HOUSING EXPANSION STUDY

For:

Minnesota Correctional Facility - Rush City
Rush City, Minnesota

MINNESOTA DEPARTMENT
OF ADMINISTRATION

RECS PROJECT No. 78RC0013
Report Submitted By:

BWBR ARCHITECTS
Commission No. 3.2014050.00

With Consultants:

RFC Engineering – Civil Engineers

Engineering Design Initiatives, Ltd. – Mechanical and Electrical Engineers

Robert Rippe and Associates – Food Service Consultants

CPMI – Cost Management Consultants

Consultant's Report

HOUSING EXPANSION STUDY

MINNESOTA CORRECTIONAL FACILITY – RUSH CITY, MINNESOTA

RECS PROJECT NO. 78RC0013
ISSUED: June 28, 2014

BWBR is pleased to submit this study for expansion of housing at the Minnesota Correctional Facility – Rush City.

Thank you for this opportunity to serve the Department of Administration – Real Estate and Construction Services, and the Minnesota Department of Corrections.

I hereby certify that this report for Housing Expansion Study was prepared by me or under my direct supervision and that I am a duly registered architect under the laws of the State of Minnesota.

_____ _____

BWBR Architects
John Strachota
Registration No. 16025

Date

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Real Estate and Construction Services

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TABLE OF CONTENTS

1. INTRODUCTION

In March, 2014, the Minnesota Department of Administration, at the request of the Department of Corrections (DOC), engaged the services of BWBR to study capacity for additional inmate housing at the Minnesota Correctional Facility – Rush City campus. Anticipating a bed shortage as early as 2016, the Department of Corrections is conducting similar housing expansion studies at MCF-Saint Cloud, MCF-Faribault, and MCF-Oak Park Heights. It is the DOC's intent to review the compiled studies, determine priorities, and identify which studies are to be further developed through Predesign Reports, for legislative consideration.

Objectives of this study are to identify; how much housing can feasibly be added, any required changes to housing unit design, adequacy of existing infrastructure to support expansion, required physical or operational changes of support programs, and cost projections for the identified scope of work.

2. PROJECT BACKGROUND NARRATIVE

2.1 SUMMARY STATEMENT

The **Mission** of the Minnesota Department of Corrections is *to contribute to a safer Minnesota by providing core correctional care, changing offender behavior, holding offenders accountable, and restoring justice for victims.* In order to achieve this mission, Minnesota Correctional Facilities must create an environment that provides safety and security of offenders, staff, and the general public.

As part of a system wide effort to identify additional housing opportunities, the DOC is seeking to expand housing capacity at MCF – Rush City. Any housing expansion should be cost effective, but also must maintain the safety, security, functionality and efficiency of the existing facility. Toward that end, the impact of additional inmates on each of the inmate support programs and conditions must be assessed, and required modifications included in the study scope.

2.2 FACILITY BACKGROUND

MCF-Rush City is a level four close custody facility which opened in 1999. The facility was originally planned for and includes utility infrastructure capacity for the following:

- Five housing units with 136 single-bunked cells convertible to double bunking (1360 inmates)
- One housing unit with 140 single-bunked cells for segregation (140 inmates)
- Planned inmate capacity of 820 at facility opening, expandable to 1500.

However, reductions to the original budget and scope, enacted during the legislative bonding process, resulted in only four housing units being constructed as follows:

- Three housing units with 140 (less accessible cells) double-bunked (825 inmates)
- One housing unit with 140 single-bunked cells for segregation (140 inmates)
- Subsequent double-bunking of 70 cells in segregation, and conversion of some multi-purpose rooms to cells has brought the current inmate capacity to 1035 inmates.

A number of further modifications have been made to the facility since it opened in 1999. These changes include but are not limited to:

- Addition of supplemental hot water heaters in mechanical penthouses of housing units
- Addition of a guard tower at the north side of support building

- Addition of an industries loading dock
- Conversion of property storage space to education classroom space
- Pill distribution upgrades at pharmacy
- Addition of freestanding greenhouses
- Addition of freestanding temporary structures housing behavioral health offices

Most of these revisions address conditions within the existing support building, and are indicative of the evolving nature of inmate support services and the processes used to facilitate them. As one example, an increasing demand for behavioral services has led to development and issue of a Behavioral Expansion Predesign Report in 2010, which was supplemented in 2013.

3. STUDY CRITERIA AND DESIGN CONCEPT

3.1 SUMMARY STATEMENT

The feasible limit to increasing inmate population at MCF-Rush City is tied to the original target design capacity of 1,500 inmates and the existing facility layout. The provision of housing to accommodate an inmate population much in excess of 1,500 runs the risk of exceeding existing utility capacities. Should that occur, civil, mechanical and electrical infrastructure would require expansion in place and extension, or that additional infrastructure be provided in a separate location. Either of these approaches would involve substantial added costs. Additionally, provision of housing for more than the 1,500 inmates would, by necessity, require expansion of the secure perimeter. The original design layout for six housing units arranged around the perimeter of a central support building works well organizationally, but also results in a relatively compact perimeter, well suited to the site. Stringent wetland mitigation requirements mean that in addition to the costs of fencing and road revision, any perimeter expansion would involve significant wetland mitigation costs.

3.2 UTILITY INFRASTRUCTURE

Civil infrastructure for the original facility was designed to serve six housing units accommodating 1500 inmates. Although the initial construction scope was reduced to four housing units, civil infrastructure remained unchanged other than to terminate sanitary and storm piping in the vicinity of the two "future" housing unit pads. For this study, RFC, Engineering reviewed existing civil construction drawings and specifications, contacted City of Rush City to confirm water usage conditions, and contacted Chisago County to confirm retaining pond requirements. Based on their analysis of findings, RFC has confirmed that capacity exists within existing civil infrastructure to provide for housing and support building expansions needed for an additional 500 inmates. See Appendix 'A' for additional information.

Mechanical and electrical infrastructure for the original facility was designed to serve six housing units accommodating 1500 inmates. Although the initial construction scope was reduced to four housing units, mechanical and electrical infrastructure remained unchanged other than to terminate piping and conduits underground and in mechanical penthouses in close proximity to the two "future" housing unit pads. For this study, Engineering Design Initiative (EDI) reviewed existing mechanical and electrical construction drawings and specifications, toured the existing facility, and met with MCF-Rush City facilities staff to analyze existing utility and system operations records. Based on their analysis of findings, EDI has confirmed that capacity exists within existing mechanical and electrical infrastructure to provide for additional housing and support programs needed for an additional 500 inmates. See Appendix 'B' for additional information.

3.3 HOUSING

Review of existing housing units and conditions was conducted with MCF-Rush City staff during the course of the study to identify any physical or operational issues that should be incorporated in any housing expansion.

General Population Housing

Although an increasing number of inmate treatment classifications are evolving with time, for basic planning purposes general population housing in this report refers to all but segregation and SHU housing. A few minor conditions were identified and recorded, but since none would impact project planning and cost projections, they are not included. Staff consensus is that the existing housing units are functioning well as general population housing. Given the importance of maintaining uniformity of inmate environment and experience, any expansion of general population housing should duplicate the existing.

Segregation Housing

There is also staff consensus that segregation housing at MCF-Rush City is significantly compromised due to overcrowding. Complex 1 currently consists of one wing of single-bunked cells housing 70 segregation inmates, with a second wing comprised of double-bunked cells housing 140 inmates, including approximately 50 inmates on segregation status. Staff noted a higher incidence of fighting due to overcrowding of day spaces. The number of showers was also noted as being inadequate for the current segregation population. Generally speaking segregation capacity should equal ten percent of the overall inmate population. This would suggest that 100 segregation cells should exist today, increasing to 150 cells for the projected inmate population of 1500. Staff familiar with the facility noted that the 150 bed Segregation Unit at MCF-Stillwater, which limits inmate groupings to 12, works very well to improve security and safety of inmates and staff.

Given the significance of segregation deficiencies under current conditions, it is considered necessary that any housing expansion include provision of a new 150 inmate segregation unit designed to limit the size of groupings. For planning purposes the MCF-Stillwater Segregation Unit, opened in 2008, is considered appropriate although actual design must respond to existing physical and operational conditions at MCF-Rush City.

Security Housing Unit (SHU)

With the construction of a dedicated segregation unit as part of the housing expansion, the need remains for additional administrative segregation. Existing Complex 1, with relatively minor modifications including conversion of 70 single-bunked cells to double bunking, could serve as a SHU.

