fully functional and in compliance with the

appropriate codes and standards. The inspection logs indicate currency with all required testing and inspection intervals.

The Ansul hood suppression systems were not evaluated within this assessment.

ELECTRICAL

Electrical Distribution.
Secondary Power is 480Y/277V, 3Phase, 4Wire. Campus Primary distribution system serves this building. 208Y/120V power is derived from dry-type transformers in the existing electrical distribution system.

Electrical Equipment Switchboards and/or Panels manufacturer is EATON. The equipment was part of an addition and renovation to the building in the last 10 to 15 years and are in good condition. In the basement of this building and in the kitchen/cafeteria portion of the building the equipment is older Square D equipment. Existing equipment is able to be maintained by NMJC M&O personnel. However, equipment in the basement is in need of upgrade. The existing electrical equipment did have the required code clearances and most of the equipment was in locked rooms; either in an electrical room or mechanical room.

→ *Recommendation for the NMJC administration of this building would be to remove all janitorial and storage items from with-in room and leave as an electrical/Technology room. Because this room has electrical equipment only trained personnel with proper protective gear should enter this room. During survey it was difficult to get to equipment without moving items from the front of equipment.*

Grounding
Visual Confirmation of Proper and Code compliant grounding was not achievable. This requires an electrician to open electrical equipment to view inside. Use of Equipment ground conductors, proper conduit grounding, and overall Grounding of distribution system will require verification during any redesign of this building. A Ground Bar was not present.

→ *Recommend a closer visual inspection internal to electrical equipment for a better verification of the existing grounding system.*

General Purpose Power
Receptacles in the building were mounted at 1'-2" which is not to latest ADA requirements in most of the older walls in the building. In renovation and newer areas of the building receptacles are at 1'-6". Most devices and cover plates are the age of the building and or latest renovations; with minimal damage to either. GFCI devices were throughout the facility and will require verification for the latest codes. Receptacles mounted near mechanical equipment per code were not present on any roof mounted equipment. The only location that had roof top equipment over the kitchen area.

→ *Recommend non ADA compliant devices be made compliant where possible. This may require surface mounting devices where mounted in existing CMU walls.*

Lighting

Lamp types were T8 lamps were in the majority of the spaces. Luminaire types vary from 2X4, 1X4, Strips, and other various types. Luminaires were aged to be from the latest building additions and renovations approximately 10 to 15 years ago, with minimal damage to lenses and housings. Some cleaning is required on all luminaire to remove dust and debris build up which minimize the lumen output of the luminaires.

→ *Recommend replacing all building lighting to 100% LED type luminaires and thereby provide additional energy savings.*

Life Safety Illumination

Some Lamp and luminaire types indicated in 4a above are used for Life Safety Illumination appeared to have internal battery packs to the luminaires. Existing Battery inverter located in basement appeared to not be in use, however in the older section of the building it may very well be used. If used it needs an upgrade if not being used it needs to be removed. Life Safety Illumination in general seemed adequate for its purpose in the building.

→ *Recommend a review of the existing life Safety Illumination in the building and where needed add bug-eyes or maintain the internal battery pack installation in luminaires.*

Lighting Control

Switch types throughout building were toggle type switches. No dimming switches were present. All switch control were line voltage connected. There are no low voltage type control devices. Switches in the building were mounted at between 48" and 54." In renovation and newer areas of the building switches do meet ADA requirements. Most devices and cover plates are the age of the building and or latest renovations; with minimal damage to either.

→ *Recommend upgrading lighting control to improve energy savings in each space and building.*

Electrical Disconnect Switches and other control equipment

Disconnects Switches at mechanical equipment appeared to be in good condition, but old and weathered on exterior to building mechanical equipment. Internal to building the electrical equipment was also older in the basement.

→ *Recommend replacement to the newer equipment where in older portions of building and on older equipment.*

Opinion of Probable cost to upgrade this buildings various systems indicated above: a. 45,023Sq.ft. X $12/Sq.ft. = $540,276.00.

- → *This cost does not include unforeseen conditions that may exist in concealed walls and ceilings.*
- → *This cost does not include any service upgrades that may be required should NMJC increase square footage and/or load requirements in this building.*

PANNELL LIBRARY (PL) BUILDING #6 & C.M. BURK UNIVERSITY CENTER (BUC) BUILDING #31

Existing Building is a two story building with Library, Classrooms large and small, Offices, Lecture Hall, Storage, Restrooms, and Utility Spaces. The building approximately 29,514Sq.ft.

MECHANICAL

The mechanical systems in this building includes three vav air handling units, with economizer, steam preheat, chilled water coil, supply and return/relief fans. The chilled water and steam piping for these units are connected to the piping extending from the central plant. The piping connects to piping mains located in utility tunnels below the building. The building has two mechanical rooms with air handlers and mechanical equipment. A mechanical room at the ground level includes a single (new condition) air handler. Ductwork from this unit extends into the building from the west side of the building. A second mechanical room is located on the roof of the building. This mechanical room includes two air handling units that appear to be part of the original construction. The steam coil on air handler designated AHU-2 appears to be leaking condensate at the bottom of the coil. A chilled water booster pump located in the penthouse mechanical room appears to be in poor condition with lots of corrosion. This pump boost pressure from the chilled water delivered from the central plant and is connected to both air handling units in the penthouse.

A small 2 ton (cooling only) roof mounted packaged unit is located over the computer classroom at the second floor. The area served by the packaged unit is unknown, but it is likely the computer classroom which requires additional cooling than the vav box from the central air handler is capable of delivering.

Supply ductwork from the three air handling units extends to forty-four (44) vav box terminal units with hot water reheat coils located in the ceiling spaces of the building. A steam to hot water heat exchanger and gas fired boilers and hot water circulating pumps generate the hot water circulated to the vav box terminal units. It is believed that the boilers where added in addition to the steam to hot water heat exchanger because steam from the central plant is not available during the summer months. It was noted one of the hot water pumps appears to have a motor that is damaged. The motor has burned surfaces, it was unknown if the pump is operational. Also noted was a chemical pot feeder associated with the hot water side of the exchanger has lots of corrosion and appears to be in poor condition. The air handling units in the penthouse are connected to sidewall intake louvers at the north and south sides of the penthouse. It was noted, the penthouse mechanical room has two general exhaust fans located near the intake of the unit designated AHU-1. These fans are less than ten (10) ft. from the intake louver. Each air handler has dampered relief openings that relieve air into the penthouse. A large relief louver (out of the room) is located on the east side of the penthouse near the door of the room.

PLUMBING

Plumbing Fixtures
Plumbing fixtures and trim are in generally very good condition. Most appear to comply with current water consumption standards and ADA compliance where appropriate. Additional investigation by an Architect is needed in the older portions of the facility to determine that code required fixture counts and ADA compliance are met within the current layouts.

Sanitary Sewer Piping
No destructive investigation was undertaken to determine material types, condition, and sizing. Rather, this assessment relied upon observation and discussions with NMJC personnel to inform the effort. Similarly, the exterior piping was not included in this assessment. Limited portions of the system are visible for inspection. Floor drains and floor sinks are in serviceable condition. Maintenance personnel report that adequate numbers of floor-, wall-, and exterior cleanouts exist to allow ready routine maintenance.

Roof Drain Piping
The roof and overflow drains themselves are in serviceable condition and functioning as intended. Maintenance personnel stated the roof and overflow piping is in fair condition. The terminations are properly executed and functional with a couple of exceptions.

Domestic Water Piping
The exterior buried piping was not assessed as a part of this work.

The facility is plumbed with type L copper pipe/fittings. Insulation is present and properly jacketed, but labeling is absent. Sufficient numbers of isolation valves are present to allow for routine maintenance.

Exterior wall hydrants are in a serviceable condition.

Natural Gas Piping
The facility is served by a natural gas system that appears to be in serviceable condition. The maintenance personnel report no known operational deficiencies.

Equipment
The domestic water heater appears to be functioning as intended. The Maintenance personnel and faculty did not report any operational inadequacies.

Fire Protection
The facility is protected by a wet pipe fire sprinkler system equipped with the appropriate code-required accoutrements. All portions of system appear to be fully functional and in compliance with the appropriate codes and standards. The inspection logs indicate currency with all required testing and inspection intervals.

ELECTRICAL

Electrical Distribution
Secondary Power is 480Y/277V, 3Phase, 4Wire. Campus Primary distribution system serves this building. 208Y/120V power is derived from dry-type transformers in the existing electrical distribution system.

Electrical Equipment Switchboards and/or Panels manufacturer of three manufacturers: FPE which is no longer in manufacturer and parts are hard to come by, ITE (Westinghouse-Siemens), and Square D. Some of the equipment was upgraded in the last 10 to 15 years and are in good condition. Other equipment was older and part of the original installation. Existing equipment is able to be maintained by NMJC M&O personnel except for the FPE equipment. The existing electrical equipment did have the required code clearances and most of the equipment was in locked rooms; either in an electrical room or mechanical room.

Some equipment t is in need of upgrade to newer equipment to further the life off the building.

→ *Recommendation for the NMJC administration of this building would be to remove all janitorial and storage items from with-in room and leave as an electrical/Technology room. Because this room has electrical equipment only trained personnel with proper protective gear should enter this room. During survey it was difficult to get to equipment without moving items from the front of equipment.*

Grounding
Visual Confirmation of Proper and Code compliant grounding was not achievable this required an electrician to open electrical to view inside. Use of Equipment ground conductors, proper conduit grounding, and overall Grounding of distribution system will require verification during any redesign of this building. A Ground Bar was not present.

→ *Recommend a closer visual inspection internal to electrical equipment for a better verification of the existing grounding system.*

General Purpose Power
Receptacles in the building were mounted at 1'-2" which is not to latest ADA requirements in most of the older walls in the building. In renovation and newer areas of the building receptacles are at 1'-6". Most devices and cover plates are the age of the building and or latest renovations; with minimal damage to either. GFCI devices were throughout the facility and will require verification for the latest codes. Receptacles mounted near mechanical equipment per code were not present on any roof mounted equipment.

→ *Recommend non ADA compliant devices be made compliant where possible. This may require surface mounting devices where mounted in existing CMU walls.*

Lighting
Lamp types were for the most part fluorescent. T12 in utility spaces and T8 in the majority of the spaces. Luminaire types vary from 2X4, 1X4, Strips, and other types. Some of the luminaires require cleaning of the lens of dust build up which minimize the lumen output of the luminaires.

→ *Recommend replacing all building lighting to 100% LED type luminaires and thereby provide additional energy savings.*

Life Safety Illumination
Lamp and luminaire types indicated in 4a above are used for Life Safety Illumination via internal batteries in luminaires and or Bug-eye type luminaires. Life Safety Illumination in general seemed adequate for it purpose in the building.

→ *Recommend an upgrade of the entire life Safety Illumination in the building when changing luminaires to LED.*

Lighting Control
Switch types throughout building were toggle type switches. No dimming switches were present. All switch control were line voltage connected. There are no low voltage type control devices. Switches in the building were mounted at between 48" and 54." In renovation and newer areas of the building switches do meet ADA requirements. Most devices and cover plates are the age of the building and or latest renovations; with minimal damage to either.

→ *Recommend upgrading lighting control to improve energy savings in each space and building.*

Electrical Disconnect Switches and other control equipment
Disconnects Switches at mechanical equipment appeared to be in good condition, but old and weathered on roof top mechanical equipment. Internal to building the electrical equipment was also old.

→ *Recommend replacement to the newer equipment.*

Opinion of Probable cost to upgrade this buildings various systems indicated above: a. 29,514Sq.ft. X $12/Sq.ft. = $354,168.00.

→ *This cost does not include unforeseen conditions that may exist in concealed walls and ceilings.*
→ *This cost does not include any service upgrades that may be required should NMJC increase square footage and/or load requirements in this building.*

HEIDEL HALL (HH) BUILDING #7

Existing Building is a single story building with Classrooms, Offices, Storage, Restrooms, and Utility Spaces. The building approximately 38,914Sq.ft.

MECHANICAL

This building includes HVAC system installed during the original construction of the building. There are two mechanical rooms with air handling equipment. Inside the building at the ground level, there is an existing air handler with a hot deck / cold deck, arrangement. This unit has an airside economizer, roof mounted intake and relief hood, steam coil, chilled water coil, supply and return/relief fans. The steam and chilled water piping to the unit appears to be extremely corroded on the exterior visible surface. The extents of this corrosion is unknown. The chilled water and steam piping extend from the central plant to this mechanical room via an underground campus tunnel system. The chilled water mains extend up from this mechanical room up to the penthouse mechanical room.

A second mechanical room is located above the roof in a penthouse. There are two air handling units within this space. These units are somewhat unique as they act together. One unit serves as a hot deck and the remaining unit acts as a cold deck source of conditioned air. The supply ductwork from each unit extend down into the building and connects to dual duct mixing boxes for zone control.

The hot deck unit has a single in intake that draws return air from the room, a steam coil for heating, and a supply fan with VFD. The cold deck unit has a mixing section with outside air and return air dampers. The return air damper is open to the mechanical room. The outside air damper is connected to a duct that extends up through roof to an intake hood. Air from the mixing section is drawn through a steam preheat to maintain minimum temperature, then passes through a chilled water coil, and then is drawn into a supply fan section with VFD. Air from each air handler is maintained at the appropriate temperatures associated with the hot deck and cold deck duct systems. Air from the hot deck and cold deck duct systems is mixed at zone level dual duct mixing boxes for temperature control within the building zones. Zone level thermostats provide control input to the mixing boxes for space temperature control. A separate return/relief fan is located in the northwest corner of the mechanical room. The return air from the building is drawn from the ceiling plenum below and circulated into the mechanical room. The return air within the room is drawn into the hot deck and cold deck units as needed. Any remaining return air with in the mechanical room is relieved through a large relief damper/opening located on the west side of the mechanical room.

The penthouse mechanical room also includes a chilled water booster pump associated with the cold deck air handler cooling coil. The piping and control valve configuration at the inlet of the pump is unusual. There is a 3-way and 2-way valve located associated with the chilled water cooling coil and booster pump. The 3-way valve is piped like a diverting valve.

The penthouse mechanical room also includes a steam flash tank and condensate receiver / pump associated with the preheat and heating coil in the two air handlers.

There are numerous exhaust fans located on the roof. These include general exhaust, laboratory fume hood exhaust, and chemical storage room exhaust. The exhaust fans appear to range in age from original construction to fairly new. The operation of fans was not verified.

PLUMBING

Plumbing Fixtures
Plumbing fixtures and trim are in generally very good condition. Most appear to comply with current water consumption standards and ADA compliance where appropriate. Additional investigation by an Architect is needed in the older portions of the facility to determine that code required fixture counts and ADA compliance are met within the current layouts. Hair washing basins are in serviceable condition and compliant with cross-connection ordinance. The method by which hair interception is achieved is undetermined. The science room sinks are in serviceable condition as are the faucets, lab cocks, and fume hood services.

Sanitary Sewer Piping
No destructive investigation was undertaken to determine material types, condition, and sizing. Rather, this assessment relied upon observation and discussions with NMJC personnel to inform the effort. Similarly, the exterior piping was not included in this assessment. Limited portions of the system are visible for inspection. Hair washing basins are in serviceable condition and compliant with cross-connection ordinance. The method by which hair interception is achieved is undetermined. The chemical resistant drain system in the science rooms appears to be functioning as intended. The exterior neutralizer was not inspected under this evaluation. Floor drains and floor sinks are in serviceable condition. Maintenance personnel report that adequate numbers of floor-, wall-, and exterior cleanouts exist to allow ready routine maintenance.

The presence of a sediment interceptor to serve the greenhouse drainage system could not be confirmed.

Roof Drain Piping
The roof and overflow drains themselves are in serviceable condition and functioning as intended. Maintenance personnel stated the roof and overflow piping is in fair condition. The terminations are properly executed and functional.

Domestic Water Piping
The exterior buried piping was not assessed as a part of this work.

Piping within the tunnels was not evaluated as a part of this work.

The facility is plumbed with a mix of galvanized and type L copper pipe/fittings. Within the original facility, insulation is incomplete as is jacketing and labeling. Sufficient numbers of isolation valves are present to allow for routine maintenance.

Exterior wall hydrants are in a serviceable condition.

The piping serving the greenhouse appears to be serviceable and functioning as intended.

The means by which cross connection prevention is achieved with the water treatment equipment located in the science prep room could not be confirmed.

Natural Gas Piping
The facility is served by a natural gas system that appears to be in serviceable condition. The maintenance personnel report no known operational deficiencies.

Equipment
The domestic water heaters are of recent vintage and appear to be functioning as intended. The Maintenance personnel and faculty did not report any operational inadequacies. Expansion tanks are needed at both water heaters. A thermostatic mixing valve is needed at the small water heater.

Fire Protection
Piping within the tunnels was not evaluated as a part of this work.

The facility is protected by a wet pipe fire sprinkler system equipped with the appropriate code-required accoutrements. All portions of system appear to be fully functional and in compliance with the appropriate codes and standards. The inspection logs indicate currency with all required testing and inspection intervals.

No evidence of cross connection prevention can be found.

