Weston County Health Services

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Executive Summary

Health care organizations are complex entities with many independent parts that produce something much greater when combined together. Individual health care pieces must work closely together to create a larger image of well being for the communities that they serve. This well being applies to the physical and economical well being of the facilities as well as the health and well being of the community.

WCHS has the opportunity to enhance the interaction of its individual health care segments while expanding the services that it provides for the surrounding community.

As demonstrated in the recommendations and conceptual plans, additional space and remodeling are required in several departments to provide additional services, improve efficiency, and enhance overall patient care.

The goal of the additions and improvements within the nursing home are to:
- Provide for needed rooms for additional dementia residents
- Provide needed ancillary support space for staff thus improving the quality of the care being provided.
- Improve the Manor resident's quality of life by improving the quality of day-use spaces.
- Provide improved entry and public use areas.
- Expand revenue producing services (assisted living facility)

The goal of the additions and improvements for the Acute Care and Clinic Services are to:
- Improve functional adjacencies of services for both staff and patients.
- Provide needed ancillary support space for staff thus improving the quality of the care being provided.
- Provide more appropriate space for services provided where necessary.
- Improve clarity of arrival and “process” for patients and family.
- Consolidate and integrate administrative functions to improve efficiency and simplify the business office process for patients and family.
- Expand revenue producing departments and services.

Providing additional services creates the opportunity for additional revenue while generating opportunity for a more integrated health care environment.

The facility improvements and enhanced services recommended will help give Weston County Health Services a comprehensive picture for moving forward into the future.
Weston County Health Services

Project Overview

Master Plan Overview:

Weston County Health Services made a decision to conduct a master planning evaluation of the combined Nursing Home, Hospital, and Clinic services and facilities. The purpose of the planning was to evaluate the organization's future direction for added services, the need for any departmental improvements, and code compliance of the existing facilities and infrastructure.

In addition, there is a need for an Assisted Living Complex as Weston County currently has no assisted living service within the county. A recent study, which is included in appendix B of this document, shows a need for up to an 18 bed assisted living facility.

JGA Architects Engineers Planners was retained to provide health care planning services which include conceptual plans and estimates for any needed expansion, remodeling, or facility improvements. This document contains a summary of the data collected via on-site departmental interviews and existing facilities evaluations. This information was then integrated with current demographics and healthcare trends to determine the programmatic and building needs. Those needs along with current departmental issues were used to develop the recommended enhancements and needed facilities/site improvements.

Plans and estimates have been provided along with potential phasing options for the recommended service enhancements and facility improvements.

Funding for recommended improvements would possibly be provided in the form of available loans, grant funding, private donations, or a combination of these funding options.
Weston County Health Services

Existing Facilities

The existing Weston County Health Services facility is located at 1124 Washington Blvd., Newcastle, Wyoming. The hospital was built in 1986 as an extension to the existing Nursing Home. An addition to the Nursing Home added resident beds, an Activities Room and a Dining Room in 1991.

WCHS is a critical access hospital and provides acute care, emergency room, clinic, nursing home, and dementia care services.

Hospital / Clinic:

- Built -1986
- Licensed for 25 beds
- Major Departments: Acute Care, Emergency, Home Health, Pharmacy
- Basement: Receiving, Staff Dining, Laundry, Tele-Com Room

The hospital facility has several maintenance, space adequacy, and code compliance issues that should be addressed as funding becomes available. These issues are addressed in the recommendations for proposed remodeling as well as in the appendix of this report.

Nursing Home & Dementia Care Unit:

- Built – 1972 Addition – 1991 - 6 Beds and Activities/Dining
- Licensed for 51 Beds
- N.H. Room Counts – (5) single rooms, (20) double rooms, (2) three resident rooms.
- Alzheimer’s Room Count – (3) double rooms (included in the 51 licensed beds)
- Partial Basement contains – Electrical & storage. Accessible from inside and out.

Currently the nursing home is 88% full with 46 beds filled.

Due to the age of the facility the nursing home has lacks adequate space and has many ADA compliance shortcomings. Some of these can be readily corrected but the existing patient rooms would take extensive remodeling to overcome the deficiencies.

Many code issues exist with the HVAC system and the electrical and life safety systems. Some of these issues are addressed in the proposed remodeling as well as in the appendix of this report.
General Site:

- North Parking Lot – Generally serves the hospital. Additional parking will be needed on the north/west side of the building should Cardiac Rehab and Physical therapy be located in Pod 200.
- Main Entry – Drive and turn around at main entry are less than optimal due to shape of turn around but are not excessively problematic. Some larger vehicles may have some difficulty with the turn around if other vehicles are present.
- South parking Lot – Generally serves ER, staff, and nursing home visitors. Difficulties arise when DMS MRI trailer is present and are compounded if deliveries / ambulance arrival coincide with the DMS MRI trailer presence. Staff currently parks on the street south of and parallel to the parking area and visitor parking is somewhat uncontrolled. Additional parking is needed and delivery and vehicular conflicts could be improved.
- South Lawn area – Currently occupied by a gazebo. Relocation of nursing home entry doors and possibly Gazebo could allow possible expansion of solarium, public toilets, gift shop, and possible pharmacy relocation.
- Sufficient property area exists for the expansion of the Administration and medical records to the north, east and south of those areas.
- Sufficient area exists to the east of the Nursing home for expansion of the Alzheimer’s Wing and the South Wing of the Nursing Home. The center wing has a single loaded corridor that provides opportunity for a fairly economical addition that would take advantage of open sit to the north by creating a double loaded corridor to the north.
**Weston County Health Services**

**Departmental Requirements Overview**

**Nursing Home & Dementia Care Services:**

1. The Nursing Home’s (Manor) scale of the resident rooms is a problematic factor in the manor. The sunroom is in the traffic flow which should be remedied. Shower/Tub rooms are inappropriate in size but could be reworked to act more effectively. The nurse’s station lacks confidentiality and adequate accessory spaces. No public toilets are available for visitors. The Manor as a whole lacks ventilation. Additional issues are discussed in the “Nursing Home” narrative included in appendix A.

2. Dining / Activities. The dining area is somewhat small for delivery of meds during the meal according to staff. The activities area is somewhat small and lacks storage. The director utilizes the room as an office which lacks privacy and confidentiality. The outdoor patio is underutilized due to poor shading. This could be investigated and improved to provide a more usable space. Other issues are discussed in the “Dining / Activities Area” narrative included in appendix A.

3. The Dementia Unit currently has 6 patients in three rooms. All beds are currently occupied. The WCHS would like to expand by at least 4 patients with possibly 2 singles and 1 double room based on current demand. The activities room should be considered for expansion and an office could appropriately be added. Other issues are discussed in the “Nursing Home” narrative included in appendix A.

**Assisted Living Complex:**

1. A 16 to 20 bed Assisted Living complex is envisioned on the site. Due to the limited site acreage an off-site location might be considered. It is likely possible to fit a new facility within the constraints of the current property but this will require utilization of most of the available site.

2. Parking expansion in conjunction addition of an Assisted Living Complex is somewhat problematic on the existing site due to land constraints. Little or no expansion acreage would remain for the Hospital after incorporation of the assisted living complex.

3. The parcel of land north of the Nursing Home and west of the adjacent convenience store although contiguous to the site was determined to not be available for purchase.
**Hospital / Clinical Services:**

1. **Administration / Reception**, the **Business Office**, **Medical Records**, **Home Health** and **Health Information Systems** could be consolidated into one area. The likely location is in the current Reception, Business Office and medical Records area. This would require expansion and potential addition to the existing area. All of the departments listed could be collectively enhanced by this consolidation of functions and a main conference room could be considered in this area. Some north south access directly to the rest of the facility might also be considered and thus avoiding traveling around thru the patient care area. This would also free up some needed space for use by other departments.

2. **Physical Therapy** and **Cardiac Rehab** could be consolidated into the NW Pod. The dual use area makes sense and use of the NW pod provides for separate outside access and makes use of a larger space currently not being utilized for patients as it was originally designed for.