3.4 INMATE PROGRAMS

Existing inmate programs were reviewed with facility staff to identify physical and or operational changes required to serve the projected increase of 495 inmates. In all instances reviews were focused on identifying what is "needed" rather than what is "desired".

Education

Education spaces, including offices and support, currently total 8,000 GSF within the Support Building. Six existing classrooms (2500 sf), are operating at capacity with 140 inmates taking GED classes during the day, and special programs including; AA, NA, Self-Improvement, Art, Silent Cry, Power People, Parenting, Thinking for Change, Grief Group, and others utilizing the classrooms during evening hours. Two vocational classrooms (2,200 nsf), adjoining industry areas, are being used for painting and decorating instruction. Vocational training, offering an important opportunity for offender reintegration, should be maintained and to the extent possible, expanded. Transition and employability instruction is occurring in remote classroom and computer lab space (2,000 sf), but where currently located, these spaces are only available during the day.

The projected population increase of 495 inmates requires:

- Three additional classrooms (1,250 sf).
- One additional vocational classroom (1,100 sf).
- Relocation/consolidation of remote classroom and computer lab space (2,000 sf) for improved access
- Determination of additional staffing requirements

Library

The existing Library (3,000 sf), is operating at capacity. Currently there are 45 hours of Law Library scheduled each week. Hours could be expanded into weekends with additional staffing. Transition and law library areas are undersized. Technology options such as electronic books and readers should be investigated for potential to relieve area demands, but with a program goal of 12 books per offender, additional stack and storage space are required.

The projected population increase of 495 inmates requires:

- Additional stack and storage space for 6,000 books (1,000 sf).
- Determination of additional staffing requirements

Behavioral Health

There are currently 18 Mental Health (MH), and Sexual Offender Treatment Program (SOTP), staff sharing 10 offices within the support building. Additional assessment and counseling space is provided in a manufactured mobile unit located next to Complex 2, which houses Supportive Living Services (SLS), and SOTP programs. Due to privacy and disruption concerns, assessment and counseling functions should not occur in the mobile unit. Additional office, assessment, and group counseling space is required, both for existing programs, as well as for Chemical Dependency (CD), and Release Violator (RV), programs being introduced.

A Behavioral Predesign Report, originally prepared in 2010 and updated in 2013, outlines a much needed Behavioral Health Unit for the current population. Expansion of inmate population will modestly increase the number of offices, assessment rooms, and group rooms required. But, these increases would be balanced by area reductions for stairs, elevator, and most mechanical if the behavioral spaces are contained in the support building on a single level.

The projected population increase of 495 inmates requires:

- Provision of program spaces (30,000 sf) outlined in Behavioral Expansion Predesign Report (2010) and Behavioral Expansion Predesign Report Supplement (2013)
- Determination of additional staffing requirements

Religious Services

The existing chapel (850 sf), accommodating 55 inmates at one time, is in constant use. 55 inmates represent 5% of current inmate population. The actual participation rate is 33.7% or roughly 350 inmates. If inmate population grows to 1500, roughly 500 inmates would be participating. Additional chapel and storage space is required. A large sub-dividable space is not recommended since moveable panels are problematic in a detention environment. Spaces of different sizes would provide the greatest amount of flexibility. The existing outdoor program area, displaced by any housing expansion, must be relocated.

The projected population increase of 495 inmates requires:

- Additional chapel and storage space (1,600 sf)
- Relocation of outdoor program area
- Determination of additional staffing requirements

Industry

Existing Industry occupies 36,000 sf along the east side of the support building. The northern portion is conditioned space which is fully utilized at present. The southern portion, ventilated but not conditioned, is not fully utilized presently. (See Education section for vocational classroom information). It is difficult to project a higher demand for industry tied directly to an inmate population increase, since it relies on identifying and developing a process that fills a particular niche. Based on the need to expand food services in place, some reduction to Industry square footage is necessary. To the extent possible existing industry capacity will be maintained by conditioning the southern industry space and shifting occupancy toward that end.

Canteen and Property

The existing Canteen is operating at capacity. Increasing the total inmate population will require increasing the staging capacity for individual bags, or increasing the number of weekly deliveries. MCF-Rush City staff should also look at the potential for Canteen deliveries directly to Segregation and SHU as a means of reducing staging requirements in the existing Canteen space.

The existing Segregation Property storage space (550 sf), is not adequate to meet current need. Also, an industrial laundry comprised of 2 commercial washers and 3 commercial dryers, is needed next to property storage for laundering sheets and linens, blankets and coats, and Release Violator (RV) clothing.

The projected population increase of 495 inmates requires:

- Additional canteen staging (550 sf).
- Larger segregation property storage (1,000 sf).
- Provision of commercial laundry with 2 washers and 3 dryers (200 sf)
- Determination of additional staffing requirements

Intake and Visitation

Intake holding cells have been added since the original facility opened. An interview/health services room is needed but could be shared with Transport Office, perhaps using the current RV property room. Any changes would be made "in-house". Visitation does not require any modifications to support the proposed increase to total inmate population.

Recreation

There are two indoor activity areas, and two outdoor activity areas serving the current population of 1035 inmates. Each indoor activity area is comprised of court and weight-lifting program space. Each outdoor activity area is comprised of a softball field, basketball court, and handball court. Additionally, there is an existing horseshoe pit and volleyball court outdoors. The horseshoe pit is popular, but the volleyball court is not utilized.

With the proposed increase of total population to roughly 1,500 inmates, a third indoor activity area and third outdoor activity area are desired. However, in comparison to facilities across the DOC system this would place MCF-Rush City "ahead of the curve" as it relates to activity opportunities.

The projected population increase of 495 inmates requires:

- Upgrades to individual housing unit courtyards
- Possible inclusion of handball or partial court basketball
- Determination of additional staffing requirements

Food Service

Food service is the most important support function provided. The foodservice department will require significant expansion to accommodate the increased bed count and the increased number of offenders working in the foodservice area. As the volume served increases, the opportunity to utilize offender workers will grow. The foodservice department is currently employing far more offenders than originally planned and an increase in work space, along with the increased volume, would create more opportunities and would improve the ability to supervise these workers. Outside the need for more work surfaces, the production areas require minimal expansion; this is primarily for replacement of the current steam kettles with larger capacity units. Additional space in the kitchen is also needed in the meal assembly and cart parking areas to accommodate the increased number of food trays assembled for delivery to the units. The storage areas requiring the most significant increase are the walk-in refrigerators and freezers. The dry storage area will be adequate with the addition of high density shelving.

Most significant, is the additional space required to accommodate the increased dining volume. The current overall daily serving time is as long as possible. Shifts could not be added to the current dining rooms and still provide the required amount of time between meals for the offenders. With an increase in the population, both additional serving lines and dining room space will be required. For improved ability to process the soiled trays in this same timeframe, significant additional space and staffing will be needed in the warewashing areas. See Appendix 'E' for additional breakdown of food service requirements.

The projected population increase of 495 inmates requires:

- Additional area for expansion of dining, food prep and food storage (13,000 sf)
- Extensive revisions of existing dining, food prep and food storage areas (16,000 sf)
- Determination of additional staffing requirements

Medical Services

Existing Medical Services (4,800 sf) are operating at capacity in serving the current 1035 inmates. The proposed increase of inmate population would require; additional area for queuing at pill windows, additional waiting area, one additional provider room, two additional exam rooms, one additional procedure room, and additional records storage capacity. If introduced, electronic records could reduce area requirement for records storage. Existing provisions for dental service are adequate to serve the projected total inmate population.

Given the relatively high cost for medical service space it would be desirable to expand in place. In order to do so, the dental services components would relocate to the north, allowing the required medical spaces to expand into the space vacated by dental.

The projected population increase of 495 inmates requires:

- Additional medical service program area (2,200 sf)
- Relocation of dental service program area
- Determination of additional staffing requirements

3.5 SUPPORT SERVICES

Existing support services were reviewed with facility staff to identify physical and or operational changes required to serve the projected increase of 495 inmates. In all instances reviews were focused on identifying what is "needed" rather than what is "desired".

Administration

Administration was not specifically addressed in reviews, but administrative function is not thought to require modification in response to the projected increase in total inmate population.

Warehouse and Loading Dock

The warehouse area is adequately sized, but may require some reconfiguration. The loading dock is adequately sized and configured.

Maintenance

No additional square footage is required for maintenance, but options for additional staffing spread over expanded hours should be considered.

