Renovation Study

Chewelah Commercial Facility

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Scope

The purpose of this study is to understand the re-development potential of the existing structure and assess the remainder of the property (including designated wetlands) for suitability of potential uses.

Non-destructive site investigation

- (3) Floor Plans to help assess lease options.
- Code Assessment for Egress, Fire, MEP System, and Lighting.
- Washington State Energy Code assessment.
- MEP system assessment both current conditions and new design to meet requirements of new program and current codes, including the existing elevator.
- Structural assessment including Roof, 2nd floor and any new proposed openings into the shell.
- Civil assessment regarding zoning, Stevens County GIS, stormwater, wetlands, NCRS soils and site utilities.

Project Overview

The site was visited and building was observed in October of 2021. The findings presented here include analysis based on likely redevelopment scenarios. This report summarizes findings but is not conclusive.

Site

The subject property located at 703 7th St. in Chewelah Washington is zoned Commercial Industrial (C-I) and is occupied by a single building reportedly constructed in 1982, according to information provided. The property was reportedly used as a sewing factory for a national clothing company but has not been occupied for approximately 20 years.

The site is gravel, gently sloped toward N 7th Street E and East Park Lane with a storm sewer. The west and south sides of the building are dirt and slope gently toward the property lines. The building is served by municipal water and sewer, has 1,000amp, 3-phase power, and natural gas service. The natural gas supply does not appear to be connected and gas company may not exist any longer. Communications infrastructure was not observed and is believed to be inadequate for any future uses. There are two other developed commercial/industrial properties in the area, though they are owned by others and not included in this study.

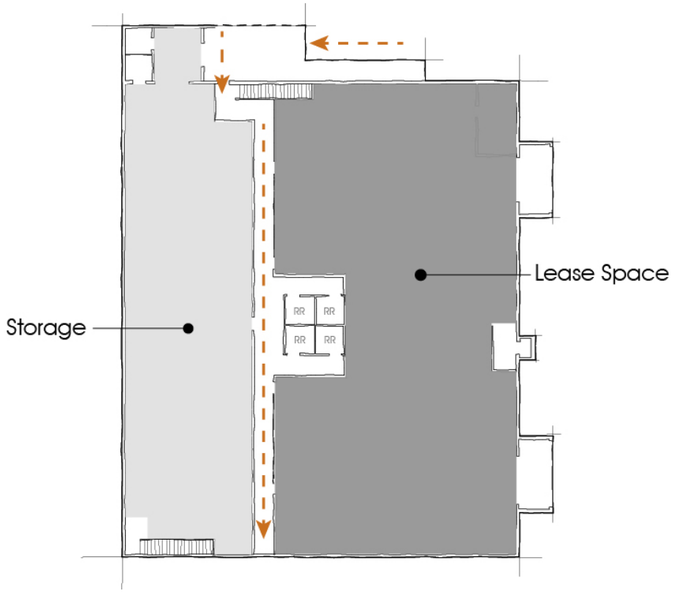
Building

The primary building is 100' x 120' with a connected, single-story loading dock structure composed of concrete slab on grade, tilt-up concrete wall panels with other-framed loading dock walls and front entry canopy. Interior columns are supported by concrete floor (and presumably footings below), large glulam beams with second floor trusses @ 24" O.C. with unfinished structural plywood. The roof consists of two-piece roof trusses spliced at Grid Line (GL) D. The Loading Dock construction was not assessed, and the roof sheathing rating of the primary building could not be witnessed.

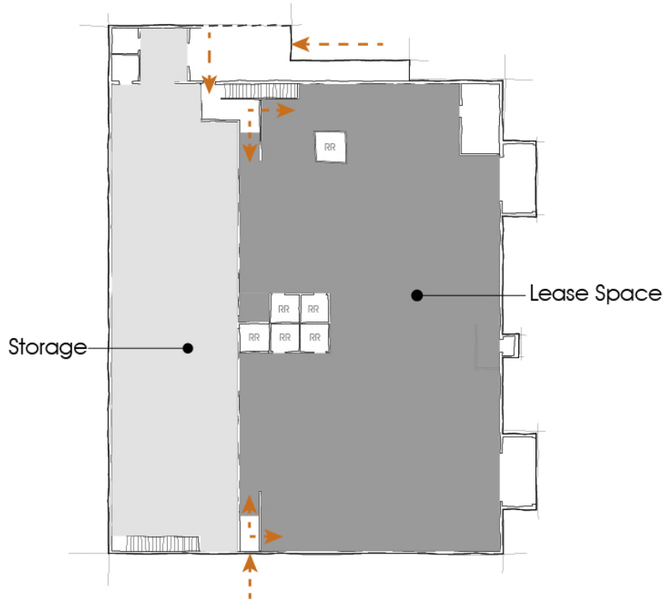
Future Uses

Given the current zoning which does allow for a wide range of Commercial-Industrial (C-I) uses listed below, we offer the following narrative and attached floor plan options for the building, below. The client has expressed interest in subdividing the 1st floor of the primary building into individual lease-spaces, and possibly 2nd floor storage which is assessed below and attached. This is the program included in this scoping document. For other potential use analyses see appendix B. It's important to note limiting factors for any option include: the Type of Construction (based on 1979 or possibly the 1982 UBC), width of Tilt-Up concrete Panels (10'), low 1st floor ceiling heights, and 2nd floor level loading capacity which is unknown.