ELECTRICAL

Electrical Distribution.
Secondary Power is 480Y/277V, 3Phase, 4Wire. Campus Primary distribution system serves this building. 208Y/120V power is derived from dry-type transformers in the existing electrical distribution system.

Electrical Equipment Switchboards and/or Panels manufacturer is EATON. The equipment was upgraded in the last 10 to 15 years and are in good condition. Existing equipment is able to be maintained by NMJC M&O personnel. The existing electrical equipment did have the required code clearances and most of the equipment was in locked rooms; either in an electrical room or mechanical room.

→ *Recommendation for the NMJC administration of this building would be to remove all janitorial and storage items from with-in room and leave as an electrical/Technology room. Because this room has electrical equipment only trained personnel with proper protective gear should enter this room. During survey it was difficult to get to equipment without moving items from the front of equipment.*

Grounding
Visual Confirmation of Proper and Code compliant grounding was not achievable this required an electrician to open electrical to view inside. Use of Equipment ground conductors, proper conduit grounding, and overall Grounding of distribution system will require verification during any redesign of this building. A Ground Bar was not present.

→ *Recommend a closer visual inspection internal to electrical equipment for a better verification of the existing grounding system.*

General Purpose Power
Receptacles in the building were mounted at 1'-2" which is not to latest ADA requirements in most of the older walls in the building. In renovation and newer areas of the building receptacles are at 1'-6". Most devices and cover plates are the age of the building and or latest renovations; with minimal damage to either. GFCI devices were throughout the facility and will require verification for the latest codes. Receptacles mounted near mechanical equipment per code were not present on any roof mounted equipment.

→ *Recommend relocating non ADA compliant devices be made compliant where possible. This may require surface mounting devices where mounted in existing CMU walls.*

Lighting
Lamp types were fluorescent. T12 in utility spaces and T8 in the majority of the spaces. Luminaire types vary from 2X4, 1X4, Strips, and other types. Some of the luminaires were aged to be from original building construction, with damage to lenses such as cracking, and yellowing of the lens as well as dust build up which minimize the lumen output of the luminaires.

→ *Recommend replacing all building lighting to 100% LED type luminaires and thereby provide additional energy savings.*

Life Safety Illumination
Lamp and luminaire types indicated in 4a above are used for Life Safety Illumination via a very old battery inverter. Life Safety Illumination in general seemed to not be adequate for it purpose in the building.

→ *Recommend an upgrade of the entire life Safety Illumination in the building.*

Lighting Control
Switch types throughout building were toggle type switches. No dimming switches were present. All switch control were line voltage connected. There are no low voltage type control devices. Switches in the building were mounted at between 48" and 54." In some instances device locations do not meet the latest ADA requirements in most of the older walls in the building. In renovation and newer areas of the building switches do meet ADA requirements. Most devices and cover plates are the age of the building and or latest renovations; with minimal damage to either.

→ *Recommend upgrading lighting control to improve energy savings in each space and building.*

Electrical Disconnect Switches and other control equipment
Disconnects Switches at mechanical equipment appeared to be in good condition, but old and weathered on roof top mechanical equipment. Internal to building the electrical equipment was also old.

→ *Recommend replacement to the newer equipment.*

Opinion of Probable cost to upgrade this buildings various systems indicated above: a. 38,914Sq.ft. X $12/Sq.ft. = $466,968.00

→ *This cost does not include unforeseen conditions that may exist in concealed walls and ceilings.*
→ *This cost does not include any service upgrades that may be required should NMJC increase square footage and/or load requirements in this building.*

MCCLEAN HALL (MC) BUILDING #9

Existing Building is a single story building with Classrooms, Lecture Hall, Offices, IT Department and Offices, Storage, Restrooms, and Utility Spaces. The building approximately 22,853Sq.ft.

MECHANICAL

The building footprint is connected with the central plant. An air handling unit located in the central plant serves this building. The air handler includes a hot deck / cold deck arrangement with vav supply and return/relief fans. This unit is believed to be forty (40) plus years old. Existing drawings of the McClean building indicating ductwork and piping within the building where not available during the site visit. The unit is a built up unit utilizing the room walls as part of the air handler. The hot deck coil is believed to be connected to the steam system, although the existing control diagrams indicate that the hot deck is connected to the hot water piping. The cold deck is connected to the chilled water piping within the central plant. Intake and relief hoods are located on the roof above the air handling unit. This hot duct and cold deck supply ductwork extends to dual duct mixing boxes located within the ceiling space of the building. Additionally, there are existing exposed type fan coil units located in the corridors of the building. It is believed that the fan coil units are connected to chilled water and hot water piping extending through the building. This building is scheduled for renovation work in the near future. The ceiling space is some areas appears to be limited. Possibly two new vav air handling units, located on the roof, with hot water preheat coils, chilled water coils, single duct vav boxes, ductwork and piping would be a good replacement option for this building. Multiple air handling units would allow smaller ductwork to be utilized in the ceiling along with distributing the weight across the roof. This system would include approximately 30-35 zones of control depending on the new layout of the building.

PLUMBING

Plumbing Fixtures
Plumbing fixtures and trim are in generally very good condition. Most appear to comply with current water consumption standards and ADA compliance where appropriate. Additional investigation by an Architect is needed in the older portions of the facility to determine that code required fixture counts and ADA compliance are met within the current layouts.

The mock medical headwalls are in useable condition and there was no determination made regarding the viability of any plumbed services.

Sanitary Sewer Piping
No destructive investigation was undertaken to determine material types, condition, and sizing. Rather, this assessment relied upon observation and discussions with NMJC personnel to inform the effort. Similarly, the exterior piping was not included in this assessment. Limited portions of the system are visible for inspection. Floor drains and floor sinks are in serviceable condition. Maintenance personnel

report that inadequate numbers of floor-, wall-, and exterior cleanouts exist to allow ready routine maintenance.

Roof Drain Piping
The roof and overflow drains themselves are in serviceable condition and functioning as intended. Maintenance personnel stated the roof and overflow piping is in fair condition. The terminations are properly executed and functional.

Domestic Water Piping
The exterior buried piping was not assessed as a part of this work.

Piping within the tunnels was not evaluated as a part of this work.

The facility is plumbed with a mix of galvanized and type L copper pipe/fittings. Within the original facility, insulation is incomplete as is jacketing and labeling. Sufficient numbers of isolation valves are present to allow for routine maintenance.

Exterior wall hydrants are in a serviceable condition.

Natural Gas Piping
Portions of the facility are served by a propane system that appears to be in serviceable condition. The maintenance personnel report no known operational deficiencies.

Equipment
The domestic water heaters are of recent vintage and appear to be functioning as intended. The Maintenance personnel and faculty did not report any operational inadequacies. Expansion tanks are needed at both water heaters. A thermostatic mixing valve is needed at the small water heater.

Fire Protection
The exterior piping system was not evaluated as a part of this work.

The facility is protected by a wet pipe fire sprinkler system equipped with the appropriate code-required accoutrements. All portions of system appear to be fully functional and in compliance with the appropriate codes and standards. The inspection logs indicate currency with all required testing and inspection intervals.

No evidence of cross connection prevention can be found.

ELECTRICAL

Electrical Distribution.
Secondary Power is 480Y/277V, 3Phase, 4Wire. Central Plant building #10 provides the power to this building and the Central Plant is derived from the Campus Primary distribution system serves this building. 208Y/120V power is derived from dry-type transformers in the existing electrical distribution system.

An existing Generator for Stand-by power for the IT equipment and technology is present for this building. Equipment is relatively new and any upgrades, if requested, should take into account the loads this generator serves or additions that may be added.

Electrical Equipment Switchboards and/or Panels manufacturer is EATON. The majority of equipment was upgraded in the last 10 to 15 years and are in good condition. Some older equipment is Square D and also is in good condition. Existing equipment is able to be maintained by NMJC M&O personnel. The existing electrical equipment did have the required code clearances and most of the equipment was in locked rooms; either in an electrical room or mechanical room.

Recommend separating this building from the central plant so it has its own utility transformer served from the Campus Primary distribution. This would help in the new design of the building and any new possible loads. And eliminate having to increase the size of the Central Plant equipment from where it is served.

Recommendation for the NMJC administration of this building would be to remove all janitorial and storage items from with-in room and leave as an electrical/Technology room. Because this room has electrical equipment only trained personnel with proper protective gear should enter this room. During survey it was difficult to get to equipment without moving items from the front of equipment.

Grounding

- → *Visual Confirmation of Proper and Code compliant grounding was not achievable this required an electrician to open electrical to view inside. Use of Equipment ground conductors, proper conduit grounding, and overall Grounding of distribution system will require verification during any redesign of this building. A Ground Bar was not present.*
- → *Recommend a closer visual inspection internal to electrical equipment for a better verification of the existing grounding system.*

General Purpose Power

- → *Receptacles in the building were mounted at 1'-2" which is not to latest ADA requirements in most of the older walls in the building. In renovation and newer areas of the building receptacles are at 1'-6". Most devices and cover plates are the age of the building and or latest renovations; with minimal damage to either. GFCI devices were throughout the facility and will require verification for the latest codes. Receptacles mounted near mechanical equipment per code were not present on any roof mounted equipment.*

→ *Recommend non ADA compliant devices be made compliant where possible. This may require surface mounting devices where mounted in existing CMU walls.*

Lighting

→ *Lamp types were fluorescent. T12 in utility spaces and T8 in the majority of the spaces. Luminaire types vary from 2X4, 1X4, Strips, and other types. Some of the luminaires were aged to be from original building construction, with damage to lenses such as cracking, and yellowing of the lens as well as dust build up which minimize the lumen output of the luminaires.*

→ *Recommend replacing all building lighting to 100% LED type luminaires and thereby provide additional energy savings.*

Life Safety Illumination

→ *Lamp and luminaire types indicated in 4a above are used for Life Safety Illumination via internal batteries in luminaires and some Bug-eyes. Life Safety Illumination in general seemed to not be adequate for its purpose in the building.*

→ *Recommend an upgrade of the entire life Safety Illumination in the building.*

Lighting Control

→ *Switch types throughout building were toggle type switches. No dimming switches were present. All switch control were line voltage connected. There are no low voltage type control devices. Switches in the building were mounted at between 48" and 54." In some instances device locations do not meet the latest ADA requirements in most of the older walls in the building. In renovation and newer areas of the building switches do meet ADA requirements. Most devices and cover plates are the age of the building and or latest renovations; with minimal damage to either.*

→ *Recommend upgrading lighting control to improve energy savings in each space and building.*

Electrical Disconnect Switches and other control equipment

→ *Disconnects Switches at mechanical equipment appeared to be in good condition, but old and weathered on roof top mechanical equipment. Internal to building the electrical equipment was also old.*

→ *Recommend replacement to the newer equipment.*

Opinion of Probable cost to upgrade this buildings various systems indicated above: a. 22,853Sq.ft. X $15/Sq.ft. = $343,795.00

→ *This cost does not include unforeseen conditions that may exist in concealed walls and ceilings.*

→ *This cost does not include any service upgrades that may be required should NMJC increase square footage and/or load requirements in this building.*

CENTRAL PLANT (CP) BUILDING #10

Existing Building is a single story building with a Maintenance Office, Chiller Room, Boiler Room, and Electrical Distribution source point, Storage, and Restroom. The building approximately 5,850Sq.ft.

MECHANICAL

- → *The central plant includes much of the heating and cooling capacity for the campus. Approximately 10 years ago the cooling portion of the central plant was upgraded. The central plant includes two Trane chillers (older), two York chillers (10 yrs. old), chilled water primary associated with the chillers, campus chilled water pumps, and four (4) cooling towers located on the roof of the building. Most of the cooling equipment with the exception of the cooling towers, appears to be in good working order. It was noted that cooling towers need to be cleaned of scale build up.*
- → *The heating plant includes three (3) large Kewanee steam boilers, deaerator, flash tanks, and shell and tube steam to hot water heat exchangers and pumps. The shell and tube heat exchangers serve a limited portion of the system. The deaerator, condensate return side of the system along with valves, and steam traps at building entrances should be investigated for corrosion and deterioration. It was also noted in some buildings that the exterior surfaces of piping on chilled water, and steam piping have corrosion. The interior surface condition is unknown. Heidel Hall and Whitaker Auto Technology Center and Dorm buildings had signs of exterior corrosion. The cause should be addressed, and possible replacement of the piping is recommended. Any piping with dissimilar metals or direct buried piping could be susceptible to galvanic corrosion. Possibly some kind dielectric unions or cathodic protection utilizing sacrificial anodes could be provided.*

PLUMBING

Plumbing Fixtures

- → *Plumbing fixtures and trim are in generally poor condition. Additional investigation by an Architect is needed in the older portions of the facility to determine that code required fixture counts, water conservation goals, and ADA compliance are met within the current layouts. Emergency eye wash/shower provisions merit additional scrutiny by an Architect along with compliance with tepid water requirements.*

Sanitary Sewer Piping

- → *No destructive investigation was undertaken to determine material types, condition, and sizing. Rather, this assessment relied upon observation and discussions with NMJC personnel to inform the effort. Similarly, the exterior piping was not included in this assessment. Limited portions of the system are visible for inspection. Floor drains and floor sinks are in serviceable condition.*

Maintenance personnel report that adequate numbers of floor-, wall-, and exterior cleanouts exist to allow ready routine maintenance.

Roof Drain Piping

→ *The roof and overflow drains themselves are in serviceable condition and functioning as intended. Maintenance personnel stated the roof and overflow piping is in fair condition. The terminations are properly executed and functional.*

Domestic Water Piping

→ *Piping within the tunnels was not evaluated as a part of this work.*
→ *The facility is plumbed with a mix of galvanized and type L copper pipe/fittings. Insulation is generally intact and lines are properly jacketed and labeled. Sufficient numbers of isolation valves are present to allow for routine maintenance.*
→ *Exterior wall hydrants are in a serviceable condition.*

Natural Gas Piping

→ *The facility is served by a natural gas system that appears to be in serviceable condition. The maintenance personnel report no known operational deficiencies.*
→ *Piping within the tunnels was not evaluated as a part of this work.*
→ *Compressed Air Piping*
→ *The system is comprised of a combination of steel and copper pipe and fittings. The system shows no outward signs of failure.*

Equipment

→ *The domestic water heater is in serviceable condition and appears to be functioning as intended. The Maintenance personnel and faculty did not report any operational inadequacies. Expansion tanks are needed at both water heaters. A thermostatic mixing valve is needed at the small water heater.*
→ *A pair of air compressors, a refrigerated air drier, and surge tank serve various needs and reportedly meet the facility's needs. No known operational deficiencies are noted. The rotary screw compressor is of recent vintage while the reciprocating compressor is of 1980's vintage.*
→ *A defunct vacuum pumping system is present and nonfunctional.*
→ *The water softening system appears to be fully functional and able to meet the needs of the facility.*

Fire Protection

→ *Piping within the tunnels was not evaluated as a part of this work.*
→ *The facility is protected by a wet pipe fire sprinkler system equipped with the appropriate code-required accoutrements. All portions of system appear to be fully functional and in compliance with the appropriate codes and standards. The inspection logs indicate currency with all required testing and inspection intervals.*

ELECTRICAL

Electrical Distribution

- → *Secondary Power is 480Y/277V, 3Phase, 4Wire. Campus Primary distribution system serves this building. 208Y/120V power is derived from dry-type transformers in the existing electrical distribution system.*
- → *Electrical Equipment Switchboards and/or Panels manufacturer varied from very old and original equipment such as Square D and GE, new were equipment such as EATON. The newer equipment was upgraded in the last 10 to 15 years and are in good condition. The older equipment looks like it is original and additional sections added to the original section in some renovations. Existing equipment is able to be maintained by NMJC M&O personnel. The existing electrical equipment did have the required code clearances and most of the equipment was in locked rooms; either in an electrical room or mechanical room.*
- → *This Central Plant electrical distribution served other buildings in the area such as McClean Hall, Caster Hall, a portion of Don Whitakers welding shop area, the equipment in the Central Plant, and other outlying equipment and buildings surrounding the Central Plant.*
- → *Recommend buildings such as McClean Hall and Caster Hall be separated from the Central Plant and utilize their own connections to the Campus Primary distribution. This would allow those buildings to be on their own and not associated with the Central Plant should the Central Plant lose power.*
- → *Recommendation for the NMJC administration of this building would be to remove all janitorial and storage items from with-in room and leave as an electrical/Technology room. Because this room has electrical equipment only trained personnel with proper protective gear should enter this room. During survey it was difficult to get to equipment without moving items from the front of equipment.*

Grounding

- → *Visual Confirmation of Proper and Code compliant grounding was not achievable this required an electrician to open electrical to view inside. Use of Equipment ground conductors, proper conduit grounding, and overall Grounding of distribution system will require verification during any redesign of this building. A Ground Bar was not present.*
- → *Recommend a closer visual inspection internal to electrical equipment for a better verification of the existing grounding system.*

General Purpose Power

- → *Receptacles in the building were mounted at 1'-2" which is not to latest ADA requirements in most of the older walls in the building. In renovation and newer areas of the building receptacles are at 1'-6". Most devices and cover plates are the age of the building and or latest renovations; with minimal damage to either. GFCI devices were throughout the facility and will require verification*

for the latest codes. Receptacles mounted near mechanical equipment per code were not present on any roof mounted equipment.

