

ALLIED ENGINEERING SERVICES, LLC

Engineering—Surveying

January 21, 2021

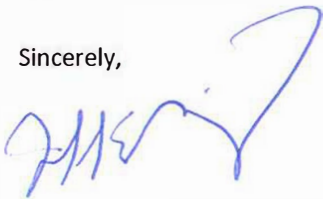
Heather Peters
Water Pollution Control Program
P.O. Box 176
Jefferson City, MO 65102-0176

Dear Heather,

Enclosed please find the general operating permit application to add a new Breeding/Gestation barn at each of Advanced Pork Systems A1, A2 7 A3 Sow Farms in Atchison County. Note that the proposed barn additions are for the purpose of adding additional space per sow and no additional animals will be added to the farm. I have included a usb flash drive with the permit documents.

If you have any questions or need any additional information, please feel free to contact me.

Sincerely,



Jeff E. Browning, PE

Enclosures



MISSOURI DEPARTMENT OF NATURAL RESOURCES
WATER PROTECTION PROGRAM

**FORM W - CONCENTRATED ANIMAL FEEDING OPERATION
(CAFO) OPERATING PERMIT APPLICATION**

FOR OFFICE USE ONLY

JETPAY CONFIRMATION / CHECK NUMBER: 2928

DATE RECEIVED 01/25/21

FEE SUBMITTED 100.00

Complete all applicable sections. Instructions for completing the form are located at the end of the form. Sign, date and return the form and all requested documents along with a check for the appropriate permit fee to the Missouri Department of Natural Resources. Make a copy of this completed form and keep it with your nutrient management plan.

PART 1 – PERMIT OWNERSHIP AND CONTACT INFORMATION

1.1 OPERATION NAME A1, A2 & A3 Sow Farms		CURRENT PERMIT NUMBER MO- GS10107	COUNTY Atchison
PHYSICAL ADDRESS 34135 250th Street		LEGAL DESCRIPTION Sec.: 7&8 Twn.: xN Rng.: x	TELEPHONE NUMBER WITH AREA CODE (660)886-9681
CITY Fairfax		STATE MO	ZIP CODE 64446
1.2 OWNER (PROVIDE LEGAL NAME) Advanced Pork Systems LLC		EMAIL ADDRESS robertzeysing@rzeysing.com	
MAILING ADDRESS P.O. Box 158			TELEPHONE NUMBER WITH AREA CODE (660)886-9681
CITY Marshall		STATE MO	ZIP CODE 65340
1.3 CONTINUING AUTHORITY (IF DIFFERENT THAN THE OWNER) Same			
MAILING ADDRESS			TELEPHONE NUMBER WITH AREA CODE
CITY		STATE	ZIP CODE

PART 2 – PERMIT TYPE AND PERMIT ACTION

2.1 PERMIT TYPE

- ☐ NPDES Site Specific Permit
Request review of draft permit prior to public notice. ☐ Yes ☐ No
- ☐ NPDES General Permit (MOG01)
- ☒ State No-Discharge General Permit (MOGS1)

2.2 PERMIT ACTION*

- ☐ New Permit
Permit fees may be paid online by credit card or eCheck through a system called JetPay. Use the URL provided to make an online payment.

NPDES Site Specific Permit - <https://magic.collectorsolutions.com/magic-ui/payments/mo-natural-resources/591/>

NPDES General Permit (MOG01) - <https://magic.collectorsolutions.com/magic-ui/payments/mo-natural-resources/599/>

State No-Discharge General Permit (MOGS1) - <https://magic.collectorsolutions.com/magic-ui/payments/mo-natural-resources/742/>

- ☐ Renewal

- ☒ Modification

Permit fees may be paid online by credit card or eCheck through a system called JetPay. Use the URL provided to access JetPay and make an online payment. Modification fee: <https://magic.collectorsolutions.com/magic-ui/payments/mo-natural-resources/596/>

- ☐ Ownership Transfer

PREVIOUS OWNERS NAME

ADDRESS

CITY STATE ZIP CODE

SIGNATURE

DATE

*See instructions for additional requirements and documents for the request permit action.

Permit fees may be paid online by credit card or eCheck through a system called JetPay. Use the URL provided to access JetPay and make an online payment. Modification fee: <https://magic.collectorsolutions.com/magic-ui/payments/mo-natural-resources/596/>

PART 3 – DESIGN CAPACITY FOR MANURE STORAGE AND ANIMALS OF EACH CAFO FEATURE**3.1 STORAGE STRUCTURE TYPES, AMOUNT OF STORAGE, AND AMOUNT OF MANURE GENERATED PER YEAR.**

List All Manure Storage Structures at each CAFO Feature		Dry Manure Handling System		Wet Manure Handling System			
Permitted Feature	Storage Structure Type(s)	Design Dry Process Waste (tons/yr.)	Days of Storage	Total Storage Capacity (gal)	Design Wastewater per Year (gal./yr.)	Days of Storage	Design Flow MGD
001	C - A1 B&G			7,386,998	3,689,420	731	.01
002	C - A2 B&G			7,386,998	3,689,420	731	.01
003	C - A3 B&G			7,386,998	3,689,420	731	.01
004	C - New A1 B&G			2,316,986	1,093,540	773	.003
005	C - New A2 B&G			2,316,986	1,093,540		

3.2 LIST EACH TYPE OF ANIMAL IN CONFINEMENT AND THE NUMBER OF EACH ANIMAL TYPE.

Permitted Feature	Animal Category #1	Animal Numbers	Animal Category #2	Animal Numbers	Animal Category #3	Animal Numbers
001	5	4,284				
002	5	4,284				
003	5	4,284				
004	5	1,476				
005	5	1,476				

PART 4 – OPERATIONAL INFORMATION**4.1 OPERATIONAL INFORMATION (SEE INSTRUCTIONS)**

SIC Code(s) 0213

CAFO Class Size ^{1B}**4.2 Is this an export-only operation?**☐ Yes ☒ No

Completing PARTS 5 - 11 will meet the requirements of a Nutrient Management Plan (NMP) for an export only operation.

PART 5 – MANURE STORAGE5.1 Do all manure storage structures have adequate storage, and operated and maintained as no discharge? ☒ Yes ☐ No**PART 6 – ANIMAL MORTALITY****6.1 PERMANENT METHOD OF DISPOSING OF ROUTINE ANIMAL MORTALITIES.**☒ Composting ☐ Rendering ☐ Send to a Landfill ☐ Incineration ☐ Other (Describe)

6.2 DESCRIBE METHOD OF MORTALITY HANDLING AND STORAGE THROUGH ALL PHASES TO FINAL DISPOSAL. (EXAMPLE: MORTALITIES ARE COMPOSTED WITHIN 24 HOURS OF DEATH AND FINISHED COMPOST PRODUCT IS STORED UNDER ROOF UNTIL LAND APPLIED). ALSO DESCRIBE THE TYPE OF COMPOST STRUCTURE USED, IF APPLICABLE.

Mortalities are removed regularly to a static pile composter with a roof and concrete floor. Finish compost is stored under roof until land applied.

PART 7 – DIVERSION OF CLEAN WATER7.1 Is clean stormwater diverted from the production area? ☒ Yes ☐ No**7.2 IF YES, DESCRIBE CONTROLS AND MEASURES USED TO DIVERT STORMWATER.**

Buildings prevent storm water from entering animal production areas. Site is graded to divert storm water away from buildings.

7.3 IF NO, DESCRIBE HOW CONTAMINATED STORMWATER IS CONTAINED AND INCLUDE THE STORAGE CAPACITY OF THE CONTAINMENT IF NOT PREVIOUSLY PROVIDED.**PART 8 – PREVENT DIRECT CONTACT OF ANIMALS WITH SURFACE WATERS**8.1 Do the animals have access to waters of the state within the production area? ☐ Yes ☒ No**8.2 LIST MEASURES USED TO PREVENT CONFINED ANIMAL FROM HAVING DIRECT CONTACT WITH WATERS OF THE STATE.**

Animals are confined in buildings.

PART 9 – CHEMICAL HANDLING

9.1 Are chemicals and other contaminants handled, managed, stored, and disposed of in accordance with 10 CSR 20-6.300(5)(E)?