3. **Laboratory** and **Radiology** might possibly benefit from the relocation of Cardiac Rehab and the Administrator's Office. Some deficiencies noted in the attached narrative could utilize the vacated space.

4. **Acute Care / OB** would likely continue to utilize the SE & SW Pods. A full LDRP is desired and the two OB patient rooms in the NE Pod could become an LDRP. The current nurse's station is lacking in both size and make-up. This and other potential improvements are discussed the "Acute Care/OB" narrative included in appendix A.

5. **The Surgery Area** could make use of the vacated OB area and serve multiple functions in conjunction with the existing surgery suite. The current OB could be utilized as a procedures room to include Endoscope. The recovery area and nurses station could benefit from a minor remodeling of this area. Other space enhancements are discussed in the "Surgery Area" and "OB" narratives included in appendix A.

6. **The Emergency Departments** major deficiencies are inadequate space for the reception station and waiting area (combined use with Lab/Blood Draw), office and meds room. Confidentiality is also a problem with admitting and E.R. Some potential remedies are discussed in the "Emergency Department" narrative included in appendix A.

7. **The Pharmacy** is currently located in the basement and desires more appropriate space and equipment. The department would be of better service if located on the main level of the hospital.
8. **Dietary** is located in the basement. The equipment is aged and in need of replacement as funds become available. Additional counter space and storage are desired. The potential exists to expand if the conference room is relocated to the main level in the administration area.

9. **Materials Management and Receiving** is centrally located in the basement. Space is currently inadequate. Better organization could alleviate this in the short term but additional space will be needed. Additional space could be appropriated if Pharmacy were to relocate to the main level. Delivery is problematic due to lack of a loading dock and congestion in the parking/delivery area. The single elevator could also present problems due to malfunctions with no second elevator, but no critical issues arise from this observation.

10. **Laundry / Housekeeping** is located in the basement. Available space is adequate with room to add both a commercial washer and dryer. Additional clean linen storage is desirable and additional clean/soiled linen storage is needed in the manor.
Weston County Health Services

Recommendations

Nursing Home & Dementia Care Services:

1. Expand revenue producing services while providing needed space for residents and care providers.  
   (Phase 1)
   - The need has been shown for the dementia care unit to provide additional resident beds. An addition in conjunction with some remodeling would provide more appropriate and needed space for both the dementia unit and the Nursing Home.
   - Creating a welcoming reception area and clearly defined arrival at entry to the Manor is the first step to creating a more inviting and user friendly environment.
   - Providing updates to the interior finishes would provide a more user friendly environment, enhance quality of life and work environment, and help ensure high occupancy of the resident rooms provided.
   - Providing appropriate resident and public spaces would improve the resident quality of life, augment the visitor experience, and improve visual control of the staff regarding the residents. This would also help to insure high occupancy rates of rooms provided.
   - Providing needed ancillary and storage spaces would improve staff efficiency, morale and the overall quality of care provided.

2. Provide needed ventilation upgrades for resident comfort, environmental control and code compliance.  
   (Phase 1)
   - Providing code compliant ventilation would improve the indoor air quality, enhance climate control throughout the facility and help to improve resident vitality.
   - Improving ventilation in ancillary spaces such as showers and soiled linen storage rooms would help to alleviate undesirable odors and improve air quality.

Assisted Living Complex:

1. Expand revenue producing services by providing a new 14-16 bed Assisted living Complex.  
   (Phase 2)
   - This recommendation is based on a recent study showing demand for up to an 18 bed Assisted Living Complex. The conclusions are based on population projections encompassing the towns of Newcastle, Osage and Upton. Conservatively a 14 to 18 bed complex is recommended.
   - Providing assisted living accommodations provides an added quality of life option for surrounding area residents in close proximity to family and familiar surroundings which currently does not exist. This service remains viable whether considered on site off site in close proximity. This service could also generate some added revenue via needed clinical and acute care services.
Acute Care / Clinical Services:

1. Create a more inviting and user friendly entry/admissions area for the community of Newcastle while improving administrative efficiency. (Phase 2A)
   - A single point of contact for the patient simplifies the admissions and business office process.
   - Creating a welcoming reception area and clearly defined arrival at admissions is the first step to creating a more user friendly facility.
   - Consolidating the administrative functions will improve efficiency and create an opportunity to provide an inviting environment in the admissions and business office areas.
   - Providing space for confidential consultations in the admissions area is a necessary consideration for users and increasing confidentiality regulations.
   - Providing increased space for medical records would allow for better organization and efficiency for the users, the care providers, and the department.

2. Expand the revenue producing entities such as physical therapy. (Phase 2B)
   - Combining Rehabilitation and Physical Therapy in pod 200 provides an easily accessible expanded service for the community.
   - By creating an appropriate environment and providing ease of access to the additional Therapy services, revenues will be enhanced by additional desire to utilize the expanded services.

3. Provide more appropriate spaces for Acute Care and OB and Clinic Procedural services (Phase 3)
   - Providing full LDRP in lieu of separate OB procedures room would enhance the birthing experience for both mother and child. Increased revenues could also be realized due to additional use.
   - Utilizing the current OB as a more appropriate procedures room for Endoscopy, various procedures, and OB overflow provides opportunity for enhancing surrounding functions while correcting some code compliance issues for the current endoscope.
   - Enhance the nursing station and area by providing adequate storage, work space and other necessary amenities thus improving nursing staff efficiency and overall patient care.

4. Relocate the Pharmacy to the main level of the hospital.
   - Relocating the Pharmacy form the basement to the main level would improve service and staff efficiency for the entire health care complex.
   - Additional needed space may be acquired by central supply once Pharmacy has vacated its lower level location.
5. Provide appropriate waiting and reception space for Emergency and Clinical services.
   (Phase 4)
   - An enhanced sense of arrival and reception clarity will simplify the process for patients and staff alike while creating an opportunity for improving inadequate spaces. This will create a more positive experience for clinical patients.
   - Providing more appropriate space to provide more confidentiality and better separation of clinical and emergency services will help minimize stress, inconvenience and staff assistance time.

6. Provide improved parking flow and minimize delivery / patient / emergency vehicle conflicts in the south parking area.
   (Phase 6)
   - Minimizing conflicts between service vehicles and patient parking help alleviate unnecessary stress and enhance the patient's sense arriving at a user friendly facility.
   - Clear signage for direction and an easy to understand layout should be key in considering traffic flow. A clear sense of entry and arrival will provide a patient with the least amount of anxiety and a better sense of well being upon arrival.

7. See “Systems Recommendations” included in the “Cost Estimates / Phasing” section of this report for additional recommended facility systems upgrades and estimates. Some of the more essential upgrades have already been included in recommendations 1-6 above. Additional systems upgrades should be considered for efficiency and code compliance as funds become available.
Weston County Health Services

Cost Estimates - Phasing

Nursing Home & Dementia Care Services:

1. Expand revenue producing services while providing needed space for residents and care providers.
   (Phase 1)

   - Estimated Costs Include:
     - Resident Rooms Addition $ 436,000
     - Gift shop Rest Room Infill $ 108,000
     - Solarium Addition $ 89,000
     - Remodeled areas $ 298,000
     - Patio / Shading Canopy $ 26,000
     - Upgrade Interior Finishes $ 100,000

   Preliminary Estimated Cost $1,057,000

2. Provide ventilation upgrades for resident comfort, environmental control and code compliance. Provide emergency power, lighting, and fire alarm upgrades for safety and code compliance.
   (Phase 1)

   - Estimated Costs Include:
     - HVAC upgrades $ 223,000
     - Emergency Pwr. / Lighting Upgrades $ 110,000
     - Fire Alarm upgrades $ 30,000

   Preliminary Estimated Cost $ 363,000

Assisted Living Complex:

1. Expand revenue producing services by providing the surrounding community with a new 14-16 bed Assisted Living Complex.
   (Phase 5)

   - Estimated Costs Include:
     - New 14,000 SF Assisted Living Facility
     - Parking and site improvements
     - Entry Parking Land Acquisition

   Preliminary Estimated costs $ 2,150,000

   Estimated Off-Site Land Acquisition
   1 acre minimum $ 75,000 - 100,000
   (Optional to on site construction)
Acute Care / Clinical Services:

1. Create a more inviting and user friendly entry/admissions area for the community of Newcastle while improving administrative efficiency. (Phase 2A)
   - Estimated Costs Include:
     Business Office Remodel $ 174,000
     Administration Offices Addition $ 388,000
   Preliminary Estimated costs $ 562,000
   Option to Lease Trailer On site $16,500 / Yr / 7 years
   Applicable for Home Health if the Administration addition is not done in conjunction with Rehabilitation / P.T. remodel.

