



Group\Drafting\0169 Reicks

GRUBER LIVESTOCK NORTH, LLC GILT DEVELOPMENT UNIT BARN

MARIETTA TOWNSHIP

CRAWFORD COUNTY

NW 1/4 of SW 1/4 SECTION 14 T-8-N R-4-W

SHEET INDEX

G-101 COVER SHEET

C-101 OVERALL SITE PLAN

C-102 EXISTING SITE PLAN

C-103 PROPOSED SITE PLAN & SETBACKS

C-104 PROPOSED SITE PLAN BORING LOGS C-105 PROPOSED SITE PLAN ANIMAL & PIT CAPACITY CALCS

C-106 PROPOSED SITE GRADING PLAN

C-107 PROPOSED TILE & STORM WATER PLAN

C-108 SITE PROFILE ALIGNMENT PLAN

C-109 GRADING CROSS SECTIONS C-110 GRADING CROSS SECTIONS

SW-101 SWPPP COVER

SW-102 SWPPP NOTES

SW-103 SWPPP SITE PLAN

SW-104 SWPPP DETAILS SW-105 SWPPP DETAILS

S-000 STRUCTURAL NOTES

S-001 ISOMETRIC VIEW S-100 FOUNDATION PLAN

S-101 CONTROL/CONSTRUCTION JOINT PLAN

S-102 BEAM PLAN

S-103 SLAT PLAN

S-104 STEM WALL PLAN

S-105 LONGITUDINAL SECTIONS

S-106 CROSS SECTIONS

S-107 STRUCTURAL DETAILS

S-108 STRUCTURAL DETAILS

S-109 STRUCTURAL DETAILS

CONTRACTOR AND/OR LANDOWNER SHALL CALL THE DIGGERS HOTLINE TO LOCATE ANY UNDERGROUND UTILITIES PRIOR TO CONSTRUCTION

> HEREBY CERTIFY THAT THIS PLAN WAS DEVELOPED IN ACCORDANCE WITH WISCONSIN NRCS CONSERVATION PRACTICE STANDARD 313 " WASTE STORAGE FACILITY" AND 522 " POND SEALING OR LINING, CONCRETE"

> > 7/23/2025



I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BE ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF WISCONSIN

7/23/2025

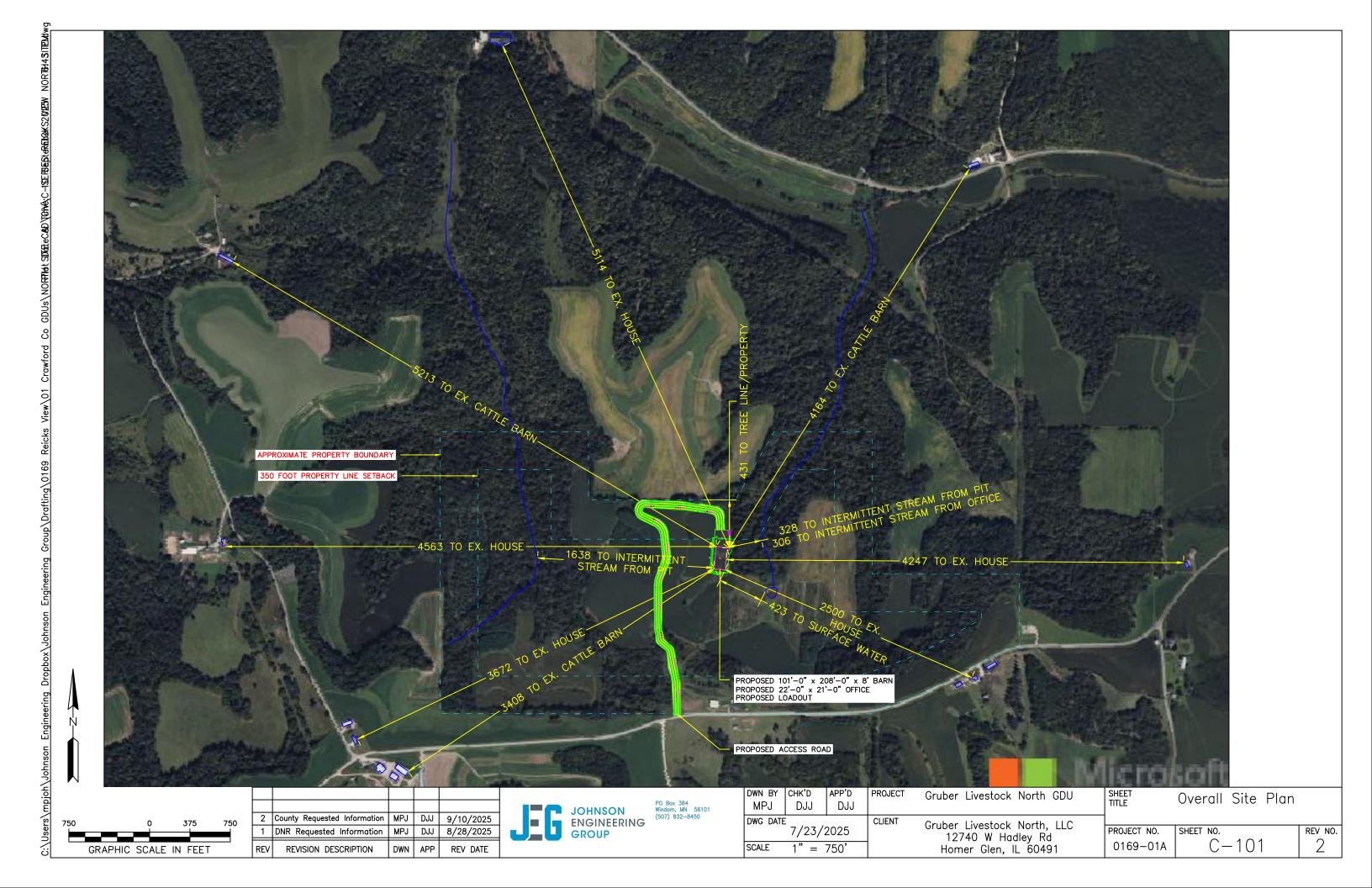
LICENSE NUMBER E-29100 LICENSE RENEWAL DATE IS JULY 31, 2026

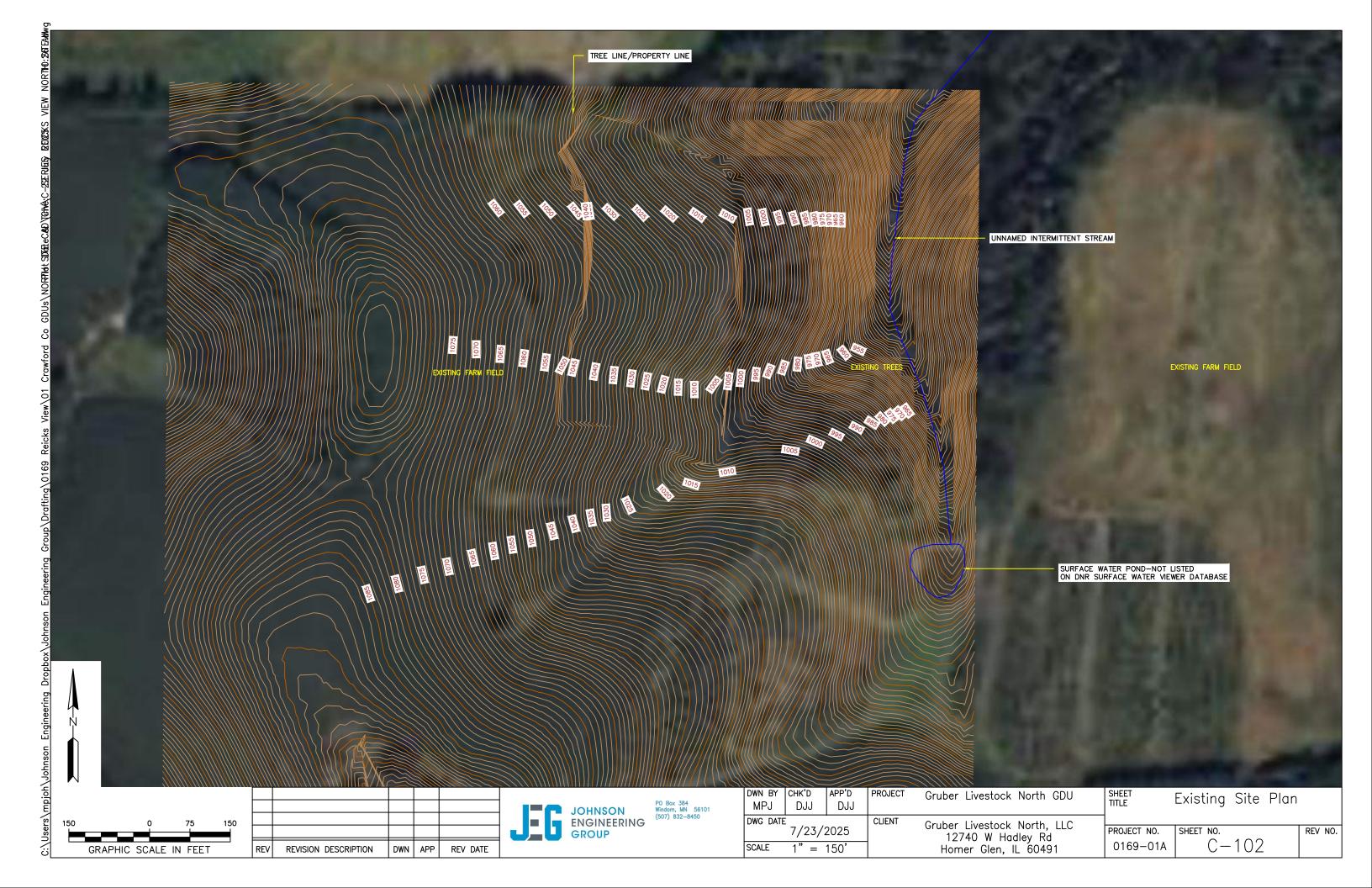
DWN APP **REV DATE** REVISION DESCRIPTION

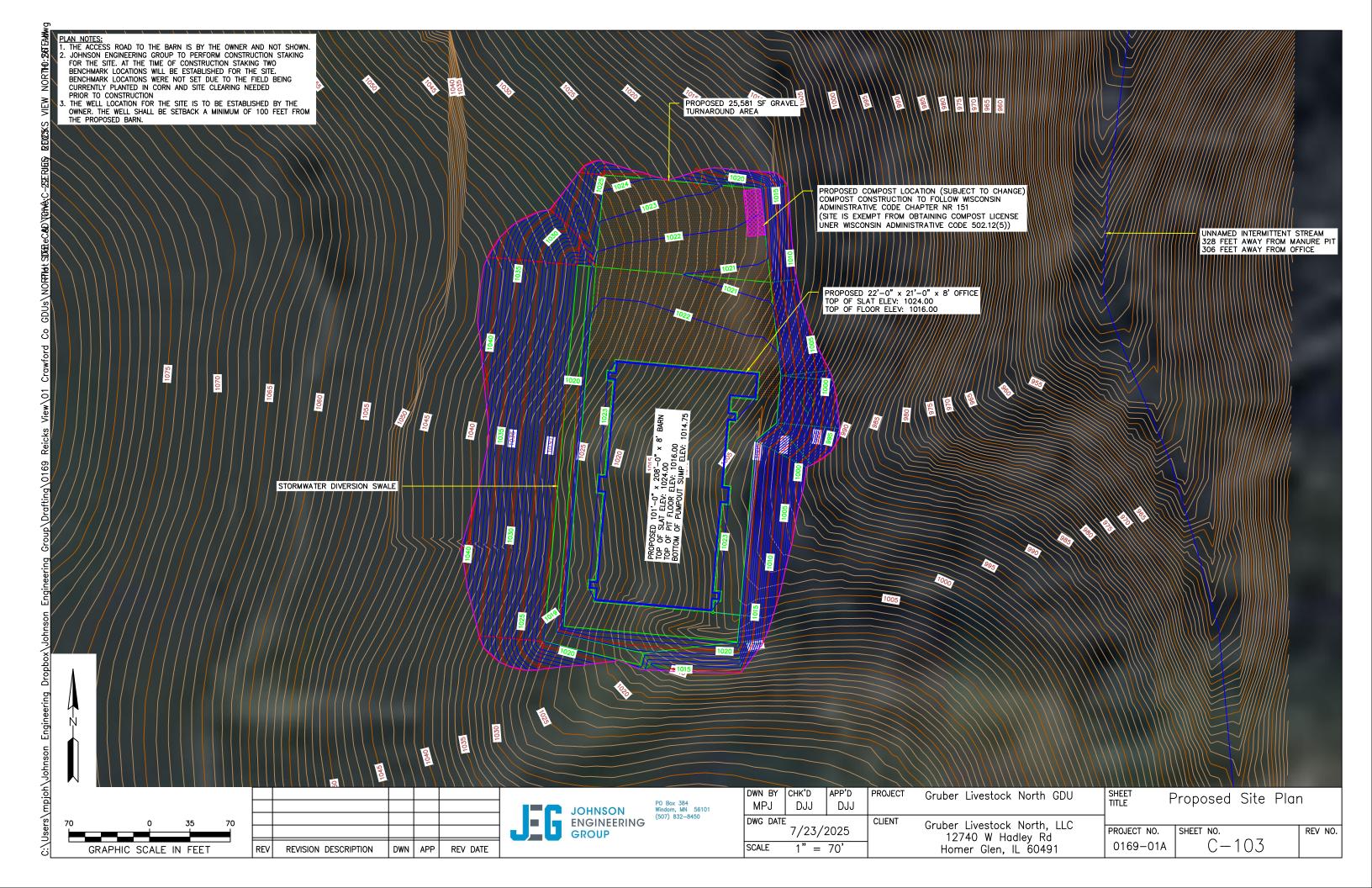


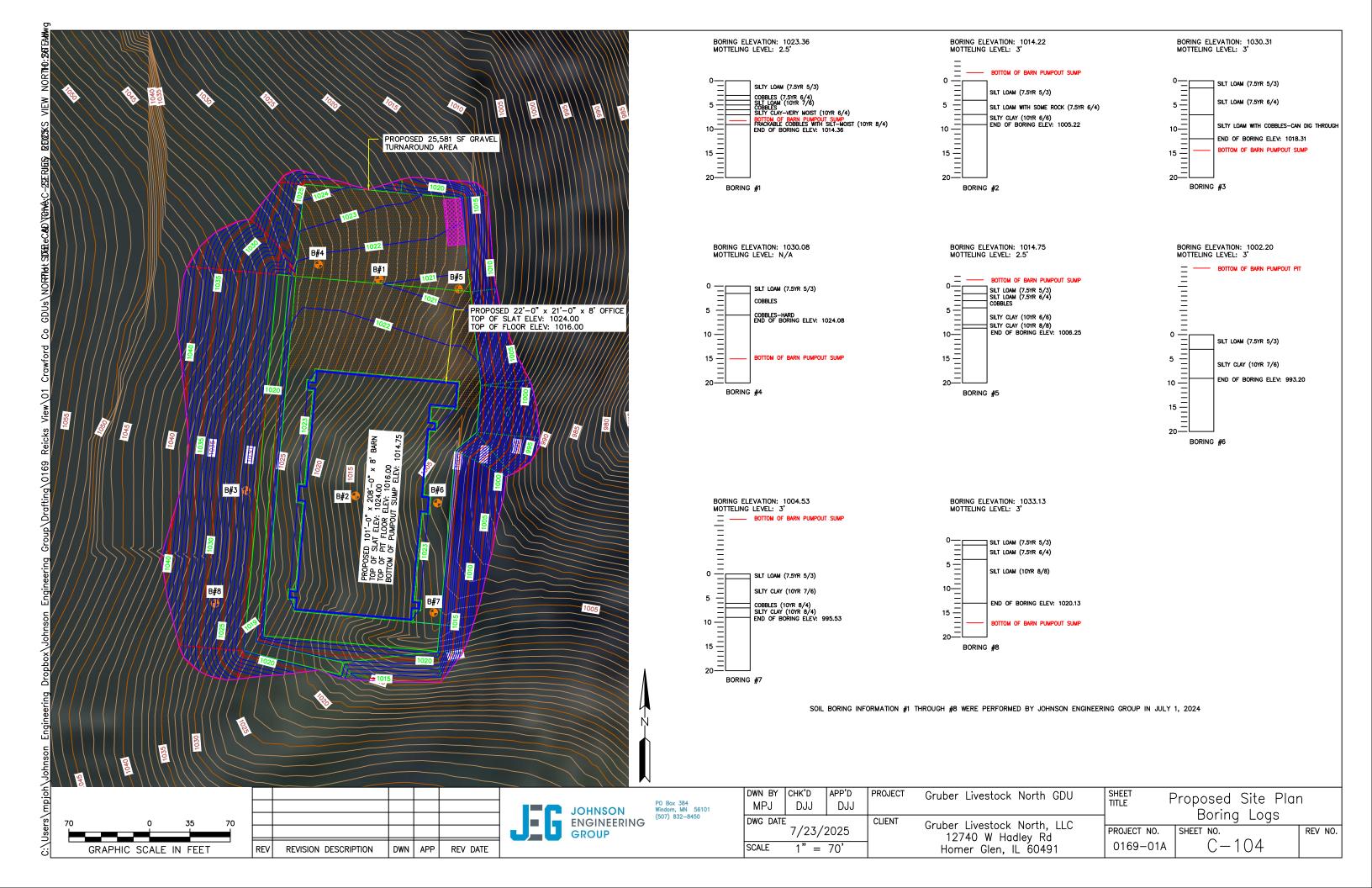
DWN BY MPJ	CHK,D	APP'D DJJ	PROJECT	Gruber Livestock North GDU
DWG DATE	7/23/	2025	CLIENT	Gruber Livestock North LLC 12740 W Hadley Rd
SCALE	N/	Ά		Homer Glen, IL 60491

