



PLANNING COMMISSION

Thursday, June 12, 2025 at 6:30 PM
Council Chambers, 60 West Main, Hyrum, Utah

AGENDA

Public notice is hereby given of a Hyrum Planning Commission to be held in the Council Chambers, 60 West Main, Hyrum, Utah at 6:30 PM, June 12, 2025. The proposed agenda is as follows:

1. **ROLL CALL**
2. **PLEDGE OF ALLEGIANCE**
3. **INVOCATION**
4. **APPROVAL OF MINUTES**
 - A. May 8, 2025
5. **AGENDA APPROVAL**
6. **PUBLIC HEARING**
 - A. To receive public comment regarding a temporary land use regulation governing short-term rentals and similar transient housing uses pursuant to Utah Code 10-9a-504.
7. **SCHEDULED DELEGATIONS**
 - A. Hyrum City - To consider the approval of an ordinance establishing a temporary land use regulation governing short-term rentals and similar transient housing uses pursuant to Utah Code 10-9a-504.
 - B. Carlyle Greger, Carlyle Machine - To request site plan approval for a new 10,950 sq. ft. building to manufacture prototypes in the medical industry located at 1671 East 145 South, consisting of approximately 1.00 acres.
8. **ADJOURNMENT**

Shara Toone
Secretary

Commission Members may participate in the meeting via telephonic communication. If a Commission Member does participate via telephonic communication, the Commission Member will be on speakerphone. The speakerphone will be amplified so that the other Commission

Members and all other persons present in the Commission Chambers will be able to hear all discussions. In compliance with the Americans with Disabilities Act, individuals needing special accommodations (including auxiliary communicative aids and services) during this meeting should notify Hyrum City Planning Commission at 435-245-6033 at two working days before the meeting.

CERTIFICATE OF POSTING - The undersigned, duly appointed and acting City Secretary of Hyrum City, Utah, does hereby certify that a copy of the foregoing Notice was posted on the Utah Public Notice Website and Hyrum City's Website, provided to each member of the governing body, and posted at the City Offices, 60 West Main, Hyrum, Utah, this 10th day of June, 2025. Shara Toone, Secretary



PLANNING COMMISSION STAFF EVALUATION – FIRST REVIEW

APPLICATION NO: 25-024A

APPLICANT: Hyrum City

PROPERTY OWNER: NA

PROPERTY ADDRESS: NA

PARCEL NUMBER: NA

PARCEL AREA: NA

CURRENT ZONE: NA

DATE: June 10, 2025

PLANNING COMMISSION MEETING: June 12, 2025

PLANNING COMMISSION ROLE: Recommending Body to City Council

APPLICATION TYPE: Ordinance Adoption - Legislative

NATURE OF REQUEST:

To consider the approval of an ordinance establishing a temporary land use regulation governing short-term rentals and similar transient housing uses pursuant to Utah Code 10-9a-504

OVERVIEW:

The current Hyrum City Zoning Ordinance lacks specific land use regulations governing Short-Term Rentals (“STRs”), including those listed on platforms such as Airbnb, Vrbo, and similar services. The increasing presence of unregulated STRs raises concerns related to parking, noise, public safety, housing availability, neighborhood stability, code enforcement, and equitable taxation. Staff has determined that a temporary land use regulation is necessary to preserve the existing character of residential neighborhoods and to prevent potentially incompatible land uses while the City undertakes a formal planning and public input process.

PLANNING COMMISSION RESPONSIBILITY:

1. The Planning Commission hold the required public hearing.
2. The Planning Commission have a thorough discussion on the draft ordinance, and recommends approval, approval with modification, disapproval, or request additional information to make a recommendation to the City Council.

STAFF RECOMMENDATIONS:

1. Support the temporary land use regulation.

STIPULATIONS:

1. This amendment is initiated by Hyrum City.

FINDINGS OF FACT:

1. The Public Hearing was noticed per Utah Code and City Code.

ATTACHMENTS:

1. Prepared Ordinance

**HYRUM CITY
ORDINANCE NO. [2025-XX]**

**AN ORDINANCE ESTABLISHING A TEMPORARY LAND USE REGULATION
GOVERNING SHORT-TERM RENTALS AND SIMILAR TRANSIENT HOUSING USES
PURSUANT TO UTAH CODE § 10-9a-504**

WHEREAS, Hyrum City, Utah (“City”) is a municipal corporation and political subdivision of the State of Utah, authorized under Title 10, Chapter 9a of the Utah Code to enact land use regulations to promote the health, safety, and welfare of its residents; and

WHEREAS, Utah Code § 10-9a-504 authorizes the City Council to enact temporary land use regulations for any part or all of the area within the municipality if the City Council makes a finding of compelling, countervailing public interest or where the area is unregulated; and

WHEREAS, The City currently lacks specific land use regulations governing Short-Term Rentals (“STRs”), including those listed on platforms such as Airbnb, Vrbo, and similar services; and

WHEREAS, The increasing presence of unregulated STRs raises concerns related to parking, noise, public safety, housing availability, neighborhood stability, code enforcement, and equitable taxation; and

WHEREAS, The City Council finds that these concerns constitute a compelling, countervailing public interest, and that immediate action is required to study and regulate STRs appropriately while maintaining the status quo; and

WHEREAS, A temporary land use regulation is necessary to preserve the existing character of residential neighborhoods and to prevent potentially incompatible land uses while the City undertakes a formal planning and public input process.

NOW, THEREFORE, BE IT ORDAINED BY THE CITY COUNCIL OF HYRUM, UTAH, that:

SECTION 1: Title

This ordinance shall be known as the Short-Term Rental Temporary Land Use Regulation Ordinance.

SECTION 2: Definitions

For purposes of this Ordinance:

- “Short-Term Rental” (STR) means the rental of any dwelling unit, or portion thereof, intended for a period of thirty (30) consecutive days or less, whether advertised or offered through online platforms or by other means.

- “Owner-Occupied STR” means a short-term rental where the owner resides on the premises during the guest's stay.
- “Non-Owner-Occupied STR” means a short-term rental where the owner does not reside on the premises during the guest's stay.

SECTION 3: Temporary Regulation Imposed

Upon passage of this Ordinance, and for a period not to exceed six (6) months, the following temporary land use regulations are imposed:

1. Prohibition of New STRs: No new short-term rentals, whether owner-occupied or non-owner-occupied, shall be established or operated within the City.
2. Suspension of Licensing and Permits: The City shall not issue any new business licenses, conditional use permits, building permits, or other land use approvals for STRs during the term of this Ordinance.
3. Existing STRs: Properties lawfully operating as STRs prior to the effective date of this Ordinance may continue to operate, provided they:
 - Are current on all required licensing and tax obligations;
 - Do not expand operations or increase occupancy limits; and
 - Do not change ownership or use during the moratorium period.

SECTION 4: Exceptions

This Ordinance shall not apply to:

1. Hotels, motels, or bed and breakfasts that are already regulated under existing zoning;
2. Long-term rentals (more than 30 consecutive days);
3. Home-sharing arrangements that do not meet the definition of a STR as defined herein.

SECTION 5: Purpose of the Moratorium

The purpose of this temporary land use regulation is to:

- Conduct a comprehensive review of the City’s land use regulations and zoning ordinances;
- Study the impact of STRs on neighborhoods, housing affordability, public infrastructure, and community character;
- Develop appropriate regulations, if any, for the licensing, zoning, taxation, and enforcement of STRs;

- Solicit public input and consider policy options in consultation with stakeholders.

SECTION 6: Duration

This temporary regulation shall remain in effect for one hundred eighty (180) days from the effective date of this Ordinance, unless sooner repealed or extended by the City Council pursuant to Utah Code § 10-9a-504(2).

SECTION 7: Severability

If any section, subsection, sentence, clause, or phrase of this Ordinance is held to be unconstitutional or invalid by a court of competent jurisdiction, the remainder shall not be affected and shall remain in full force and effect.

SECTION 8: Effective Date

This Ordinance shall become effective immediately upon adoption.

PASSED AND ADOPTED by the Hyrum City Council this ____ day of _____, 2025.

Stephanie Miller, Mayor

ATTEST:

Stephanie Fricke, City Recorder



PLANNING COMMISSION STAFF EVALUATION - FIRST REVIEW

APPLICATION NO: 25-023A
APPLICANT: Carlyle Creger, Carlyle Machine
PROPERTY OWNER: Carlyle Creger LLC
PROPERTY ADDRESS: 1671 East 145 South
PARCEL NUMBER: 01-170-0002
PARCEL AREA: 1.00 Acres
CURRENT ZONE: Manufacturing Zone M-2
DATE: June 10, 2025

PLANNING COMMISSION MEETING: June 12, 2025
PLANNING COMMISSION ROLE: Recommending Body to City Council
APPLICATION TYPE: Site Plan Approval

NATURE OF REQUEST:

Permitted Use – Manufacturing (no excessive noise, dust, smoke or odor).

CURRENT ZONING DISTRICT:

The purpose of this zone is to provide an area where medium to heavy manufacturing can occur. It allows higher levels of noise, dust, smoke and odor than is permitted in the M-1 Zone. Restrictions may be applied on proposed businesses whose levels of noise, dust, smoke or odor may be considered excessive by the planning commission. Design and landscaping requirements may also be imposed on businesses proposed for this zone.

OVERVIEW:

The applicant desires to construct a new 10,950 sq. ft. metal building. 7,950 sq. ft. will be used by the applicant to manufacture prototypes in the medical industry that are typically within the scale of two-inch (2") square. The remaining 3,000 sq. ft. of the building will be lease space. The 1-acre lot will be improved with an asphalt parking lot with landscaping areas on the south side and rock landscaping on the other remaining sides.

UTILITIES: Existing Power, Sewer, Water.

STAFF COMMENTS:

Planning and Zoning:

1. Each site plan shall include a lighting plan that is designed to discourage crime, enhance the safety of the project, and the parking lot and structure shall be well lit while preventing glare onto adjacent properties with dark-sky initiatives. Please submit the required lighting plan for Site Plan Approval. See HCC 17.49.022.
2. "Landscape Design By Others" is identified on Site & Utility Plan Sheet 1.1 but not provided for Site Plan Approval. Please submit the required landscape plan and appropriate maintenance plan for Site Plan Approval. See HCC 17.49.025.
3. Staff supports the parking proposed parking count, provided the property maintains compliance with HCC 17.49.060 Off-Street Parking – Specific Requirements to provide one (1) space for

each employee working on the highest employment shift for manufacturing, processing or repair uses; and the remaining 3,000 sq. ft. future tenant improvements maintains:

- a. Storage or warehouse: one (1) space for each five thousand (5,000) square feet of floor area;
 - b. Manufacturing, processing or repair: one (1) space for each employee working on the highest employment shift; the City Council may adjust this requirement if sufficient justification is provided.
4. The driveway widths proposed are forty feet (40') wide. Each roadway shall not be more than thirty-six feet (36') in width. See HCC 17.49.090.
 5. A pedestrian opening on one wall of the enclosure for employee access to the dumpster shall be required. See HCC 17.49.105.
 6. A building permit will be required through a separate application. See HCC Title 15 Building and Construction for building permit requirements.
 7. A sign permit will be required through a separate application if the applicant desires to advertise on the site. See HCC 17.72 Signs for sign requirements.
 8. All construction shall be coordinated and conform to Hyrum City Design Standards and Construction Specifications for Public Works when applicable.

Engineering:

1. See attachments.

Fire Department:

1. Supports the site plan.

Power Department:

1. Light & Power request that both the general contractor and the electrical contractor meet with department staff regarding expectations and installation standards of electrical utility and equipment.
2. Previous communication with Mr. Creger has taken place and some discussion on the transformer has happened, transformer is ordered and paid for.
3. Location of transformer and metering equipment looks acceptable.
4. There will need to be a 3-phase junction can installed on east side of property in the park strip to accommodate the connection of the transformer.
5. Associated costs relevant to the project, excluding the previously paid for transformer, will be updated.

Water & Roads:

1. Please verify that the lateral and meter pit is not already stubbed into site before excavation of the road (most parcels in this area were pre-installed). For installation, please follow Hyrum city standards and remember sewer and water must maintain 10 feet of horizontal separation.
2. The water meter pit shall provide and maintain three feet (3') clearance from the back of the concrete curb, bank of detention pond, and landscape planting materials such as shrubs and trees.

