FACILITY ASSESSMENT
OF
SWEETWATER COUNTY'S CHILD DEVELOPMENT CENTER
FOR
SWEETWATER COUNTY CHILD DEVELOPMENTAL CENTER

PREPARED BY:
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I. INTRODUCTION

Plan One/Architects, along with our mechanical/electrical and structural consultants, M.E. Group, Inc. and Lower & Co., P.C., were commissioned by the Sweetwater County Child Developmental Center to evaluate the existing Child Developmental Center and its grounds for Code compliance and for compliance with the State of Wyoming's Administrative Rules for Certification of Child Care Facilities.

The goals of this assessment are to determine if the original building and its 1970's addition can efficiently and effectively be brought up to current Code compliance for ADA, fire, building and life safety, and to assess the overall use and efficiency of the existing facility to accommodate future growth. Additional concerns for the study include mold growth in window panes; current roof conditions; the facilities' structural integrity; the capacity and efficiency of the heating and cooling systems; site drainage, parking lot refurbishing, and general grounds safety (i.e., stairs and walks). Site surveying and destructive testing were not within the scope of this study.

The assessment team met on site May 6, 2009, to review the existing condition of both the facility and the grounds. Joining the assessment team on site were the Director of the CDC, Ann Owen, and the facilities manager for Sweetwater County, Chuck Radosevich.

In general, there are two buildings on the site connected by a small vestibule. The main building was constructed in 1922 as an elementary school, and the addition was constructed in the early 1970's for administrative, classroom, gymnasium, kitchen, and library space. The main building is two levels with intermediate landings and levels. The addition consists of a single level with a mechanical basement and storage area. The vestibule that connects the two buildings was built in the 1980's.

The Code evaluation of the CDC facility contained in this report is based on a use group classification of an "I-4" or Daycare Facility as opposed to "E" for Educational use. We feel that there are distinct advantages to applying the I-4 classification to the facility and have supported this choice within the assessment.

The team assembled by Plan One/Architects to undertake this project is composed of well respected professionals in their specific fields, who are experienced in the tasks to be accomplished, and committed to the time frame required to accomplish this scope of work.

The members of the team, and their specific charges and fields of expertise are as follows:

- Plan One/Architects, Rock Springs, Wyoming
  - Charles E. Van Oyer, A.I.A.
Generally, Plan One/Architects was responsible for the organization of the team, project oversight including administration of schedules, compilation of each consultant's respective studies, and production of the completed report. Specifically, Plan One/Architects was responsible for architectural analysis of the facility which included the life safety, Code compliance, and handicapped accessibility requirements.

- Lower & Co., P.C., Casper, Wyoming
  - Robert E. Lower, P.E.
  - Joe W. Yelton, P.E.

Lower & Co. was responsible for the analysis of the existing structural conditions and integrity of the facility. They provided observations and recommendations on the overall structural condition and state of repair.

- M.E. Group, Inc., Lincoln, Nebraska
  - Andrew Thompson, P.E., LEED-AP, CxA, HBDP
  - Larry Steiger, P.E.

M.E. Group was responsible for the investigation of existing mechanical, plumbing, and electrical systems. They also determined recommendations for repair or replacement of existing systems.

Within this report, existing conditions of the facility and grounds are described, including descriptions of deficiencies and concerns. Recommendations and conclusions from the evaluations presented, along with prioritized corrections and estimated costs to the Child Developmental Center, are based upon the results of field observations and the team's experience with similar conditions and structures, as well as a review of the existing documentation that was available to the team.

The results of this assessment and recommendations contained herein, along with construction cost estimates, represent the best professional opinions of this team and are designed to assist in the planning process.
II. EXECUTIVE SUMMARY

A. 1922 Building

After visiting the Child Developmental Center and conducting a review of the available existing documents, the design team has concluded that implementing the recommendations required to bring the facility up to minimum Code compliance would be cost prohibitive based on the nature of the deficiencies, the age of the building and its intended use. It would make little financial sense to attempt to improve particularly the 1922 building to meet all recommendations to correct the identified deficiencies architecturally or those reported in other sections of this assessment.

Some of the major findings that lead to this conclusion are outlined below. Our complete findings are contained within other sections of this study.

From a site standpoint, the drainage of storm water around the facility appears to be inadequate along the south areas which receive runoff from the parking surface on the hill to the south of the property.

The exterior concrete slabs are in fair to good condition. The poorest slabs were observed at the north playground area, where there is minor pitting of the concrete surfaces due to weathering. This area also shows deterioration of the joint sealants due to lack of maintenance which has allowed moisture to work below the slabs and vegetation to take root.

Additionally, there are International Building Code (IBC) and Americans with Disabilities Act (ADA) deficiencies regarding hand rails at the site steps from the north of the building to the play area, and at the west entry of the building. While the absence of a resilient fall-zone surface within the fenced play area to the north of the building is not a violation of current playground safety standards since there is currently no equipment located there, should equipment be added at a later date, resilient fall-zone surfacing would be required.

Structurally speaking, the foundations of the building appear to be in good condition and of sound integrity. The building is in good condition for the accepted structural design methods employed at the time of construction; however, it is most probably very inadequate with regard to current loading and seismic stability requirements.

An architectural review revealed that the existing facility has numerous Code, life safety, and ADA accessibility deficiencies that would make it costly to bring the building into compliance with the current Codes. Some of the more significant issues found include: no fire sprinkler suppression or fire rated partition construction; no fire rated stairway enclosures; an outdated fire alarm system; inadequate smoke detection; multiple floors and intermediate floor levels without barrier free means of access; no barrier free restroom facilities; and miscellaneous non-complying barrier free Code items. These include no provided means of handicapped parking with connecting site access to the building, inappropriate door hardware, and no barrier free access between this facility and the 1970’s addition.
An inspection of the roof showed that the existing membrane roof and related flashings are also near the end of their service life and should be replaced.

The mechanical, plumbing and electrical systems in the existing facilities also have many issues that need to be addressed. The utilities are in fair condition and of limited capacity overall for modern systems. Other deficiencies which should be addressed are the lack of ventilation air per current Code, inadequate cooling and heating systems, non-compliant ADA fixtures, and outdated electrical wiring.

The facility's physical security, locking and communication systems are dated, and while they are in generally good condition and are operational, Plan One/Architects believes these means of access control are not up to current generally accepted standards of securing facilities of this use and should be considered for replacement by methods such as proxy card reader access, door position indicators and intercoms. Exterior lighting is also insufficient for path illumination and for security lighting for public safety.

B. **1970's Addition**

The team also evaluated the 1970's addition on their May 6, 2009, visit to the site and reviewed the available existing documents for that building as well. Based on this review, the design team has come to the conclusion that this building is closer to Code compliance than the 1922 facility and would be a reasonable candidate for renovation to bring it into compliance at a reasonable cost.

The drainage of stormwater around the facility tends to pond in the parking area and could possibly flow towards the building as the site does not possess the positive drainage away from the building as it should. This condition is exacerbated by the runoff received from the adjacent embankment of the higher elevation surface parking area to the south of the facility. The exterior concrete slabs are in good condition.

The foundations of the building appear to be in good condition and of sound integrity. Structurally, the building is in good condition for the accepted structural design methods employed at the time of construction. It would most likely be adequate with regard to current loading and seismic stability requirements with some modifications to the roof to wall connections.

While not as extensive as the 1922 building, the existing facility also possesses Code, life safety, and ADA accessibility deficiencies that will be of considerable cost to correct. Examples of these deficiencies include: no fire sprinkler suppression system; and miscellaneous non-complying barrier-free Code items including inappropriate door hardware, drinking fountains, toilet plumbing fixtures and toilet accessories, as well as no barrier free access between this facility and the 1922 building.
The existing facility's mechanical, plumbing, and electrical concerns include the following: a lack of adequate ventilation air; inadequate cooling and heating systems; non-compliant ADA fixtures; and lacking of a three compartment sink and associated grease trap in the food preparation/kitchen area.

The facility's physical security, locking and communication systems are in generally good condition and are operational, however Plan One/Architects believes these means of access control should be replaced to be integrated with the recommended new access controls for the 1922 building. Exterior lighting is also insufficient for path and car parking illumination and for security lighting for public safety.
III. PURPOSE

Background Information and History

The original Yellowstone Elementary School was constructed in 1922 and not only served as an elementary school, but also as the living quarters for the principal until the 1950's. In the 1970's it was determined that the school should be expanded and an addition was built that housed additional space for a gymnasium, cafeteria, more educational space, a library, and administrative functions. Yellowstone Elementary served Sweetwater County School District Number One into the early 2000’s at which time it was closed by the School District due to declining enrollment and declared surplus property. In August 2003, Child Developmental Services moved into the building, and the County was ultimately deeded the property in June of 2006.

The purpose of this study is to evaluate the deficiencies of the facilities with special attention paid to Code compliance; compliance with the State of Wyoming's Administrative Rules and Certification for Child Care Facilities guidelines; the presence of hazardous materials; structural deficiencies; and other issues that may exist within the structure and grounds that would need corrective action to bring the facility in line with today's codes. This study will outline our findings which were developed based on visual observation of the facility and review of existing documentation that has been made available to us. We will identify structural issues, envelope issues, mechanical and electrical issues regarding service and heating and plumbing equipment, and code compliance issues. Once these issues are identified, we will investigate ways that these deficiencies can be mitigated and associated remediation costs provided for each deficiency.

This report contains the results of our findings at the CDC site. It is our goal that this report can be utilized by the Sweetwater County Commissioners, and/or the Child Developmental staff and Board to make decisions for future renovations and upgrades required for this facility.

Site

Site conditions were evaluated based on visual observations and review of available documents. Recommendations have been made relative to the following:

- documentation of exterior slab movement and conditions
- documentation of site drainage
- documentation of ADA access
- documentation of exterior play areas and surfacing

Architectural, Code, and Life Safety

Based on our visual observations and existing document review for the Child Developmental Center’s original 1922 building and 1970’s addition an architectural...
evaluation was developed. Plan One/Architects has provided information and recommendations relative to:

- documentation of buildings' compliance with the International Building Code
- documentation of buildings' compliance with the Americans with Disabilities Act
- documentation of buildings' compliance with fire protection and life safety
- documentation of buildings' compliance with the State of Wyoming's Department of Family Service's Child Care Licensing Rules
- documentation of buildings' state of repair and serviceability
- documentation of buildings' capabilities to accommodate future growth

**Structural**
The structural portion of this report contains visual observations and existing document review for the Child Developmental Center's original 1922 building and 1970's addition. Lower and Co.'s study of these buildings was utilized to provide information and recommendations relative to:

- documentation of building foundation and structure conditions
- documentation of structural system integrity
- documentation of structural safety and compliance with current Codes

**Mechanical, Plumbing, and Electrical**
The mechanical/electrical/plumbing section of this report contains visual observations and existing document review for the Child Developmental Center's original 1922 building and 1970's addition. M.E. Group's study of these buildings was used to provide information and recommendations relative to:

- documentation of existing utility systems and service capacity
- documentation of mechanical, plumbing, and electrical systems' compliance with current Codes and occupant comfort
- documentation of mechanical, plumbing, and electrical systems' ability to support modern communication and equipment needs and efficiencies
- documentation of mechanical, plumbing, and electrical systems' state of repair and serviceability
- documentation of mechanical, plumbing, and electrical systems' capabilities to accommodate future growth
IV. METHODOLOGY

A. Population Trends

The anticipated future student population and staffing needs information was provided by the Director of the Child Developmental Center, Ann Owen. The basis of this report was the measured rate of growth of population and child count served by the facility between fiscal year 1999 and November 2008. This information was supplemented by enrollment figures from 1980 through 2009.

While the year to year child count fluctuation has at times varied by as much as 12%, the average results indicate an increase in child count of 7% per year for a cumulative increase of 42% from 1999 to 2004. Since 2004, the rate of enrollment increase has slowed somewhat. The current enrollment of 328 children, which is an increase of 65 students since 2004, would indicate a 4% expected increase in children each year over the next three years. This would equate to an additional 40 children requiring services based on area population growth.

Enrollment potential is based upon ten percent of the population of Sweetwater County in the 0-5 year age group requiring the CDC's services; with approximately one half of the students attending the Green River facility and the remainder attending the Rock Springs facility. The factor of ten percent is derived from the Bell curve for determining intelligence quotient levels of people, wherein the middle 50th percentile is designated with a 100 I.Q. and is considered the base rate of the general population. Extending on each side of this is the shoulder 30th percentile which is determined to be within the normal range of intelligence. The upper 10th percentile is considered genius, and the lower 10th percentile is considered as having disabilities. It is this lower 10 percent that the community of child care professionals target for intervention with early developmental child care. Further information of the desired end goals by the Child Developmental Center's program may be found within Appendix A of this Report.

In the years between 1999 and 2004, the Child Developmental Center's enrollments consistently averaged a shortfall of 55 children per year, or an approximate 30% shortage of the program's service goal. In the years between 2004 and 2008, the increased enrollment figures indicate the Child Developmental Center is currently meeting the 10% goal, and has exceeded it on average of 2% each year since 2005. This would indicate that the provision of additional space to accommodate any need for 'catch-up' enrollment need not be an immediate consideration.

The current available occupancy loading based on the presently stated uses of each area is for 66 staff, 146 students, and 136 students in the reading and exercise spaces. The student count is based on 15 s.f. area nap space and a 35 s.f. play space for each child. If nap times are not part of the program, then the student count rises to 211. The current student enrollment of 240 children is total per day in two sessions of approximately 120 children each. This indicates the current facility is capable of
supporting expected growth over the next three years, and will be able to accommodate more with the consolidation of staff offices.

B. General Comments

The analysis and recommendations presented in this report are based upon the team’s visual observations and data obtained from the Owner.

Visual observation of the buildings shows where they may be experiencing distress due to any number of causes. Destructive testing and investigations were not a part of this scope. Determinations of any noted causes of distress and solutions for repair were made through only a combination of visual observation and study of the construction documents.

Careful study of the buildings’ construction documents indicate areas of the building that may be vulnerable to damage or deterioration. Details included in the drawings were also reviewed to identify those that might be prone to premature failure. These construction documents were also used in conjunction with selected field measurements of the building for Code evaluations.

Conversations with the Child Developmental Center’s Director gave the team the benefit of her experience with operational deficiencies and projected program needs.

Conversations with the Sweetwater County’s Facilities Manager gave the team the benefit of his knowledge of what damage, repair, maintenance and replacement of systems have occurred at the buildings since the County took over management of the property. Oftentimes damage has been repaired or minor modifications have been made that would not be noticed in a visual observation.

The scope of services for this project includes evaluating the current contaminated and hazardous materials records of the facility to determine the existing conditions and the extent these materials are still present within the facility. It is our understanding that the existing friable asbestos finishes and pipe coverings have been part of a remediation program of removal and regular condition assessments since February 1989. The initial baseline testing and reports were performed by Hager Laboratories Inc. out of Englewood, Colorado, and Dixon Information Inc. of Salt Lake City, Utah, with subsequent testing performed by the same. A regular program of abatement has been performed with most identified areas having been removed. The known exceptions are tile concealed beneath carpet within Classrooms 204, 205, and 206 as well as that beneath carpeting within the corridors. Exposed tile containing asbestos remains in Toilet 102, Office 106, Hallway 151, Storage 152, Storage 155, Multi-purpose Room 158 and beneath Raised Platform 159. The last documented inspection provided to the team was from March of 2006, and noted the areas as “remaining in good condition”. Reference the “Facility Description” portion of this report for additional information.
The scope of services for this project does not include a new topographical survey, verification boundary survey, or investigative geological report.

This report has been prepared for the exclusive use of the Owner for specific application to the project discussed and has been prepared in accordance with generally accepted professional architectural and engineering practices.

C. Site

Site Exploration

The scope of Plan One/Architects’ services performed for this project included a site reconnaissance by senior architectural staff and the consulting engineering team, including visual observations of the availability of ADA accessible routes, apparent site drainage, current exterior play area conditions and current slab conditions. These observations were supplemented with a review of existing documentation provided by the Owner.

Topography

A two-foot interval contour map was included from the existing documentation available from the Owner. The topography for the site was converted from existing drawings into digital format representing general conditions of the site. A drawing has been included with this report in Appendix B.

Boundary Survey

Boundary information from civil drawings available from the Owner shows the limits of the property and facilities at the time the addition was built. As a new boundary survey was outside of the scope of this study, this drawing, which represents general conditions of the site, has been converted into a digital format for inclusion in this report as Appendix B. The survey itself does not show any easements or right-of-ways that may exist; the extent of site improvements to the north of the property beyond the immediate fenced areas of the facility; or the existing parking areas adjacent to the property to the south. For purposes of this report, the parking areas have been approximated on the drawing based on field measurements taken.

D. Building

Architectural

The scope of Plan One/Architects’ services performed for this project included a site reconnaissance by senior architectural staff, including visual observations of room finishes, fixtures, spatial conditions and select field measurements to supplement the available existing documentation provided by the Owner for analyses.
Structural

The scope of Lower & Co.'s services performed for this project included a site reconnaissance by senior engineering staff, including visual observations of select representative structures, walls, roofs and slabs, as well as a review of the existing documentation available from the Owner. Destructive investigative methods for determining existing conditions were not part of the scope of work.

Mechanical, Plumbing, and Electrical

M.E. Group Inc.'s services performed for this project included a site reconnaissance by senior engineering staff, including visual observations of accessible systems, as well as review of existing documentation available from the Owner for analysis.
V. FACILITY DESCRIPTIONS

The existing Child Developmental Center's facility is located at 725 "C" Street which is generally south of the old commercial district of Rock Springs. It is situated on a leveling near the top of a hill that generally slopes downward to the north.

The facility consists of two buildings. The original building was constructed in 1922 as the Yellowstone School. This building is two levels and is currently housing multiple classrooms, with parts of the lower and upper areas serving as offices for the administrative staff. The second building was constructed as a stand alone building in the early 1970's and provides space for a media center, multi-purpose room, classrooms, food preparation kitchen, and offices for the administrative staff. The two buildings are joined by an enclosed connector vestibule built in the mid 1980's. The facility served as an elementary school from 1922 until it was closed by the District in the early 2000's. The Child Developmental Center moved into the facility in 2003, and, in June of 2006, the County purchased the property from the District for one dollar.