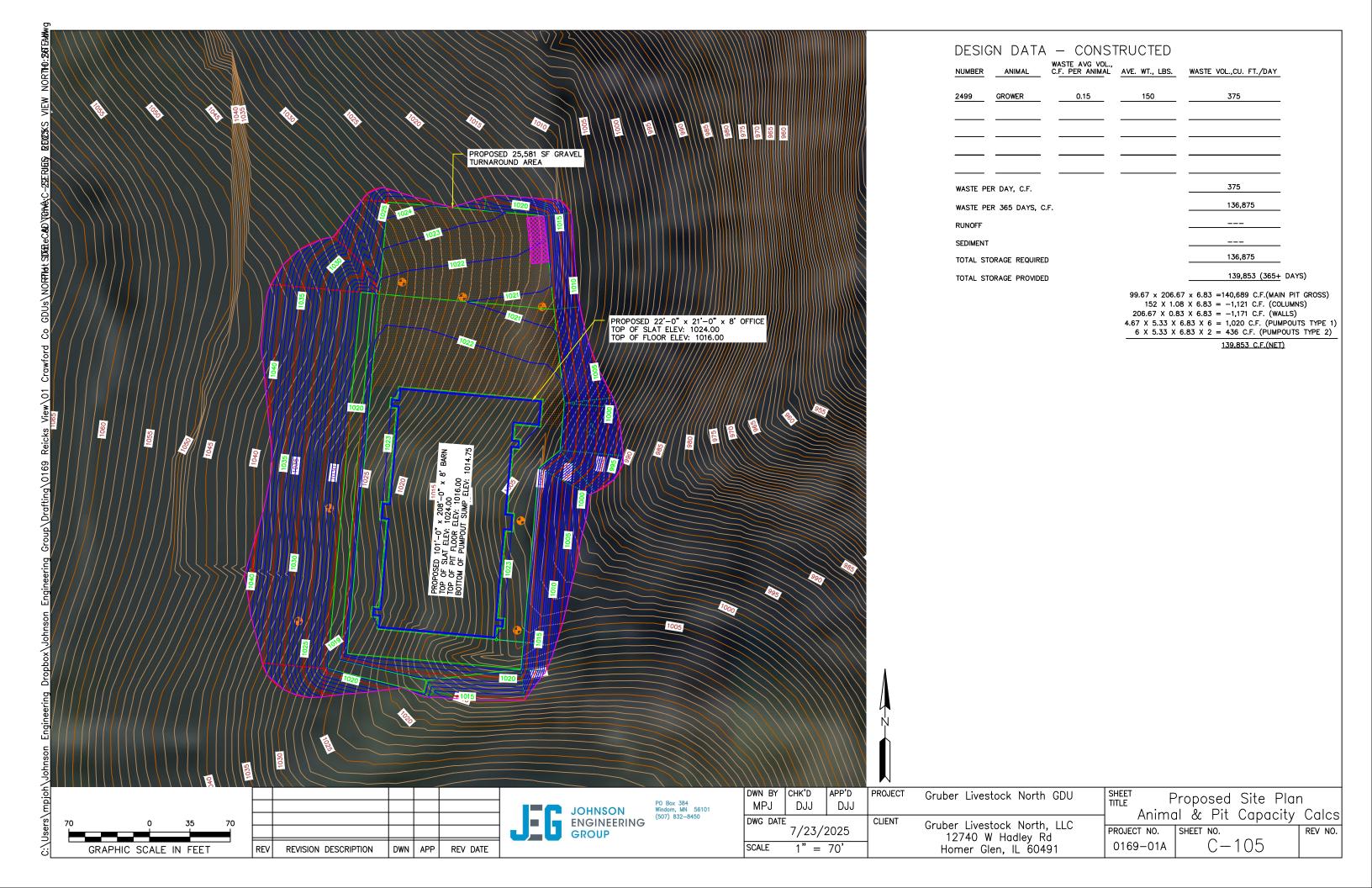
SHEET Cover Page TITLE PROJECT NO. SHEET NO. REV NO. G - 1010169-01A