Water Reclamation:

1. A lateral cleanout is located outside of structure per standard; however, cleanouts need to be installed at 50' intervals on 4" laterals which is not shown on the drawing. Refer to Construction Standard, 5.2.2.F.
2. If a cleanout must be placed in asphalted streets, a cast iron frame and cover should be used. Refer to drawing 5-36.

PLANNING COMMISSION RESPONSIBILITY:

1. The Planning Commission should have a thorough discussion of the site plan, staff comments, and specifying conditions and requirements for approval.

STAFF RECOMMENDATION:

1. Staff recommends the Planning Commission include in their motion the lighting plan required by HCC 17.49.022 prior to the City Council meeting.
2. Staff recommends the Planning Commission include in their motion the landscaping plan and appropriate maintenance plan required by HCC 17.49.025 prior to the City Council meeting.
3. Staff recommends the Planning Commission make a motion specifying conditions and requirements, and staff comments to the City Council.

STIPULATIONS:

1. The City Council may approve, disapprove, approve with additional conditions and requirements, or require the requestor to return to the Planning Commission with revisions; or require the applicant to return revisions to the City Council.
2. The applicant is required to include a lighting plan to the City Council.
3. The applicant is required to include a landscape plan and appropriate maintenance plan to the City Council.

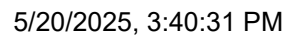
FINDINGS OF FACT:

1. Manufacturing (no excessive noise, dust, smoke or odor) is a Permitted Use in the Manufacturing Zone M-2.

ATTACHMENTS:

1. ArcGIS Web Map
2. Main Floor Plan and Building Elevations
3. Site Plans
4. Erosion Control Plan
5. Stormwater Calculations
6. Soils Resource Report

Section 7. Item B.



KEYNOTES

DESCRIPTION

CARTWRIGHT
ARCHITECTS & ENGINEERS635 SOUTH 100 EAST
LOGAN, UT 84341
T435 753.2850
F435 753.2851
©2024 CARTWRIGHT<http://www.cartwright-aec.com>

PROFESSIONAL STAMP

AGENCY APPROVAL

CREGER MACHINE

1671 E. 145 S. HYRUM, UT

CARTWRIGHT PROJECT # 125017

DATE: 03/12/2025

DRAWN BY: CW

CHECKED BY: CW

APPROVED BY: JC

REVISIONS
DATE DESCRIPTION

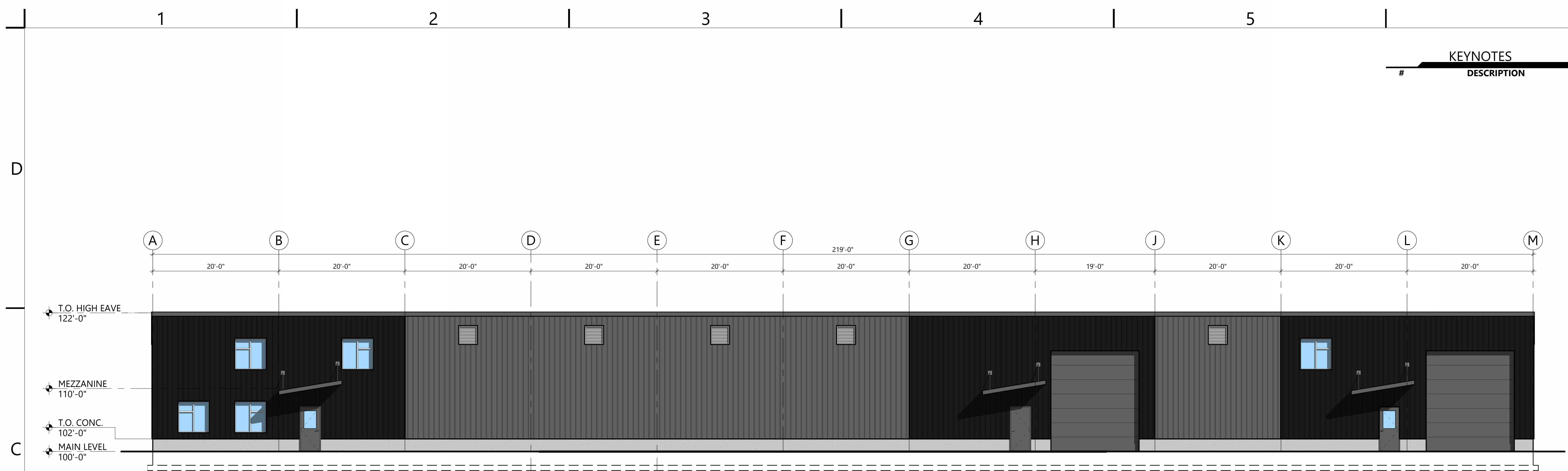
FLOOR PLAN

A101

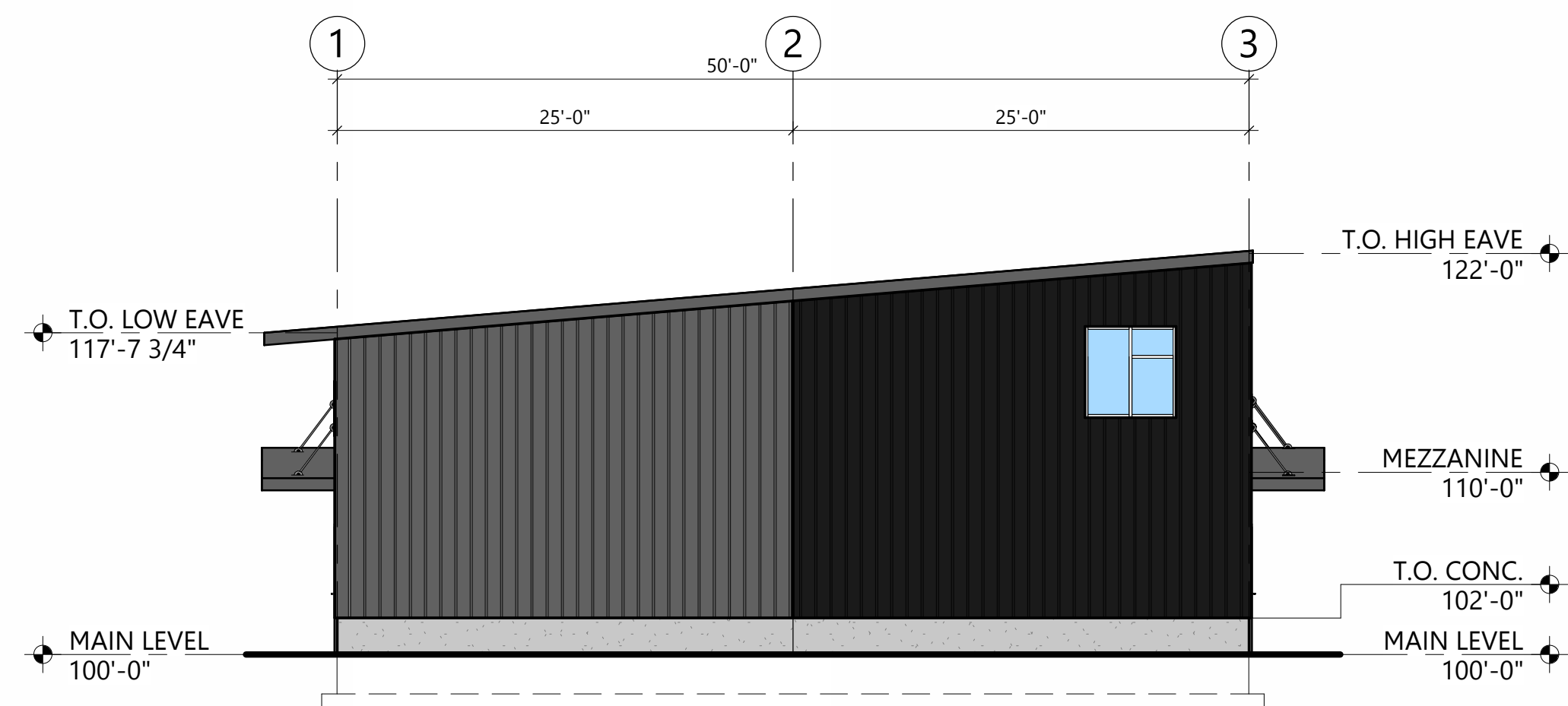
FOR PERMIT

PRELIMINARY CODE ANALYSIS:
OCCUPANCY: F-1 MACHINE SHOP
CONSTRUCTION: III-B
BUILDING HEIGHT MAX: 55'-0"
FIRE SPRINKLING: NOT REQUIRED UNDER 12,000 SQ.FT.
OCCUPANT LOAD: 10,950 SQ. FT./100=110 OCCUPANTS
RESTROOMS: 110 OCCUPANTS/2 (MALE/FEMALE)=55 EACH SEX
FACTORY & INDUSTRIAL REQUIRE 1 PER 100
WATER CLOSETS, LAVATORIES, DRINKING FOUNTAIN
AND SERVICE SINK

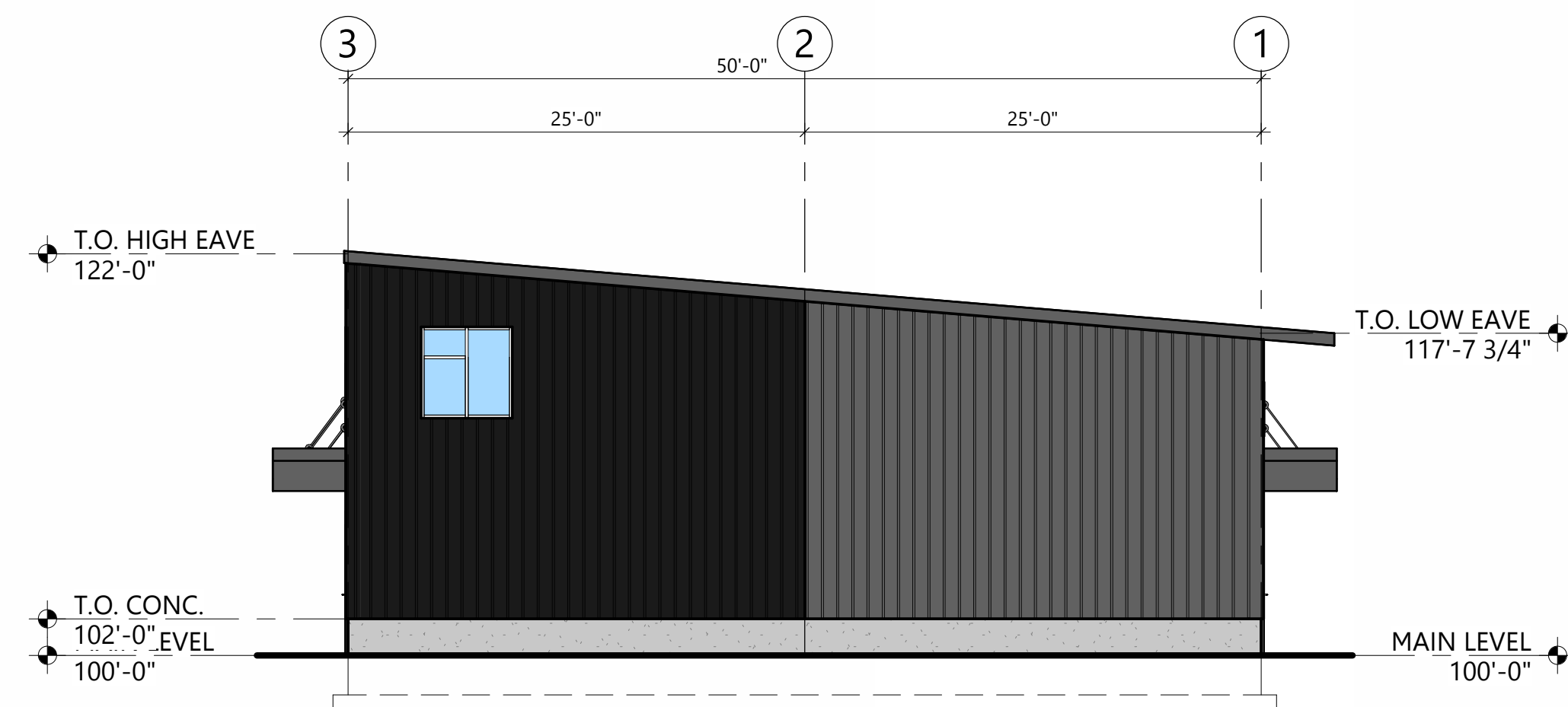
A3 OVERALL FLOOR PLAN
SCALE: 1/8" = 1'-0"