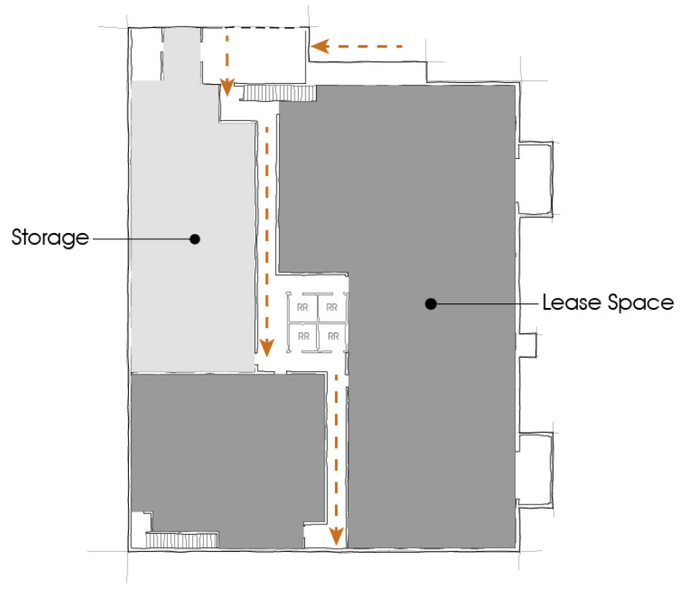
1st Floor - Option 1



1st Floor - Option 2



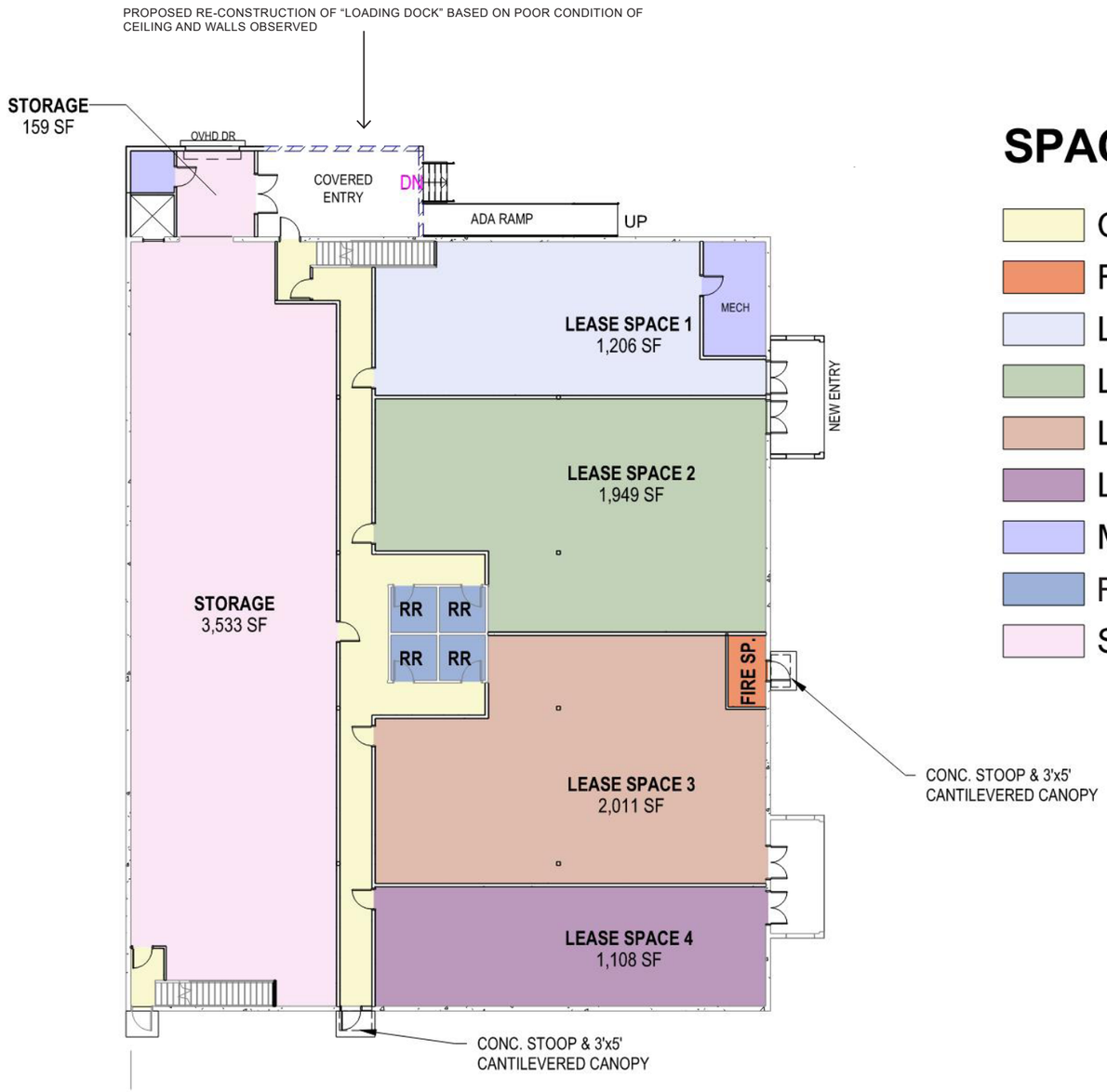
1st Floor - Option 3



Future Uses

Option 1

- Central hallway leading from north end of building to south.
- Two staircases, one of which connects to central hallway and the other leading from storage area.
- Restrooms shared in common area between four leased spaces.
- Covered entry into central hallway and storage.
- Total lease square footage approx: 6,274 SF
- Total 1st floor "Storage" occupancy square footage approx: 3, 533 SF



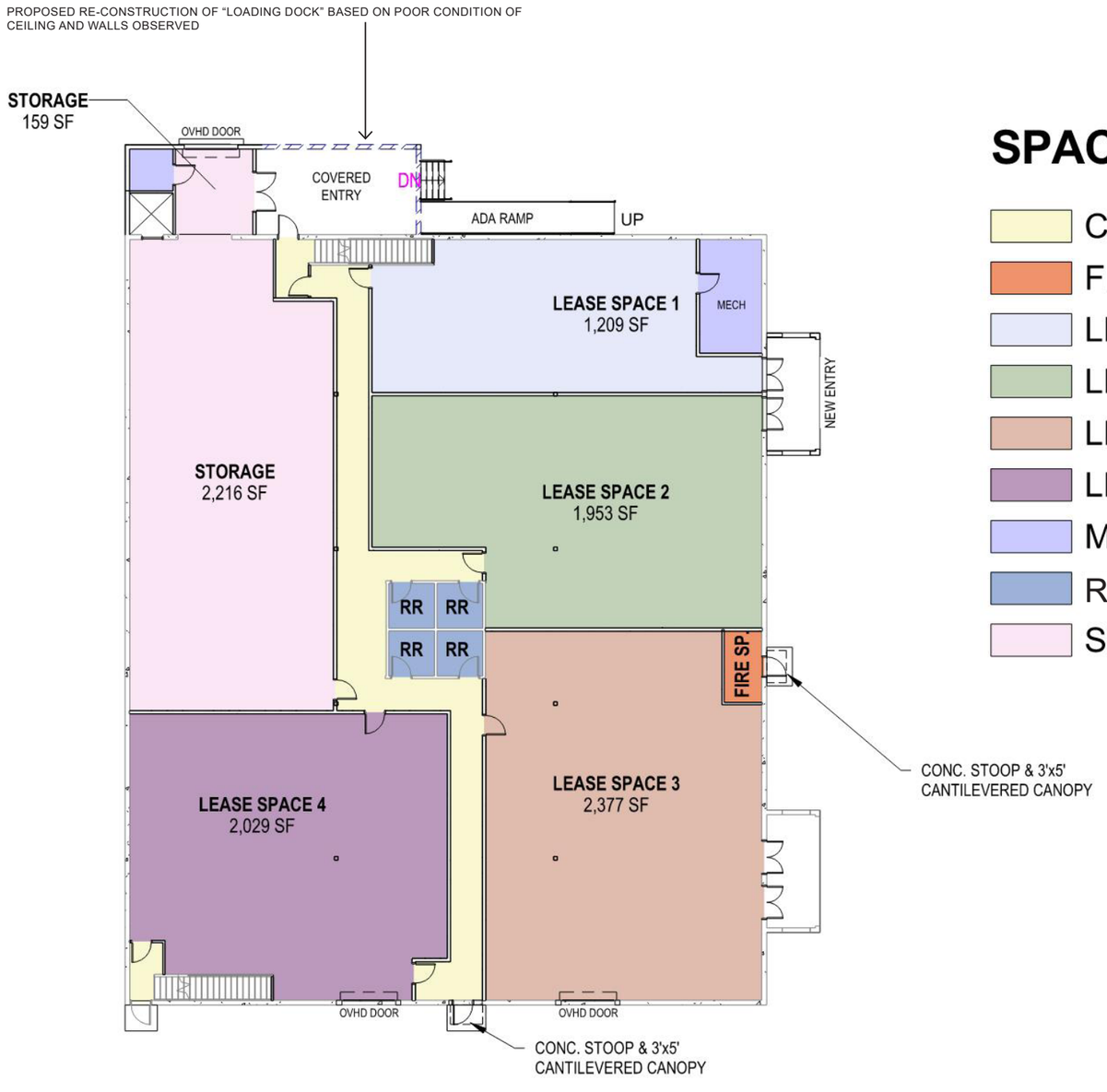
SPACE LEGEND

- CIRCULATION
- FIRE SP.
- LEASE SPACE 1
- LEASE SPACE 2
- LEASE SPACE 3
- LEASE SPACE 4
- MECH
- RESTROOM
- STORAGE

Future Uses

Option 2

- Centrall hallway leading from north end of building to south.
- Four restrooms in central area between lease spaces.
- Covered entry into storage space and central hallway.
- Staircase located in vestibule and lease space 4.
- Total lease space square footage approx: 7,568 SF
- Total 1st floor "Storage" occupancy square footage approx: 2,216 SF