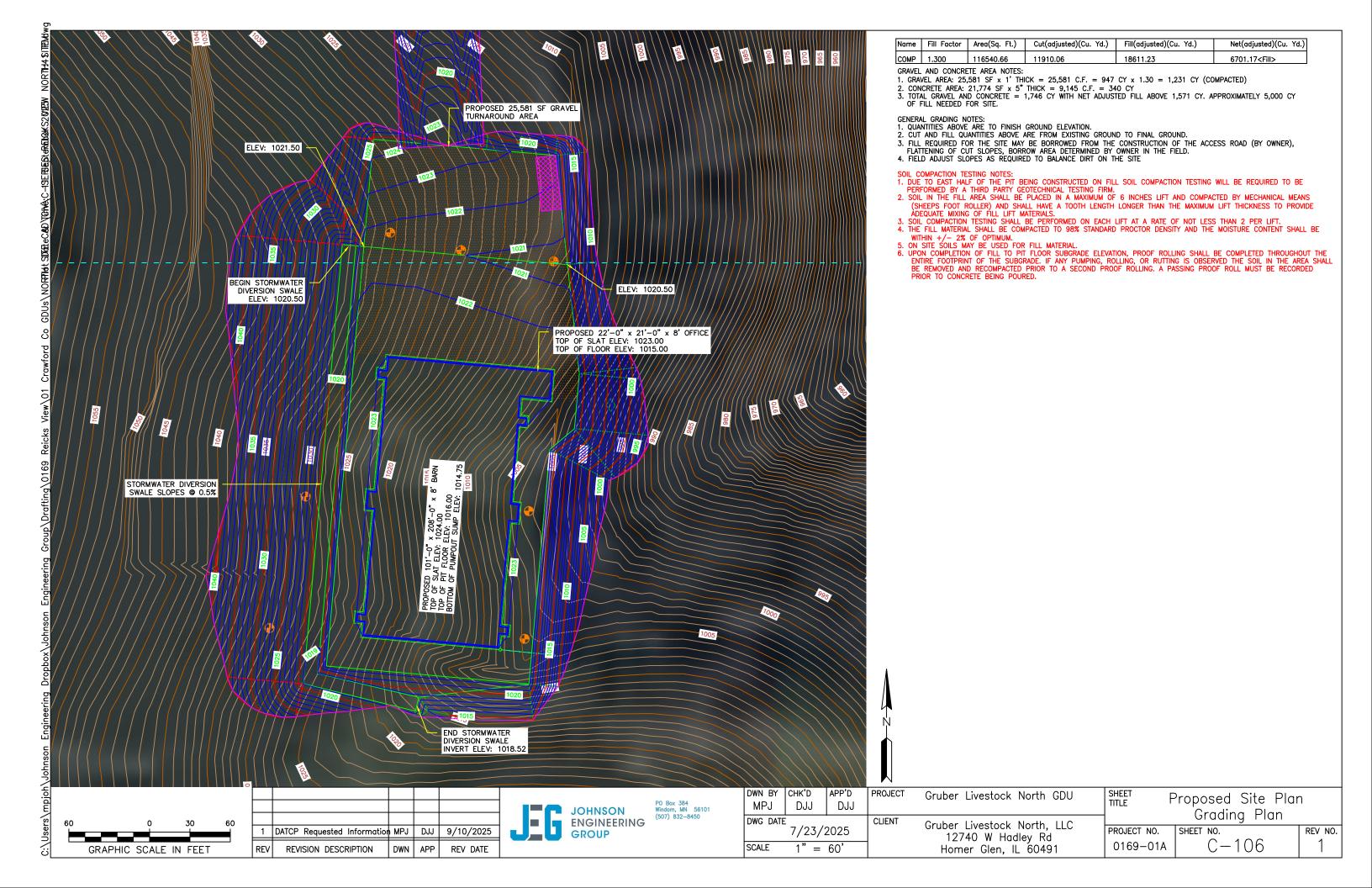


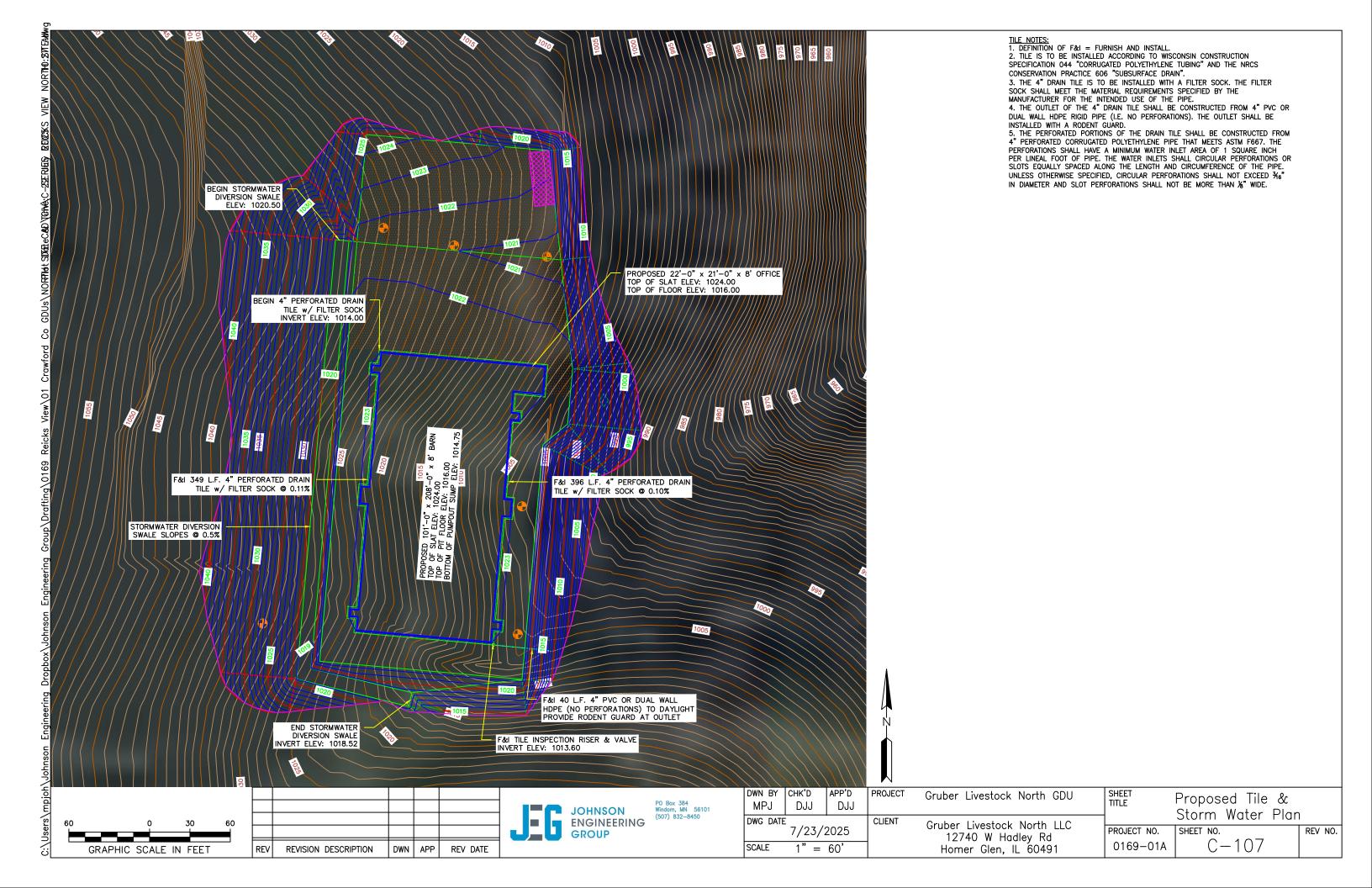


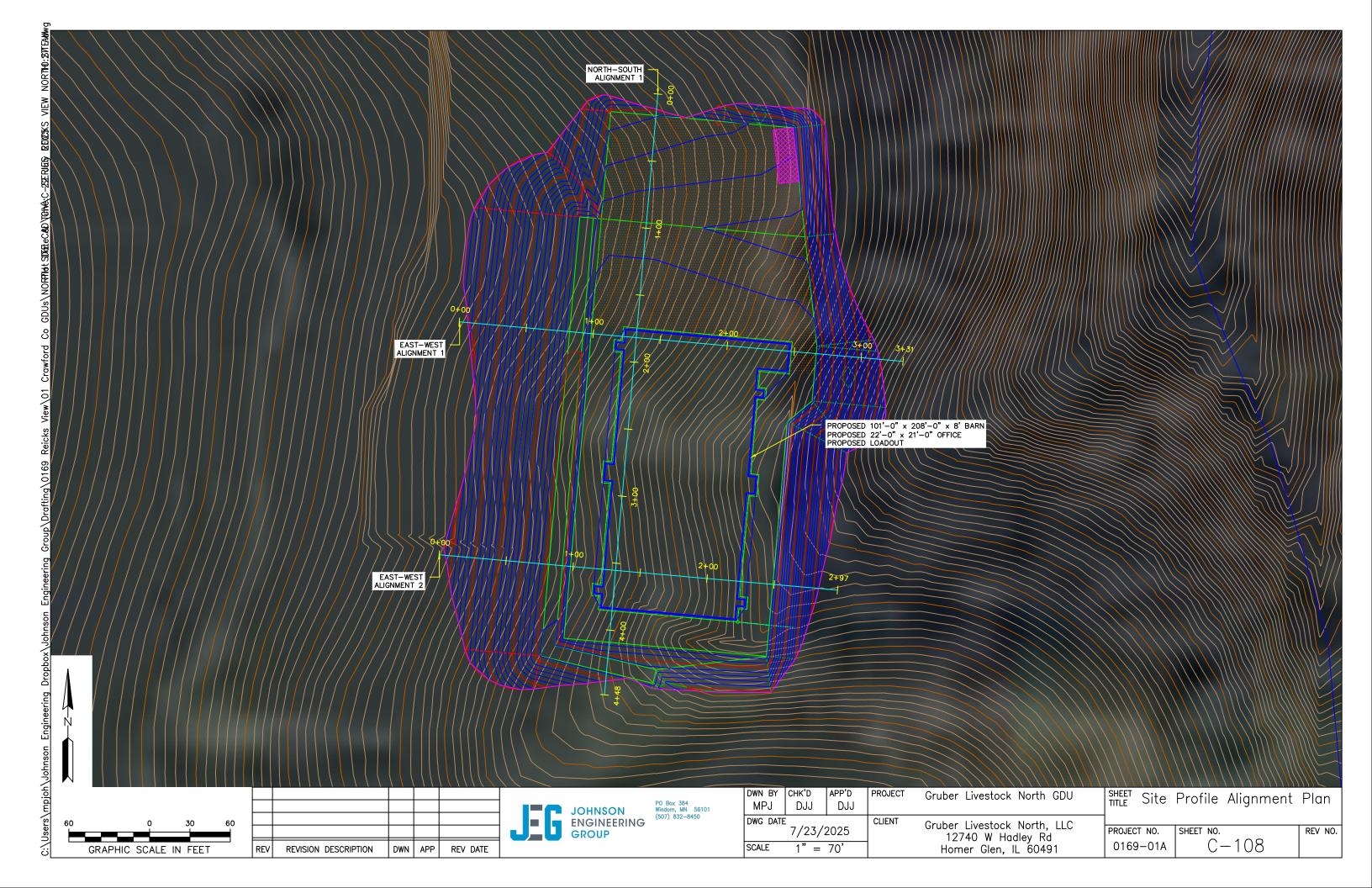


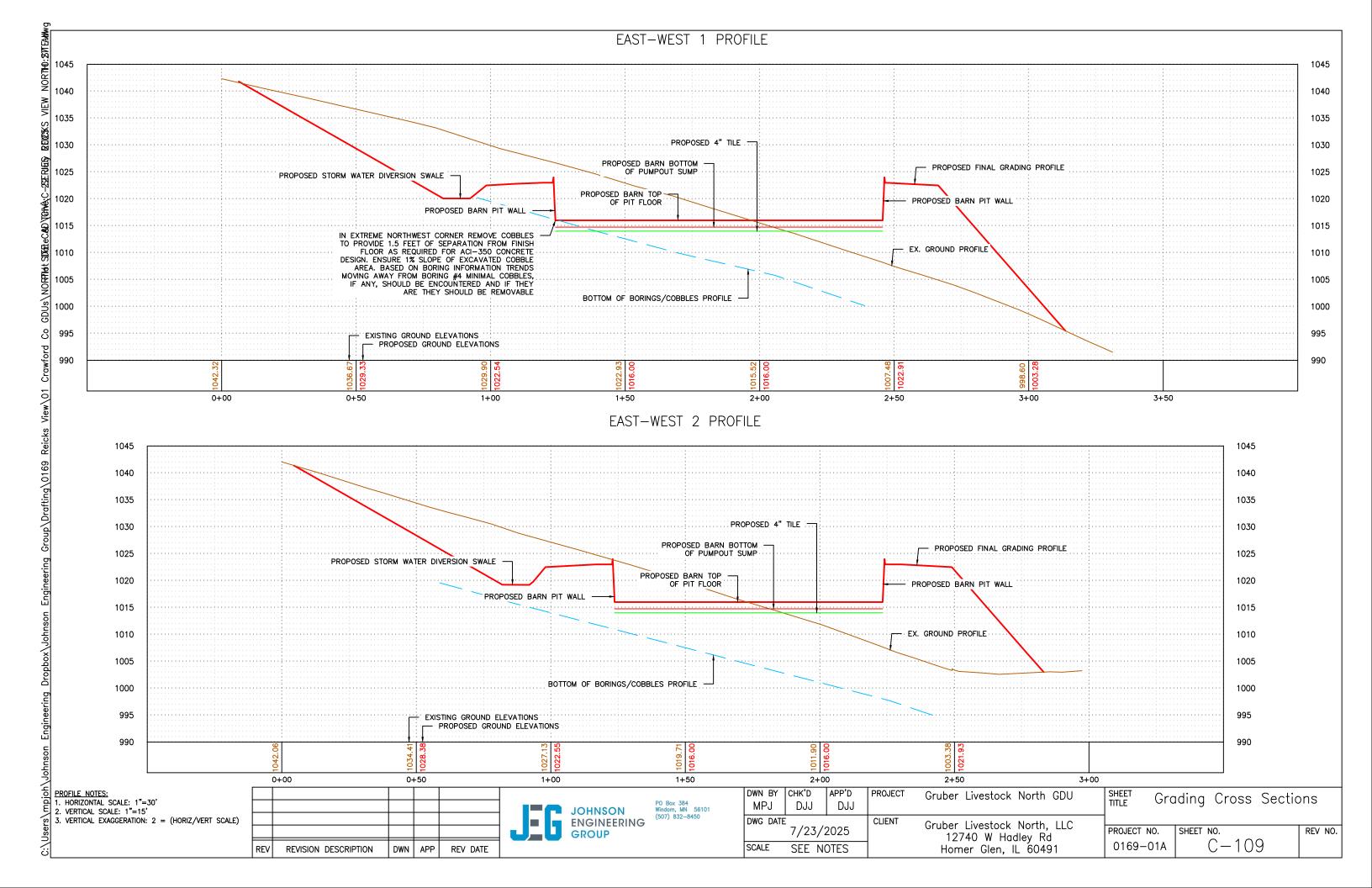




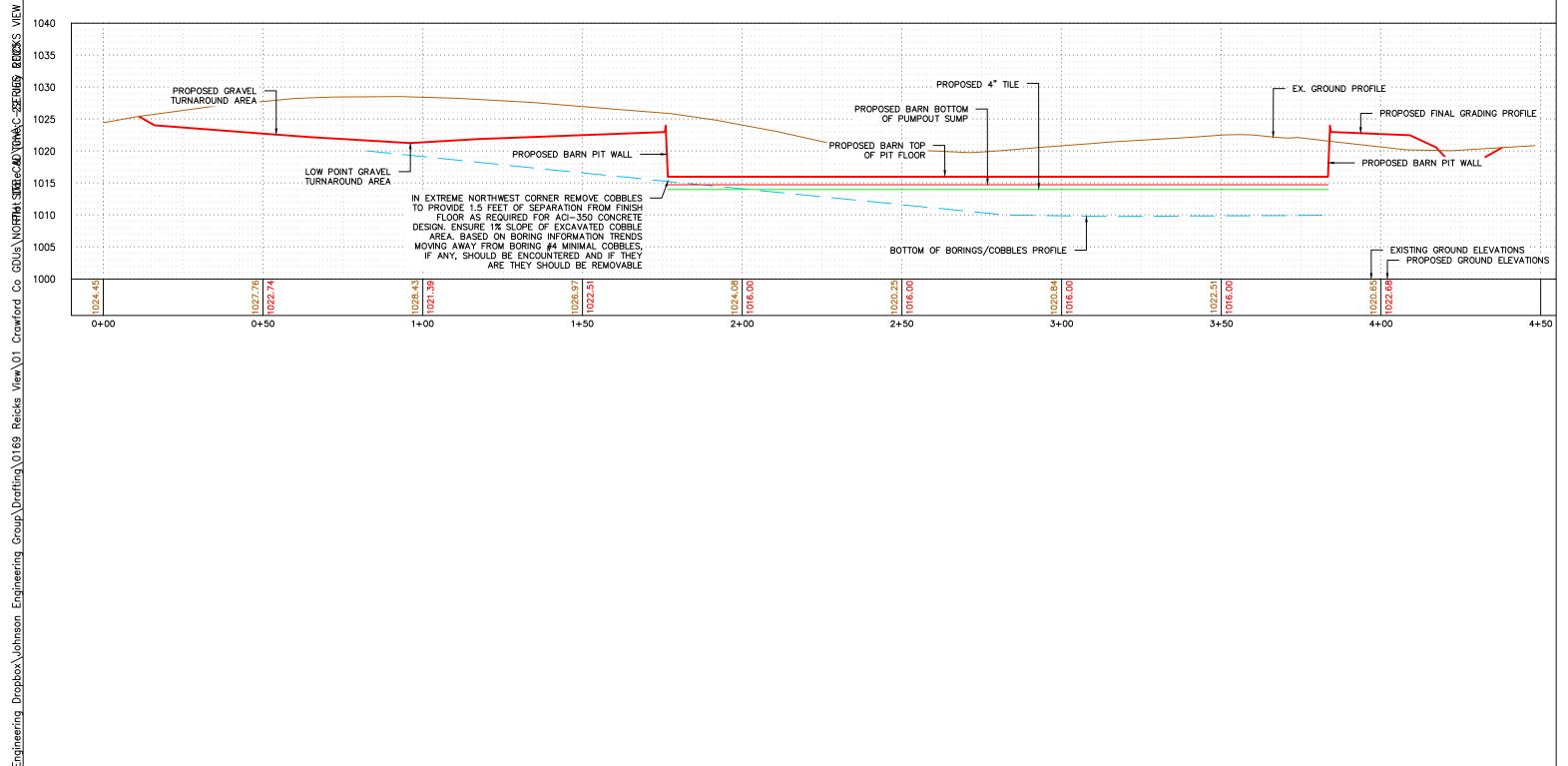








NORTH-SOUTH 1 PROFILE



PROFILE NOTES:

1. HORIZONTAL SCALE: 1"=30'

2. VERTICAL SCALE: 1"=15'

3. VERTICAL EXAGGERATION: 2 = (HORIZ/VERT SCALE)

REV	REVISION DESCRIPTION	DWN	APP	REV DATE	

JOHNSON
ENGINEERING
GROUP

PO Box 384
Windom, MN 56101
(507) 832–8450

DWN BY MPJ	CHK'D	APP'D DJJ	PROJECT	Gruber Livestock North GDU	SHEET TITLE	Gra	ding	Cross	Section	ns
DWG DATE 7/23/2025			CLIENT	Gruber Livestock North LLC 12740 W Hadley Rd	PROJECT		SHEET 1		0	REV
SCALE	SEE N	OTES]	Homer Glen, IL 60491	0169-	-01A	(C - 11	0	

REV NO.

STORM WATER POLLUTION PREVENTION PLAN (SWPPP)

GDU BARN

CRAWFORD COUNTY, WISCONSIN



PROJECT LOCATION

STATE: WISCONSIN

WISDOT DISTRICT SW

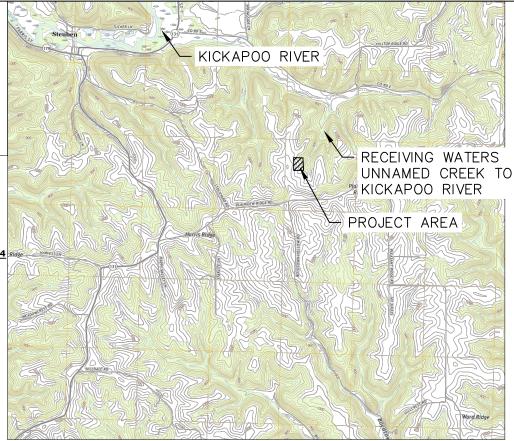
COUNTY: CRAWFORD TOWNSHIP: MARIETTA

NW 1/4 OF SW 1/4 SECTION: 14

GENERAL PROJECT INFORMATION

RESPONSIBLE PARTIES:
The Contractor and Owner must apply for coverage under the MPCA General Storm Water Permit for Construction Activity as required by the National Pollutant Discharge Elimination System (NPDES) Phase II program. Coverage under the permit will begin automatically 7 calendar days after the post marked date on the application. [Longer time frames apply to sites that: (1) disturb areas greater than 50 acres AND discharge within 1 mile of a Special or Impaired Water; or (2) Use alternative storm water treatment techniques].

Owner: GRUBER LIVESTOCK NORTH LLC	DENNIS GRUBER Contact Person	(773) 428-5725 Phone
SWPPP Preparer: Johnson Engineering Group, LLC	Dennis Johnson Contact Person	(507) 832-8450 Phone
Contractor:	 Contact Person	Phone
Person Responsible for Inspections:	 Contact Person	Phone
	Contact Ferson	Fnone
The individuals identified above have been trained in accord	dance with the Permit's training requir	rements.
At least one trained individual shall be present on the peri	mitted project site or available to the	project site within 72 hours.
Documentation of proper training shall be available within 7	72 hours upon request.	
SPECIAL ENVIROMENTAL CONSIDERATIONS: An enviromental review has been completed for this proje into this SWPPP.	ct. Stormwater mitigative requirements	have been incorporated
This site does not have the potential to affect threatened	or endangered species.	
This site does not drain to a Calcareous fen.		
PROJECT DESCRIPTION: This project includes disturbance of approximately 2.67 acr and parking lots. Construction activities include the regradir building construction, and erosion and sediment control me	ng of the area, placement of aggrega	s area created from building te materials, grading,
STORM WATER MANAGEMENT: Type of storm water management used if more than 1 ac	re of new imperious surface is create	·d:
Wet sedimentation basin Regional Pond		
Infiltration Permanent storm	water management not required	
Filtration X Alternative method	s	
Required Water Quality Volume: Design Water Quality Volume: N/A Elevation of Water Quality Volume Storage: Surface Area of Water Quality Volume Storage: Allowable Discharge of Water Quality Volume: Designed Discharge for Water Quality Volume: Required Infiltration Volume: N/A Designed Infiltration Volume: N/A		



Ρ	CI	11.4	44	RY

COUNTY, STATE	TOWNSHIP	RANGE	SECTION(S)	LATITUDE	LONGITUDE
CRAWFORD, WI	T-8-N	R-4-W	14	43*9'59.68"N	90°49'13.05"W

PROJECT AREAS

Total Project Size (Lot Size) = Total Project Size (Disturbed Area) = Existing area of impervious surface = Post construction area of impervious surface = Total new impervious surface area created =

Planned construction start date: Estmated construction completion date:

20.1 ACRE 2.67 ACRE 0 ACRE 1.08 ACRE

SUMMER/FALL 2025 SPRING 2026

DESCRIPTION OF SITE AREAS

Gruber Livestock North, LLC is proposing the construction of a 101'-0" x 208'-0" x 8' deep pit GDU barn for 2499 grower pigs. There will be a 21'-0" x 22'-0" office on the northeast end of the barn. In addition there will be a 25,581 square foot gravel turnaround area. The site access road will be constructed by the owner from Planview Ridge Road. The project is located approximately 8 miles from the City of Boscobel, Wisconsin.

Any construction sediment that has accumulated in the drainage ways during construction shall be removed prior to final

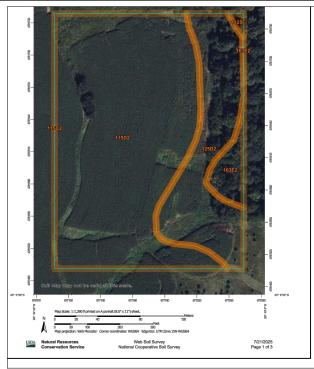
Follow the erosion and sediment control plan for all construction best management practices (BMP). Any changes to this SWPPP document shall be approved by the engineer and maintained on site with the original construction documents.

BMP SUMMARY

Surface waters which will receive storm water from the site within 1 mile of property boundary. include waters shown on USGS 7.5 minute quad and all waters identified in Appendix A of the permit.

For sites with a discharge point within 1 mile of, and flows to, an impaired water, additional BMP's have been included in this SWPPP.

For receiving waters with approved TMDLs, all specific implementation activities and BMP's regarding construction activities are included in this SWPPP.



SOIL TYPE SUMMARY

OUIL TITE	- COMMUNICATION OF THE PROPERTY OF THE PROPERT	
MAP UNIT SYMBOL	SOIL NAME	HYD. SOIL GROUP
115C2	SEATON SILT LOAM, DRIFTLESS RIDGE, 6 TO 12 PERCENT SLOPES MODERATELY ERODED	В
115D2	SEATON SILT LOAM, DRIFTLESS RIDGE, 12 TO 20 PERCENT SLOPES, MODERATELY ERODED	В
125D2	PEPIN SILT LOAM, 12 TO 20 PERCENT SLOPES, MODERATELY ERODED	В
163E2	ELBAVILLE SILT LOAM, 20 TO 30 PERCENT SLOPES, MODERATELY ERODED	С
1125F	DORERTON, VERY STONY-ELBAVILLE COMPLEX, 30 TO 60 PERCENT SLOPES	В
		Ī

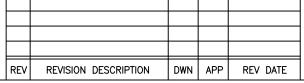
BMP SUMMARY

BMP	QUANTITY	UNIT
SILT FENCE, TYPE MACHINE SPLICED (1)	675	LIN FT
TEMPORARY DITCH CHECK, TYPE 3 (BIOROLL) (1)	4	LIN FT
SEED MIX 280 (1)	BY OWNER	ACRE
HYDRAULIC MULCH MATRIX (1)	BY OWNER	TON
ROCK ENTRANCE	1	EACH
INLET PROTECTION	0	EACH

(1) See sheet SW-103

NAME OF WATER BODY	TYPE (DITCH, POND, WETLAND, LAKE, ETC.)	FLOWS TO IMPAIRED WATER WITHIN 1 MILE?	
KICKAPOO RIVER	RIVER	NO	

KICKAPOO RIVER IMPAIRMENT STATUES IS 303d LISTED, DNR CATEGORY 5A, POLLUTANT REMOVED AND IS OVER 1 MILE FROM THE PROPOSED CONSTRUCTION SITE. DOES NOT REQUIRE ANY ADDITIONAL BMP's OR PLAN REVIEW FOR COMPLIANCE WITH THE NPDES/SDS CONSTRUCTION PERMIT





MPJ	CHK'D	APP'D DJJ	PROJECT	Gruber Livestock North GDU
OWG DATE	7/23/2	2025	CLIENT	Gruber Livestock North, LLC 12740 W Hadley Rd
SCALE	N/A	4		Homer Glen, IL 60491

SWPPP Cover TITLE

REV NO.

PROJECT NO. SHEET NO. SW - 1010169-01A

CONSTRUCTION ACTIVITY NOTES:

EROSION PREVENTION PRACTICES:

Phased construction will be used to extent practical or as indicated in the plans to minimize exposed soils.

Areas not to be disturbed shall be delineated with flags, stakes, signs, silt fence, etc. prior to work beginning. The normal wetted perimeter of all ditches or swales, including storm water management pond slopes, that drain waters from the site must be stabilized within 200' of any property edge or discharge point, including storm sewer inlets, within 24 hours or connection.

Energy dissipation or other outlet treatment must be installed within 24 hours of connection.

All exposed soils must be stabilized as soon as possible but in no case later than 14 days after the construction activity has temporarily or permanently ceased.

Seed and/or sod, fertilizer, and mulch shall be placed as indicated in the plans and project specifications,

Rapid stabilization shall be of type and quantity indicated in the project specifications. Additional rapid stabilization may be necessary to minimize erosion throughout the duration of the project. Type and quantity shall be determined by the engineer or inspector prior to installation. In extreme cases, the contractor shall use any available rapid stabilization to immediately mitigate erosion, then further remedy the situation with approval by owner or engineer.