4. PROGRAM INFORMATION

This space program summarizes additional square footage requirements for housing, inmate services, and support functions.

B|W|B|R

Program Area Summary

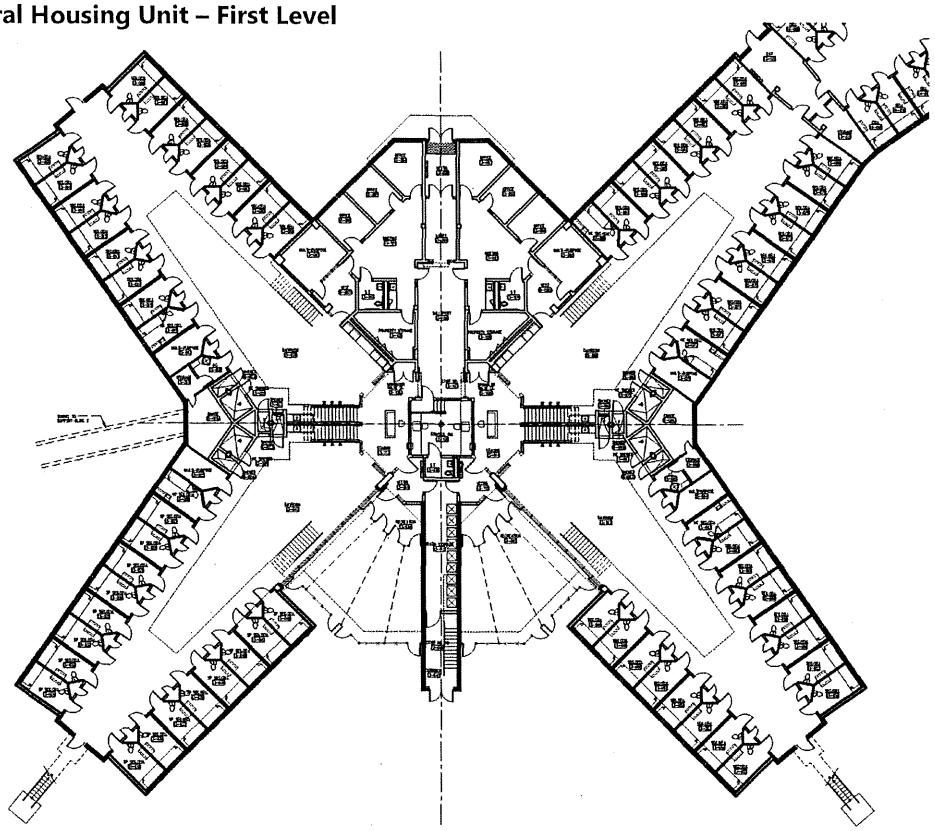
June 20, 2014

MCF-Rush City - Housing Expansion Study

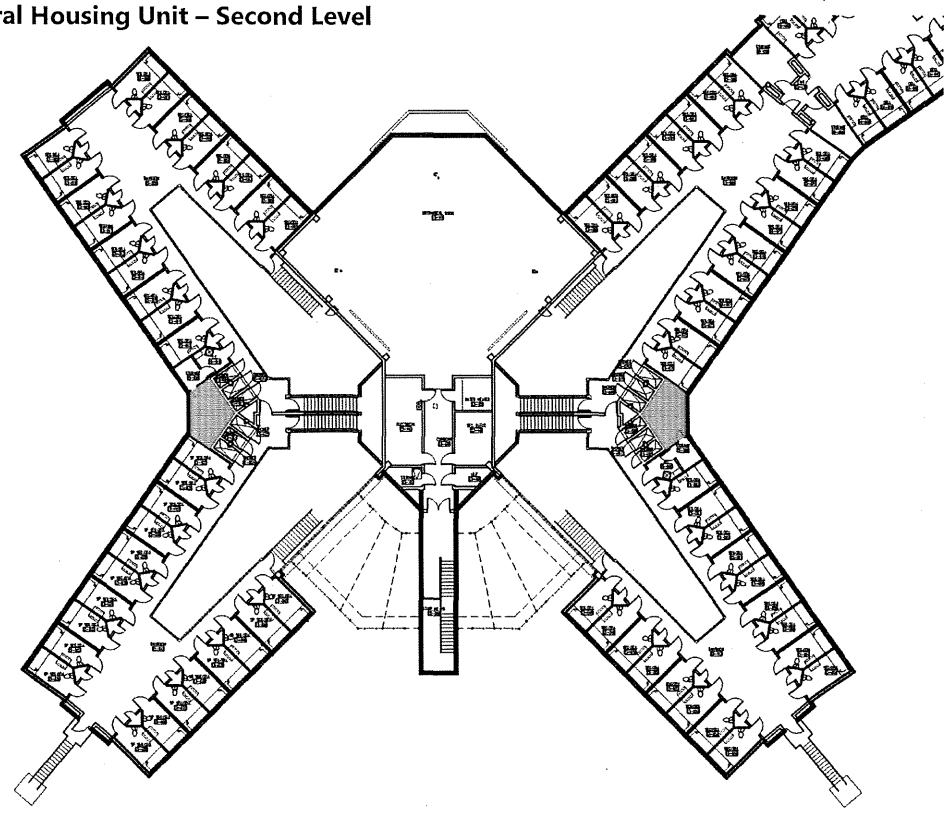
3.2014050.00

Item	Function	Existing SF	New SF	Remodeled SF	Total SF	Remarks
	Housing Unit (Complex 5)					
1.0	**General Population Housing**	0	**42,250**	**0**	42,250	Housing unit identical to existing Complexes 2, 3, and 4. Required utilities have been extended to vicinity of building pad.
	Housing Unit - (Complex 6)					
2.0	**Segregation Housing**	0	**63,100**	**0**	63,100	Two story segregation housing unit with program matching MCF-Stillwater facility (2008).
	Housing Unit (Complex 1)					
3.0	**Security Housing (SHU)**	40,750	**0**	**1,500**	42,250	Limited modifications required to convert existing
	SUBTOTAL		**105,350**	**1,500**		
	Support Building					
4.0	**Education**	0	**12,000**	**0**	12,000	Consolidates classrooms, offices and support.
5.0	**Library**	3,000	**0**	**1,000**	4,000	Stack and storage increase by expanding in place.
6.0	**Behavioral Health**	0	**20,200**	**9,800**	30,000	Adopts Predesign program for Behavioral Expansion (Issued 2010, Updated 2013).
7.0	**Religious Services**	1,200	**1,400**	**0**	2,600	Maintains existing chapel spaces.
8.0	**Industry**	-5,600	**0**	**0**	-5,600	Overall Industry space is reduced by 5,600 GSF due to food service expansion in place.
9.0	**Canteen and Property**	3,200	**0**	**2,200**	5,400	Increases canteen and segregation storage. Adds commerical washers and dryers
10.0	**Food Service**	0	**0**	**29,000**	29,000	Existing food service expands into adjoining Industry area.
11.0	**Medical Services**	2,600	**1,850**	**2,550**	7,000	Relocates dental services to allow health services and pharmacy to expand in place.
12.0	**Watch Commander**	0	**2,750**	**0**	2,750	Relocated to exterior wall with building expansion.
13.0	**Corridor Extensions**	0	**1,300**	**0**	1300	
	SUBTOTAL		**39,500**	**44,550**		
	TOTAL		**144,850**	**46,050**		