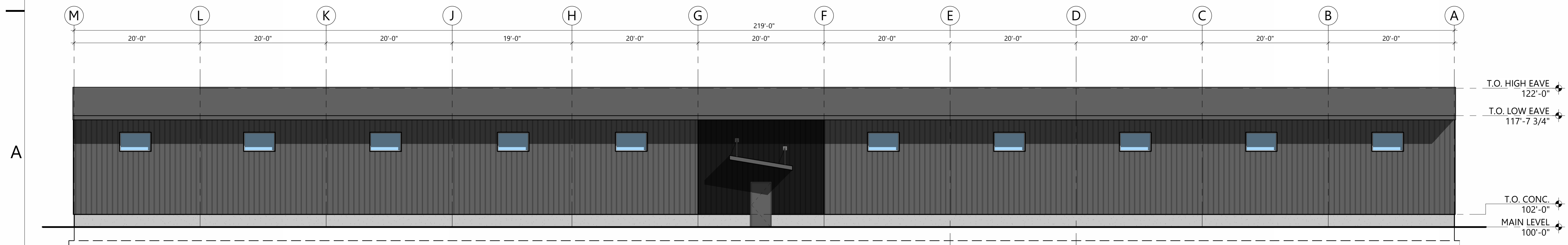
C3 SOUTH EXTERIOR ELEVATION
SCALE: 1/8" = 1'-0"



B2 WEST EXTERIOR ELEVATION
SCALE: 1/8" = 1'-0"



B5 EAST EXTERIOR ELEVATION
SCALE: 1/8" = 1'-0"



A3 NORTH EXTERIOR ELEVATION
SCALE: 1/8" = 1'-0"

CARTWRIGHT
ARCHITECTS & ENGINEERS

635 SOUTH 100 EAST
LOGAN, UT 84341
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F435 753.2851
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<http://www.cartwright-aec.com>

PROFESSIONAL STAMP

AGENCY APPROVAL

CREGER MACHINE

1671 E. 145 S. HYRUM, UT

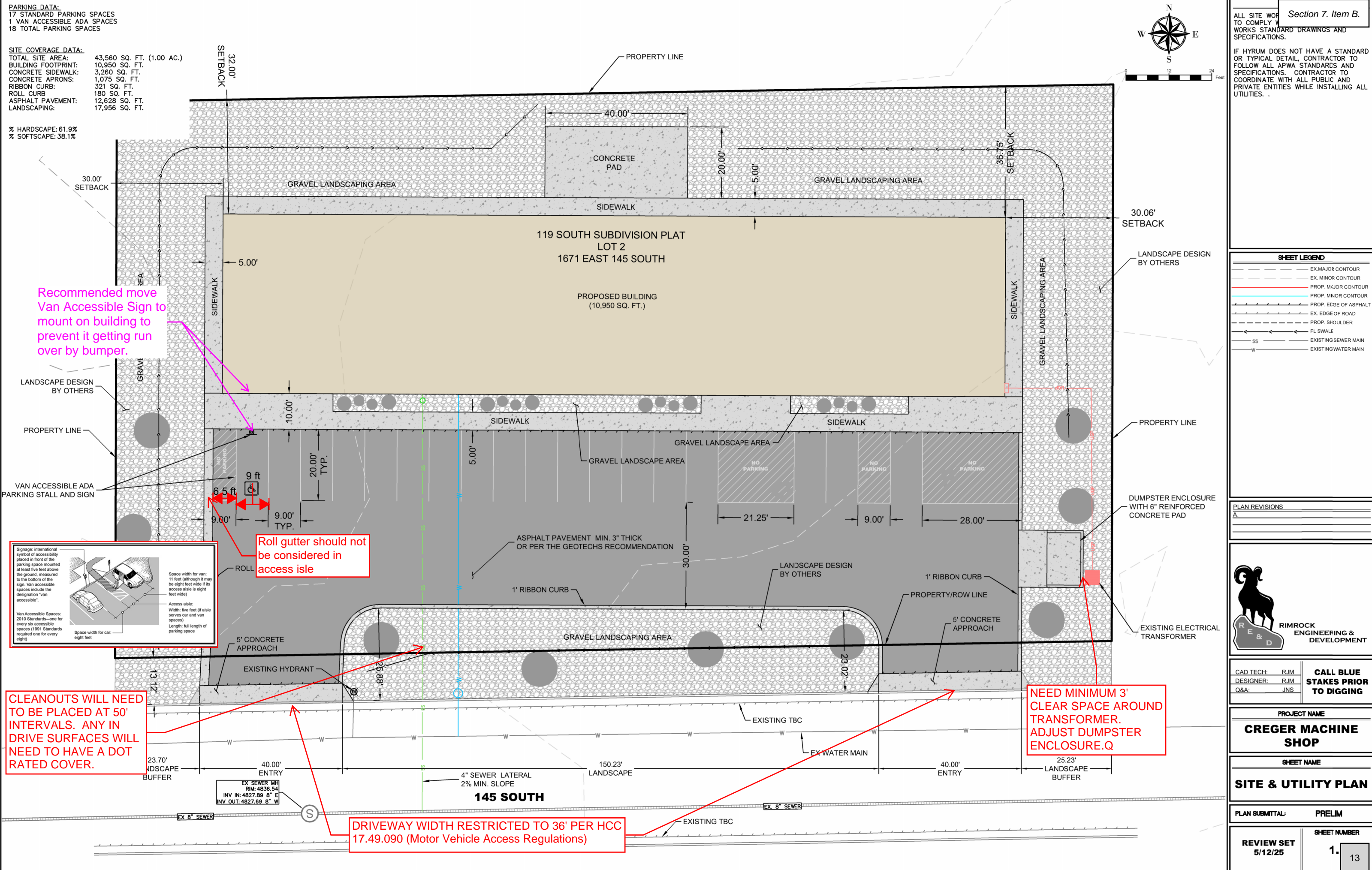
CARTWRIGHT PROJECT # 125017
DATE: 03/12/2025
DRAWN BY: CW
CHECKED BY: CW
APPROVED BY: CW

REVISIONS	
DATE	DESCRIPTION

ARCHITECTURAL
ELEVATIONS

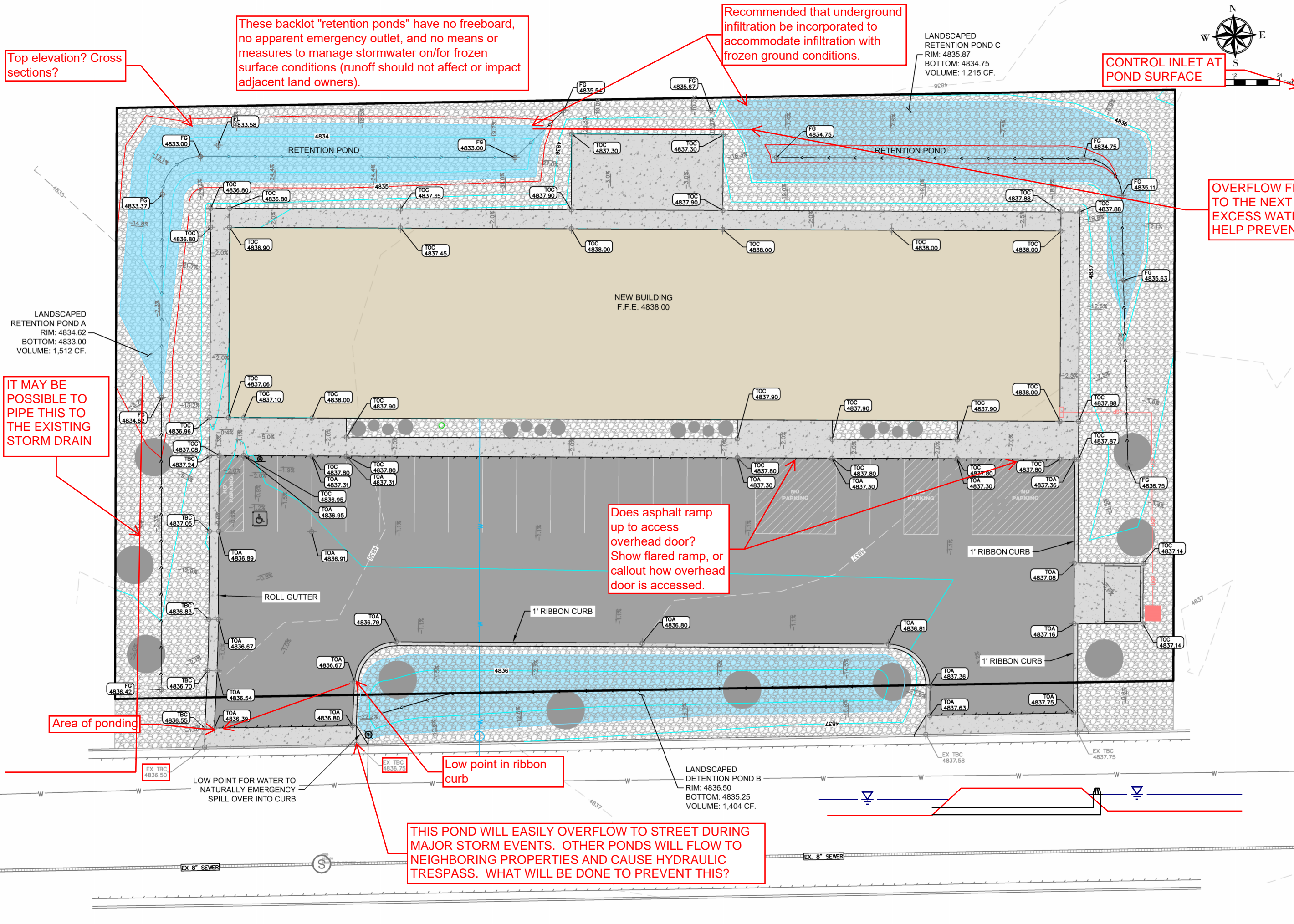
A201

FOR PERMIT



PARKING DATA: 17 STANDARD PARKING SPACES 1 VAN ACCESSIBLE ADA SPACES 18 TOTAL PARKING SPACES	SITE COVERAGE DATA: TOTAL SITE AREA: 43,560 SQ. FT. (1.00 AC.) BUILDING FOOTPRINT: 10,950 SQ. FT. CONCRETE SIDEWALK: 3,260 SQ. FT. CONCRETE APRONS: 1,075 SQ. FT. RIBBON CURB: 321 SQ. FT. ROLL CURB: 180 SQ. FT. ASPHALT PAVEMENT: 12,628 SQ. FT. LANDSCAPING: 17,956 SQ. FT.	% HARDSCAPE: 61.9% % SOFTSCAPE: 38.1%
Section 7. Item B. ALL SITE WORK TO COMPLY WITH APWA WORKS STANDARD DRAWINGS AND SPECIFICATIONS. IF HYRUM DOES NOT HAVE A STANDARD OR TYPICAL DETAIL, CONTRACTOR TO FOLLOW ALL APWA STANDARDS AND SPECIFICATIONS. CONTRACTOR TO COORDINATE WITH ALL PUBLIC AND PRIVATE ENTITIES WHILE INSTALLING ALL UTILITIES.		
SHEET LEGEND EX MAJOR CONTOUR EX MINOR CONTOUR PROP MAJOR CONTOUR PROP MINOR CONTOUR PROP EDGE OF ASPHALT EX EDGE OF ROAD PROP SHOULDER FL SWALE EXISTING SEWER MAIN EXISTING WATER MAIN		
PLAN REVISIONS A.		
RIMROCK ENGINEERING & DEVELOPMENT		
CAD TECH: RJM DESIGNER: RJM Q&A: JNS	CALL BLUE STAKES PRIOR TO DIGGING	
PROJECT NAME CREGER MACHINE SHOP		
SHEET NAME SITE & UTILITY PLAN		
PLAN SUBMITTAL: PRELIM		
REVIEW SET 5/12/25		SHEET NUMBER 1. 13

5/12/2025
E:\04-Civil-3D-Projects\01-Rimrock-Engineering\Drawings\Arch\Grading-Shop\04-Grading-Shop\04-Grading-Shop.dwg
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Section 7. Item B.

ALL SITE WORK TO COMPLY WITH STANDARD DRAWINGS AND SPECIFICATIONS.

IF HYRUM DOES NOT HAVE A STANDARD OR TYPICAL DETAIL, CONTRACTOR TO FOLLOW ALL APWA STANDARDS AND SPECIFICATIONS. CONTRACTOR TO COORDINATE WITH ALL PUBLIC AND PRIVATE ENTITIES WHILE INSTALLING ALL UTILITIES.