☒ Yes ☐ No**PART 10 – MANURE ANALYSIS TESTING****10.1 LIST EACH TYPE OF MANURE SOURCE TO BE TESTED ANNUALLY (i.e., MANURE, LITTER, COMPOST, WASTE WATER.)**

Manure pit wastewater and mortality compost.

10.2 DESCRIBE PROCEDURES FOR ENSURING EACH MANURE SOURCE IS TESTED ANNUALLY.

Manure/compost is collected in bottles from several locations at each storage structure. The samples are combined into a bulk sample to test.

PART 11 – RECORD KEEPING

11.1 Are records of all inspections, manure transfers, discharges and land application maintained?

☒ Yes ☐ No

**FORM W - CONCENTRATED ANIMAL FEEDING OPERATION (CAFO)
OPERATING PERMIT APPLICATION (Attachments)**

PART 3

3.1 DESIGN CAPACITY FOR MANURE STORAGE AND ANIMALS OF EACH CAFO FEATURE

			DRY MANURE HANDLING		WET MANURE HANDLING			
Permitted Feature	Animal Category	Storage Structure Type	Design Dry Process tons/year	Days Storage	Total Storage Capacity (gal)	Design Wastewater per Year gallons/year	Days of Storage	Design Flow MGD
001	5	C - A1 B&G			7,386,998	3,689,420	731	0.0038
002	5	C - A1 B&G			7,386,998	3,689,420	731	0.0026
003	5	C - A1 B&G			7,386,998	3,689,420	731	(1)
004	5	C - New A1 B&G			2,316,986	1,093,540	773	.003
005	5	C - New A1 B&G			2,316,986	1,093,540	773	.003
006	5	C - New A1 B&G			2,316,986	1,093,540	773	.003
007	5	G- A1 Composter	76	>365				
008	5	G- A2 Composter	76	>365				
008	5	G- A3 Composter	76	>365				

(1) Design gallons, Days Storage and Design Flow for Lagoon 3A reported in with Lagoon 3

(2) Lagoon 7 will be used occasionally to store excess wastewater from the Dairy Lagoon or Hog Lagoon System. A maximum 200 gpd flows into the lagoon from the nearby office building.

(3) Lagoon 8 is used occasionally to store excess wastewater from the Dairy Lagoon System. It remains in Lagoon 8 until capacity is another lagoon is available. A maximum 200 gpd flows into the lagoon from the Rabbit Unit.

(4) Manure is composted for 90 days and then cured in bunker for another 45 days.

PART 3

3.2 Type of Animal in Confinement and the Number of Each Animal Type

Permitted Feature	Animal Category	Storage Structure	Animal Numbers
001	5, Swine over 55 lbs	C, Deep-pit	4,284
002	5, Swine over 55 lbs	C, Deep-pit	4,284
003	5, Swine over 55 lbs	C, Deep-pit	4,284
004	5, Swine over 55 lbs	C, Deep-pit	1,476
005	5, Swine over 55 lbs	C, Deep-pit	1,476
006	5, Swine over 55 lbs	C, Deep-pit	1,476
007	5, Swine over 55 lbs	G, Composter	
008	5, Swine over 55 lbs	G, Composter	
009	5, Swine over 55 lbs	G, Composter	

PART 12 – CERTIFICATION

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

NAME Robert H. Zeysing	TITLE Member
SIGNATURE 	DATE 1/5/2021

PART 13 - ENGINEER CERTIFICATION

As of Aug. 28, 2013, construction permits are only required for the construction of an earthen storage structure to hold, convey, contain, store, or treat domestic, agricultural, or industrial process wastewater. Construction of all other point source systems designed to hold, convey, contain, store, or treat domestic, agricultural, or industrial process waste must be designed by a professional engineer registered in Missouri in accordance with design regulations.

Operation Name A1, A2 & A3 Sow Farm
Address P.O. Box 158
City Marshall, MO 65340

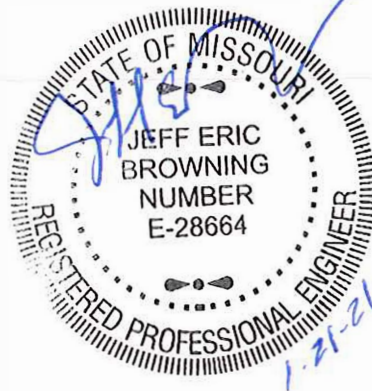
Engineer Firm Allied Engineering Services, LLC
Address P.O. Box 22
City State Zip Code Silex, MO 63377

ENGINEER SEAL

I, Project Engineer, certify that above described systems have been designed in accordance with Missouri CAFO design regulations in 10 CSR 20-8.300



PROJECT ENGINEER SIGNATURE
MO 780-2112 (09-19)



A1, A2 & A3 SOW FARMS NARRATIVE SUMMARY OF DESIGN 2021 B&G BARN ADDITIONS

This facility is located in Sections 7 & 8, Township 64N, Range 38W, Atchison County Missouri.

This farm modification will add a new 177'10" wide X 272' long Breeding/Gestation (B&G) barn at each of the three farms. These barns will have an eight-foot deep-pit under slats to collect and store manure. Each farm will also have one existing 89'6" X 749'6" shallow pit farrowing barn, one existing 89'6" X 131'8" shallow pit farrowing barn and one existing 117'6" X 820' breeding/gestation barn. Animal numbers on each of the three farms will not change and are 960 sows & litters and 4,800 breeding/gestating sows & boars. This is a class 1B confined animal feeding operation as defined by the Missouri Department of Natural Resources with 6,912 animal units.

All barns are slatted type buildings where hog manure generated from production falls beneath the floor into concrete pits. The farrowing barns have a two-foot deep pit which is periodically drained to the adjacent breeding/gestation barn via a permanent sewer pipe underground. The existing breeding/gestation barns have a twelve-foot deep pit and the proposed B&G barns will have eight foot deep-pits which store the manure laden wastewater until it can be pumped to nearby farm fields.

The proposed barns will be designed and constructed to meet the current standards of the Missouri Department of Natural Resources. The entire nutrient handling and storage structures have been designed as a no discharge system.

Land Application

Wastewater nutrients will be land applied according to recommended agronomic rates for the crops to be grown. Nearby farm ground will be utilized for land application of wastewater. Land application will take place via a dragline injection system. Finished compost will be land applied with a solids manure spreader.

The average annual pumpdown volume from each of the three farms has been calculated to be 4,782,960 gallons or 14,348,880 gallons for the three farms together.

Dead Animals

Dead animals will be disposed of in accordance with the Missouri Department of Agriculture regulations. Dead animals from this operation will be composted on-site in a static pile composter with a roof and concrete floor.

Clean Water Diversion

This farm is graded to divert storm water away from buildings, animal confinement areas and manure storage areas.

A potential source of unplanned waste from animal confinement facilities is from storm water coming into contact with pollutants. The pollutants that could potentially contaminate the water are the hogs, manure, mortalities, feed, diesel fuel, and oils and lubricants for farm equipment. All of these potential pollutants are kept under roof at this farm. They do not come into contact with clean rainwater or add to the contaminated waste on the farm.

A common way for clean water to become contaminated is by contacting ventilated dust on the ground around the barn. To treat rainwater that becomes contaminated by this dust, the barn will be surrounded by grass. The grass acts as a filter and helps prevent erosion around the barns reducing suspended solids in the runoff.

Other operations at this farm that could potentially contribute to exposed pollutants are the loading and unloading of pigs, feed, manure, and mortalities. When these sources are handled messes can occur. Care should be taken to not create a mess around the door of the barns, the manure pumping ports, or at the base of the feed bins. If messes occur during these operations, they will be cleaned up immediately.

Prevention of Direct Contact of Confined Animals to Waters of the State

All confined animals are housed under roof in buildings with no outside access. They have no direct access to waters of the state.

Chemical Handling

All chemicals are handled, managed, stored and disposed of in accordance with 10CSR 20-6.300(5)(E).

Soils / Design

Prior to constructing the existing barns, test pits were dug to determine soil suitability and if any groundwater was present. Soils were found suitable for construction and no groundwater was encountered to depths >2' below the proposed barns pit floors.