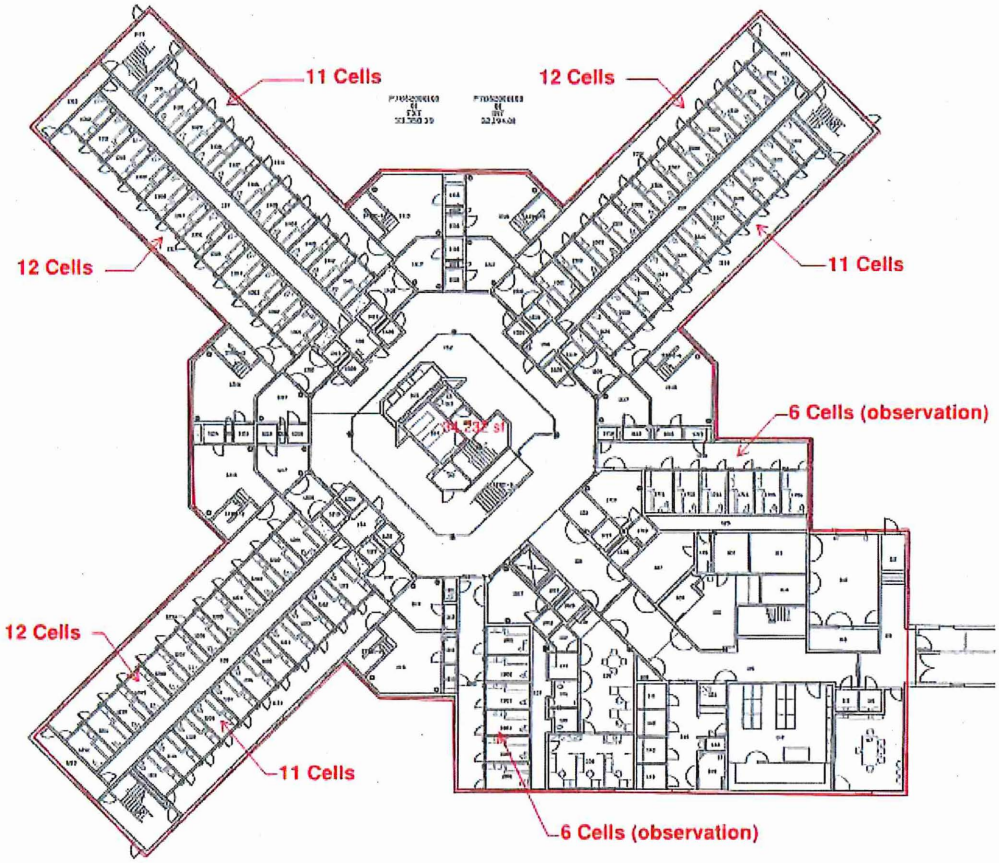
Conceptual General Housing Unit – First Level



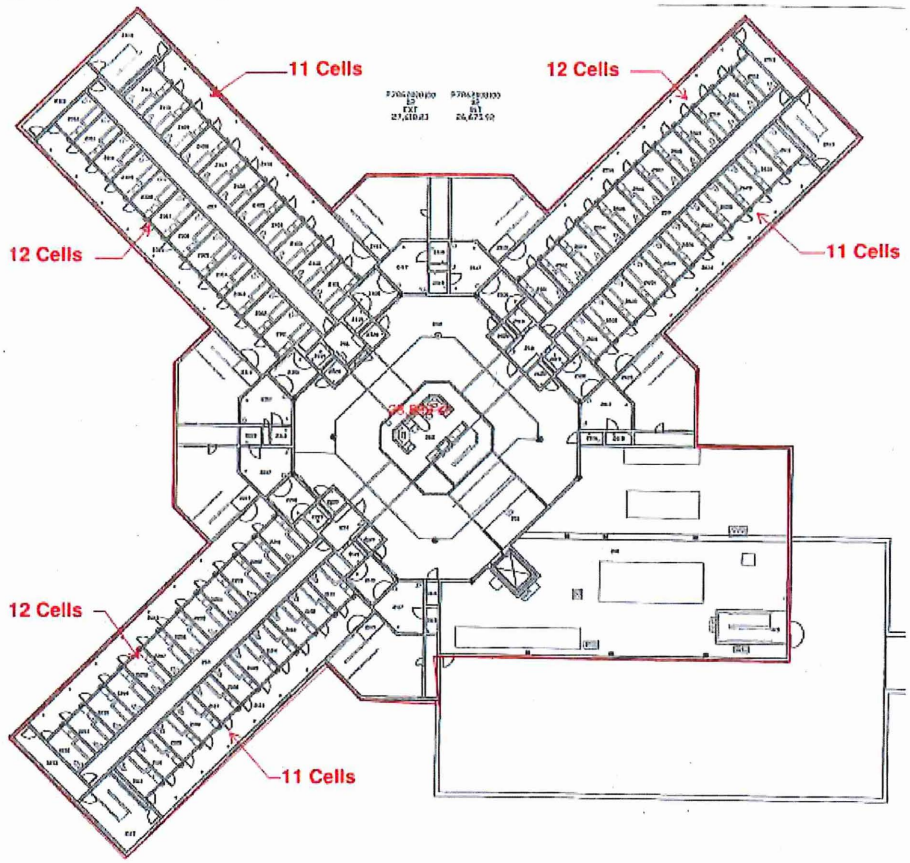
Conceptual General Housing Unit – Second Level



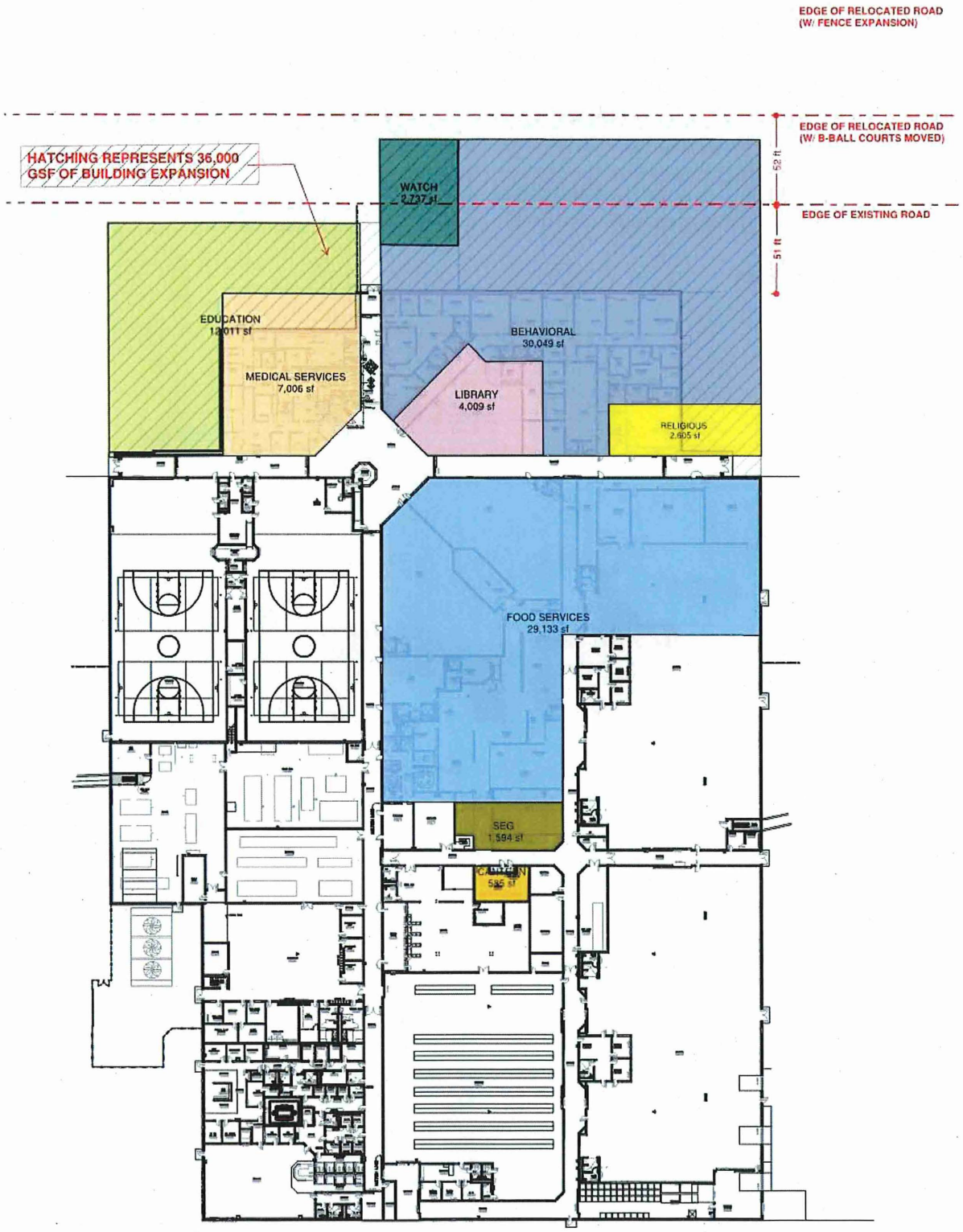
Conceptual Segregation Housing Unit – First Level