SHEET LEGEND

- EX. MAJOR CONTOUR
- EX. MINOR CONTOUR
- PROP. MAJOR CONTOUR
- PROP. MINOR CONTOUR
- PROP. EDGE OF ASPHALT
- EX. EDGE OF ROAD
- PROP. SHOULDER
- FL SWALE
- EXISTING SEWER MAIN
- EXISTING WATER MAIN

EX: EXISTING GRADE
FFE: FINISHED FLOOR ELEVATION
FG: FINISHED GRADE
TBC: TOP BACK CURB
TOA: TOP OF ASPHALT
TOC: TOP OF CONCRETE

PLAN REVISIONS

NO.	DESCRIPTION
A.	

RIMROCK ENGINEERING & DEVELOPMENT

CAD TECH: RJM
DESIGNER: RJM
Q&A: JNS

CALL BLUE STAKES PRIOR TO DIGGING

PROJECT NAME

CREGER MACHINE SHOP

SHEET NAME

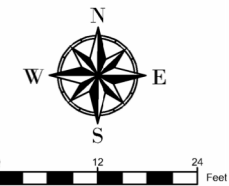
GRADING PLAN

PLAN SUBMITTAL: PRELIM

REVIEW SET 5/12/25

SHEET NUMBER 1. 14

5/12/2025
E:\04-Civil 3D Projects\01-Rimrock Engineering\Cartwright Arch\Cooper Machine Shop\Site\Drawings\Bases\Drawings



Section 7. Item B.
ALL SITE WORK TO COMPLY WITH HYRUM CITY STANDARDS AND SPECIFICATIONS.
IF HYRUM DOES NOT HAVE A STANDARD OR TYPICAL DETAIL, CONTRACTOR TO FOLLOW ALL APWA STANDARDS AND SPECIFICATIONS. CONTRACTOR TO COORDINATE WITH ALL PUBLIC AND PRIVATE ENTITIES WHILE INSTALLING ALL UTILITIES.

SHEET LEGEND	
---	EX. MAJOR CONTOUR
---	EX. MINOR CONTOUR
---	PROP. MAJOR CONTOUR
---	PROP. MINOR CONTOUR
---	PROP. EDGE OF ASPHALT
---	EX. EDGE OF ROAD
---	PROP. SHOULDER
---	FL SWALE
SS	EXISTING SEWER MAIN
W	EXISTING WATER MAIN
W	1" WATER SERVICE LAT.
SS	4" SEWER SERVICE LAT.
UGP	UNDER GROUND POWER

PLAN REVISIONS	
A.	



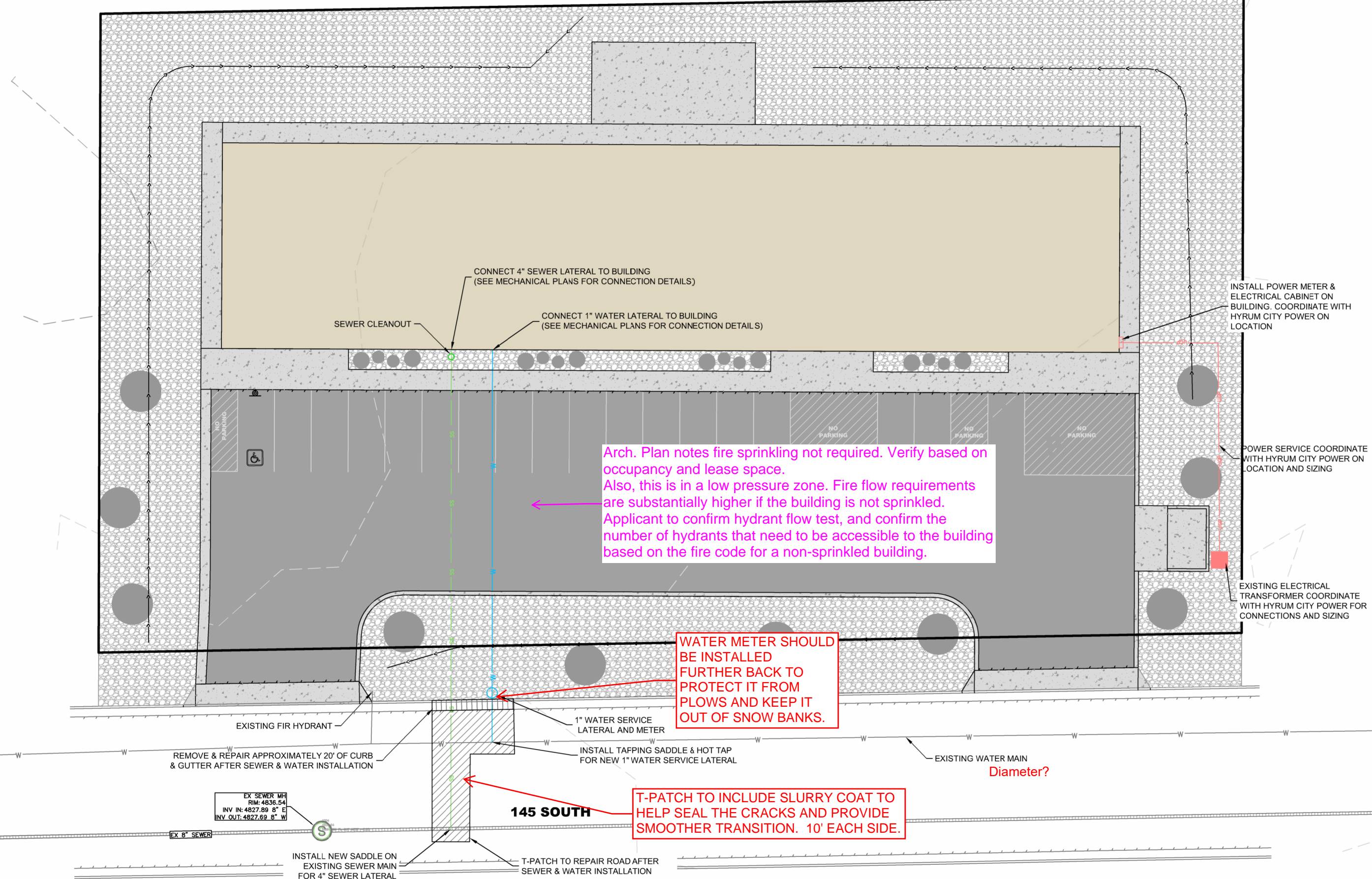
CAD TECH:	RJM	CALL BLUE STAKES PRIOR TO DIGGING
DESIGNER:	RJM	
Q&A:	JNS	

PROJECT NAME	
CREGER MACHINE SHOP	

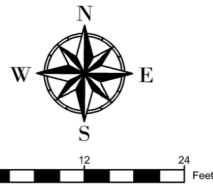
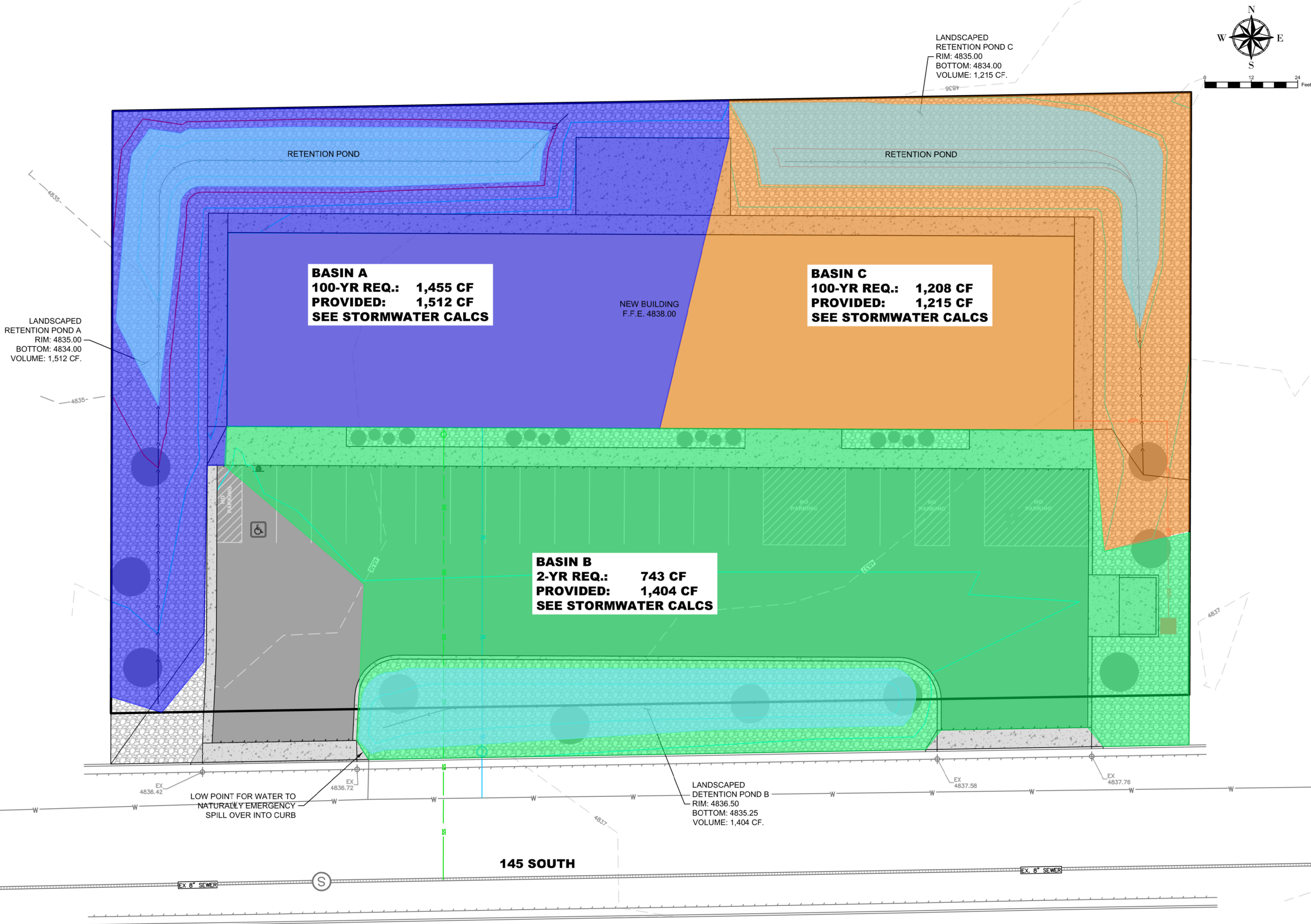
SHEET NAME	
UTILITY PLAN	

PLAN SUBMITTAL:	PRELIM
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REVIEW SET 5/12/25	SHEET NUMBER 1. 15
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5/9/2025
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Section 7. Item B.

ALL SITE WORK TO COMPLY WITH STANDARD DRAWINGS AND SPECIFICATIONS.

IF HYRUM DOES NOT HAVE A STANDARD OR TYPICAL DETAIL, CONTRACTOR TO FOLLOW ALL APWA STANDARDS AND SPECIFICATIONS. CONTRACTOR TO COORDINATE WITH ALL PUBLIC AND PRIVATE ENTITIES WHILE INSTALLING ALL UTILITIES.

SHEET LEGEND

PLAN REVISIONS

NO.	DESCRIPTION
A.	