The proposed barn pits are 8' deep and will have a finished pit floor elevation >2' above the existing B&G barn pit floors. No ground water was encountered during the construction of any of the existing barns. A tile will be constructed around the proposed storage pit and there are tiles around all existing deep-pit barns that drain any transient water away from the storage pits.

The barn pit floors will set at an elevation > than 2' above groundwater per (10 CSR 20-8.300(6)(A)).

The proposed barn foundations and manure pits for this farm will be designed for the soils found in the previous test pits and construction across the building site per (10 CSR 20-8.300(6)(A)).

The manure storage pit will be designed with a perimeter tile that will be drained to "daylight" and backfilled with granular material per (10 CSR 20-8.300(6)(D)).

These barns and manure storage structures will be designed according to MWPS 36, 2nd Edition "Rectangular Concrete Manure Storages", per (10 CSR 20-8.300(6)(F)).

All manure pits will be designed to be watertight per (10 CSR 20-8.300(6)(G)).

PIT BARN CALCULATION SHEET

Advanced Pork Systems - A1-2-3 Sow Farms

Gestation Barn w/Farrowing

Manure Values Taken From MWPS 18; Section 1, 2nd Edition

Calculation of Available Volume in 12' Deep Pit Barn:

Inside width of pit = 115'10"

Inside length of pit (affective) = 812'

Depth = 11'6"

Total Volume = 115'10" X 812' X 11'6" = 1,081,621 cu ft = 8,090,522 gallons

Safety Volume Depth = 1'

Volume at 10'6" deep = 115'10" X 812' X 10'6" = 987,567 cu ft = 7,386,998 gallons

Calculation of waste volume produced in 12' Deep Pit Gestation Barn:

head/barn = 3,324 (375 lbs each)

Gallons / Hd / Day = 1.03

Manure Volume = 3324 hd x 1.03 gpd/hd = 3,424 gpd

Average daily process water added = 3,324 gallons

Total waste volume generated per day in barn = 3424 + 3324 = 6,748 gallons

Annul Waste Volume generated = 6,748 gallons X 365 = 2,463,020 gallons

Calculation of waste volume produced in Farrowing Barns

head/barns = 960 (450 lbs each)

Gallons / Hd / Day = 2.5

Manure Volume = 960 hd x 2.5 gpd/hd = 2,400 gpd

Average daily process water added = 960 gallons

Total waste volume generated per day per barn = 2400 + 960 = 3,360 gallons

Annul Waste Volume generated = 3,360 gallons X 365 = 1,226,400 gallons

Avg & Max Annual Pumpdown = 3,689,420 gallons

Number of storage days available = 730.8 days

PIT BARN CALCULATION SHEET

Advanced Pork Systems - A1-2-3 Sow Farms

Breeding/Gestation Barn (2021 Addition)

Manure Values Taken From MWPS 18; Section 1, 2nd Edition

Calculation of Available Volume in 8' Deep Pit Barn:

Inside width of pit = 176'6"

Inside length of pit (affective) = 270'

Depth = 8'

Safety Volume Depth = 1' + Air flow .5'

Volume at 6'6" deep = 176'6" X 270' X 6'6" = 309,758 cu ft = 2,316,986 gallons

Calculation of waste volume produced in 8' Deep Pit Breeding/Gestation Barn:

head/barn = 1,476 (375 lbs each)

Gallons / Hd / Day = 1.03

Manure Volume = 1476 hd x 1.03 gpd/hd = 1,520 gpd

Average daily process water added = 1,476 gallons

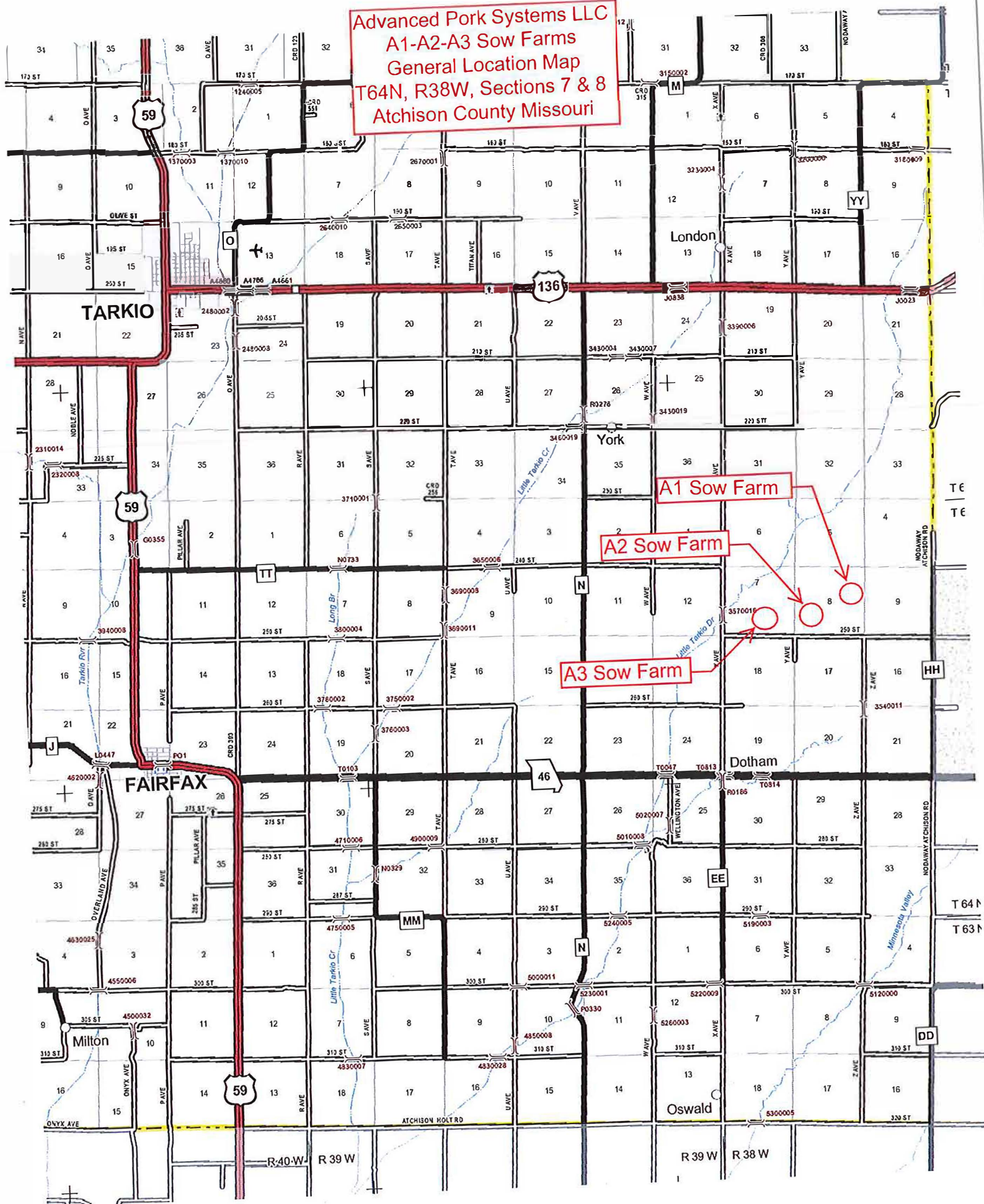
Total waste volume generated per day in barn = 1520 + 1476 = 2,996 gallons