If the Contractor stockpiles material on site, he shall install the appropriated erosion control devices around the stockpile and perform the best management practices possible to avoid erosion from the stockpile.

Temporary (or permanent) sedimentation ponds are required for areas > 10 acres of disturbed soils draining to one point.

SEDIMENT CONTROL PRACTICES:

Installation of silt fence and all other down gradient sediment protection measures shall be completed prior to commencement of upstream land disturbing activities.

Silt fence shall be installed along constant contours with continuous lengths not to exceed 600 feet. As indicated on plans, silt fence will be periodically broken and hooked upslope in "J-hook" or "smile" patterns to provide ponding and slow runoff.

No unbroken slope lengths greater than 75 feet are permitted when slope is 3:1 or greater. Slope shall be broken with silt fence or biorolls as indicated on plans.

The timing and installation of sediment control practices may be adjusted to accommodate short term activities, but sediment control practices must be installed before the next precipitation event even if the activity is not complete.

Install ditch checks (Biorolls) as shown in plan. Ditch checks to be installed after roadway is removed and left in place until final restoration is established.

Vehicle tracking to be minimized to all practical extents. All eroded material that leaves the construction zone shall be collected by the contractor and returned to the site of the contractor's expense.

All stock piles shall be surrounded by silt fence and seeded with temporary seed and mulch. Locations of stockpiles and the associated BMPs shall be shown on the site plans.

All site storm sewer inlets, as well as off site downstream inlets with potential to receive sediment, shall be protected with approved established inlet protection may be removed in winter, if the project has an approval letter from jurisdictional authority or can produce it within 72 hours.

Sediment shall be removed from surface waters immediately upon discovery and in no case later than 7 days after discovery.

Infiltration areas shall be inspected routinely to ensure that no sediment from ongoing construction activities has reached the infiltration area and these areas shall remain protected from compaction due to construction equipment.

TEMPORARY SEDIMENTATION BASINS & DEWATERING:

Temporary sedimentation basins are required prior to runoff leaving the construction site or entering surface waters when 10 or more acres or disturbed soils drain to a common location. The basin must provide 3,600 cubic feet of storage below the outlet per acre drained. If hydraulic calculations are available, the temporary sedimentation basin must provide a storage volume equivalent to the 2-year, 24-hour storm, but in no case less than 1800 cubic feet per acre drained. The temporary sedimentation basin must be constructed and made operational concurrent with the start of soil disturbance up gradient of the pond. The temporary sedimentation basin shall be designed to prevent short circuiting. The outfall shall be designed to remove floatable debris, allow for complete drawdown of the pond, and have energy dissipation. The emergency spillway shall be stabilized.

All dewatering on site during construction must be routed to temporary sedimentation basins.

REV

Temporary sedimentation basins must be drained within 48 hours of any rainfall event. If the rock filtered outlets plug or cause the pond not to drain within 48 hours, ponds are to be drained with pumps. Pump inlets should be protected with a silt fence ring and rock filter berm as shown in the details, or an approved alternative. Excessive sediment-laden water that is not properly filtered will not be permitted to discharge from site.

DWN APP

REV DATE

REVISION DESCRIPTION

JOHNSON
ENGINEERING
GROUP

PO Box 384
Windom, MN 56
(507) 832–8450
(507) 822–1735

Dewatering practices cannot cause downstream nuisance conditions, erosion, or non-permitted wetland inundation.

When sediment level has reached ½ the storage volume in the temporary sedimentation basin, the basin shall be drained and sediment removed within 7 days.

POLLUTION PREVENTION:

All solid waste collected from the construction site must be disposed of in accordance with IADNR disposal requirements.

All hazardous material (e.g., oil, gasoline, fuel, antifreeze, paint, cleaning solvents, curing compounds, fertilizers, etc.) must be properly stored (including secondary containment when necessary) to prevent spills, hazardous waste must be in compliance with IADNR leaks, or other discharge.

External washing areas must be limited to a defined area of the site. All runoff containing hazardous material must be properly collected and disposed of. Defined area must be contained with heavy- or super-duty silt fence. NO ENGINE DEGREASING ALLOWED ON SITE.

The contractor is responsible for monitoring air pollution and ensuring it does not exceed levels set by local, state, or federal regulations. This includes dust created by work being performed on the site. Air pollution and dust control correction is considered incidental to the unit bid prices for which work is being performed. Additional dust control measures may be required by the Engineer.

INSPECTION & MAINTENANCE:

The permittees must routinely inspect the construction site once every seven (7) days during active construction and within 24 hours of a rainfall event greater than 0.5 inches in a 24 hour period.

All inspection performed during construction must be recorded and records retained on site with the SWPPP in accordance with the storm water permit. Records must include a site map showing areas of land disturbing activities and areas where activities have temporarily or permanently ceased.

Silt fence, biorolls and inlet protection devices must be maintained when non-functional or when accumulated sediment reaches 1/3 of device height.

Off site vehicle tracking to be removed within 24 hours of occurrence.

All non-functional BMPs must be repaired, replaced, or supplemented with functional BMPS within 24 hours of discovery, or as soon as field conditions allow

Maintenance and inspection record forms are located in the project specifications for reference or provided by the site inspector.

The permittees must submit a Notice of Termination (N.O.T.) within 30 days of final stabilization or transferring permit responsibility to another owner or operator.

The Contractor must ensure final stabilization of the site. Final stabilization shall include a minimum of 70% vegetation establishment (100% stabilized) on all previous areas.

All temporary erosion control measures and BMPs must be removed as part of the final site stabilization, unless directed otherwise by owner or engineer.

IMPLEMENTATION SCHEDULE & PHASING:

- 1) Install silt fence, biorolls, and rock entrances.
- 2) Excavate for detention pond.
- 3) Construct building pads, roads, and parking.
- 4) Stock pile excavated material as needed.
- 5) Fill low areas with fill material.
- 6) Stabilize fill, and begin construction of buildings.
- 7) Add additional temporary BMPs as necessary during construction based on inspection reports.
- 8) Ensure final stabilization measures are complete.
- 9) Remove erosion and sediment control BMPs.
- 10) Submit Notice of Termination (NOT) to within 30 days of final stabilization.

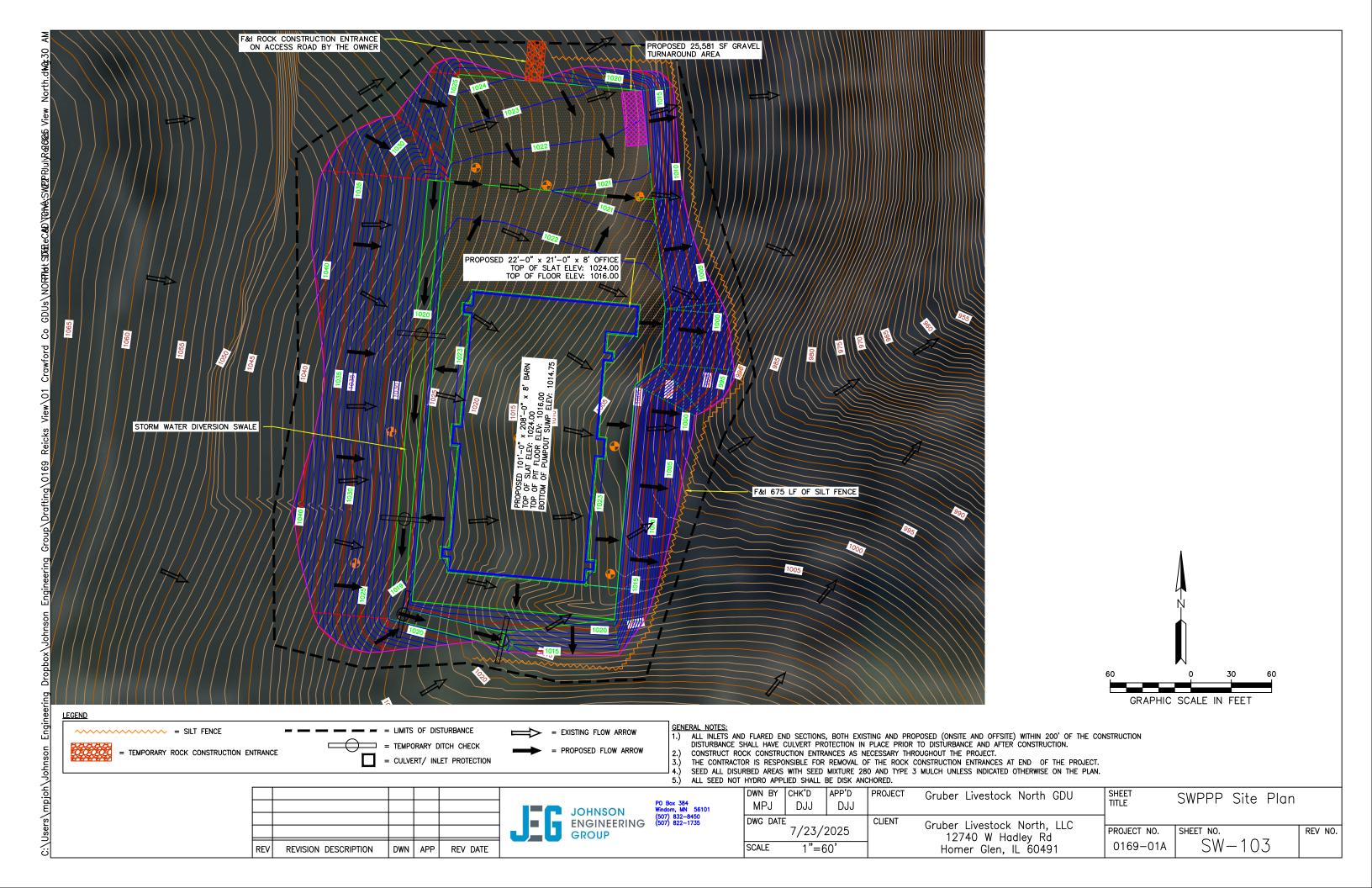
RECORD RETENTION:

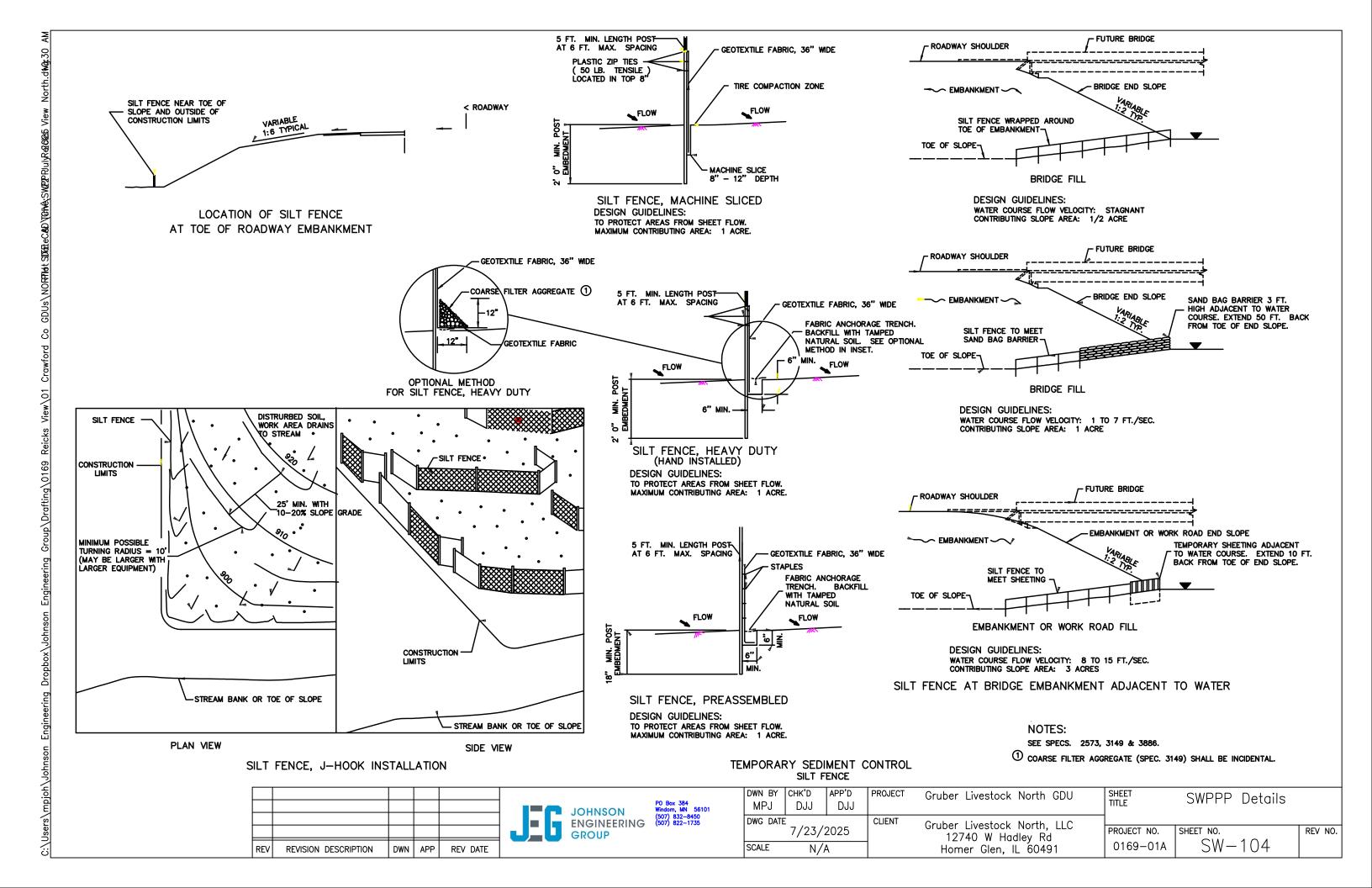
The SWPPP, all changes to it, and inspections and maintenance records must be kept at the site during construction. All owner(s) must retain the following for 3 years after submittal of NOT:

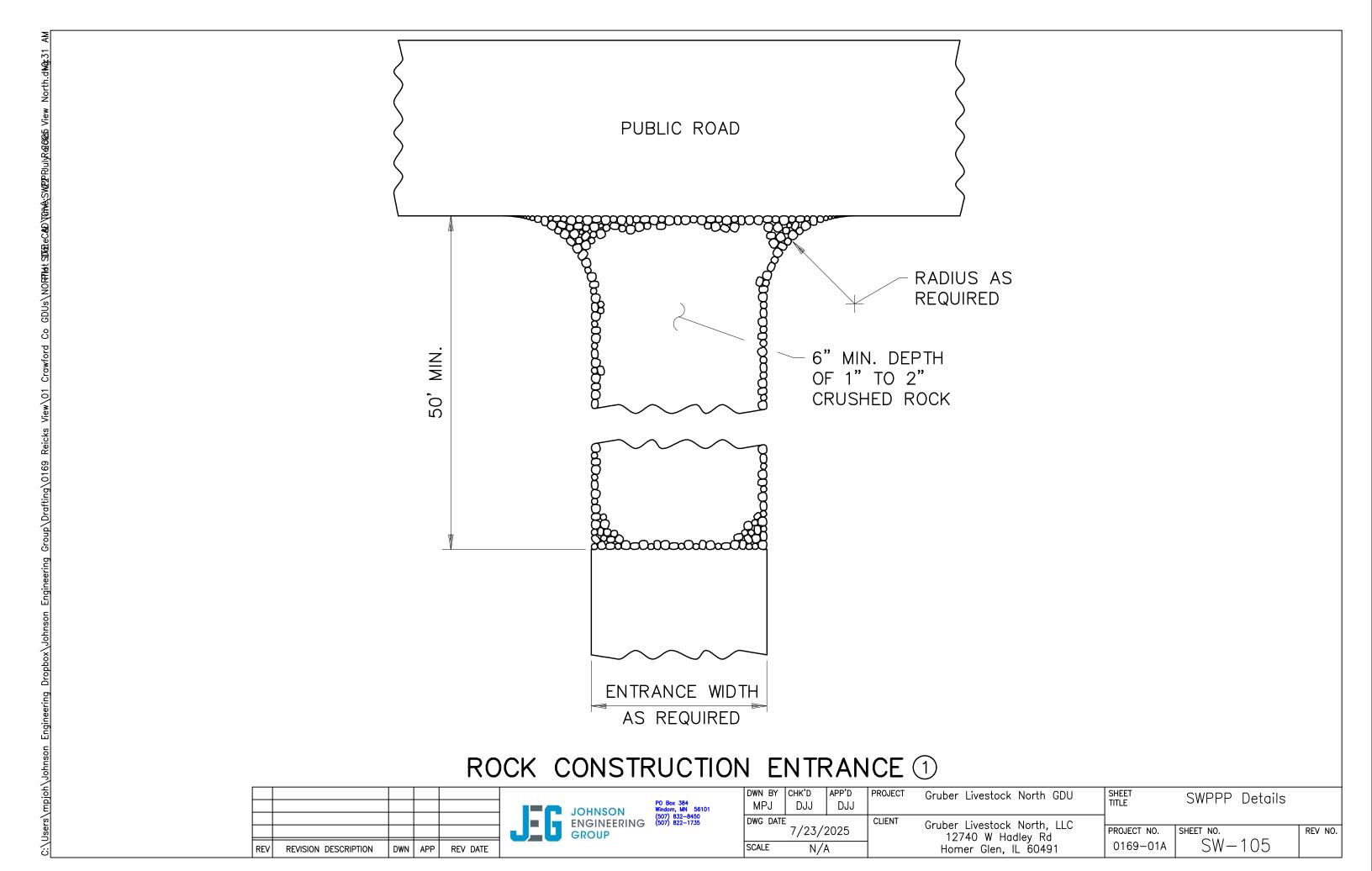
- 1) SWPPP:
- 2) Any other permits required for the project;
- 3) Inspection and maintenance logs:
- 4) All permanent operation and maintenance agreements for surface water facilities:
- 5) All design calculations for temporary and permanent storm water management.