2. Expand the revenue producing entities such as physical therapy. (Phase 2B)
   - Estimated Costs Include:
     PT / Rehabilitation Remodel (Pod 200)
   Preliminary Estimated costs $ 298,000

3. Provide more appropriate spaces for Acute Care, OB and Clinic Procedural services (Phase 3)
   - Estimated Costs Include:
     Procedures, Recovery, Nurses $ 258,000
     Nursery Area Remodel $ 64,000
     LDRP $ 53,000
     Mechanical upgrades $ 40,000
   Preliminary Estimated costs $ 415,000

4. Relocate the Pharmacy to the main level of the hospital.
   Preliminary Estimated costs $20,000
5. Provide appropriate waiting and reception space for Emergency and Clinical services. 
   (Phase 4)

   • Estimated Costs include:
     Laboratory Remodel
     Waiting / Reception Remodel

   Preliminary Estimated costs $250,000

6. Provide improved parking flow and minimize delivery / patient / emergency vehicle conflicts in the south parking area. 
   (Phase 6)

   • Estimated Costs include:
     Parking Lot corrections $ 40,000
     Improve coal ash disposal $ 25,000
     Conc. Helipad $ 35,000
     Curb / Sidewalk corrections $ 20,000

   Preliminary Estimated costs $ 95,000
Weston County Health Services

Systems Recommendations / Estimates

Mechanical Systems:

Item #MP-1: Due to the nature of the existing direct steam supplied humidification system all of these systems have been abandoned in place. Therefore, an apparent lack of humidification may have resulted in areas specifically requiring a humidification by AIA guidelines (i.e. O.R., O.B., emergency room areas, etc.) (included in Phase 4 recommendations)

Preliminary Estimate $37,500

Item #MP-2: In order to create a more controllable and energy efficient system a serious consideration should be given to incorporating a control scheme, which will accomplish boiler control and steam to hot water heater exchanger control with a ramped discharge water temperature and steam pressure based on the outdoor air temperature.

Preliminary Estimate $18,500

Item #MP-3: A serious consideration should be given to incorporating a redundant pumping system for the hydronic loop in the Hospital facility. The tie over and incorporation to the chilled water pipes and pumping for redundancy is not a preferred method of operation.

Preliminary Estimate $13,500

Item #MP-4: The Hospital replacement for efficiency upgrades, as well as, reasonable operation should be reviewed concerning the open cell cooling towers that currently serve the chilled water system for the Hospital facility. It is evident from the operational standpoint and visual inspection that these towers are near the end of their useful life.

Preliminary Estimate $120,000

Item #MP-5: The Manor's HVAC system is minimal at best and is a dated system which is most likely near the end of its useful life, not only does it require an undesirable heating or cooling only mode for the entire facility due to the two (2) pipe manual changeover system. It is also inherently more difficult to operate and maintain due to the nature of this system. The system also lacks the incorporation of any ventilation requirements per the AIA guidelines. (This item is included in the Phase 1 Recommendations)

Preliminary Estimate $220,000

Item #MP-6: Further investigation should be conducted to improve and adequately provide some air tempering abilities in the two (2) make-up air units. These units currently have steam heating coils that are not operational, one serving the kitchen and one serving the laundry of the Hospital facility. Due to the current physical arrangement these units are typically shut off during the winter months and, therefore, adequate make-up air is not provided to these two spaces.

Preliminary Estimate $24,500
Item #MP-7: The existing kitchen grease hood exhaust ductwork should be replaced with a more suitable material and properly installed to allow adequate cleaning of the system and to prevent future corrosion of the existing system.

Preliminary Estimate $18,500

Item #MP-8: The perimeter hydronic fin-tube loop in the Hospital currently operates in a wild fashion and has no zoning control capabilities. Serious consideration should be given to incorporation a control system, which would modify this system to allow for zoning to improve upon not only the space comfort conditions but the overall efficiency of this system.

Preliminary Estimate $80,000

Item #MP-9: In the overall scheme of the Hospital facility if an isolation room is desired the existing isolation room or new one should be incorporated with the mechanical system which meets the pressure relationship and air flow requirements per the AIA guidelines.

Preliminary Estimate $15,000

Item #MP-10: In the Manor's restrooms, mechanical exhaust should be incorporated to accomplish the requirements of the AIA guidelines.

Preliminary Estimate $6,500

Item #MP-11: The combustion air situation that currently exists in the Hospital boiler plant should be addressed and interlocked with the firing of the boilers to provide tempered make-up air to this space to insure adequate combustion air during the firing of the boiler system sequence.

Preliminary Estimate $6,500

Item #MP-12: Serious consideration should be given to installing and incorporating a more up-to-date building management system to improve the overall interior space comfort, as well as, overall system operational efficiencies at the facility.

Preliminary Estimate $25,000

Item #MP-13: There is a substantial lack of ADA compliance throughout both the Hospital and the Manor facility in plumbing fixtures, as well as, other systems based upon the scope of the renovations to these facilities, incorporation of ADA requirements would be beneficial.

Preliminary Estimate $38,000

Item #MP-14: The discharge line from the vacuum system should be piped directly to outdoors and modified from its existing condition, in which it is piped into an exhaust ductwork in the boiler room.

Preliminary Estimate $2,000
Item #MP-15: To reduce labor cost and provide a more efficient system, the oxygen bottle storage room may be incorporated into the Manor facility to alleviate daily and sometimes multiple times on a daily occasion transfer of oxygen bottles from the Hospital oxygen storage room to the Manor facility. (Included in Phase 1 recommendations)

Item #MP-16: The restrooms in the Manor are lacking current code requirements not only from an ADA stand point, but also from a bed pan washer stand point. Any remodel to this facility should incorporate more code compliant bathroom services.

Preliminary Estimate $65,000

Item #MP-17: During the interviews with the facility services staff one issue that was brought to our attention was the disposal of the coal ash. Currently it is received in barrel drums that are transferred vertically through a chain hoist system and out a grade level access door system to a trailer which is then hauled to the dump facility. The investigation of a more safe and efficient method of delivering the ash from the sub-grade level boiler room to the vehicular mode of transportation to the dump site could be investigated. (Included in phase 6 recommendations)

Electrical Systems:

Item #E-1: The existing emergency generator and transfer systems do not meet current codes. In order to meet code the hospital system will require a third transfer switch to separate the critical and life safety branches. (Included in Phase 1 recommendations)

Preliminary Estimate $32,000

Item #E-2: The emergency loads in the Manor are likely small enough that a single transfer switch is adequate. The condition of the transfer switch and generator are questionable and replacement should be considered if a remodel is conducted. (Included in Phase 1 recommendations)

Preliminary Estimate $37,500

Item #E-3: Emergency power in the Manor is limited to a few egress lights. Exit lighting is limited and many exit signs are not illuminated. Any remodel effort should include a review and upgrade of the egress and exit lighting system. Emergency powered receptacles should be added to the facility where required by current codes. (Included in Item #E-4)
Item #E-4: Lighting throughout the facility is most likely adequate and for the most part consists of reasonably efficient fluorescent lighting, although a significant amount of inefficient incandescent lighting is present. As part of any renovation and/or expansion effort, the following lighting issues should be reviewed:

- Critical lighting, such as egress lighting and lighting in critical care areas, should be retro-fit as required so it is supplied electrically from the emergency branch, where required by code, as described above.
- Existing lighting should be reviewed and replaced, where necessary, to improve energy efficiency.
- Light levels should be reviewed in critical areas to insure task illumination is adequate and meets industry standards.