→ *Recommend relocating non ADA compliant devices be made compliant where possible. This may require surface mounting devices where mounted in existing CMU walls.*

Lighting

→ *Lamp types were approximately 75% Fluorescent and 25% LED type luminaires. T8 in utility spaces and in the majority of the spaces. Luminaire types were mostly industrial strips, and other types. Some of the luminaires were aged to be from original building construction, with some damage to lenses and wire guards as well as dust build up which minimize the lumen output of the luminaires.*

→ *Recommend replacing all building lighting to 100% LED type luminaires and thereby provide additional energy savings.*

Life Safety Illumination

→ *Lamp and luminaire types indicated in 4a above are used for Life Safety Illumination via internal batteries to luminaires and some Bug-eyes. Life Safety Illumination in general seemed to not be adequate for it purpose in the building.*

→ *Recommend an upgrade of the entire life Safety Illumination in the building.*

Lighting Control

→ *Switch types throughout building were toggle type switches. All switch control were line voltage connected. There are no low voltage type control devices. Switches in the building were mounted at between 48" and 54." In some instances device locations do not meet the latest ADA requirements in most of the older walls in the building. In additions and newer areas of the building switches do meet ADA requirements. Most devices and cover plates are the age of the building and or latest renovations; with minimal damage to either.*

Electrical Disconnect Switches and other control equipment

→ *Disconnects Switches at mechanical equipment appeared to be in good condition, but old on mechanical equipment.*

→ *Recommend replacement to the newer equipment.*

Opinion of Probable cost to upgrade this buildings various systems indicated above: a. 5,850Sq.ft. X $25/Sq.ft. = $146,250.00

→ *This cost does not include unforeseen conditions in the replacement of the existing electrical equipment should removal of several buildings be accommodated.*

→ *This cost does not include any service upgrades that may be required should NMJC increase square footage and/or load requirements in this building.*

MARY HAGELSTEIN INDUSTRIAL ARTS CENTER (HAC) BUILDING #11

Existing Building is a single story building with Classrooms for Art, Offices, Copy and Print Services, Storage, Restrooms, and Utility Space. The building approximately 11,553Sq.ft.

MECHANICAL

- → *This building includes was constructed in the mid 1970's. The building HVAC system includes ceiling mounted fan coil units, hot water unit heaters and several small packaged roof top units with gas fired heat exchangers and DX cooling. The fan coil units include hot water and chilled water coils. Chilled water and hot water piping extends from the central plant in an underground tunnel. Ventilation air is provided with roof openings with hoods and gooseneck fittings. Hot water unit heaters are provided in storage rooms. A packaged roof top unit is provided in what was originally an Industrial Arts shop classroom along with a central sawdust collector with exhaust ductwork extending to shop tools. A large inlet/makeup hood is located above the same area served by the sawdust collector. There are several areas that also have packaged roof top units, some are heat pump type units and some include gas heat and DX cooling. These units appear to have been added after the original building construction. The unit sizes range from 2 to 4 ton in size. At least one packaged unit is believed to have R22 refrigerant based on operating pressure listed on name plate.*
- → *There are roof mounted exhaust fans on the building roof, some are for restrooms and others for class specific functions. A small building addition was added to the south end of the building after the original building construction. The drawings available do not indicate this addition area. The newer addition contains ceramic pottery kilns with overhead exhaust hoods for heat removal. The kilns range in size from small electric type to a large gas fired type. The kiln room has a roof mounted evaporative cooler.*
- → *It was noted that the sawdust collector exhaust fan belt was broken and appeared to be in poor condition due to age and possibly abandoned. It was not determined if this device is actually required the type of classes provided. A small portable dust collector was noted in the industrial art type room.*

PLUMBING

Plumbing Fixtures

- → *Plumbing fixtures and trim within the restrooms are in fine condition. Elsewhere throughout the facility the fixtures and trim are in generally poor condition. Additional investigation by an Architect is needed in the older portions of the facility to determine that code required fixture counts, water conservation goals, and ADA compliance are met within the current layouts. Emergency eye wash/shower provisions merit additional scrutiny by an Architect along with compliance with tepid water requirements.*

Sanitary Sewer Piping

- → *No destructive investigation was undertaken to determine material types, condition, and sizing. Rather, this assessment relied upon observation and discussions with NMJC personnel to inform the effort. Similarly, the exterior piping was not included in this assessment. Limited portions of the system are visible for inspection. Floor drains and floor sinks are in serviceable condition. Maintenance personnel report that adequate numbers of floor-, wall-, and exterior cleanouts exist to allow ready routine maintenance.*
- → *The need for chemical neutralization at the wet process photo developing suite merits further attention. The need for sediment interception merits further attention at all sinks subject to contaminants.*

Roof Drain Piping

- → *The roof and overflow drains themselves are in serviceable condition and functioning as intended. Maintenance personnel stated the roof and overflow piping is in fair condition. The terminations are properly executed and functional with few exceptions.*

Domestic Water Piping

- → *Piping within the tunnels was not evaluated as a part of this work.*
- → *The facility is plumbed with a mix of galvanized and type L copper pipe/fittings. Insulation is generally intact and lines are properly jacketed and labeled. Several lines have been added to support mission changes and in these instances proper pipe support, insulation, labeling, etc. is inadequate. Sufficient numbers of isolation valves are present to allow for routine maintenance.*
- → *Exterior wall hydrants are in a serviceable condition.*

Natural Gas Piping

- → *The facility is served by a natural gas system that appears to be in serviceable condition. The maintenance personnel report no known operational deficiencies.*
- → *Piping within the tunnels was not evaluated as a part of this work.*
- → *The kilns are properly piped and fitted with the necessary interlocks.*

Compressed Air Piping

- → *The piping system is comprised of galvanized steel pipe and fittings. The observable portions of the system exhibit no outward signs of failure. Point-of-use regulator/filter assemblies are functional, but vary widely in their make-up and condition.*

Fire Protection

- → *The facility is not protected by a fire sprinkler system.*

ELECTRICAL

- → *Electrical Distribution.*

- → *Secondary Power is 480Y/277V, 3Phase, 4Wire. Campus Primary distribution system serves this building. 208Y/120V power is derived from dry-type transformers in the existing electrical distribution system.*
- → *Electrical Equipment Switchboards and/or Panels manufacturer is EATON. The equipment was upgraded in the last 10 to 15 years and are in good condition. Existing equipment is able to be maintained by NMJC M&O personnel. The existing electrical equipment did have the required code clearances and most of the equipment was in locked rooms; either in an electrical room or mechanical room.*
- → *Recommendation for the NMJC administration of this building would be to remove all janitorial and storage items from with-in room and leave as an electrical/Technology room. Because this room has electrical equipment only trained personnel with proper protective gear should enter this room. During survey it was difficult to get to equipment without moving items from the front of equipment.*

Grounding

- → *Visual Confirmation of Proper and Code compliant grounding was not achievable this required an electrician to open electrical to view inside. Use of Equipment ground conductors, proper conduit grounding, and overall Grounding of distribution system will require verification during any redesign of this building. A Ground Bar was not present.*
- → *Recommend a closer visual inspection internal to electrical equipment for a better verification of the existing grounding system.*

General Purpose Power

- → *Receptacles in the building were mounted at 1'-2" which is not to latest ADA requirements in most of the older walls in the building. In renovation and newer areas of the building receptacles are at 1'-6". Most devices and cover plates are the age of the building and or latest renovations; with minimal damage to either. GFCI devices were throughout the facility and will require verification for the latest codes. Receptacles mounted near mechanical equipment per code were not present on any roof mounted equipment.*
- → *Recommend non ADA compliant devices be made compliant where possible. This may require surface mounting devices where mounted in existing CMU walls.*

Lighting

- → *Lamp types were fluorescent. T12 in utility spaces and T8 in the majority of the spaces. Luminaire types vary from 2X4, 1X4, Strips, and other types. Some of the luminaires were aged to be from original building construction, with damage to lenses such as cracking, and yellowing of the lens as well as dust build up which minimize the lumen output of the luminaires.*
- → *Recommend replacing all building lighting to 100% LED type luminaires and thereby provide additional energy savings.*

Life Safety Illumination

- → *Lamp and luminaire types indicated in 4a above are used for Life Safety Illumination via a very old battery inverter. Life Safety Illumination in general seemed to not be adequate for it purpose in the building.*
- → *Recommend an upgrade of the entire life Safety Illumination in the building.*

Lighting Control

- → *Switch types throughout building were toggle type switches. No dimming switches were present. All switch control were line voltage connected. There are no low voltage type control devices. Switches in the building were mounted at between 48" and 54." In some instances device locations do not meet the latest ADA requirements in most of the older walls in the building. In renovation and newer areas of the building switches do meet ADA requirements. Most devices and cover plates are the age of the building and or latest renovations; with minimal damage to either.*
- → *Recommend upgrading lighting control to improve energy savings in each space and building.*

Electrical Disconnect Switches and other control equipment

- → *Disconnects Switches at mechanical equipment appeared to be in good condition, but old and weathered on roof top mechanical equipment. Internal to building the electrical equipment was also old.*
- → *Recommend replacement to the newer equipment.*

Opinion of Probable cost to upgrade this buildings various systems indicated above: a. 11,553Sq.ft. X $12/Sq.ft. = $138,636.00

- → *This cost does not include unforeseen conditions that may exist in concealed walls and ceilings.*
- → *This cost does not include any service upgrades that may be required should NMJC increase square footage and/or load requirements in this building.*

DON WHITAKER AUTOMOTIVE TECHNOLOGY CENTER (WAC) BUILDING #12

Existing Building is a single story building with Classrooms for Welding and Automotive, Automotive and Welding shops, Offices, Storage, Restrooms, and Utility Spaces. The building approximately 65,763Sq.ft.

MECHANICAL

This building consists of original construction from mid-1970's and with several newer additions. The newest addition area is completed in the late 1990's. Hot water piping extends from the central plant to this building. This piping enters the building at two locations along the west side of the building. There are two sets of piping mains, one set for the original bldg. construction and one set for the newer addition. The newer addition and piping set also includes chilled water piping.

The original part of the building is at the southwest corner of the building. This area includes welding shop and class, machine shop, storage areas, two auto shop bays, restrooms, locker rooms and shop office. The HVAC for this area includes evaporative coolers, makeup air units with hot water heating coils, blower coil units with hot water coils and gas fired unit heaters. Additionally, there is a packaged DX/Gas roof top unit that serves the small office area. Additionally, there are numerous exhaust fans on the roof the serve the auto shop, welding areas. It was noted that the welding shop class has numerous stations with filter /recirculating type hoods that where added after the original construction. The restroom/locker area needs better ventilation. Reviewing the original construction drawings, it is not apparent that there is any exhaust, makeup or temperature control for the restroom areas. The welding shop area is served by evaporative cooler and makeup air units with hot water heating coils. The makeup units include dampered outside air and return openings, three way mixing valves and recirculating pumps for freeze protection of the coil. The makeup air units appear to be in poor condition and likely have exceeded their normal service life. The hot water piping and insulation appear to be poor condition in places.

A small addition to the southeast corner of the building includes a two auto shop bays, and small classroom. This area's HVAC includes gas fired makeup air unit with dampered outside and return openings. Two evaporative coolers provide cooling to the space. The shop bays have vehicle exhaust with ductwork routed from sidewall exhaust fans located high in the ceiling space down to under slab to tail pipe connect points. The evaporative cooling and heating unit supply ducts where noted as being fabricated from painted duct board, not sheet metal material. This type of ductwork is recommended to be replaced, especially on ductwork associated with evaporative cooling.

The newer north half of the building was constructed in the late 1990's. This area consists of auto shop bays, small classroom areas and miscellaneous support spaces. The HVAC for this area includes nine (9) roof mounted air handlers with chilled water and hot water coils, outside air and return openings. Several units have additional hot water reheat for additional zoning control. The auto shop bays include

vehicle exhaust and general exhaust fan. The equipment on the new addition appears to be good condition.

PLUMBING

Plumbing Fixtures
Plumbing fixtures and trim throughout the original facility are in poor condition while fixtures and trim throughout the addition are in fine condition. The older fixtures and trim consume enough water as to suggest the flush valves have failed. Additional investigation by an Architect is needed in the older portions of the facility to determine that code required fixture counts, water conservation goals, and ADA compliance are met within the current layouts. Emergency eye wash/shower provisions merit additional scrutiny by an Architect along with compliance with tepid water requirements.

Sanitary Sewer Piping
No destructive investigation was undertaken to determine material types, condition, and sizing. Rather, this assessment relied upon observation and discussions with NMJC personnel to inform the effort. Similarly, the exterior piping was not included in this assessment. Limited portions of the system are visible for inspection. Floor drains and floor sinks are in serviceable condition. Maintenance personnel report that adequate numbers of floor-, wall-, and exterior cleanouts exist to allow ready routine maintenance. The need for sediment interception on piping serving floor drains within the welding bay merits further attention.

Roof Drain Piping
The roof and overflow drains themselves are in serviceable condition and functioning as intended. Maintenance personnel stated the roof and overflow piping is in fair condition. Some leakage was noted around the roof drain bodies and the roofing interface. The terminations are properly executed and functional.

Domestic Water Piping
On-site buried water piping was not evaluated as a part of this work.

The original facility is plumbed primarily with galvanized pipe and fittings while the addition is plumbed with type L copper pipe and fittings. Similarly, the original facility generally lacks proper insulation, jacketing, and labeling while the addition is properly insulated, jacketed, and labeled. Sufficient numbers of isolation valves are present to allow for routine maintenance.

Exterior wall hydrants are in a serviceable condition.

Natural Gas Piping
The facility is served by a natural gas system that appears to be in serviceable condition. The maintenance personnel report no known operational deficiencies.

Exterior buried piping was not evaluated as a part of this work.

Compressed Air Piping
The system is comprised of a combination of steel and copper pipe and fittings. The system shows no outward signs of failure. Terminations (hose reel, hose rack, quick disconnects, and pressure regulators) appear to be functioning as intended.

Welding Gas Piping
Piping serving the carbon dioxide, argon, oxygen, and acetylene systems is properly supported and shows no signs of failure. Regulators are in generally poor condition. The supply manifolds are properly mounted and configured. However, the required shade canopy is missing and should be added.

Equipment
The domestic water heater is in serviceable condition and appears to be functioning as intended. The Maintenance personnel and faculty did not report any operational inadequacies. Expansion tanks are needed at both water heaters.

Fire Protection
Piping within the tunnels was not evaluated as a part of this work.
The existing facility is not protected by a fire sprinkler system. The new facility is protected by a wet pipe fire sprinkler system equipped with the appropriate code- required accoutrements. All portions of system appear to be fully functional and in compliance with the appropriate codes and standards. The inspection logs indicate currency with all required testing and inspection intervals.

ELECTRICAL

Electrical Distribution.
Secondary Power is 480Y/277V, 3Phase, 4Wire. Two incoming services serve this building; one from the Campus Primary distribution system, and another from the Central Plant. The building was not labeled that the two services serve this building, but the building had two main switchboards in the building. One service appeared to serve the old Original building (1966) and the other served the newest addition to the building (1980). 208Y/120V power is derived from dry-type transformers in the existing electrical distribution system.

Electrical Equipment Switchboards and/or Panels manufacturer in the 1966 portion of the building were Square D and from the original construction with some newer EATON panels added later in the welding and automotive shops of this section of the building. With the newer equipment upgraded in the last 10 to 15 years and are in good condition. In the 1980 addition was mainly Square D manufactured equipment and in good condition. The existing equipment in both sections of the building is able to be maintained by NMJC M&O personnel. The existing electrical equipment did have the required code

clearances and most of the equipment was in locked rooms in the 1980 portion of the building and all other locations was exposed in the various shops.

→ *Recommendation for the NMJC administration of this building would be to remove all janitorial and storage items from with-in room and leave as an electrical/Technology room. Because this room has electrical equipment only trained personnel with proper protective gear should enter this room. During survey it was difficult to get to equipment without moving items from the front of equipment.*

→ *Recommend that if there are two separate services that they be combined onto one service and connected to the Campus Primary distribution and not be connected through the Central Plant.*

Grounding

Visual Confirmation of Proper and Code compliant grounding was not achievable this required an electrician to open electrical to view inside. Use of Equipment ground conductors, proper conduit grounding, and overall Grounding of distribution system will require verification during any redesign of this building. A Ground Bar was not present.

→ *Recommend a closer visual inspection internal to electrical equipment for a better verification of the existing grounding system.*

→ *Recommend that if there are two service they be combined into one and grounding be upgraded with the new service.*

General Purpose Power

Receptacles in the building were mounted at 1'-2" which is not to latest ADA requirements in most of the older walls in the building. In renovation and newer areas of the building receptacles are at 1'-6". Most devices and cover plates are the age of the building and or latest renovations; with minimal damage to either. GFCI devices were throughout the facility and will require verification for the latest codes. Receptacles mounted near mechanical equipment per code were not present on any roof mounted equipment.