Plan sheets SWPPP-101 to SWPPP-105 are also considered a part of the SWPPP for this project.

	DWN BY MPJ	CHK'D	APP'D DJJ	PROJECT	Gruber Livestock North GDU	SHEET TITLE	SWPPP	Notes	
	DWG DATE	: 7/23/:	2025	CLIENT	Gruber Livestock North, LLC 12740 W Hadley Rd	PROJECT NO.	SHEET NO.	4.00	REV NO.
Ī	SCALE	N//	Д]	Homer Glen, IL 60491	0169-01A	SW-	102	







GENERAL NOTES: CONCRETE REINFORCEMENT: . NOTES AND DETAILS ON THE STRUCTURAL DRAWINGS TAKE PRECEDENCE OVER THESE STANDARD STRUCTURAL NOTES. ALL SECTIONS, DETAILS, AND NOTES SHOWN ON THESE DRAWINGS ARE INTENDED 1. REINFORCING BAR DETAILING, FABRICATING, AND PLACING SHALL CONFORM TO THE FOLLOWING AMERICAN CONCRETE INSTITUTE STANDARDS: TO BE TYPICAL AND SHALL BE CONSTRUCTED TO APPLY TO SIMILAR SITUATIONS ELSEWHERE UNLESS OTHERWISE SHOWN. • "DETAILS AND DETAILING OF CONCRETE REINFORCEMENT" (ACI 315) 2. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS, ELEVATIONS, AND SITE CONDITIONS BEFORE STARTING WORK; AND THE ENGINEER SHALL BE NOTIFIED OF ANY DISCREPANCIES. MANUAL OF ENGINEERING AND PLACING DRAWINGS FOR REINFORCED CONCRETE STRUCTURES" (ACI 315R). 3. DIMENSIONS SHALL NOT BE SCALED FROM THE DRAWINGS. ANY DIMENSIONS NECESSARY FOR THE CONSTRUCTION OF THE STRUCTURE SHOULD BE PROVIDED IN THE PLANS VIEWS, SECTION VIEWS, ELEVATION • REINFORCING BAR DETAILING AND "PLACING REINFORCING BARS" BY THE CONCRETE REINFORCING STEEL INSTITUTE (CRSI) MAY ALSO BE USED 2. REINFORCING BARS SHALL CONFORM TO ASTM A615, GRADE 60 (Fy = 60,000 PSI) VIEWS, OR DETAILS IN THESE DRAWINGS. 3. WELDED WIRE REINFORCEMENT SHALL CONFORM TO ASTM A1064. 4. THE CONTRACTOR SHALL DETERMINE THE LOCATION OF UTILITY SERVICES IN THE AREA TO BE EXCAVATED BEFORE BEGINNING EXCAVATION. 5. NO PIPES, DUCTS, SLEEVES, CHASES, ETC, SHALL BE PLACED IN SLABS OR WALLS, NOR SHALL ANY STRUCTURAL MEMBER BE CUT FOR PIPES, DUCTS, ETC. UNLESS NOTED IN THE DETAILS. 4. WELDING OF REINFORCING BARS IS NOT ALLOWED. 6. THE STRUCTURES HAVE BEEN DESIGNED FOR THE IN-SERVICE LOADS ONLY. ANY MEANS, METHODS, AND SEQUENCES OF CONSTRUCTION ARE THE RESPONSIBILITY OF THE CONTRACTOR. ALL NECESSARY 5. ALL REINFORCING STEEL, ANCHOR BOLTS, AND DOWELS SHALL BE SECURED IN POSITION WITH WIRE TIES OR EQUAL BEFORE PLACING CONCRETE OR GROUT. PRECAUTIONS TO MAINTAIN AND ENSURE THE WATER TIGHTNESS AND INTEGRITY OF THE STRUCTURE SHALL BE TAKEN BY THE CONTRACTOR AT ALL STAGES OF CONSTRUCTION. • PROVIDE WIRE TIES EVERY 12 INCHES ALONG THE LENGTH OF A LAP SPLICE 7. REFER TO ARCHITECTURAL, STRUCTURAL, MECHANICAL, PLUMBING, AND ELECTRICAL DRAWINGS FOR REQUIREMENTS, DIMENSIONS AND EXACT LOCATIONS OF ALL BUILDING COMPONENTS. GENERAL • WIRE TIES SHALL BE INSTALLED AT INTERSECTING REINFORCEMENT BARS AS NECESSARY TO SECURE AGAINST DISPLACEMENT DURING THE CONCRETE POUR. CONTRACTOR TO COORDINATE ALL OF THESE ITEMS WITH ALL DISCIPLINES INVOLVED. 6. UNLESS OTHERWISE SHOWN OR NOTED, ALL SPLICING OR REINFORCEMENT BARS SHALL BE CLASS B SPLICES CONFORMING TO THE REQUIREMENTS OF SECTIONS 12.14 THROUGH 12.17 OF ACI 318 B. ALL MATERIAL AND WORKMANSHIP SHALL CONFORM TO THE REQUIREMENTS OF THE FOLLOWING CODES AND MANUALS (LATEST ADOPTED EDITION) 7. HORIZONTAL BAR SPLICES ALONG THE LENGTH OF WALLS AND SLABS SHALL BE STAGGERED A MINIMUM OF THREE FEET SUCH THAT NO MORE THAN EVERY THIRD BAR IS SPLICED AT THE SAME LOCATION. 8. ALL FIELD BENDING OF REINFORCEMENT SHALL BE DONE COLD. HEATING OF BARS SHALL NOT BE PERMITTED. • STATE BUILDING CODE WHEN APPLICABLE 9. ALL REINFORCEMENT STEEL SHALL BE CONNECTED TO FORM AN EQUAL POTENTIAL PLANE PER NATIONAL ELECTRICAL CODE (NEC) REQUIREMENTS. USE EMBEDDED CONDUITS ACROSS JOINTS WHERE INTERNATION BUILDING CODE (IBC) AMERICAN CONCRETE INSTITUTE (ACI) STEEL IS INTERRUPTED. • CONCRETE REINFORCING STEEL INSTITUTE (CRSI) MANUAL OF STANDARD PRACTICE (FOR PLACING AND DETAILING OF ALL REINFORCING) 10. INSTALLATION OF DOWEL OR HOOK BARS SHALL BE COMPLETED IN A MANNER THAT ENSURES COMPLETE CONSOLIDATION OF THE CONCRETE AROUND THE EMBEDDED PORTION OF THE DOWEL. • AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC) 11. DOWELS BETWEEN FOOTINGS AND WALLS SHALL BE THE SAME GRADE, SIZE, AND SPACING AS VERTICAL WALL REINFORCING • WISCONSIN NRCS CONSERVATION PRACTICE STANDARD 313 WASTE STORAGE FACILITY • WISCONSIN CONSTRUCTION SPECIFICATION 04 MINIMUM CLEAR CONCRETE COVER FOR REINFORCING STEEL: CONCRETE ON SOIL (DIRECT CONTACT) = 3" SLAB ON GRADE = CENTERED (TOP 1/2 OF SLAB) DESIGN LOADING: WALLS, STRUCTURAL SLABS EXPOSED TO SOIL OR WEATHER . CODES USED • 2021 INTERNATION BUILDING CODE • #6 OR LARGER REBAR = 2" • #5 AND SMALLER REBAR = 2" • 2016 AMERICAN SOCIETY OF CIVIL ENGINEERS STANDARD 7 (ASCE 7-16) WALLS, STRUCTURAL SLABS NOT EXPOSED TO SOIL OR WEATHER • #11 AND SMALLER REBAR = 3/4" NSPECTIONS: COLUMNS AND PIERS (COVER TO STIRRUPS & TIES) = 2" • REINFORCEMENT: REINFORCING STEEL SHALL BE INSPECTED ON A PERIODIC BASIS • SAMPLING & TESTING: CONTINUOUS INSPECTIONS SHALL BE PROVIDED DURING SLUMP AND AIR TESTS AND WHEN DETERMINING THE TEMPERATURE OF FRESH CONCRETE AT THE TIME OF MAKING SPECIMENS FOR STRENGTH TESTS CLASS B SPLICE: TO BE PER WISCONSIN SPECIFICATION 004 CONCRETE FOR 4,500 PSI CONCRETE • CONCRETE PLACEMENT: CONTINUOUS INSPECTION REQUIRED #4 BAR: 25 INCH MINIMUM • COLD & HOT WEATHER CONCRETING: PERIODIC INSPECTION OF COMPLIANCE IS REQUIRED #5 BAR: 31 INCH MINIMUM • WATERSTOP: CONTINUOUS INSPECTION AND MONITORING REQUIRED • PERIODIC INSPECTION DURING SITE PREPARATION AND FILL PLACEMENT HOOK LENGTHS: UNLESS OTHERWISE SHOWN OR NOTED, ALL HOOK LENGTHS OF REINFORCEMENT BARS SHALL CONFORM TO THE FOLLOWING CHART BELOW. • SAMPLE FOR STRENGTH TESTS OF CONCRETE PLACED EACH DAY. TESTS SHALL BE CONDUCTED ON THE FIRST LOAD OF CONCRETE EACH DAY AND THEN ONCE EVERY 100 CUBIC YARDS THEREAFTER. TESTING 90° HOOK DIMENSIONS SHALL BE CONDUCTED EVERY DAY THAT MORE THAN 20 CUBIC YARDS OF CONCRETE IS PLACED. • A TEST OF CONCRETE SHALL INCLUDE ALL OF THE FOLLOWING: CYLINDERS, SLUMP, AIR CONTENT, AND TEMPERATURE. <u>"HOOK LENGTH"</u> • TWO (2) CONCRETE CYLINDERS SHALL BE TAKEN ON THE FIRST LOAD OF CONCRETE AND THAN FOR EVERY 100 CUBIC YARDS OF CONCRETE PLACED THEREAFTER. CAST CYLINDERS ARE TO BE CURED ON-SITE AND BROUGHT TO A LICENSED TESTING LABRATORY AND TESTED AT 28 DAYS. 10 IN 12 IN FOOTINGS & FOUNDATIONS: . SOIL BEARING DESIGN VALUE: 16 IN • ACTUAL LOCALIZED SOIL CONDITIONS ENCOUNTERED DURING CONSTRUCTION MAY VARY FROM THOSE OBSERVED FROM THE SOIL BORINGS. IF SOIL CONDITIONS VARY THE ENGINEER SHALL BE NOTIFIED TO ENSURE THE FOOTING SATISFIES THE STATED BEARING CAPACITY. ! WHERE POSSIBLE, FOOTINGS SHALL BE BANK-POURED AGAINST UNDISTURBED, IN-SITU SOILS. IF IT IS NECESSARY TO EXCAVATE BELOW THE PROPOSED BOTTOM FOOTING ELEVATION TO GET BELOW THE THE ALLOWABLE STRENGTH OF THE POST INSTALLED BARS SHALL CONSIDER THE STRENGTH OF THE CONCRETE AT THE TIME OF INSTALLATION OF THE ADHESIVE RESIN. THE INSTALLATION SHALL NOT TOPSOIL OR THROUGH A SOFTER SOIL, THE EXCAVATION SHALL BE FILLED WITH APPROVED ENGINEERED STRUCTURAL FILL COMMENCE PRIOR TO 48 HOURS AFTER THE CONCRETE PLACEMENT WITHOUT PRIOR WRITTEN AUTHORIZATION BY THE ENGINEER. 3. FOUNDATION EXCAVATIONS SHALL BE KEPT FREE OF LOOSE MATERIAL, STANDING WATER, ICE, OR FROST AND SHALL BE CHECKED AND APPROVED BY THE ENGINEER BEFORE THE PLACEMENT OF ANY CONCRETE. 2. INSTALLATION OF THE ADHESIVE RESIN FOR POST INSTALLED BARS SHALL FOLLOW ALL OF THE RECOMMENDATIONS OF THE PRODUCT MANUFACTURER. THIS SHALL INCLUDE CONSIDERATIONS TO HOT AND 4. BASE/PIT SLABS MAY BEAR DIRECTLY ON SUITABLE NATIVE SOILS (NOT FAT CLAYS) OR SOILS STABILIZED THROUGH AN APPROVED METHOD. ALL OTHER SLABS SHALL HAVE A MINIMUM OF 6" COMPACTED GRANULAR SUBGRADE BELOW THEM. COLD TEMPERATURE, INSTALLATION PROCEDURES AND DURATION OF THE CURING PROCESS. 3. POST INSTALLED BAR'S SHALL BE TESTED AFTER THE NECESSARY CURE TIME TO ENSURE PROPER PERFORMANCE OF THE ANCHORAGE. ANY BAR THAT STILL MOVES WITHIN ITS EMBEDMENT INTO THE CONCRETE SHALL BE MARKED AS DEFICIENT AND A NEW BAR SHALL BE INSTALLED ALONGSIDE THE DEFICIENT BAR, BUT NOT LESS THAN 2 INCHES FROM THE EXISTING BAR. MINIMUM RELATIVE COMPACTION PERCENTAGE 1'-0" BELOW FOUNDATION AND SLAB SUBGRADE ELEVATIONS 98% STANDARD PROCTOR 1. ALL ANCHOR RODS SHALL BE SUPPLIED AND INSTALLED BY THE CONCRETE CONTRACTOR, UNLESS NOTED OTHERWISE. ABOVE BOTTOM OF FOUNDATIONS & BELOW SLAB SUBGRADE ELEVATIONS 95% STANDARD PROCTOR 2. ALL ANCHOR RODS SHALL BE ASTM F1554 GRADE 36 HEX-HEAD, UNLESS NOTED OTHERWISE. NUTS SHALL BE ASTM A563 GRADE A HEAVY HEX. OVER-SIZES PLATE WASHERS SHALL BE ASTM A36. BELOW EXTERIOR SLAB. WITHIN 1'-0" OF SUBGRADE ELEVATIONS 95% STANDARD PROCTOR BELOW EXTERIOR SLAB, MORE THAN 1'-0" BELOW SUBGRADE ELEVATIONS 3. POST-INSTALLED ANCHORS SHALL BE ADHESIVE ANCHORING SYSTEM PROVIDED AND INSTALLED BY FRAMING CONTRACTOR. ADHESIVE ANCHORS SHALL BE "HILTI HIT-HY 200 ADHESIVE ANCHOR SYSTEM" 98% STANDARD PROCTOR OR APPROVED ALTERNATE. ANCHORS SHALL BE "HILTI HAS-E" THREADED ROD OR SHALL BE MADED FROM ALL-THREADED ROD CONFORMING TO ASTM A572 GRADE 60, OR APPROVED EQUAL. . ALL REINROFECED CONCRETE WORK SHALL BE DESIGNED, FABRICATED, AND CONSTRUCTED IN ACCORDANCE WITH THE FOLLOWING CODES: 1. THE CONTRACTOR SHALL ENSURE THE WATER-TIGHTNESS OF THE CONTAINMENT STRUCTURES THROUGH PROPER INSTALLATION AND DETAILING OF WATERSTOPS AND CONTROL JOINT DETAILS AS SHOWN • "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE" (ACI 318) OF THE AMERICAN CONCRETE INSTITUTE • "CODE REQUIREMENTS FOR ENVIRONMENTAL ENGINEERING CONCRETE STRUCTURES (ACI 350) OF THE AMERICAN CONCRETE INSTITUTE IN THESE PLANS AND PER THE WISCONSIN CONSTRUCTION SPECIFICATION 004-WS EMBEDDED OR EXPANSIVE WATERSTOP, AND THE WATERSTOP MANUFACTURER'S RECOMMENDATIONS FOR PLACEMENT AND WELDING OF THE WATERSTOPS. WISCONSIN CONSTRUCTION SPECIFICATION 004-WS EMBEDDED OR EXPANSIVE WATERSTOP 2. WATERSTOPS SHOWN IN THESE PLANS SHALL MEET WISCONSIN CONSTRUCTION SPECIFICATIN 004-WS EMBEDDED OR EXPANSIVE WATERSTOP 2. ALL CONCRETE SHALL A MINIMUM CONCRETE COMPRESSIVE STRENGTH (f'c) AT 28 DAYS EQUAL TO OR GREATER THAN 4,500 PSI UNLESS NOTED OTHERWISE. 3. MANUFACTURERS FABRICATED WATERSTOP INTERSECTIONS SHALL BE PROVIDED. ONLY STRAIGHT BUTT JOINT SPLICES ARE ALLOWED FOR FIELD FABRICATION. SPLICES IN WATERSTOPS SHALL BE WELDED 3. AIR ENTRAINMENT FOR ALL CONCRETE SHALL BE BETWEEN 6% +/- 1.5%. AS RECOMMENDED BY THE MANUFACTURER. 4. THE MAXIMUM WATER-CEMENT RATIO PERMITTED IN ANY CONCRETE ON THIS PROJECT SHALL BE 0.42%. 4. MINIMUM CLEARANCES/COVER FROM THE WATERSTOP TO THE EDGES OR FACE OF THE CONCRETE SHALL BE MAINTAINED AS SPECIFIED BY THE WISCONSIN CONSTRUCTION SPECIFICATION 004-WS 5. CONTRACTOR SHALL SUBMIT MIX DESIGNS FOR APPROVAL 10 DAYS PRIOR TO INSTALLATION. ALL CONCRETE MIXES SHALL BE DESIGNED AND CERTIFIED BY A MATERIALS TESTING COMPANY. EMBEDDED OR EXPANSIVE WATERSTOP AND THE MANUFACTURERS RECOMMENDATIONS. READY-MIX CONCRETE SHALL BE MIXED AND DELIVERED IN ACCORDANCE WITH ASTM C94. 7. ADMIXTURES MAY BE USED WITH PRIOR APPROVAL OF THE ENGINEER. ADMIXTURES SHALL COMPLY WITH ASTM C494 AND BE OF A TYPE THAT INCREASES THE WORKABILITY OF THE CONCRETE, BUT SHALL NOT 5. THE CONTRACTOR MAY CONSIDER STAGGERING SLAB AND WALL POUR SEQUENCED IN AN EFFORT TO MINIMIZE THE EFFECTS OF CONCRETE SHRINKAGE DURING THE INITIAL CURE PERIOD. THE PLANNED BE CONSIDERED TO REDUCE THE SPECIFIED MINIMUM CEMENT CONTENT. (CALCIUM CHLORIDE SHALL NOT BE USED) POUR SEQUENCES SHALL BE SUBMITTED AND COORDINATED WITH THE OWNER'S REPRESENTATIVE. 8. NO ALUMINUMS OF ANY TYPE SHALL BE ALLOWED IN THE CONCRETE WORK UNLESS COATED TO PREVENT ALUMINUM-CONCRETE REACTION. 9. NO CONDUTIS (ELECTRICAL, FRESH WATER, ETC) SHALL PENETRATE THROUGH WALLS BELOW THE FLOOR SLATS. . DESIGN PRECAST CONCRETE UNITS AND CONNECTIONS CAPABLE OF WITHSTANDING DESIGN LOAD CRITERIA, LOADS SHOWN ON PLANS AND ALL OTHER DEAD LOADS IN ACCORDANCE WITH PCI MNL 120, "PRECAST AND PRE-STRESSED CONCRETE" AND PCI MNL 123 " DESIGN AND TYPICAL DETAILS OF CONNECTIONS FOR PRECAST AND PRE-STRESSED CONCRETE". BACKELLING RECUIREMENTS: PROVIDE TEMPORARY LATERAL SUPPORT FOR ALL WALLS WHERE GRADE VARIES ON THE TWO SIDES UNTIL THE PERMANENT STRUCTURAL SUPPORT SYSTEM IS IN PLACE. CONCRETE PRODUCTS", PCI MNL 135 "TOLERANCE MANUAL FOR PRECAST AND PRE-STRESSED CONCRETE CONSTRUCTION" 3. PROVIDE NECESSARY CONNECTIONS TO RESTRAIN OR STABILIZE COMPONENTS. FOLLOW STRUCTURAL INTEGRITY REQUIREMENTS OF PCI MNL 120 AND ACI 318. BACKFILL ONLY AFTER THE FLOOR SLATS OR SOLID FLOOR HAS BEEN INSTALLED. ON-SITE MATERIAL FROM THE EXCAVATION OF THE PIT MAY BE USED FOR BACKFILL MATERIAL. PROVIDE GRANULAR MATERIAL AROUND PERIMETER TILE. • ERECTOR SHALL BE PCI CERTIFIED OR HAVE A MINIMUM OF 5 YEARS EXPERIENCE IN THE ERECTION OF PRECAST CONCRETE. 3. PLACE BACKFILL MATERIAL, INCLUDING GRANULAR BACKFILL, IN LIFTS OF APPROXIMATELY 8 INCHES UNIFORMLY AROUND THE PIT WALLS AND COMPACT EACH LIFT • ALL LIFTING, HANDLING, TRANSPORTATION AND DELIVERY, STORAGE AND SUPPORT, BRACING AND ERECTION OF PRECAST UNITS ARE TO BE PERFORMED BY QUALIFIED PERSONNEL USING METHODS WITH A TAMPER OR VIBRATOR TO A DENSITY SIMILAR TO THE ADJACENT UNDISTURBED SOIL. 4. AVOID BACKFILL CONTAINING LARGE ROCKS, HARD OR FROZEN SOIL CHUNKCS, OR CONSTRUCTION DEBRIS. AND EQUIPMENT APPROVED BY MANUFACTURER. • ERECT PRECAST UNITS LEVEL, PLUMB, SQUARE, TRUE AND IN ALIGNMENT IN ACCORDANCE WITH PCI MNL 127, "STANDARDS AND GUIDELINES FOR THE ERECTION OF PRECAST CONCRETE PRODUCTS" AND THE ERECTION TOLERANCES OF PCI MNL 135. 5. MATERIALS • CONCRETE SHALL HAVE A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 5,000 PSI • CEMENT SHALL CONFORM TO ASTM C150, TYPE 1 OR III • ADMIXTURES SHALL CONFORM TO ASTM C260 AND ASTM C494 • AGGREGATES SHALL CONFORM TO ASTM C330 AND ASTM C33, EXCEPT THAT COARSE AGGREGATES FOR PRECAST CONCRETE SURFACES EXPOSED TO DAMP CONDITIONS SHALL CONTAIN ZERO IRON OXIDES. • READY MIX SHALL CONFORM TO ASTM C94 • STRAND SHALL BE GRADE 250KSI OR 270KSI, UNCOATED, 7-WIRE, STRESS RELIEVED STRAND CONFORMING TO ASTM A416 • STRUCTURAL STEEL SHALL CONFORM TO ASTM A36 GROUT SHALL BE AS INDICATED ON DRAWINGS: - "DRY PACK" GROUT SHALL BE TYPE I (ASTM C150) PORTLAND CEMENT, SAND AND WATER HAVING A MINIMUM OF 3,000 PSI COMPRESSIVE STRENGTH AT 28 DAYS, AND A SAND CEMENT RATIO OF 3 TO 1