(Included in Phase 1 recommendations)

Preliminary Estimate $70,000

Item #E-5: Both the hospital and Manor are served by outdated, conventional fire alarm systems. Consideration should be given to replace these systems with a single, addressable (digital) fire alarm system. This effort should include a comprehensive review of the facility to include devices required by current codes such as:

- Smoke detectors in all patient sleep areas.
- Smoke detection indicator lights in the corridors outside patient sleep areas
- Smoke detection in egress corridors
- Visual indicating appliances (strobes) where required to meet ADA
- Mag-hold opens, smoke detection, and door closures on egress corridor doors to protect corridor ratings.

Preliminary Estimate $75,000

Item #E-6: Both the hospital and Manor are served by outdated, conventional nurse call systems. Depending on the scope of the expansion/renovation, a new integrated nurse call/patient monitoring system should be considered to provide a single system that meets the needs of the overall facility.

Preliminary Estimate $75,000

Item #E-7: The facility does not appear to have a dedicated data room and efficient pathways for distributing data cabling. An expansion/renovation should consider the addition of a small room dedicated for network, nurse call, telephone, and other electronic equipment, and cable tray or other raceway for efficient distribution of wiring.

(Included in Phase 1 recommendations)

Preliminary Estimate $20,000
WESTON COUNTY HEALTH SERVICES
ASSISTED LIVING FLOOR PLAN
NEWCASTLE, WYOMING

AREA - 13,378
NORTH WING ROOM AREA - 2294 - 5 ROOMS
SOUTH WING ROOM AREA - 5423 - 12 ROOMS
OTHER AREA - 5661 13
studio studio rooms @ - 330
4 onebedrooms @ - 391
WESTON COUNTY HEALTH SERVICES
CLINIC REMODEL PHASING PLAN
NEWCASTLE, WYOMING

PHASING LEGEND
PHASE 1 - NURSING HOME
PHASE 2A - ADMINISTRATION & PHYSICAL THERAPY
PHASE 2B - PHYSICAL THERAPY ONLY
PHASE 3 - HOSPITAL SERVICES
PHASE 4 - CLINIC WAITING & ER

ARCHITECTS ENGINEERS PLANNERS

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0° 25° 50° 100°

ARCHITECTS ENGINEERS PLANNERS
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Weston County Health Services

ACUTE CARE / O.B.

Current Usage:
Currently licensed for twenty-five beds, the unit contains three pods of eight beds each, plus four beds adjacent to the central nursing station.

Pod 100 is fully utilized for patient care as well as the four patient rooms adjacent to the main nursing station.

Patient Pod 200 is unusable for patient care due to lack of sight lines from the main nursing station. Home Health currently utilizes four patient rooms for offices.

Pod 300 is used as patient care overflow. Two O.B. patient rooms are located on the northeast side. Sleep study is conducted on a once a month basis in the two southwest rooms. The two southeast rooms are used as an office and storage room.

The medical staff office, located just south of Pod 300, is inadequate in size. The nurse locker room, located across from medical staff office, is inadequate in size.

Nursery and anteroom are located to the northeast of the nursing station. Recovery is located to the southeast of the nursing station.

The central nursing station is inadequate, both in size and make-up. There is no dictation area, adequate storage room, consultation area, staff toilets, staff break room, etc.

The meds room is very inadequate due to size.

Possible Usage:
Pod 100 would continue to be the primary patient care pod. It contains eight beds, one of which is a lock-down room which doubles as a negative isolation room and one of which is a remodeled patient care room utilized for Hospice. These two rooms have full individual bathrooms.

Pod 200 could become the Cardiac Rehab / Physical Therapy area. An outside entrance is available and this pod could be separated from the other two in a functional manner.

Pod 300 – The current functions could remain. The two O.B. patient rooms would become one LDRP room. The O.B suite in the surgery area would act as overflow in the event of a double birthing situation.
The nurse locker room is small and would be better served in a larger area. The medical staff office is also very small for its intended use. See “SURGERY AREA” for discussion of the medical staff office relocation.

The current nourishment room could become the Meds Room. Removing the corridor wall at the current meds room could allow it to become a nourishment alcove or nourishment could be relocated.
Weston County Health Services

**BUSINESS OFFICE / MEDICAL RECORDS:**

**Business Office:**

Currently this department has six full time employees. Very crowded, it has three hard-walled offices and three modular offices, with a fourth office that acts as the copy room. Hospital reception happens here.

**Concerns:**

The waiting room is too large. A consultation room is recommended. Copy, record storage, and offices are inadequate. The phone system needs to be replaced (updated). Signage to direct incoming clients is currently inadequate. Time clock should be relocated.

**Additional Areas:**

Administrator should be moved to this area and a large conference room added. Home Health Offices should be moved to this area.

- Four separate offices.
- Seventeen staff members.
- Clean medical supply room (6' x 6').
- Records room (8' x 8').

A consultation room should be added.

Health Information Systems office should be relocated to this area. Copy / records storage should contain a copier, shredder, fax, mail area, four - four drawer file cabinets of medicare billing files.

Area surrounding current department would seem to support an addition to the building. Location of this department is reasonable.

**Medical Records:**

Currently this department has two full time staff members. One additional may be needed. Record storage is too small. Staff travel through this department, to get to the copier, is a problem. Increase in area could take place with addition to the administration area.
Weston County Health Services

DIETARY

Currently located in the basement with eleven staff members. Serves the staff dining room (by separate serving line), hospital patients (by tray cart), and nursing home dining room (by food cart).

Equipment is aged and is original to the 1986 construction, with some pieces being used at that time. All equipment needs to be replaced. Walk-in freezer is accessed through walk-in cooler. Both are inadequate in size.

Main concerns: Additional dish up counter needed, dry storage needs to double in size, additional general storage is needed, and storage for utensils and ceramics is needed.

The staff serving line needs to be updated and modernized.
Weston County Health Services

DINING / ACTIVITIES AREA

Dining room is too small according to staff. Opinion not shared by administration. Staff would like to see an additional twelve feet added to the north side of the room.

Activities area is small with inadequate storage for supplies. Currently used as an office by the activities director. No privacy or confidentiality. Room location is good.

The toilet, immediately off the dining room, does not provide privacy. Sound and sight are issues. The toilet is used by both sexes and by staff. It is inadequate. Public toilets are needed in this area, perhaps on the south side of the breezeway corridor across from the dining entry.

The storage room south of the demonstration kitchen is really a janitor’s closet. Currently used for storage of clean dining supplies.

Assisted door openers needed on south breezeway double doors.

Existing patio roof (slat construction) does not protect patients from sunburn. Area is currently underutilized because of this. Well protected area – investigate a different roofing solution. Lawn area beyond patio is a controlled fenced area.
Weston County Health Services

**EMERGENCY DEPARTMENT**

**Current Conditions:**
The E.R. nurse station has good command of the area. It lacks enough space as does its associated office and meds room. Confidentiality is a problem as the reception desk is adjacent to the waiting area and corridor.

The current meds room is too small and med dispensing is possibly not needed in this area.

The waiting area is too small for its dual function of E.R. waiting and Laboratory / blood draw waiting. Expansion of this waiting room is problematic due to the proximity of the Ambulance Garage and the adjacent Lab and Radiology departments.

The physician reports that the two exam rooms and two trauma rooms, associated with E.R. are sufficient in their size and function. The current public toilet is uni-sex and is ADA deficient.

There is a vertical duct riser just north of the E.R. nurse station that will probably preclude expansion in that direction. Coal delivery takes place just west of the Trauma rooms which probably precludes expansion in that direction. The Ambulance Garage is situated just south of the E.R. entry and probably precludes expansion in that direction. Radiology and Laboratory occupy the remaining quadrant north of the reception station and relocation of these is not a likely option.

Visiting physicians currently share the existing exam rooms and or E.R. trauma rooms for their procedures.

**Needs:**
The combined waiting room requires additional space and separation of clinic / emergency waiting.

The reception area office is very small and better use of this space should be considered.
Weston County Health Services

LABORATORY

Blood Draw Room – Clients currently enter the blood draw room through by entering the laboratory. Moving the door west, adjacent to west wall, so that client entry is from the E.R. waiting area should cure this problem. Door to Laboratory could swing inward (same hinge point). Blood draw room needs updating and additional cabinet storage.