A. Site

Global Site Conditions

The site topography in the area of the facility slopes steeply downward toward the north and levels off for the facility and its immediately adjacent south parking and north play areas. The site then resumes a steep slope downward to the north. The vegetation inside the perimeter yards consists of irrigated grass lawn, bituminous asphalt paved parking areas and concrete play and walk areas. The non-irrigated vegetation on the slopes to the south and north of the facility consists mostly of sparse native prairie grasses, with occasional scrub brush and trees. Current drainage of the facility is generally from the south to the north. To the south of the 1922 building, the drainage comes from the south parking lot to the existing building at the west end and drains easterly along the building to the paved parking lot near the 1970's addition. Drainage on the south side of the property is minimal at best. To the north of the facility, the drainage slopes to the north gradually until it reaches the severe drop-off north of the building and drops to the play field below.

At the south side of the 1970's addition, there is a hot-mix asphalt parking lot that provides slope to the south to the embankment draining from the south. The drainage is then easterly from there.

Existing drawings of the 1970's addition indicate soil conditions from five boring samples consist of fill, silty sands, and highly weathered sandstone over a layer of silty brown medium dense to loose small sand over coal seams over a bedrock layer of highly weathered sandstone and siltstone resting on a sandstone and siltstone bedrock at depths between 25 feet and 40 feet below the first floor elevation of the 1970's addition with the bedrock containing occasional layers of fractured hard gray to brown claystone. The test holes were drilled on May 22, 1988 and no free water was found in the
test holes at the time of investigation. Soil conditions at that time were not conducive to a spread footing foundation system and drilled piers were utilized.

**Exterior Electrical Distribution**

Electrical service to the facility is provided by direct buried conduit. The electrical service entrance point is located at the exterior wall of the old coal pit room located on the southeast side of the 1922 building. The service then wraps around the southeast side of the 1922 building, routing towards the northeast end and then continues under slab to the 1970’s addition. The nature of the service and its capacity is discussed in the electrical section of this evaluation.

**Exterior Lighting Systems**

The exterior lighting systems consist of a building mounted perimeter high pressure sodium lighting system as well as a pole mounted high pressure sodium lighting system for the playground, parking area and public access walkways. The building mounted lighting at the CDC facility is not spaced per IES recommendations and does not produce lighting levels conducive to area requirements. Generally, there is not a comprehensive lighting system providing illumination of the building and public access walkways. Additionally there are instances of some exterior “exit-only” doors lacking remote emergency lighting. Overall, lighting levels are inadequate for public safety due to the existing lighting locations at the facility.

**B. Building Characteristics**

**1922 Building**

The building is two stories, with intermediate floors and landings within the lower level. Overall the building contains a total of approximately 22,235 square feet distributed between the two floors. The lower level contains approximately 9,330 gross square feet and with the upper level adding an additional 12,905 gross square feet to the facility.

The exterior wall materials consist of multi-wythe clay brick with areas of architectural bond pattern courses and terra cotta trim. The entry doors are painted hollow metal with single glazing and are hung in painted hollow metal frames. Accessory doors are also painted hollow metal with painted hollow metal frames. Windows have 1/2-inch nominal insulated panes within mill finished aluminum frames. They have painted wood jambs, terra cotta sills, and terra cotta trim work at the headers.

The roof has a single pitch, with a low slope to the south. It is covered with a single-ply Hypalon membrane roofing material. Roof drainage is provided by a metal gutter and downspout system.

Construction of the lower level is made of concrete foundation walls and footings with wood framed interior walls. Floors are primarily concrete slab on grade, with the exception of the raised floor areas of the administration area at the east end of the building. This area includes wood flooring over
2x joists with cross bracing which bears on either concrete stem walls, or 6x6 wood posts on reinforced concrete footings as they occur. The existing boiler and coal storage rooms are constructed of concrete walls and ceiling structure. Stairways are wood framed.

Similarly, construction of the upper level is made of multi-wythe clay brick exterior walls with interior walls being wood framed. Floors are wood over 2x joists with cross bracing that bears on either exterior masonry walls or interior wood framed walls as they occur on the lower level.

The roof is wood sheathing over cross-braced wood framing. The interior corridor walls are wood framed bearing walls which support the floor and roof framing.

Interior floor finishes consist of carpeting, synthetic stair tread and riser coverings, ceramic tile, vinyl asbestos tile, and vinyl composition tile. Wall finishes generally consist of painted plaster; however, some later portions of room divider walls are painted gypsum wallboard. Toilet areas generally have ceramic tile wall coverings. Ceilings consist of mostly 2x4 lay-in acoustical ceiling panels in suspended metal grids with painted gypsum wallboard at the framed trim-outs of the skylight areas.

Interior doors, with the exception of secured areas, are generally unrated solid core wood veneer doors with a stained finish. They are hung in painted, unrated wood frames and casings. In the secured utilitarian areas, the doors are painted hollow metal hung from painted hollow metal frames.

1970’s Addition

The addition, which lies to the east of the 1922 building, is a single story slab on grade with a mechanical and storage area in the basement. The building consists of 13,350 gross square feet on the main level and 1,910 net square feet in the mechanical and storage area. There is also a connector vestibule between the buildings that was built in the mid-1980’s, which is approximately 275 gross square feet in size.

The exterior wall materials consist of brick veneer over concrete masonry. Entry doors are painted hollow metal with single pane glazing, (laminated wire reinforcing is provided at some locations) which are hung in painted hollow metal frames. Accessory doors are also painted hollow metal with painted hollow metal frames. Windows are single pane within mill finished aluminum frames. Additionally, these windows have single pane storm windows in aluminum frames.

The roofs at the lower areas are low slope covered with EPDM covering with LG panels. There is also a false mansard covered with split cedar shake shingles at this location. Drainage is provided by both exterior overflow scuppers and roof drain collectors connected to an internal rainwater channel drainage system. There are two hexagonal framed spaces at each end with raised roofs enclosing the library and multipurpose rooms. These areas are covered with EPDM covering with LG panels over rigid insulation on the sloped surfaces; and split cedar shake at
the false mansard. Drainage for these areas is provided by sheet flow over copper drip edges to the lower roof areas.

Construction of the basement level is made of reinforced concrete foundation walls bearing on reinforced concrete piers. The interior framing is either concrete masonry wall or reinforced concrete post and beam as it occurs. Floors are reinforced concrete slab on grade and stairways are constructed of reinforced concrete.

The main level is made of brick veneer over concrete masonry walls with interior wall construction of either wood framing or concrete masonry with brick veneer as it occurs. Floors are reinforced concrete slab on grade at unexcavated areas with perimeter reinforced concrete grade beams and reinforced concrete piers. Floors at the hexagonal shaped library and multi-purpose rooms are reinforced concrete slab on grade with a perimeter mechanical chase tunnel consisting. The mechanical chase is constructed of reinforced concrete over metal decking on metal 'I' shape beams bearing on reinforced concrete grade beams with reinforced concrete piers and an earthen floor. Floors over the basement areas are constructed of concrete topping over reinforced concrete 'tee' shaped joist sets which bear on reinforced concrete foundation walls or reinforced concrete post and beam as they occur.

The roofs at the lower areas are wood sheathing over metal webbed truss joists with wood top and bottom chords. There are two hexagonal framed spaces at each end which have raised roofs enclosing the library and multi-purpose rooms. These areas are framed with glue-laminated wood decking over glue-laminated wood beams with a reinforced concrete tension ring base and a welded steel compression ring top around a sky dome. The connector roof between the 1922 building and 1970's addition is constructed of metal decking over open web metal joists bearing on steel 'W' shape beams on tube steel columns.

Interior floor finishes consist of carpeting, ceramic tile, quarry tile, and vinyl asbestos tile. The wall finishes consist of brick veneer, ceramic tile, painted gypsum wall board, cork tile, and pressed wood paneling. Ceilings consist of either laminated wood plank, painted gypsum board, 8x8 acoustic tiles, or patterned 12x12 acoustical tiles.

Interior doors, with the exception of secured areas, are generally solid core wood doors with a stained finish hung in painted hollow metal frames. There were no observable UL ratings found on the doors or the frames. Glazing, where it occurs within interior doors, is laminated wire reinforced.

C. Structural

1922 Building

Foundations

The foundation system for the structure is primarily below grade and therefore unobservable for the most part. There are however, locations
above grade where there are visible cast in place concrete walls, indicating cast in place concrete foundations. Based on these observations and the construction techniques available at the time of the original construction, it is assumed that the foundation system consists of cast in place concrete footings with cast in place concrete stem/basement walls. It is also assumed that the interior bearing walls are founded on continuous concrete wall footings.

**Floor Framing**

The lower level floors are primarily a composite of cast in place concrete with wood flooring overlay. The non-finished spaces in the lower level do not have the wood flooring overlay installed. Upper level floors are wood framed, with wood floor sheathing. The size/spacing of the framing was not observed.

**Structural Walls**

The exterior walls generally consist of multi-wythe clay brick construction with plaster interior finishes. That portion of the lower level which is not below grade (walk-out) has cast in place concrete exterior walls. All interior walls are constructed of wood framing with lath and plaster finish. Not all interior walls are bearing walls.

**Roof Framing**

In general, the roof framing consists of 2x roof joists spanning from the clay brick masonry exterior walls to the wood-framed interior bearing walls. Overall the pitch of the roof is generally low.

**Lateral Load Resisting Systems**

The only lateral load resistance for the structure is provided by the inherent nature of the materials used to support gravity loads. The era from which the building originated was void of special design considerations for wind and seismic lateral resistance; and therefore, the limited lateral load capacity of the structure is far short of the requirements set forth in the current edition of the International Building Code. The exterior, unreinforced clay brick masonry walls offer very little lateral load resistance, at least empirically. The interior wood-framed bearing walls could be considered effective in a lateral load resistance analysis and the roof/floor sheathing is most probably diagonal 1x wood sheathing which could perform as lateral load resisting diaphragms. The connection of these diaphragms to the walls is probably inadequate.

**1970's Building**

**Foundations**

The foundation system for the structure was confirmed by site observations made within the mechanical tunnel in the basement. Construction of the basement level is made of reinforced concrete foundation walls which bear
on reinforced concrete piers and interior framing of either concrete masonry walls or reinforced concrete post and beam as they occur.

**Floor Framing**

The structural floor spanning over the basement is a system of reinforced concrete pan-joists with the floor spanning over the utility tunnel consisting of cast in place reinforced concrete structural slab on steel Corform floor decking. The remaining floors in the addition are concrete slab on grade.

**Structural Walls**

The exterior walls of the addition generally consist of concrete masonry back-up with brick veneer. Brick veneer is also installed on both sides of the walls in the library and multi-purpose rooms. Interior bearing walls are also concrete masonry while nonbearing interior walls are constructed of wood framing.

**Roof Framing**

Roof framing in the flat roof areas is generally open-web, wood joists with metal web members. These span from the exterior masonry walls to either the interior masonry bearing walls or the exterior masonry walls. The two hexagonal rooms have roof framing consisting of glue-laminated roof members with glue-laminated composite roof decking. The top of the masonry walls in the hexagonal rooms are capped with a cast in place concrete tension ring, which collects the lateral thrust loads produced by the sloping roof members.

**Lateral Load Resisting Systems**

The exterior/interior concrete masonry walls are reinforced, and therefore will provide some degree of lateral force resistance. The roof diaphragm could be considered effective, but the connection to the walls will most probably be inadequate to meet today's Code.

**D. Mechanical and Plumbing**

**1922 Building**

*Heating, Cooling, and Ventilation System*

The building is conditioned with a steam boiler and fin tube system. The boiler is not original to the building but the system is approaching the end of the expected operational life. The steam condensate pump is of the same vintage as the boiler. The boiler and steam condensate pump are located in the Boiler Room which is accessed from the exterior or the lower level corridor. The steam pipe is routed through classrooms and exposed throughout the lower level. There is limited cooling in the facility provided thru window air conditioners. There is no mechanical ventilation system. Operable windows are available in most locations. The exhaust system is limited to restroom facilities.
Plumbing System

Domestic water is provided by a dedicated water service. Domestic hot water is heated and distributed by a gas water heater located in the boiler room. The water heater did not appear to have a recirculation pump.

Building Storm Drainage

The roof is sloped south to a gutter and downspout system.

1970's Addition

Heating, Cooling, and Ventilation System

The building is conditioned with a hot water boiler and fin tube/cabinet unit heater system. The boilers are original to the building and the system is approaching the end of the expected operational life. The hot water is distributed through the building with a new hot water pump that appears in good operating condition. The heating system is controlled by a pneumatic control system. The mechanical equipment is located in a basement level mechanical room accessed via a door and stairway near the kitchen. There is limited cooling in the facility provided through window air conditioners. There is no mechanical ventilation system. Operable windows are available in most locations. The exhaust system is limited to restroom facilities.

Plumbing System

The domestic hot water system consists of a water heater installed in 2001. A majority of the domestic water and heating water is distributed through tunnels along the perimeter of the building. There is a dedicated 2" water connection to the building. The water entry and the gas entry are separate from the 1922 building.

Building Storm Drainage

The storm drainage of the building consists of roof drains and overflow scuppers. The roof drains are piped to an elevation just above grade where they are surface drained.

Kitchen

The kitchen serving the center includes a residential range protected by a commercial range hood with an Ansul fire suppression system. The kitchen does include a dishwasher, but the dishwasher is not utilized by the center.

E. Fire Protection

A wet pipe sprinkler system is not provided throughout either the 1922 building or the 1970's addition. Fire protection is currently provided by wall mounted portable fire extinguishers. A fire alarm system and smoke detectors exist in both buildings.
Smoke detectors are installed at inconsistent locations and are not installed according to NFPA spacing guidelines in the main building. Inconsistent spacing violations occur in the 1970's addition as well.

Currently within the 1922 building and 1970's addition there is no automatic dialer notification system to the municipal emergency services.

F. Electrical

1922 Building

Electrical Distribution Systems

The current electrical service to the 1922 building facility is provided by Rocky Mountain Power. A pole mounted transformer is located to the northwest of the old electrical room and steps the voltage down to a 240Y/120 volt, single phase, three wire, 800 amp service for the 1922 building utilization. It is believed that the electrical service was updated during the 1970's building addition. A second 800 amp service serves the 1970's building; refer to 1970's building characteristics for additional information. The two buildings are believed to be served via two (2) separate service entrances, metered together from one single pole mounted transformer.

Electrical System

In the 1922 building the general lighting, switches and receptacle devices throughout are in poor condition. In most cases the lighting should be upgraded to provide appropriate illumination as well as providing adequate emergency egress lighting per the Illuminating Engineering Society (IES) guidelines. The receptacles throughout should be tamper resistant and in some locations be provided as Ground Fault Interrupters. Most electrical devices are outdated and past the life expectancy for their use.

1970's Addition

Electrical Distribution Systems

The current electrical service to the 1970's building is provided by Rocky Mountain Power. A pole mounted transformer is located to the northwest of the old electrical room and steps the voltage down to a 240Y/120 volt, single phase, three wire, 800 amp system for the 1970's building utilization. It is believed that one (1) 800 amp service enters the original building as noted in the above 1922 building characteristics. And a second 800 amp service is provided to the 1970's building electrical room. The two buildings are believed to be served via two (2) separate service entrances, metered together from one single pole mounted transformer.

Electrical System

In the 1970's building the general lighting, switches and receptacle devices throughout are in fair condition. In some cases the lighting could be
upgraded to provide appropriate illumination per the Illuminating Engineering Society (IES) guidelines. The receptacles throughout should be tamper resistant and in some locations be provided as Ground Fault Interrupters. Some electrical devices are becoming outdated and nearing the end of the life expectancy for their use.

G. Security

Perimeter Security

There is no remote notification and lock release function or electronic identification entry system. Security is provided by keyed lock systems which are not currently integrated with the Sweetwater County master key system. An occupancy sensor/intrusion alarm system does exist in the 1970's addition; however, it is no longer operational.

The exterior lighting provides inconsistent coverage of public access walks and entries. Many exterior lighting locations have been removed or do not seem operational.

Closed Circuit Television System

There is currently no closed circuit television system.

Intercom System

The intercom system communicates with some of the classrooms, but not all classrooms consistently. Locations of two-way communication within each classroom are inconsistent. The master call-in two-way communication is located in the main front office and the main equipment intercom rack is located in the media center of the 1970's addition.

Classrooms are equipped with call-in buttons and intercom speakers to communicate with the main front office, through the intercom rack in the media center of the 1970's addition.

Public Address System

The current system speakers utilized as the facility paging system is used in conjunction with the intercom speaker system. This system is accessed at the main front office for communication and the equipment rack is located in the 1970's building media center.

Door Hardware

Exterior operation sets consist of keyed mortise type. Interior operation sets consist generally of keyed knob sets.

Exterior Doors

The exterior doors of both buildings consist of hollow metal doors and appear to be of adequate quality and durability for the use.
VI. OBSERVATIONS

A. Child Developmental Center Operations

Student and Staff Operational Assessment

Students consist of ages 1-3 year olds (known as Part C under the CDC program) and 3-5 year olds (known as Part B under the CDC program).

The current program has been in place since 1979 and receives Federal and State funding as well as, funding from the United Way and Sweetwater County. The program offers assistance to families in need as the program is able to provide free transportation to and from school, screenings, and parental support and training. The program also offers financial aid, as illustrated by the fact that in 2008, nearly one quarter of the students evaluated for At-Risk were provided pre-schooling on a sliding scale based on 180% of poverty.

The CDC believes that the projected growth levels derived by the Director’s review of operations are an accurate and realistic assessment of the Center’s future potential enrollment. Please reference Section IV, ‘Methodology’ of this report for more information on population trends and services for children.