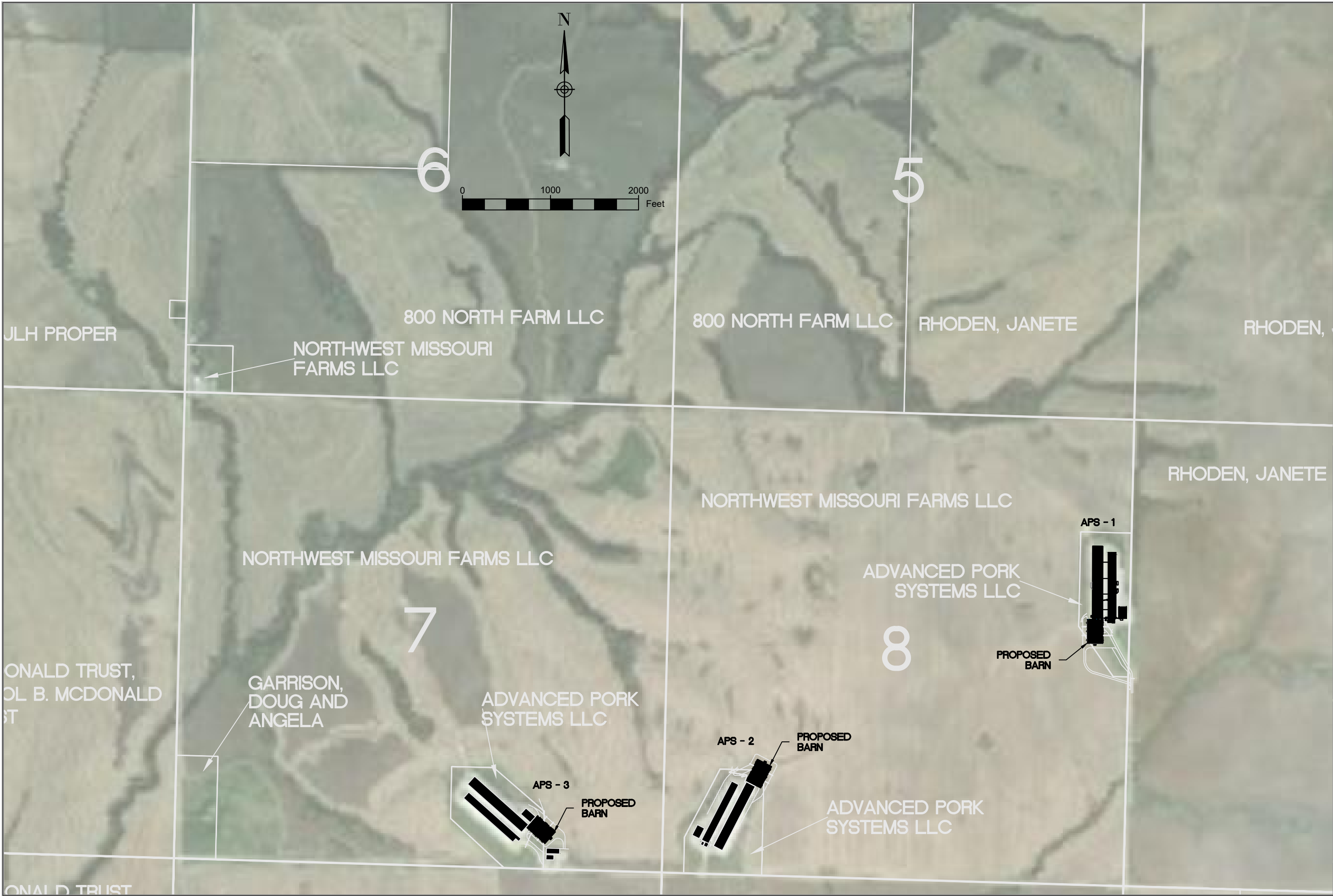
Annul Waste Volume generated = 2,996 gallons X 365 = 1,093,540 gallons

Avg & Max Annual Pumpdown = 1,093,540 gallons

Number of storage days available = 773.4 days

Advanced Pork Systems LLC
A1-A2-A3 Sow Farms
General Location Map
T64N, R38W, Sections 7 & 8
Atchison County Missouri

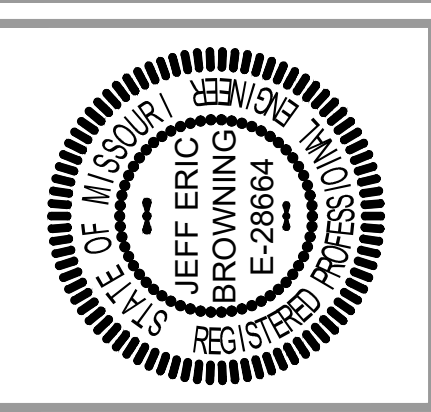




REVISED	
ALLIED ENGINEERING SERVICES, LLC <i>Engineering-Surveying-Construction</i> P.O. BOX 22 SILEX, MO 63377 PHONE: (573) 324-6860	
ADVANCED PORK SYSTEMS A-1, A-2 & A-3	SHEET TITLE: FACILITY LAYOUT - AERIAL MAP
FILE NAME	
DRAWN BY TRD	
CHECKED BY TRD	
PROJECT ENGINEER JEB	
BOWLING GREEN	
DATE 1-19-21	
JOB NUMBER 20-3937	
SHEET NUMBER 1 of 1	



REVISED



ALLIED ENGINEERING SERVICES, LLC
Engineering-Surveying-Construction
P.O. BOX 22
SILEX, MO 63377
PHONE: (573) 324-6860

APS/A-1, A-2 & A-3
FARROW TO WEAN COMPLEX ADDITION
COUNTY ROAD 250 ATCHISON CO. MO.
SHEET TITLE:
2,000 FOOT RADIUS
SETBACK MAP

FILE NAME APS 1,2 &3
DRAWN BY DPT
CHECKED BY TRD
PROJECT ENGINEER JEB
DATE 1-15-21
JOB NUMBER

SHEET NUMBER
2 of 2

SPECIFICATIONS:

- ELEVATIONS SHOWN ON THIS PLAN ARE BASED ON AN ASSUMED BENCHMARK ELEVATION AND DO NOT REPRESENT MEAN SEA LEVEL DATUM.
- THE CONTRACTOR SHALL VERIFY THE LOCATION AND DEPTH OF ALL UTILITIES A MINIMUM OF 24 HOURS PRIOR TO CONSTRUCTION. THE CONTRACTOR MAY UTILIZE THE TOLL FREE NUMBER FOR THE "MISSOURI ONE CALL SYSTEM, INC." 1-(800)-DIG-RITE.
- LOCATE, IDENTIFY, AND PROTECT UTILITIES THAT REMAIN FROM DAMAGE. IF ANY UTILITY IS DAMAGED THROUGH THE CARELESSNESS OR NEGLIGENT ACTIONS OF THE CONTRACTOR, THE UTILITY SHALL BE REPAIRED BY ITS OWNER AT AT THE CONTRACTOR'S EXPENSE.
- IT IS THE GRADING CONTRACTOR'S RESPONSIBILITY TO PERFORM ALL GRADING OPERATIONS IN ACCORDANCE WITH THIS PLAN. ANY DEVIATION FROM THIS PLAN MUST BE APPROVED BY THE ENGINEER PRIOR TO MAKING SUCH CHANGE. GRADES SHOWN ON THE BUILDING PADS DO NOT ACCOUNT FOR FINAL BERMING AT THE BUILDINGS.
- BUILDING PAD ELEVATIONS SHOWN ON THIS DRAWING REPRESENT TOP OF SUBGRADE. SEE PAD CROSS SECTION ON DETAIL SHEET FOR GRADE REFERENCE POINT. THE PAD SIDE SLOPES SHALL BE 3:1 UNLESS NOTED OTHERWISE ON THE DRAWING.
- ANY NEW WATER SUPPLY WELLS PLACED ON THE SITE MUST BE A MINIMUM OF 325 FEET FROM THE CLOSEST POINT OF THE LAGOON, AND 125 FEET FROM THE CLOSEST POINT OF AN ANIMAL CONFINEMENT BUILDING, OR SEWER LINE.
- THE SERVICE AREA IN FRONT OF THE BUILDINGS SHALL RECEIVE A LAYER OF GEOTEXTILE FABRIC TO A DISTANCE OF 35 FEET IN FRONT OF THE BUILDINGS. LAP DISTANCE AT THE SEAM SHALL BE 1 FOOT. 3/4" ROAD STONE SHALL BE PLACED ON TOP OF THE MAT TO A DEPTH OF 4 INCHES. THE ROAD ACCESSING THE SERVICE AREA SHALL BE 18 FEET WIDE WITH SAME FABRIC AND STONE TREATMENT.
- STRIPPING EXCAVATION SHALL EXTEND TO A DEPTH SUFFICIENT TO EXPOSE SUBSOIL REASONABLY FREE OF ROOTS AND OTHER PERISHABLE MATERIAL. EXCAVATED EARTH MATERIAL DEEMED SATISFACTORY FOR THAT PARTICULAR FILL SHALL BE USED FOR EARTH FILL OR TOPSOIL. STRIPPED MATERIAL SUITABLE FOR TOPSOIL SHALL BE STOCKPILED AND SPREAD, AS SPECIFIED IN THESE SPECIFICATIONS.
- STRIPPING EXCAVATION FOR FOUNDATIONS SHALL EXTEND TO CONSOLIDATED SUBSOIL AND SHALL BE LEFT AS REASONABLY SMOOTH SURFACES FREE OF UNCONSOLIDATED OR LOOSE SOIL. UNLESS OTHERWISE SHOWN ON THE DRAWINGS, FOUNDATION SLOPES SHALL BE EXCAVATED TO ONE TO ONE, OR FLATTER, SLOPES.
- THE CONTRACTOR SHALL MAINTAIN THE SITE AND CONDUCT EARTHWORK OPERATIONS TO ENSURE THAT THE PROPERTY HAS PROPER DRAINAGE AT ALL TIMES AND REQUIRED EROSION CONTROL IS IN PLACE.
- WHEN EMBANKMENTS, REGARDLESS OF HEIGHT, ARE PLACED AGAINST HILLSIDES OR EXISTING EMBANKMENTS HAVING A SLOPE STEEPER THAN 1 VERTICAL TO 4 HORIZONTAL, THE EXISTING SLOPE SHALL BE BENCHED OR STEPPED IN APPROXIMATELY 24 INCH RISES. FILL SHALL BE BROUGHT UP IN 6 INCH MAXIMUM LIFTS. THE MATERIAL BLADED OUT AND THE BOTTOM AREA CUT TO FORM BENCHES AND THE EMBANKMENT MATERIAL BEING PLACED SHALL BE COMPACTED TO THE SPECIFIED DENSITY. FORMATION AND COMPACTING OF BENCHES SHALL NOT BE MEASURED AND PAID FOR DIRECTLY BUT WILL BE CONSIDERED INCIDENTAL WORK.
- FILL: WHEN PLACING FILL, PLACE IN SUCCESSIVE HORIZONTAL LIFTS UNIFORMLY DISTRIBUTED OVER THE FULL WIDTH OF THE FILL AREA. EACH LIFT SHALL NOT EXCEED 8 INCHES IN LOOSE THICKNESS AND SHALL BE COMPACTED ACCORDING TO THE REQUIREMENTS FOR THAT PARTICULAR FILL AS COMPACTED OF EACH LAYER PROGRESSES, CONTINUOUS BLADING AND DOZING WILL BE REQUIRED TO LEVEL THE SURFACE AND INSURE UNIFORM COMPACTION.
- EXCAVATED SOILS CONSISTING OF SILT AND CLAY SHALL BE DEEMED SATISFACTORY FOR EARTH FILL TO THE EXTENT NEEDED. SOILS SHALL BE BLENDED TO PROVIDE FOR EARTH FILLS, OR BE WASTED AS DIRECTED BY THE ENGINEER. THE SELECTION, BLENDING, ROUTING, AND DISPOSITION OF MATERIAL SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND SUBJECT TO APPROVAL BY THE ENGINEER. FILL MATERIALS SHALL CONTAIN NO FROZEN MATERIAL, ICE, SNOW, SOD, BRUSH, ROOTS, OR OTHER PERISHABLE MATERIALS, OR ROCKS LARGER THAN FOUR INCHES IN DIAMETER. NO FILL SHALL BE PLACED ON A FROZEN SURFACE.
- PRIOR TO PLACEMENT OF FILL, THE ENTIRE AREA TO RECEIVE FILL SHALL BE ROLLED AND INSPECTED TO IDENTIFY ANY UNSUITABLE SOILS THAT REQUIRE REMOVAL. UNSUITABLE MATERIALS SHALL BE OVEREXCAVATED TO A DEPTH OF 2 FEET. AFTER STRIPPING OR OVEREXCAVATING, THE FOUNDATION SHALL BE LOOSENEED THOROUGHLY BY SCARIFYING OR DISCING TO A MINIMUM DEPTH OF 6 INCHES. THE ENTIRE FOUNDATION AREA SHALL THEN BE COMPACTED TO THE DENSITY AND AT THE MOISTURE SPECIFIED FOR THE FILL.
- ALL FOUNDATION EXCAVATION AND/OR PREPARATION SHALL BE COMPLETED BEFORE PLACING FILL. THE FILL SHALL BE PLACED SUCH THAT THE DISTRIBUTION OF MATERIAL IS ESSENTIALLY UNIFORM THROUGHOUT THE ENTIRE FILL AND IS FREE FROM LENSES, POCKETS, STREAKS, OR LAYERS OF MATERIAL DIFFERING SUBSTANTIALLY FROM SURROUNDING MATERIAL.
- FILL SHALL BE PLACED AT WITHIN SPECIFIED MOISTURE CONTENTS. WHEN MATERIAL DEPOSITED ON THE FILL IS TOO DRY, WATER MAY BE ADDED TO THE FILL MATERIAL IN THE BORROW AREA, OR AFTER MATERIAL HAS BEEN BROUGHT ONTO THE FILL. ON THE FILL, UNIFORM MOISTURE DISTRIBUTION SHALL BE OBTAINED BY DISCING, BLADING, OR OTHER APPROVED METHODS. UNLESS OTHERWISE SPECIFIED ON THE PLANS, THE FILL SHALL BE COMPACTED TO THE FOLLOWING SPECIFICATIONS AS DETERMINED BY ASTM-D-698.
ROCKS WITH A DIAMETER LARGER THAN 4 INCHES SHALL BE SEGREGATED AND USED IN FILL PLACEMENT BEYOND THE 1:1 BACKSLOPE TOE-IN OF STRUCTURAL FILL OR ROCKS CAN BE SEGREGATED AND USED AS EROSION PROTECTION ELSEWHERE ON THE FARM. NO ROCKS GREATER THAN 4 INCHES IN DIAMETER CAN BE UTILIZED IN STORAGE POND FILL.
- COMPACTION OF FILL ADJACENT TO CONCRETE COLUMNS, WALLS OR FLATWORK SHALL NOT BE STARTED UNTIL SEVEN DAYS HAVE ELAPSED AFTER PLACEMENT.
- "NOT USED"
- IN AREAS TO BE SEEDED OR SODDED, THE UPPER 12 INCHES SHALL BE EARTH MATERIAL AND THE TOP SIX INCHES SUITABLE FOR SUSTAINING GRASS.
- BUILDING SLAB GRADES SHALL BE WITHIN PLUS 0.1 FOOT FROM REQUIRED ELEVATIONS.
- PIPE TRENCH BOTTOMS SHALL BE UNIFORM SO THAT THE PIPE WILL LAY ON THE BOTTOM WITHOUT BRIDGING. CLODS, ROCKS, AND UNEVEN SPOTS WHICH COULD DAMAGE OR CAUSE NON-UNIFORM SUPPORT TO THE PIPE SHALL BE REMOVED. WHERE ROCKS, Boulders, OR ANY OTHER MATERIAL WHICH MIGHT DAMAGE PIPE ARE ENCOUNTERED, THE TRENCH BOTTOM SHALL BE UNDERCUT A MINIMUM OF 4 INCHES BELOW FINAL COMPACTED FINE-GRAINED SOILS. PROVISIONS SHALL BE MADE TO INSURE SAFE WORKING CONDITIONS WHERE UNSTABLE SOIL, TRENCH DEPTH, OR OTHER CONDITIONS ARE SUCH AS TO IMPOSE SAFETY HAZARD TO PERSONNEL WORKING IN THE TRENCH.
- PIPE SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS. INITIAL PIPE BACKFILL SHALL BE OF SELECTED MATERIAL FREE FROM SHARP EDGE ROCKS, STONES, OR CLODS. CARE SHALL BE TAKEN TO AVOID DEFORMATION OR DISPLACEMENT OF THE PIPE DURING INITIAL BACKFILL OPERATION. THE REMAINDER OF THE BACKFILL SHALL BE PLACED AND SPREAD IN APPROXIMATELY UNIFORM LAYERS IN SUCH A MANNER AS TO COMPLETELY FILL THE TRENCH SO THAT THERE WILL BE NO UNFILLED SPACES IN THE BACKFILL. MOUND THE BACKFILL SOIL TO REPLACE THE SOIL REMOVED FROM THE TRENCH.
- POLY VINYL CHLORIDE (PVC) SEWER PIPE: POLY VINYL CHLORIDE SEWER PIPE SHALL CONFORM TO ASTM D-3034 AND HAVE A MINIMUM WALL THICKNESS CONFORMING TO SDR-35.
A. FLEXIBLE GASKET JOINTS FOR PVC PIPE AND FITTINGS SHALL BE COMPRESSION TYPE JOINTS WITH THE GASKET CONFINED IN EITHER THE SPOOT OR THE BELL END OF THE PIPE. RUBBER GASKET RINGS SHALL BE NEOPRENE OR OTHER SYNTHETIC MATERIAL AND CONFORM TO ASTM D-1869. NATURAL RUBBER GASKETS WILL NOT BE ACCEPTABLE.
B. FITTINGS FOR PVC SEWER PIPE SUCH AS TEE CONNECTIONS SHALL BE SADDLE TYPE FITTINGS OF PVC PLASTIC.
- CLEANOUT JOINTS SHALL BE PLACED IN CONCRETE TO PREVENT ANY VERTICAL FORCES FROM BLOWING JOINTS APART.
- CONCRETE USED FOR EMBEDMENT AND ENCASEMENT SHALL HAVE A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 3000 PSI.
- THE CONTRACTOR SHALL REMOVE ANY WATER WHICH MAY ACCUMULATE IN THE TRENCHES PRIOR TO BACKFILLING.
- PIPE INSTALLATION SHALL BE IN ACCORDANCE WITH APPLICABLE STANDARDS, SUCH AS ASTM C-12, D-2321 AND ANSI/AWWA C800.