- "NON-SHRINK" GROUT SHALL CONFORM TO ASTM C1107, BE TYPE III (ASTM C150) PORTLAND CEMENT, SAND AND WATER HAVING A MINIMUM OF 10,000 PSI COMPRESSIVE STRENGTH AT 28 DAYS

APP'D BY PROJECT SHEET MPJ TITLE MPJ DJJ Gruber Livestock North GDU ENGINEERING Structural Notes CLIENT Gruber Livestock North, LLC 7/16/2025 PROJECT NO. **DATCP** Request Information DJJ 9/10/2025 12740 W Hadley Rd PH: (507) 832-8450 0169-01B S-000 Homer Glen, IL 60491 REVISION DESCRIPTION REV DATE indom, MN 56101

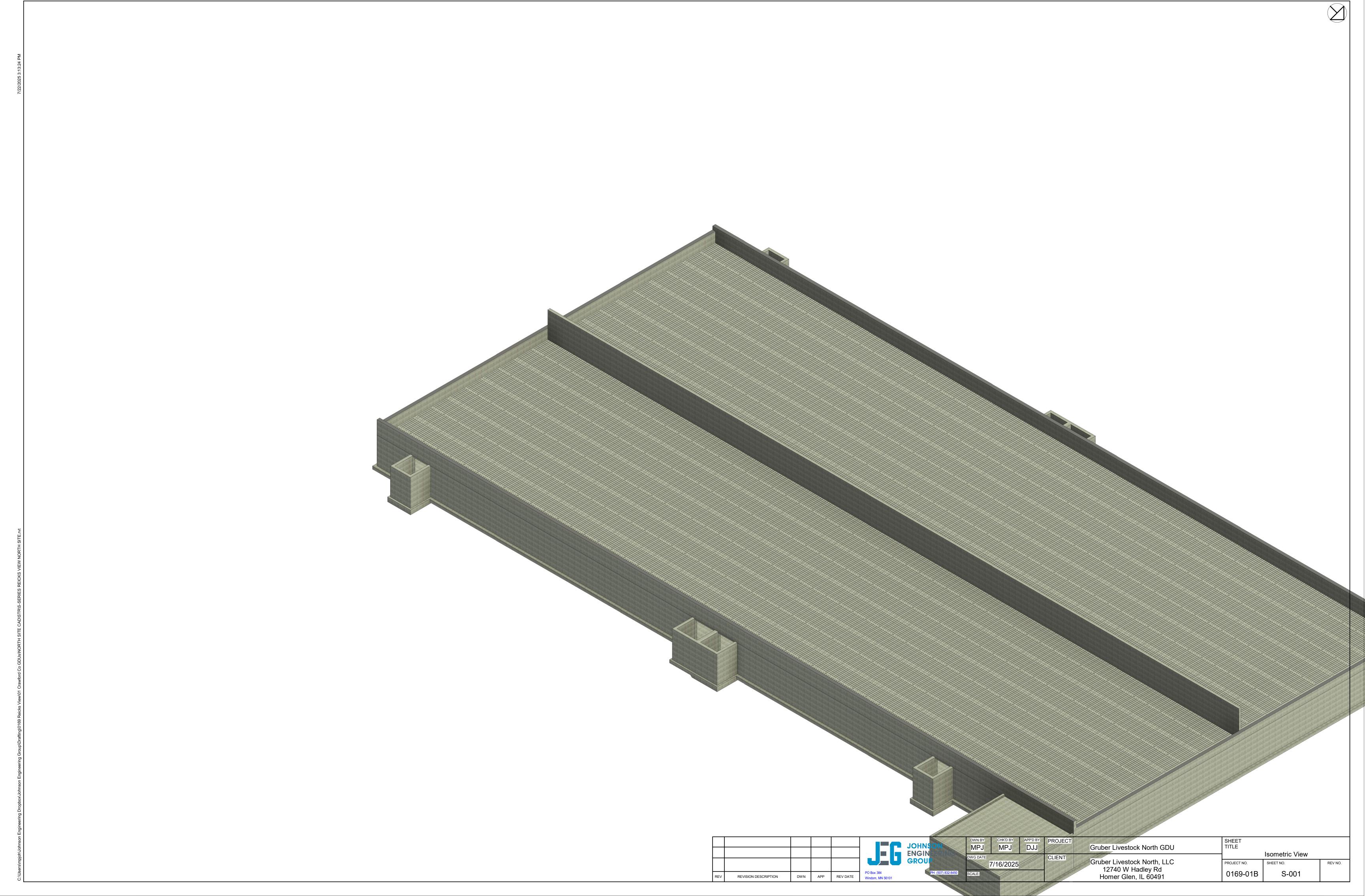
THE OPERATING LEVEL IS THE DEPTH OF MANURE IN THE PIT AS MEASURED FROM THE PIT FLOOR.

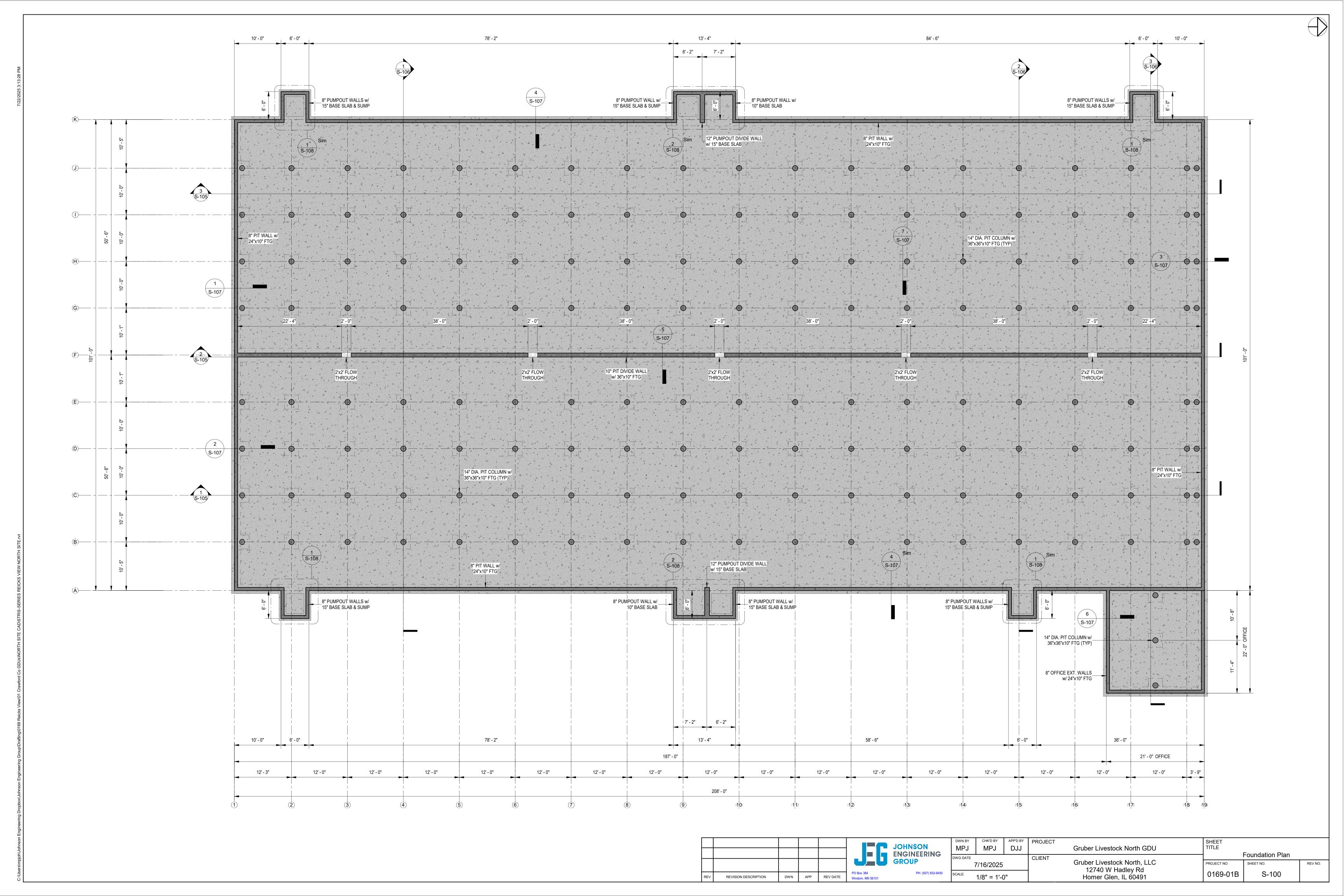
MEASURE FROM THE TOP OF SLAT TO THE MANURE LEVEL AND SUBTRACT FROM 8'-0"

THE OPERATING LEVEL IS NOT TO EXCEED 6'-10"

THE OPERATING LEVEL IS DETERMINED BY MEASURING THROUGH THE SLATS TO THE MANURE BELOW.