Concerns: Toilet – Not ADA compliant, needs shelf near sink, and specimen pass-thru. Storage room is too small. Office and hood room have no ventilation.

Staff Requests:
Staff break room / toilet, to be shared by Radiology Department. This could be placed in the current Cardiac Therapy room.

Exterior windows along the south wall would be desirable.

Provide an overhead paging system in staff toilet.

Hood room entry door to have a mag-hold open.
Weston County Health Services

LAUNDRY / HOUSEKEEPING

Laundry:
Currently this department has three staff members. Should the assisted living unit become a reality then two additional staff will be added.

Located in the basement adjacent to dietary. Size of department appears adequate. Currently there are two commercial washers and one residential dryer, one commercial dryer, with another being considered for order. There is sufficient space to place the second dryer and third commercial washer.

Clean linen storage is too small. Manager's office (currently in a duct transfer room) is adequate, just not very fun.

Soiled linen and clean linen spaces in the manor are not adequate.

Housekeeping:
Currently this department has five full time and two part time staff members. Should the assisted living unit become a reality two full time staff would be added.

The supply closet at the manor is inadequate. Supply areas in the Hospital are okay.
PHARMACY

Located in the basement just north of receiving in a twelve by twenty-two foot area. Staff is one part time pharmacist and one part time pharmacy tech.

Drug shelving is inadequate. Pharmacist would like a hood for I.V. and Chemo make-up. Currently utilizes the Lab hood. Currently one – one compartment sink is available. Pharmacy has its own toilet.

Pharmacist would like to explore a “Pixis” type of drug delivery system.

Since receiving has no growth area available it is thought that the Pharmacy should move to the main level, probably in an addition and be kept in the area of receiving.
PHYSICAL THERAPY / CARDIAC REHAB

These departments to move to the northwest patient pod, (Pod 200), following the relocation of Home Health.

Cardiac Rehab:
Cardiac Rehab is currently located south of the CT scanner. Ventilation is inadequate.

Physical Therapy:
Currently the staff is composed of one physical therapist and two aids.

Requested Areas:
Two treatment rooms. Two treatment booths. 1000 square feet of equipment space (jointly used by Cardiac Rehab). Waiting area for four. Outside entry with assisted door. A work / reception area for two. Toilet and locker area. Ten foot ceilings if possible. One hydro tank for body parts. Help call to main nursing station. Storage for equipment. Cabinet storage for linen, etc. Parking for 4-5 handicapped and six staff members.

Approximately 2,000 square feet would be required for joint usage.
An outside entrance is available and requested.
RADIOLOGY

Current equipment includes Fluoroscopy, x-ray, CT Scanner, and Ultrasound. A mobile operator brings the Mamo procedures into the department. A mobile trailer provides MRI procedures. Bone density procedure by mobile trailer. Staff is four full-time and one PRN.

The department would like a Mamo room, reading/storage area, office (currently the reading room), and film file storage area. In addition, an access hallway from the main north/south corridor to the back (east) area of the department is requested as physicians now travel through the procedure rooms to access the back portion of the department.

Equipment upgrades include Ultrasound, Portable X-ray machine, and stationary X-ray (Rad only) machine.

Concerns:
Ventilator in attic causes vibration in department. Possible isolator problem.
Ventilation in department is adequate. Some method of alerting the rear area of the department when a patient has entered the waiting area and requires assistance.
Dark room has inadequate storage capability.
Toilet is not ADA compliant. Waiting area is undersized.
MATERIALS MANAGEMENT / RECEIVING

Currently located in the basement just west of the elevator. Space is currently adequate, but will soon be insufficient even with better organization. Growth could be into the current pharmacy area should that department be moved to a new location.

Two staff members and not expected to grow unless the nursing home increases and/or the assisted living facility is added on site.

Materials are delivered at the south side of the hospital. There is no loading dock. Delivery becomes problematic when the DMS MRI trailer is stationed just outside the E.R. garage. Trucks have a difficult time backing into the unloading area. Parking in this area also hinders delivery. Materials are moved to the elevator location and then down to the receiving office.
WESTON COUNTY HEALTH SERVICES

FACILITY SITE/ASSISTED LIVING COMPLEX

Parking - Additional parking is needed in the north parking lot located north of the patient pods. Should Cardiac Rehab and Physical Therapy move into Pod 200 the need for additional parking will expand.

Parking - Additional parking is needed in the south parking lot, which serves E.R., staff, and nursing home visitors. Difficulties in this lot expand when the DMS MRI trailer is resident and expand again when deliveries are made to central supply. Staff currently parks on the street, for the most part, but visitor parking is uncontrolled.

Facility Vehicle Entry - The existing driveway to the main entrance of the hospital is of an unusual shape making it more difficult, but not impossible, for large vehicles to turn around the circle in one motion.

Assisted Living - There is an empty block of land, west of the convenience store, that might serve as a site for the assisted living complex. This parcel is some four to five feet above the floor level of the hospital and contiguous to the hospital property.

Nursing Home - There are expansion possibilities east of the existing nursing home. Expansion of the Alzheimer's wing of the nursing home would certainly be possible given the existing conditions. Expansion of the south wing of the nursing home is also possible.

South Lawn Area - Currently the south lawn is occupied only by a gazebo. With the relocation of the existing nursing home entry doors (to the west), and possibly relocation of the gazebo, it would be possible to expand the Solarium and create an addition to house new public toilets / gift shop and an area for the Pharmacy relocation.

There is sufficient property area for the expansion of the Administration / Medical Records Departments to the north, east, and south, of their current locations.

There is sufficient property area for the expansion of the Dining Room to the north of its current location.
Surgery Area

This area is the central core of the hospital. It contains surgery (and associated ancillary support service areas), O.B. (and associated ancillary support service areas), Endoscopy (and supporting workroom), Recovery, public toilets, and a physician office.

Concerns:
Endoscopy: This department is the most recently remodel in this area and has not been inspected by the State for compliance. It is possible that the air changes within this area are not suitable and the area is not in code compliance for area. The associated workroom does not meet code in content or air supply/exhaust. Used instruments must pass through the existing sub-sterile area to reach the workroom.

Physician Office: The entry door to this office is within the Surgery Suite. It should be moved into the main corridor to allow entry without compromising the sub-sterile surgery corridor.

Possibilities:
Endoscopy could be moved into O.B. allowing a dual function in that room. A code compliant workroom would have to be created for this transition. This might allow some possibilities for other needed space to utilize the vacated area.
Weston County Health Services

NURSING HOME
(Known as the "Manor")

Patient rooms are not ADA compliant. Room size is not adequate. Size of bathrooms, height of fixtures, and door widths are of concern. Some toilet rooms are cold and all are not properly ventilated. Windowsill heights do not allow patients to see ground level from their wheel chairs. Closets and storage areas are either inadequate or not available. Request to remove existing carpet from patient rooms and corridors.

Facility has two tub rooms and one shower room. The larger of the tub rooms (central wing) is not used because of the tub fixture comfort level. The smaller tub room is over-used and too small. The shower room is too small to accommodate patient, nurse, and circulation.

Scale room (east end of central wing) is small and is in a poor location, has a closer on the door, which hinders operation with patient.

Staff needs include: staff toilet room, larger staff lounge, staff changing room, staff locker room and staff meeting room. Staff requests an elevator to access the basement area for transportation of stored materials. Meds room is inadequate in size. Equipment storage is inadequate. Size, arrangement, storage, and confidentiality are issues at the nursing station. The following are requested additional spaces: Consultation room, Blood Draw room (currently an office or the corridor, are used for blood draw), Treatment (exam) room, Care Coordinator office, Records Room, Waiting Room for social worker, and Housekeeping closets.

Entire facility has no fresh air supply. Currently heated by hot water with coil units. No through-wall conditioning units. Facility has an inadequate exhaust system. No circulation of available air.

Hospice room requested. Currently a dying patient has a roommate who must share the event. No room for attending family. No privacy.