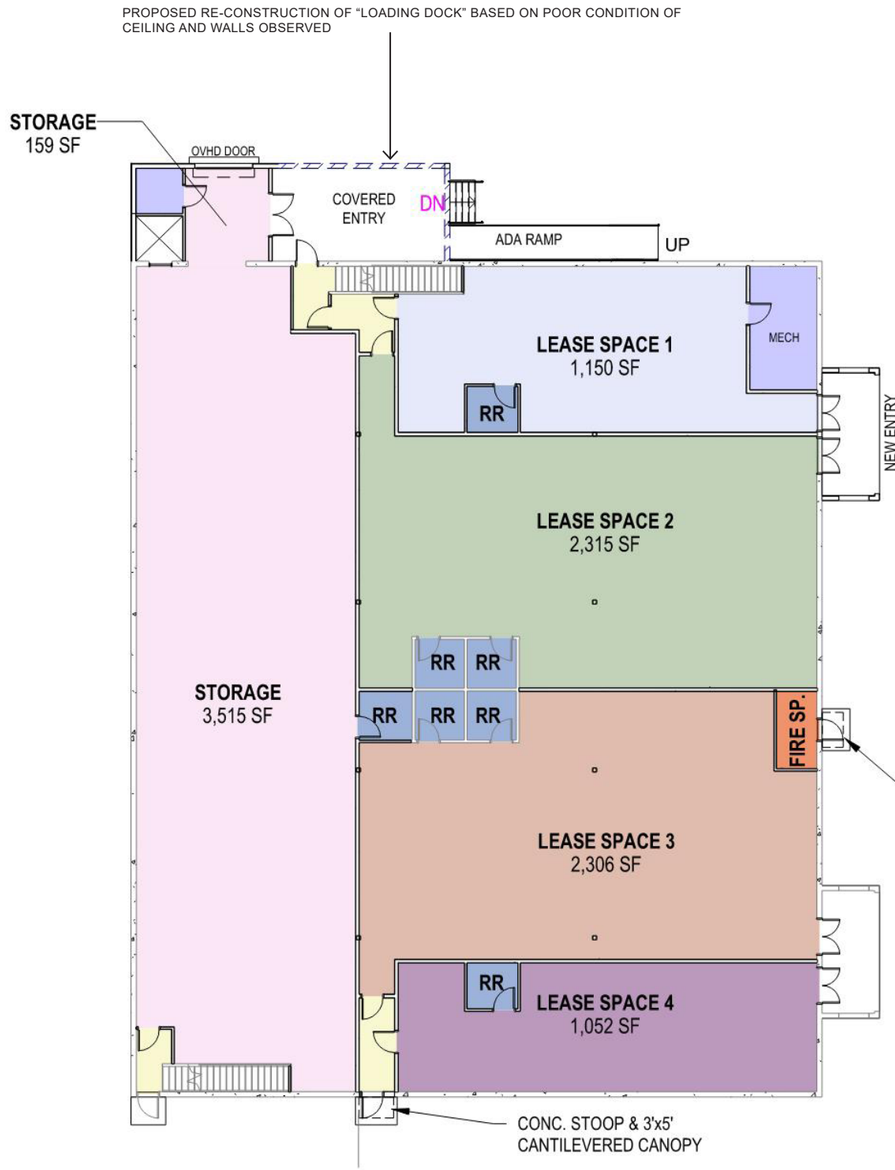
SPACE LEGEND

- CIRCULATION
- FIRE SP.
- LEASE SPACE 1
- LEASE SPACE 2
- LEASE SPACE 3
- LEASE SPACE 4
- MECH
- RESTROOM
- STORAGE

Future Uses

Option 3

- No central hallway.
- Covered entry into storage and vestibule which leads to lease space 1 & 2.
- Each lease space has its own restroom.
- Staircase in north vestibule and south end of storage area.
- Total lease space square footage approx: 6,823 SF
- Total 1st floor "Storage" occupancy square footage approx: 3, 515 SF



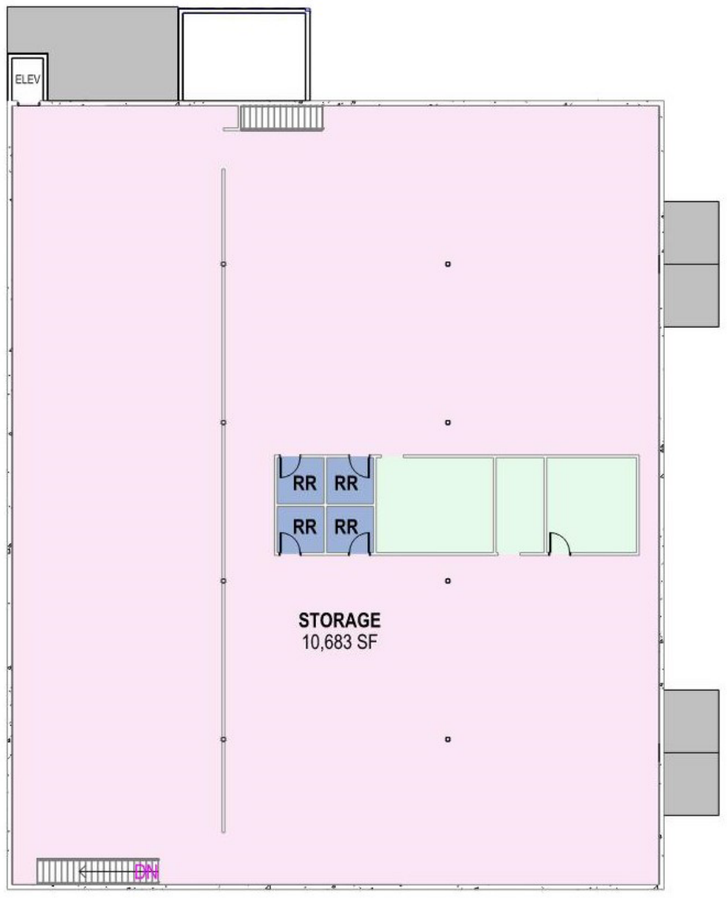
SPACE LEGEND

- CIRCULATION
- FIRE SP.
- LEASE SPACE 1
- LEASE SPACE 2
- LEASE SPACE 3
- LEASE SPACE 4
- MECH
- RESTROOM
- STORAGE

Future Uses

Second Floor

- Two stairways leading to second floor.
- Four restrooms
- Total storage square footage approx: 10,683 SF



SPACE LEGEND

ENCLOSED SPACE
RESTROOM
STORAGE

Future Uses

Opportunities

Egress - (3) sets of stairs currently serve the 2nd floor. The width and number of stairs is adequate for scenario #1, as well as most other occupancies allowed under C-I zoning restrictions.

- The presence of an elevator is a positive, though its location is not ideal for other Renovation Scenarios.
- Controlled access to 2nd floor can be provided through Stair #2 and adjacent elevator, with a second means of egress provided via Stair #3. Under all scenarios, 2nd floor mini storage does not require a 3rd means of egress. Therefore, Stair #1 could conceivably be removed so long as the floor is single occupancy.
- All stairways (minimum of 2 per code analysis) must be upgraded to a minimum of 1-hour, fire-resistive construction.

MEP Systems Overview - All systems need to be replaced, so opportunity to install what's needed, appropriate to lease spaces.

Plumbing -

- Centralized toilets convenient if facility occupied by fewer tenants, as subdividing creates obstacles. If moving or simply adding 1st floor toilet rooms, new drainage paths must be installed below the existing concrete floor - see example illustrated in Option 2.

Mechanical -

- Insufficient to support renovations under this scenario.

Electrical -

- The availability of 3-phase power in the vicinity of the building will accommodate most renovation scenarios limited mainly by the capacity of the electric utlity primary power system.

Constraints

Overview - Low 1st floor ceiling heights (8' - 6") limits coventional overhead door heights, use of the 1st floor spaces, and tilt-up concrete panel widths (10' - 0").

Egress - Although the number and distribution of stairs serving the 2nd floor are adequate, their construction (protection) and egress path does not currently meet code. Aside from renovating to assure 1-hour, fire-resistive (F-R) construction, direct exit pathways to the exterior must be provided. Conceptually, this includes construction of two individual corridors and new doors to the exterior recommended for Stairs #2 and #3. 1st floor egress is included under scenario #1 with new entry doors provided where determined.

- Location of the elevator at the NW corner of the building means that it is not convenient to the "front" of the building where primary entrance(s) would likely be positioned.

Fire - There is no fire alarm or fire suppression system.

MEP Systems - Existing systems should be replaced.

Plumbing -

- If changes to existing toilet room (better distribution into lease spaces across 1st floor), demolition of 1st floor slab required. Alternatively, raising proposed toilet rooms as needed to install small ejector pumps (and providing a ramp to access), provides opportunity for toilet rooms within individual lease spaces.

Mechanical -

- Existing systems insufficient to support renovations.

Electrical -

- The existing electrical system may be sufficient to support this renovation scenario with seperate panels for up to (4) lease spaces and up to (2) for the common areas. This is not recommended as the equipment is obselete.