- SEWERS SHALL BE LAID A MINIMUM OF 10' HORIZONTALLY FROM ANY EXISTING OR PROPOSED WATER MAIN. THE DISTANCE SHALL BE MEASURED FROM EDGE-TO-EDGE. IN THE EVENT THAT IT BECOMES NECESSARY FOR SEWERS AND WATER MAINS TO CROSS, THEY SHALL BE LAID TO PROVIDE A MINIMUM VERTICAL SEPARATION DISTANCE OF 18" BETWEEN THE OUTSIDE OF THE WATER MAIN AND THE OUTSIDE OF THE SEWER. THE CROSSING SHALL BE ARRANGED SO THAT SEWER JOINTS WILL BE EQUIDISTANT AND AS FAR AS POSSIBLE FROM THE WATER MAIN JOINTS. WHEN A WATER MAIN CROSSES UNDER A SEWER, ADEQUATE STRUCTURAL SUPPORT SHALL BE PROVIDED FOR THE SEWER TO PREVENT DAMAGE TO THE WATER LINE.

29. "NOT USED"

30. SEEDING NOTES:

- APPLY SEED WHEN SOIL IS NOT WET. USING A GRASS DRILL AT A DEPTH OF 1/4 TO 3/4 INCH, OR WITH OTHER APPROVED TYPES OF EQUIPMENT THAT WILL ENSURE A UNIFORM DISTRIBUTION OF THE SEED.
- ALL DISTURBED AREAS INCLUDING BASIN DIKES AND BUILDING PADS AND SLOPES SHALL BE SEEDED AND MULCHED IN ACCORDANCE WITH THE SCHEDULE BELOW AS SOON AS POSSIBLE AFTER FINAL GRADING IS COMPLETED.
- PREPARE DISTURBED AREAS FOR SEEDING BY GRADING IN ALL SURFACE WATER DIVERSIONS AND SHAPING TO FINAL GRADES SHOWN ON THE DRAWING.
- AREAS WITH SLOPES STEEPER THAN 4:1 SHALL BE MULCHED WITH STRAW OR HAY AND ANCHORED BY USE OF A MULCHING MACHINE OR NETTING.

SEEDING / MULCHING SCHEDULE:

ALTA FESCUE (20 LBS./AC.)

RYE GRASS (10 LBS./AC.)

SMALL GRAIN STRAW (1.5 - 2 TONS/AC.)

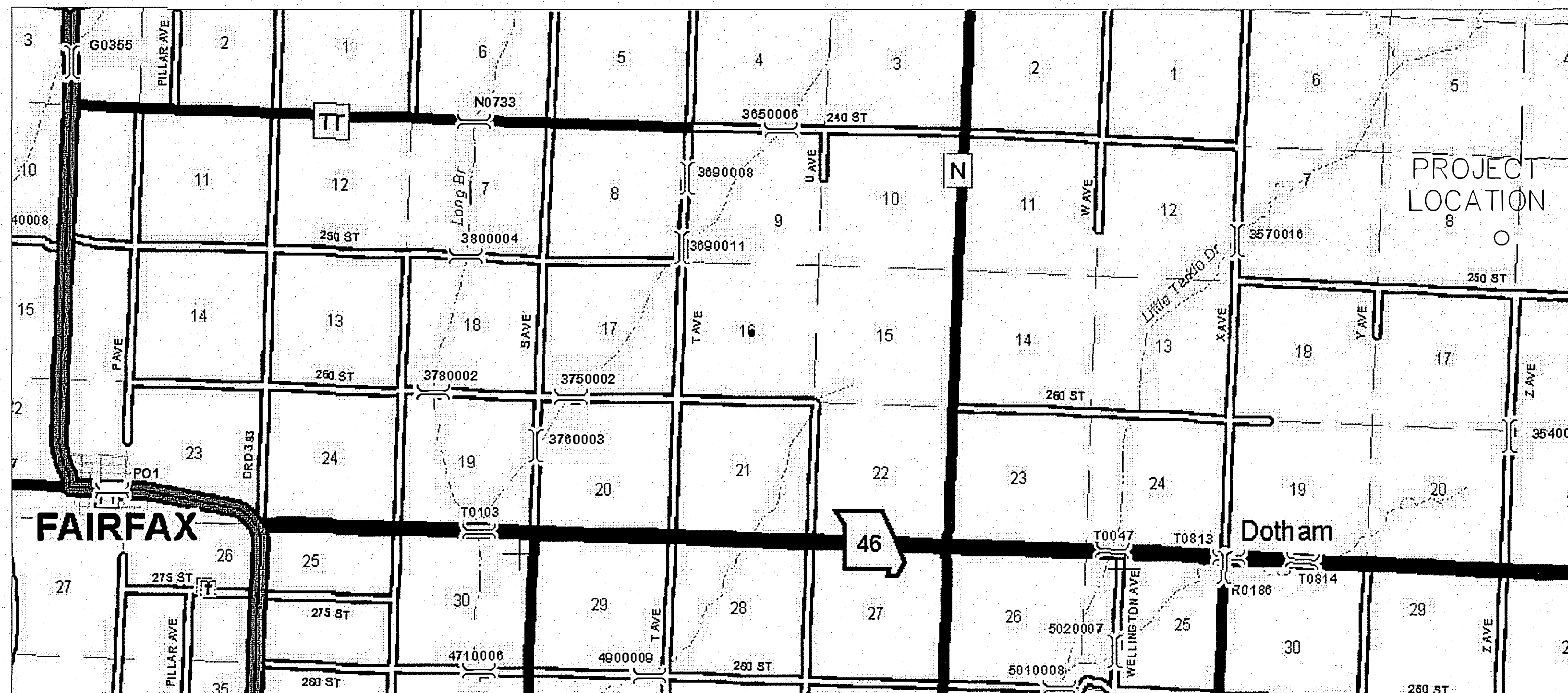
TOTAL DISTURBED AREA TO BE SEEDED AND MULCHED = 2.30 AC. (APPROX.)