Beauty Shop is currently an alcove closed off by a folding partition which is inadequate for intended use. The Solarium is too small due to circulation bisecting the room. It has nice windows of proper height.

A gift shop is requested for patient produced products and visiting family purchasing. May be located adjacent to the new public toilets (see dining / activities page).
Oxygen is currently provided by bottle. Oxygen storage is located some one hundred thirty feet from the nursing station. Daily supply required because of high (five liter) use by most of the patients. Piped oxygen requested by staff. Oxygen concentrators take up a lot of space which is not available.

Alzheimer's Unit — Currently there are six patients in three rooms. Facility would like to expand this by a minimum of four patients. Possibly adding one double and two single patient rooms. Activities room is currently too small with the storage room being used as an office. Both an office and storage room need to be added.
Weston County Health Services

Facility Analysis Report

Existing Facility Systems Narrative

**Mechanical Systems:**

The existing facility is served by three (3) individual boiler systems. The two (2) primary boilers are coal fired low-pressure steam Kewanee fire tube boilers. The boilers have a rated output capacity of 5,540MBH each or 165HP. The third back-up boiler is a natural gas fired fire tube boiler. It has a rated output capacity of 4,250MBH or 126HP. These boilers generate low-pressure steam, which is distributed to the facility laundry washing machines, the domestic hot water generators, a steam to hot-water shell and tube heat exchanger for the dishwashing in the kitchen, and several steam to hot-water heat exchangers utilized for the hydronic heating system of the facility.

Previously, steam had been distributed to humidification units, however, due to the direct chemical exposure, this system is no longer utilized. Three shell and tube steam to hot water heat-exchangers exist in the Hospital mechanical room. One is for servicing the hydronic coils in the air handling distribution system, another is dedicated to a perimeter hydronic fin tube loop, and the third is dedicated to the long-term care center (Manor heating systems).

The hot-water heat exchanger serving the hydronic loop for the air handler coils is on a ramped discharge control, based on outside air temperature. The other two heat exchangers do not ramp and maintain a dedicated hot-water loop at all times. The heat exchanger for the fin tube loop in the Hospital maintains a 160°F loop at all times. The boilers themselves are not ramped based upon outside air temperature they either fire or do not, based upon a call for heat from the devices that they serve.

The hydronic loop serving the air handling coils has a primary pump system only, no redundancy is incorporated with a second pump. Therefore, the piping has been modified to tie to the chilled water loop in, if the primary heating pump has failed a manual change over may occur in which the chilled water pump, and some of its primary piping in the mechanical room, is utilized to circulate the hydronic loop to the dedicated air handler coil loop.

There exists no glycol in any of the chilled water or heating water systems. The boilers are serviced with an automatic chemical feed system. Snowcrest is the chemical provider to the facility.

The chilled water system for the facility is served by two 80-ton Trane water-cooled chillers utilizing R-22 refrigerant. Each chiller has a dedicated open cell-cooling tower at a grade level behind the mechanical space of the facility. The two towers are piped together in a common manifold, and due to the age and condition of the towers, both towers have to operate simultaneously to carry the load of one individual chiller. The condenser water is circulated between the chiller and the dedicated cooling towers utilizing a primary and secondary 5 horsepower base mounted condensate water pump system. (Two) 7½ horsepower base mounted chilled water pumps circulate the required system water for both the Hospital and Manor off of this chilled water plant.
The Manor is served utilizing a two pipe manual change over fan coil system. In this fan coil system, no mechanical ventilation exists, all air is 100% re-circulated. The manual change over implies that during the heating season the hyronic loop is served from the shell and tube heat exchanger and hot water is circulated through the fan coils to provide heating for space comfort. During a cooling system manual valves have to physically be changed over and the media circulated is changed from hot water to chilled water off the hospital chilled water plant to provide cooling capabilities to the fan coils to satisfy the environment in the Manor.

The piping throughout the Manor typically is copper piping. The piping throughout the Hospital, both the chilled water supply and return and the hot water supply and return is typically schedule 40 black steel. The hospital HVAC system is primarily served by five individual air-handling systems. The five systems are defined as follows:

Air Handlers 1-4 are located in the attic space over the Hospital. Of these four air handlers AHU-1, 3, and 4 are dual duct constant volume air handling systems in which a hot deck and a cold deck are routed throughout the space served to mixing boxes to control the discharge air temperature to satisfy that zones specific heating or cooling requirements.

Air Handler 2 is not a dual duct system, but rather a constant volume discharge system, which maintains a 55° to 60° discharge air temperature and then reheat the air at the specific zone utilizing a duct mounted hydronic reheat coil. This air handler, AHU-2, serves O.B. observation, O.B. delivery, O.R. and O.R. observation.

Of these four air handler systems AHU-3 has been modified from enthalpy controllers to maintain economizer status to mixed air temperature controller to modulate the return air and outside air requirements.

The fifth air handling systems is a 100% outdoor air AHU located in the basement behind the mechanical room space. This air handler incorporates a steam (Wing) face and by-pass heating coil and serves the laundry, dining room, and kitchen areas of the facility.

In addition to these five air handling systems, there exists two make-up air units systems that are built-up in the attic space. One serves the kitchen make-up air unit for the kitchen grease hood system. The other is a dryer make-up air unit serving the laundry facility in the basement. Originally both of these make-up air units incorporated steam coils, however, steam is no longer circulated to either of these coils and issues have developed regarding freezestats locking out the make-up air unit operation.

All air-handling systems have incorporated duct detectors integrated to the fire alarm system in the distribution of the respective air handler. The kitchen grease hood system is ducted horizontally from the hood to the fan riser in the attic utilizing black steel ductwork. In interviewing the Facilities Director he has corresponded to me that the ductwork is not properly sloped with a clean out at the end. Therefore, condensation collects in the ductwork and has caused rusting and corrosion of the duct which is evident above the ceiling in the kitchen area.

The perimeter hydronic fin tube loop runs wild and has no thermostatic control. There are no balancing valves, only manual isolation valves, and therefore this system is operated during climatic conditions when heating is need throughout the facility. However, no zoning capabilities exist with this system and as previously reported the loop runs wild throughout the entire facility.
The only noted plenum return in the facility is over the medical records area. Outside of this space it appears that all of the mechanical systems are ducted return systems.

In a cursory review of the lock-up/isolation room it does not appear that the room is code compliant with regards to proper pressurization from the air systems, as well as, monitoring of this pressurization.

As previously reported the hydronic loop (for the Manor) is derived from a steamed hot water shell and tube heat exchanger in which steam is provided from the hospital boiler plant. The hydronic loop is then routed to the facilities 100% re-circulating fan-coil systems to provide space heating. During a climatic change over for cooling, the chilled water piping has been routed from the Hospital chilled water plant to the Manor and manual isolation valves are changed over to modify the system from the hydronic heating loop to a chilled water loop in which chilled water is circulated through the fan coil units to provide space cooling. The only exception to this system is a dedicated air-handling unit for the Dining, Activities, and serving kitchen area of the Manor. In this space a dedicated air-handling unit is located adjacent to the Dining space and ductwork is routed to reheat coils for zoning from this system. Throughout the Manor two pipe re-circulating attic located fan coil units provide space tempering for the remainder of this facility.

Throughout the Manor there are noted a number of restrooms which do not contain mechanical exhaust. In these restrooms manually operated windows are the only ventilation that exists. There are also many restrooms throughout the Manor, which do not incorporate any heat what-so-ever. As previously reported in the Manor’s patient rooms, no mechanical ventilation exists due to the re-circulating nature of the fan coil units. Operable windows provide the only source of ventilation to these spaces.