Conceptual Segregation Housing Unit – Second Level



Support Building - Conceptual Plan



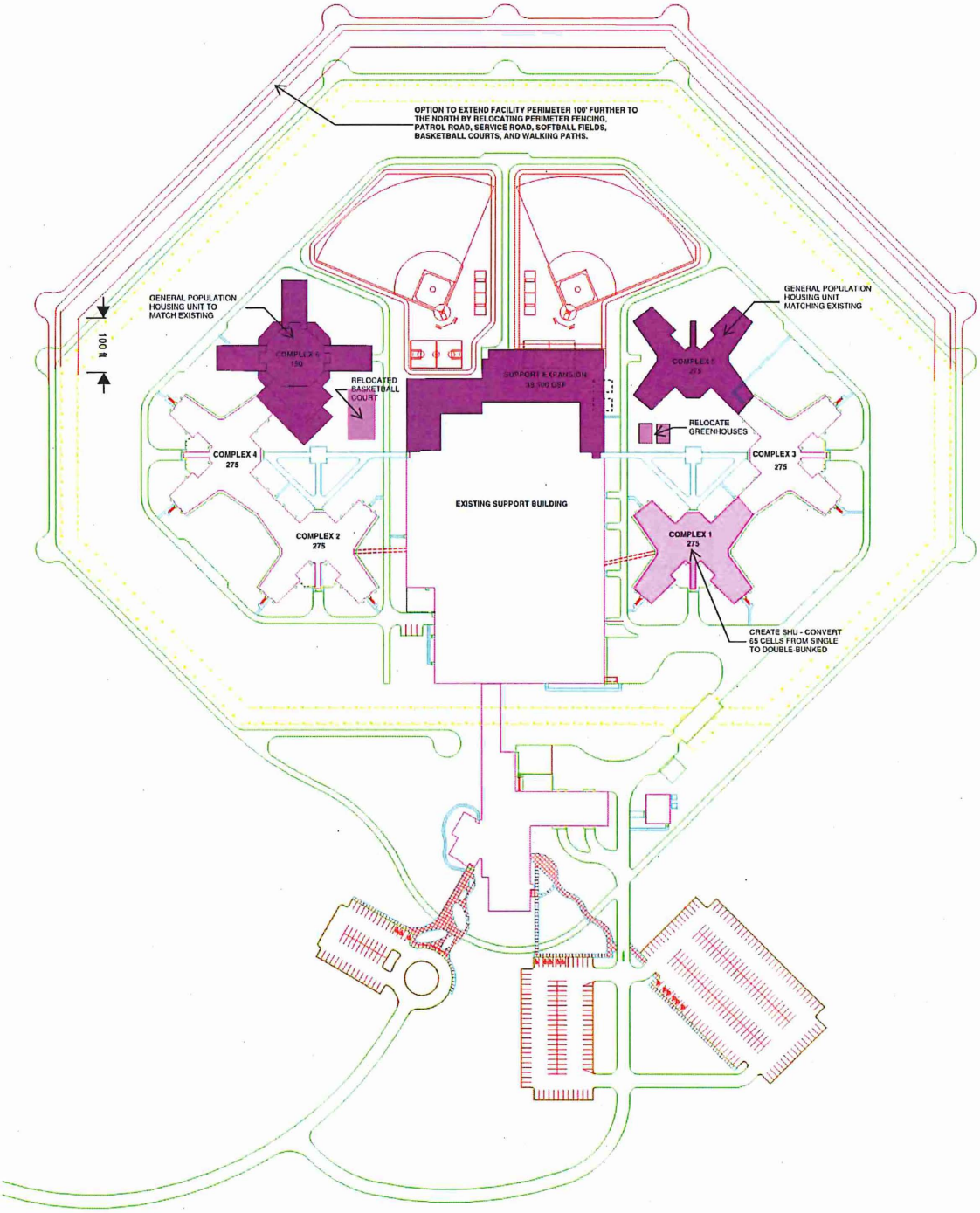
MCF - RUSH CITY SUPPORT BUILDING
OPTION D.1
DO NOT SCALE

JUNE 5, 2014

5. SITE ISSUES

Maintains existing perimeter fencing and patrol roads
Predetermined housing pads located and prepped
Analysis of site uses
- Softball and racquetball are used and should remain as is
- Walking/jogging paths are used and should remain with modification due to support expansion
- Basketball is used and should be relocated due to support expansion
- Volleyball is not used and can be eliminated
- Religious ceremonies site used – relocate due to housing addition

Conceptual Site Plan



6. PROJECT COST INFORMATION

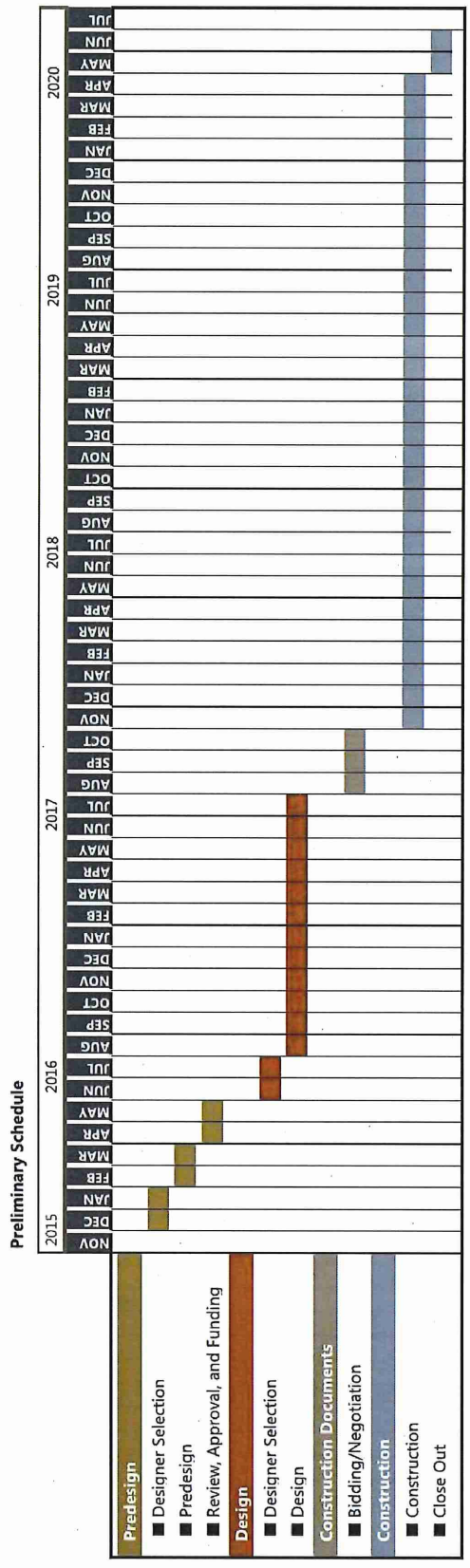
The project cost estimate for housing expansion at MCF – Rush City has been prepared by BWBR in conjunction with CPMI. In accordance with the scope of this study, the concept plan was used to develop a construction cost budget based on prior phase housing building construction, knowledge of the facility, and experience of the construction industry. Budgets for contingencies, design fees and other project "soft costs" were estimated based on past project experience. An inflation multiplier and inflation cost has not been included. The cost estimate for housing expansion is shown here in the State of Minnesota's Agency Capital Budget Request form for clarity, as it is generally used for funding construction projects and is easily understood. A more detailed construction cost breakdown is included as Appendix 'F' to this study.

Capital Budget Request

PROJECT COST FORM		Cost		
MCF - Rush City - Housing Expansion Study		($ in Thousands)		
TOTAL PROJECT COSTS All Years and All Funding Sources		**Project Costs** FY 2014-15	**Project Start** (Month/Year)	**Project Finish** (Month/Year)
1 Property Acquisition				
Land, Land Easements, Options		0		
Land and Buildings		0		
Other Costs		0		
	SUBTOTAL	$0		
2 Predesign Fees	**SUBTOTAL**	$0		
3 Design Fees				
Schematic		504,000		
Design Development		672,000		
Construction Documents		1,344,000		
Construction Administration		840,000		
Other Costs		840,000		
	SUBTOTAL	$4,200,000		
4 Project Management				
State Staff Project Management		315,000		
Non-State Project Management		0		
Other Costs		420,000		
	SUBTOTAL	$735,000		
5 Construction Costs				
Site & Building Preparation		in construction		
Demolition/Decommissioning		in construction		
Construction		62,929,900		
Infrastructure/Roads/Utilities		0		
Hazardous Material Abatement		210,000		
Construction Contingency		2,100,000		
Other Costs		1,050,000		
	SUBTOTAL	$66,289,900		
6 Art	**SUBTOTAL**	$0		
7 Occupancy				
Furniture, Fixtures and Equipment		2,940,000		
Telecommunications (voice & data)		210,000		
Security Equipment		in construction		
Commissioning		210,000		
Other Costs (i.e. relocation)		0		
	SUBTOTAL	$3,360,000		
	SUBTOTAL OF SECTIONS 1 THRU 8	$74,584,900		
8 Inflation				
Midpoint of Construction		TBD	Midpoint Date	TBD
Inflation Multiplier	0.00%	0.0000		
Inflation Cost	**SUBTOTAL**	$0		
9 Other	**SUBTOTAL**	$0		
	GRAND TOTAL	$74,584,900		

7. PROJECT SCHEDULE

This project schedule for housing expansion at MCF-Rush City is based on Legislative Approval in May, 2016.