- THE CONTRACTOR SHALL CLEAN THE SITE AS THE WORK PROGRESSES. FINAL CLEAN-UP SHALL FOLLOW IMMEDIATELY BEHIND THE FINISHING. THE CONTRACTOR SHALL REMOVE FROM THE SITE ALL EQUIPMENT, TOOLS, UNUSED MATERIALS, AND OTHER CONSTRUCTION ITEMS. THE ENTIRE SITE SHALL BE LEFT IN A NEAT, FINISHED CONDITION. CLEAN-UP SHALL BE CONSIDERED INCIDENTAL TO GRADING OPERATIONS.

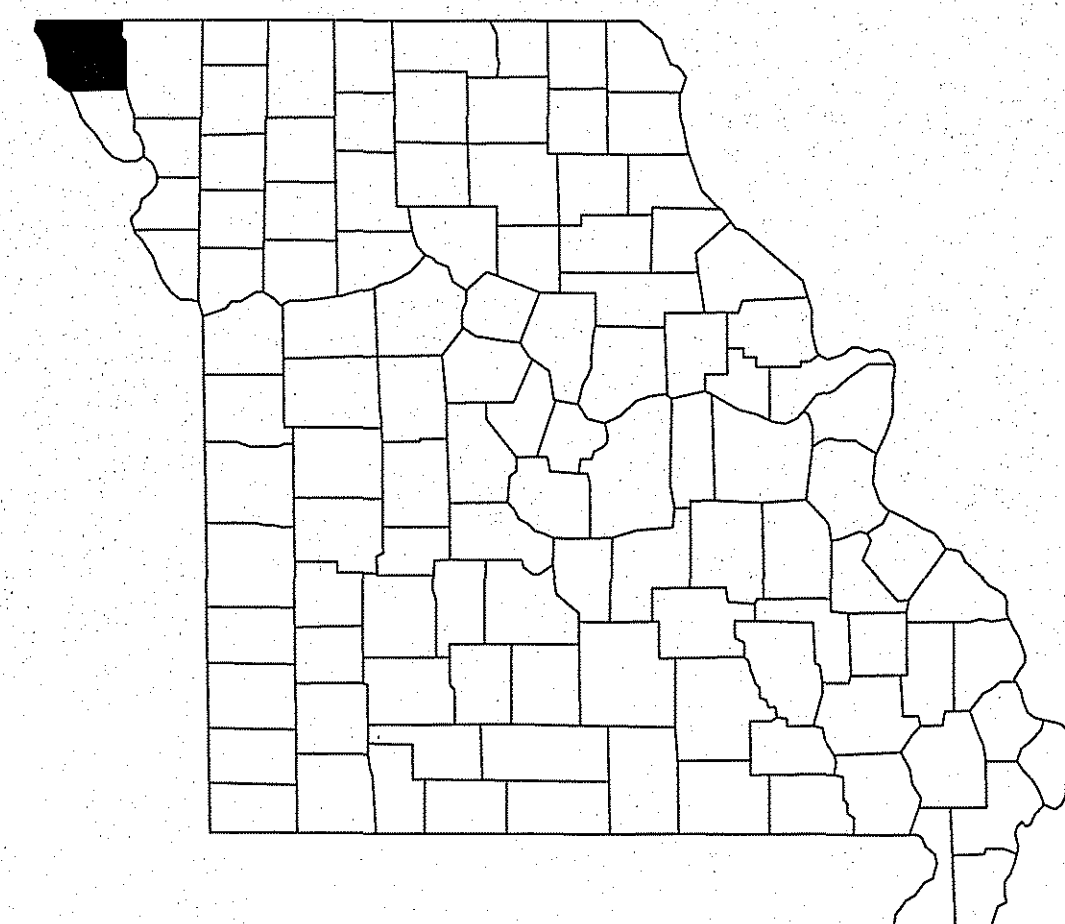
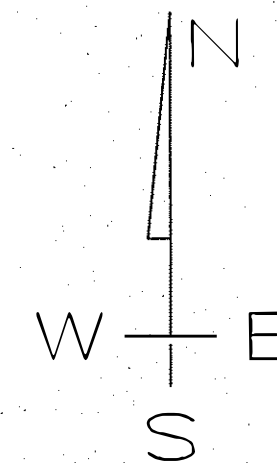
APS/A-1

FARROW TO WEAN

COMPLEX ADDITION



GENERAL LOCATION MAP
ATCHISON COUNTY, MISSOURI
SEC. 8, T64N, R38W



SHEET LEGEND

- | | | |
|---------|---|-----------------------------|
| SHEET 1 | - | COVER SHEET |
| SHEET 2 | - | GENERAL LAYOUT |
| SHEET 3 | - | GRADING PLAN & STAKING DATA |
| SHEET 4 | - | AERIAL MAP |

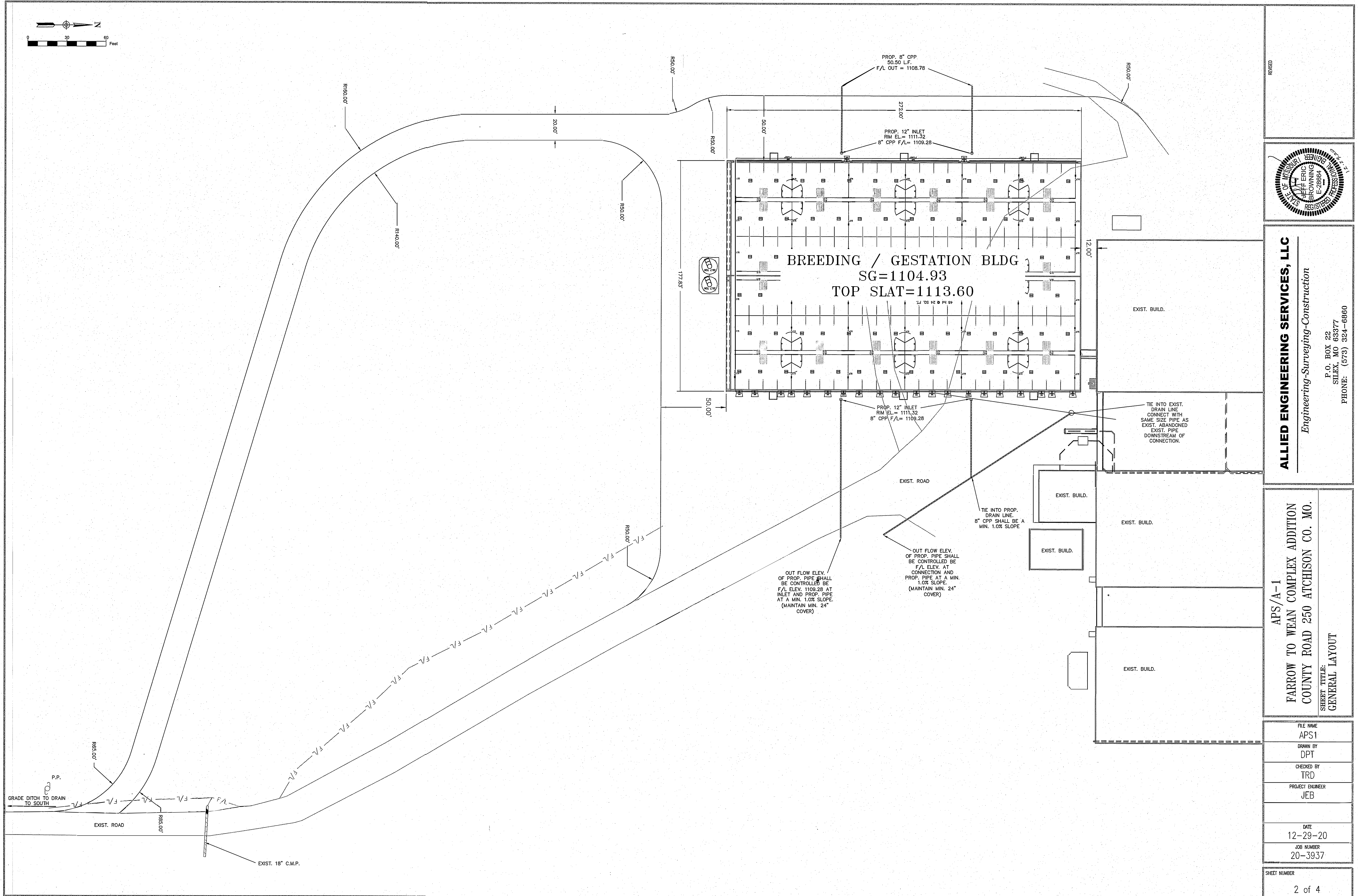
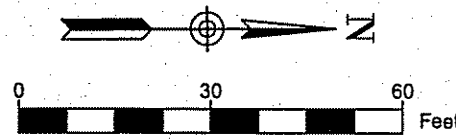
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APS/A-1
FARROW TO WEAN COMPLEX ADDITION
COUNTY ROAD 250 ATCHISON CO. MO.