CAD TECH:	RJM
DESIGNER:	RJM
Q&A:	JNS

CALL BLUE STAKES PRIOR TO DIGGING

PROJECT NAME

CREGER MACHINE SHOP

SHEET NAME

STORM WATER PLAN

PLAN SUBMITTAL: PRELIM

REVIEW SET 5/9/25	SHEET NUMBER 1.4 16
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PROJECT NAME: CREGER MACHINE SHOP
PROJECT LOCATION: HYRUM, UTAH
DATE: 5/9/2025
USER: JRC
REVIEWED BY: DSE



NOAA ATLAS 14 PRECIPITATION DEPTH (INCHES)							
	RECURRENCE INTERVAL (YEARS)						
STORM DURATION	1	2	5	10	25	50	100
5-min:	0.116	0.147	0.202	0.252	0.332	0.403	0.488
10-min:	0.177	0.224	0.308	0.384	0.504	0.614	0.742
15-min:	0.219	0.277	0.382	0.476	0.625	0.761	0.92
30-min:	0.295	0.373	0.514	0.641	0.842	1.02	1.24
60-min:	0.364	0.462	0.636	0.793	1.04	1.27	1.53
2-hr:	0.478	0.599	0.785	0.956	1.23	1.48	1.76
3-hr:	0.567	0.706	0.895	1.07	1.34	1.59	1.88
6-hr:	0.786	0.97	1.2	1.4	1.7	1.96	2.24
12-hr:	1.04	1.29	1.57	1.82	2.19	2.48	2.8
24-hr:	1.39	1.72	2.09	2.4	2.84	3.19	3.55

NOAA ATLAS 14 PRECIPITATION INTENSITY (INCHES/HOUR)							
	RECURRENCE INTERVAL (YEARS)						
STORM DURATION	1	2	5	10	25	50	100
5-min:	1.39	1.76	2.42	3.02	3.98	4.84	5.86
10-min:	1.06	1.34	1.85	2.30	3.02	3.68	4.45
15-min:	0.88	1.11	1.53	1.90	2.50	3.04	3.68
30-min:	0.59	0.75	1.03	1.28	1.68	2.04	2.48
60-min:	0.36	0.46	0.64	0.79	1.04	1.27	1.53
2-hr:	0.24	0.30	0.39	0.48	0.62	0.74	0.88
3-hr:	0.19	0.24	0.30	0.36	0.45	0.53	0.63
6-hr:	0.13	0.16	0.20	0.23	0.28	0.33	0.37
12-hr:	0.09	0.11	0.13	0.15	0.18	0.21	0.23
24-hr:	0.06	0.07	0.09	0.10	0.12	0.13	0.15

PROJECT NAME: CREGER MACHINE SHOP
 PROJECT LOCATION: HYRUM, UTAH
 DATE: 5/9/2025
 USER: JRC
 REVIEWED BY: DSE
 BASIN A



RUNOFF VOLUME CALCULATIONS BASED ON NOAA ATLAS 14 PRECIPITATION DATA & THE RATIONAL METHOD FOR FLOW RATES

RECURRENCE INTERVAL	100	YEARS	
DURATION	1440	MINUTES	24 HOURS
C-VALUE	0.93	UNITLESS	
AREA	0.33	ACRES	
TIME OF CONCENTRATION	10.00	MINUTES	

Infiltration rate an
should be verified
onsite

LOSSES			
CONTROLLED RELEASE		INFILTRATION	
ALLOWABLE DISCHARGE	0 CFS	PERC RATE	60 MINUTES/INCH
DURATION OF OUTFLOW	ENTIRE DURATION	SURFACE AREA	2850
WATER QUALITY VOLUME	0 CU. FT.	FLOW RATE	0.066 CFS

TIME ELAPSED (MINUTES)	TIME ELAPSED (HOURS)	C	RAINFALL INTENSITY (INCHES/HOUR)	AREA (ACRES)	FLOW RATE (CFS)	VOLUME IN (CU. FT.)	VOLUME OUT CONTROLLED RELEASE (CU. FT.)	VOLUME OUT - INFILTRATION (CU. FT.)	NET VOLUME (CU. FT.)
5	0.08	0.93	5.86	0.33	1.78	535	0	20	515
10	0.17	0.93	4.45	0.33	1.36	814	0	40	774
15	0.25	0.93	3.68	0.33	1.12	1009	0	59	950
30	0.50	0.93	2.48	0.33	0.76	1360	0	119	1241
60	1.00	0.93	1.53	0.33	0.47	1678	0	238	1440
120	2.00	0.93	0.88	0.33	0.27	1930	0	475	1455
180	3.00	0.93	0.63	0.33	0.19	2062	0	713	1349
360	6.00	0.93	0.37	0.33	0.11	2457	0	1425	1032
720	12.00	0.93	0.23	0.33	0.07	3071	0	2850	221
1440	24.00	0.93	0.15	0.33	0.05	3893	0	5700	0

PROJECT NAME: CREGER MACHINE SHOP
 PROJECT LOCATION: HYRUM, UTAH
 DATE: 5/9/2025
 USER: JRC
 REVIEWED BY: DSE
 BASIN A



POST-DEVELOPMENT CONDITIONS

TIME OF CONCENTRATION - FAA METHOD		
STORM EVENT (RECURRANCE INTERVAL)	100	YEARS
TOP ELEVATION	4838	FT
BOTTOM ELEVATION	4833	FT
LENGTH OF LONGEST FLOW PATH	165	FT
AVERAGE SLOPE OF WATERCOURSE	0.03030303	FT/FT
C VALUE	0.93	UNITLESS
TIME OF CONCENTRATION	10.00	MINUTES

The FAA does not have a specific, universally used method for stormwater runoff calculations. It simply provides guidance on using various methods, including the Rational Method, Soil Conservation Service (SCS) TR-55, and USGS regression equations in its Advisory Circular 150/5320-5C, Surface Drainage Design.

LAND COVER DESCRIPTION	AREA (SQ. FT.)	AREA (ACRES)	C-VALUE	ADJUSTMENT FACTOR	ADJUSTED C-VALUE
HEAVY COMMERCIAL	14250	0.33	0.75	1.25	0.93
		0.00		1.25	0.00
		0.00		1.25	0.00
		0.00		1.25	0.00
		0.00		1.25	0.00
		0.00		1.25	0.00
TOTAL	14250	0.33	0.75		0.93

PEAK RUNOFF (RATIONAL METHOD, $Q=CiA$)		
C	0.93	
i	4.45	INCHES/HOUR
A	0.33	ACRES
Q	1.36	CFS

SCS TR-55 Runoff curve numbers should be used for each cover type and the hydrologic soil group shown in the site plan to create a composite CN value

C VALUE FACTOR TABLE	
RECCURANCE INTERVAL	FACTOR
2	1
10	1
25	1.1
50	1.2
100	1.25

PROJECT NAME: CREGER MACHINE SHOP
 PROJECT LOCATION: HYRUM, UTAH
 DATE: 5/9/2025
 USER: JRC
 REVIEWED BY: DSE
 BASIN B



RUNOFF VOLUME CALCULATIONS BASED ON NOAA ATLAS 14 PRECIPITATION DATA & THE RATIONAL METHOD FOR FLOW RATES

RECURRENCE INTERVAL	2	YEARS	
DURATION	1440	MINUTES	24 HOURS
C-VALUE	1.00	UNITLESS	
AREA	0.41	ACRES	
TIME OF CONCENTRATION	10.00	MINUTES	

LOSSES					
CONTROLLED RELEASE			INFILTRATION		
ALLOWABLE DISCHARGE	0	CFS	PERC RATE	60	MINUTES/INCH
DURATION OF OUTFLOW	AFTER WQV MET		SURFACE AREA	1400	
WATER QUALITY VOLUME	0	CU. FT.	FLOW RATE	0.032	CFS

TIME ELAPSED (MINUTES)	TIME ELAPSED (HOURS)	C	RAINFALL INTENSITY (INCHES/HOUR)	AREA (ACRES)	FLOW RATE (CFS)	VOLUME IN (CU. FT.)	VOLUME OUT CONTROLLED RELEASE (CU. FT.)	VOLUME OUT - INFILTRATION (CU. FT.)	NET VOLUME (CU. FT.)
5	0.08	1.00	1.764	0.41	0.73	219	0	10	209
10	0.17	1.00	1.344	0.41	0.56	333	0	19	314
15	0.25	1.00	1.108	0.41	0.46	412	0	29	383
30	0.50	1.00	0.746	0.41	0.31	555	0	58	497
60	1.00	1.00	0.462	0.41	0.19	687	0	117	571
120	2.00	1.00	0.2995	0.41	0.12	891	0	233	658
180	3.00	1.00	0.235333333	0.41	0.10	1050	0	350	700
360	6.00	1.00	0.161666667	0.41	0.07	1443	0	700	743
720	12.00	1.00	0.1075	0.41	0.04	1919	0	1400	519
1440	24.00	1.00	0.071666667	0.41	0.03	2559	0	2800	0

PROJECT NAME: CREGER MACHINE SHOP
 PROJECT LOCATION: HYRUM, UTAH
 DATE: 5/9/2025
 USER: JRC
 REVIEWED BY: DSE

BASIN C



POST-DEVELOPMENT CONDITIONS

TIME OF CONCENTRATION - FAA METHOD		
STORM EVENT (RECURRANCE INTERVAL)	100	YEARS
TOP ELEVATION	4838	FT
BOTTOM ELEVATION	4835	FT
LENGTH OF LONGEST FLOW PATH	165	FT
AVERAGE SLOPE OF WATERCOURSE	0.018181818	FT/FT
C VALUE	1.00	UNITLESS
TIME OF CONCENTRATION	10.00	MINUTES

LAND COVER DESCRIPTION	AREA (SQ. FT.)	AREA (ACRES)	C-VALUE	ADJUSTMENT FACTOR	ADJUSTED C-VALUE
HEAVY COMMERCIAL	11666	0.27	0.90	1.25	1.00
		0.00		1.25	0.00
		0.00		1.25	0.00
		0.00		1.25	0.00
		0.00		1.25	0.00
		0.00		1.25	0.00
TOTAL	11666	0.27	0.90		1.00

PEAK RUNOFF (RATIONAL METHOD, $Q=CiA$)		
C	1.00	
i	4.45	INCHES/HOUR
A	0.27	ACRES
Q	1.19	CFS

C VALUE FACTOR TABLE	
RECCURANCE INTERVAL	FACTOR
2	1
10	1
25	1.1
50	1.2
100	1.25

PROJECT NAME: CREGER MACHINE SHOP
 PROJECT LOCATION: HYRUM, UTAH
 DATE: 5/9/2025
 USER: JRC
 REVIEWED BY: DSE
BASIN C



RUNOFF VOLUME CALCULATIONS BASED ON NOAA ATLAS 14 PRECIPITATION DATA & THE RATIONAL METHOD FOR FLOW RATES

RECURRENCE INTERVAL	100	YEARS	
DURATION	1440	MINUTES	24 HOURS
C-VALUE	1.00	UNITLESS	
AREA	0.27	ACRES	
TIME OF CONCENTRATION	10.00	MINUTES	

LOSSES			
CONTROLLED RELEASE		INFILTRATION	
ALLOWABLE DISCHARGE	0 CFS	PERC RATE	60 MINUTES/INCH
DURATION OF OUTFLOW	ENTIRE DURATION	SURFACE AREA	3205
WATER QUALITY VOLUME	0 CU. FT.	FLOW RATE	0.074 CFS

TIME ELAPSED (MINUTES)	TIME ELAPSED (HOURS)	C	RAINFALL INTENSITY (INCHES/HOUR)	AREA (ACRES)	FLOW RATE (CFS)	VOLUME IN (CU. FT.)	VOLUME OUT CONTROLLED RELEASE (CU. FT.)	VOLUME OUT - INFILTRATION (CU. FT.)	NET VOLUME (CU. FT.)
5	0.08	1.00	5.86	0.27	1.57	470	0	22	448
10	0.17	1.00	4.45	0.27	1.19	715	0	45	671
15	0.25	1.00	3.68	0.27	0.99	887	0	67	820
30	0.50	1.00	2.48	0.27	0.66	1196	0	134	1062
60	1.00	1.00	1.53	0.27	0.41	1475	0	267	1208
120	2.00	1.00	0.88	0.27	0.24	1697	0	534	1163
180	3.00	1.00	0.63	0.27	0.17	1813	0	801	1011
360	6.00	1.00	0.37	0.27	0.10	2160	0	1603	557
720	12.00	1.00	0.23	0.27	0.06	2700	0	3205	0
1440	24.00	1.00	0.15	0.27	0.04	3423	0	6410	0



NOAA Atlas 14, Volume 1, Version 5
Location name: Hyrum, Utah, USA*
Latitude: 41.6296°, Longitude: -111.8121°
Elevation: 4836 ft**
 * source: ESRI Maps
 ** source: USGS



POINT PRECIPITATION FREQUENCY ESTIMATES

Sanja Perica, Sarah Dietz, Sarah Heim, Lillian Hiner, Kazungu Maitaria, Deborah Martin, Sandra Pavlovic, Ishani Roy, Carl Trypaluk, Dale Unruh, Fenglin Yan, Michael Yekta, Tan Zhao, Geoffrey Bonnin, Daniel Brewer, Li-Chuan Chen, Tye Parzybok, John Yarchoan

NOAA, National Weather Service, Silver Spring, Maryland

[PF tabular](#) | [PF graphical](#) | [Maps & aeriels](#)