→ *Recommend relocating non ADA compliant devices be made compliant where possible. This may require surface mounting devices where mounted in existing CMU walls.*

→ *Recommend the welding exhaust system be reviewed carefully. The electrical equipment, devices, lighting were filled with welding debris and basically all devices were dirty to the touch and appeared to be warn. If electrical equipment is replaced throughout the welding area it would be a good idea to clean the room and equipment to a satisfactory level for use for the next 20 years. If not and we replace devices the devices should be in covers that will help to protect from welding debris and exhaust.*

Lighting
Lamp types were approximately 75% Fluorescent and 25% LED type luminaires. T12 in utility spaces and T8 in the majority of the spaces. Some of the luminaires in the 1966 Auto shop area had some LED luminaires. Luminaire types vary from 2X4, 1X4, Industrial Strips, and other types. Some of the luminaires were aged to be from original building construction, with damage to lenses such as cracking, and yellowing of the lens as well as dust build up which minimize the lumen output of the luminaires.

→ *Recommend replacing all building lighting to 100% LED type luminaires and thereby provide additional energy savings.*

Life Safety Illumination
Lamp and luminaire types indicated in 4a above are used for Life Safety Illumination via a very old battery inverter, internal batteries in luminaires, and some bug-eyes in some locations. Life Safety Illumination in general seemed to not be adequate for it purpose in the building.

→ *Recommend an upgrade of the entire life Safety Illumination in the building.*

Lighting Control.
Switch types throughout building were toggle type switches. No dimming switches were present. All switch control were line voltage connected. There are no low voltage type control devices. Switches in the building were mounted at between 48" and 54." In some instances device locations do not meet the latest ADA requirements in most of the older walls in the building. In renovation and newer areas of the building switches do meet ADA requirements. Most devices and cover plates are the age of the building and or latest renovations; with minimal damage to either.

→ *Recommend upgrading lighting control to improve energy savings in each space and building.*

Electrical Disconnect Switches and other control equipment
Disconnects Switches at mechanical equipment appeared to be in good condition, but old and weathered on roof top mechanical equipment. Internal to building the electrical equipment was also old in the basement. In the addition that was done in the last 12 years all equipment appeared to be in good condition. In the older section which was also renovated the equipment was older and in need of some upgrades.

→ *Recommend replacement to the newer equipment where in the older section of the building.*

Opinion of Probable cost to upgrade this building various systems indicated above: a. 65,763Sq.ft. X $15/Sq.ft. = $986,445.00

→ *This cost does not include unforeseen conditions that may exist in concealed walls and ceilings.*
→ *This cost does not include any service upgrades that may be required should NMJC increase square footage and/or load requirements in this building.*

HAROLD RUNNELS RESIDENCE HALL (RRH) BUILDING #14 – OLD ZIA HALL

Existing Building is a two story building with Dorm Rooms for Students, RA Office, Student Game Area, Storage, Restrooms, and Utility Spaces. The building approximately 18,160Sq.ft.

MECHANICAL

The Zia and Thunderbird two story dorms and where constructed in 1990 (approximately). These buildings are very similar in construction. The HVAC system these buildings consists of 4-pipe fan coils. Hot Water and Chilled Water piping extends from the central plant. The piping is direct buried to these bldgs. The piping mains serve both these two buildings along with the newer John Watson and Carroll Leavell Student apartment buildings.
The dorm rooms and all rooms in general are conditioned with 4-pipe fan coils. The bathrooms in each dorm room have ceiling mounted exhaust fans with ductwork extending up to the roof. There are chilled water and hot water booster pumps located inside a small closet at the piping entrance of each building. The piping observable piping the booster pumps within these two dorm buildings is in poor condition. The exterior surfaces of the piping and pumps within the closets has lots of corrosion. Some of the corrosion is server enough, that it is recommended that the interior surface condition of the piping and equipment be investigated.
The cause of this corrosion is unknown. Corrosion in many of the buildings was observed. It could be that climate in the Hobbs area is much more humid promoting corrosion. Or corrosion due to some kind of galvanic action. The piping systems should be further investigated for dielectric unions, and cathodic protection measures. If piping is replaced, these type of measures should be added, or upgraded, if not already in place. Structural members and metal hangers, etc. have corrosion in places.
It was noted that the dryers within the laundry area where not working adequately. The distance from the dry vent connections to the discharge locations was noted as much longer than normally utilized for residential / light commercial dryers. One possible solution, would be to obtain dryers that are specifically rated for longer venting distances. Additionally, the vents should be thoroughly clean or replaced with new.

PLUMBING

Plumbing Fixtures
Plumbing fixtures and trim are in generally fine condition. Additional investigation by an Architect is needed in the older portions of the facility to determine that code required fixture counts, water conservation goals, and ADA compliance are met within the current layouts.

Sanitary Sewer Piping
No destructive investigation was undertaken to determine material types, condition, and sizing. Rather, this assessment relied upon observation and discussions with NMJC personnel to inform the effort.

Similarly, the exterior piping was not included in this assessment. Limited portions of the system are visible for inspection. Floor drains and floor sinks are in serviceable condition. Maintenance personnel report that inadequate numbers of floor-, wall-, and exterior cleanouts exist to allow ready routine maintenance.

Roof Drain Piping
The roof and overflow drains themselves are in serviceable condition and functioning as intended. Maintenance personnel stated the roof and overflow piping is in fair condition. The terminations are properly executed and functional.

Domestic Water Piping
Exterior buried piping was not evaluated as a part of this work.
The facility is plumbed with a mix of galvanized and type L copper pipe/fittings. Insulation is generally intact and lines are properly jacketed and labeled. Sufficient numbers of isolation valves are present to allow for routine maintenance.
Exterior wall hydrants are in a serviceable condition.

Natural Gas Piping
- → *The facility is served by a natural gas system that appears to be in serviceable condition. The maintenance personnel report no known operational deficiencies.*
- → *Exterior buried piping was not evaluated as a part of this work.*

Equipment
The domestic water heater is in serviceable condition and appears to be functioning as intended as is the case with the hot water storage tanks. The Maintenance personnel and faculty did not report any operational inadequacies. Expansion tanks are needed at both water heaters. A thermostatic mixing valve and expansion tank are needed.

Fire Protection
Exterior buried piping was not evaluated as a part of this work.
The facility is protected by a wet pipe fire sprinkler system equipped with the appropriate code-required accoutrements. All portions of system appear to be fully functional and in compliance with the appropriate codes and standards. The inspection logs indicate currency with all required testing and inspection intervals.
No evidence of cross connection prevention can be found.

ELECTRICAL

Electrical Distribution.
Secondary Power is 208Y/120V, 3Phase, 4Wire. Campus Primary distribution system serves this building.

Electrical Equipment Switchboards and/or Panels manufacturer is Siemens. The equipment was upgraded in the last 10 to 15 years and are in good condition. Existing equipment is able to be maintained by NMJC M&O personnel.
The existing electrical equipment did NOT have the required code clearances and most of the equipment was in locked rooms; either in an electrical room or mechanical room. IT equipment racks impeded the working clearance of the electrical panels in the main electrical room.

→ *Recommend creating additional space for the IT equipment and relocating that equipment or expand the existing space into an adjacent room and provide proper clearances.*

→ *Recommendation for the NMJC administration of this building would be to remove all janitorial and storage items from with-in room and leave as an electrical/Technology room. Because this room has electrical equipment only trained personnel with proper protective gear should enter this room. During survey it was difficult to get to equipment without moving items from the front of equipment.*

Grounding
Visual Confirmation of Proper and Code compliant grounding was not achievable this required an electrician to open electrical to view inside. Use of Equipment ground conductors, proper conduit grounding, and overall Grounding of distribution system will require verification during any redesign of this building. A Ground Bar was not present.

→ *Recommend a closer visual inspection internal to electrical equipment for a better verification of the existing grounding system.*

General Purpose Power
Receptacles in the building were mounted at 1'-2" which is not to latest ADA requirements in most of the older walls in the building. In other locations such as in the dorm rooms and gathering areas of the building receptacles are at 1'-6" or higher. Most devices and cover plates are the age of the building and or latest renovations; with minimal damage to either. GFCI devices were throughout the facility and will require verification for the latest codes. Receptacles mounted near mechanical equipment per code were not present on any roof mounted equipment. Most Mechanical equipment was internal to the building.

→ *Recommend non ADA compliant devices be made compliant where possible. This may require surface mounting devices where mounted in existing CMU walls.*

Lighting
Lamp types were fluorescent. T12 in utility spaces and T8 in the majority of the spaces. Luminaire types vary from 2X4, 1X4, Strips, and other types. Some of the luminaires were aged to be from original building construction, with damage to lenses such as cracking, and yellowing of the lens as well as dust build up which minimize the lumen output of the luminaires.

→ *Recommend replacing all building lighting to 100% LED type luminaires and thereby provide additional energy savings.*

Life Safety Illumination
Lamp and luminaire types indicated in 4a above are used for Life Safety Illumination via internal batteries in the luminaires and bug-eyes located trough out the corridors. Life Safety Illumination in general seemed to not be adequate for its purpose in the building.

→ *Recommend an upgrade of the entire life Safety Illumination in the building.*

Lighting Control
Switch types throughout building were toggle type switches. No dimming switches were present. All switch control were line voltage connected. There are no low voltage type control devices. Switches in the building were mounted at between 48" and 54." Most devices and cover plates are the age of the building and or latest renovations; with minimal damage to either.

→ *Recommend upgrading lighting control to improve energy savings in each space and building. Provide Occupancy type sensors in some of the rooms throughout the dorm building.*

Electrical Disconnect Switches and other control equipment
Disconnects Switches at mechanical equipment appeared to be in good condition, but old and weathered. Internal to building the electrical equipment was also old.

→ *Recommend replacement to the newer equipment.*

Opinion of Probable cost to upgrade this building various systems indicated above: a. 18,160Sq.ft. X $15/Sq.ft. = $272,400.00

→ *This cost does not include unforeseen conditions that may exist in concealed walls and ceilings.*
→ *This cost does not include any service upgrades that may be required should NMJC increase square footage and/or load requirements in this building.*

GLEN & ROSEMARY HOUSTON THUNDERBIRD HALL (HRH) BUILDING #15

Existing Building is a two story building with Dorm Rooms for Students, RA Office, Student Game Area, Storage, Restrooms, and Utility Spaces. The building approximately 18,160Sq.ft.

MECHANICAL

See comments for Zia #14 dorm building. This building is nearly identical to the Zia building with similar HVAC systems and issues.

PLUMBING

Plumbing Fixtures
Plumbing fixtures and trim are in serviceable condition. Additional investigation by an Architect is needed in the older portions of the facility to determine that code required fixture counts, water conservation goals, and ADA compliance are met within the current layouts.

Sanitary Sewer Piping
No destructive investigation was undertaken to determine material types, condition, and sizing. Rather, this assessment relied upon observation and discussions with NMJC personnel to inform the effort. Similarly, the exterior piping was not included in this assessment. Limited portions of the system are visible for inspection. Floor drains and floor sinks are in serviceable condition. Maintenance personnel report that inadequate numbers of floor-, wall-, and exterior cleanouts exist to allow ready routine maintenance.

Roof Drain Piping
The roof and overflow drains themselves are in serviceable condition and functioning as intended. Maintenance personnel stated the roof and overflow piping is in fair condition. The terminations are properly executed and functional.

Domestic Water Piping
Exterior buried piping was not evaluated as a part of this work.

The facility is plumbed with a mix of galvanized and type L copper pipe/fittings. Insulation is generally intact and lines are properly jacketed and labeled. Sufficient numbers of isolation valves are present to allow for routine maintenance.

Exterior wall hydrants are in a serviceable condition.

Natural Gas Piping
The facility is served by a natural gas system that appears to be in serviceable condition. The maintenance personnel report no known operational deficiencies.

Exterior buried piping was not evaluated as a part of this work.

Equipment
The domestic water heaters are in serviceable condition and appear to be functioning as intended as is the case with the hot water storage tanks. The Maintenance personnel and faculty did not report any operational inadequacies. Expansion tanks are needed at both water heaters. A thermostatic mixing valve and expansion tank are needed.

Fire Protection
Exterior buried piping was not evaluated as a part of this work.
The facility is protected by a wet pipe fire sprinkler system equipped with the appropriate code-required accoutrements. All portions of system appear to be fully functional and in compliance with the appropriate codes and standards. The inspection logs indicate currency with all required testing and inspection intervals.

ELECTRICAL

Electrical Distribution
Secondary Power is 208Y/120V, 3Phase, 4Wire. Campus Primary distribution system serves this building.

Electrical Equipment Switchboards and/or Panels manufacturer is Siemens. The equipment was upgraded in the last 10 to 15 years and are in good condition. Existing equipment is able to be maintained by NMJC M&O personnel.

The existing electrical equipment did NOT have the required code clearances and most of the equipment was in locked rooms; either in an electrical room or mechanical room. IT equipment racks impeded the working clearance of the electrical panels in the main electrical room.

→ *Recommend creating additional space for the IT equipment and relocating that equipment or expand the existing space into an adjacent room and provide proper clearances.*

→ *Recommendation for the NMJC administration of this building would be to remove all janitorial and storage items from with-in room and leave as an electrical/Technology room. Because this room has electrical equipment only trained personnel with proper protective gear should enter this room. During survey it was difficult to get to equipment without moving items from the front of equipment.*

Grounding
Visual Confirmation of Proper and Code compliant grounding was not achievable this required an electrician to open electrical to view inside. Use of Equipment ground conductors, proper conduit grounding, and overall Grounding of distribution system will require verification during any redesign of this building. A Ground Bar was not present.

→ *Recommend a closer visual inspection internal to electrical equipment for a better verification of the existing grounding system.*

General Purpose Power
Receptacles in the building were mounted at 1'-2" which is not to latest ADA requirements in most of the older walls in the building. In other locations such as in the dorm rooms and gathering areas of the building receptacles are at 1'-6" or higher. Most devices and cover plates are the age of the building and or latest renovations; with minimal damage to either. GFCI devices were throughout the facility and will require verification for the latest codes. Receptacles mounted near mechanical equipment per code were not present on any roof mounted equipment. Most Mechanical equipment was internal to the building.

→ *Recommend non ADA compliant devices be made compliant where possible. This may require surface mounting devices where mounted in existing CMU walls.*

Lighting
Lamp types were fluorescent. T12 in utility spaces and T8 in the majority of the spaces. Luminaire types vary from 2X4, 1X4, Strips, and other types. Some of the luminaires were aged to be from original building construction, with damage to lenses such as cracking, and yellowing of the lens as well as dust build up which minimize the lumen output of the luminaires.

→ *Recommend replacing all building lighting to 100% LED type luminaires and thereby provide additional energy savings.*

Life Safety Illumination
Lamp and luminaire types indicated in 4a above are used for Life Safety Illumination via internal batteries in the luminaires and bug-eyes located trough out the corridors. Life Safety Illumination in general seemed to not be adequate for its purpose in the building.

→ *Recommend an upgrade of the entire life Safety Illumination in the building.*

Lighting Control
Switch types throughout building were toggle type switches. No dimming switches were present. All switch control were line voltage connected. There are no low voltage type control devices. Switches in the building were mounted at between 48" and 54." Most devices and cover plates are the age of the building and or latest renovations; with minimal damage to either.

→ *Recommend upgrading lighting control to improve energy savings in each space and building. Provide Occupancy type sensors in some of the rooms throughout the dorm building.*

Electrical Disconnect Switches and other control equipment
Disconnects Switches at mechanical equipment appeared to be in good condition, but old and weathered. Internal to building the electrical equipment was also old.

→ *Recommend replacement to the newer equipment.*

Opinion of Probable cost to upgrade this building various systems indicated above: a. 18,160Sq.ft. X $15/Sq.ft. = $272,400.00

→ *This cost does not include unforeseen conditions that may exist in concealed walls and ceilings.*
→ *This cost does not include any service upgrades that may be required should NMJC increase square footage and/or load requirements in this building.*

JOHN WATSON STUDENT APARTMENTS (JWA) BUILDING #16

Existing Building is a three story building with Student Apartments. This building is attached to Carroll Leavell Student Apartments and are tied together with a central Utility Space, Laundry, and Game room. The building approximately 34,401Sq.ft.

MECHANICAL

This building along with Carroll Leavell student apartments are similar in design and construction. These buildings where constructed in 2006 approximately. These two apartment buildings shall a common mechanical room where chilled water, and hot water mains continue and extend from the Zia and Thunderbird dorm buildings. The piping enters the centrally located mechanical room. Within the mechanical room are booster circulating pumps. The hot water and chilled piping branch to the two apartment building and connect to 4-pipe fan coils with supply ductwork extending to individual rooms within each apartment. Each dorm also includes ceiling mounted exhaust fans within the bathroom areas. The exhaust fan discharge is ducted through chases to the roof of the building.

There is an electrical room adjacent to the mechanical room which was noted as needing additional cooling capacity. In general the HVAC equipment, including piping within the mechanical space was noted to be in good condition.

PLUMBING

Plumbing Fixtures
Plumbing fixtures and trim are in generally fine condition. Additional investigation by an Architect is needed in the older portions of the facility to determine that code required fixture counts, water conservation goals, and ADA compliance are met within the current layouts.