With regards to the Manor, a newer wing added in the 1990’s incorporates fan coils on the outside walls with minimal outside air ventilation coming from a central air handling unit ducted into the bottom of these fan coil units. Again the fan coils are believed to be two pipe fan coils with manual change-over. Exhaust does exist in all of the bathrooms in the newer wing addition, as well as, some hydronic fin-tube scattered throughout the addition. Typically, throughout the Manor electric Honeywell t'stats control the attic located fan coil units. The ventilation unit serving the fan coils in the 1990’s wing of the Manor comes from an air-to-air heat exchanger with a 12” rigid final filter system. The heat exchanger changes air from the exhaust systems from this facilities wing to the ventilation airsides of the heat exchanger, which is then ducted to the perimeter wall mounted fan coil units. The old wing of the manor has a heated attic space in which piping is routed. The new wing has a cold attic space and piping is routed below slab or in basement areas.

In the laundry facility of the Hospital, the dryer is a natural gas-fired unit. Also, in the kitchen no gas-fired equipment exists, all kitchen equipment is electric. The grease hood is water-wash type hood in the kitchen as well. As previously noted a shell and tube steam to hot water heat exchanger exists for the dishwashing services in the kitchen.

The newly remodeled CT room incorporates a dedicated D.X. fan coil unit for the cooling needs of the room. Also, a wall mounted electric humidification system for the humidity requirements of the room has been incorporated.

Natural gas is also in place next to the incinerator, which is abandoned in its original location and currently not operational. The combustion air louvers in the mechanical room that service the boiler plant are manually operated. However, while we were onsite with the boilers firing these louvers were closed. This is reportedly due to pipe
freezing issues that occur because of cold air dumping given the location of the louvers and dampers and associated piping in this room. This causes concern over whether the necessary amounts of combustion air are being provided during the firing of these boiler systems.

Fire Protection Systems: The existing Hospital facility has a dedicated 4" water main to the Hospital for fire sprinkler service. The respective tree is located in the mechanical boiler room space. Fire sprinkler piping is then distributed throughout the Hospital facility to provide a fully sprinkler facility with the exception of the patient rooms. No fire sprinkler heads exist in the individual patient rooms, however, smoke detectors exist in these rooms. The balance of the hospital is a fully sprinklered facility. Appropriate tamper switches appear to be interlocked with the hospital Simplex fire alarm system as required.

Further discussion regarding the Hospital’s fire alarm system can be noted in the electrical portions of this report. Also type ABC fire extinguishers were scattered throughout the facility in a periodic nature. The Manor also has a dedicated 4" fire service line, which serves fire sprinkler system throughout this facility to provide a 100% fully fire sprinklered facility.

A couple of glycol loops do exist off of this system, as well as, a side wall freeze proof heads to serve freeze protection areas for the fire sprinkler systems in this facility. Also type ABC fire extinguishers are scattered throughout the facility on a periodic nature. For further information regarding the fire alarm system refer to the electrical sections of this report.

Temperature Control Systems: The existing Hospital temperature control system is a pneumatic Johnson Control system. A temperature control compressor and tank along with the refrigeration dryer are located in the basement mechanical space. The temperature control compressor is a 5 horse-power duplex system. No building management system currently exists for the facility. The Manor, as previously described, is typically served with wall mounted electric Honeywell t-stats to cycle the two-pipe attic mounted fan coil units on and off to serve the manor.

Plumbing Systems: The Hospital is served by dedicated 4" water main, which splits to inside of the boiler room to a 2" meter for lawn irrigation and a 3" meter for Hospital domestic water needs, as well as, domestic hot water to the Manor.

Hot water is generated by two-steam to hot water generators located in the mechanical room. One of these hot water generators maintains a constant discharge temperature of 110°F. This domestic hot water loop is routed through the Hospital, as well as, the Manor. The second hot water generator maintains a constant discharge temperature of 160°F. This generator is utilized to service the kitchen and laundry facilities of the Hospital.

A previous mixing station, which tied the two generators together, is no longer in use. A water conditioning system exists in the mechanical room in the basement space, which softens the domestic hot water only.

Typically type L copper tubing and fittings is utilized for the domestic water systems, no-hub cast iron is utilized for the drain, waste, and vent systems, and threaded black steel is utilized for the natural gas systems in the facility.

The water pressure delivered to the Hospital varies but is typically 80 to 120 PSIG. The Hospital main water service incorporates a pressure-reducing valve, which maintains deliverable pressure to the facility of approximately 55 to 60 PSIG. Fixtures found
throughout the existing Hospital are typically flush valve fixtures. In the patient room bathrooms are typically shared and incorporate a shower and flush valve water closet. Vitreous china lav's are individually located in each individual patient room.

In the mechanical room of the Hospital there exists a duplex vacuum pump system for the medical vacuum needs of the Hospital facility. The discharge line from this pump system is piped into the down-stream side of EF-17 ductwork in the boiler room. The duplex vacuum pump system is manufactured by Ohio and consists of two (2) 5 horsepower pumps. Adjacent to this vacuum pump system is a duplex Ohio medical air compressor system. The medical air compressor system consists of two (2) 3 horsepower air compressors. Piping is distributed throughout the Hospital facility to the appropriate vacuum and air outlets through various zone valves and area alarms to service the medical gas needs of these systems in the Hospital.

In an attached exterior room oxygen bottles are manifolded into a common header and distributed through piping to respective outlets through zone valves and area alarms for the piped oxygen system of the Hospital. Also, in this room smaller oxygen bottles for individual usage are typically stored. These bottles serve the mobile Hospital needs, as well as, the Manor's needs, as the Manor has no piped medical gas systems available. Daily these smaller bottles are transported from this oxygen storage room to the specific patient rooms and requiring oxygen usage in the Manor. All medical gas systems found throughout the Hospital are manufactured by Ohio. The typical patient room incorporates one oxygen outlet, one vacuum outlet, and one air outlet.

While the Manor is served with its domestic hot water need from the previously noted steam to hot water generators in the Hospital, it also incorporates a dedicated 1½" domestic cold water service. This cold water service is distributed appropriately to the fixtures as required throughout the Manor. Typical fixtures in the Manor are a flush tank style. The water closets in the individual patient bathrooms are flush tank fixtures that are non-ADA compliant and do not incorporate bed pan washers. The individual patient room bathrooms also incorporate wall hung Vitreous china lav's. The 1990's addition wing to the Manor incorporates flush valve fixtures that is serviced by this same 1½" cold water service. Piping found throughout the Manor typically is type L copper tubing and fittings for the domestic water systems. Drain, waste, and vent piping is typically no-hub cast iron. The Manor is also serviced by a dedicated 4" fire sprinkler main, the Manor is a fully fire sprinklered facility.

The only fuel oil piping that remains for the facility is located adjacent to the Hospital boiler room. Fuel oil piping is directed to the emergency generator, which provides emergency power to the Hospital, as well as, minimal distribution to the Manor facility. For a more complete description of this system see the electrical portions of this report.
Electrical Systems:

**Power Distribution**

The hospital is served from an underground 1600-amp, 120/208, 3-phase, 4-wire, electrical service. The service is located in the basement electrical room. The service enters the building into a 1600-amp fused switchboard. The switchboard serves the following main loads:

1. Chillers, X-ray equipment and several normal branch power panels.
2. Motor control center MCC1 which feeds water pumps, cooling tower fans, air handlers, and exhaust fans.
3. Motor control center MCC2 which feeds exhaust fans and air handlers.
4. Two automatic transfer switches (see below for more information).

A fuel oil powered, 150 kW standby generator is located in the basement electrical room. The generator has a 6,000 gallon fuel tank. The generator feeds a 600-amp generator distribution panel which serves to back up the following loads:

1. A 400-amp automatic transfer switch that feeds Emergency Equipment Distribution Panel EQDP. This panel feeds certain exhaust fans, water pumps, one boiler, and other critical equipment loads.
2. A 150-amp automatic transfer switch that feeds Emergency Distribution Panel EMDP. This panel feeds Life Safety panel BLSI and Critical power panels GCR1 and GCR2.

The adjacent nursing home ("Manor") is served by an overhead, 400-amp, 120/240, 3-phase, 4-wire electrical service. A gasoline-powered generator provides emergency power to the nursing home through an automatic transfer switch.

**Lighting**

Lighting throughout the entire facility is a combination of incandescent and T12 fluorescent fixtures. Given the age of the fluorescent lighting, the ballasts are probably magnetic.