BWBR

8. APPENDIX 'A' – CIVIL NARRATIVE

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June 25, 2014

Mark Ludgatis
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St. Paul, Minnesota 55102

Re: Existing utility study for the potential of additional buildings at MCF-Rush City

Dear Mark,

We have completed our study of the existing sanitary sewer, storm sewer and watermain. The following is a summary of the finding:

Sanitary Sewer:
The existing sanitary sewer on the westerly portion of the facility is 8-inch PVC at 0.4%. A 4-foot stub and plug of 8-inch PVC was provided toward what is the proposed Segregation Unit. The 8-inch stub and the westerly 8-inch at 0.4% both have adequate capacity for the proposed Segregation Unit. The 4-foot stub section of PVC pipe would need to be removed.

The existing sanitary sewer on the easterly portion of the facility is 12-inch PVC at 0.22%. A 4-foot stub and plug of 8-inch PVC was provided toward what is the proposed 275 bed Housing Unit. The 8-inch stub and the easterly 12-inch at 0.22% both have adequate capacity for the proposed Segregation Unit. The 4-foot stub section of PVC pipe would need to be removed.

It is unclear as to whether the sanitary sewer services for the Support Building expansion would be from within the building, which has two outlets to the south, or if an outside connection would be required. An outside connection is not possible from the westerly 8-inch PVC at 0.4%, since there will not be adequate cover over the sanitary pipe. However, an outside connection is possible from the easterly 12-inch PVC at 0.22% to the northeast portion of the proposed Support Building expansion.

All of the interior sanitary sewers tie into a 15-inch PVC at 0.15% which ties into the lift station at the southerly portion of the site. The 15-inch PVC and the lift station have adequate capacity for the proposed expansion.

It is noted that the original design was based on an ultimate number of employees of 450. As the sanitary sewer design flow for each employee is only 15 gallons per day, the sanitary sewer is able to handle a minimal increase of employees over the initial design of 450 employees.

Storm Sewer:
The storm sewer within and under the perimeter fence was sized for the ultimate development with the initial build. However, the proposed Housing Unit, Segregation Unit and Support Building Expansion are of greater impervious area than what was included in the initial build storm calculations. Due to the increased impervious area over the initial build calculations, there is the possibility that some of the existing storm sewer will need to be increased in size and/or new outlet structures will be required underneath the perimeter fence.

Although the storm sewer was sized for the ultimate development, the storm water ponds were only sized for the initial build, so storm water ponding expansion will be required. Based on the 1995 wetland delineation, the ponds can be expanded without impacting wetlands. Due to almost 20-years since the initial wetland delineation, a subsequent delineation will be required prior to any grading outside of the existing perimeter fence.

The 515 linear feet of 6-inch subdrain under the basketball courts will need to be removed prior to the Support Building Expansion. Additional subdrain installation would be completed outside of the footprint.

The storm sewer for the initial build was based on the US Department of Congress Technical Paper-40 rainfall frequencies, which were the established design criteria at that time. However, recent updates to rainfall frequencies were completed by the National Oceanic and Atmospheric Administration (NOAA). The updated rainfall frequencies are titled Atlas-14. The Atlas-14 rainfall frequencies for a 10-year and 100-year rainfall frequencies have increased from the TP-40 frequencies by 0.1 inches (from 4.0 inches to 4.1 inches) and 0.7 inches (from 5.7 inches to 6.4 inches) respectively. Due to the minimal change in the 10-year rainfall frequency, for which is used to design the storm sewer, revisions to the existing storm sewer would not be anticipated. However, due to the increased 100-year frequency, for which is used to design the stormwater ponds, expansion of the ponds will be required. Again, it appears that the ponds can be expanded without impacting wetlands.

Watermain:
The initial build included a looped 12-inch watermain around the existing Complexes, existing Support Building, northerly basketball courts and the proposed Segregation and Housing Units. In addition, there is a north/south connecting 8-inch watermain on either side of the Support Building. The existing watermain is adequately sized for the proposed Housing Unit, Segregation and Support Building expansion. The extension of the watermain should not result in fire flow concerns due to the proximity of the existing water tower due south of the parking lot. This should be verified by the mechanical engineer.

Potential Fence Expansion:
In addition, it is understood that there is a potential expansion of the facility. The expansion would move the northerly exterior fence out a distance of 100-feet. Based on the 1995 wetland delineation, the fence expansion would not result in any wetland impact. This would need to be verified with updated wetland delineation. There are three different storm outlet structures within the potential fence expansion area that are currently located underneath the perimeter fence. It is anticipated that these structures could be salvaged and replaced to the expanded fence location. Additional borrow material import would be required for expansion of the perimeter fence to the northwest and to the north. No additional borrow material would be required to expand to the northeast. The estimated borrow quantity is between 20,000 and 25,000 cubic yards. Some borrow material will be created with the pond expansion. The option of creating an on-site borrow pit, as was done with the initial build, is also an option.

Sincerely,

RFC Engineering, Inc.

Tom Collins, P.E.

9. APPENDIX 'B' – MECHANICAL NARRATIVE

engineering
design
initiative

June 19, 2014

Ron Laughlin, AIA
BWBR
380 St. Peter Street, Suite 600
St. Paul, MN.
55102

Re: MCF-Rush City Housing Expansion Study
Mechanical Infrastructure
EDI Project No. 14-042

Dear Ron,

As you know, BWBR has retained edi to evaluate the existing mechanical system infrastructure at MCF-Rush City to determine if capacity exists to support the proposed housing additions and the expansion of the support building.

In general, the infrastructure exists to support the new proposed work. The following is a summary of the various mechanical systems and our opinion of expandability:

Sanitary Sewer:

Provisions have been made to except the two new proposed housing additions. These provisions include an underground 8" round stub and cap for each housing unit.

The support building sanitary sewer exits the building on the south end. Pipe sizes are increased from the north to the south within the building. As such, the smallest pipe size and highest invert is on the north end of the building. It is unlikely that the new north expansion will be able to connect to the existing building sewer. It is recommended that a new sanitary be extended from the north building to nearest site sewer.

Domestic Water:

Each existing housing unit currently has a dedicated hot water heater for domestic water heating. Provisions have been made, with capped cold water mains, to extend the domestic cold water service into the new proposed housing additions from the existing buildings. Each addition will require a new water heater and water softener, consistent with the current existing design.

It is anticipated that the water demand for the support building will increase substantially due to the large kitchen expansion. Underground water mains surround the building. An additional water supply from these mains will most likely be necessary to meet the new demand in lieu of extended the existing building water mains.

Chilled Water Distribution System:

Provisions have been made to except the two new proposed housing additions. These provisions include valve and capped 5" round chilled water pipes for each housing unit.

1112 north 5th street • minneapolis, mn 55411 • phone 612.343.5965 • fax 612.343.5982

The support building expansion will require new chilled water pipes (5" anticipated) from the chiller plant, which is located on the west side of the building proper, to the north building expansion.

Chillers:

Three water cooled chillers generate chilled water for cooling purposes. Each chiller has logged approximately 15,000 hours of operation which is considered, in the industry, to be approximately at half-life.
The total chiller plant capacity is 1650 tons. The largest building demand ever witnessed by operating staff is 770 tons. The existing design documents included accommodations for future expansion.
The two proposed housing units and the support building expansion has an anticipated load of approximately 350 tons. As such, ample capacity exists to support the proposed work.

Cooling Towers:

The existing cooling tower plant has 1650 tons of capacity which can accommodate the new proposed additional loads.

Boiler Plant-Hot Water:

The boiler plant consists of two 750 BHP boilers and one 200 BHP boiler for a total capacity of 1700 BHP. One 750 BHP boiler has been able to meet the worst building demand. The existing design documents included accommodations for future expansion. As such, ample capacity exists for the new proposed work.