Programs for Student Needs

The Child Developmental Center screens children for a variety of disabilities including autism, mental and physical disabilities, speech and language delays, hearing and vision impairments, behavioral problems, and other health issues. The Center provides programs designed to help each child reach their individual goals. The intermediate goal of the facility is for 100% of the At-Risk students to go on to kindergarten not requiring special services. Their long term goal is to achieve a level of success where 100% of students who received services at the Center will not require special education services in the Sweetwater County school system.

Staffing Issues

As the average daily student population increases, it will be necessary to increase the number of staff on site to the accepted teacher-student ratios established by the State of Wyoming Child Care Licensing Rules. The CDC’s estimated projections for servicing the population will determine the staffing level required based on the ratios of staff to child by age groups. These numbers will vary depending on the age of composition of each year’s class. During the 2007-2008 academic school year, the CDC employed two family services coordinators; four early childhood special education teachers; one special education/deaf education teacher whose services were shared with the City of Green River program; four elementary education teachers; and two mental health staff who also shared services with the City of Green River program.
Sweetwater County, Rock Springs, and the Child Developmental Center

The goal of the Child Developmental Center has been to improve the quality of life for not only children with and without disabilities, but also their families. They do this by providing early childhood developmental education and therapy programs. Sweetwater County has been supportive of the program, and has given the Center $270,000 for the last three years and remains a significant funding source for the Center's successes.

B. Site

Previous Investigations and Reports

While a geotechnical investigation was not within scope of this evaluation, the team reviewed existing geotechnical reports to gain an understanding of the site conditions. In general, the sub-soils are consistent with geology of the area with sand, silt, or gravel over sandstone, siltstone, and weathered sandstone outcroppings. A more complete description of the results of the soil borings indicated on the drawings for the 1970's addition are described within the "Facilities Description" section of this report.

Flood Plain Analysis

The main building and addition do not reside within a flood plain.

Ground Water Analysis

Ground water is not an issue for this site.

Surface Drainage Condition

Site observations indicate that surface drainage around the existing facility is marginally adequate. Currently, surface runoff from the embankment of the adjacent higher elevated hard surfaced parking area at the south property boundary drains north toward the facility collecting on the bituminous asphalt surfaced staff and visitor parking area. This area possesses a very shallow slope which drains to the east. This does vacate the water from the site, although not in an efficient manner. This inefficient drainage is also evidenced by areas of ponding that remained on the site following recent rains which occurred around the time of follow-up site observations. Of additional concern, adjacent concrete entry walkways to the building meet flush with the parking area and could promote water entry into the building during periods of heavy rains; or accumulation of ice and slush during the winter season. Generally the drainage away from the building is minimal at best.

Impervious Surfacing and Exterior Flatwork

The pavement sections of parking areas consist of bituminous asphalt and are in poor condition. The south parking area exhibits evidence of wear and multiple areas of cracking, but has been maintained with joint sealant and patches. The area is not currently striped for parking spaces. The pavement section of the east and north access road exhibits the same evidence of wear.
and multiple areas of cracking as the south parking area, but lacks the same level of maintenance thereby allowing the growth of vegetation.

The public access walkways and exterior flatwork consist of concrete on grade and are in good condition.

The concrete barrier free ramp and stair at the west entry of the 1922 building is in good condition, but is deficient in handrail compliance with the ADA. The concrete steps and landing to the playground are in excellent condition but do not include handrails or a barrier free ramp as required by Code.

**Playground**

The current playground is located to the north of the 1922 facility and consists of concrete flatwork sections, grass and sand play areas, and a metal chain link fence enclosure along the perimeter. The chain link fence is within the Code guidelines for height and is in good condition, but does not enclose the entire play area as required under current child care licensing guidelines. An area of resilient surface fall protection is not currently installed within the playground area. The area is significantly lower than the street access to the west with access provided by concrete stairs or a steeply sloped paved path from the west. Access from the 1970’s additions is from the vestibule connecting the two buildings. This is the only ADA compliant access from the facility. The connection from the 1922 building to the vestibule does not contain an ADA compliant route.

**Lighting**

Reference the electrical section of the observations in this report.

### C. Architectural

#### 1922 Building

In general, the building was found to be well kept and maintained.

**Exterior**

The brick veneer does not generally show signs of deterioration of the mortar. There are areas scattered around the structure, primarily at the parapet that need to be pointed. This is also true at some areas of the terracotta. It was noted that there is a stress crack vertically along the northwest corner joint of the western entry turret at the north elevation. The joint at this location does show evidence of repointing. The crack does not appear to indicate a structural concern and is most likely due to the fact that there are no expansion joints or control joints within the masonry construction for this building. Due to the stacked brick construction of the exterior wall, the insulative "R" value of these walls is considered poor.

The lower level concrete exterior is in good condition. Some areas along the south elevation near the upper level masonry have peeling paint, indicating that the wall has become wet. It is felt that marginal site drainage at this location has contributed to this.
Sweetwater County Child Developmental Center Observations
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There are some wood framed and finished appendages near the center of the south elevation which appear to be in good condition. However, the lower 6-inches of the wood siding along the west areas show signs of water damage and splintering due to inadequate surface water drainage.

Windows are retrofitted aluminum frame with nominal ½-inch insulated pane glazing that was set within the original window openings. In masonry openings, the wood jambs that remain are severely weathered with peeling paint. The arched window over the west entry has peeling paint on the wood framing. The windows showed no current signs of mold growth and we understand that any past instances have been mitigated. Sealants are generally in good condition within the building’s perimeter and in good condition at roofing areas. South facing hollow metal doors exhibit severe paint fading.

Roofing

The roof on this portion of the building consists of a single-ply hypalon membrane over poly-iso insulation that is mechanically attached to the wood structural deck. It is believed that the roofing in this area is approximately 20 years old and is near the end of its serviceable life-span. In general, the roofing slopes from the north to the south of the building and has positive drainage. At the west end of the building, the drainage slopes from the west to the east and ties into the single slope which slopes to the south. Flashings, sealants, gutters and downspouts all appear to be in good condition and exist along the south side of the existing building. This portion of the building does have sky-lights which appear to be in relatively good condition; however, they could be cleaned of accumulated dirt.

Floors/Ceilings/Walls

Within the facility, the lower level corridor contains a suspended acoustical panel ceiling where approximately 10% of the ceiling panels were found to be stained and have not yet been replaced from past leaks. Past leaks are from leaking domestic or heating lines. The upper and lower level classroom and upper level corridor lay-in acoustical ceiling panels were in good shape. The majority of the facility was found to have paint in good condition and plastered wall surfaces that do not exhibit signs of stress or cracking of notable mention. Testing for lead is not part of the scope of this study; however, it is suspected that early coats of paint probably did contain lead. The wood base trim shows heavy wear nicks and scratches which would require repainting all wall base. While carpeting in a couple of the rooms has worn seams and is stained from use, many areas were found to have floor coverings in good condition, although in general they would benefit from a good cleaning. Carpeting in the upper level corridor exhibited pronounced rippling in areas centered along and near the skylights. These areas would require replacement or re-stretching at a minimum. The resilient floor tile which exists in the lower level staff bathroom area is in good condition. The ceramic tile in all other bathrooms is in good condition.

The existing friable asbestos finishes and pipe coverings have been part of a remediation program of removal and regular condition assessments since
February 1989. The status as of the last observable report dated March 2006 indicates asbestos materials being removed from all areas other than the lower level open office, Room 106, the upper level corridors, and Classroom 206. In the upper level corridors and Room 206, the asbestos is under carpeting and no action is required unless exposed. The remaining areas are exposed to use, however regular inspection reports indicate they are in good condition and are not exhibiting signs of deterioration.

International Building Code

There are several areas of concern regarding the current edition of the 2006 International Building Code, which is the Code that the State of Wyoming and the City of Rock Springs have adopted for new construction and renovation work. In the event that the facility is remodeled or upgraded, these Code deficient items will need to be dealt with; however, most of the items should be dealt with independently to protect life safety.

The use group classification for the facility, as determined by the ages of the children utilizing the CDC, can either be an "E", Educational use, or an "I-4", Daycare Facility use. Both uses are limited to a single story for life safety purposes. Fire sprinkling is not required for an E use, but is for an I-4 use. As the facility is currently not sprinkled, the addition of a fire sprinkler system will increase the allowable floor area and story/height for both use groups. This will enable a Code compliant use of a two story building for the CDC's purpose. The advantage of the I-4 classification over the E classification is that I-4 allows the elimination of the requirement for secondary egress doors from each classroom to grade; and the reduction of rated fire barrier walls by one hour. It should be noted that the City of Rock Springs tends to prefer an E use classification for child care facilities, a practice with which we disagree.

Stairway enclosures are not rated as required by current Code. Open stairways between floors are not allowed within child care centers. Stair enclosures are to be 1 hour rated and provide areas of refuge. Since the facility has a level below the exterior grade level exit, an approved barrier device will need to be installed to discourage accidental continuation of exit travel beyond the level of egress.

Within the stairways, it was noted that the guard walls at the opening; the handrails; and stair rise-run dimensions do not comply with current Code. The north stair in the center of the building exceeds allowable width without intermediate handrails. Some stairways lack handrails on one side and all railings lack the required upper and lower landing extensions and wall returns. Stair rise and run ratios are non-compliant with egress requirements, and will need to be reconstructed.

The administrative areas of both the lower and upper floors exceeds the 10% allowable for accessory uses, and will require a one hour rated fire barrier separation for sprinkled buildings. Rated door assemblies would be required between the use separation walls. Doors would also require self-closing hardware and latches.

While there are most probably enough toilets and lavatories for the building utilizing the actual occupancies of the building, there is a lack of adequate
fixtures per Code for the building as a whole when analyzed at capacity. This issue is exacerbated by the need to remove some fixtures to provide barrier free toilets to be in compliance with other areas of Code. Where technically infeasible to remodel the existing facilities, the addition of a unisex toilet in the same area and floor is allowed.

From a cost perspective, alterations to improve accessibility are not required to exceed 20% of the cost of alterations to the building.

**Compliance with Americans with Disabilities Act**

While some attempts have been made to comply with ADA, it does not appear that adequate attempts have been made to accommodate the handicapped throughout the facility. Furthermore, none of the efforts observed fully comply with the intent of the Americans with Disabilities Act. As an added level of compliance, any plans for construction at the site will have to be approved by the City of Rock Springs who currently requires compliance with ANSI. ANSI is very similar to ADA, but more restrictive in some areas.

The boys' and girls' restroom facilities off of the main corridor of the lower level do not have the required clearances for maneuvering. In general the access to and within the rooms is not compliant. The toilet rooms lack privacy partitions and do not have the toilet plumbing fixtures at the proper heights. The unisex staff bathroom at the lower level also does not have fixtures at the appropriate heights or proper clearances. It also has incorrect grab bars, and a 1 1/4-inch threshold that exceeds the maximum allowable for access. None of the lavatories have the required faucet handles or insulation guards on water supplies and drains.

The men's and women's restroom facilities off of the main corridor of the upper floor have a 1 1/4-inch threshold that exceeds the maximum allowable for access. Additionally, the entry doors and access hall do not possess the minimum clearances for maneuvering. Toilet fixtures do not have grab bars and other toilet accessories required by ADA. The mounting heights of mirrors and toilet seats do not comply either. There is also inadequate space for a barrier free stall based on maneuvering clearances and use without removal of existing plumbing fixtures and modifications to the existing partitions. Some of the lavatories do not have the required faucet handles and none have the required insulation guards on water supplies and drains. There is a diaper changing station within the girl's restroom that does not comply with guidelines for height access and child protection.

Generally, the facility does not have the required accessible routes to accommodate the handicapped. The lower level has varying elevations and does not have ramps or lifts as required. Additionally, there is no elevator access between the lower and upper floor levels or the intermediate stair landing access to the playground. The connection to the 1970's addition is accessed from an intermediate level stairway landing, and would also require an elevator access. The upper level does contain an exterior barrier free ramp at the west entry; however the site at this location does not offer access to barrier free parking.
The recessed door alcoves from the corridors to the classrooms do not provide the minimum maneuvering clearances required and the hardware is knob type for all interior doors, which does not meet the guidelines for barrier free operation.

Other items of non-compliance noted included switches and convenience outlets that do not comply with mounting heights and the existing drinking fountains do not comply for accessible use by both ambulatory and wheelchair bound persons.

Daycare Licensing Guidelines

When evaluating the facility for compliance with child care guidelines, it was found that classrooms lacked hand wash sinks, soap dispensers and single service hand towels, which are required. Toilet rooms within the classrooms were not observed. While not specifically required, toilet rooms located within the classroom would be recommended if staffing levels are deemed insufficient to supervise the children remaining in the classroom while the instructor was attending to the bathroom needs of other students. As many classrooms were locked, we did not observe the presence of diaper changing stations within individual classrooms; however, if they exist, Code requires that they must be a maximum of 12' from a hand wash sink. Hand wash sinks currently do not exist within any of the classrooms.

The guidelines state that meals are not required to be served for children receiving care less than five hours a day. The Child Developmental Center's Director indicated their students are cared for in two, half-day shifts. Snacks prepared on site are prepared in the kitchen area of the 1970's addition. All child care centers are required to comply with the State of Wyoming's 'Wyoming Food Safety Rule' latest edition.

Chorded window treatments were observed in some rooms and will have to be removed. Many rooms have light fixtures with missing bulb cover louvers and should be replaced. Existing flooring was found to meet guidelines for being easy to clean. The age of this building would strongly suggest there the presence of lead based paint within the facility. Paint finishes were not tested for lead as part of this scope of work. There are several options if it is determined that early layers of paint do contain lead. They will either need to be either safely removed, covered, or maintained to ensure lead dust levels do not exceed the allowable levels listed in the Child Care Licensing Rules.

Fire extinguisher quantities are insufficient by nearly half of those required for each floor level. Additional extinguishers need to be provided in conspicuous locations along the normal path of travel and be located at the necessary coverage and travel distances. The door to this corridor will need to be reversed to swing in the direction of egress travel. Areas of accumulation of items were observed within the upper level central south exit corridor between the bathrooms to the outdoors and shall be removed. The guidelines state that, unless contained in a metal locker, storage of clothing and personal effects is not allowed in corridors and lobbies of non-sprinkled buildings. Additionally, combustible storage is not allowed in stairways.
Approved building address numbers were not observed and will need to be provided. They shall be a minimum of 4-inches high with a minimum 0.5-inch stroke, and be of a contrasting color to the background.

The outdoor play space has a fence of the appropriate height and maximum ground clearance, but it does not fully enclose the play area. There also are no areas of shade provided. Currently the play equipment does not have a fall height in excess of 24 inches; however, should it be provided in the future, removal of the existing hard surfacing will be required to provide resilient surfacing at these areas. The existing stationary play equipment appears to meet the minimum zone requirements requiring them to be free from obstacles and other equipment. Play areas are posted for the exclusion of pets.

**1970's Addition**

In general, the building was found to be well kept and maintained.

**Exterior**

The brick veneer does not show signs of deterioration of the mortar. At the north exterior wall of the multi-purpose room approximately eight square feet of painted black graffiti was observed.

Windows are single pane within mill finished aluminum frames and have single pane storm windows in aluminum frames. Sealants were found to be in generally good condition within the building's perimeter. The through-wall HVAC units observed in classrooms have field-fabricated aluminum insect screens within plywood frames which exhibit severe deterioration. South facing hollow metal doors do not show significant paint fading.

**Roofing**

The existing roof system on this structure is comprised of a 45 mil EPDM loose laid membrane held in place with 2" LG panels (insulation board with a concrete topping face). It is suspected that the roof was installed in the late 1980's as a number of these roofs were installed throughout the School District between 1987 and 1990. Given that, we suspect that the roof is well over 20 years old and is nearing the end of its serviceable life-span. Flashing, sealant, and scuppers appear to be in fair condition. The sky dome is also in reasonable condition. There is a wood shingle mansard that goes around the perimeter of the building and is in reasonably good condition; however, it could use some maintenance such as a coat of stain. There is a missing lamb's tongue for the roof drain at the discharge on the northwest corner of the kitchen.

**Floors/Ceilings/Walls**

Within the facility, the ceiling finishes were found to be in good condition and mainly consist of suspended acoustical panels with the exception of the library and gym. There are also a number of painted gypsum board ceilings within this building. The wall masonry and paint finishes observed were in good condition. Floor coverings were also found to be in good condition.
Existing drawings indicate the presence of vinyl asbestos tile in certain areas. These should be replaced with vinyl composite tile. Under an asbestos abatement program it is not required that the asbestos be removed as long as it is not disturbed.

The existing friable asbestos finishes and pipe coverings have been part of a remediation program of removal and regular condition assessments since February 1989. The status as of the last observable report dated March 2006 indicates asbestos materials have been removed from all areas other than the kitchen corridor, storage area, and multipurpose room. While these areas are exposed to use, the inspection reports indicate they are in good condition and do not exhibit deterioration.

*International Building Code*

There are several areas of concern regarding the current edition of the 2006 International Building Code, which is the Code that the State of Wyoming and the City of Rock Springs have adopted for new construction and renovations. In the event that the facility is remodeled or upgraded, these Code deficient items will need to be dealt with; however, most of them should be dealt regardless to protect life safety.

There were no observed UL-labeled rated doors or frames which open into the corridors. These doors also do not have the proper smoke gasketing around the frame or closing devices as required. The window lites within the door do have laminated wire glass and are of the correct size required by Code. The building is not currently sprinkled as required by current Code. When fire sprinklers are provided, rated doors will not be required in the corridors. Once sprinklers are provided the doors will not need to have self-closing devices and latches either. The exterior exit door from the shared corridor to the kitchen has a linked chain locking device which is a direct violation of the provision that exit doors not require a key or special knowledge to use. This lock shall be removed. Doors that are required to have panic exit devices are equipped with them.

The stairs to the mechanical and storage basement appear to meet Code for rise, run, and handrails; however the stairs are a required means of egress for the area and is open to a corridor which means, in an I-4 use, it will be required to have a 1 hour rated enclosure. The basement travel distances meet common path of travel and exit travel distances for a single exit space.