Sanitary Sewer Piping
No destructive investigation was undertaken to determine material types, condition, and sizing. Rather, this assessment relied upon observation and discussions with NMJC personnel to inform the effort. Similarly, the exterior piping was not included in this assessment. Limited portions of the system are visible for inspection. Floor drains and floor sinks are in serviceable condition. Maintenance personnel report that inadequate numbers of floor-, wall-, and exterior cleanouts exist to allow ready routine maintenance.

Roof Drain Piping
The architectural gutters and downspouts are in serviceable condition and functioning as intended. Maintenance personnel stated there are no known operational problems.

Domestic Water Piping

- → *Exterior buried piping was not evaluated as a part of this work.*
- → *The facility is plumbed with type L copper pipe/fittings. Insulation is generally intact and lines are properly jacketed and labeled. Sufficient numbers of isolation valves are present to allow for routine maintenance.*
- → *Exterior wall hydrants are in a serviceable condition.*

Natural Gas Piping

The facility is served by a natural gas system that appears to be in serviceable condition. The maintenance personnel report no known operational deficiencies.

Exterior buried piping was not evaluated as a part of this work.

Equipment

The domestic water heaters are in serviceable condition and appear to be functioning as intended as is the case with the hot water storage tanks. The Maintenance personnel and faculty did not report any operational inadequacies. Expansion tanks are needed at both water heaters. A thermostatic mixing valve and expansion tank are needed.

Fire Protection

Exterior buried piping was not evaluated as a part of this work.

The facility is protected by a wet pipe fire sprinkler system equipped with the appropriate code-required accoutrements. All portions of system appear to be fully functional and in compliance with the appropriate codes and standards. The inspection logs indicate currency with all required testing and inspection intervals.

ELECTRICAL

Electrical Distribution.

Secondary Power is 208Y/120V, 3Phase, 4Wire. Campus Primary distribution system serves this building.

Electrical Equipment Switchboards and/or Panels manufacturer is Square D. The equipment was installed in the last 10 to 15 years and are in good condition. Existing equipment is able to be maintained by NMJC M&O personnel. The existing electrical equipment did have the required code clearances in most apartments and most of the equipment was not locked in apartments.

Main switchboard in the main electrical room did not have the required code clearances and entrances based on size of electrical equipment.

→ *Recommend providing a second entrance on opposite side of the existing electrical room. Presently the room does not have 8'-0" clear in front of the 1200A switchboard and also there is items stored in this rooms that should not be in the room. With a second entrance the clearance required is 4'-0".*

→ *Recommendation for the NMJC administration of this building would be to remove all janitorial and storage items from with-in room and leave as an electrical/Technology room. Because this room has electrical equipment only trained personnel with proper protective gear should enter this room. During survey it was difficult to get to equipment without moving items from the front of equipment.*

Grounding
Visual Confirmation of Proper and Code compliant grounding was not achievable this required an electrician to open electrical to view inside. Use of Equipment ground conductors, proper conduit grounding, and overall Grounding of distribution system will require verification during any redesign of this building. A Ground Bar was present.

→ *Recommend a closer visual inspection internal to electrical equipment for a better verification of the existing grounding system.*

General Purpose Power
Receptacles in the building were mounted at ADA requirements in most of the walls in the building. Most devices and cover plates are the age of the building and or latest renovations; with minimal damage to either. GFCI devices were throughout the facility and will require verification for the latest codes. Receptacles mounted near mechanical equipment per code were not present on any roof mounted equipment since all equipment is internal to the building.

Lighting
Lamp types were fluorescent. T12 in utility spaces and T8 in the majority of the spaces. Luminaire types vary from Surface mounted round bedroom luminaires, 1X4 surface mounted, Strips, and other types. Some of the luminaires were aged to be from original building construction, with lenses in need of cleaning from dust and debris build up which minimize the lumen output of the luminaires.

→ *Recommend replacing all building lighting to 100% LED type luminaires and thereby provide additional energy savings.*

Life Safety Illumination
Lamp and luminaire types indicated in 4a above are used for Life Safety Illumination via internal batteries in the luminaires and bug-eyes located throughout the exterior corridors. Life Safety Illumination in general seemed to be adequate for its purpose in the building.

→ *Recommend an upgrade of the entire life Safety Illumination in the building to LED.*

Lighting Control.
Switch types throughout building were toggle type switches. No dimming switches were present. All switch control were line voltage connected. There are no low voltage type control devices. Switches in the building were mounted at between 48" and 54." Most devices and cover plates are the age of the building and or latest renovations; with minimal damage to either.

→ *Recommend upgrading lighting control to improve energy savings in each space and building. Provide Occupancy type sensors in some of the rooms throughout the apartments.*

Electrical Disconnect Switches and other control equipment
Disconnects Switches at mechanical equipment appeared to be in good condition.

Opinion of Probable cost to upgrade this building various systems indicated above: a. 34,401Sq.ft. X $12/Sq.ft. = $412,812.00

→ *This cost does not include unforeseen conditions that may exist in concealed walls and ceilings.*
→ *This cost does not include any service upgrades that may be required should NMJC increase square footage and/or load requirements in this building.*

CARROLL LEAVELL STUDENT APARTMENTS (CLA) BUILDING #17

Existing Building is a three story building with Student Apartments. This building is attached to John Watson Student Apartments and are tied together with a central Utility Space, Laundry, and Game room. The building approximately 32,925Sq.ft.

MECHANICAL

See comments for John Watson Apartment building. This building along with the John Watson apartment building share a common mechanical space and where constructed at approximately the same time. The condition of HVAC equipment is in good condition.

PLUMBING

Plumbing Fixtures
Plumbing fixtures and trim are in generally fine condition. Additional investigation by an Architect is needed in the older portions of the facility to determine that code required fixture counts, water conservation goals, and ADA compliance are met within the current layouts.

Sanitary Sewer Piping
No destructive investigation was undertaken to determine material types, condition, and sizing. Rather, this assessment relied upon observation and discussions with NMJC personnel to inform the effort. Similarly, the exterior piping was not included in this assessment. Limited portions of the system are visible for inspection. Floor drains and floor sinks are in serviceable condition. Maintenance personnel report that inadequate numbers of floor-, wall-, and exterior cleanouts exist to allow ready routine maintenance.

Roof Drain Piping
The architectural gutters and downspouts are in serviceable condition and functioning as intended. Maintenance personnel stated there are no known operational problems.

Domestic Water Piping
Exterior buried piping was not evaluated as a part of this work.

The facility is plumbed with type L copper pipe/fittings. Insulation is generally intact and lines are properly jacketed and labeled. Sufficient numbers of isolation valves are present to allow for routine maintenance.

Exterior wall hydrants are in a serviceable condition.

Natural Gas Piping
The facility is served by a natural gas system that appears to be in serviceable condition. The maintenance personnel report no known operational deficiencies.

Exterior buried piping was not evaluated as a part of this work.

Equipment
The domestic water heaters are in serviceable condition and appear to be functioning as intended as is the case with the hot water storage tanks. The Maintenance personnel and faculty did not report any operational inadequacies. Expansion tanks are needed at both water heaters. A thermostatic mixing valve and expansion tank are needed.

Fire Protection
Exterior buried piping was not evaluated as a part of this work.

The facility is protected by a wet pipe fire sprinkler system equipped with the appropriate code-required accoutrements. All portions of system appear to be fully functional and in compliance with the appropriate codes and standards. The inspection logs indicate currency with all required testing and inspection intervals.

ELECTRICAL

Electrical Distribution
Secondary Power is 208Y/120V, 3Phase, 4Wire. Campus Primary distribution system serves this building.

Refer to John Watson Student Apartments building #16 for additional information on the existing electrical equipment in this portion of the Apartment building. Similar in types and needs.

Grounding
Visual Confirmation of Proper and Code compliant grounding was not achievable this required an electrician to open electrical to view inside. Use of Equipment ground conductors, proper conduit grounding, and overall Grounding of distribution system will require verification during any redesign of this building. A Ground Bar was present.

→ *Recommend a closer visual inspection internal to electrical equipment for a better verification of the existing grounding system.*

General Purpose Power
Receptacles in the building were mounted at ADA requirements in most of the walls in the building. Most devices and cover plates are the age of the building and or latest renovations; with minimal damage to either. GFCI devices were throughout the facility and will require verification for the latest

codes. Receptacles mounted near mechanical equipment per code were not present on any roof mounted equipment since all equipment is internal to the building.

Lighting
Lamp types were fluorescent. T12 in utility spaces and T8 in the majority of the spaces. Luminaire types vary from Surface mounted round bedroom luminaires, 1X4 surface mounted, Strips, and other types. Some of the luminaires were aged to be from original building construction, with lenses in need of cleaning from dust and debris build up which minimize the lumen output of the luminaires.

→ *Recommend replacing all building lighting to 100% LED type luminaires and thereby provide additional energy savings.*

Life Safety Illumination
Lamp and luminaire types indicated in 4a above are used for Life Safety Illumination via internal batteries in the luminaires and bug-eyes located throughout the exterior corridors. Life Safety Illumination in general seemed to be adequate for its purpose in the building.

→ *Recommend an upgrade of the entire life Safety Illumination in the building to LED.*

Lighting Control
→ *Switch types throughout building were toggle type switches. No dimming switches were present. All switch control were line voltage connected. There are no low voltage type control devices. Switches in the building were mounted at between 48" and 54." Most devices and cover plates are the age of the building and or latest renovations; with minimal damage to either.*
→ *Recommend upgrading lighting control to improve energy savings in each space and building. Provide Occupancy type sensors in some of the rooms throughout the apartments.*

Electrical Disconnect Switches and other control equipment
Disconnects Switches at mechanical equipment appeared to be in good condition.

Opinion of Probable cost to upgrade this building various systems indicated above: a. 32,925Sq.ft. X $12/Sq.ft. = $395,100.00
→ *This cost does not include unforeseen conditions that may exist in concealed walls and ceilings.*
→ *This cost does not include any service upgrades that may be required should NMJC increase square footage and/or load requirements in this building.*

MAINTENANCE BUILDING (MB) BUILDING #18

Existing Building is a single story building with Maintenance Shops, Maintenance Storage, Maintenance Offices, Storage, Restrooms, and Meeting Room. The building approximately 12,328Sq.ft.

MECHANICAL

This building was constructed in 1986 approximately. Approximately two-thirds (2/3) of the building includes large storage and shop areas with roll up doors. The remaining one-third (1/3) of the building includes classrooms, offices, and restroom groups.

The large shop and storage spaces have approximately five (5) evaporative coolers and seven (7) gas fired unit heaters for temperature control. Relief Hoods located on the roof relieve air from the spaces below when evaporative coolers are being utilized. Additionally, four (4) office spaces where added to the large storage bay areas after the original construction. These offices have a residential gas furnace unit with A-coil (cooling coil) and roof mounted condensing unit for temperature control.

The remaining classroom/office area has three (3) packaged gas/dx roof top units for space control. The larger classroom has a dedicated unit, while the two smaller classrooms share a single roof top unit. A small office area is conditioned by the remaining roof top unit. The restroom groups have an exhaust fan, but no air conditioning.

The evaporative coolers appear to relatively new. The gas furnace with cooling coil appears to be in new condition. The original gas unit heaters, exhaust fans, and packaged roof top units appear to be in good conditions.

PLUMBING

Plumbing Fixtures
Plumbing fixtures and trim are in generally fine condition. Additional investigation by an Architect is needed in the older portions of the facility to determine that code required fixture counts, water conservation goals, and ADA compliance are met within the current layouts.

Sanitary Sewer Piping
No destructive investigation was undertaken to determine material types, condition, and sizing. Rather, this assessment relied upon observation and discussions with NMJC personnel to inform the effort. Similarly, the exterior piping was not included in this assessment. Limited portions of the system are visible for inspection. Floor drains and floor sinks are in serviceable condition. Maintenance personnel report that inadequate numbers of floor-, wall-, and exterior cleanouts exist to allow ready routine maintenance.

Roof Drain Piping
The architectural gutters and downspouts are in serviceable condition and functioning as intended. Maintenance personnel stated there are no known operational problems.

Domestic Water Piping
Exterior buried piping was not evaluated as a part of this work.

The facility is plumbed with type L copper pipe/fittings. Insulation is generally intact and lines are properly jacketed and labeled. Sufficient numbers of isolation valves are present to allow for routine maintenance.

Natural Gas Piping
The facility is served by a natural gas system that appears to be in serviceable condition. The maintenance personnel report no known operational deficiencies.

Exterior buried piping was not evaluated as a part of this work.

Equipment
The domestic water heater is in serviceable condition and appear to be functioning as intended. The Maintenance personnel and faculty did not report any operational inadequacies. A thermostatic mixing valve and expansion tank are needed.

Fire Protection
The facility is not protected by a wet pipe fire sprinkler system.

ELECTRICAL

Electrical Distribution
Secondary Power is 480Y/277V, 3Phase, 4Wire. Campus Primary distribution system serves this building. This Campus system is derived from an overhead pole located on the west side of this building. 208Y/120V power is derived from dry-type transformers in the existing electrical distribution system.

Electrical Equipment Switchboards and/or Panels manufacturer is EATON. The equipment was upgraded in the last 10 to 15 years and are in good condition. Existing equipment is able to be maintained by NMJC M&O personnel. The existing electrical equipment did have the required code clearances and most of the equipment was locked and in shop areas.

→ *Recommendation for the NMJC administration of this building would be to remove all janitorial and storage items from with-in clearance of panel. Because this clearance has electrical equipment only trained personnel with proper protective gear should be in front of equipment.*

During survey it was difficult to get to equipment without moving items from the front of equipment.

Location was in Shop areas so equipment was not clean. Recommend that NMJC clean equipment of dust and debris.

Grounding
Visual Confirmation of Proper and Code compliant grounding was not achievable this required an electrician to open electrical to view inside. Use of Equipment ground conductors, proper conduit grounding, and overall Grounding of distribution system will require verification during any redesign of this building. A Ground Bar was not present.

→ *Recommend a closer visual inspection internal to electrical equipment for a better verification of the existing grounding system.*

General Purpose Power
Receptacles in the building were mounted at 1'-2" which is not to latest ADA requirements in most of the older walls in the building. In newer areas of the building receptacles are at 1'-6". Most devices and cover plates are the age of the building and or latest renovations; with minimal damage to either. GFCI devices were throughout the facility and will require verification for the latest codes. Receptacles mounted near mechanical equipment per code were not present on any roof mounted equipment.

→ *Recommend non ADA compliant devices be made compliant where possible. This may require surface mounting devices where mounted in existing CMU walls.*

Lighting
Lamp types were approximately 85% Fluorescent and 15% LED type luminaires. T12 in utility spaces and T8 in the majority of the spaces. Luminaire types vary from 2X4, 1X4, Industrial strips, and other types. Some of the luminaires were aged to be from original building construction, with damage to lenses such as cracking, and yellowing of the lens as well as dust build up which minimize the lumen output of the luminaires.

→ *Recommend replacing all building lighting to 100% LED type luminaires and thereby provide additional energy savings.*

Life Safety Illumination
Lamp and luminaire types indicated in 4a above are used for Life Safety Illumination via internal batteries to luminaires and or the use of Bug-eyes in various areas. Life Safety Illumination in general seemed to not be adequate for it purpose in the building.

→ *Recommend an upgrade of the entire life Safety Illumination in the building.*

Lighting Control
Switch types throughout building were toggle type switches. No dimming switches were present. All switch control were line voltage connected. There are no low voltage type control devices. Switches in the building were mounted at between 48" and 54." In some instances device locations do not meet the latest ADA requirements in most of the older walls in the building. In newer areas of the building switches do meet ADA requirements. Most devices and cover plates are the age of the building and or latest renovations; with minimal damage to either.

→ *Recommend upgrading lighting control to improve energy savings in each space and building.*

Electrical Disconnect Switches and other control equipment
Disconnects Switches at mechanical equipment appeared to be in good condition, but old.

→ *Recommend replacement to the newer equipment.*

Opinion of Probable cost to upgrade this building various systems indicated above: a. 12,328Sq.ft. X $12/Sq.ft. = $147,936.00

→ *This cost does not include unforeseen conditions that may exist in concealed walls and ceilings.*
→ *This cost does not include any service upgrades that may be required should NMJC increase square footage and/or load requirements in this building.*

BOB MORAN HALL (BMH) BUILDING #19

Existing Building is a single story building with Classrooms for Law and First Responder training, Dorm Rooms for trainees, Music and Recording Studio, Offices, Storage, Restrooms, Lecture Hall, and Utility Spaces. The building approximately 31,533Sq.ft.

MECHANICAL

The building HVAC system is primarily a variable air volume (VAV) system. A single VAV packaged air handling unit located at the south side of the building includes and economizer with filters, return/relief fan, hot water coil, chilled water and supply fan section. The unit circulates air through a medium pressure duct system to vav boxes with hot water reheat coils. There are several fan coil unit units located at entry vestibules. Direct buried chilled water and hot water piping extends from the central plant to the building. Booster pumps are included at the chilled water and hot water piping mains entering the building. Small exhaust fans are installed at restrooms, electrical and mechanical spaces within the building. The music portion of the building was renovated in 2016 approximately. The music renovation included approximately half of the building. This renovation included new supply duct, vav boxes, hot water piping, grilles and diffusers. The remaining half of the building is now a police academy with classrooms and dormitory rooms. This police academy area is believed to have occurred in the 2015 time period. The extent of HVAC renovation at this area is unknown. Overall the building and HVAC systems to be in good condition.