Appendecies

Appendix A - Existing Conditions

Civil

- Existing Conditions
  - The existing site has been developed into a subdivision with several existing lots and infrastructure. The condition and size of this infrastructure is unknown currently,
  - Site vegetation is largely scrub land and shrubs typical for non-irrigated, non-managed land in the area.
  - The immediate site for the existing building is not developed in typical manner with pavement and sidewalks. Accessible routes are not identified.
- Topography
  - A topographic survey has not been prepared, however the site is relatively flat and rolling with several localized depressions. A watercourse is located on the west side of the project which is generally the low point.
  - Overall the site slopes from north to south.
- Land Use and Zoning - See Appendix B.
- Critical Area
  - Floodplain (Appendix D - Exhibit A)
    The site is predominately a Zone C floodplain which does not have any special restrictions
  - An unnumbered zone A floodplain is located west of the site and likely coincident with the stream. Further analysis would likely indicate the floodplain would be located on the site. The cost to develop in the floodplain generally exceeds the benefit.
  - Zone A floodplains are also known as, floodplains, 100 year floods and 1% annual chance event in regulatory terms.
- Wetlands
  - The National Wetlands Inventory (Appendix D Exhibit B) indicates wetlands located on the stream to the west of the project.
  - A wetland study was conducted by Michelle Anderson from Anderson Environmental Consulting and identified wetlands A through H on the subject property.
  - Ecology issues guidance for eastern Washington communities in wetland protection.
    - https://apps.ecology.wa.gov/publications/summarypages/1606002.html
  - Wetland permits are generally reviewed by Ecology, reducing local agency direction and impact.
  - The wetlands are considered a Category II wetland which has a buffer of 150 feet per Stevens County Code. An additional 10 foot buffer is required for building setbacks. This buffer should be reviewed and confirmed by a wetland biologist.
  - Buffer averaging should be explored, which allows development with in a wetland buffer by dedicating additional property, usually double the impacted buffer, elsewhere on the site.
- Soils
  - The site is predominately mapped as "saltese muck", which is generally described by the NRCS as follows: The soil is likely to be difficult for re-use as structural fill on-site due to the fine-grained nature and also the potential for saturation. See appendix D Exhibit C.
  - Slopes are 0 to 2 percent. This component is on depressions. The parent material consists of organic material mixed with alluvium, diatomite and volcanic ash. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is very poorly drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is very high. Shrink-swell potential is low. This soil is not flooded. It is frequently ponded. A seasonal zone of water saturation is at 0 inches during February, March, April, May.
  - Organic matter content in the surface horizon is about 65 percent. This

Appendecies

component is in the R044XY601WA Wet Meadow 16-24 Pz ecological site. Non-irrigated land capability classification is 5w.
  - This soil meets hydric criteria. There are no saline horizons within 30 inches of the soil surface.
- Stormwater
  - Local stormwater infrastructure was not observed
  - Presence of wetlands and floodplains generally indicates soils not conducive to infiltration.
  - Stormwater would be collected on-site, treated and released at pre-development rates
  - Ponds are estimated to be 15% of total site development area and may be combined with landscaping.
- Water
  - The bisecting road development includes water mains, services, and hydrants for fire protection
  - Water service size to the site it not known, however mains are assumed to be 8" which would accommodate development
  - A 6" fire service would likely be required for new and redevelopment to provide for a fire sprinkler system.
- Sewer
  - Sewer mains in the existing road provide adequate sewer service and are adequate depth for standard commercial development.
  - Standard 8" sewer lines provide adequate capacity for development.
- Transportation
  - An existing roadway with two access points serve the development. Additional on-site improvements are not anticipated.
- Proposed Solutions
  - The impacts of wetlands and buffers greatly reduces the development footprint of most of the platted lots.
  - Undeveloped portions of the site may be developed by buffer averaging to provide sites for development while dedicating in-accessible or less desirable portions for wetland buffer set aside.
  - Undeveloped portions can be developed into surface storage / parking or commercial buildings.
    Sewer, water and street infrastructure is adequate to support development.
  - The existing building re-development should include site pavement, curbing, and walkways for pedestrian access to the building and public rights of way.

Appendecies

Structure

- Existing Conditions
  - Concrete floor - very fine cracking, no settling observed. Exposed 7" x 7" rectangular tube steel columns - no damage observed.
  - Second floor - Wood framed with approx. 10" x 36" GLB's supporting floor trusses and exposed plywood subfloor. Thickness and potential for multiple layers of plywood indeterminate, but assumed to be at least 3/4" T&G. No defects or damage observed.
  - Concrete tilt walls - no cracking observed in panels which are 10' - 0 wide x full height. The wall height was not measured but including distance from 1st floor to surrounding subgrade is approx. 24' plus extension below grade to bearing.
  - The loading dock wall and roof construction are not known. See cautionary notes below related to personnel in the area of the loading dock.
  - New openings in perimeter tilt-up concrete (TUC) wall panels are possible. These include openings for upward acting doors up to 10' wide, and personnel doors up to 6'-4". Absent destructive investigation to determine panel to panel connection details and related as-built conditions, we must assume most-restrictive modification limitations. These would include new steel structure inside perimeter TUC wall panels to support remainder of TUC wall panels above. The new steel structure would need to extend past the interior slab on grade, and bear on the footing below. The footings may need to be reinforced or be augmented. Detailed engineering assessment is required.
  - Smaller door openings of 3'4" wide can be cut where needed, but no openings of any kind can include two (2) panels without a more comprehensive analysis. Additionally, any new 10' wide openings must be seperated by at least one full height TUC wall panel.
  - It is critical that existing interior walls coincident with columns must not be modified without detailed engineering assessment of their contribution to the buildings lateral load capacity.

- Proposed Solution
  None recommended

Appendecies

Enclosure (thermal and moisture)

- Existing Conditions
  - Pitched metal roofing appears original and at least the lower, entry canopy is exposed-fastener type. The upper roof could not be observed but leaks in at least two places, not including the NE corner where existing commercial dryer equipment vent through roof has been damaged, presumably by sliding snow. The other leaks need additional investigation and are believed to be related to non-functional HVAC equipment on the Loading Dock roof.
  - The roof of the Loading Dock (where existing HVAC equipment is located) could not be observed. It is believed this area is significantly compromised due to the number of vertical penetrations, ceiling damage observed inside the Loading Dock, and high levels of moisture in this space. Extreme caution should be exercised in, around, or on top of the Loading Dock porting of this building.
  - Exposed concrete tilt walls are painted in places, but it is failing and no paint in other places. Moss and plants observed growing in joints between panels. Waterproofing between panels needs attention.
  - Roof insulation appears to be blown-in cellulose (observation limited to a single, damaged ceiling location), approximately 6"- 8" thick.
  - Wall insulation (one location visible, above 1st floor ceiling) consists of 1" expanded foam panel insulation. No vapor or moisture barrier observed. The foam insulation is protected by at least ½" gypsum board (GWB) believed to be throughout the building's occupied areas.
  - No (sound) insulation between 1st and 2nd floor areas was detected. Insulation (and/or vapor barrier) below the 1st floor slab is unknown. Several roof soffits are loose and/or falling out.
  - Further assess Loading Dock roof, including walls and ceilings. Fix or replace as needed.

- Proposed Solution
  - Perform detailed roof inspections, of all roof surfaces. Inspect all sloped roof surfaces, re-fasten or replace as needed.
  - Strip existing wall finished and clean joints between tilt panels and re-seal. Repaint building exterior.
  - Fix all roof soffits.

Interiors:

- Existing Conditions
  - Concrete floor slab is painted, and no major cracking observed. 1st floor and 2nd floor walls are painted GWB and are in serviceable condition.
  - 1st and 2nd floor ceilings are painted GWB and are in serviceable condition. GWB thickness is unknown.
  - Facility does not include any ADA accommodations.
  - 2nd level flooring is painted plywood in good condition.
- Proposed Solution
  - Evaluate existing stairway locations with respect to proposed floor plan changes and/or lease space configurations.
  - Confirm existing requirements
  - Select finishes that support the types of functions planned for future

Appendecies

Elevator:

- Existing Conditions
  - The elevator was last inspected in 2002 and does appear large enough (W x L) to comply with the with ADA. However, the elevator controls appear non-compliant.
  - The elevator pit could not be observed. It is therefore not known if the pit contains a sump, a light, Ladder, etc. The entire elevator system should be evaluated for serviceability and/or suitability for renovation or replacement.
- Proposed Solution
  - A qualified elevator technician should perform a detailed assessment.

Appendecies

Fire Suppression

- Existing Conditions
  - There is no fire suppression system in the building. The existing water service (believed to be 2") believed to be insufficient to support a new fire suppression system.
- Proposed Solution
  - Provide an automatic fire suppression system or upgrade the entire building to one-hour, fire resistive construction.

Plumbing

- Existing Conditions
  - Service – The existing service is approximately 2" diameter and is mechanically metered inside the building. Below-stair #1 meter location is constrained and should be reversed for better access.
  - Distribution – All plumbing fixtures appear to be centrally located between GL's 3 and 4. 1st floor services are under the slab (at least all drains) and unless an under-slab utilidoor exists, were likely not in stalled to facilitate future renovations or relocations of 1st floor fixtures.
  - Drains – The elevator pit could not be observed and no other floor drains in the building were noted.
  - Fixtures – designated toilet room areas are noted, a lavatory in what appears to be an old Break room on the 2nd floor. Several other sinks are on the west side of the 1st floor but were not definitively noted.
  - There are (4) commercial water heaters (possibly small boilers??) on the 1st floor, and condition as well as what they served is not known. A hose bibb on the exterior was observed on front (east side) of building. No others were detected.
  - Small diameter compressed air lines and drops are located through out the building. Existence of the serving compressor is not known.
- Proposed Solution
  - All plumbing fixtures should be removed and replaced with code-compliant types, even if no floor plan changes are enacted.