(I.E. MEASURED 5' FROM TOP OF SLAT TO MANURE LEVEL: OPERATING LEVEL= 8'-0" - 5'-0" = 3'-0" OPERATING LEVEL)





REVISION DESCRIPTION

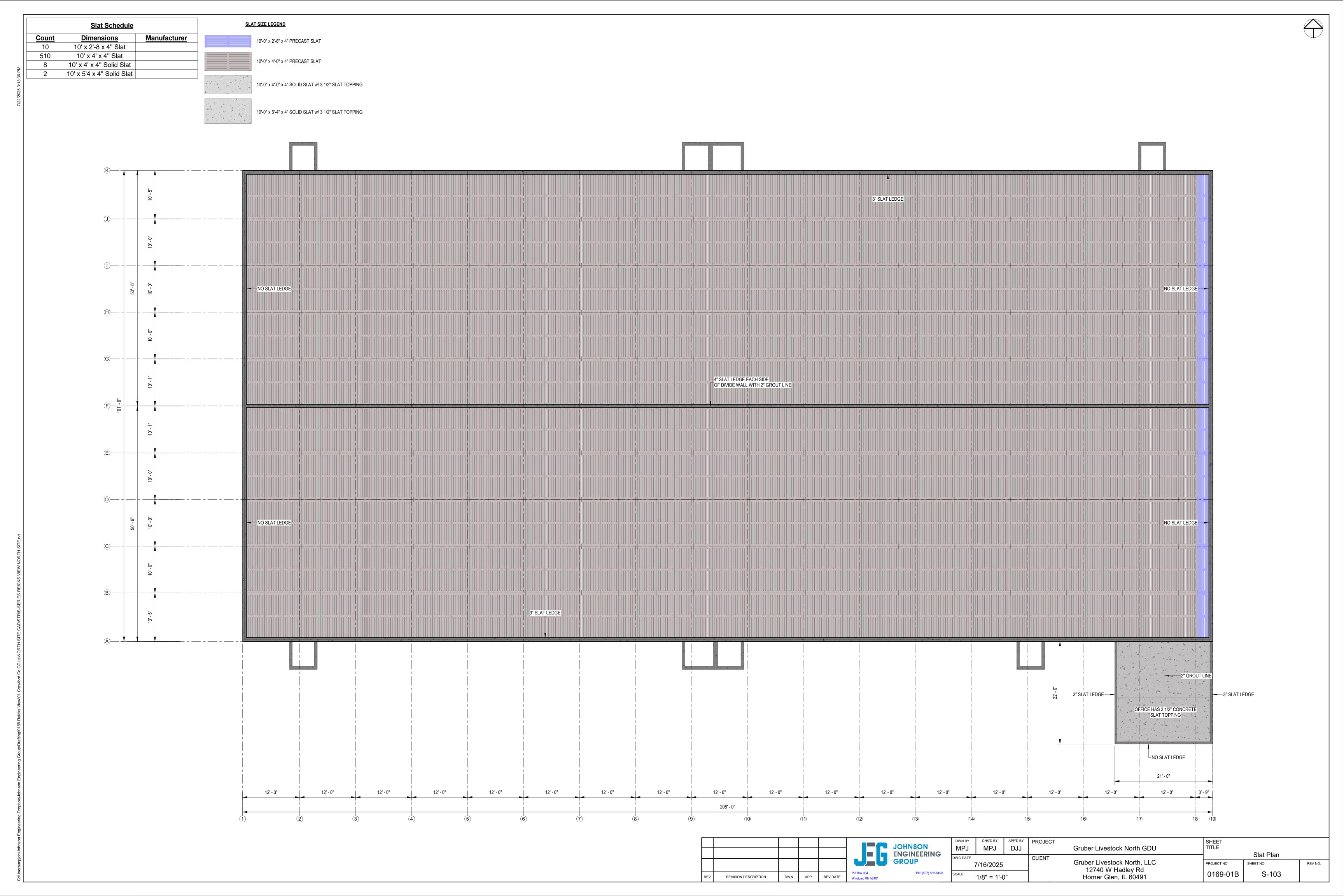
DWN APP REV DATE

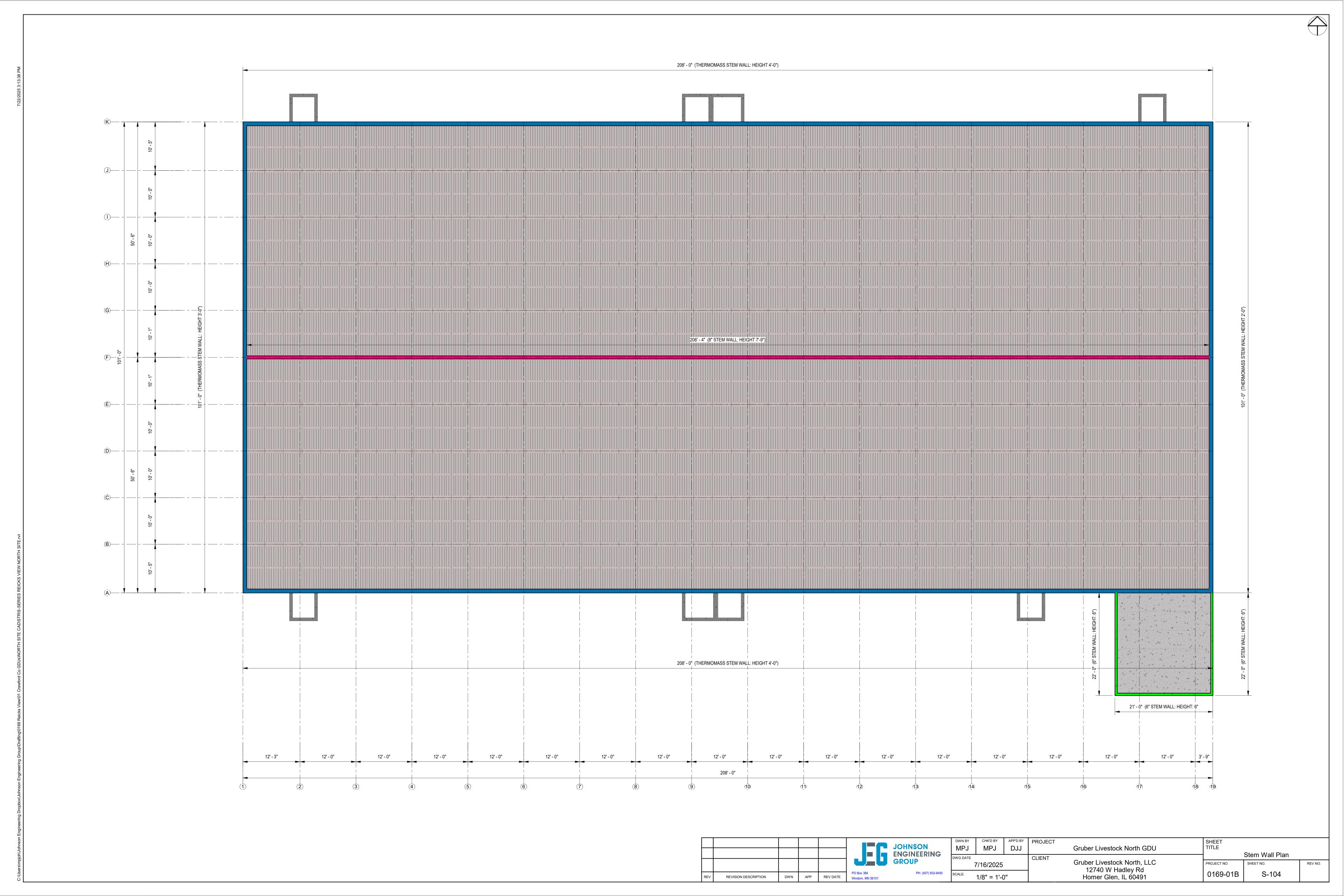


0169-01B

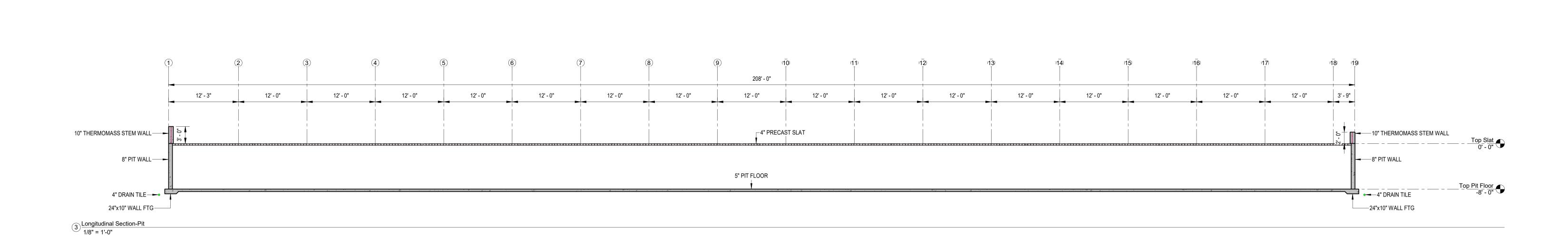
1/8" = 1'-0"

S-102





2) Longitudinal Section at Pit Divide Wall
1/8" = 1'-0"



REVISION DESCRIPTION

DWN APP REV DATE

12' - 0"

10"x10["] BEAM

12' - 0"

JOHNSON ENGINEERING GROUP

MPJ

MPJ

7/16/2025

1/8" = 1'-0"

DJJ

Gruber Livestock North GDU

Gruber Livestock North, LLC 12740 W Hadley Rd Homer Glen, IL 60491

COLUMN FTG

14" DIA. PIT COLUMN

36"x36"x10" PIT

COLUMN FTG

10"x10" BEAM

12' - 0"

22' - 4"