Egress and exit lighting in the hospital is powered from the generator-backed life safety panel. Egress lighting in the Manor consists of battery-backed wall lights. Exit lighting in the Manor is limited and probably not adequate.

**Special Systems**

A Simplex 2001 fire alarm system serves the hospital. The Manor is served by an Edwards 6616 system. Both systems are conventional (non-addressible).

A Rauland nurse call system serves the hospital. The Manor is served by a Dukane nurse call system. Both systems are non-addressible and dated.

An outdated coaxial based data network serves the facility.
Weston County Health Services  
Summary of Observations

Nursing facility

- The estimated demand of approximately 10 units is based on North Dakota utilization rate per 1000 aged, which should be similar to Wyoming given the predominately rural nature of these states. The general health of a small number of aged may be better or worse than average. Your actual waiting list, a survey of knowledgeable referral sources and a detailed comprehensive market survey may reflect more or less demand.

- The availability of alternatives significantly impacts the demand for nursing facility beds. The availability of home and community based services including HHA services reduces the demand for nursing facility beds.

- The development of assisted living services would in essence create competition for your nursing facility. Given larger spaces, private rooms, flexibility in services and a non-institutional look, assisted living residents will prefer to age in place and stay in the assisted living setting as long as possible as opposed to nursing facility placement. Also, if there is a need to fill assisted living units, we have seen fairly extensive services to assisted living residents in order to retain them in the facility. Assuming you develop assisted living, we would recommend that you be conservative in your approach to add nursing facility beds.

- Given your physical location, you are the facility of choice for most people. However, as you approach the fringes of your service area you need to be competitive. Potential residents will also consider other alternatives. For this reason, the availability of more private rooms, attractive décor, adequate and varied smaller seating areas and a less institutional look are key components to maintain a competitive advantage. Improvements in this area combined with a small addition which may include replacement of some existing beds would be a likely project. Any project will need to take Medicaid reimbursement limitations into account.

- Population projections support a small growth in demand over the next five years.
Assisted living

- The estimated demand of 48 units is based on national averages. The general health of a small number of aged may be better or worse than averages. A survey of knowledgeable referral sources and a detailed comprehensive market survey may reflect more or less demand.

- Approximately 53 percent of households have an annual income of less than $25,000. Further, another 15 percent have income between $25,000 and $35,000 which would mean that for these households with two people, there would be difficulty in having one person in assisted living and still maintain a separate household. Of the 48-unit demand, we would estimate that only 19 residents could afford market rate assisted living services.

- Mandell Heights, an existing 20-unit facility, considers themselves to be an assisted living facility. Their current rates range from $800 to $1400 per month. While they do provide 24 hour coverage, 3 meals per day, housekeeping and personal laundry services, the residents do have to function independently, which is generally a lesser level of service than a traditional assisted living facility. Some of the residents receive assistance from an outside HHA with bathing, grooming, etc. Based on the price range and level of services, this facility would only compete to a limited extent with your proposed assisted living facility. It should be noted that the facility currently has four openings, which is consistent with primarily competing with traditional alternatives to congregate housing.

- We are not familiar with home and community based services that Wyoming provides for those who can not afford market rate alternatives. If funding is limited, then the best alternative may be to place these people in a nursing facility. This also creates a risk that the future development of alternatives may reduce nursing facility occupancy. If there is funding available, make sure that the size of units and level of service will fit within the allowed funding. You would need to understand the funding mechanisms before proceeding with any non-market rate assisted living services.

- A possible approach to the assisted living project would be to get a rough estimate of cost based on size and design of the project with a forecast of operating expenses to arrive at needed rents. Then seek potential tenants with a refundable deposit of say $1,000 to see what actual demand is prior to actually undertaking the project.

Conclusion:

Based on the above considerations a market rate assisted living project of 16-18 units appears to be justified based on national use rates. Assuming you proceed with this project, we would recommend being conservative with nursing facility beds by limiting the project to a net increase of no more than six beds.
### WESTON COUNTY

#### Estimated 2001 Population

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<th>Osage</th>
<th>Upton</th>
<th>Other</th>
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<td>75-84</td>
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<td>23</td>
<td>57</td>
<td>1</td>
<td>324</td>
</tr>
<tr>
<td>85+</td>
<td>103</td>
<td>9</td>
<td>14</td>
<td>1</td>
<td>127</td>
</tr>
<tr>
<td>Total</td>
<td>709</td>
<td>62</td>
<td>150</td>
<td>3</td>
<td>924</td>
</tr>
</tbody>
</table>

#### Projected 2006 Population

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Newcastle</th>
<th>Osage</th>
<th>Upton</th>
<th>Other</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>65-74</td>
<td>374</td>
<td>31</td>
<td>71</td>
<td>4</td>
<td>480</td>
</tr>
<tr>
<td>75-84</td>
<td>241</td>
<td>23</td>
<td>55</td>
<td>2</td>
<td>321</td>
</tr>
<tr>
<td>85+</td>
<td>117</td>
<td>8</td>
<td>19</td>
<td>1</td>
<td>145</td>
</tr>
<tr>
<td>Total</td>
<td>732</td>
<td>62</td>
<td>145</td>
<td>7</td>
<td>946</td>
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</tbody>
</table>
WESTON COUNTY
Summary of Average Income Based on Age of Household

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Less Than $25,000</th>
<th>$25,000 to $34,999</th>
<th>Greater Than $35,000</th>
<th>Total Households</th>
</tr>
</thead>
<tbody>
<tr>
<td>65-74</td>
<td>160</td>
<td>61</td>
<td>103</td>
<td>324</td>
</tr>
<tr>
<td>75-84</td>
<td>117</td>
<td>21</td>
<td>75</td>
<td>213</td>
</tr>
<tr>
<td>85+</td>
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<td>16</td>
<td>73</td>
</tr>
<tr>
<td></td>
<td>323</td>
<td>93</td>
<td>194</td>
<td>610</td>
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Average size of household 1.51
WESTON COUNTY HEALTH SERVICES
Estimated Demand for Assisted Living Services
Calculation Based on Population of Weston County

<table>
<thead>
<tr>
<th></th>
<th>ESTIMATED 2001</th>
<th>PROJECTED 2006</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Population</td>
<td>%Need (t)</td>
</tr>
<tr>
<td>65-74</td>
<td>473</td>
<td>8%</td>
</tr>
<tr>
<td>75-84</td>
<td>324</td>
<td>15%</td>
</tr>
<tr>
<td>85+</td>
<td>127</td>
<td>35%</td>
</tr>
<tr>
<td></td>
<td>924</td>
<td></td>
</tr>
</tbody>
</table>

Total need in county 130.9 137.3
National penetration rate 31% 31%
Estimated local demand 41 43
Out-of-area demand 7 7
Total estimated demand 48 50

(1) Estimated percentage of people requiring assistance with ADL's
WESTON COUNTY HEALTH SERVICES
Estimated Demand for Nursing Facility Services
Calculation Based on Population of Weston County

<table>
<thead>
<tr>
<th></th>
<th>ESTIMATED 2001</th>
<th></th>
<th>PROJECTED 2006</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Population</td>
<td>%Need</td>
<td>Demand</td>
<td>Population</td>
</tr>
<tr>
<td>65-74</td>
<td>473</td>
<td>1.8%</td>
<td>8.5</td>
<td>480</td>
</tr>
<tr>
<td>75-84</td>
<td>324</td>
<td>5.4%</td>
<td>17.5</td>
<td>321</td>
</tr>
<tr>
<td>85+</td>
<td>127</td>
<td>27.4%</td>
<td>34.8</td>
<td>145</td>
</tr>
<tr>
<td><strong>Total need in county</strong></td>
<td><strong>60.8</strong></td>
<td></td>
<td></td>
<td><strong>65.6</strong></td>
</tr>
<tr>
<td><strong>Existing capacity</strong></td>
<td><strong>51.0</strong></td>
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<td></td>
<td><strong>51.0</strong></td>
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<tr>
<td><strong>Incremental need</strong></td>
<td><strong>9.8</strong></td>
<td></td>
<td></td>
<td><strong>14.6</strong></td>
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</tbody>
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