If floor plan/lease-space renovations are planned, below-slab drains will need to be appropriately located, including new floor drains depending on planned use of individual spaces, including all new toilet room locations.

Mechanical

- Existing Condition
  - The existing HVAC system is located outside the 2nd floor walls, on the roof of the Loading Dock. Access was not available but from the ground, the equipment appeared to be non-functional and signifi cantly damaged. The screen walls (and roof) around the HVAC equipment are partially collapsed. All mechanical equipment should be removed.
  - Interior ducted supply was observed on the 1st floor, and to lesser degree on the 2nd floor. All ducts are ceiling supported. Current ductwork configurations likely would not serve future building/ suite layouts well and therefore, should be removed entirely.
- Proposed Solution
  - Remove all mechanical equipment and replace with suitable systems to serve new floor plan/lease space configuration. Refer to the Washington State Energy Code Assessment section for mechanical systems discussion for the first floor.
  - The second floor, if used as storage, can use simple electric heaters as desired.
  - Toilet rooms require mechanical exhaust, ducted to the outside and interlocked to run when occupants are present. This could be accomplished by a space occupancy sensor. A small electric heater is recommended if the restroom is located on an exterior wall and for restrooms on the second floor because they will have heat loss through the roof.

Appendecies

Electrical

- Existing Conditions
  - Existing electric utility service to the building is supplied from overhead 3-phase primary power running north-south along the west side of N 7th St E to a wooden utility pole located at the to the southeast corner of the project site, then west to a wooden utility power south of the building and terminating at a pole-mounted transformer bank consisting of (3) 1-phase transformer.
  - Based upon the available photographs, each transformer appears to be rated approximately 50-75kVA; 150-225kVA total. This transformer bank will support a load density of approximately 13-19 VA/square foot which will support most occupancy and proposed uses. Certain renovation scenarios require power densities well in excess of the existing transformer bank and may exceed the available capacity of the existing electric utility primary system.
  - Existing electric utility aerial transformer secondary drops from the transformer bank to service weather heads at the southeast corner of the 2nd floor. These weather heads are the NEC 100 Point of Service. Utility metering equipment is located at the weather head and in a surface mounted enclosure metering enclosure at the southeast corner of the building.
  - Service equipment is located at the east end of the south exterior wall on the 2nd floor and consists of a surface mounted wireway with (5) 200A service disconnects. No main disconnect or overcurrent protective device is provided. This service arrangement can support the addition of (1) additional service disconnect.
  - Based upon the number and ampere ratings of the existing service disconnects, the system appears to be capable of easily overloading the existing transformer bank.
  - Existing service and distribution equipment and associated feeders are obsolete and should be removed.
  - Any miscellaneous wiring devices, boxes, and branch circuit conduits and wiring should be removed.
- Proposed Solution
  - The existing transformer bank may need to be upgraded depending upon the occupancy and proposed use.
  - New service equipment should be provided with a main disconnect and overcurrent protective device. This configuration allows for an unlimited number of overcurrent protective devices to accommodate the separation of panels supplying common area and each lease space.
  - Submetering of panels supplying common areas and each lease space is recommended.
  - Depending upon the occupancy and proposed use, an emergency generator may be desirable to supply life safety and/or optional stand by loads.
  - Fire suppression sprinklers, if provided, may require a fire pump that should NOT be electric.

Lighting

- Existing Conditions
  - Rudimentary lighting exists and is largely functional. However, at best it's unreliable and should all be removed/replaced during renovations. Emergency wall pack lighting fixtures are not located appropriately (for exiting, etc) and appear to have been located primarily to aid escape from isolated areas of each floor plate.
  - Lighting controls are not code-compliant

- Proposed Solution
  - New interior and exterior illumination should be provided using commercial fixtures with separate LED array and driver components.

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- Common areas should be illuminated in accordance with Illuminating Engineers Society of North America (IESNA) recommendations, latest edition. Minimal lighting should be provided in lease spaces until tenant improvements are performed.
- Absent an emergency generator or central lighting inverter, egress and exit lighting should be equipped with integral battery backup or microinverters to provide UL 924 90-minute runtime.
- Lighting controls should be provided from a network lighting control system consisting of distributed button stations, occupancy and vacancy sensors, daylighting sensors, photocells, power packs, hubs, and network gateways to accommodate Ethernet connectivity and BMS interface.

Communications

- Existing Conditions
  - There are several primitive mass notification devices, but no "system", and currently inoperable, or repairable to comply with either grandfathered, or current life-safety codes.
- Proposed Solution
  - Any miscellaneous cabling related to prior communications systems, abandoned or otherwise, should be considered obsolete and removed completely.
  - A new Telecom Service Entrance Facility (TSEF) should be provided at the point of entry for the local communications utility company cabling (2nd floor adjacent to the electrical service equipment).
  - This space should be minimum 7'-0" x 10'-0". This space will accommodate communications utility company equipment and termination backbone cabling extending to each lease space.
  - Backbone pathway should be provided to accommodate backbone cabling between the TSEF and the rack location in each lease space.
  - Workstation cabling and equipment within each lease space should be provided in response to each specific tenant's requirements.

Signal and Detection

- Existing Conditions
  - There are several primitive mass notification devices, but no "system", and currently inoperable, or repairable to comply with either grandfathered, or current life-safety codes.

- Proposed Solutions
  - All devices, including free-standing emergency wall packs should be removed.
  - A new addressable manual fire alarm system should be provided with the fire alarm control panel located near the electrical service equipment and TSEF. The FACP should have a telephone land line and a cellular modem for digital communications with the designated 24-hour monitoring facility.
  - Fire suppression sprinkler tamper and flow switches, if provided, are required by NFPA to be supervised.
  - Fire alarm initiating device and notification appliance requirements should be provided in response to the occupancy group for each specific tenant and the common areas.

Miscellaneous

- Exisiting Conditions
  - Two commercial dryers were abandoned on the 1st floor
- Proposed Solutions
  - The equipment should be removed together with the failed thru-roof vent. The roof should be patched. Conductors and gas lines should be terminated as required.

Appendecies

Appendix B - Other Potential Uses

We see several other potential uses for the primary building, including mixed-use light commercial/industrial or manufacturing, service, Cryptocurrency plant, a commercial indoor growing operation (except cannabis), or warehousing. Structural limitations affect both the loading on the 2nd floor as well as overhead door opening sizes through the tilt-up concrete panels.

From the City of Chewelah's Zoning code, Table 18.08.020 lists Permitted, Conditionally Permitted, and Prohibited Uses, the following uses within the C-I zone could be considered, **with high potential uses below.**

Permitted

Keeping Livestock and Domestic Pets
Accessory uses and structures
Essential public service and utility buildings
Temporary uses, including business, contractors, real estate offices,
Medical and dental offices
Single-family dwelling (including designated manufactured homes)
Duplex
Multi-family, 3 units or more
Commercial nurseries and greenhouses
Amusement enterprises
Museum, art galleries
Automotive showroom and supply store
Bakery, candy, ice cream, and similar food manufacturing
Medical and dental offices
Catering services
Department stores, building supply outlets, floor covering and rug stores
Dressmaking and custom tailoring
Dry good stores
Financial institutions
Furniture stores including incidental repair and custom furniture upholstering
Restaurants, including drive-ins
Private clubs, fraternities, and lodges
Liquor stores, taverns, night clubs
Places of assembly, including auditorium, funeral home, art gallery, etc
Tire shops, excluding tire recapping
Armories
Theatres, excluding drive-ins
Professional and general offices
Business and trade schools
Studios, commercial art, photography, film exchange, preprocessing
Second-hand store
Dry cleaning and laundry
Mixed Use (office, commercial and/or residential on a single parcel or in a single structure)
On site hazardous waste storage and treatment
Other similar retail wholesale and commercial businesses
Hotel or motel
Manufacturing, assembly, compounding, packaging or treatment of products, similar to scientific, business or industrial machinery or instrumentation, food products, clothes or recreational equipment
Research, experimental or testing laboratories
Electrical vehicle charging station - levels 1, 2, and 3, including battery exchange stations

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Conditionally Permitted

Animal clinics
Clinic, hospital, and convalescent facilities
Wholesale and mail order (not stocking goods on premises)
Recreational vehicle park
Service station (9)
Car wash
Off-site hazardous waste storage and treatment
Warehouses
Temporary stands for sale of agricultural products
Public/private utilities
Drop hammer or similar equipment

Undeveloped Portions of the Parcel

See appendix D

Appendecies

Appendix C - Code Assessment

Code Analysis for Egress, Fire, MEP, Systems and Lighting

The prevailing life and safety code for the state of Washington at the time of construction was the 1988 Uniform Building Code.