Reference the plumbing evaluation section and the compliance with child care licensing rules section of this report for additional information on food preparation areas.

*Compliance with Americans with Disabilities Act*

Attempts do appear to have been made to accommodate the handicapped throughout the facility; however there remain some areas that do not fully comply with the intent of the Americans with Disabilities Act.

As an added level of compliance, any plans for construction at the site will have to be approved by the City of Rock Springs who currently requires
compliance with ANSI. ANSI is very similar to ADA, but more restrictive in some areas.

The south parking area does not have designated parking spaces or signage as required by the Act. The existing lot does have slopes and access to the concrete walk that would be amenable to this. The east concrete walk juncture with the main walk to the south entry exhibits frost heave. The area exhibits a difference in height of 1-inch high at the north end and 1-inch low at the south end of the juncture. This will need to be leveled to a ¼-inch maximum differential.

The boys' and girls' restroom facilities do not have sufficient maneuvering clearances to exit from them into the corridor. The toilet fixtures do have grab bars and other toilet accessories required within a toilet room, but they are of inadequate mounting heights, lengths and locations. There is also inadequate space for a barrier free stall which would meet maneuvering clearances and use without the removal of plumbing fixtures and modifications to the existing partitions. None of the lavatories have the required insulation guards on the water supplies or drains. There was not an observed diaper changing station in the toilet rooms. If one is provided, it shall comply with ADA.

The single user toilet rooms in the office areas do not have sufficient maneuvering clearances for ADA compliance. Toilet fixtures do not have grab bars and lavatories do not have the required insulation guards on water supplies and drains. Furniture is placed outside these areas that hinder access clearances for ADA compliance.

Generally, the facility does have accessible routes for the handicapped as are required to be provided. The basement level does not have handicapped access and is not required. The connection to the 1922 building is accessed from an intermediate level stairway landing, which would require a ramped access or lift device to the landing, and an elevator access to floors within that building. The multi-purpose room requires two remotely located exits. The secondary exits to the east have exterior concrete landings without barrier free ramps to grade. Hardware is knob type for all interior doors, which does not meet the guidelines for barrier free operation.

Daycare Licensing Guidelines

Most classrooms observed had hand wash sinks, soap dispensers and single service hand towel dispensers as required. Toilet rooms were not observed within classroom spaces. While not specifically required by the guidelines, the addition of toilet rooms would be recommended if staffing levels are deemed insufficient to supervise the remaining children in a classroom while attending to the bathroom needs of other students. Provisions regarding diaper changing areas and their proximity to a hand wash sink were not observable.

The guidelines state that meals are not required to be served for children receiving care less than five hours a day. The Child Developmental Center's Director indicated their students are cared for in two, half-day shifts. Snacks prepared on site are prepared in the kitchen area of the 1970's addition. All
Sweetwater County Child Developmental Center
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child care centers are required to comply with the State of Wyoming’s ‘Wyoming Food Safety Rule’ latest edition.

Existing flooring meets guidelines for being easily cleanable. Paint finishes were not tested for lead as part of this work scope. Based on the age of this building lead based paint is most likely not present. Fire extinguisher quantities are sufficient to meet the guidelines; however a fire sprinkler system will still be required.

Reference the 1922 building observations for comments on the outdoor play space for the facility.

D. Structural

1922 Building

Foundations

The foundations appear to be performing adequately and there are no visible signs of distress in the concrete walls. The walls, both exterior and interior, show no indications of major structural movement through observable cracking.

Floors

The floors in the building are performing as expected. There are no obvious signs of distress in the floor finishes, and no obvious floor deflection. The exposed Corform floor deck over the pipe tunnel does show signs of rust. However, the steel deck is merely a permanent form for the reinforced concrete floor structure and is not affected by the presence of rust.

Walls

The walls show no signs of structural distress. The interior finish on all walls is plaster, which shows no cracking or other signs of movement of the walls. The brick veneer does not generally show signs of deterioration of the mortar. There are however, areas scattered around the structure, primarily at the parapet that need to be pointed.

Roofs

The roof framing observed was limited to that seen from the skylight well access panels. The framing observed in these areas shows no signs of distress. Additionally, there were no visible signs of distress in the ceilings throughout the building that would indicate issues with the roof framing in other portions of the structure either.

1970’s Building

Foundations

The foundations appear to be performing adequately. There are no visible signs of distress in the concrete walls. The walls, both exterior and interior, show no indications of major structural movement.
Floors
The floors, both the concrete slab on grade and concrete structural slabs, in the building are performing as expected. The limited pipe tunnel structural floor appears to be performing as expected also.

Walls
The walls show no signs of structural distress. There are no major cracks visible in the masonry walls, suggesting the walls are stable.

Roofs
The roof framing that is exposed as well as the limited framing observed beneath the ceilings appear to be performing as expected. The laminated wood decking in the two hexagonal rooms also appears to be in good shape.

E. **Mechanical and Plumbing**

**1922 Building**

The current mechanical system in the building consists of a steam boiler and fin tube heaters throughout the building. The steam boiler condensate return pipe is extremely deteriorated. The relief valve is malfunctioning and currently allowing steam and condensate to leak into the mechanical room. There does appear to be an adequate flue and combustion air intake for the boiler. The plumbing system is deteriorated but functional. Some sanitary sewer has been replaced with copper pipe. A new domestic water heater was installed in 2001. The water heater appears functional and in good condition. The water heater is not sealed combustion which requires a flue and combustion air. The drinking fountains throughout the facility do not meet ADA design requirements. There is a non-utilized kitchen in the basement that consists of one commercial freezer, no dishwasher, and a range without a range hood or fire suppression system. The building is served by a gas connection specific to the building and independent of the 1970's facility. The building roof drainage is provided by a slightly sloped roof to one side and then controlled with a gutter and downspout system. The lower level ceiling and structural clearances are not conducive for new age mechanical systems. The upper level does have an attic space available for pipe and duct routing. The window dimensions are not conducive for Packaged Terminal Air Conditioners (PTAC's).

Noted areas of deficiencies for mechanical and plumbing are as follows:

1. Lack of ventilation air per the current International Building Code and ASHRAE 62.1 recommendations.
2. Lack of fire sprinkler system per National Fire Protection Agency and International Building Code requirements.
3. Lack of ADA plumbing fixtures including drinking fountains.
4. Lack of adequate cooling and heating systems.
5. Lack of sinks in each classroom (recommended, not required)
**1970's Building**

The current mechanical system in the building consists of two hot water boilers serving fin tube heaters and cabinet unit heaters. The water is distributed with a new hot water pump. There is cooling provided in select locations by through window air conditioning systems. The hot water boilers are original to the school. The building conditioning system is controlled by a pneumatic control system. The domestic hot water system consists of a water heater installed in 2001. A majority of the domestic water and heating water is distributed through tunnels along the perimeter of the building. There is a 2" water connection to the building. The water entry and the gas entry are separate from the 1922 building. The kitchen serving the center includes a residential range protected by a commercial range hood with Ansul fire suppression system. The kitchen does include a dishwasher, but the dishwasher is not utilized by the center. The storm drainage of the building consists of roof drains and overflow scuppers. The roof drains are piped to an elevation just above grade where they are surface drained.

Noted areas of deficiencies for mechanical and plumbing are as follows:

1. Lack of ventilation air per the current International Building Code and ASHRAE 62.1 recommendations.
2. Lack of fire sprinkler system per National Fire Protection Agency and International Building Code requirements.
3. Lack of ADA plumbing fixtures including drinking fountains.
4. Lack of adequate cooling and heating systems.
5. Lack of cooling for data server system.
6. Lack of sinks in each classroom. (recommended, not required)
7. The kitchen is without a Health Department required three compartment sink.
8. Lack of International Plumbing Code required grease trap for the kitchen. The grease trap will be necessary for a three compartment sink or dishwashing system.
9. The kitchen is currently without 160 deg. F water required for a three compartment sink. A dishwasher will require 180 deg. F water.

10. 

**F. Electrical**

**1922 Building**

**Overview**

The electrical service in the 1922 building is generally in good condition and can be reused. However, depending on any additional mechanical loads, and elevator requirements, options should be addressed to replace this current means of power with an updated service capable of providing the
appropriate power needed for today's HVAC and elevator equipment. This improvement will reduce potential maintenance costs as well as reduce maintenance operations.

In the 1922 building the general lighting, switches and receptacle devices throughout are in poor condition and should be replaced. In most cases the lighting should be upgraded to provide appropriate illumination as well as providing adequate emergency egress lighting per the Illuminating Engineering Society (IES) guidelines. The receptacles throughout should be tamper resistant and in some locations be provided as Ground Fault Interrupters. These improvements will increase staff and daycare student safety as well as increase productivity and provide a better learning environment.

**Electrical Distribution Systems**

The current electrical service to the 1922 building facility is provided by Rocky Mountain Power. The service is delivered via direct buried conduit. It is believed that these conduits are PVC conduit. The pole mounted transformer is located to the northwest of the old electrical room and steps the voltage down to a 240Y/1120 volt, single phase, three wire system for the entire facility utilization. It is believed that one (1) 800 amp service enters the original building electrical room (old fuel room) underground via exterior C.T. compartment. A second 800 amp service serves the 1970's building; refer to 1970's observation for additional information. The two buildings are believed to be served via two (2) separate service entrances, metered together from one single pole mounted transformer. The site investigation did not uncover exact routing, distribution methods or bonding of services as required by the National Electrical Code (NEC).

**General Facility Electrical Systems**

Egress lighting illumination coverage does not meet the International Building Code requirement of "not less than 1 foot candle at the floor level."

Receptacles in classrooms are minimal and not conveniently placed for use by staff in configuration of rooms.

Receptacles are not Tamper Resistant as required by the National Electrical Code (NEC) for this particular facility.

In the 1922 building most electrical routing methods do not utilize conduit which could result in building damage or personnel injury. Exposed wire is apparent throughout the attic space.

Many instances were noted where openings in electrical boxes and enclosures were not adequately covered. This is a violation of the National Electrical Code. (NEC)

Color coding of electrical conductors throughout the facility is inconsistent, in both phase relationships within a voltage system and mixed between different voltage level systems. This practice could contribute to equipment damage or personnel injury.
Many of the light fixtures are damaged (without lenses and/or lamps, screws missing, broken lenses, ballast not functioning properly, dirty). All fixtures utilize 40W T-12 lamps, which today's standard are outdated and not as efficient to meet new energy code guidelines.

Receptacles around sinks do not have ground fault protection in compliance with the current National Electrical Code (NEC).

**Auxiliary Low Voltage Systems**

The 1922 building utilizes the Telecommunications, Integrated Communication, and Fire Alarm system supplied from the 1970’s building. The functions of these systems is generally in good condition but is strongly recommended to be updated. Depending on any additions or new arrangement of the building, these special systems are recommended to be addressed and replaced. This improvement will increase the security of the facility staff and students, increase student and staff communication, reduce potential security threats and improve staff operations. These often overlooked safety improvements will increase staff and daycare student safety in an ever unpredictable world.

**Mechanical Equipment Electrical System**

In the 1922 building any existing starters, contactors, disconnect switches, enclosed breakers etc., that still operate available mechanical equipment do not have identifying nameplates. This is a National Electrical Code violation with respect to disconnecting means for motors, appliances and feeders. With respect to other equipment, not identifying equipment is an unsafe practice that can result in injury to personnel and damage to other equipment and property. Equipment grounding methods are inconsistent. In some cases the conduit is used as equipment ground and in others an equipment grounding conductor has been installed. While both are acceptable grounding means for equipment, an equipment ground conductor is more reliable.

**1970’s Building**

**Overview**

The electrical systems in the 1970’s Building, Gymnasium, Kitchen, Classrooms and Mechanical/Electrical Room are in fair condition and do not need updating. The service for the 1970’s portion of the building should be addressed for possible upgrades with any new HVAC equipment.

In the 1970’s building the general lighting, switches and receptacle devices throughout are in fair condition. In some cases the lighting could be upgraded to provide appropriate illumination per the Illuminating Engineering Society (IES) guidelines. The receptacles throughout should be tamper resistant and in some locations be provided as Ground Fault Interrupters. These minor improvements will increase staff and daycare student safety as well as increase productivity and provide a better learning environment.
Electrical Distribution Systems

The current electrical service to the 1970's building is provided by Rocky Mountain Power. The service is delivered via direct buried conduit. It is believed that these conduits are PVC conduit. The pole mounted transformer is located to the northwest of the old electrical room and steps the voltage down to a 240Y/120 volt, single phase, three wire system for the entire facility utilization. It is believed that one (1) 800 amp service enters the original building as noted in the above 1922 building observation. A second 800 amp service wraps around the 1922 building foundation and then routes under slab to the 1970's building electrical room. The two buildings are believed to be served via two (2) separate service entrances, metered together from one single pole mounted transformer. The site investigation did not uncover exact routing, distribution methods or bonding of services as required by the National Electrical Code (NEC).

General Facility Electrical Systems

Egress lighting illumination coverage does not meet the International Building Code requirement of "not less than 1 foot candle at the floor level."

Receptacles are not Tamper Resistant as required by the National Electrical Code (NEC) for this particular facility.

Many instances were noted where openings in electrical boxes and enclosures were not adequately covered. This is a violation of the National Electrical Code (NEC).

Color coding of electrical conductors throughout the facility is inconsistent, in both phase relationships within a voltage system and mixed between different voltage level systems. This practice could contribute to equipment damage or personnel injury.

Many of the light fixtures are damaged (without lenses and/or lamps, screws missing, broken lenses, ballast not functioning properly, dirty). All fixtures utilize 40W T-12 lamps, which today's standard are outdated and not as efficient to meet new energy code guidelines.

Receptacles around sinks do not have ground fault protection in compliance with the current National Electrical Code (NEC).

Auxiliary Low Voltage Systems

The 1970's building is the central communication center for all the Telecommunications, Integrated Communication, Fire Alarm and Security system. The functions of these systems is generally in good condition but is strongly recommended to be updated. Depending on any additions or new arrangement of the building, these special systems are recommended to be addressed and replaced. This improvement will increase the security of the facility staff and students, increase student and staff communication, reduce potential security threats and improve staff operations. These often overlooked safety improvements will increase staff and daycare student safety in an ever unpredictable world.
Mechanical Equipment Electrical System

In the 1970's building most of the starters, contactors, disconnect switches, enclosed breakers etc., do not have identifying nameplates. This is a National Electrical Code violation with respect to disconnecting means for motors, appliances and feeders. With respect to other equipment, not identifying equipment is an unsafe practice that can result in injury to personnel and damage to other equipment and property. Equipment grounding methods are inconsistent. In some cases the conduit is used as equipment ground and in others an equipment grounding conductor has been installed. While both are acceptable grounding means for equipment, an equipment ground conductor is more reliable.

G. Fire Protection

Fire Sprinkler System

A fire sprinkler system is not present in the current facility.

Automatic Detection Devices

Generally the placement of area smoke and heat detectors are either not spaced to National Electric Code requirements or are not provided.

In areas where detection is provided, the spacing appears to be too great.

Manual Pull Stations

As compared to National Electric Code requirements, there is a lack in the numbers of pull stations required. The pull stations appear to not be in conformance with ADA guidelines.

Audible Signals

As compared to National Electric Code requirements and ADA guidelines, there is a shortage in the numbers of audible signals required.

Visual Signals

Strobes do exist, but the spacing and consistency of use differs. This is not allowable by Building Code and does not meet current ADA and NFPA requirements.

Portable Fire Extinguishers

There are not an adequate number of portable fire extinguishers distributed throughout the facility for area coverage and travel distance.
VII. RECOMMENDATIONS & CONCLUSIONS

A. Child Developmental Center Operations

The project team has focused on the evaluation of the existing facility to comply with Code; maintain barrier free accessibility; provide adequate life safety and fire protection; compliance with child care center rules; building integrity; comfort control system adequacy; and the capability of the facility to meet the expected increase in the number of students they serve each year.

Overall we believe that there is adequate room available to accommodate the near term growth expected by the CDC. We believe this can be achieved in part by improving what we feel is inefficient space utilization within the administrative and teacher office area; and the consolidating these area will be an effective option for providing additional room for future growth.

With the ability to support future growth aside, there are serious concerns with the facility's ability to meet current Code, and properly address the other items the project team was charged to evaluate. Those items are addressed in their respective sections of this report.

B. Site

Overall, from a civil viewpoint, the Child Developmental Center facility is in good condition. The existing utilities are functioning acceptably and appear to be in good condition.

**Exterior Bituminous Asphalt Pavement**

The cracks and joints in the existing bituminous asphalt paving areas that supports vehicular traffic should be sealed to extend its serviceable life. Loose, broken, and potholed areas located at the east entry should be cleared of debris, compacted and infill patched to the adjacent surfaces. A 1" overlay should be applied to the paving areas. Paint striping of parking spaces should be performed for both general parking and for designating handicapped spaces and access aisles.

**Exterior Concrete Pavement**

The cracks and joints in the existing concrete that supports foot traffic or light equipment traffic should be sealed to extend its serviceable life.

It is recommended that all concrete joints concrete all existing cracks are sealed as part of an annual maintenance program to prevent further unnecessary damage to the concrete.

The sealing process is as follows:

To begin, each crack will need to be cut with a saw to a minimum of ½" depth. The crack should then be blown clean with compressed air exposing clean concrete on all of the faces of the new saw cut. If the crack was previously sealed, the saw cut should be sandblasted to remove the old sealant. Again, each face will need to be cleaned and then blown clean with compressed air. Once the cut has been blown clean, a backer rod should...
be installed into the bottom of the crack. A backer rod is a small sponge tube that prevents the silicone sealant from seeping into the crack further than needed. Using silicon based concrete sealant, the crack should be filled until the sealant is approximately 1/8 inch below the surface. This seals the edges of the crack and prevents water from entering the crack prolonging the life of the concrete pavement.

By following the recommendations given, the Child Developmental Center's facility should continue to be in good condition from a site standpoint.

**Surface Drainage**

Positive drainage should be provided for the west and south areas of the wood accessory structures at the central south area of the 1922 building.