PF tabular

PDS-based point precipitation frequency estimates with 90% confidence intervals (in inches/hour) ¹										
Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	1.39 (1.22-1.58)	1.76 (1.56-2.03)	2.42 (2.12-2.78)	3.02 (2.63-3.46)	3.98 (3.40-4.57)	4.84 (4.02-5.59)	5.86 (4.74-6.83)	7.03 (5.51-8.33)	8.92 (6.66-10.8)	10.6 (7.60-13.1)
10-min	1.06 (0.930-1.21)	1.34 (1.19-1.54)	1.85 (1.62-2.11)	2.30 (2.00-2.63)	3.02 (2.59-3.48)	3.68 (3.06-4.25)	4.45 (3.61-5.20)	5.35 (4.19-6.34)	6.79 (5.06-8.23)	8.08 (5.78-10.0)
15-min	0.876 (0.772-0.996)	1.11 (0.984-1.27)	1.53 (1.34-1.75)	1.90 (1.65-2.17)	2.50 (2.14-2.88)	3.04 (2.53-3.51)	3.68 (2.98-4.30)	4.42 (3.46-5.24)	5.61 (4.18-6.80)	6.68 (4.78-8.26)
30-min	0.590 (0.518-0.670)	0.746 (0.662-0.856)	1.03 (0.902-1.18)	1.28 (1.11-1.46)	1.68 (1.44-1.94)	2.05 (1.70-2.36)	2.48 (2.01-2.89)	2.98 (2.33-3.53)	3.78 (2.82-4.58)	4.50 (3.22-5.56)
60-min	0.364 (0.321-0.415)	0.462 (0.410-0.530)	0.636 (0.558-0.728)	0.793 (0.689-0.906)	1.04 (0.890-1.20)	1.27 (1.05-1.46)	1.53 (1.24-1.79)	1.84 (1.44-2.18)	2.34 (1.74-2.83)	2.78 (1.99-3.44)
2-hr	0.239 (0.214-0.267)	0.299 (0.268-0.335)	0.392 (0.348-0.439)	0.478 (0.420-0.536)	0.614 (0.529-0.691)	0.738 (0.623-0.836)	0.881 (0.725-1.01)	1.05 (0.835-1.22)	1.31 (0.994-1.57)	1.55 (1.13-1.90)
3-hr	0.188 (0.171-0.210)	0.235 (0.213-0.263)	0.298 (0.270-0.332)	0.356 (0.320-0.398)	0.447 (0.395-0.502)	0.529 (0.459-0.598)	0.624 (0.528-0.714)	0.733 (0.602-0.852)	0.908 (0.713-1.08)	1.06 (0.804-1.30)
6-hr	0.131 (0.120-0.144)	0.161 (0.148-0.178)	0.200 (0.182-0.221)	0.234 (0.211-0.260)	0.284 (0.254-0.316)	0.326 (0.287-0.365)	0.373 (0.323-0.421)	0.426 (0.361-0.486)	0.517 (0.425-0.602)	0.596 (0.477-0.707)
12-hr	0.086 (0.079-0.095)	0.106 (0.097-0.117)	0.130 (0.119-0.144)	0.151 (0.137-0.166)	0.181 (0.162-0.201)	0.206 (0.182-0.230)	0.232 (0.202-0.261)	0.260 (0.222-0.296)	0.302 (0.252-0.350)	0.337 (0.274-0.396)
24-hr	0.057 (0.052-0.063)	0.071 (0.064-0.078)	0.087 (0.078-0.095)	0.100 (0.090-0.110)	0.118 (0.106-0.130)	0.132 (0.119-0.146)	0.148 (0.131-0.163)	0.163 (0.145-0.180)	0.185 (0.162-0.204)	0.202 (0.176-0.224)
2-day	0.034 (0.031-0.038)	0.042 (0.038-0.047)	0.051 (0.046-0.057)	0.059 (0.053-0.065)	0.069 (0.062-0.077)	0.078 (0.070-0.087)	0.087 (0.077-0.097)	0.096 (0.085-0.107)	0.109 (0.095-0.122)	0.119 (0.103-0.134)
3-day	0.025 (0.023-0.028)	0.031 (0.028-0.035)	0.038 (0.034-0.042)	0.044 (0.039-0.049)	0.052 (0.047-0.058)	0.058 (0.052-0.065)	0.065 (0.058-0.073)	0.072 (0.064-0.080)	0.082 (0.071-0.092)	0.090 (0.077-0.100)
4-day	0.021 (0.019-0.023)	0.026 (0.023-0.029)	0.032 (0.028-0.035)	0.036 (0.033-0.041)	0.043 (0.039-0.048)	0.049 (0.043-0.054)	0.054 (0.048-0.060)	0.060 (0.053-0.067)	0.068 (0.059-0.076)	0.075 (0.065-0.084)
7-day	0.014 (0.013-0.016)	0.018 (0.016-0.020)	0.022 (0.020-0.025)	0.026 (0.023-0.029)	0.030 (0.027-0.034)	0.034 (0.030-0.038)	0.038 (0.034-0.043)	0.042 (0.037-0.048)	0.048 (0.042-0.054)	0.052 (0.045-0.059)
10-day	0.011 (0.010-0.013)	0.014 (0.013-0.016)	0.018 (0.016-0.020)	0.020 (0.018-0.023)	0.024 (0.021-0.027)	0.027 (0.024-0.030)	0.030 (0.026-0.033)	0.033 (0.029-0.036)	0.037 (0.032-0.041)	0.040 (0.035-0.045)
20-day	0.007 (0.007-0.008)	0.009 (0.008-0.010)	0.011 (0.010-0.012)	0.013 (0.012-0.014)	0.015 (0.014-0.016)	0.016 (0.015-0.018)	0.018 (0.016-0.020)	0.019 (0.018-0.021)	0.021 (0.019-0.024)	0.023 (0.020-0.025)
30-day	0.006 (0.005-0.006)	0.007 (0.007-0.008)	0.009 (0.008-0.010)	0.010 (0.009-0.011)	0.012 (0.011-0.013)	0.013 (0.012-0.014)	0.014 (0.013-0.016)	0.016 (0.014-0.017)	0.017 (0.016-0.019)	0.019 (0.017-0.021)
45-day	0.005 (0.004-0.005)	0.006 (0.006-0.007)	0.007 (0.007-0.008)	0.008 (0.008-0.009)	0.010 (0.009-0.010)	0.010 (0.010-0.011)	0.011 (0.010-0.012)	0.012 (0.011-0.013)	0.013 (0.012-0.015)	0.014 (0.013-0.016)
60-day	0.004 (0.004-0.005)	0.005 (0.005-0.006)	0.006 (0.006-0.007)	0.007 (0.007-0.008)	0.008 (0.007-0.009)	0.009 (0.008-0.010)	0.010 (0.009-0.010)	0.010 (0.009-0.011)	0.011 (0.010-0.012)	0.012 (0.011-0.013)

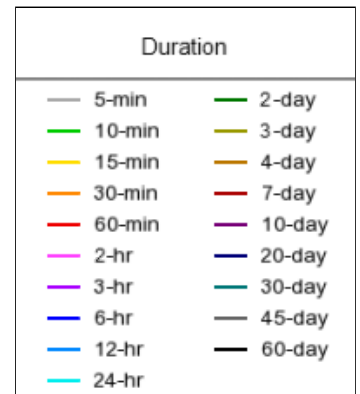
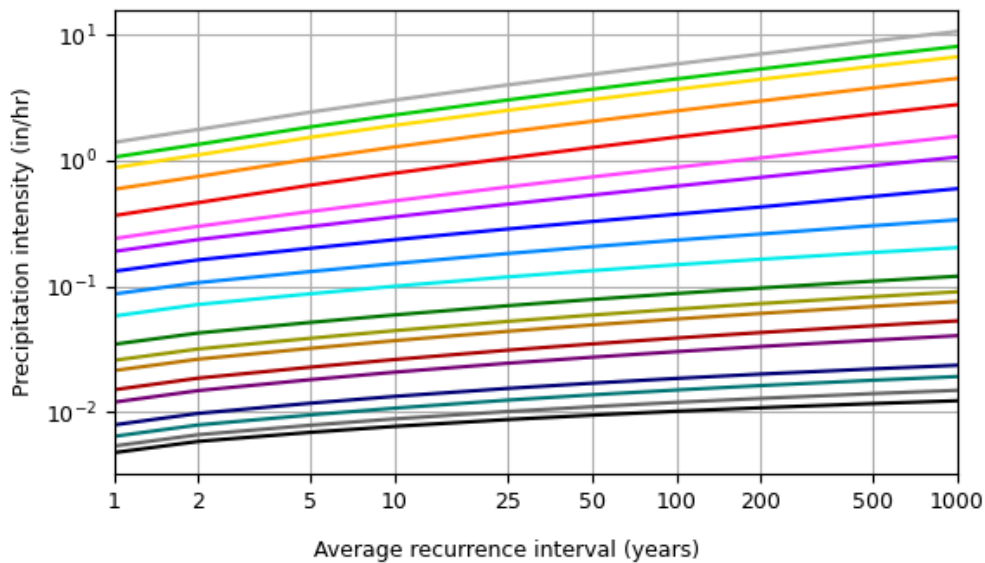
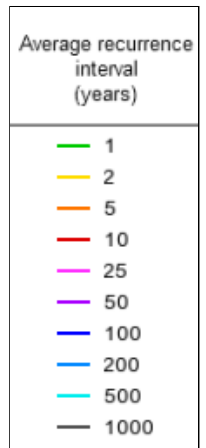
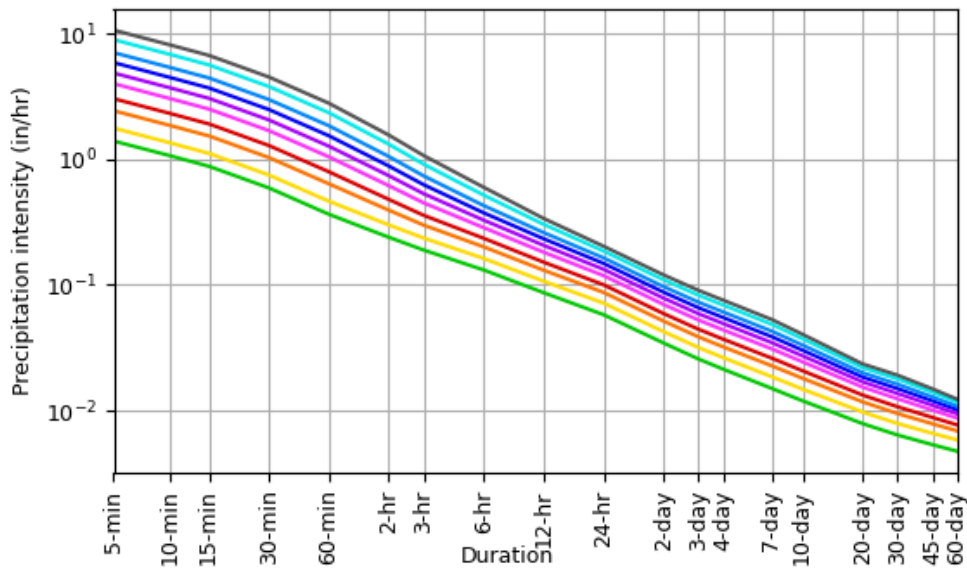
¹ Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS).
 Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is 5%. Estimates at upper bounds are not checked against probable maximum precipitation (PMP) estimates and may be higher than currently valid PMP values.
 Please refer to NOAA Atlas 14 document for more information.