Code Review Checklist
2018 International Codes

Name of Project: Chewelah Commercial Renovation

Location of Project: NE Corner of N 7th Drive and East Park Lane. Chewelah, WA 99109

Integrus Project No: 22146.00

Date of Review: November 31, 2021

Phase of Code Review: Feasibility

APPLICABLE BUILDING CODES

Building	2018 International Building Code (IBC) and Washington State Amendments	WAC 51-50
Accessibility	ICC A117.1-2009 Accessible and Usable Buildings and Facilities	WAC 51-50
Mechanical	2018 International Mechanical Code	WAC 51-52
Fire	2018 International Fire Code	WAC 51-54
Plumbing	2018 Uniform Plumbing Code	WAC 51-56 and 51-57
Electrical	National Electrical Code, NFPA 70	RCW Chapter 28 and 29
Energy	2018 Washington State Energy Code	WAC 51-11
Indoor Air Quality	Washington State Ventilation and Indoor Air Quality Code	WAC 51-13
Elevator	ANSI/ASME A117-1	WAC 296-96
Civil		WSDOT 2020 confirm with civil
Fire Sprinklers	NFPA 13	
Fire Alarm (907)g	NFPA 72	

INTRODUCTION

This existing building is being review primarily under the 2018 International Existing Building Code, or IEBC and due to the extent of renovations and improvements is considered a Level 3 Alteration. Additionally, new uses may be considered a change of Occupancy and Occupancy Classification. The building is believed to have been constructed in 1984 and does not comply Chapters 11 and 3 of the IBC which sets forth accessibility standards and address technical provisions for existing buildings, respectively. The building's structural system is not included in this code review other than what's included in the narrative related to on-site observations noted in the Report.

Appendecies

USE AND OCCUPANCY CLASSIFICATION(S)
IBC Chapter 3: Use and Occupancy Classifications

1. The renovated Chewelah Commercial Renovation (Building) is anticipated to contain Business (B) and Storage (S) Occupancy Group designations. Potential uses include business uses such as general office, service, and even distribution. Another similar occupancy might be Factory (F) which includes light to moderate hazard "factory-type" uses, including related offices, and low hazard storage. The building will also include ancillary storage rooms and incidental use areas such as common toilet areas.

2. **Group B**
Individual lease spaces will be classified as Group B, which include uses such as those associated with office, professional or service-type transactions, including storage of records or accounts. And can include uses such as Civic administration, dry cleaning, food processing, labs, print shops, training or skills development, and professional service firms, to name a few.

3. **Group F (alternate)**
Individual lease spaces could alternatively be classified as Group F, which include uses such as those associated with "assembling, dissembling, fabricating, finishing, manufacturing, packaging, repair, or processing operations that are not classified as a Group H hazardous or Group S storage occupancy."

4. **Group S-2**
Mini (self) storage areas will be classified as Group S-1, defined as "moderate" hazards due to typical storage of mattrasses and upholstered furniture.

OCCUPANCY SEPARATIONS
IBC Chapter 5, Section 508.1: Mixed Use and Occupancy

1. An occupancy separation between a B and S-1 Occupancies is not required per Table 508.4. The Table states that the no separation is required whether building is equipped throughout with an automatic sprinkler system, or not.

2. Different occupancies within the same building do not have to be separated by fire resistive rated assemblies if the building complies throughout with the more restrictive code requirements for minimum construction type and fire protection systems. The building will utilize the B occupancy group (most restrictive) for areas in building height and occupancy group calculations. However, height and area are not anticipated to change under any remodel scenario.

TYPES OF CONSTRUCTION
IBC Chapter 5: General Heights and Areas (Table 504.3, 504.4 and 506.2)

1. Type V-B (Existing Building Construction). The current condition is Type V-B non-rated construction.

Appendecies

BUILDING HEIGHTS AND AREAS
IBC Chapter 5: General Building Heights and Areas

The building is approximately 12,000 gross square feet per story, or a total of 24,000SF. Therefore, the allowable area, permissible increases, and maximum square footage for Type V-B Construction based on Occupancy Group are tabulated below per Table 506.2 and allowable area equations per Section 506 for the new construction. **It is important to note that the existing building is NOT occupiable at this time because it is not of fire-resistive construction and is not sprinkled.**

Occupancy	Basic Allowable Area / Floor	* Basic Allowable Increases / Floor	** Allowable Building Height
B	9,000 s.f.	36,000 s.f.	2 stories (60 feet)
S-1	9,000 s.f.	36,000 s.f.	2 stories (60 feet)

* Includes 300% increase for "Automatic Sprinkler" for multi-story buildings (Section 506.3). Note: a % increase for "Frontage" (Section 504.2) is not calculated at this time.

** Includes 20-foot increase for "Automatic Sprinkler" (Section 504.2).
Includes 1 story increase for "Automatic Sprinkler" (Section 504.2).

2. The maximum number of S-1 occupants allowed to use a single exit is 29. However, per Table 1006.3.2, a minimum of two exits are required for floors above the 1st.
3. If only 2 exits are required, they shall be placed a distance apart not less than 1/2 the maximum diagonal dimension of the area measured in a straight line. For a building with an automatic sprinkler system the distance apart from each exit shall not be less than 1/3 the length of the maximum overall diagonal dimensions of the area served. (Section 1007.1.1 Exception 2)
4. Two exit access doorways are required in boiler, incinerator and furnace rooms where the area is over 500 square feet and any fuel-fired equipment exceeds 400,000 British thermal units (Btu) (422,000 KJ) input capacity. Where two exit access doorways are required, one is permitted to be a fixed ladder or an alternating tread device. Exit access doorways shall be separated by a horizontal distance equal to one-half the length of the maximum overall diagonal dimension of the room. (Section 1006.2.1.1)

OCCUPANT LOAD
IBC Chapter 10: Means of Egress

1. The Maximum Floor Area Allowances per Occupant are detailed in the IBC (Table 1004.5) as follows:

Occupancy	Floor Area in Sq. Ft. Per. Occupant
Business Areas	150 gross
Industrial Areas	100 gross
Mercantile Areas	60 gross
Warehouse Areas	500 gross
Accessory Storage Areas - Mechanical	300 gross

2. Utilizing the occupant loads above, the approximated occupancy loads are as follows:

(B) Business	(7,000 s.f.)	46 occupants
(F) Mech/Support	(1,500 s.f.)	5 occupants
(S-1) Mini-Storage (1st floor)	(3,000 s.f.)	10 occupants
(S-1 Mini-Storage (2nd floor)	(11,400 s.f.)	38 occupants
(B) Mech/Support (2nd floor)	(600 s.f.)	2 occupants
Total	**=**	**91 occupants**

Appendecies

MEANS OF EGRESS
IBC Chapter 10: Means of Egress

1. The total width of means of egress for buildings equipped with an automatic sprinkler system (in inches) shall not be less than the total occupant load served by the means of egress multiplied by 0.2 inches per occupant for stairways and by 0.15 inches per occupant for other egress components. The width shall not be less than specified elsewhere in this code. Multiple means of egress shall be sized such that the loss of any single means of egress shall not reduce the available capacity to less than 50 percent of the required capacity. The maximum capacity required from any single story of a building shall be maintained to the termination of the means of egress. (Section 1005.3.1 Exception 1 and 1005.3.2 Exception)

2. Where exits serve more than one floor, only the occupant load of each floor considered individually shall be used in computing the required capacity of the exits at that floor, provided that the exit capacity shall not decrease in the direction of egress travel. The capacity of the exits is based on the occupant load of one floor. Occupant loads are not combined with other floors except as provided for in Section 1005.6 Egress Convergence. (Section 1005.4)

Capacity of Exit Doors:
Typical clear width of a 36" door is 32" measured from the face of door to the stop with the door open 90 degrees, (Section 1008.1.1).
• 32"/.15 per occupant = 213 occupants at every 3'-0" doorway.
• 56"/.15 per occupant = 373 occupants at every 5'-0" doorway. (existing main entry door combo is 5' wide)
First floor exit components:
.15 (77 occupants) = 11.55"/12 = 1 feet total width required at First Floor exit components.
.15 (22 occupants) = 3.3"/12 = .275" total width required at Second Floor exit components.
3. Corridor fire-resistance rating
Occupancy Group B and Group S - greater than occupant load of 30, w/o sprinkler system, the corridor = 1 hour; with sprinkler system, the corridor = 0 hour. (Table 1020.1)
4. The common path of egress travel, that portion of exit access (portion of a means of egress system that leads from an occupied portion of a building to an exit) which the occupants are required to traverse before two separate and distinct paths of egress travel to exits are available shall not exceed 75 feet for Groups B and S, or 100 feet for each provided an automatic sprinkler system (Table 1006.2.1) is provided.
5. For occupancy Group B - the travel distance to exit shall not exceed 200 ft. or 250 ft. in a building with an automatic sprinkler system, (Section 1017.1 Table 1017.2).
6. For occupancy Group S - the travel distance to exit shall not exceed 200 ft. or 250 ft. in a building with an automatic sprinkler system, (Section 1017.1 Table 1017.2).