PLUMBING

Plumbing Fixtures

Plumbing fixtures and trim are in generally fine condition. Additional investigation by an Architect is needed in the older portions of the facility to determine that code required fixture counts, water conservation goals, and ADA compliance are met within the current layouts.

Sanitary Sewer Piping

No destructive investigation was undertaken to determine material types, condition, and sizing. Rather, this assessment relied upon observation and discussions with NMJC personnel to inform the effort. Similarly, the exterior piping was not included in this assessment. Limited portions of the system are visible for inspection. Floor drains and floor sinks are in serviceable condition. Maintenance personnel report that adequate numbers of floor-, wall-, and exterior cleanouts exist to allow ready routine maintenance.

Roof Drain Piping

The architectural gutters and downspouts are in serviceable condition and functioning as intended. Maintenance personnel stated there are no known operational problems.

Domestic Water Piping
Exterior buried piping was not evaluated as a part of this work.

The facility is plumbed with type L copper pipe/fittings. Insulation is generally intact and lines are properly jacketed and labeled. Sufficient numbers of isolation valves are present to allow for routine maintenance.

Exterior wall hydrants are in a serviceable condition.

Natural Gas Piping
The facility is served by a natural gas system that appears to be in serviceable condition. The maintenance personnel report no known operational deficiencies.

Exterior buried piping was not evaluated as a part of this work.

Equipment
The domestic water heaters are in serviceable condition and appear to be functioning as intended as is the case with the hot water storage tanks. The Maintenance personnel and faculty did not report any operational inadequacies.

Fire Protection
Exterior buried piping was not evaluated as a part of this work.

The facility is protected by a wet pipe fire sprinkler system equipped with the appropriate code-required accoutrements. All portions of system appear to be fully functional and in compliance with the appropriate codes and standards. The inspection logs indicate currency with all required testing and inspection intervals.

ELECTRICAL

Electrical Distribution.
Secondary Power is 480Y/277V, 3Phase, 4Wire. Campus Primary distribution system serves this building. 208Y/120V power is derived from dry-type transformers in the existing electrical distribution system.

Electrical Equipment Switchboard was a GE fused switchboard and appeared to be from the original building construction. Other Panels manufacturer is EATON and this equipment was upgraded in the last 10 to 15 years and are in good condition. Existing equipment is able to be maintained by NMJC M&O personnel. The existing electrical equipment did have the required code clearances and most of the equipment was in locked rooms; either in an electrical room or mechanical room.

→ *Recommendation for the NMJC administration of this building would be to remove all janitorial and storage items from with-in room and leave as an electrical/Technology room. Because this*

room has electrical equipment only trained personnel with proper protective gear should enter this room. During survey it was difficult to get to equipment without moving items from the front of equipment.

Grounding
Visual Confirmation of Proper and Code compliant grounding was not achievable this required an electrician to open electrical to view inside. Use of Equipment ground conductors, proper conduit grounding, and overall Grounding of distribution system will require verification during any redesign of this building. A Ground Bar was not present.

→ *Recommend a closer visual inspection internal to electrical equipment for a better verification of the existing grounding system.*

General Purpose Power
Receptacles in the building appeared to be mounted to ADA requirements in most of the older walls in the building. In renovation and newer areas of the building receptacles are at 1'-6". Most devices and cover plates are the age of the building and or latest renovations; with minimal damage to either. GFCI devices were throughout the facility and will require verification for the latest codes. Receptacles mounted near mechanical equipment per code were not present on any roof mounted equipment.

→ *Recommend non ADA compliant devices, where found, be made compliant where possible. This may require surface mounting devices where mounted in existing CMU walls.*

Lighting
Lamp types were fluorescent. T12 in utility spaces and T8 in the majority of the spaces. Luminaire types vary from 2X4, 1X4, Strips, and other types. Most of the luminaires were aged to be from latest renovations and/or additions, with minimal damage to lenses.

→ *Recommend replacing all building lighting to 100% LED type luminaires and thereby provide additional energy savings.*

Life Safety Illumination
Lamp and luminaire types indicated in 4a above are used for Life Safety Illumination via a very old battery inverter. Life Safety Illumination in general seemed to not be adequate for it purpose in the building.

→ *Recommend an upgrade of the entire life Safety Illumination in the building.*

Lighting Control
Switch types throughout building were toggle type switches. No dimming switches were present. All switch control were line voltage connected. There are no low voltage type control devices. Switches in

the building were mounted at between 48" and 54." In renovation and newer areas of the building switches do meet ADA requirements. Most devices and cover plates are the age of the building and or latest renovations; with minimal damage to either.

→ *Recommend upgrading lighting control to improve energy savings in each space and building.*

Electrical Disconnect Switches and other control equipment
Disconnects Switches at mechanical equipment appeared to be in good condition, but old.

→ *Recommend replacement to the newer equipment.*

Opinion of Probable cost to upgrade this building various systems indicated above: a. 31,533Sq.ft. X $12/Sq.ft. = $378,396.00

→ *This cost does not include unforeseen conditions that may exist in concealed walls and ceilings.*
→ *This cost does not include any service upgrades that may be required should NMJC increase square footage and/or load requirements in this building.*

LARRY HANNA TRAINING & OUTREACH CENTER (HTO) BUILDING #25

Existing Building is a single story building with Classrooms and Meeting Rooms for Training, Offices, Storage, Restrooms, and Utility Spaces. The building approximately 15,207Sq.ft.

MECHANICAL

This building was constructed in the 2007 approximately. This building is not connected to the central plant for cooling or heating capacity. The HVAC equipment for this building includes three packaged roof top units with gas heating and DX cooling.

The largest and main roof top unit is a variable air volume (VAV) unit with economizer, filters, return/relief fan, DX coil and associated refrigeration components, vav supply fan and gas furnace section. This unit delivers supply air to a network of supply ductwork connected to vav boxes with hot water reheat coils. This unit conditions most of the building with the exception of a computer lab and a high bay training room.

A mechanical room within the building contains to high efficiency gas fired boilers to generate hot water. Primary pumps and building hot water circulating pumps are also located in the boiler room. The boilers and pumps circulate hot water to the vav boxes, and unit heaters located in the building.

The remaining two packaged roof top units serve the computer lab and high bay training space. The unit serving the computer lab delivers variable air volume supply air to underfloor terminal units with hot water reheat coils. The roof top unit serving the high bay training room is a constant volume unit delivering supply air to ductwork within the room.

Roof mounted exhaust fans are provided for restroom groups. Two small cooling only ductless split systems serve two data rooms within the building. A small wall mounted indoor unit is located within each data room with refrigeration piping extending up to a condensing unit located on the roof for each unit.

This building and equipment appear to be in good condition.

PLUMBING

Plumbing Fixtures
Plumbing fixtures and trim are in generally fine condition. Additional investigation by an Architect is needed in the older portions of the facility to determine that code required fixture counts, water conservation goals, and ADA compliance are met within the current layouts.

Sanitary Sewer Piping
No destructive investigation was undertaken to determine material types, condition, and sizing. Rather, this assessment relied upon observation and discussions with NMJC personnel to inform the effort. Similarly, the exterior piping was not included in this assessment. Limited portions of the system are visible for inspection. Floor drains and floor sinks are in serviceable condition. Maintenance personnel report that adequate numbers of floor-, wall-, and exterior cleanouts exist to allow ready routine maintenance.

Roof Drain Piping
The hard-piped roof and overflow drainage system is in serviceable condition and functioning as intended. Maintenance personnel stated there are no known operational problems.

Domestic Water Piping
Exterior buried piping was not evaluated as a part of this work.

The facility is plumbed with type L copper pipe/fittings. Insulation is generally intact and lines are properly jacketed and labeled. Sufficient numbers of isolation valves are present to allow for routine maintenance.

Exterior wall hydrants are in a serviceable condition.

Natural Gas Piping
The facility is served by a natural gas system that appears to be in serviceable condition. The maintenance personnel report no known operational deficiencies.

Exterior buried piping was not evaluated as a part of this work.

Equipment
The domestic water heater is in a serviceable condition and appears to be functioning as intended as is the case with the hot water storage tanks. The Maintenance personnel and faculty did not report any operational inadequacies.

Fire Protection
Exterior buried piping was not evaluated as a part of this work.

The facility is protected by a wet pipe fire sprinkler system equipped with the appropriate code-required accoutrements. All portions of system appear to be fully functional and in compliance with the appropriate codes and standards. The inspection logs indicate currency with all required testing and inspection intervals.

ELECTRICAL

Electrical Distribution.
Secondary Power is 480Y/277V, 3Phase, 4Wire. Appeared that Xcel Energy provided the Primary distribution system that serves this building. This building was outside the Campus Primary Distribution System. 208Y/120V power is derived from dry-type transformers in the existing electrical distribution system.

Electrical Equipment Switchboards and/or Panels manufacturer is Square D. The equipment was part of the building construction in the last 10 to 15 years and are in good condition. Existing equipment is able to be maintained by NMJC M&O personnel. The existing electrical equipment did have the required code clearances and most of the equipment was in locked rooms; either in an electrical room or mechanical room.

→ *Recommendation for the NMJC administration of this building would be to remove all janitorial and storage items from with-in room and leave as an electrical/Technology room. Because this room has electrical equipment only trained personnel with proper protective gear should enter this room. During survey it was difficult to get to equipment without moving items from the front of equipment.*

Grounding
Visual Confirmation of Proper and Code compliant grounding was not achievable this required an electrician to open electrical to view inside. Use of Equipment ground conductors, proper conduit grounding, and overall Grounding of distribution system will require verification during any redesign of this building. A Ground Bar was present. The grounding overall is assumed to be in code compliance since the building was constructed recently.

→ *Recommend a closer visual inspection internal to electrical equipment for a better verification of the existing grounding system.*

General Purpose Power
Receptacles in the building were mounted to latest ADA requirements at 1'-6". Most devices and cover plates are the age of the building and or latest renovations; with minimal damage to either. GFCI devices were throughout the facility and will require verification for the latest codes. Receptacles mounted near mechanical equipment per code were not present on any roof mounted equipment.

→ *Recommend non ADA compliant devices if found, to be made compliant where possible. This may require surface mounting devices where mounted in existing CMU walls.*

Lighting
Lamp types were fluorescent. T8 in the majority of the spaces. Luminaire types vary from 2X4, 1X4, Strips, and other types. Some of the luminaires were aged to be from original building construction with minimal damage found. Cleaning of existing lenses from debris and dust build should be conducted.

→ *Recommend replacing all building lighting to 100% LED type luminaires and thereby provide additional energy savings.*

Life Safety Illumination
Lamp and luminaire types indicated in 4a above are used for Life Safety Illumination via internal batteries to the luminaires and some bug-eyes. Life Safety Illumination in general seemed adequate for it purpose in the building.

→ *Recommend a closer review and an upgrade of the entire life Safety Illumination in the building if needed.*

Lighting Control
Switch types throughout building were toggle type switches. No dimming switches were present. All switch control were line voltage connected. There are no low voltage type control devices. Switches in the building were mounted at between 48" and 54." Most devices and cover plates are the age of the building with minimal damage to either.

→ *Recommend upgrading lighting control to improve energy savings in each space and building.*

Electrical Disconnect Switches and other control equipment
Disconnects Switches at mechanical equipment appeared to be in good condition.

Opinion of Probable cost to upgrade this building various systems indicated above: a. 15,207Sq.ft. X $12/Sq.ft. = $182,484.00

→ *This cost does not include unforeseen conditions that may exist in concealed walls and ceilings.*
→ *This cost does not include any service upgrades that may be required should NMJC increase square footage and/or load requirements in this building.*

AUCTION WAREHOUSE (AW) BUILDING #33

Existing Building is a single story building for Campus Storage and Western Heritage Museum Storage. The building approximately 12,000Sq.ft.

MECHANICAL

This is a large metal building with a large open bay is divided into two spaces with a large rollup door between areas. This building has chilled water and hot water piping extending from the central plant. An air handling unit is located inside the warehouse at the northeast corner. The air handler has dampered openings for outside air and return air from the space. The outside air opening has ductwork extending to a louvered wall opening. The return opening is open to the warehouse. The unit includes a hot water coil, chilled water coil, and supply fan with a variable frequency drive for speed control. A second louver wall opening at the northwest corner of the building includes a controlled damper for relief. The relief and outside dampers open and close together. As outside damper opens and closes, the relief damper opens and closes. This air handling unit has exposed supply duct that extends up to the overhead structure and distributes air throughout the two spaces within the warehouse. This unit appears to be very new. The only item noted was the damper and control actuator appeared to be disconnected.

PLUMBING

Plumbing Fixtures
Plumbing fixtures and trim are in generally fine condition. Additional investigation by an Architect is needed in the older portions of the facility to determine that code required fixture counts, water conservation goals, and ADA compliance are met within the current layouts.

Sanitary Sewer Piping
No destructive investigation was undertaken to determine material types, condition, and sizing. Rather, this assessment relied upon observation and discussions with NMJC personnel to inform the effort. Similarly, the exterior piping was not included in this assessment. Limited portions of the system are visible for inspection. Floor drains and floor sinks are in serviceable condition. Maintenance personnel report that inadequate numbers of floor-, wall-, and exterior cleanouts exist to allow ready routine maintenance.

Roof Drain Piping
The architectural gutters and downspouts are in serviceable condition and functioning as intended. Maintenance personnel stated there are no known operational problems.

Domestic Water Piping
Exterior buried piping was not evaluated as a part of this work.

The facility is plumbed with type L copper pipe/fittings. Insulation is generally intact and lines are properly jacketed and labeled. Sufficient numbers of isolation valves are present to allow for routine maintenance.

Exterior wall hydrants are in a serviceable condition.

Natural Gas Piping
The facility is not served by a natural gas system.

Equipment
The domestic water heater is in serviceable condition and appears to be functioning as intended. The Maintenance personnel and faculty did not report any operational inadequacies. A thermostatic mixing valve and expansion tank are needed.

Fire Protection
The facility is not protected by a wet pipe fire sprinkler system.

ELECTRICAL

Electrical Distribution
Secondary Power is 208Y/120V, 3Phase, 4Wire. This secondary power is derived from either the Maintenance building #18 or the Central Plant Building #10. Closer verifications required.

Electrical Equipment Panels manufacturer is EATON. The equipment was part of the original construction in the last 10 to 15 years and is in good condition. Existing equipment is able to be maintained by NMJC M&O personnel. The existing electrical equipment did have the required code clearances and most of the equipment was in not in locked rooms, surface to wall in the building.

→ *Recommendation for the NMJC administration of this building would be to remove all janitorial and storage items from with-in clearance of the panel. During survey it was difficult to get to equipment without moving items from the front of equipment.*

Grounding
Visual Confirmation of Proper and Code compliant grounding was not achievable this required an electrician to open electrical to view inside. Use of Equipment ground conductors, proper conduit grounding, and overall Grounding of distribution system will require verification during any redesign of this building. A Ground Bar was not present.

→ *Recommend a closer visual inspection internal to electrical equipment for a better verification of the existing grounding system.*

General Purpose Power
Receptacles in the building appeared to be to latest ADA requirements at 1'-6". Most devices and cover plates are the age of the building with minimal damage to either. GFCI devices in the facility will require verification for the latest codes.

→ *Recommend non ADA compliant devices if found be made compliant where possible. This may require surface mounting devices where mounted in existing walls.*

Lighting
Lamp types were fluorescent T8 in the majority of the spaces. Luminaire types are Industrial Strips mainly. Some of the luminaires were aged to be from original building construction with minimal damage. Some dust build up on luminaires was present which minimize the lumen output of the luminaires; some cleanup is required.

→ *Recommend replacing all building lighting to 100% LED type luminaires and thereby provide additional energy savings.*

Life Safety Illumination
→ *Bug-eye luminaires for Life Safety Illumination are used. Life Safety Illumination in general seemed to not be adequate for its purpose in the building.*
→ *Recommend an upgrade of the entire life Safety Illumination in the building.*

Lighting Control
Switch types throughout building were toggle type switches. No dimming switches were present. All switch control were line voltage connected. There are no low voltage type control devices. Switches in the building were mounted at between 48" and 54." Most devices and cover plates are the age of the building with minimal damage to either.

→ *Recommend upgrading lighting control to improve energy savings in each space and building.*

Electrical Disconnect Switches and other control equipment
Disconnects Switches at mechanical equipment appeared to be in good condition.