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PF graphical

PDS-based intensity-duration-frequency (IDF) curves

Latitude: 41.6296°, Longitude: -111.8121°



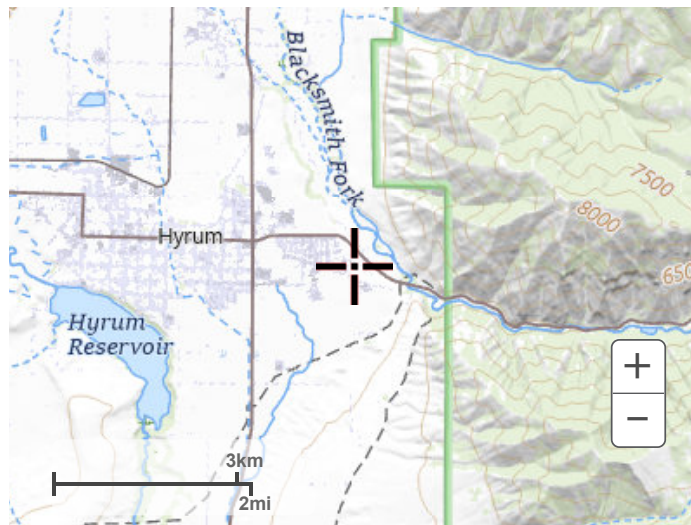
NOAA Atlas 14, Volume 1, Version 5

Created (GMT): Fri May 9 23:35:16 2025

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Maps & aeriels

Small scale terrain



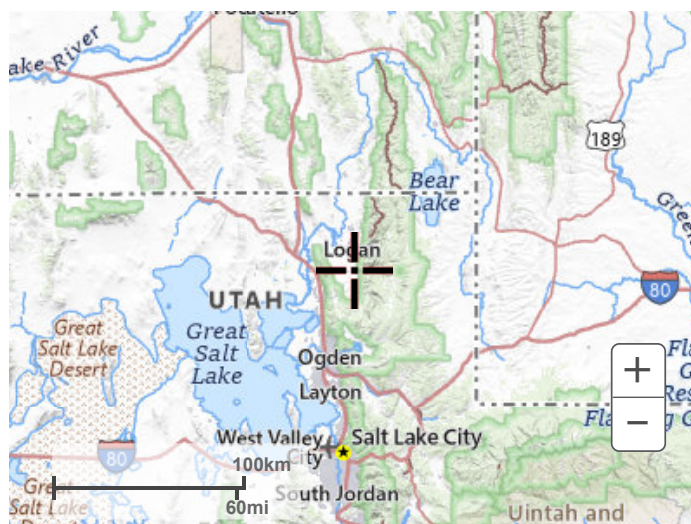
Large scale terrain



Large scale map



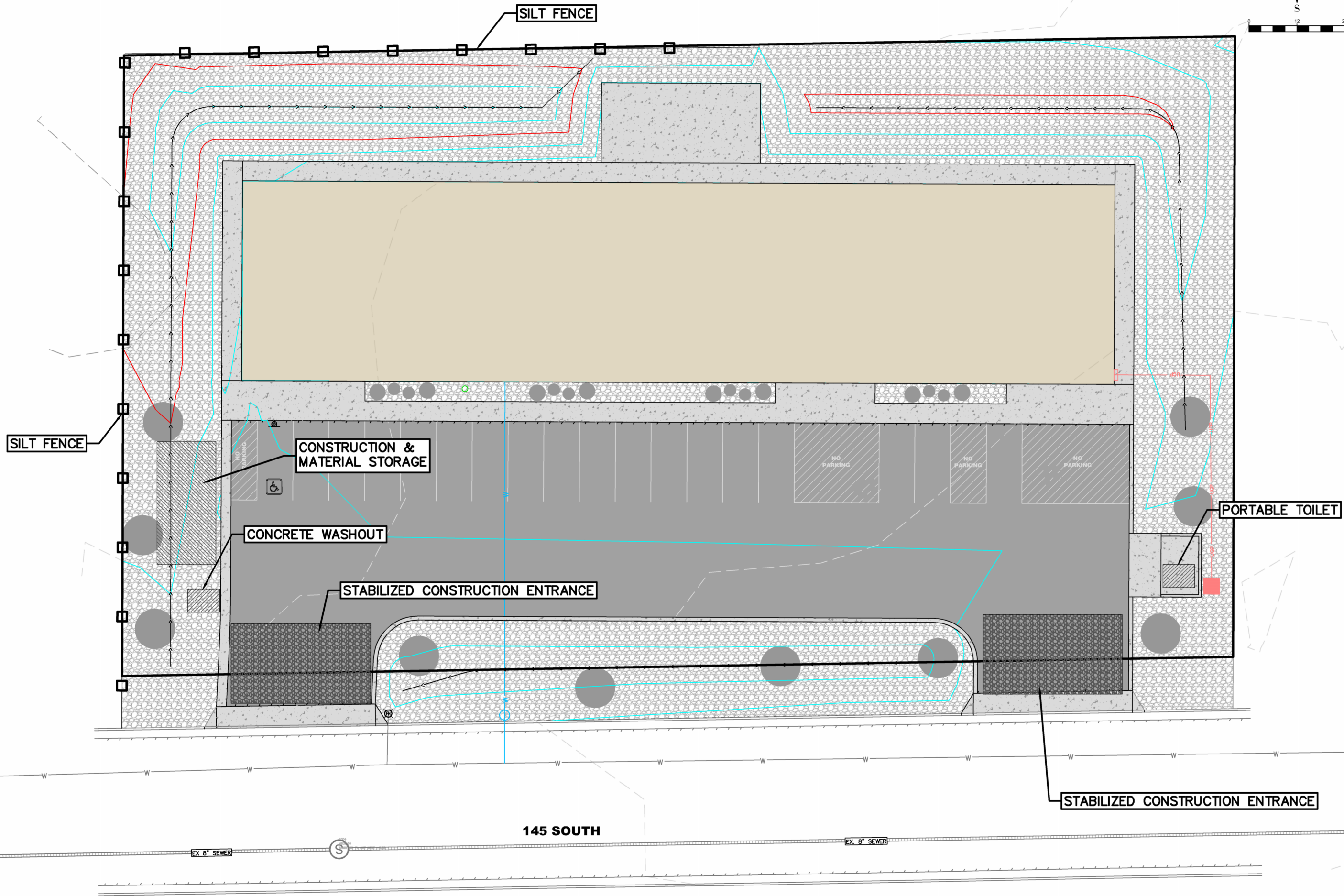
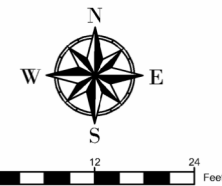
Large scale aerial

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[National Water Center](#)
1325 East West Highway
Silver Spring, MD 20910
Questions?: HDSC.Questions@noaa.gov

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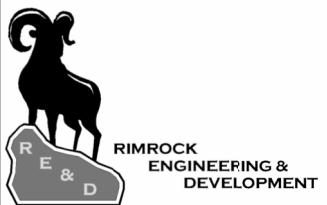
IF HYURM DOES NOT HAVE A STANDARD OR TYPICAL DETAIL, CONTRACTOR TO FOLLOW ALL APWA STANDARDS AND SPECIFICATIONS. CONTRACTOR TO COORDINATE WITH ALL PUBLIC AND PRIVATE ENTITIES WHILE INSTALLING ALL UTILITIES. .