Appendecies

NUMBER OF EXITS REQUIRED
IBC Chapter 10: Means of Egress

1. Each story shall have access to the minimum number of exits or access to exits as specified in (Section 1006.3.1) as follows:

1-50	= 1 exit min
50-501	= 2 exits min
501-1,000	= 3 exits min
Above 1,000	= 4 exits min

Lease Spaces (1st floor)	61 occupants	**2 Exits required**
Storage (2nd Floor)	40 occupants	**1 Exit required***
First Floor	61 occupants	**2 Exits required**
Second Floor	40 occupants	**1 Exit required***

ACCESSIBLITY
IBC Chapter 11: Accessibility

1. As of July 1, 2013, the amended WAC 51-50 has adopted ICC A117.1-2009 Accessible and Usable Buildings and Facilities as the governing accessibility regulation in Washington State, including Appendix E of the IBC.

2. An accessible route of travel shall be provided to all public portions of the building, to accessible building entrances and between the building and the public way. (Section 1104.1)

3. The primary entry and all other entrances to a building located within 6" of grade shall be accessible and shall be identified by the International Symbol of Accessibility. At least 60% of all public entrances, or a number equal to the number of required exits, whichever is greater, shall be provided. (Section 1105.1 & Washington Administration Code, W.A.C.)

4. Automatic doors are required in facilities with the occupancies and building occupant loads indicated in Table 1105.1.8. All public entrances that are required to be accessible shall have one door be either a full power-operated door or a low-energy power-operated door. Where the public entrance includes a vestibule, at least one door into and one door out of the vestibule shall meet the requirements in section 1105.1.8.

Occupancy: B	Building Occupant Load Greater than 300
Occupancy: S	Building Occupant Load Greater than 500

Appendecies

PLUMBING FIXTURE REQUIREMENTS
IBC Chapter 29: Plumbing Systems

1. Plumbing fixtures shall be provided in the minimum number shown in Table 2902.1 and in accordance with the WA State Amendents Chapter 51-50 WAC. To determine the occupant load of each sex, the total occupant shall be divided in half. (Section 2902.1.1)

2. Drinking fountains at multi-story buildings shall be provided on each floor having more than 30 occupants. (Section 2902.5.2)

3. Drinking Fountains: 50% to be accessible, at least one to be mounted at standard height. (Section 1109.5)

4. Service Sinks: a minimum of one (1) service sink shall be provided.

Minimum Number of Plumbing Fixture Requirement (Table 2902.1.1 W.A.C.)

Classification	Water Closet	Lavatories	Drinking Fountains
Group B	Male: 1 per 25 up to 50, then 1 per 50 Female: 1 per 25 up to 50, then 1 per 50	Male: 1 per 40 up to 80, then 1 per 80 Female: 1 per 40 first 80, then 1 per 80	1 per 100.
Group S	Male: 1 per 100 Female: 1 per 100	Male: 1 per 100 Female: 1 per 100	1 per 1,000

Appendecies

Washington State Energy Code Assessment
This is not intended to be a comprehensive analysis of the Energy Code but paired down to what might be applicable for a building of this size and type.

Mechanical

None of the existing systems comply with the current Energy Code. Light-commercial packaged rooftop units are no longer compliant due to their inefficiency and the Code's intent to decouple ventilation air from heating and cooling systems. The most cost-effective system that would comply is a variable refrigerant flow (VRF) system coupled with a dedicated outside air unit (DOAS). Alternative system types can be evaluated as the building's use becomes established. As an example multi-family use has significantly different requirements than a medical and/or dental office.

Plumbing

Since the building gas service is disconnected, the use of heat pump water heaters is recommended. This would also be in line with the state's future direction of not using fossil fuels for buildings. A hot water recirculation line and pump is also required to provide hot water to fixtures within 5 seconds.

Electrical

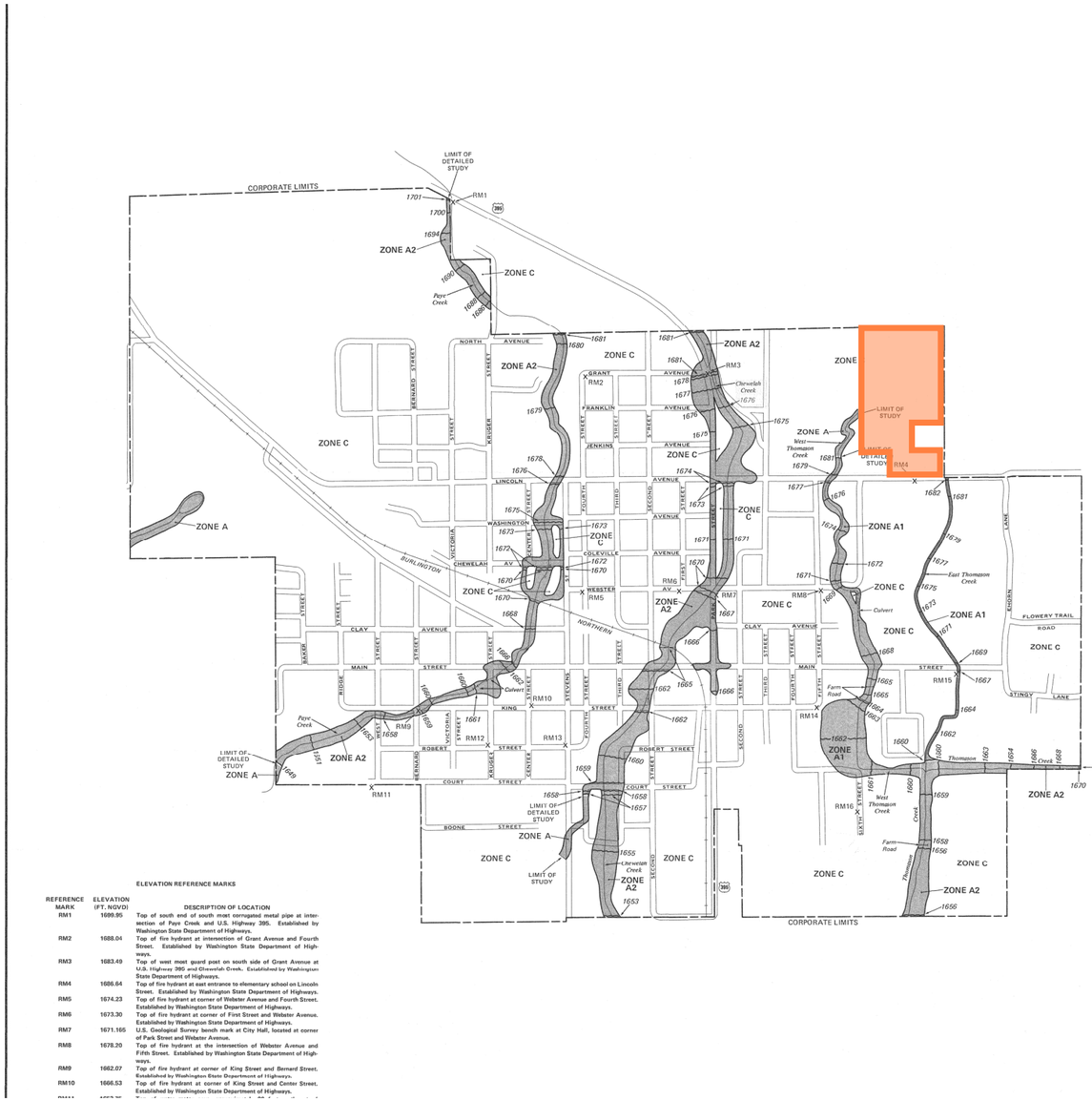
Since the alteration project impacts an area larger than 5,000 square feet, controlled receptacles will require to comply with C 405.10.