Opinion of Probable cost to upgrade this building various systems indicated above: a. 12,000Sq.ft. X $8/Sq.ft. = $96,000.00
→ *This cost does not include unforeseen conditions that may exist.*
→ *This cost does not include any service upgrades that may be required should NMJC increase square footage and/or load requirements in this building.*

Cost Summary Table: *This table summarizes the costs to correct deficiencies and overall project costs for each building that was part of the facility assessment. For the purposes of budgeting, the Total Project Costs are indicative of what NMJC can anticipate for a renovation of a given building.*

NMJC
New Mexico Junior College

FACILITY CONDITION ASSESSMENT 2019

Facility Name	Deficiency Corrections Only	SF	FCI: Corrections/New Building	Total Renovation Construction costs @ $265/sq/ ft. average	Total Project Costs	New / sf	New Building
				$ 265.00			
			FCI				
Watson Hall	$1,943,975	14,536	0.26	$ 3,852,040	**$ 5,136,053**	$ 385	$ 7,461,813
Mansur Hall	$1,223,812	15,499	0.16	$ 4,107,235	**$ 5,476,313**	$ 375	$ 7,749,500
John Shepherd Administration Building	$868,327	11,447	0.16	$ 3,033,455	**$ 4,044,607**	$ 350	$ 5,341,933
Ben Alexander Student Learning Center	$2,201,466	45,023	0.10	$ 11,931,095	**$ 15,908,127**	$ 375	$ 22,511,500
Pannell Library	$530,317	29,514	0.04	$ 7,821,210	**$ 10,428,280**	$ 385	$ 15,150,520
Heidel Hall	$2,751,501	38,914	0.15	$ 10,312,210	**$ 13,749,613**	$ 350	$ 18,159,867
McLean Hall	$2,150,465	22,853	0.20	$ 6,056,045	**$ 8,074,727**	$ 350	$ 10,664,733
Central Plant	$700,028	5,850	NA	$ 1,550,250	**$ 2,067,000**		NA
Mary Hagelstein Instructional Arts Center 1977	$1,424,154	11,533	0.25	$ 3,056,245	**$ 4,074,993**	$ 375	$ 5,766,500
Don Whitaker Automotive Technology Center	$3,835,256	65,763	0.12	$ 17,427,195	**$ 23,236,260**	$ 375	$ 32,881,500
Harold Runnels Residence Hall	$1,242,379	18,160	0.14	$ 4,812,400	**$ 6,416,533**	$ 365	$ 8,837,867
Glen & Rosemary Houston Thunderbird Hall 1991	$955,177	18,160	0.11	$ 4,812,400	**$ 6,416,533**	$ 365	$ 8,837,867
John Watson Student Apartments	$710,269	34,401	0.04	$ 9,116,265	**$ 12,155,020**	$ 365	$ 16,741,820
Carroll Leavell Student Apartments	$872,252	32,295	0.04	$ 8,558,175	**$ 11,410,900**	$ 365	$ 15,716,900
Maintenance Building	$799,680	12,328	0.14	$ 3,266,920	**$ 4,355,893**	$ 350	$ 5,753,067
Bob Moran Hall 1988 sprinklered	$805,575	31,043	0.06	$ 8,226,395	**$ 10,968,527**	$ 350	$ 14,486,733
Hannah Training & Outreach 2008	$185,184	15,207	0.03	$ 4,029,855	**$ 5,373,140**	$ 350	$ 7,096,600
Caster Activity Center	$0	65,710	0.60	$ 17,413,150	**$ 23,217,533**	$ 375	$ 32,881,500
Allied Health		24,789					
Subtotal: Major Facilities	**$23,199,816**	**513,025**		**$129,382,540**	**$172,510,053**		**$203,158,720**
Recreational/Sports Fields							
Ray Birmingham Thunderbird Baseball Field	$206,000				**$ 294,286**		
Campus Infrastructure Priority Rehabilitation							
Service Tunnels	$77,478				**$ 110,683**		
Campus Sidewalks		225,613			**$ 4,708,543**		
Subtotal: Campus Infrastructure	**$ 77,478**				**$ 4,819,226**		
Total	**$23,483,294**				**$177,623,565**		

END OF REPORT

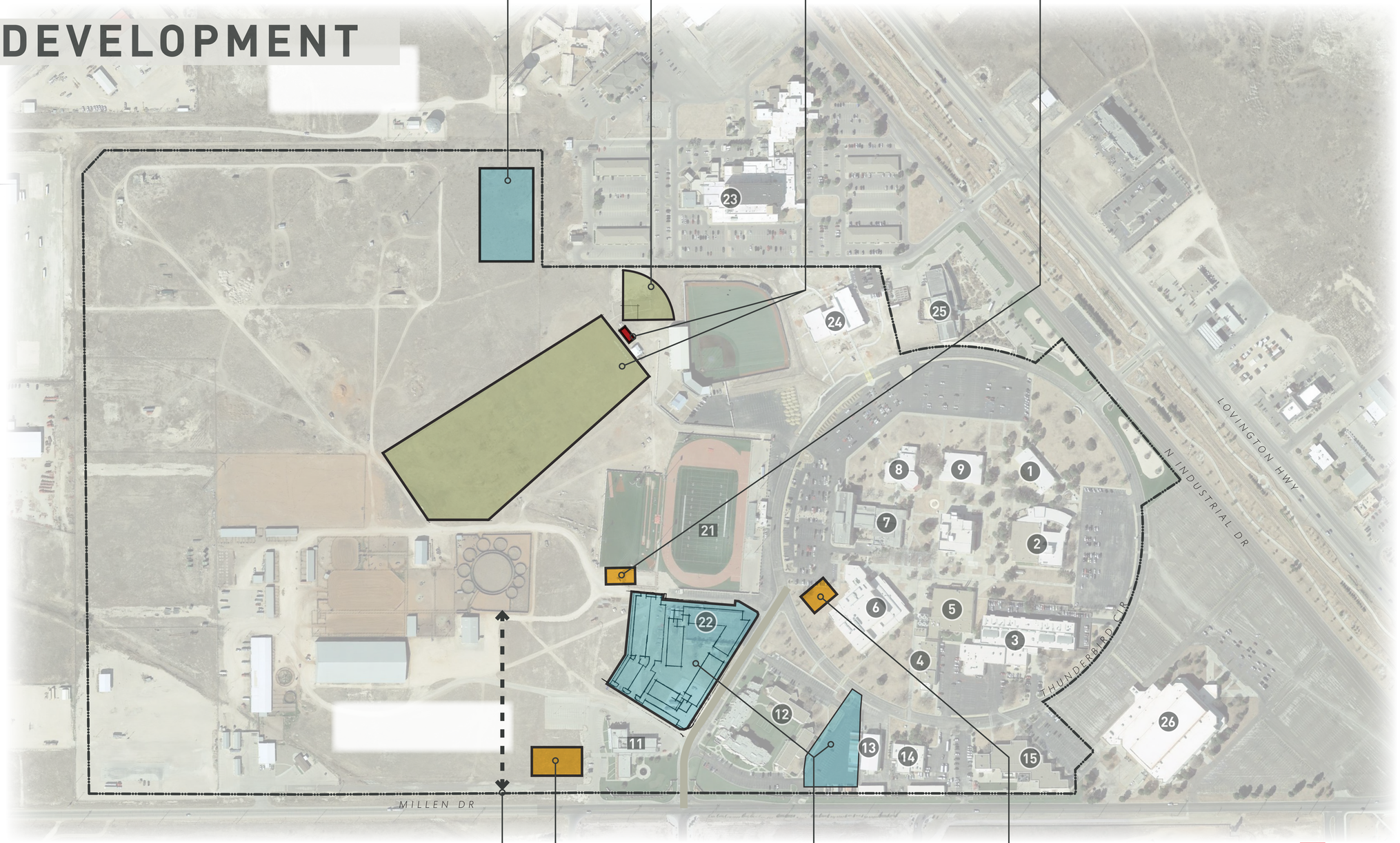
13. APPENDIX B - WORKSHOP

NMJC
New Mexico Junior College

FUTURE DEVELOPMENT

EXISTING CAMPUS FACILITIES & SITES INDEX

1 Administration Building
2 Heidel Hall
3 Don Whitaker Automotive Center
4 Instructional Arts Center
5 McLean Hall
6 Caster Activity Center
7 Ben Alexander Student Learning Center
8 Watson Hall
9 Mansur Hall
10 Pannell Library
11 Larry Hanna Training and Outreach Center
12 Dormitories
13 Warehouse
14 Maintenance
15 Bob Moran Hall
16 Alt. Energy Training Center
17 Heavy Equipment Training Center
18 Rodeo Practice Area
19 Equestrian Corral
20 Baseball Field
21 Track and Field
22 Tennis Courts
23 Allied Heath
24 Lea County Regional Hospital
25 Western Heritage Museum
26 Lea County Event Center



NMJC MASTER FACILITY PLAN UPDATE
JUNE 5, 2019, HOBBS, NEW MEXICO

DEKKER
PERICH
SABATINI

NMJC
New Mexico Junior College

SHADE STRUCTURES

Create a network of shaded pathways between campus buildings

Initial shade structure adjacent to Ben Alexander Student Learning Center (BAC)

Additional shade structures could be added incrementally

PEDESTRIAN LEVEL SHADE STRUCTURES

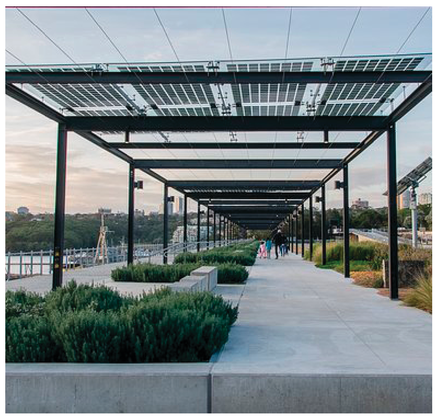










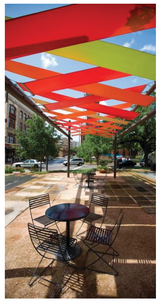



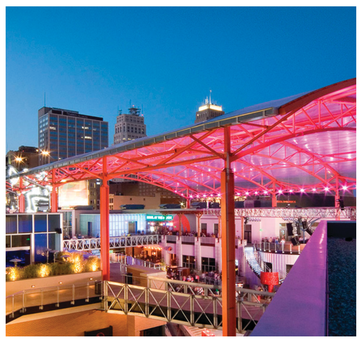
PLAZA SHADE STRUCTURES









DEKKER
PERICH
SABATINI

NMJC MASTER FACILITY PLAN UPDATE
JUNE 5, 2019, HOBBS, NEW MEXICO

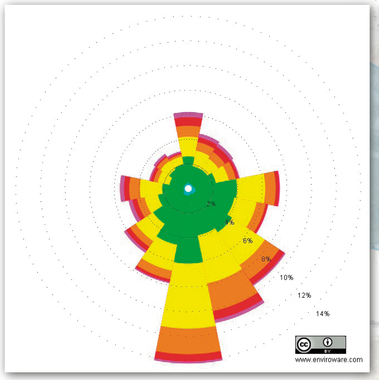
NMJC
New Mexico Junior College

CAMPUS SITE ASSESSMENT

WEATHER CONDITIONS

avg.	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
mph	9	9	10	11	10	9	7	6	6	7	8	9
	0.4"	0.3"	0.3"	0.9"	2.0"	0.9"	1.6"	1.7"	2.1"	1.8"	0.2"	0.1"
	1.5"	2.7"	1.5"	0.1"	0.0"	0.0"	0.0"	0.0"	0.0"	0.0"	0.7"	0.2"
	42	46	51	59	69	79	80	79	72	62	49	44

WIND ROSE



HOB 2018

Max speed (m/s): 21.6
Total number of data (-): 17033
Events in chart (-): 15827
Calm (%): 5.3
Longitude (deg): -103.2170
Latitude (deg): 32.6875

- > 10.0 (3.1 %)
- 8.0 - 10.0 (6.1 %)
- 6.0 - 8.0 (14.4 %)
- 4.0 - 6.0 (31.4 %)
- 2.0 - 4.0 (41.6 %)
- < 2.0 (3.4 %)

LEGEND

- Campus Gateway Feature
- Main Campus Access
- Pedestrian Pathways
- Wind
- 5 min. Walkshed
- FEMA Flood Zone

FEMA Flood Hazard Area
Pedestrian Pathways
Existing Gateway Feature
New Digital Signage
Main Campus Access
WINTER WIND
SUMMER WIND
5 MINS
MILLEN DR
N INDUSTRIAL DR
LOVINGTON HWY
THUNDERBIRD CIR
Watson Hall
Mansur Hall
Admin Building
Ben Alexander
Pannell Library
Heidel Hall
Caster Activity Center
McLean Hall
Don Whitaker Automotive Center
Dormitories
Larry Hanna Training & Outreach Center
Ware-house
Mainte-nance
Bob Moran Hall
Winter Winds from the West
Secondary Campus Access
Student Housing
Summer Winds from South
Student Access to the CORE

DEKKER
PERICH
SABATINI

NMJC MASTER FACILITY PLAN UPDATE
JUNE 5, 2019, HOBBS, NEW MEXICO

NMJC
New Mexico Junior College

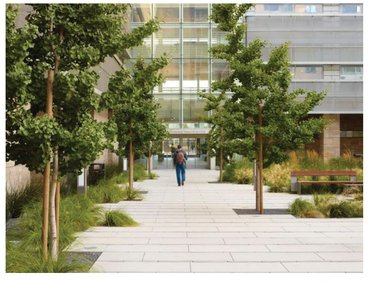
LANDSCAPE

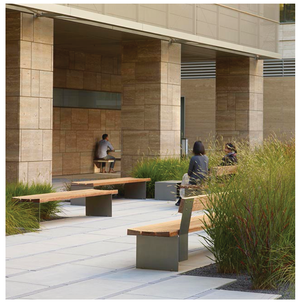
Establish a resilient campus landscape that is attractive, healthy, low water use, and has reasonably low maintenance and operations costs

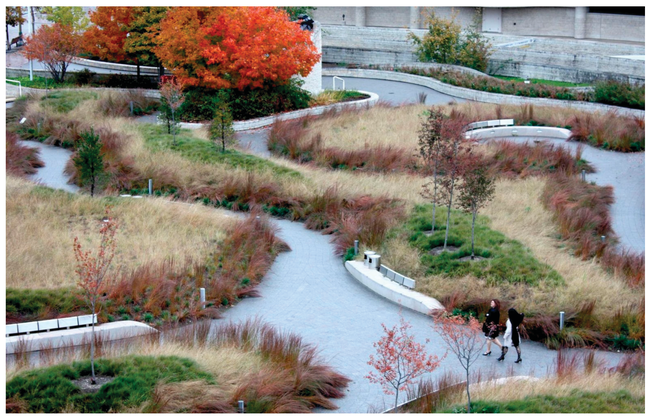
Utilize native, low maintenance ornamental grasses in modular planters

LOW MAINTENANCE GRASS LANDSCAPES








PLANTER SYSTEMS











NMJC MASTER FACILITY PLAN UPDATE
JUNE 5, 2019, HOBBS, NEW MEXICO

DEKKER
PERICH
SABATINI

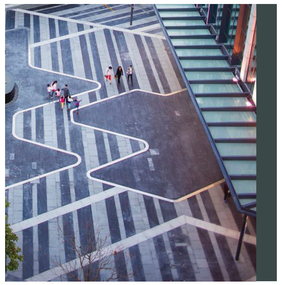
NMJC
New Mexico Junior College

HARDSCAPES

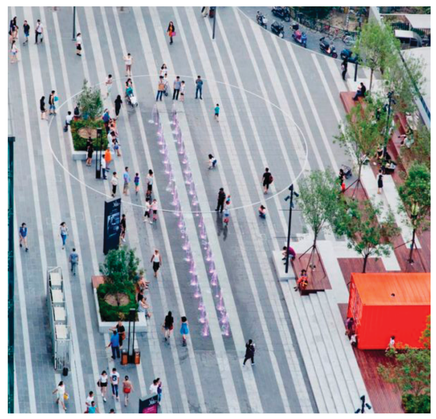
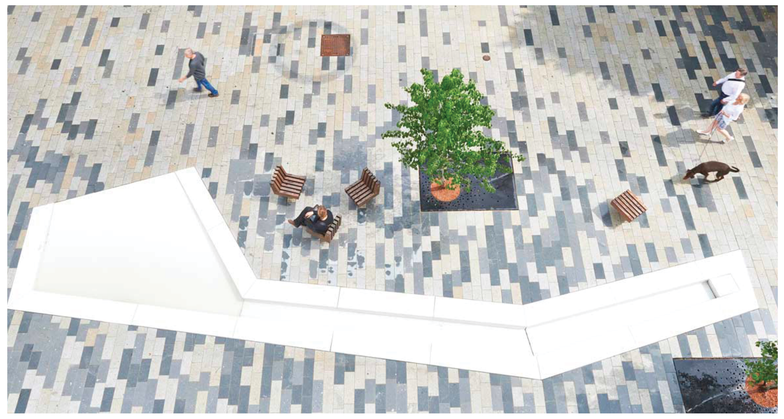
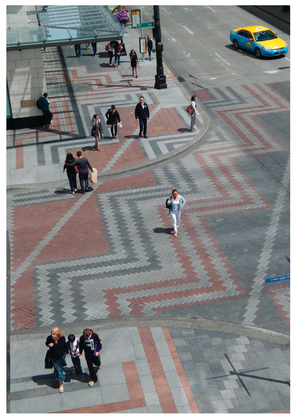
Utilize decorative pavers and pavement patterns to help enhance campus brand and identity

Promote alumni engraved paver donor program

PAVING PATTERNS



ENGRAVED DONOR PAVERS

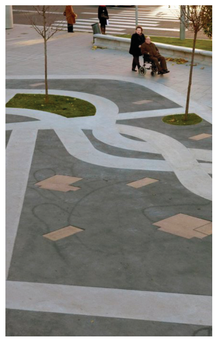












NMJC MASTER FACILITY PLAN UPDATE
JUNE 5, 2019, HOBBS, NEW MEXICO

DEKKER
PERICH
SABATINI

SECURITY

Control access to all campus buildings

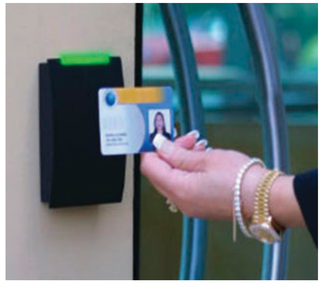
Employ Crime Prevention Through Environmental (CPTED) strategies throughout the campus

- **Access Management** refers to the physical guidance of people and vehicles. Provide orientation and pedestrian friendly environment and discourage would be offenders by making noncompliance obvious.