SHEET LEGEND

PLAN REVISIONS

A. _____



CAD TECH:	RJM	CALL BLUE STAKES PRIOR TO DIGGING
DESIGNER:	RJM	
Q&A:	JNS	

PROJECT NAME

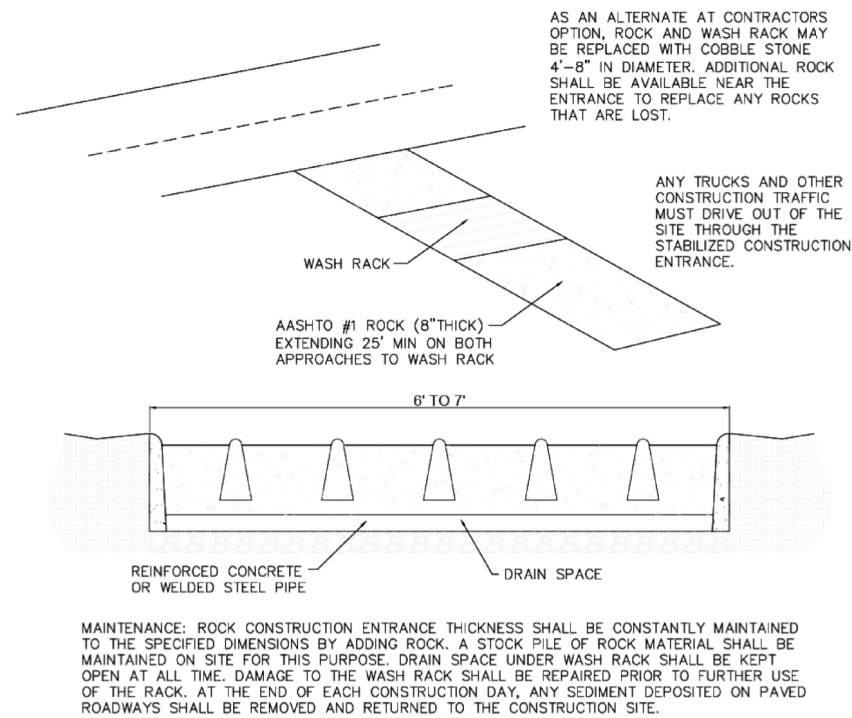
**CREGER MACHINE
SHOP**

SHEET NAME

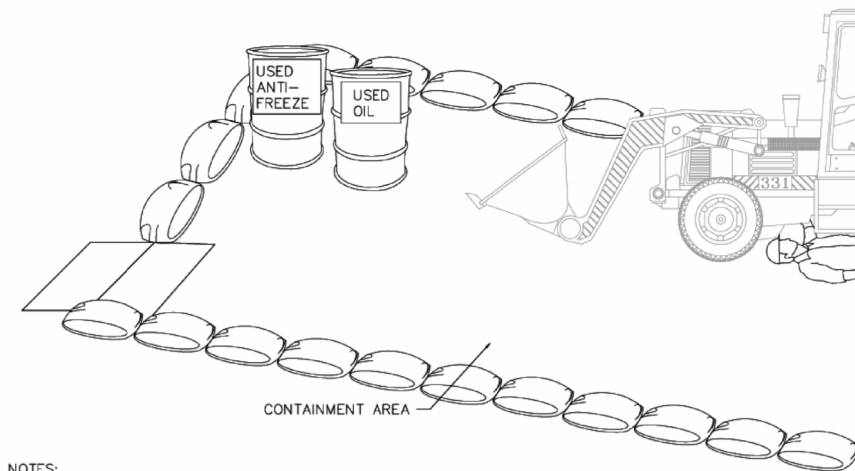
EROSION CONTROL PLAN

PLAN SUBMITTAL: PRELIM

REVIEW SET
5/12/25

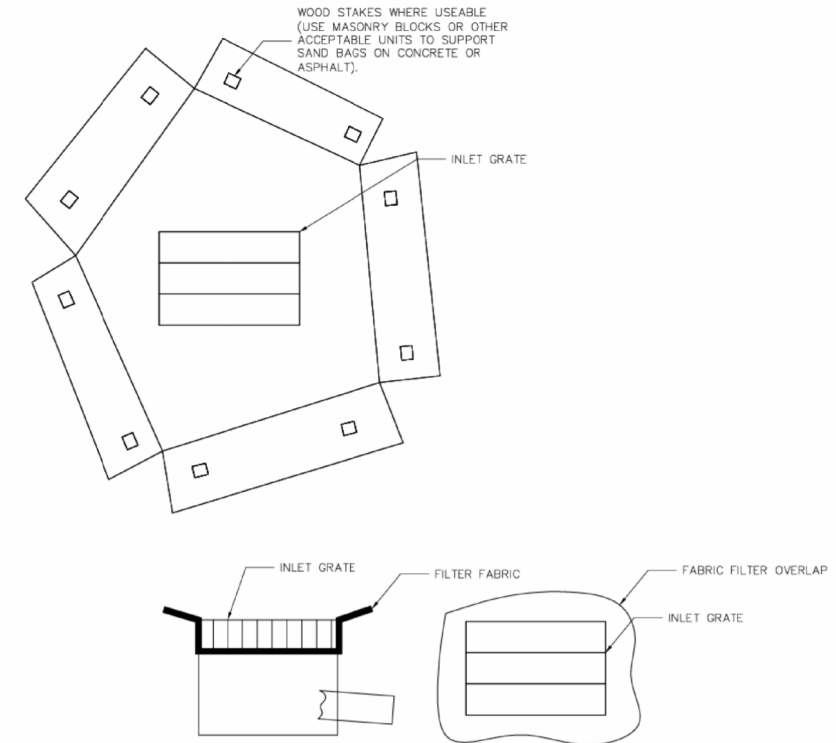


A STABILIZED CONSTRUCTION ENTRANCE

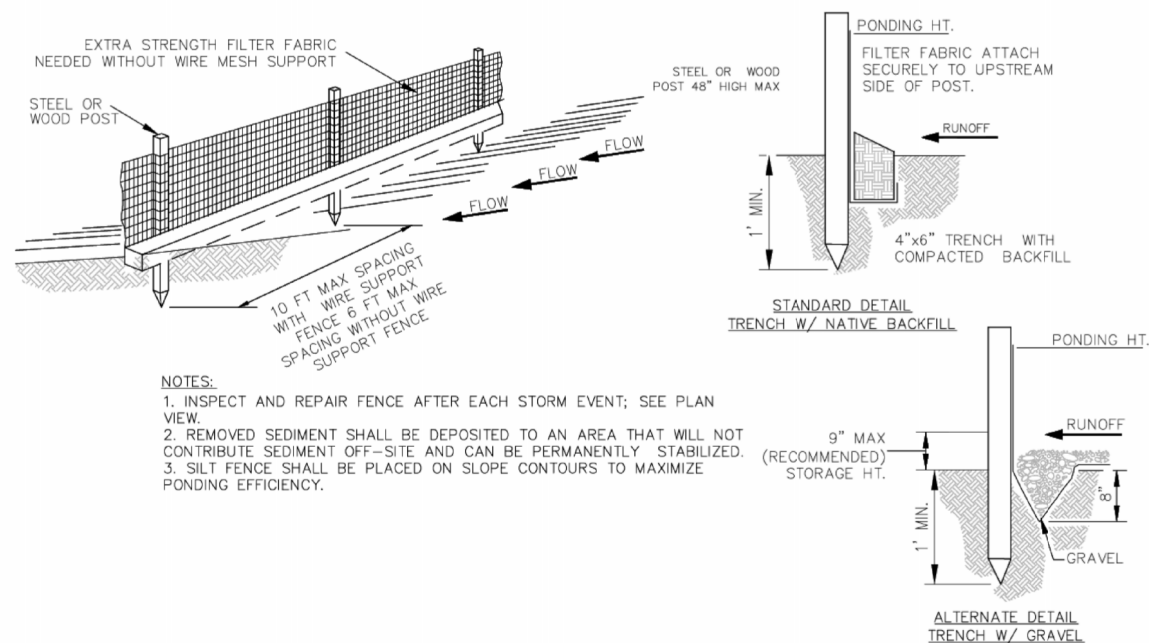


- NOTES:
1. LEAKING VEHICLES AND EQUIPMENT SHALL NOT BE ALLOWED ON-SITE. EQUIPMENT AND VEHICLES SHALL BE INSPECTED FREQUENTLY FOR LEAKS AND SHALL BE REPAIRED IMMEDIATELY. CLEAN UP SPILLS AND LEAKS PROMPTLY WITH ABSORBENT MATERIALS; DO NOT FLUSH WITH WATER.
 2. VEHICLES AND EQUIPMENT SHALL BE MAINTAINED, AND REPAIRED ON-SITE ONLY IN DESIGNATED AREAS. PREVENT RUN-ON AND RUN-OFF FROM DESIGNATED AREAS.
 3. CONTAINMENT DEVICES SHALL BE PROVIDED AND AREAS SHALL BE COVERED IF NECESSARY.
 4. DESIGNATE ON-SITE VEHICLE AND EQUIPMENT MAINTENANCE AREAS, AWAY FROM STORM DRAIN INLETS AND WATERCOURSES.
 5. ALWAYS USE SECONDARY CONTAINMENT, SUCH AS A DRAIN PAN OR DROP CLOTH TO CATCH SPILLS AND LEAKS WHEN REMOVING OR CHANGING FLUIDS. LEGALLY DISPOSE OF USED OILS, FLUIDS AND LUBRICANTS.
 6. PROVIDE SPILL CONTAINMENT DIKES OR SECONDARY CONTAINMENT AROUND STORED OIL, FUEL, AND CHEMICAL DRUMS.
 7. MAINTAIN AN ADEQUATE SUPPLY OF ABSORBENT SPILL CLEANUP MATERIALS IN DESIGNATED AREAS.

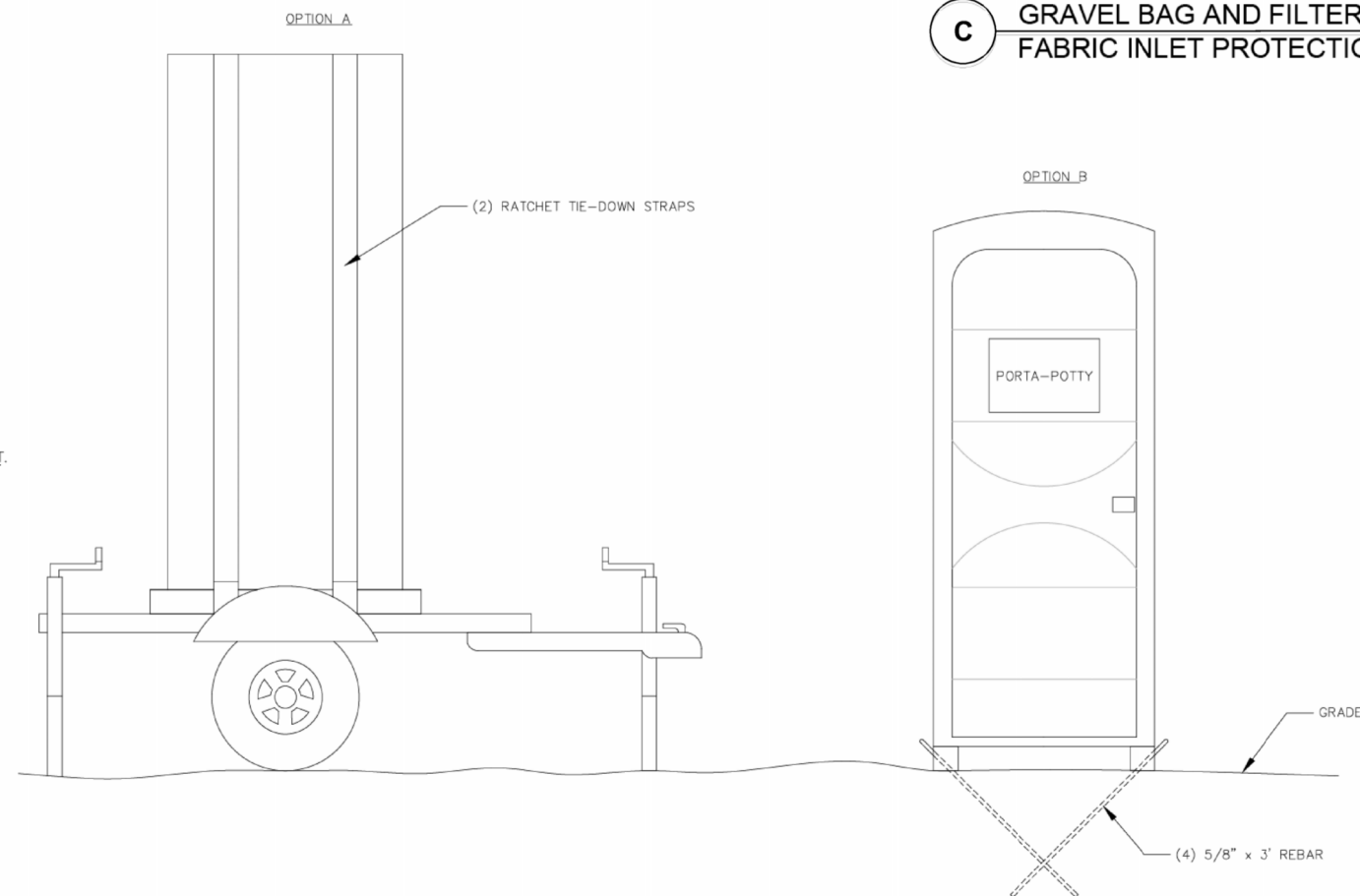
B CONSTRUCTION & MATERIAL STORAGE



C GRAVEL BAG AND FILTER FABRIC INLET PROTECTION



D LODA/SILT FENCE



E PORTABLE TOILET

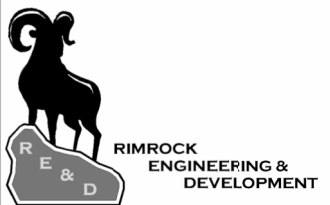
ALL SITE WORK SHALL BE IN ACCORDANCE WITH THE
TO COMPLY WITH THE STANDARD DRAWINGS AND
WORKS STANDARD DRAWINGS AND
SPECIFICATIONS.

IF HYURUM DOES NOT HAVE A STANDARD OR TYPICAL DETAIL, CONTRACTOR TO FOLLOW ALL APWA STANDARDS AND SPECIFICATIONS. CONTRACTOR TO COORDINATE WITH ALL PUBLIC AND PRIVATE ENTITIES WHILE INSTALLING ALL UTILITIES. .

SHEET LEGEND

PLAN REVISIONS

A. _____



CAD TECH:	RJM
DESIGNER:	RJM
Q&A:	JNS

**CALL BLUE
STAKES PRIOR
TO DIGGING**

PROJECT NAME

**CREGER MACHINE
SHOP**

SHEET NAME

DETAILS

PLAN SUBMITTAL:

PRELIM

REVIEW SET
5/12/25

SHEET NUMBER

4. 28



United States
Department of
Agriculture

NRCS

Natural
Resources
Conservation
Service

A product of the National
Cooperative Soil Survey,
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Federal agencies, State
agencies including the
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Stations, and local
participants

Custom Soil Resource Report for Cache Valley Area, Parts of Cache and Box Elder Counties, Utah



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Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report Soil Map


Section 7. Item B.



Custom Soil Resource Report

MAP LEGEND

Area of Interest (AOI)

 Area of Interest (AOI)

Soils


 Soil Map Unit Polygons

 Soil Map Unit Lines


 Soil Map Unit Points

Special Point Features

 Blowout

 Borrow Pit

 Clay Spot

 Closed Depression

 Gravel Pit

 Gravelly Spot

 Landfill

 Lava Flow


 Marsh or swamp


 Mine or Quarry

 Miscellaneous Water


 Perennial Water

 Rock Outcrop


 Saline Spot

 Sandy Spot

 Severely Eroded Spot


 Sinkhole

 Slide or Slip

 Sodic Spot

 Spoil Area

 Stony Spot


 Very Stony Spot

 Wet Spot

 Other

 Special Line Features

Water Features

 Streams and Canals


Transportation

 Rails


 Interstate Highways

 US Routes

 Major Roads

 Local Roads

Background

 Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Cache Valley Area, Parts of Cache and Box Elder Counties, Utah
Survey Area Data: Version 17, Aug 26, 2024

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jun 22, 2022—Jul 11, 2022

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
RhA	RICKS GRAVELLY LOAM, 0 TO 3 PERCENT SLOPES	1.7	100.0%
Totals for Area of Interest		1.7	100.0%

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

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An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Cache Valley Area, Parts of Cache and Box Elder Counties, Utah

RhA—RICKS GRAVELLY LOAM, 0 TO 3 PERCENT SLOPES

Map Unit Setting

National map unit symbol: j6dn

Elevation: 4,500 to 5,700 feet

Mean annual precipitation: 15 to 17 inches

Mean annual air temperature: 46 to 48 degrees F

Frost-free period: 130 to 160 days

Farmland classification: Farmland of statewide importance

Map Unit Composition

Ricks and similar soils: 95 percent

Minor components: 5 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Ricks

Setting

Landform: Lake terraces

Landform position (three-dimensional): Tread

Down-slope shape: Linear

Across-slope shape: Linear

Parent material: Alluvium and deltaic sediments derived from limestone, sandstone and quartzite

Typical profile

Ap - 0 to 4 inches: gravelly loam

A1 - 4 to 9 inches: gravelly loam

B2 - 9 to 14 inches: gravelly loam

B3ca - 14 to 18 inches: gravelly sandy loam

IIC1ca - 18 to 24 inches: very gravelly sand

IIC2ca - 24 to 60 inches: very gravelly sand

Properties and qualities

Slope: 0 to 3 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Somewhat excessively drained

Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high
(0.60 to 2.00 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Calcium carbonate, maximum content: 25 percent

Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)

Available water supply, 0 to 60 inches: Low (about 3.4 inches)

Interpretive groups

Land capability classification (irrigated): 4s

Land capability classification (nonirrigated): 6s

Hydrologic Soil Group: B

Ecological site: R028AY310UT - Upland Loam (Bonneville Big Sagebrush) North

Other vegetative classification: Upland Loam (Mountain Big Sagebrush)
(028AY310UT)

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Hydric soil rating: No

Minor Components

Timpanogos

Percent of map unit: 5 percent