Lighting

The complete replacement of existing lighting fixtures will require new interior and exterior lighting fixtures to comply with the power requirements of sections C 405.4 and C 405.5. The construction of interior partitions to create new spaces will require new lighting control to comply with the control requirements of Sections C 405.2.1, C 405.2.2, C 405.2.3, C 405.2.4, C 405.2.5, and C 408.3.

Appendecies

Appendix D - Civil Assessment - Exhibit A



ELEVATION REFERENCE MARKS

REFERENCE MARK	ELEVATION (FT. NGVD)	DESCRIPTION OF LOCATION
RM1	1699.95	Top of south end of south most corrugated metal pipe at intersection of Paye Creek and U.S. Highway 395. Established by Washington State Department of Highways.
RM2	1688.04	Top of fire hydrant at intersection of Grant Avenue and Fourth Street. Established by Washington State Department of Highways.
RM3	1683.49	Top of west most guard post on south side of Grant Avenue at U.S. Highway 395 and Chewelah Creek. Established by Washington State Department of Highways.
RM4	1686.64	Top of fire hydrant at east entrance to elementary school on Lincoln Street. Established by Washington State Department of Highways.
RM5	1674.23	Top of fire hydrant at corner of Webster Avenue and Fourth Street. Established by Washington State Department of Highways.
RM6	1673.30	Top of fire hydrant at corner of First Street and Webster Avenue. Established by Washington State Department of Highways.
RM7	1671.165	U.S. Geological Survey bench mark at City Hall, located at corner of Park Street and Webster Avenue.
RM8	1678.20	Top of fire hydrant at the intersection of Webster Avenue and Fifth Street. Established by Washington State Department of Highways.
RM9	1662.07	Top of fire hydrant at corner of King Street and Bernard Street. Established by Washington State Department of Highways.
RM10	1666.53	Top of fire hydrant at corner of King Street and Center Street. Established by Washington State Department of Highways.

Zone D Boundary
River Mile •M1.5

**Referenced to the National Geodetic Vertical Datum of 1929

EXPLANATION OF ZONE DESIGNATIONS

ZONE	EXPLANATION
A	Areas of 100-year flood; base flood elevations and flood hazard factors not determined.
AO	Areas of 100-year shallow flooding where depths are between one (1) and three (3) feet; average depths of inundation are shown, but no flood hazard factors are determined.
AH	Areas of 100-year shallow flooding where depths are between one (1) and three (3) feet; base flood elevations are shown, but no flood hazard factors are determined.
A1-A30	Areas of 100-year flood; base flood elevations and flood hazard factors determined.
A99	Areas of 100-year flood to be protected by flood protection system under construction; base flood elevations and flood hazard factors not determined.
B	Areas between limits of the 100-year flood and 500-year flood; or certain areas subject to 100-year flooding with average depths less than one (1) foot or where the contributing drainage area is less than one square mile; or areas protected by levees from the base flood. (Medium shading)
C	Areas of minimal flooding. (No shading)
D	Areas of undetermined, but possible, flood hazards.
V	Areas of 100-year coastal flood with velocity (wave action); base flood elevations and flood hazard factors not determined.
V1-V30	Areas of 100-year coastal flood with velocity (wave action); base flood elevations and flood hazard factors determined.

NOTES TO USER

Certain areas not in the special flood hazard areas (zones A and V) may be protected by flood control structures.

This map is for flood insurance purposes only; it does not necessarily show all areas subject to flooding in the community or all planimetric features outside special flood hazard areas.

INITIAL IDENTIFICATION:
JUNE 7, 1974

FLOOD HAZARD BOUNDARY MAP REVISIONS:
JANUARY 2, 1978

FLOOD INSURANCE RATE MAP EFFECTIVE:
FEBRUARY 5, 1986

Refer to the FLOOD INSURANCE RATE MAP EFFECTIVE date shown on this map to determine when actuarial rates apply to structures in the zones where elevations or depths have been established.

To determine if flood insurance is available in this community, contact your insurance agent, or call the National Flood Insurance Program, at (800) 638-6620.

APPROXIMATE SCALE IN FEET
500 0 500

NATIONAL FLOOD INSURANCE PROGRAM

FIRM
FLOOD INSURANCE RATE MAP

CITY OF
CHEWELAH,
WASHINGTON
STEVENS COUNTY

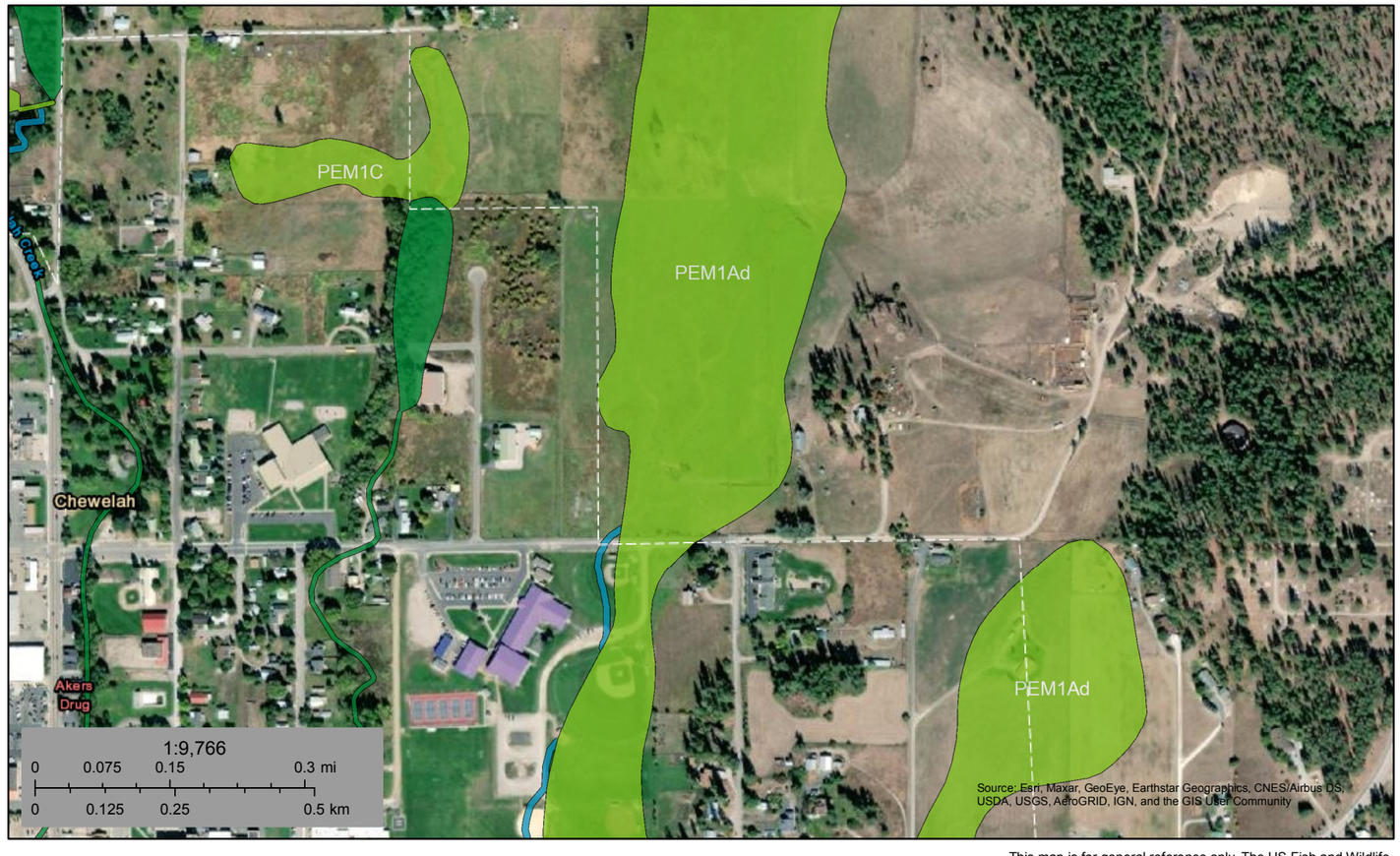
ONLY PANEL PRINTED

Appendecies

Appendix D - Civil Assessment - Exhibit B

U.S. Fish and Wildlife Service
National Wetlands Inventory

Wetlands



November 4, 2021

Wetlands

- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

National Wetlands Inventory (NWI)
This page was produced by the NWI mapper

Appendecies

Appendix D - Civil Assessment - Exhibit C