**Accessible Entry Access**

It is recommended that, at the south parking area adjacent to the 1970's addition, accessible parking spaces and access aisles be striped according to ADA guidelines. Additionally, post mounted panel signs should be installed at the same location.

The west entry to the 1922 building has inadequate handrail extensions on the steps and is missing a continuous handrail on one side of the ramped area. There is no accessible street loading space or off-street handicapped parking spaces and therefore, should not be considered as the accessible route to the building. Due to the way the building currently functions, this component should become the accessible entrance, and therefore the grass area in front of the west entrance would require modification to provide handicapped parking spaces. Handrails, etc. can be brought into compliance relatively easily creating an accessible entrance to the west near the office.

**C. Architectural**

The building systems are generally in good condition although there are numerous Code and ADA violations to overcome.

**1922 Building**

Due to the type of construction and the nature of the building Codes in place at the time of construction, there are numerous deficiencies to be addressed to bring the building up to today's standards. Additionally, the building is under more stringent guidelines for life safety as a child care center than for an educational use, which was the original designed purpose of the structure. It is possible to bring the facility into compliance with current Code, but at a disproportionate expense to return of use for a structure of this age. While the building is in good condition, items of a maintenance nature or those which would improve the comfort and efficiency of the facility and thereby extend the use and integrity of the building are of a more immediate concern and are addressed throughout this assessment. These items include replacing single pane glazing as it occurs, replacement of the roof systems, and replacement of the mechanical systems.
The existing roof is nearly 20 years old and in need of replacement. Additionally, the exterior masonry veneer requires repointing of mortar joints. The wood window jambs at the retrofitted windows require scraping and the application of bleach to kill any existing fungal growth, after which they need to be primed and repainted. The existing retrofitted insulated windows and aluminum frames are in good condition. The existing entry door and sidelight systems consist of single pane glazing and should be replaced with insulating glass. The majority of the south facing exterior hollow metal doors and frames are faded and should be repainted. The wood framed accessory structures at the central south portion of the building exhibit water damage near grade level and should have grades along the west edge reworked to more efficiently direct water away from the building. At a minimum these areas should have the lower 12 inches of wood siding scraped, primed and painted. The upper portions of the lower level concrete wall to the south are exhibiting blistering and peeling and should be scraped, primed and repainted. Building address numbers will need to be installed in an easily identifiable location at the main street entry.

A fire suppression system is mandatory for the use group classification I-4 which is the Code group classification for child day care centers. This along with recommended changes to the mechanical systems would require all ceilings within this building to be removed and replaced during installation of the new systems. This may seem like a minor item in scope, but in actuality will be expensive. Should the building not have a suppression system installed, all storage of clothing and personal effects located in corridors shall be removed or have metal lockers installed. Accumulated storage of combustibles observed in the centrally located south corridor shall be removed. The current space utilization for administrative offices exceeds the percentage of floor area allowable to be considered an accessory function. This classification requires a 1 hour rated fire barrier to be compliant in these areas. Reconsideration of a more central arrangement of these spaces would reduce the amount of modifications required to protect these areas. A minimum of two additional portable fire extinguishers for both the lower and upper levels will be required to bring the building into compliance.

It is mandatory that all stairs connecting multiple levels have a fire rated enclosure. The limited space of the current stair locations will require modifications to the existing structure and adjacent room access/layout to provide the necessary minimum rise and run ratio and areas of refuge for handicapped persons to be compliant. An elevator will be required to provide barrier free access between the multiple levels of the building to the extent possible. In all likelihood, either a substantial modification to the existing structure and rooms adjacent to an elevator and stair would be required, or an exterior stair and elevator tower structure would have to be constructed. Locating this nearest the east end of the building would provide not only provide access between floors, but also access to the 1970's addition. A ramp or barrier free lift would be necessary in the lower level for access to the partially raised floor area of the lower level administrative offices. The teachers' lounge at the north center area of the building, which is raised partially above the remaining floor, requires
Modification of one of the two existing stair entrances into a ramp. The required length of ramp would ultimately result in extending the ramp into either the lounge or main corridor. With this in mind, the function may be better relocated and the space used for a function that does not require accessibility.

The current plumbing fixtures will serve the current occupant load as observed in actuality by the Director, but will be insufficient for the tabulated occupant loads that would be generated by the occupant per floor area ratio of the Code. An additional girls' toilet will need to be added to the lower and upper levels. None of the existing plumbing fixtures comply with ADA accessibility, and changes to the current toilet rooms to provide this would require removal of some fixtures, thereby compounding the shortage. The lower level boys' toilet room is too small in area to provide ADA use. Correcting this would require extending the room into the current corridor or the addition of a single use toilet room nearby. The lower level unisex toilet room has a finished floor height exceeding allowable accessible thresholds and will either require removal of flooring or the addition of a transition ramp into the space. The upper level boys' and girls' toilet rooms lack adequate ADA maneuvering clearances into the rooms and have a finished floor installation in excess of the allowable threshold height. To accomplish this it will require either the removal of interior walls or the relocation of the access doors as well as the addition of a transition ramp. This will require reconfiguration of the toilet fixtures and compartments in these rooms and further compound the shortage of toilet fixtures for the facility. All lavatories on the lower level will require replacement of faucets with lever type ADA compliant fixtures. All lavatories throughout the building require the addition of insulation guards to the existing water supplies and drains. The existing toilet accessories will need to be removed and remounted throughout the building at appropriate ADA reach ranges and locations. The drinking fountains for both floor levels will need to be replaced with a high-low arrangement for use by both ambulatory and wheelchair bound handicapped persons.

None of the existing interior door hardware complies with ADA and will require replacement. Self-closing hardware will also need to be added for doors opening into corridors. All doors are to have 32 inches clear space. Those doors that do not will require removal of the doors and frames and new larger framed openings will need to be provided. All of the doors provided in recessed corridor alcoves on both the upper and lower floors do not provide the required clearance for ADA accessibility. The locations of closets adjacent to these doors will require the removal of the closets to provide the required maneuvering access to the rooms.

Window treatments that have cords should be removed. While the carpet in only a few rooms exhibit staining from use, all carpet would benefit from a good cleaning. The carpet in the upper level corridor exhibits pronounced rippling in the areas of the skylights and should be re-stretched. Resilient flooring tiles are indicated to contain asbestos in the rooms listed under the Observations portion of this report. Hazardous materials located within areas of remodel should have the materials removed. Any existing areas
exposed to use and which are not being renovated require no additional work other than continuing periodic inspections and evaluations of the material conditions.

Testing was not performed on existing painted surfaces. Should lead levels be detected in excess of the amounts allowable by the State's child care regulations, remediation of the areas should be either by removal, covering, or implementing a regular cleaning/maintenance schedule to keep dust within acceptable levels. Water stained ceiling tiles (approximately 10% of the area) in the lower level corridor should be replaced. The existing lighting fixtures with exposed bulbs should have missing covers replaced (approximately 25% of fixtures observed). Electrical modifications would include having accessory items such as light switches and outlets being relocated to barrier free accessible reach ranges.

There is an existing kitchenette/food preparation area in the lower level for the staff's personal use. The counter exceeds current barrier free work surface height and the existing range does not have a commercial hood present. It has been our experience with the City that exposed cooking surfaces in commercial buildings are considered as commercial kitchens regardless of the actual function of the surface. Based on this experience it is recommended the range be removed. The removal of this range will not impact the function of the CDC as snack preparation for the children is performed in the 1970's addition.

1970's Addition

As this building was constructed more recently, the nature of the building Codes in effect during the time of construction have lead to fewer identified deficiencies which need to be addressed at this time. Again current Code holds this building to more stringent guidelines for life safety as a child care center than its original use as an educational facility. It is possible to bring the facility into compliance with current Codes at a reasonable expense compared to return of use. Overall, the building is in good condition; however there are items of a maintenance nature or which could improve comfort and efficiency which would extend the use and integrity of the building. These items include replacing single pane glazing as it occurs, replacing the roof and mechanical systems. These items are of a lesser immediate concern than for the 1922 building, and are addressed in other sections of this assessment.

The existing roof is in fair condition, but nearing its life expectancy. Missing lambs tongue for stormwater discharge was observed and should be replaced. Flashing and copings were found to be in good condition. The exterior masonry veneer is in good condition, with minor graffiti which should be removed. The existing windows do not have insulated glazing, but do possess storm windows. The existing entry door and sidelight systems consist of single pane glazing and should be replaced with insulating glass.

A fire suppression system is mandatory for the use group classification I-4 which is the Code group classification for child day care centers. This along
with recommended changes to the mechanical systems would require all
ceilings within this building to be removed and replaced during installation.
Because the ceilings in this building are acoustical tile as opposed to lay-in
acoustical panels like in the 1922 building, this will be an even greater
concern for cost to replace. Costs could be minimized by installing an
exposed system and painting it out to match the ceiling. At a minimum, one
additional portable fire extinguisher is required for this building.

The stairs connecting the basement mechanical and storage rooms to the
main level is mandatory to have a fire rated enclosure and exit directly to the
outside. In the absence of this it is required to exit into a rated vestibule
shared with the corridor which then exits directly to the outside. Neither of
these conditions currently exist at this facility.

The current plumbing fixtures will serve the current occupant load as stated
by the Director, but is insufficient for the tabulated occupant loads that would
be generated by the occupant per floor area ratio of the Code. An additional
boys' and girls' toilet would need to be added. None of the existing toilets
comply with ADA accessibility, and changes to the current toilet rooms to
provide this would require removal of some fixtures, thereby compounding
the shortage. The existing boys' and girls' toilet rooms lack adequate ADA
maneuvering clearances into the rooms, and will require partial removal of
interior walls to be compliant. The three existing unisex toilet rooms are too
small in area to provide ADA use. Correcting this would require the
combining of rooms or extending the rooms into the adjacent storage room.
All lavatories in the building require the addition of insulation guards to
existing water supply piping and drains. The drinking fountain will need to
be replaced with a high-low arrangement for use by both ambulatory and
wheelchair bound handicapped persons. There is not currently enough
room for this at the current location, and it is recommended to replace the
existing unit with a compliant model at either the high or low mounting
height, and add another unit mounted at the other height on the wall to the
other side of the adjacent door to the janitor's closet.

None of the existing door hardware at the interior of the building complies
with ADA and will require replacement.

The carpeting is in good condition, and while the carpets in only a couple
rooms exhibit staining from use, all carpet would benefit from a good
cleaning. Resilient flooring tiles are indicated to contain asbestos in the
rooms listed under the Observations portion of this report. Hazardous
materials located within areas of remodel should have the materials
removed. Any existing areas exposed to use and which are not being
renovated require no additional work other than continuing periodic
inspections and evaluations of the material conditions.

Testing was not performed on existing painted surfaces. Due to the age of
this building it is not suspected that the paints contain lead.

There is an existing commercial kitchen for snack preparation. Reference
the mechanical, plumbing and electrical portions of this report for additional
information.
D. **Structural**

The structural integrity of the foundations for the main facility and the addition appear to be in good condition. It is Lower & Co.'s opinion a significant amount of serviceable life remains in the foundations of both structures.

An exhaustive analysis of the structure has not been conducted. The recommendations provided herein are based on experience with similar structures with comparable construction.

**1922 Building**

The existing wood roof framing is considered inadequate to support the prescribed live roof loads set forth by the current Code due to the very long spans over the classrooms, as indicated on the Structural Plan in Appendix F. Any future remodeling of the structure will require bringing the structure up to the current building Code, which will be cost prohibitive with regard to the roof framing.

The adequacy of the existing floor framing will be determined by the future use of the building. If the current classroom use is to be continued, the existing floor framing will most probably be considered marginal in supporting the Code prescribed floor live load of 40 psf. Again, this is due to the long spans, as indicated on the Structural Plan in Appendix F. Any other use will dictate a larger floor live load and the framing will not be adequate. Without implementing destructive testing to perform a case-by-case analysis and verification of the size/spacing, the adequacy of the existing floor framing cannot be confirmed.

The exterior brick veneer mortar joints will require repairs. See the Architectural Section for recommendations regarding required repointing efforts.

With regard to the lateral force resisting capacity of the structure, there is little doubt that the existing structure will require significant work. New shear walls will need to be constructed to provide lateral force resistance. These elements can be constructed in a number of ways. The most cost effective of which would be new wood-framed, plywood-sheathed walls stood against existing walls. These walls could be kept tight to the existing walls to limit the reduction in floor area. An alternative to the wood framing would be steel studwall framing. Another option could be reinforced masonry walls stood tight against the existing wood-framed walls. As the roof/floor diaphragm capacities would not be considered high-capacity, the number and total length of shear wall elements required will be proportionately higher. If the roof/floor diaphragms were constructed in a manner that provided a higher in-plane shear capacity, the number of and length of shear wall elements could be reduced. The result will be many, well-distributed, shear wall elements. The connections of the diaphragms to these new shear walls will need to be detailed to transfer the loads to the newly constructed shear wall elements.
1970's Addition

The existing roof framing is considered adequate, based on the current prescribed live roof loads set forth by Code. No modifications will be required for the existing roof framing.

The existing floor framing (structural reinforced concrete floors) will also most probably be adequate. The waffle slab will support the Code prescribed floor live loads, as will the composite floor structure over the utility tunnel.

The structure, as previously noted, is closer to meeting the current Code requirements than the 1922 building. The most probable work that will be required is the connection of the roof diaphragms to the masonry walls. Based on the nature of the building Codes of the era, special detailing of the connection of the horizontal diaphragms to the shear elements was not required. As such, these connections will need to be analyzed and most probably detailed/modified to transfer the lateral loads to the vertical wall elements.

E. Mechanical and Plumbing

1922 Building

The mechanical systems are generally in poor condition. Current comfort issues shall be addressed to create an environment conducive for learning. The buildings are currently operating without cooling capabilities and the heating systems are inadequate. Multiple Code issues need to be addressed, such as ventilation air, fire sprinkler system, and ADA compliant plumbing fixtures.

Heating, Cooling, and Ventilation System

It is recommended that the current heating system be removed and replaced with a system capable of heating, cooling, and ventilating the center. The current building layout, structure, and interior finishes do not make it conducive for HVAC system remodel. The current system provides heat through a pipe steam system and the use of radiant heat (air is not utilized for a means of heat transfer). A new HVAC system will provide heating, cooling, and ventilation, but it will require the distribution of air. This aspect of the system will be challenging due to the lack of available space. The following recommendations are selected because of their decentralized system type that eliminates the need for large central air distribution systems. The installation of a ventilation system in this facility will be challenging. The ventilation system requires the introduction of conditioned outside air into the spaces. This typically either provided through a central distribution system and directly introduced into the space or combined and distributed through the conditioning system. Due to space constraints the use of a decentralized system is recommended. The following are three options for consideration:

- Variable Refrigerant Volume System (option #1)
This system utilizes fan coil type units specific to each conditioned space. The units are typically hung above ceiling and are available in ducted or non-ducted configurations. The heating and cooling is provided by refrigerant coil in the unit that operates similar to a heat pump. A central refrigerant system is installed throughout the facility. Each fan coil unit is served by the central refrigerant system. At the unit a selector box chooses a heating or cooling operation based on the direction provided by the thermostat. The fan coil unit can have a direct connection of outside ventilation air. A central ventilation system providing conditioned outside air to the fan coil units should be evaluated. The climate conditions are conducive for a direct connection from the outside to the fan coil unit, but available quantity of outside air through this system type is limited. The central refrigerant loop is connected to exterior condensing units. The condensing units are the means for heat gain and heat rejection. The system is capable of operating in 0 deg F - 120 deg F. The lower end limitation will require the installation of auxiliary electric heat at each fan coil unit. This auxiliary heat is avoidable if the condensing units are located inside with ducted connections to the exterior. It may be possible to utilize the existing boiler room for installation of the condensing units. The advantages of this system include:

- The refrigerant pipe distribution system pipes are small and inconspicuous. They are easily installed within existing facilities with limited disruption to the existing finishes.

- The fan coil units can be selected for a ducted or non-ducted distribution system. The non-ducted units are cost effective and easy to install within existing spaces. A slim model is available for low ceiling applications.

- The variable refrigerant volume system allows for simultaneous heating and cooling throughout the facility. Due to the various loads within the building some spaces can be in a heating mode and other spaces can be in a cooling mode.

- The system is extremely energy efficient due to the centralized means of heat gain and heat rejection. The central system allows for trading of energy amongst the various spaces of the building.

- The fan coil units are capable of accepting a direct outside air connection, although the load based on occupancy will be evaluated in design. An extensive ventilation load could require a central outside air conditioning system.

- The control system is can be simple and stand alone if preferred. Each space conditioning system is controlled by a dedicated programmable thermostat. A full digital building management system is available if owner preferred.

- The system is all electric and does not require a gas connection. With the addition of cooling to the facility the electrical service and distribution system will be overhauled due to an increased
An all electric system simplifies the connection requirements and eliminates the need for a larger gas connection or gas distribution system.

The disadvantages of this system include:

- This system is new to the Wyoming region. The available contractors for installation and service may be limited.
- The system could be cost prohibitive if multiple bids are not available.

**Water Source Heat Pump System (option #2)**

This system utilizes water to air heat pumps located above an accessible ceiling or in a dedicated mechanical closet space either in or near the zone being served. The heat pumps condition the space with air provided through a ducted distribution system. The heat pump conditions the air with a refrigerant coil and circuit that transfers heat to and from a water system. The central water loop is piped throughout the facility with the main hydronic equipment located in an existing boiler room. The heat for the water loop is provided by a hot water boiler system. The heat rejection is provided by an exterior cooling tower. The cooling tower can be an open system or closed fluid cooler. Either method is capable of taking advantage of an energy efficient evaporative cooling system. This system can operate in all exterior design conditions. The heat pumps are capable of accepting a direct connection to outside air. A large ventilation load may require the installation of a central ventilation system. The advantages of this system include:

- The decentralized system allows for the equipment to be in close proximity to the space being served. This reduces the amount of disruption to the existing facility for distribution systems. The water pipe will be slightly larger than the current steam distribution system.
- This system allows for simultaneous heating and cooling in the facility while still utilizing a two pipe water system.
- The system is extremely energy efficient due to the centralized means of heat gain and heat rejection. The central system allows for trading of energy amongst the various spaces of the building.
- The heat pumps are capable of accepting a direct outside air connection, although the load based on occupancy will be evaluated in design. An extensive ventilation load could require a central outside air conditioning system.
- The control system is can be simple and stand alone if preferred. Each space conditioning system is controlled by a dedicated programmable thermostat. A full digital building management system is available if owner preferred.
The disadvantages of this system include:
- The system cost can be substantial.
- The heat pumps require space in or near the zone being served. The available floor space may be limited and overhead space for a horizontal unit may not be available in some locations.
- The cooling tower is installed exterior to the building. The required space on site may not be available.
- An evaporative cooling tower will require regular maintenance.