Hot Water Distribution System:

Provisions have been made to except the two new proposed housing additions. These provisions include valve and capped 5" round hot water pipes for each housing unit.

The support building expansion will require new hot water pipes (5" anticipated) from the boiler plant, which is located on the west side of the building proper, to the north building expansion.

Fire Protection:

In general, underground water mains surround the buildings within the facility. It is anticipated that extensions from those mains into the respective building will be required for the fire protection sprinkler system.

Sincerely,

Larry D. Svitak, PE
Vice President

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10. APPENDIX 'C' – ELECTRICAL NARRATIVE

engineering
design
initiative

June 19, 2014

Ron Laughlin, AIA
BWBR
380 St. Peter Street, Suite 600
St. Paul, MN 55102

Re: MCF-Rush City Housing Unit Expansion Study
Electrical Infrastructure
EDI Project No. 14-042

Dear Ron,

The purpose of this report is to present the findings of our engineering evaluation of the infrastructure at MCF Rush City. The electrical infrastructure was evaluated to identify the impact of adding two new housing units (275 inmates double bunked in one unit and 150 inmates single bunked for the Segregation unit). In addition, the study included the impact of adding the proposed Support Addition to the north side of the complex.

Following is a summary of the systems.

Electrical Utility Service:

The electrical utility serving the Rush City Correctional Facility Complex is East Central Electric who has two 12.47 KV primary, 3-phase electrical feeders serving the complex. The primary electrical cabling (service lateral) is routed from East Central Energy owned substations underground to the Power House medium voltage switchgear at the southwest corner of the building. The information reviewed indicate that the primary electrical feeders are outside of the proposed area of construction and are of adequate size to accommodate the added electrical load resulting from the proposed new construction.

Main Electrical Service Switchgear:

The main electrical switchgear is located in the power plant is manufactured by General Electric and is rated at 1200-amps at 12.47 KV. The electrical gear has been maintained very well and has adequate spare capacity to serve the proposed building additions. Therefore, no modifications to the service switchgear will be required to accommodate the new buildings.

Main Power Plant Substation:

The main power plant substation is manufactured by General Electric and is rated at 4000-amps, 480-volt, 3-phase, 4-wire. The substation has spare capacity and electrical circuit breakers that can be used to serve the proposed construction. There are (4) spare 225-amp, 480-volt, 3-pole circuit breakers that will be used for the new construction.

Electrical Motor Generator(s):

Rush City MCF has (2) 1500-KW diesel powered electrical motor generators that are manufactured by Caterpillar. The generators are in very good condition and have been maintained very well. The generators recently were upgraded with Tier IV emission controls that are federally required to participate in electrical utility

curtailment programs which allow the facility to reduce operational costs through a reduced electrical rate. The electrical generators have (2) 12,000 gallon underground fuel tanks (24,000 gallons total) for on-site storage of fuel. The electrical generators provide Life Safety Power to the facility.

The existing two 1500 KW generators have ample capacity to serve the existing Life Safety load of the facility plus the proposed added load from the new Housing Units and Support Addition.

Life Safety Fire Alarm System:

The current life safety fire alarm system for the facility is an addressable intelligent system as manufactured by Siemens Cerberus Pyrotronics. The correctional facility typically has one fire alarm control panel per area (Housing Unit, Industry, etc.) with all the fire alarm panels networked together and monitored by Central Control.

The proposed housing units will each require an additional fire alarm panel networked with other facility fire alarm panels. The new fire alarm panels will include Smoke Management System for their respective unit rather than the Building Automation System (BAS) which currently serves this function.

Communications Cabling / Infrastructure:

The new housing units and Support addition will require added communications infrastructure to support the security, communications and life safety functions. Today every Intermediate Distribution Frame (IDF) is equipped with:

- Single Mode Fiberoptic Cabling
- Multi-Mode Fiberoptic Cabling
- Category 6 Horizontal copper Cabling

The aforementioned cabling shall be provided and routed between the IDF in the new buildings and Main Distribution Frame (MDF) for the complex.

Security Camera (video):

The security camera infrastructure shall be expanded to the new areas of construction. The infrastructure for video shall support a minimum of 10GB with network video recorders and video management. All new cameras shall be IP style to accommodate MCF Rush City trend (transition) to digital cameras rather than analog.

Sincerely,

Jay S. Hruby, PE
President

1112 north 5th street • minneapolis, mn 55411 • phone 612.343.5965 • fax 612.343.5982

11. APPENDIX 'D' – ARCHITECTURAL SYSTEMS NARRATIVE

The following structural and architectural systems listing outlines the general scope of work for cost modeling purposes.

- Cast in Place Concrete Pad and Strip Footings
- Cast in Place Concrete Slabs on Grade
- Precast Insulated Tilt-Up Exterior Wall Panels
- Precast Tilt-Up Interior Bearing Wall Panels
- Precast Prison Cell Modules
- Structural Precast Concrete Columns, Beams, and Roof Planks
- Structural Steel for Miscellaneous Mechanical and Interstitial Spaces
- Steel Joist Roof Framing
- Steel Roof Decking over Cold Formed Metal Framing
- Built-Up Roofing
- EPDM Membrane Roofing
- Thermoplastic Membrane Roofing
- Metal Stairs
- Detention Doors and Frames
- Detention Hardware
- Detention Windows
- Cell Glazing
- Security Metal Ceiling
- Seamless Kitchen Flooring
- Detention Equipment
- Electronic Security Fence
- Security Electronics
    - Fiber Optic Cable System
    - Door Control System
    - Security Monitoring and Control System
    - Closed Circuit Television System
    - Digital Video Recording System
    - Site Intercommunications System
    - Card Access System
    - Perimeter Security System (Hybrid)
    - Personal Alarm System
    - Master Antenna Television System
    - Uninterruptable Power System

12. APPENDIX 'E' – FOOD SERVICE AREA BREAKDOWN

ROBERT RIPPE & ASSOCIATES, INC.

MCF - RUSH CITY
Rush City, MN
RRA # 14.086.00

June 1, 2014

SPACE PROGRAM

		Net Sq. Ft.		
		Existing		Proposed
Receiving & Storage				
Receiving		Shared		250
Trash/Recycle Staging		200		250
Dry Storage		1000		1000
Cool Storage/Chemical & Paper Storage		330		330
Detergent Storage/Mop Closet		25		80
Walk-in Freezer		630		945
Walk-in Dairy Refrigerator		110		220
Walk-in Meat/Cooks' Refrigerator		370		740
Walk-in Produce Refrigerator		240		480
Sub-total Storage & Receiving		2,905		4,295
Kitchen				
Cold Food Prep		225		500
Cooks' Prep		190		190
Meat Prep Refrig.		0		180
Hot Food Production		900		1200
Meal Assembly/Service Area		375		750
Cart Parking		160		350
Baking		500		1500
Warewashing				
Dish Wash		635		1600
Pot Wash		300		300
Cart Wash		0		80
Sub-total Kitchen		3,285		6,650
Employee Spaces				
Offender Rest Rooms		70		150
Office Complex		420		520
Sub-total Employee Spaces		490		670
Back of House Total		6,680		11,615
Circulation Factor 30%		2,004		3,485
Back of House Total w/Circulation		8,684		15,100
Serving Area/Dining Room				
Serving Lines	2 @ 600	1,200	3 @ 700	2,100
Dining Room	2 @ 2850	5,700	3 @ 3600	10,800
Guard Station		0	3 @ 65	195
Queing Area	2 @ 200	400	3 @ 200	600
Mop Closet	2 @ 65	130	3 @ 65	195
Sub-total Dining Area		7,430		13,890
Total Foodservice Area		**16,114**		**28,990**

13. APPENDIX 'F' – COST MANAGEMENT INFORMATION

PREDESIGN
COST MANAGEMENT REPORT
HOUSING EXPANSION STUDY
MINNESOTA CORRECTIONAL FACILITY
RUSH CITY, MINNESOTA
29 JUNE 2014

PREPARED FOR:

BWBR ARCHITECTS
ST. PAUL, MINNESOTA

PREPARED BY:

COST, PLANNING AND MANAGEMENT INTERNATIONAL, INC.
EAGAN, MN • DES MOINES, IA

PREDESIGN
COST MANAGEMENT REPORT
HOUSING EXPANSION STUDY
MINNESOTA CORRECTIONAL FACILITY
RUSH CITY, MINNESOTA
29 JUNE 2014

TABLE OF CONTENTS PAGE

PREDESIGN
COST MANAGEMENT REPORT
HOUSING EXPANSION STUDY
MINNESOTA CORRECTIONAL FACILITY
RUSH CITY, MINNESOTA
29 JUNE 2014

BASIC ASSUMPTIONS

This Schematic Design Cost Management Report is based on information and drawings provided by BWBR Architects and received by CPMI on June 16, 2014. Additional information was obtained from dialogue with the design team. The level of detail and accuracy of pricing in this estimate is consistent with the degree of completeness of the documents used for estimating purposes.