- **Natural Surveillance** refers to the design and placement of physical features to maximize visibility and surveillance. Eliminate hiding places and increase the perception of human presence or supervision.

- **Territorial Reinforcement** refers to the use of physical attributes to delineate space and express a positive sense of ownership. Define borders, express ownership and communicate that a space is cared for and protected.

ACCESS CONTROL





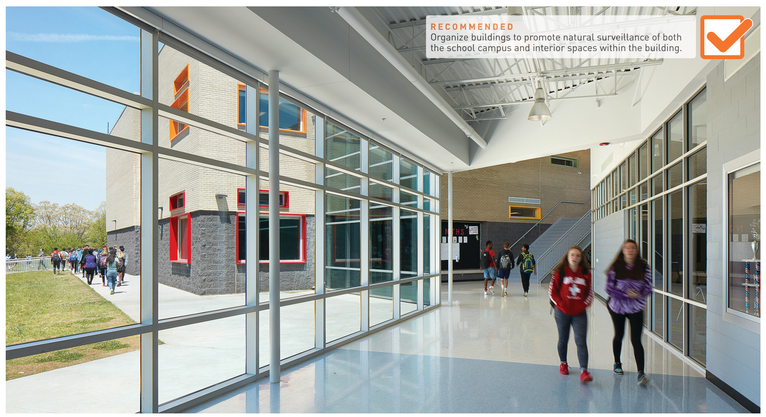




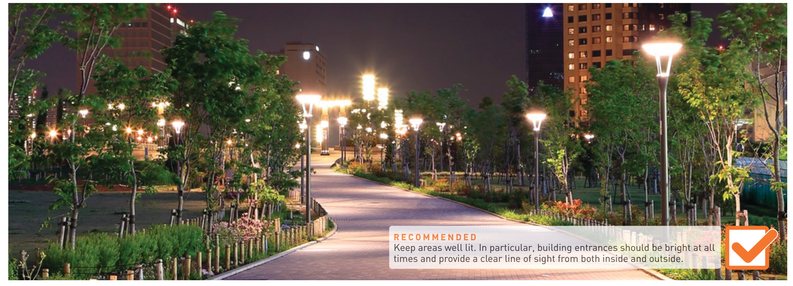




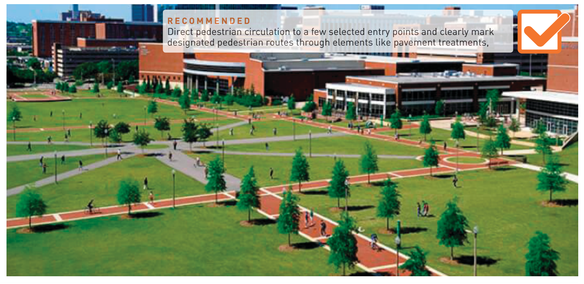




CPTED STRATEGIES











NMJC
New Mexico Junior College

NMJC SIGNAGE LOCATION

EXISTING CAMPUS FACILITIES & SITES INDEX

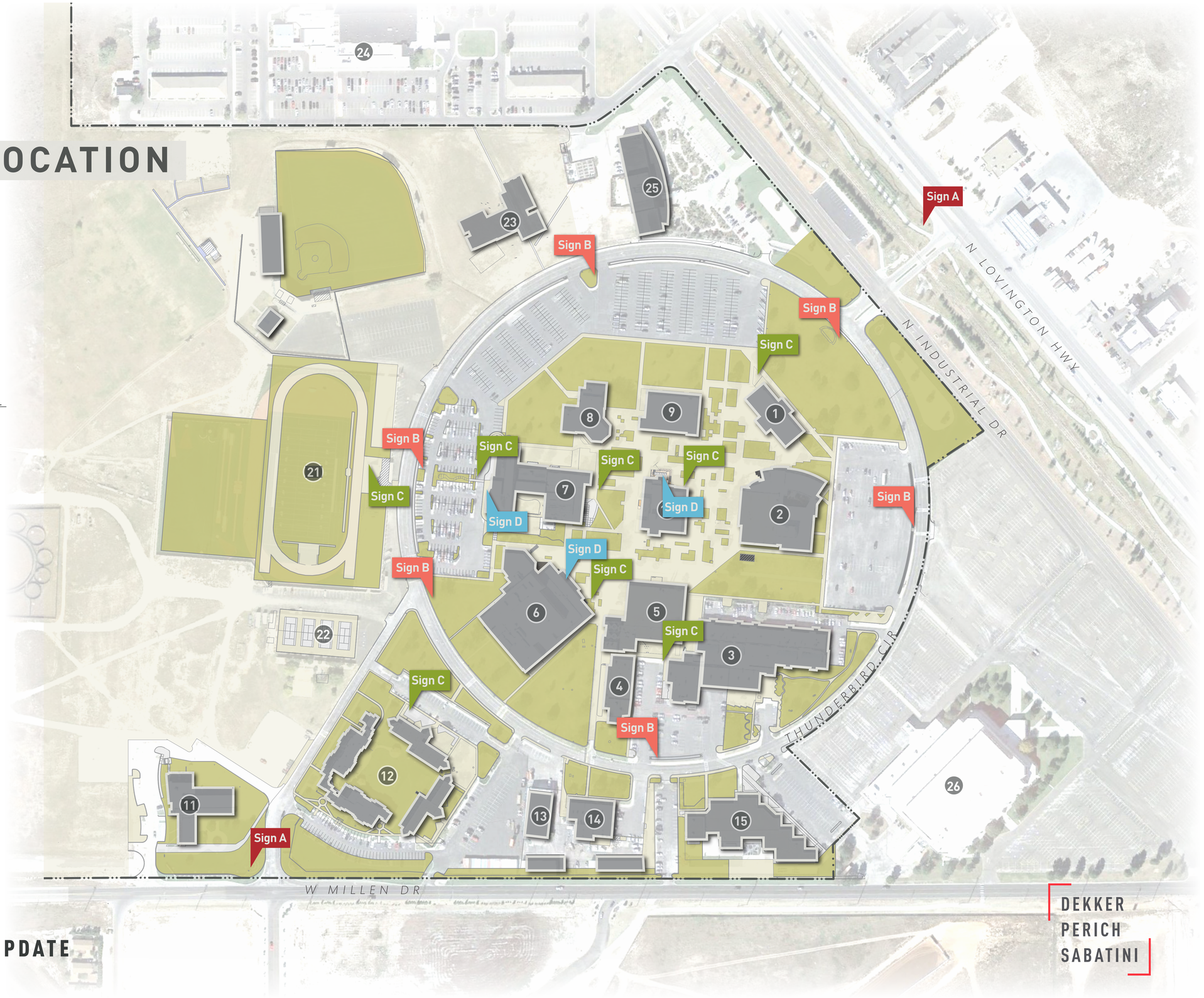
1 Administration Building
2 Heidel Hall
3 Don Whitaker Automotive Center
4 Instructional Arts Center
5 McLean Hall
6 Caster Activity Center
7 Ben Alexander Student Learning Center
8 Watson Hall
9 Mansur Hall
10 Pannell Library
11 Larry Hanna Training and Outreach Center
12 Dormitories
13 Warehouse
14 Maintenance
15 Bob Moran Hall
16 Alt. Energy Training Center
17 Heavy Equipment Training Center
18 Rodeo Practice Area
19 Equestrian Corral
20 Baseball Field
21 Track and Field
22 Tennis Courts
23 Allied Heath
24 Lea County Regional Hospital
25 Western Heritage Museum
26 Lea County Event Center

Sign A
MONUMENT SIGN

Sign B
VEHICULAR LEVEL DIRECTIONAL SIGNAGE

Sign C
PEDESTRIAN LEVEL DIRECTIONAL SIGNAGE

Sign D
VESTIBULE SIGNAGE

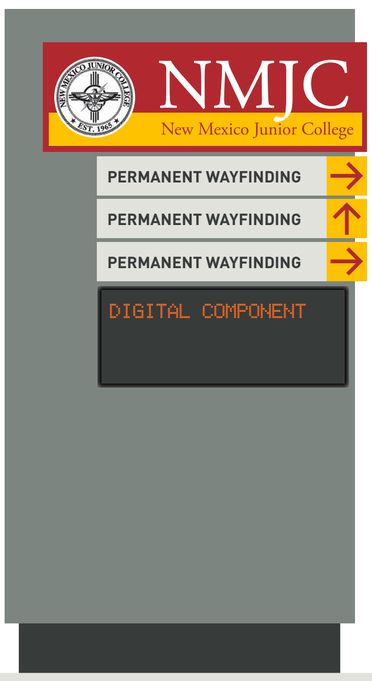


NMJC MASTER FACILITY PLAN UPDATE
JUNE 5, 2019, HOBBS, NEW MEXICO

DEKKER
PERICH
SABATINI

NMJC SIGNAGE CONCEPTS

Sign A



1. MONUMENT SIGN

Elements included:

- Name of School - permanent element for branding and wayfinding purposes
- Directional signage - to point to specific, permanent campus locations
- Digital sign board - displays temporary messages

Sign B

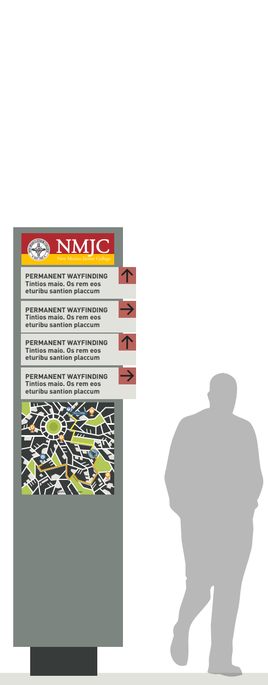


2. VEHICULAR LEVEL WAYFINDING SIGNAGE

Elements included:

- Name of School
- Directional signage
- Digital sign board

Sign C



3. PEDESTRIAN LEVEL WAYFINDING SIGNAGE

Elements included:

- Name of School
- Directional signage can include additional information in smaller font to help the user get to know the campus better
- Campus map

Sign D



4. INDOOR SIGNAGE

Overhead signage:

- Elements included:
  - > Directional signage -
  - > Icons (e.g. cafeteria, bookstore, restrooms etc.)

Room signage:

- Elements included:
  - > Room number
  - > Room Name

Sign D



5. SIGNAGE INSIDE VESTIBULES

Overhead signage:

- Elements included:
  - > Directional signage -
  - > Icons (e.g. cafeteria, bookstore, restrooms etc.)

Room signage:

- Elements included:
  - > Room number
  - > Room Name

NMJC MASTER FACILITY PLAN UPDATE
JUNE 5, 2019, HOBBS, NEW MEXICO

DEKKER
PERICH
SABATINI

NMJC
New Mexico Junior College

MASTER PLAN DEVELOPMENT GOALS

- Enhance & Maintain Existing Campus Assets
- Create a Resilient Campus
- Create a Safe and Welcoming Campus
- Enhance Campus Identity/Brand
- Provide Flexible, Adaptable Spaces and Support Online Instructional Delivery
- Encourage Collaboration with Communities and Business Partners

NMJC MASTER FACILITY PLAN UPDATE
JUNE 5, 2019, HOBBS, NEW MEXICO

DEKKER
PERICH
SABATINI

NMJC
New Mexico Junior College

TUNNEL ASSESSMENT

EXISTING CONDITION OF TUNNELS





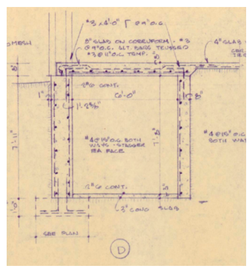
Tunnels generally resemble the above conditions with intact ceilings

AREAS NEEDING REPAIRS





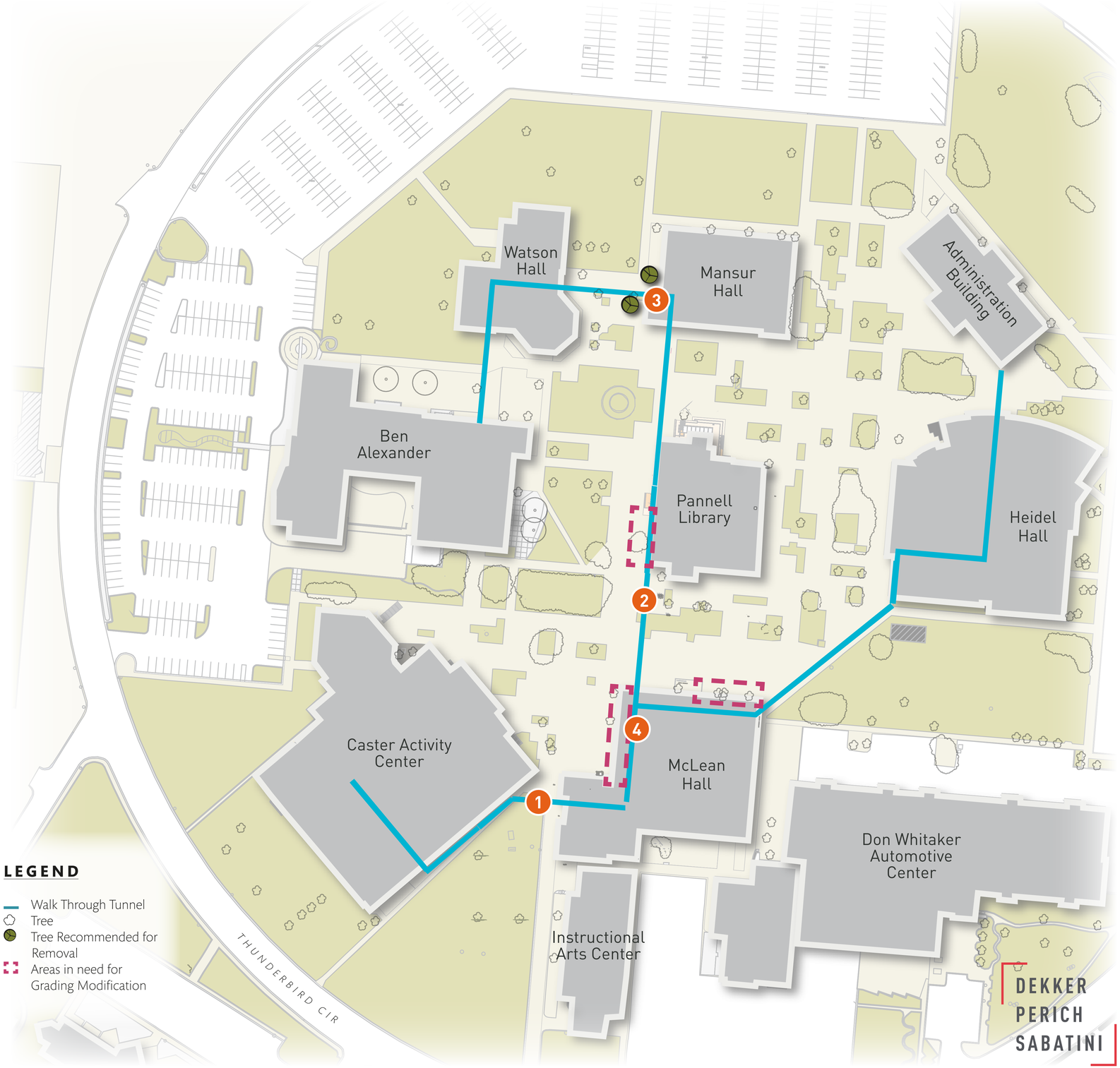
Water seeping into tunnel causes rust and panel separation from ceiling



Tunnel Construction Detail of Caster Hall (1966)

The tunnels are in generally good structural condition. There are three areas that need grading modifications, as they slope towards buildings. Two trees have potential impact to the structural integrity of the tunnels and are recommended for removed.

NMJC MASTER FACILITY PLAN UPDATE
JUNE 5, 2019, HOBBS, NEW MEXICO



NMJC

New Mexico Junior College