14" DIA. PIT_ COLUMN

─ 10" THERMOMASS STEM WALL

—14" DIA. PIT COLUMN

10" THERMOMASS STEM WALL

SHEET TITLE

0169-01B

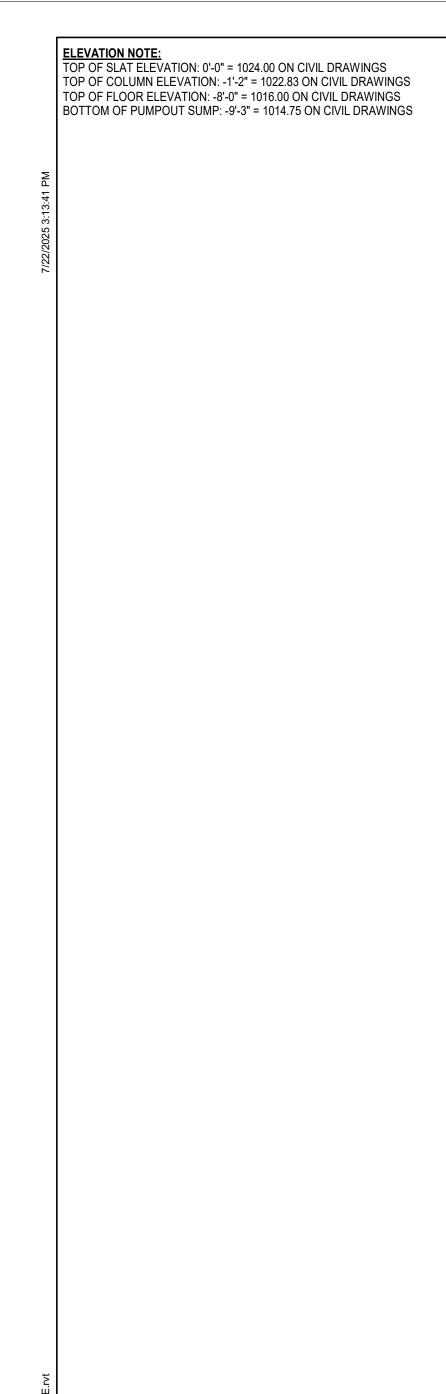
Longitudinal Sections

S-105

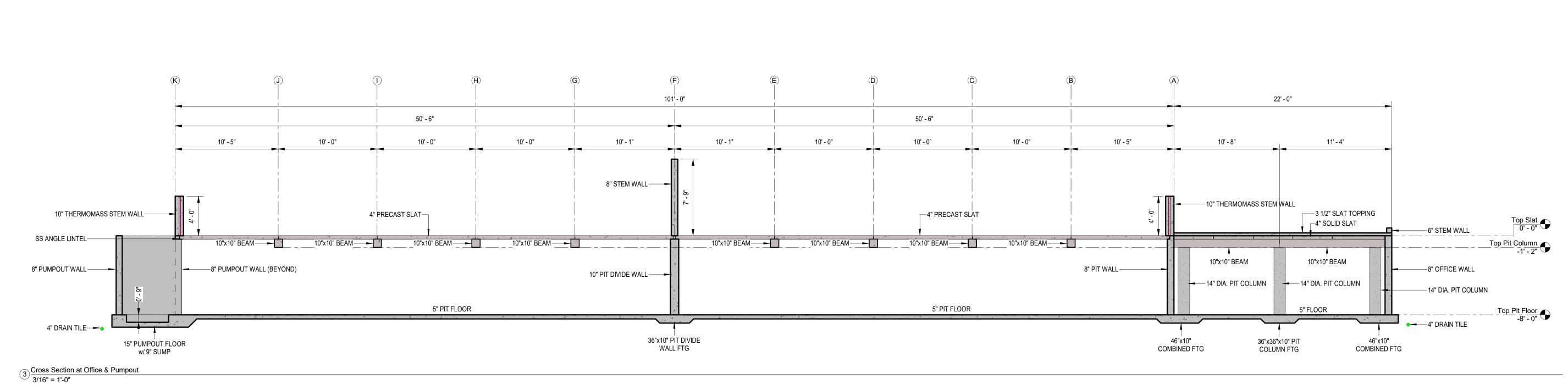
→ 4" DRAIN TILE

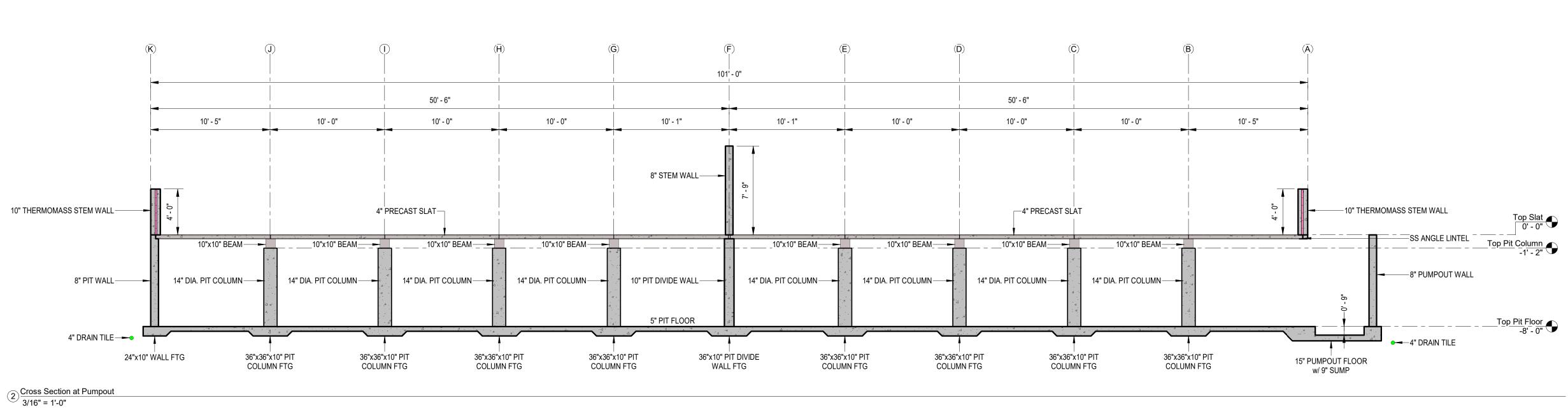
—4" DRAIN TILE

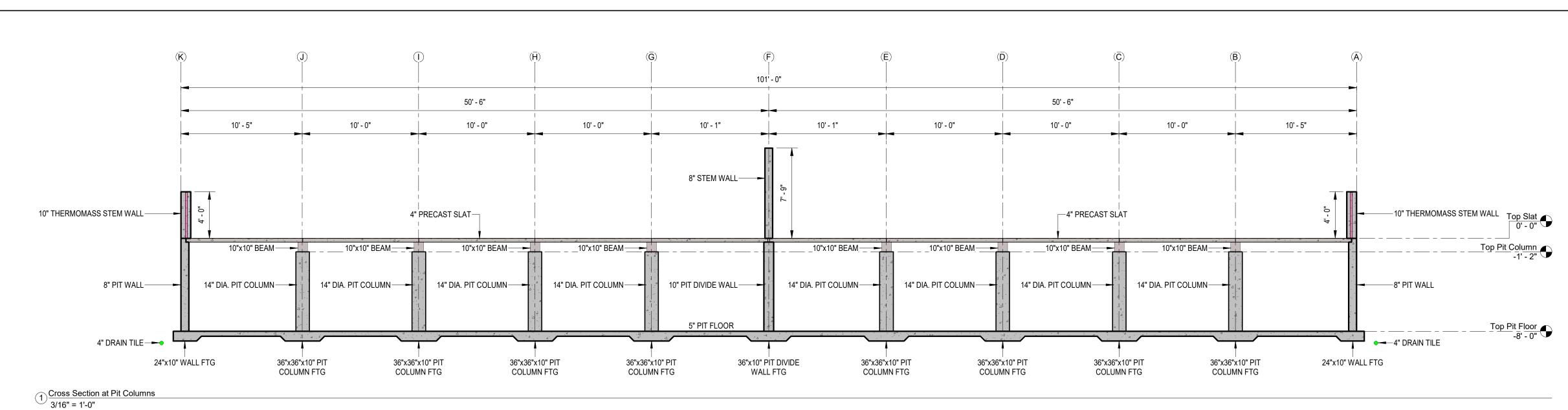
└71"x10" COMBINED FTG

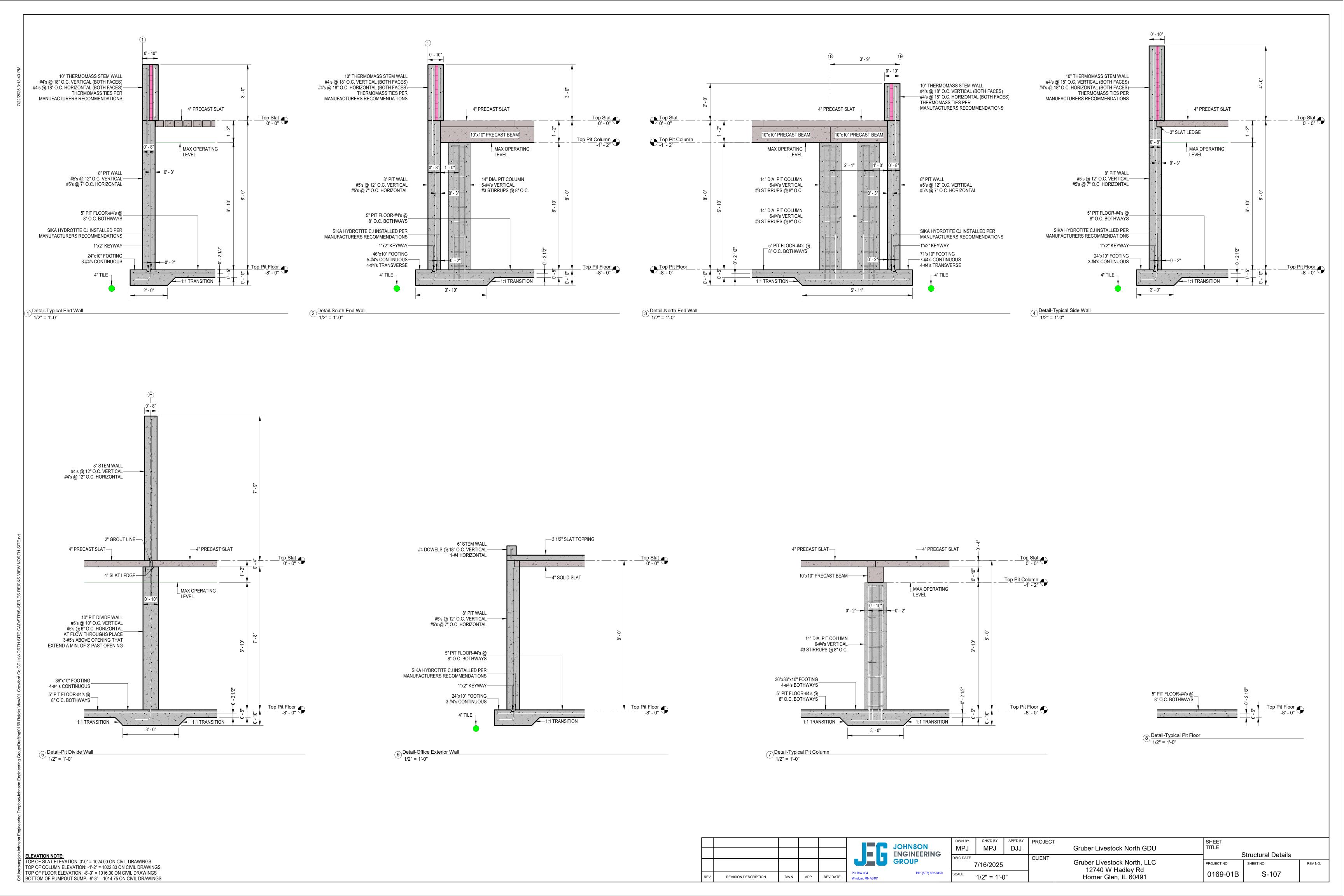


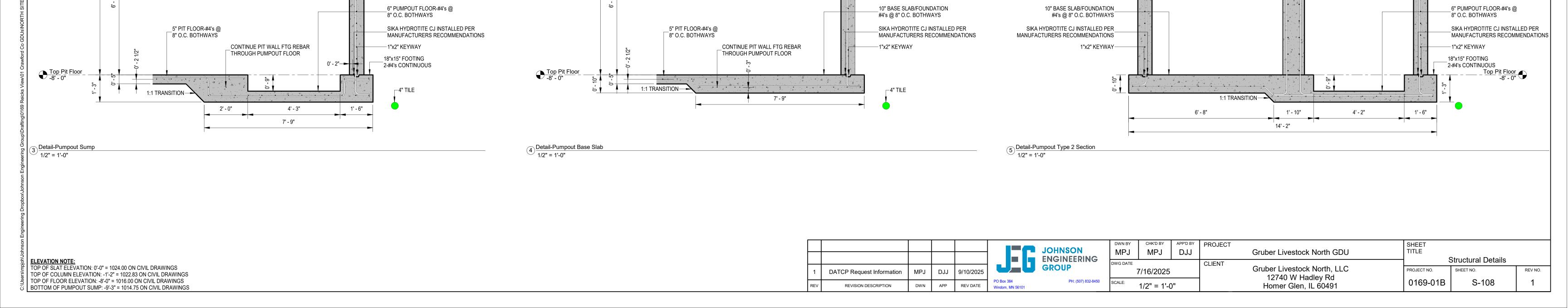
\top	-						DWN BY	CHK'D BY	APP'D BY	PROJECT		SHEET		
+							MPJ	MPJ	DJJ		Gruber Livestock North GDU	TITLE		
	'					ENGINEERING		1 1111 0			Cruber Elvesteok (vorti) CBC		Cross Sections	
+							DWG DATE			CLIENT			01033 000110113	
						GROUP		7/16/2025			Gruber Livestock North, LLC	PROJECT NO.	SHEET NO.	REV N
+					PO Box 384	PH: (507) 832-8450	SCALE:				12740 W Hadley Rd	0169-01B	S-106	
EV	REVISION DESCRIPTION	DWN	APP	REV DATE	Windom, MN 56101			3/16" = 1'	-0"		Homer Glen, IL 60491	0100-010	J 5-100	

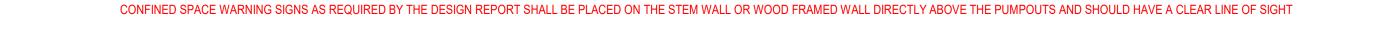












6' - 0"

10" THERMOMASS STEM WALL #4's @ 18" O.C. VERTICAL (BOTH FACES) —#4's @ 18" O.C. HORIZONTAL (BOTH FACES)

THERMOMASS TIES PER MANUFACTURERS RECOMMENDATIONS

STAINLESS STEEL L4x4x1/4" LINTEL

-PROVIDE A MIN. OF 6" BEARING ON

PIT WALL ON EACH END

POLY PLANK OVER PUMPOUTS

8" PUMPOUT WALL

—#5's @ 12" O.C. VERTICAL #5's @ 7" O.C. HORIZONTAL

3" SLAT LEDGE-

MAX OPERATING

4" PRECAST SLAT-

Top Pit Column

13' - 4"

5' - 0"

0' - 3"

Top Slat 0' - 0"

8" PUMPOUT WALL

-#5's @ 12" O.C. VERTICAL #5's @ 7" O.C. HORIZONTAL

6' - 0"

12" PUMPOUT DIVIDE WALL

#5's @ 9" O.C. VERTICAL (2 LAYERS)— #5's @ 7" O.C. HORIZONTAL (2 LAYERS)

8" PUMPOUT WALL #5's @ 12" O.C. VERTICAL— #5's @ 7" O.C. HORIZONTAL

6' - 0"

10" THERMOMASS STEM WALL #4's @ 18" O.C. VERTICAL (BOTH FACES) —#4's @ 18" O.C. HORIZONTAL (BOTH FACES)

MANUFACTURERS RECOMMENDATIONS

POLY PLANK OVER PUMPOUTS

8" PUMPOUT WALL

—#5's @ 12" O.C. VERTICAL #5's @ 7" O.C. HORIZONTAL

THERMOMASS TIES PER

STAINLESS STEEL L4x4x1/4" LINTEL

-PROVIDE A MIN. OF 6" BEARING ON

PIT WALL ON EACH END

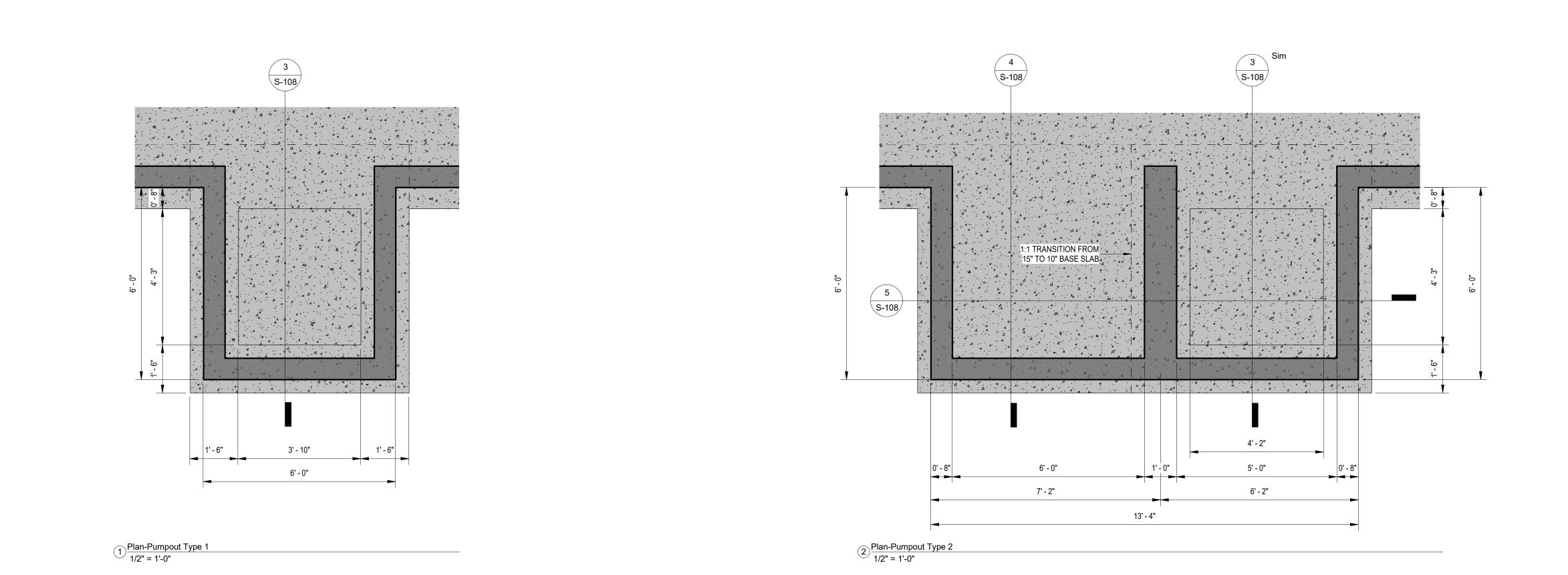
0' - 10"

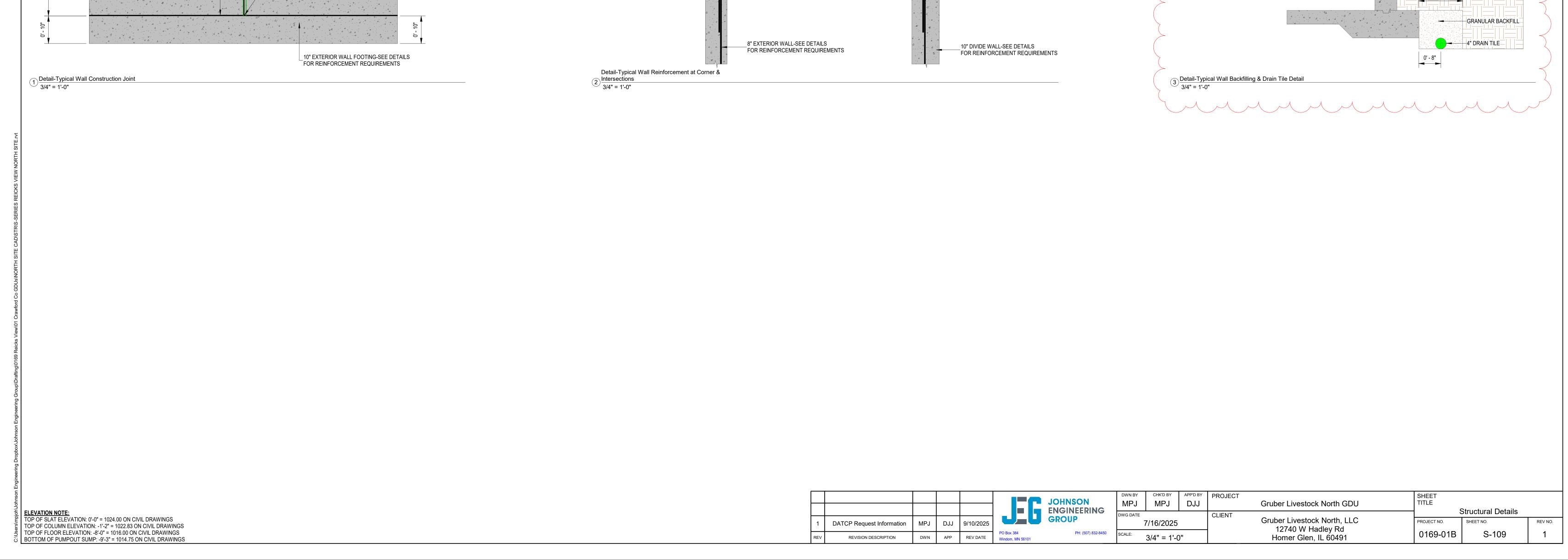
3" SLAT LEDGE-

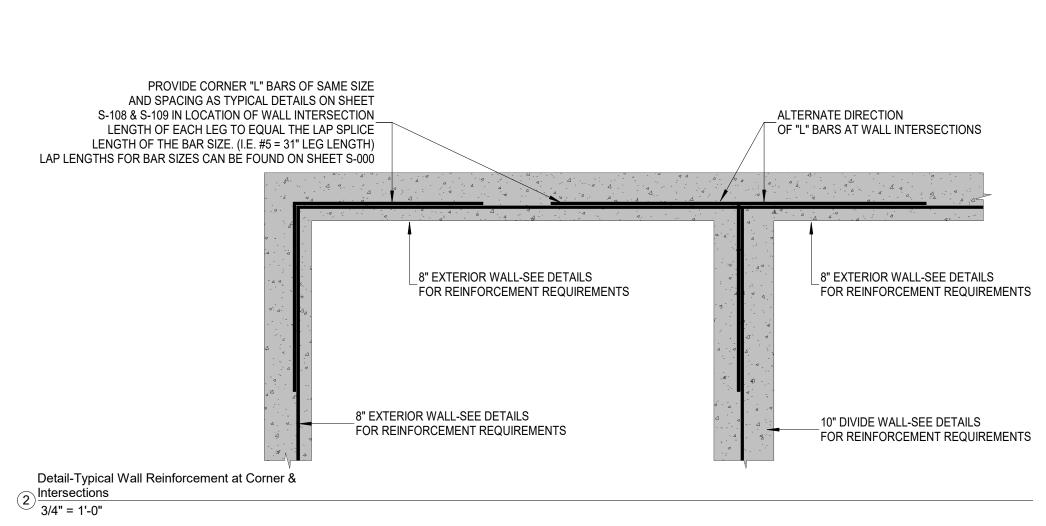
MAX OPERATING

4" PRECAST SLAT-

Top Pit Column







ALL HORIZONTAL REBAR

SHALL CONTINUE THROUGH

JOINT. MINIMUM LAP LENGTH IS 31"

SIKA HYDROTITE CJ WATERSTOP

ALL HORIZONTAL REBAR SHALL CONTINUE THROUGH

ONE SHOWN FOR CLARITY

JOINT. MINIMUM LAP LENGTH IS 31"

SIKA HYDROTITE CJ WATERSTOP ON WALL FOLLOW MANUFACTURER'S INSTALLATION GUIDE

FOLLOW MANUFACTURER'S INSTALLATION GUIDE

SIKA HYDROTITE CJ WATERSTOP ON FOOTING

FOLLOW MANUFACTURER'S INSTALLATION GUIDE

⊢1" x 2" KEYWAY

_8" EXTERIOR WALL-SEE DETAILS
FOR REINFORCEMENT REQUIREMENTS

8" EXTERIOR WALL-SEE DETAILS

SIKA HYDROTITE CJ WATERSTOP

FOLLOW MANUFACTURER'S INSTALLATION GUIDE FOR INTERSECTION

FOR REINFORCEMENT REQUIREMENTS