Other assumptions applied to this estimate include:

- **Bid Conditions**
  This estimate is based on a competitive bid environment (minimum of 3 bidders) for all items of subcontracted work. It is also based on a minimum of three bids being received from general contractors. It is assumed prospective bidders will not be pre-qualified to bid on this project.

- **Project Delivery**
  The project delivery method is assumed to be design-bid-build.

- **Items Excluded From This Estimate**
  Items which are not in the detail of this report include, but are not limited to:
  Professional fees for environmental removal of unsuitable soils, environmental monitoring and lab analysis of soils.
  Hazardous materials remediation.
  Owner's administrative and supervision costs.
  Building permits.
  Construction contingency.
  Building commissioning other than contractor participation.
  Testing and inspections.
  Utility company rebates.
  Owner furnished and installed furniture, fixtures and equipment.
  Provisions for liquidated or actual damages.

- **Construction Schedule**

	START	MIDPOINT	FINISH	DURATION
Construction	Nov-2017	Mar-2019	Jul-2020	32 Months

- **Escalation**
  Unit costs included herein are reflective of current costs with no escalation included. A labor and material escalation factor based on the above mentioned schedule is included on the cost summary page. This factor is calculated from the Minnesota Management and Budget's Building Projects Inflaiton Schedule (FY 2013 - 2014).

PREDESIGN
COST MANAGEMENT REPORT
HOUSING EXPANSION STUDY
MINNESOTA CORRECTIONAL FACILITY
RUSH CITY, MINNESOTA
29 JUNE 2014

BASIC ASSUMPTIONS

- **Items Affecting The Cost Estimate**
  Items which may have an impact on the estimated construction cost include, but are not limited to:
  Modifications to the scope of work included in this estimate.
  Unforeseen sub-surface soil conditions.
  Restrictive technical specifications or excessive contract conditions.
  Construction period other than defined in this report.
  Any specified item of equipment, material or product that cannot be obtained from at least three different sources.

- **Estimate Assumptions/Clarifications**

1. ADDITIONAL EXCLUSIONS:
   a. Based on the 1995 wetland delineation, the fence expansion would not result in any wetland ir

2. CLARIFICATIONS:
   a. Existing chillers and cooling towers have ample capacity for the new proposed work.
   b. The existing boiler plant have ample capacity for the new proposed work.
   c. Existing primary electrical service is of adequate size to accommodate the added electrical load from the proposed new construction.
   d. No modifications to the main electrical service switchgear will be required.
   e. The main power plant substation has spare capacity and circuit breakers that can be used to serve the proposed construction.
   f. Two existing electrical generators have ample capacity to serve the proposed added load from the Housing Units and Support Addition.

- **Estimate Objective**
  This estimate is intended to be used as a tool for decision making and managing construction costs during the design phase of the project. It is prepared using industry contacts, experience, and the best judgment of a professional consultant. This estimate is intended to reflect an amount close to what would be the low bid of the project with respect to the present level of design and documentation along with consideration given to the current market conditions. CPMI has no control over market conditions, wage rates, or any contractor's method of determining prices or quantities. Therefore, CPMI cannot and does not guarantee this estimate will not vary from the actual bid.

PREDESIGN
COST MANAGEMENT REPORT
HOUSING EXPANSION STUDY
MINNESOTA CORRECTIONAL FACILITY
RUSH CITY, MINNESOTA
29 JUNE 2014

CPMI

CONSTRUCTION COST SUMMARY – RECAP

DESCRIPTION	GSF	$/GSF	TOTAL $ AMOUNT
HOUSING			
A. NEW 275 BED GEN POPULATION HOUSING UNIT (COMPLEX	42,250	$325.50	$13,752,000
B. NEW 150 BED SEGREGATED HOUSING UNIT (COMPLEX 6)	63,100	$310.00	$19,561,000
C. REMODEL SECURITY HOUSING UNIT (COMPLEX 1) (Remodel 70 single bed cells to double – shower renovations)			$300,000
SUPPORT			
D. SUPPORT BUILDING EXPANSION	39,500	$317.80	$12,553,000
E. SUPPORT BUILDING REMODEL	44,550	$175.58	$7,822,000
TOTAL BUILDING CONSTRUCTION COST	**189,400**	**$285.05**	**$53,988,000**
SITE & BUILDING PREPARATION			**$3,221,000**
TOTAL CONSTRUCTION COST – JUNE 2014			**$57,209,000**
LABOR AND MATERIAL ESCALATION (Construction Midpoint of Mar 2019 26.77%)			**$15,315,000**
TOTAL CONSTRUCTION COST			**$72,524,000**

PREDESIGN
COST MANAGEMENT REPORT
HOUSING EXPANSION STUDY
MINNESOTA CORRECTIONAL FACILITY
RUSH CITY, MINNESOTA
29 JUNE 2014

CPMI

SUPPORT BUILDING

DESCRIPTION	QUANTITY	UNIT COST	TOTAL $ AMOUNT
NEW CONSTRUCTION			
Education	12,000 GSF	300.00	3,600,000
Behavioral Health	20,200 GSF	300.00	6,060,000
Religious Services	1,400 GSF	325.00	455,000
Medical Services	1,850 GSF	475.00	879,000
Watch Commander	2,750 GSF	425.00	1,169,000
Corridor Extensions	1,300 GSF	300.00	390,000
TOTAL NEW CONSTRUCTION	**39,500 GSF**	**$317.80**	**$12,553,000**
REMODEL CONSTRUCTION			
Library	1,000 GSF	175.00	175,000
Behavioral Health	9,800 GSF	200.00	1,960,000
Canteen & Property	2,200 GSF	225.00	495,000
Food Services	29,000 GSF	150.00	4,350,000
Medical Services	2,550 GSF	330.00	842,000
TOTAL REMODEL CONSTRUCTION	**44,550 GSF**	**$175.58**	**$7,822,000**

PREDESIGN
COST MANAGEMENT REPORT
HOUSING EXPANSION STUDY
MINNESOTA CORRECTIONAL FACILITY
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29 JUNE 2014

CPMI

SITEWORK

DESCRIPTION	QUANTITY	UNIT COST	TOTAL $ AMOUNT
SITE & BUILDING PREPARATION			
Building Preparation	93,000 SF	2.00	186,000
Relocate Basketball Courts	2 EA	30,000.00	60,000
Relocate Greenhouses	2 EA	50,000.00	100,000
Remove Temporary Classroom Structures	2 EA	10,000.00	20,000
TOTAL SITE & BUILDING PREPARATION			**$366,000**
EXTEND FACILITY PERIMETER TO THE NORTH			
Remove Existing Perimeter Fences	4,000 LF	75.00	300,000
New Perimeter Fence - Includes (2) Fences, Razor Ribbon & Perimeter Intrusion Detection System	2,250 LF	600.00	1,350,000
Demo Existing Patrol/Service Road	20,000 SF	2.75	55,000
New Patrol/Service Road	22,500 SF	6.50	146,000
Demo Existing Gravel Fill Between Fences	60,000 SF	1.00	60,000
New Gravel Fill & Polyethylene Film Between Fences	67,500 SF	2.50	169,000
Borrow Material - Spread & Compact	25,000 CY	12.00	300,000
Storm Outlet Structures to be Relocated	3 EA	50,000.00	150,000
Wetland Mitigation - N/A	1 LS	0	0
TOTAL FACILITY EXTENSION			**$2,530,000**
INFRASTRUCTURE/ROADS/UTILITIES			
Roads, Walks, Etc.	1 LS	75,000.00	75,000
Expand Existing Storm Water Ponds	1 LS	100,000.00	100,000
Utilities	1 LS	150,000.00	150,000
TOTAL INFRASTRUCTURE/ROADS/UTILITIES			**$325,000**
TOTAL SITEWORK			**$3,221,000**