**Air to Air Split System Heat Pumps (option #3)**

This system utilizes air to air heat pumps located above an accessible ceiling or in a dedicated mechanical closet space either in or near the zone being served. The heat pumps condition the space with air provided through a ducted distribution system. The heat pump conditions the air with a refrigerant coil and circuit that transfers heat to and from the exterior ambient air. Each interior unit is paired with an exterior unit connected with refrigerant lines. The exterior unit is capable of providing heating and cooling within a temperature range of 30 deg F – 120 deg F. An auxiliary electric heating coil is utilized for heat with ambient air temperatures below 30 deg F. The heat pumps are capable of accepting a direct connection to outside air. A large ventilation load may require the installation of a central ventilation system. The advantages of this system include:
- This system is cost effective.
- Simple installation similar to a residential product.

The disadvantages of this system include:
- The system is energy inefficient.
- The exterior unit associated with each heat pump requires an available six foot square footprint within 100 feet of the interior unit. The roof is not structurally capable of accepting the installation of multiple units. Installation on grade could be a hazard in play areas, and they will be unsightly throughout.

**Central Ventilation System**

A central ventilation system may be required due to a high expected occupancy. The amount of ventilation air is directly affected by the number of occupants. Due to a large amount of ventilation air, central energy recovery ventilators are applicable. These units transfer energy from the air being exhausted/relieved from the building and transfer it into the incoming outside air. The outside air is tempered by the exchange of energy to a point where it is more easily handled by the mechanical conditioning system. The advantages of this system include:
- Energy efficient means of tempering/conditioning outside air.
- This type of system may be required based on occupancy due to the large amount of necessary ventilation air.
The disadvantages of this system include:

- The system can be cost prohibitive.

- The installation of a central air distribution system will be challenging within the existing facility. The installation of this system may require extensive architectural remodeling.

- The central energy recovery ventilators can require extensive interior floor space. If installed on the roof of the facility structural changes will need to be made due to additional weight.

**Plumbing Systems**

**ADA Plumbing Fixtures**

It is recommended that the non-complying ADA plumbing fixtures be replaced with ADA approved fixtures. These fixture replacements may involve architectural renovations to accommodate the fixtures and the required clearances.

**Classroom Sinks**

Classroom sinks are regularly provided in facilities of this type. They offer convenience as well as purpose. The sanitation within the facility is improved with the use of classroom sinks. It is also possible to include a means for students to obtain drinking water within the classroom by installing a bubbler on the sink. It is recommended that sinks be installed in all classrooms if the funds are available.

**1970's Addition**

The mechanical systems are generally in poor condition. Current comfort issues shall be addressed to create an environment conducive for learning. The buildings are currently operating without cooling capabilities and the heating systems are inadequate. Multiple Code issues need to be addressed, such as ventilation air, fire sprinkler system, and ADA compliant plumbing fixtures.

**Heating, Cooling, and Ventilation System**

It is recommended that the current heating system be removed and replaced with a system capable of heating, cooling, and ventilating the center. The current building layout, structure, and interior finishes do not make it conducive for HVAC system remodel. The current system provides heat through a pipe steam system and the use of radiant heat (air is not utilized for a means of heat transfer). A new HVAC system will provide heating, cooling, and ventilation, but it will require the distribution of air. This aspect of the system will be challenging due to the lack of available space. The following recommendations are selected because of their decentralized system type that eliminates the need for large central air distribution systems. The installation of a ventilation system in this facility will be
challenging. The ventilation system requires the introduction of conditioned outside air into the spaces. This typically either provided through a central distribution system and directly introduced into the space or combined and distributed through the conditioning system. Due to space constraints the use of a decentralized system is recommended. The following are three options for consideration:

**Variable Refrigerant Volume System (option #1)**

This system utilizes fan coil type units specific to each conditioned space. The units are typically hung above ceiling and are available in ducted or non-ducted configurations. The heating and cooling is provided by refrigerant coil in the unit that operates similar to a heat pump. A central refrigerant system is installed throughout the facility. Each fan coil unit is served by the central refrigerant system. At the unit a selector box chooses a heating or cooling operation based on the direction provided by the thermostat. The fan coil unit can have a direct connection of outside ventilation air. A central ventilation system providing conditioned outside air to the fan coil units should be evaluated. The climate conditions are conducive for a direct connection from the outside to the fan coil unit, but available quantity of outside air through this system type is limited. The central refrigerant loop is connected to exterior condensing units. The condensing units are the means for heat gain and heat rejection. The system is capable of operating in 0 deg F – 120 deg F. The lower end limitation will require the installation of auxiliary electric heat at each fan coil unit. This auxiliary heat is avoidable if the condensing units are located inside with ducted connections to the exterior. It may be possible to utilize the existing boiler room for installation of the condensing units. The advantages of this system include:

- The refrigerant pipe distribution system pipes are small and inconspicuous. They are easily installed within existing facilities with limited disruption to the existing finishes.

- The fan coil units can be selected for a ducted or non-ducted distribution system. The non-ducted units are cost effective and easy to install within existing spaces. A slim model is available for low ceiling applications.

- The variable refrigerant volume system allows for simultaneous heating and cooling throughout the facility. Due to the various loads within the building some spaces can be in a heating mode and other spaces can be in a cooling mode.

- The system is extremely energy efficient due to the centralized means of heat gain and heat rejection. The central system allows for trading of energy amongst the various spaces of the building.

- The fan coil units are capable of accepting a direct outside air connection, although the load based on occupancy will be
evaluated in design. An extensive ventilation load could require a central outside air conditioning system.

- The control system is can be simple and stand alone if preferred. Each space conditioning system is controlled by a dedicated programmable thermostat. A full digital building management system is available if owner preferred.

- The system is all electric and does not require a gas connection. With the addition of cooling to the facility the electrical service and distribution system will be overhauled due to an increased load. An all electric system simplifies the connection requirements and eliminates the need for a larger gas connection or gas distribution system.

The disadvantages of this system include:

- This system is new to the Wyoming region. The available contractors for installation and service may be limited.

- The system could be cost prohibitive if multiple bids are not available.

Water Source Heat Pump System (option #2)

This system utilizes water to air heat pumps located above an accessible ceiling or in a dedicated mechanical closet space either in or near the zone being served. The heat pumps condition the space with air provided through a ducted distribution system. The heat pump conditions the air with a refrigerant coil and circuit that transfers heat to and from a water system. The central water loop is piped throughout the facility with the main hydronic equipment located in an existing boiler room. The heat for the water loop is provided by a hot water boiler system. The heat rejection is provided by an exterior cooling tower. The cooling tower can be an open system or closed fluid cooler. Either method is capable of taking advantage of an energy efficient evaporative cooling system. This system can operate in all exterior design conditions. The heat pumps are capable of accepting a direct connection to outside air. A large ventilation load may require the installation of a central ventilation system. The advantages of this system include:

- The decentralized system allows for the equipment to be in close proximity to the space being served. This reduces the amount of disruption to the existing facility for distribution systems. The water pipe will be slightly larger than the current steam distribution system.

- This system allows for simultaneous heating and cooling in the facility while still utilizing a two pipe water system.

- The system is extremely energy efficient due to the centralized means of heat gain and heat rejection. The
central system allows for trading of energy amongst the various spaces of the building.

- The heat pumps are capable of accepting a direct outside air connection, although the load based on occupancy will be evaluated in design. An extensive ventilation load could require a central outside air conditioning system.

- The control system is can be simple and stand alone if preferred. Each space conditioning system is controlled by a dedicated programmable thermostat. A full digital building management system is available if owner preferred.

The disadvantages of this system include:

- The system cost can be substantial.

- The heat pumps require space in or near the zone being served. The available floor space may be limited and overhead space for a horizontal unit may not be available in some locations.

- The cooling tower is installed exterior to the building. The required space on site may not be available.

- An evaporative cooling tower will require regular maintenance.

Air to Air Split System Heat Pumps (option #3)

This system utilizes air to air heat pumps located above an accessible ceiling or in a dedicated mechanical closet space either in or near the zone being served. The heat pumps condition the space with air provided through a ducted distribution system. The heat pump conditions the air with a refrigerant coil and circuit that transfers heat to and from the exterior ambient air. Each interior unit is paired with an exterior unit connected with refrigerant lines. The exterior unit is capable of providing heating and cooling within a temperature range of 30 deg F – 120 deg F. An auxiliary electric heating coil is utilized for heat with ambient air temperatures below 30 deg F. The heat pumps are capable of accepting a direct connection to outside air. A large ventilation load may require the installation of a central ventilation system. The advantages of this system include:

- This system is cost effective.

- Simple installation similar to a residential product.

The disadvantages of this system include:

- The system is energy inefficient.

- The exterior unit associated with each heat pump requires an available six foot square footprint within 100 feet of the interior unit. The roof is not structurally capable of accepting the installation of multiple units. Installation on grade could
Central Ventilation System

A central ventilation system may be required due to a high expected occupancy. The amount of ventilation air is directly affected by the number of occupants. Due to a large amount of ventilation air, central energy recovery ventilators are applicable. These units transfer energy from the air being exhausted/relieved from the building and transfer it into the incoming outside air. The outside air is tempered by the exchange of energy to a point where it is more easily handled by the mechanical conditioning system. The advantages of this system include:

- Energy efficient means of tempering/conditioning outside air.
- This type of system may be required based on occupancy due to the large amount of necessary ventilation air.

The disadvantages of this system include:

- The system can be cost prohibitive.
- The installation of a central air distribution system will be challenging within the existing facility. The installation of this system may require extensive architectural remodeling.
- The central energy recovery ventilators can require extensive interior floor space. If installed on the roof of the facility structural changes will need to be made due to additional weight.

Data Server Cooling

The current server system resides in a mechanical room without a dedicated cooling source. The current data system does not produce an extensive amount of heat and the area near the server system was not an elevated temperature. It is recommended that a dedicated server cooling system not be installed unless the data system changes significantly with a renovation. A dedicated cooling system should be evaluated if the data system is revised to be more central.

Plumbing Systems

ADA Plumbing Fixtures

It is recommended that the non-complying ADA plumbing fixtures be replaced with ADA approved fixtures. These fixture replacements may involve architectural renovations to accommodate the fixtures and the required clearances.

Classroom Sinks

Classroom sinks are regularly provided in facilities of this type. They offer convenience as well as purpose. The sanitation within the facility is improved with the use of classroom sinks. It is also possible to include a means for students to obtain drinking water within the classroom by installing a bubbler.
on the sink. It is recommended that sinks be installed in all classrooms if the funds are available.

**Three Compartment Sink**

The Health Department requires a three compartment sink be utilized in commercial kitchens. It is recommended that a three compartment sink be installed.

**Grease Trap**

A three compartment sink will require the installation of a grease trap. The grease trap can most likely be installed above the floor if the kitchen layout allows.

**160 deg F Water**

A three compartment sink requires a minimum 160 deg F water be provided in one bowl. It is recommended that either a booster heating system or separate water heater be installed to accommodate this requirement.

**F. Electrical**

**1922 Building**

**Electrical Distribution Systems**

If the entire facility is to remain, pending architectural/structural code compliant evaluation it is recommended to replace the electrical systems in its entirety. In order to efficiently operate the building HVAC equipment, the original and 1970's buildings should utilize 480Y/277 or 208Y/120 volt three phase, four wire service for the new HVAC and lighting systems. Due to the complexity of newer HVAC systems a single phase electrical service as in place at this facility is not capable of providing proper electrical means and also limits HVAC efficiency and capabilities.

Main 480Y/277 volt or 208Y/120 volt (Utility Co. will dictate what voltage is available for this site) power distribution switchboards and distribution and lighting panel boards shall be circuit breaker type with copper buses that are properly rated to provide the calculated fault circuits. The local utility will be contacted for the fault current values of the secondary of the utility transformer. All power distribution panel boards shall be supplied with separate equipment ground buses. All power distribution equipment shall be required to handle the actual specified and projected loads plus 10 percent spare load capacity. Distribution panels are required to accommodate circuit breakers for the actual calculated needs plus 10 percent spare circuits that will be equivalent to the majority of other circuit breakers in the panel system.

All areas shall have 208Y/120 volt, 3-phase, 4-wire with ground, 60-hertz electric service available for general purpose receptacle loads and small equipment loads.

All conductors, including cable, bus, transformer windings, etc., shall be copper.
Distribution wiring shall utilize type THHN/THWN dual rated wire.

Minimum conduit size shall be ¾ inch. Conduit exposed to weather shall be rigid galvanized steel. Conduit installed in slabs on grade or in ground shall be Schedule 40 PVC. All other conduit shall be thin wall galvanized steel. Short runs (motor, transformer, etc.) may utilize flexible connections.

Distribution system equipment will be sized in accordance with actual building system loads and equipment will be located within facility to:

1. Minimize distribution system losses.
2. Ensure the safety of the patrons.
3. Function within the architectural environment of the facility.

**General Facility Electrical Systems**

Convenience outlets shall be installed in accordance with NFPA Standard 70, National Electrical Code, or local code, whichever is more stringent.

Convenience outlets shall be installed on the basis of a maximum of 8 outlets per 20-amp circuit at a minimum of every 50 feet in common corridors and open office areas.

All areas shall have 208Y/120 volt, 3-phase, 4-wire with ground, 60-hertz electric service available. Duplex outlets shall be circuited separately from the overhead general lighting. All branch-circuit wiring shall consist of copper conductors. Conductors for branch circuits shall be sized to prevent voltage drop exceeding 3 percent at the farthest receptacle. Minimum wire size shall be #12 AWG.

The exterior lighting system will require some improvements to accommodate any new additions as well as site security and possible new security system requirements.

Egress lighting illumination coverage and levels in all buildings needs to be upgraded to meet the International Building Code requirements of one foot-candle at floor level. Exit signage in all buildings need to be upgraded to meet the International Building Code requirements.

Lighting levels shall be designed and calculated based on Illumination Engineering society zonal cavity method. Typically, lighting shall be provided using no more than 2 watts per occupiable square foot. When the space is not in use by the Owner, interior lighting, except that essential for safety and security purposes, shall be turned off.

Premium grade 2' x 4' fluorescent lighting fixtures with energy-efficient lamps (T5) and electronic ballasts will be used for standard interior lighting. Such fixtures shall produce 50 average maintained foot-candles at working surface height throughout classrooms and offices and 10 foot-candles in other non-working areas.

Indirect fluorescent lighting with energy-efficient lamps (T5) and electronic ballasts will be used in main corridors when the architectural structure is exposed. 20 foot-candles shall be maintained.
Direct/Indirect fluorescent lighting with energy-efficient lamps (T5) and electronic ballasts will be used in the library along with fluorescent task lighting. 50 foot-candles shall be maintained.

All building entrances and parking areas must be lighted. Ballasts are to be rapid-start, thermally protected, voltage regulating type, UL listed and ETL approved. New exterior parking lot lighting shall be mounted to new poles and with new concrete bases.

Occupancy sensors and/or scheduling controls will be used to reduce the hours that the lights are on when the space is unoccupied. Daylight dimming controls shall be used where daylight can contribute to energy savings.

Lighting shall be controlled by occupancy sensors arranged to control individual offices, conference rooms and restrooms within the school space. The control system shall provide an optimal mix of infrared and ultrasonic sensors suitable for the configuration and type of space. Occupancy sensors shall be located so that they have a clear view of the room or area they are monitoring.

Lighting systems will be designed to provide appropriate illumination levels within each space in accordance with IES criteria and recommendations. The lighting system for each space within the facility will be designed to:

1. Provide appropriate illumination levels for the particular environment or task(s).
2. Control brightness ratios.
3. Enhance visual comfort.
4. Reduce direct glare and ceiling reflections.
5. Accent the architectural details of the facility.

Outdoor parking areas shall have a minimum of .5 foot-candle of illumination unless local zoning dictates otherwise.

Switches shall be located on columns or walls by door openings in accordance with the new design of the building and "Handicapped Accessibility".

Provide commercial grade switches, for lighting control, mounted on columns or walls by door openings in accordance with the new design of the building and "Handicapped Accessibility".

Provide covers on all junction and outlet boxes. Close all unused openings in boxes and electrical equipment enclosures.

Repair or replace any existing to remain defective lighting fixtures throughout.

Replace all feeders and branch circuits. The new feeders and branch circuits shall utilize a dedicated equipment grounding conductor and not rely on the conduit system to provide the equipment grounding means. The new system shall utilize a consistent color coding system.
Fire Alarm System

It is recommended that the fire alarm system be replaced in its entirety to perform proper operation and provide adequate coverage.

Manual fire alarm systems shall be provided in accordance with NFPA Standard 101. Systems shall be maintained and tested in accordance with NFPA Standard 72, National Fire Alarm Code. The fire alarm system wiring and equipment shall be electrically supervised and shall automatically notify the local fire department (NFPA Standard 72) or approved central station. Emergency power shall be provided in accordance with NFPA Standard 70, National Electrical Code and NFPA Standard 72.

System will be fully programmable and addressable. Devices will be placed as needed to compliment the sprinkler system and to meet minimum code compliance.

Mechanical system duct smoke detectors will be provided.

Auto-dial out will be incorporated for notification.

All device locations shall meet ADA and local codes.

Audio/visual appliances and devices shall be ADA compliant.

Auxiliary Low Voltage Systems

The central communication center for the Telecommunications, Integrated Communications, Fire Alarm and Security systems will need to be replaced for the entire building. Depending on any additions or new arrangement of the building, these special systems are recommended to be addressed and replaced to incorporate upgrades with today’s standard.

Telecommunications

The building’s telecommunications, wire closets and related spaces shall be enclosed. The enclosure shall not be used for storage or other purposes and shall have door(s) fitted with an automatic door-closer and deadlocking latch bolt with a minimum throw of ½ inch.

Telecommunications switch rooms, wire closets and related spaces shall meet applicable Telecommunications Industry Association (TIA) and Electronic Industries Alliance (EIA) standards. These standards include the following:

1. TIA/EIA-568, Commercial Building Telecommunications Cabling Standard,
2. TIA/EIA-569, Commercial Building Standard for Telecommunications Pathways and Spaces,
3. TIA/EIA-570, Residential and Light Commercial Telecommunications Wiring Standard, and
4. TIA/EIA-507, Commercial Building Grounding and Bonding Requirements for Telecommunications Standard.
Sweetwater County Child Developmental Center   Recommendations & Conclusions
Facility Assessment – Child Developmental Center and Grounds    July 15, 2009

Telecommunications switch rooms, wire closets and related spaces shall meet applicable NFPA standards. Bonding and grounding shall be in accordance with NFPA Standard 70, National Electrical Code and other applicable NFPA standards and/or local code requirements.

All outlets and associated wiring used to transmit telecommunication (voice) service to the workstation will be safely concealed in floor ducts, walls, or columns. Wall outlets shall be provided with rings to facilitate the installation of cable.

The data outlets and the associated wiring used to transmit data will be safely concealed in floor ducts, walls, columns, or below access flooring. Wall mounted outlets shall be provided with rings to facilitate the installation of data cable.

Integrated Communications System

The intercom system’s head-end handset equipment and amplifier shall be located in the administration office or nearby closet. Each classroom will have one (1) telephone/intercom unit along with one (1) area speaker mounted in ceiling. Common areas such as the cafeteria, corridors, office areas, gymnasiums, locker rooms and maintenance areas shall have speakers placed at 20'-0" on center.

Cable TV

Provide one (1) CATV receptacle per classroom. All CATV runs shall be fed from the Tele/CATV room located in the basement. A local cable provider will provide all cable equipment and connections.

Security

A level of security that deters unauthorized entry to the center during non-daycare hours and deters loitering or disruptive acts in and around the center will be provided. Security cameras and lighting shall be strategically located to ensure no obstructions. The system includes monitors, DVR, power supplies and vandal resistant dome cameras. This system can range from surveillance only to total daycare lock down, key locks to card readers and request for entrance.

Mechanical Equipment Electrical System

It should be considered that air conditioning and heating loads, pumps and other large motor driven equipment will be fed at 480 volts, 3-phase with ground.

Label all electrical equipment with permanent engraved plastic plates identifying the equipment by the designation shown on the drawings and by function.

Rearrange electrical equipment or conflicting equipment to provide NEC required working clearances.
1922 Building Electrical Conclusions

In general the building is a good candidate for an electrical renovation and reuse. The main service to the building should be upgraded. The branch circuiting and wiring should be upgraded utilizing conduit raceways. The general lighting and the egress lighting shall be upgraded. The general power receptacles shall be upgraded. The electrical room floor space available is conducive for incorporation of an updated/additional electrical system to serve any future additional HVAC loads. The new electrical system will meet current code requirements as well as provide additional efficiency with respect to a new well coordinated HVAC system. The auxiliary low voltage systems shall be replaced to incorporate upgrades for the safety of staff and daycare students. The electrical system upgrades will require renovation of most existing walls and ceilings in order to properly install and renovated non-code compliant electrical issues.

1970's Building

Electrical Distribution Systems

If the entire facility is to remain, pending architectural/structural code compliant evaluation it is recommended to replace the electrical systems in its entirety. In order to efficiently operate the building HVAC equipment, the 1970’s building should utilize 480Y/277 or 208Y/120 volt three phase, four wire service for the new HVAC and lighting systems. Due to the complexity of newer HVAC systems a single phase electrical service as in place at this facility is not capable of providing proper electrical means and also limits HVAC efficiency and capabilities.

Main 480Y/277 volt or 208Y/120 volt (Utility Co. will dictate what voltage is available for this site) power distribution switchboards and distribution and lighting panel boards shall be circuit breaker type with copper buses that are properly rated to provide the calculated fault circuits. The local utility will be contacted for the fault current values of the secondary of the utility transformer. All power distribution panel boards shall be supplied with separate equipment ground buses. All power distribution equipment shall be required to handle the actual specified and projected loads plus 10 percent spare load capacity. Distribution panels are required to accommodate circuit breakers for the actual calculated needs plus 10 percent spare circuits that will be equivalent to the majority of other circuit breakers in the panel system. All areas shall have 208Y/120 volt, 3-phase, 4-wire with ground, 60-hertz electric service available for general purpose receptacle loads and small equipment loads.

All conductors, including cable, bus, transformer windings, etc., shall be copper.

Distribution wiring shall utilize type THHN/THWN dual rated wire.

Minimum conduit size shall be % inch. Conduit exposed to weather shall be rigid galvanized steel. Conduit installed in slabs on grade or in ground shall
be Schedule 40 PVC. All other conduit shall be thin wall galvanized steel. Short runs (motor, transformer, etc.) may utilize flexible connections.

Distribution system equipment will be sized in accordance with actual building system loads and equipment will be located within facility to:

1. Minimize distribution system losses.
2. Ensure the safety of the patrons.
3. Function within the architectural environment of the facility.

General Facility Electrical Systems

Convenience outlets shall be installed in accordance with NFPA Standard 70, National Electrical Code, or local code, whichever is more stringent.

Convenience outlets shall be installed on the basis of a maximum of 8 outlets per 20-amp circuit at a minimum of every 50 feet in common corridors and open office areas.

All areas shall have 208Y/120 volt, 3-phase, 4-wire with ground, 60-hertz electric service available. Duplex outlets shall be circuited separately from the overhead general lighting. All branch-circuit wiring shall consist of copper conductors. Conductors for branch circuits shall be sized to prevent voltage drop exceeding 3 percent at the farthest receptacle. Minimum wire size shall be #12 AWG.

The exterior lighting system will require some improvements to accommodate any new additions as well as site security and possible new security system requirements.

Egress lighting illumination coverage and levels in all buildings needs to be upgraded to meet the International Building Code requirements of one foot-candle at floor level. Exit signage in all buildings need to be upgraded to meet the International Building Code requirements.

Lighting levels shall be designed and calculated based on Illumination Engineering society zonal cavity method. Typically, lighting shall be provided using no more than 2 watts per occupiable square foot. When the space is not in use by the Owner, interior lighting, except that essential for safety and security purposes, shall be turned off.

Premium grade 2' x 4' fluorescent lighting fixtures with energy-efficient lamps (T5) and electronic ballasts will be used for standard interior lighting. Such fixtures shall produce 50 average maintained foot-candles at working surface height throughout classrooms and offices and 10 foot-candles in other non-working areas.

Indirect fluorescent lighting with energy-efficient lamps (T5) and electronic ballasts will be used in main corridors when the architectural structure is exposed. 20 foot-candles shall be maintained.

Direct/Indirect fluorescent lighting with energy-efficient lamps (T5) and electronic ballasts will be used in the library along with fluorescent task lighting. 50 foot-candles shall be maintained.
High-bay fluorescent lighting with energy-efficient lamps (T5) and electronic ballasts with instant start will be used in the gymnasium. 50 foot-candles shall be maintained.

All building entrances and parking areas must be lighted. Ballasts are to be rapid-start, thermally protected, voltage regulating type, UL listed and ETL approved.

Occupancy sensors and/or scheduling controls will be used to reduce the hours that the lights are on when the space is unoccupied. Daylight dimming controls shall be used where daylight can contribute to energy savings.

Lighting shall be controlled by occupancy sensors arranged to control individual offices, conference rooms and restrooms within the school space. The control system shall provide an optimal mix of infrared and ultrasonic sensors suitable for the configuration and type of space. Occupancy sensors shall be located so that they have a clear view of the room or area they are monitoring.

Lighting systems will be designed to provide appropriate illumination levels within each space in accordance with IES criteria and recommendations. The lighting system for each space within the facility will be designed to:

1. Provide appropriate illumination levels for the particular environment or task(s).
2. Control brightness ratios.
3. Enhance visual comfort.
4. Reduce direct glare and ceiling reflections.
5. Accent the architectural details of the facility.

Switches shall be located on columns or walls by door openings in accordance with the new design of the building and "Handicapped Accessibility".

Provide commercial grade switches, for lighting control, mounted on columns or walls by door openings in accordance with the new design of the building and "Handicapped Accessibility".

Provide covers on all junction and outlet boxes. Close all unused openings in boxes and electrical equipment enclosures.

Repair or replace any existing to remain defective lighting fixtures throughout.

All new feeders and branch circuits shall utilize a dedicated equipment grounding conductor and not rely on the conduit system to provide the equipment grounding means. The new system shall utilize a consistent color coding system.
Fire Alarm System

It is recommended that the fire alarm system be replaced in its entirety to perform proper operation and provide adequate coverage.

Manual fire alarm systems shall be provided in accordance with NFPA Standard 101. Systems shall be maintained and tested in accordance with NFPA Standard 72, National Fire Alarm Code. The fire alarm system wiring and equipment shall be electrically supervised and shall automatically notify the local fire department (NFPA Standard 72) or approved central station. Emergency power shall be provided in accordance with NFPA Standard 70, National Electrical Code and NFPA Standard 72.

System will be fully programmable and addressable. Devices will be placed as needed to compliment the sprinkler system and to meet minimum code compliance.

Mechanical system duct smoke detectors will be provided.

Auto-dial out will be incorporated for notification.

All device locations shall meet ADA and local codes.

Audio/visual appliances and devices shall be ADA compliant.

Auxiliary Low Voltage Systems

In the 1970's building, the low voltage auxiliary systems - the central communication center for the Telecommunications, Integrated Communications, Fire Alarm and Security systems will need to be replaced for the entire building. Depending on any additions or new arrangement of the building, these special systems are recommended to be addressed and replaced to incorporate upgrades with today's standard.

Telecommunications

The building's telecommunications, wire closets and related spaces shall be enclosed. The enclosure shall not be used for storage or other purposes and shall have door(s) fitted with an automatic door-closer and deadlocking latch bolt with a minimum throw of ½ inch.

Telecommunications switch rooms, wire closets and related spaces shall meet applicable Telecommunications Industry Association (TIA) and Electronic Industries Alliance (EIA) standards. These standards include the following:

1. TIA/EIA-568, Commercial Building Telecommunications Cabling Standard,
2. TIA/EIA-569, Commercial Building Standard for Telecommunications Pathways and Spaces,
3. TIA/EIA-570, Residential and Light Commercial Telecommunications Wiring Standard, and
4. TIA/EIA-507, Commercial Building Grounding and Bonding Requirements for Telecommunications Standard.
Telecommunications switch rooms, wire closets and related spaces shall meet applicable NFPA standards. Bonding and grounding shall be in accordance with NFPA Standard 70, National Electrical Code and other applicable NFPA standards and/or local code requirements.

All outlets and associated wiring used to transmit telecommunication (voice) service to the workstation will be safely concealed in floor ducts, walls, or columns. Wall outlets shall be provided with rings to facilitate the installation of cable.

The data outlets and the associated wiring used to transmit data will be safely concealed in floor ducts, walls, columns, or below access flooring. Wall mounted outlets shall be provided with rings to facilitate the installation of data cable.

Integrated Communications System

The intercom system's head-end handset equipment and amplifier shall be located in the administration office or nearby closet. Each classroom will have one (1) telephone/intercom unit along with one (1) area speaker mounted in ceiling. Common areas such as the cafeteria, corridors, office areas, gymnasiums, locker rooms and maintenance areas shall have speakers placed at 20'-0" on center.

Cable TV

Provide one (1) CATV receptacle per classroom, two (2) in the Media Center and two (2) in the gymnasium and cafeteria. All CATV runs shall be fed from the Tele/CATV room located in the basement. A local cable provider will provide all cable equipment and connections.

Security

A level of security that deters unauthorized entry to the center during non-daycare hours and deters loitering or disruptive acts in and around the center will be provided. Security cameras and lighting shall be strategically located to ensure no obstructions. The system includes monitors, DVR, power supplies and vandal resistant dome cameras. This system can range from surveillance only to total daycare lock down, key locks to card readers and request for entrance.

Mechanical Equipment Electrical System

It should be considered that air conditioning and heating loads, pumps and other large motor driven equipment will be fed at 480 volts, 3-phase with ground.

Label all electrical equipment with permanent engraved plastic plates identifying the equipment by the designation shown on the drawings and by function.

Rearrange electrical equipment or conflicting equipment to provide NEC required working clearances.
1970's Building Electrical Conclusions

In general the building is a good candidate for an electrical renovation and reuse. The main service to the building should be upgraded. The general lighting and the egress lighting shall be upgraded. The electrical room floor space available is conducive for incorporation of an updated/additional electrical system to serve any future additional HVAC loads. The new electrical system will meet current code requirements as well as provide additional efficiency with respect to a new well coordinated HVAC system. The auxiliary low voltage systems shall be replaced to incorporate upgrades for the safety of staff and daycare students. The electrical system upgrades will require renovation of some existing walls and ceilings in order to properly install and renovated non-code compliant electrical issues.

G. Fire Protection

1922 Building

It is recommended and code required that a fire sprinkler system be installed throughout the entire facility including a system protecting attic space throughout the facility.

1970's Addition

It is recommended and code required that a fire sprinkler system be installed throughout the entire facility including a system protecting attic space throughout the facility.
VIII. ESTIMATING NARRATIVES

The architectural estimate is based on RS Means, Building Construction Cost Data, 67th Annual Edition with modifications for local historical conditions. As with any design, when the project moves beyond a schematic scope and becomes more well defined, the accuracy of the estimate will improve. The purpose of this cost estimate is to provide the Owner, Architect, and others an effective tool with which to evaluate the current facility and recommended renovations.

The estimates are categorized by building, grouped by type of recommended corrective work, and listed in descending order of priority in accordance with the recommendations provided by the team. Some items will be of relative equal value with items listed higher in order. The recommendations and budgeting are based on the assumption of continued use of the existing facility and the minimum renovation that would be required to meet Code.

A. Site

1922 Building - $42,195

Reworking the existing grades along the west side of the existing wood framed building additions near the center of the south side of the building to better redirect water drainage around the structures.

The addition of barrier free parking at the west entry includes topsoil scraping and relocation; removal of a portion of existing concrete walks; installation of compacted aggregate base; installation of bituminous asphalt paving; paint striping of the pavement; installation of a new concrete walk with accessible curb ramp; and installation of appropriate signage.

Add a handrail to the existing west entry barrier free ramp to provide a handrail on each side as required.

Provide a new metal fence and gate, extending the existing fencing to enclose the playground along the west end.

Weeding and preparation of existing paved playground area to receive a 1-inch thick bituminous asphalt overlay covering.

1970's Addition - $187,810

Removal and replacement of the deteriorated south bituminous asphalt parking area includes removal of paving; compaction of existing aggregate base; laying of new bituminous asphalt paving; paint striping of pavement; selective demolition of existing concrete walk for provision of a barrier free curb ramp; and accessible parking signage. This also includes weeding and sealing of existing cracks in bituminous asphalt areas not recommended to be replaced along the east and north sides.
B. Architectural

**1922 Building - $517,133**

**Exterior Building Areas**

Re-point damaged mortar in masonry work near parapet areas; remove existing single ply membrane roofing, edge flashing, and sealants and replace with new protective cover board under a new mechanically attached single ply CSPE roof membrane; install new edge flashings and sealants. $92,177.

**Interior Building Areas**

Prepare and install an automatic fire suppression system as discussed under the mechanical and plumbing section of this report. This includes the removal and storage of existing suspended ceiling panels for reinstallation in the existing suspended frame system. Work also includes providing and installing an additional portable fire extinguisher and cabinet on each floor. $35,344.

Replace existing stairways with compliant rise-run ratio and fire rated enclosures, including the removal of the existing stairs. Selective demolition will include wood framed floors, ceilings, walls, and finishes; and concrete floor slabs for new reinforced concrete footings. Additions include: new load bearing metal stud framed walls; fabricated metal pan stairs and railings; gypsum wall board with tape, prime, and two coats of paint; acoustical ceiling panels in a suspended metal frame; fire rated doors, panic exit hardware devices and closers; and the addition of barrier free signage for an area of refuge. This work will also include the modification of exterior items at the east elevation to provide an exterior egress door and selective demolition of metal windows and infill with fire rated construction for exterior protection of the stairway enclosure. $128,650.

Facilitating accessibility between floor levels and the 1970’s building will be accomplished through the addition of an elevator and the addition of barrier free lifts for accessibility between intermediate floor levels. This work includes selective demolition of concrete slabs and excavation for reinforced footings and an elevator pit; drilling for the hydraulic elevator piston and casing; and forming and pouring reinforced concrete walls, slabs, and footings. Selective demolition includes wood framed flooring, decking, and finishes, including abatement of asbestos tile within the upper level corridor; wood framed walls with plaster finish; and selective demolition of existing ceilings. New construction will include framing a new load bearing metal stud shaft enclosure with plywood sheathing; gypsum wall board with tape, prime and two coats of paint; gypsum board ceiling with fire taping; 1,500 lb hydraulic passenger elevator with three stops, standard metal doors, hall signal position indicators, intercom, and service contract; vertical travel wheelchair lifts; and barrier free signage. $154,033.

Modifying the toilet rooms to provide accessibility, includes selective demolition of framed walls; interior flooring, wall and ceiling finishes; and plumbing fixtures and toilet compartments. New construction will include new
wall framing; new doors and hardware; new interior flooring, wall and ceiling finishes; new toilet accessories (new plumbing fixtures are under the plumbing section of the report); new toilet compartments; and barrier free signage. $63,500.

Providing accessibility within areas of the same floor level, including demolition of inaccessible doors, door alcoves along corridors, and knob type hardware; installation of new doors and infill walls as required; and replacement hardware for all doors. $ 43,428.

1970’s Addition - $ 150,360

Exterior Building Areas

Removal of the existing single ply membrane roofing, edge flashing, and sealants, and replacing with new protective cover board under a new mechanically attached single ply CSPE roof membrane, new edge flashings and sealants. $91,588.

Interior Building Areas

Modification of toilet rooms to provide accessibility includes selective demolition of framed walls; concrete slabs, wall and ceiling finishes; and plumbing fixtures and toilet compartments. New construction includes new wall framing; new doors and hardware; new interior flooring, wall and ceiling finishes; new toilet accessories (new plumbing fixtures are under the plumbing section of the report); new toilet compartments; and barrier free signage. $53,207.

Providing accessibility within areas of the same floor level, including demolition of all knob type hardware and replacement with new. $5,565.

C. Structural

1922 Building - $454,250

The existing roof framing will need to be completely removed/replaced if any work is proposed for the structure. This means removing the roofing, sheathing, framing, and ceilings. The system will then need to be replaced with appropriately sized roof I-joists w/ 5/8" plywood roof sheathing. The cost to remove the roof/framing and construct new roof framing with sheathing could be in the $172,500 range. This cost does not include costs for new ceilings or roofing/skylights, nor mechanical/electrical work required.

The floor framing, if determined to be insufficient, would need to be augmented/modified. Again, work may not be deemed necessary, based on a more detailed analysis of the floor framing and the floor live loads required by future use of the structure. If work is required, the most cost effective means of increasing the floor live load capacity of the floors might be to add to the existing floor framing. This process would involve removing the existing floor sheathing and inserting additional floor framing members in between the
existing members. This could be accomplished at the same time the roof framing is being reconstructed, for additional efficiency. This cost could be in the $86,250 range.

The upgrades to the lateral load-resisting system for the structure will be quite involved. New shear wall elements will need to be constructed, strategically within the existing floor plan. These shear wall elements will be constructed as wood-framed, plywood sheathed walls. The locations of these walls will need to be considered in the planning/design process to avoid conflicts with the proposed usage of the structure. These shear wall elements will be required on both levels of the structure, and will require coordination with the floor and roof framing work to insure the proper connections. The cost for this scope of work could be in the $172,500 range.

1970's Addition - $23,000

Without a more detailed analysis, the scope of work required is difficult to define. As a minimum, the connections of the masonry walls to the roof diaphragm will need to be improved. This work could be affected by simply bolting angle iron to the top of the walls and fastening the angle to the bottom of the roof sheathing. At the walls supporting the joists, the angle iron would be installed between the joists. The cost of this work could be in the $23,000 range.

D. Heating, Cooling, and Ventilation

1922 Building
Heating, Cooling, and Ventilation System

Variable Refrigerant Volume System (option #1)

Installation of the system includes a mixture of ducted and non-ducted applications with a direct outside air connection. Probable estimated cost for a VRV System is $894,960.

Water Source Heat Pump System (option #2)

Installation of the system includes a dedicated heat pump for each zone with a ducted distribution system and a direct outside air connection. Probable estimated cost for a Water Source Heat Pump System is $1,022,800.

Air to Air Split System Heat Pumps (option #3)

Installation of the system includes a dedicated heat pump for each zone with a ducted distribution system and a direct outside air connection. Probable estimated cost for Air to Air Split System Heat Pumps is $639,250.
Building Management Control System

The Building Management Control System will include a low voltage digital system with a direct digital display and tie-in to an off-site location. Probable cost for a Building Management Control System is $127,850.

Central Ventilation System

Installation of the system includes centralized Energy Recovery Ventilators with a ducted distribution system throughout the facility. This cost is in addition to the cost for the heating and cooling systems. Probable estimated cost a Central Ventilation System is $383,550.

Plumbing System

ADA Plumbing Fixtures

The number of necessary fixtures is undetermined due to undefined occupancy and space layout. Probable estimated cost for each fixture assuming the plumbing connections are available is $2,875 per fixture.

Classroom Sinks

The number of preferred fixtures is undetermined. Probable estimated cost for each fixture assuming the plumbing connections are not available is $4,025 per fixture.

1970's Addition

Heating, Cooling, and Ventilation System

Variable Refrigerant Volume System (option #1)

Installation of the system includes a mixture of ducted and non-ducted applications with a direct outside air connection. Probable estimated cost for a VRV System is $625,300.

Water Source Heat Pump System (option #2)

Installation of the system includes a dedicated heat pump for each zone with a ducted distribution system and a direct outside air connection. Probable estimated cost for a Water Source Heat Pump System is $714,600.

Air to Air Split System Heat Pumps (option #3)

Installation of the system includes a dedicated heat pump for each zone with a ducted distribution system and a direct outside air connection. Probable estimated cost for Air to Air Split System Heat Pumps is $446,650.
Building Management Control System

The Building Management Control System will include a low voltage digital system with a direct digital display and tie-in to an off-site location. Probable cost for a Building Management Control System is $89,325.

Central Ventilation System

Installation of the system includes centralized Energy Recovery Ventilators with a ducted distribution system throughout the facility. This cost is in addition to the cost for the heating and cooling systems. Probable estimated cost a Central Ventilation System is $268,000.

Data Server Cooling

It is not recommended that a dedicated data server cooling system be installed for the current data system, but if a cooling system is preferred the following cost would apply. Probable estimated cost for a dedicated ductless split system cooling unit is $17,250.

Plumbing System

ADA Plumbing Fixtures

The number of necessary fixtures is undetermined due to undefined occupancy and space layout. Probable estimated cost for each fixture assuming the plumbing connections are available is $2,875 per fixture.

Classroom Sinks

The number of preferred fixtures is undetermined. Probable estimated cost for each fixture assuming the plumbing connections are not available is $4,025 per fixture.

Three Compartment Sink

It is recommended that a three compartment sink be installed in the location of the current two compartment sink. Probable estimated cost is $6,325.

Grease Trap

A grease trap is required in a commercial kitchen and in conjunction with a three compartment sink. Probable estimated cost for an above floor grease trap is $2,875.

160 deg F Water

160 deg F water is required for a three compartment sink. It is recommended that a dedicated water heater be installed to accommodate this requirement.
Probable estimated cost for a dedicated water heater and the associated piping is $2,875.

E. Fire Protection

1922 Building

Fire Sprinkler System

It is recommended and code required that a fire sprinkler system be installed. Probable estimated cost for a wet pipe fire sprinkler system throughout the facility not including architectural remodeling is $102,280.

1970's Addition

Fire Sprinkler System

It is recommended and code required that a fire sprinkler system be installed. Probable estimated cost for a wet pipe fire sprinkler system throughout the facility not including architectural remodeling is $71,461.

F. Electrical

1922 Building

Electrical Service and Distribution Systems

This system includes new secondary feeder from the utility company, new main 480Y/277 volt or 208Y/120 volt (Utility Co. will dictate what voltage is available for this site) three phase, four wire service for the new HVAC, lighting systems and power switchboards, panel boards and distribution. Probable service and distribution costs for 208Y/120 volt are estimated at $40,370 plus 25% if 480Y/277 volt service is utilized.

Lighting

The lighting system includes all new interior fixtures for illumination, exit and emergency lighting. Fixtures for new exterior building lighting are included, but parking lot area and playground pole lighting is not included. Probable lighting system costs are estimated at $127,540.

Devices

Devices include all new outlet boxes, receptacles, switches for lighting control, dimmers, occupancy sensors and cover plates. Probable device costs are estimated at $19,320.
Equipment Connections

Equipment connections include materials and equipment for making connections to new heating, ventilation and air conditioning as well as other motorized items requiring connections. Probable equipment connection costs are estimated at $17,600.

Basic Materials

Basic Materials included are in conjunction with new disconnect power switches not part of the service distribution equipment, raceways for wires, pull boxes, junction boxes, supports, fittings, grounding materials, wireways, and wire. Probable basic material costs are estimated at $138,575.

Fire Alarm and Detection

The fire alarm and detection system includes an entire new system in order to properly perform, supply adequate coverage and be accessible by all, including ADA guidelines for the proper safety of staff and daycare students. Probable fire alarm costs are estimated at $17,365.

Intercom and Clock

The intercom and clock system includes an entire new system in order to update, centralize and constantly access this critical security device for the proper safety of staff and daycare students. Probable intercom and clock costs are estimated at $17,940.

Security

The security system in conjunction with the intercom and fire alarm systems is a vital feature added for the security of the facility and safety of staff and daycare students. This system is integrated with new doors and door hardware and includes access control and facility lockdown features. Probable security costs are estimated at $11,275 plus 50% if closed circuit security cameras are utilized.

Cable TV

A cable TV system for educational purpose includes an entire new system. Probable Cable TV costs are estimated at $10,925.

1970’s Building

Electrical Service and Distribution Systems

This system includes new secondary feeder from the utility company, new main 480Y/277 volt or 208Y/120 volt (Utility Co. will dictate what voltage is available for this site) three phase, four wire service for the new HVAC, lighting systems and power switchboards, panel boards and distribution. Probable service and distribution costs for 208Y/120 volt are estimated at $28,175 plus 25% if 480Y/277 volt service is utilized.

Lighting

The lighting system includes all new interior fixtures for illumination, exit and emergency lighting. Fixtures for new exterior building lighting are included,
but parking lot area and playground pole lighting is not included. Probable lighting system costs are estimated at $89,125.

**Devices**

Devices include all new outlet boxes, receptacles, switches for lighting control, dimmers, occupancy sensors and cover plates. Probable device costs are estimated at $13,455.

**Equipment Connections**

Equipment connections include materials and equipment for making connections to new heating, ventilation and air conditioning as well as other motorized items requiring connections. Probable equipment connection costs are estimated at $12,305.

**Basic Materials**

Basic Materials included are in conjunction with new disconnect power switches not part of the service distribution equipment, raceways for wires, pull boxes, junction boxes, supports, fittings, grounding materials, wireways, and wire. Probable basic material costs are estimated at $96,830.

**Fire Alarm and Detection**

The fire alarm and detection system includes an entire new system in order to properly perform, supply adequate coverage and be accessible by all, including ADA guidelines for the proper safety of staff and daycare students. Probable fire alarm costs are estimated at $12,075.

**Intercom and Clock**

The intercom and clock system includes an entire new system in order to update, centralize and constantly access this critical security device for the proper safety of staff and daycare students. Probable intercom and clock costs are estimated at $12,535.

**Security**

The security system in conjunction with the intercom and fire alarm systems is a vital feature added for the security of the facility and safety of staff and daycare students. This system is integrated with new doors and door hardware and includes access control and facility lockdown features. Probable security costs are estimated at $10,005 plus 50% if closed circuit security cameras are utilized.

**Cable TV**

A cable TV system for educational purpose includes an entire new system. Probable Cable TV costs are estimated at $9,430.
Early Intervention Provides Future Benefits for the Children and the Community

Identifying young children in need of services and providing them with effective interventions provide future benefits for the individual and the community. In his 2004 study, Exception Returns, Robert G. Lynch details the results of four longitudinal studies that measured the effects of early intervention services for at-risk students. The study found that early intervention produced:

- Higher levels of verbal, mathematical and intellectual achievements in K-12 and better academic performance in general throughout their lives.
- Less drug and alcohol abuse, fewer K-12 special education services required, less child abuse, decreased teenage pregnancy, fewer contacts with the criminal justice system, and lower divorce rates.
- A decline in welfare benefits.
- Better health outcomes.
- Increased graduation and higher rates of employment and earnings.
- Tax payers rather than tax users.
- For every dollar spent on early childhood development programs, the public realized benefits ranging from $3.78 to $8.74.

The Federal Reserve Bank of Minneapolis concluded that the return on the investment in early childhood developmental programs was more than twice the average annual return in the stock market for the last 125 years. James Heckman, the Nobel prize winning economist from the University of Chicago, concluded that "we cannot afford to postpone investing in children until they become adults, nor can we wait until they reach school age – a time when it may be too late to intervene."

The Sweetwater County Child Developmental Center Serves Children Birth through Age Five With and Without Disabilities

The center serves children with disabilities between the ages of birth to five years of age. They experience a variety of disabilities, including autism, mental and physical disabilities, speech and language delays, hearing and vision impairments, behavior problems, and other health impairments. The centers provide programs designed to help each child reach their individual goals. Many services at the centers would have to be cut or scaled down, without the financial support of the county.

The Sweetwater County Child Developmental Center has helped families and children in Sweetwater County for the past 30 years. The center is mandated by the state to serve all children with disabilities between the ages of birth to five. The SCCDC cannot maintain waiting lists or turn children away. The Sweetwater County funds helps the Sweetwater County Child Developmental Center continue to serve more children and provide educational and therapeutic services.
Brain Development in Babies and Young Children

According to Zero to Three, the first three years of life are a period of incredible growth in all areas of a baby's development. A newborn's brain is about 25 percent of its approximate adult weight.

Whereas this growth had been thought to be determined primarily by genetics, scientists now believe that it is also highly dependent upon the child's experiences. Research shows that, like protein, fat, and vitamins, interactions with other people and objects are vital nutrients for the growing and developing brain, and different experiences can cause the brain to develop in different ways. It is this "plasticity" of the brain, its ability to develop and change in response to the demands of the environment that will enable a child to learn.

The SCCDC has been able to offer families and children early intervention services since 1979. The center has practiced what the researchers are proving to be true in the area of brain development.
SWEETWATER COUNTY CHILD DEVELOPMENT CENTER

FACILITY ASSESSMENT

1. REMOVE ALL DOOR HANDBAONE AND PEEL DOORS FOR NEW HARDWARE.

DEMO NOTES

1. EXISTING WALL TO BE DEMOLISHED
2. EXISTING TREATMENT OF PARTITION TO BE REMOVED
3. EXISTING MIST MAF TO BE REMOVED
4. EXISTING DOORS TO BE REMOVED
5. EXISTING BRICK WALL TO BE REMOVED
6. BG FLOORING AND CEILING TO BE REMOVED

SWEETWATER COUNTY CHILD DEVELOPMENT CENTER

CODY, WYOMING, 1001 12TH ST., 82414
ROCK SPRINGS, WYOMING, 4020 DEWAR DR., SUITE A, 82901
DRIGGS, IDAHO, 189 NORTH MAIN, SUITE 112, 83422

(307) 587-8646  (307) 352-2954  (208) 354-8036

PLAN ONE

ARCHITECTS
APPENDIX D – CIVIL PHOTOGRAPHS

CIVIL 1 – South parking area

CIVIL 2 – East entry to south parking area
CIVIL 3 – Grading at wood appendages to central south area of 1922 building

CIVIL 4 – Site access and 1922 building access to playground
CIVIL 5 – Playground

CIVIL 6 – Typical nonporous flatwork conditions along north areas
CIVIL 7 – Typical bituminous conditions along north areas – missing lamb’s tongue

CIVIL 8 – Typical bituminous conditions along east areas
CIVIL 9 – Access from parking south of property

CIVIL 10 – Access ramp and stair at west entry to 1922 building
APPENDIX E – ARCHITECTURAL PHOTOGRAPHS

ARCH 1 – Fire exit south elevation 1922 building

ARCH 2 – Wood jambs at retrofit windows 1922 building
ARCH 3 – Weather stripping and sills at retrofit windows 1922 building

ARCH 4 – Typical skylight well 1922 building
ARCH 5 – Open stairway and multiple levels typical in 1922 building

ARCH 6 – Combustibles storage in corridors, incorrect egress door swing, inaccessible thresholds and door maneuvering access in 1922 building
ARCH 7 – Multiple levels typical in 1922 building

ARCH 8 – Open stair and multiple levels in 1922 building connection to 1970s addition
ARCH 9 – Typical door alcove, hardware and fire extinguisher in 1922 building

ARCH 10 – Lower level boys' toilet room in 1922 building
ARCH 11 – Typical lighting and ceiling conditions in 1922 building

ARCH 12 – Drinking fountain in 1922 building
ARCH 13 – Typical upper floor lavatories in 1922 building

ARCH 14 – Connector vestibule from 1922 building to 1970s addition
ARCH 15 – Typical door alcove, hardware and fire extinguisher in 1970s addition

ARCH 16 – Drinking fountain in 1970s addition
ARCH 17 – Girls’ toilet room in 1970s addition

ARCH 18 – Boys’ toilet room in 1970s addition
ARCH 19 – Boys' toilet room in 1970s addition

ARCH 20 – Typical single user toilet room in 1970s addition
ARCH 21 – Basement stairway and nonconforming exit in 1970s addition

ARCH 22 – Typical storage infringement of electrical access area in 1970s addition
APPENDIX F – STRUCTURAL DRAWING AND PHOTOGRAPHS
STRUC 1 – 1920's Wood floor Framing

STRUC 2 – 1920's Wood floor framing
STRUC 3 – 1920's Structural floor @ restrooms

STRUC 4 – 1920's Skylight well access panel
STRUC 7 – 1970’s Concrete structural floor

STRUC 8 – 1970’s Piping tunnel structural floor
STRUC 9 – 1970's Hexagon roof framing

STRUC 10 – 1970's Hexagon roof framing connection
STRUC 11 – 1970's Open web wood joist roof framing
APPENDIX G – MECHANICAL PHOTOS

MECH 1 – Existing boiler and water heater 1922 building

MECH 2 – Failing pressure relief valve 1922 building
APPENDIX H – PLUMBING PHOTOGRAPHS

PLUMB 1 – Non-ADA compliant fixture 1970's addition

PLUMB 2 – Single compartment sink 1970’s addition
APPENDIX I – ELECTRICAL PHOTOS

ELEC 1 – 1922 Addition wiring methods

ELEC 2 – 1922 Original building existing electrical distribution I
ELEC 3 – 1970 Addition existing electrical distribution II