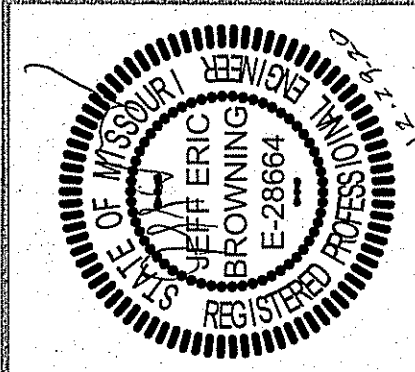
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COVER SHEET

FILE NAME	APS1
DRAWN BY	DPT
CHECKED BY	TRD
PROJECT ENGINEER	JEB
DATE	12-29-20
JOB NUMBER	20-3937

SHEET NUMBER
1 of 4



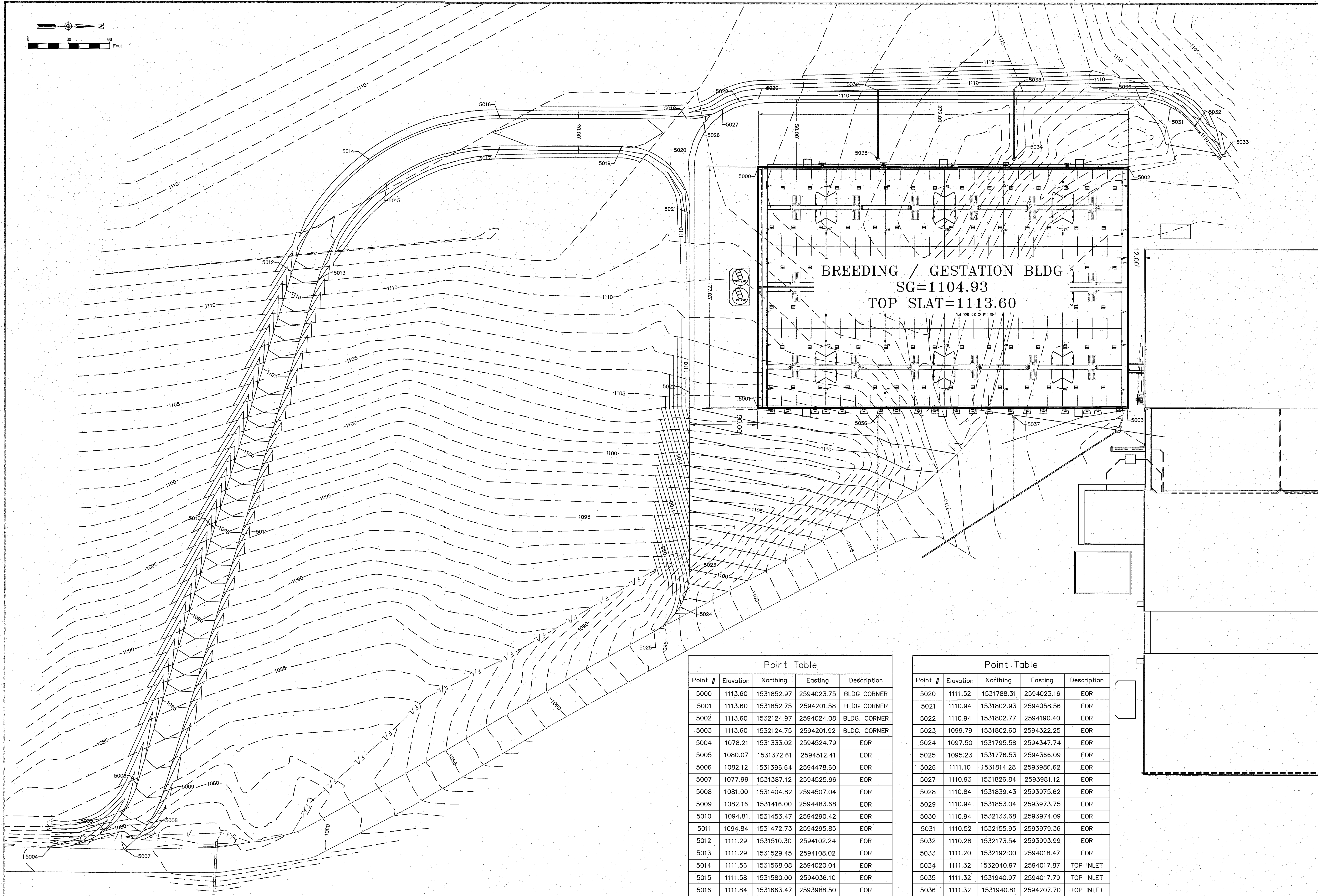
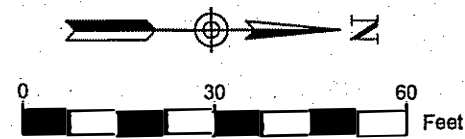
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PHONE: (573) 324-6860

APS/A-1
FARROW TO WEAN COMPLEX ADDITION
COUNTY ROAD 250 ATCHISON CO. MO.
SHEET TITLE:
GENERAL LAYOUT

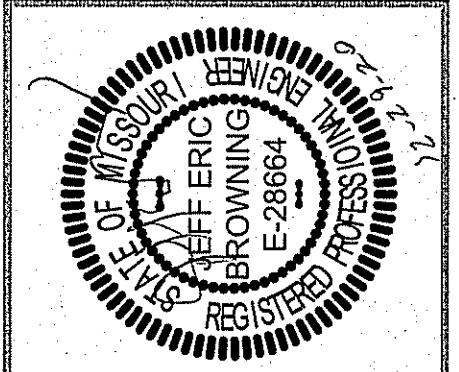
FILE NAME	APS1
DRAWN BY	DPT
CHECKED BY	TRD
PROJECT ENGINEER	JEB
DATE	12-29-20
JOB NUMBER	20-3937



Point Table				
Point #	Elevation	Northing	Easting	Description
5000	1113.60	1531852.97	2594023.75	BLDG CORNER
5001	1113.60	1531852.75	2594201.58	BLDG CORNER
5002	1113.60	1532124.97	2594024.08	BLDG. CORNER
5003	1113.60	1532124.75	2594201.92	BLDG. CORNER
5004	1078.21	1531333.02	2594524.79	EOR
5005	1080.07	1531372.61	2594512.41	EOR
5006	1082.12	1531396.64	2594478.60	EOR
5007	1077.99	1531387.12	2594525.96	EOR
5008	1081.00	1531404.82	2594507.04	EOR
5009	1082.16	1531416.00	2594483.68	EOR
5010	1094.81	1531453.47	2594290.42	EOR
5011	1094.84	1531472.73	2594295.85	EOR
5012	1111.29	1531510.30	2594102.24	EOR
5013	1111.29	1531529.45	2594108.02	EOR
5014	1111.56	1531568.08	2594020.04	EOR
5015	1111.58	1531580.00	2594036.10	EOR
5016	1111.84	1531663.47	2593988.50	EOR
5017	1111.84	1531663.47	2594008.50	EOR
5018	1111.53	1531800.70	2593988.50	EOR
5019	1112.10	1531752.93	2594008.50	EOR

Point Table				
Point #	Elevation	Northing	Easting	Description
5020	1111.52	1531788.31	2594023.16	EOR
5021	1110.94	1531802.93	2594058.56	EOR
5022	1110.94	1531802.77	2594190.40	EOR
5023	1099.79	1531802.60	2594322.25	EOR
5024	1097.50	1531795.58	2594347.74	EOR
5025	1095.23	1531776.53	2594366.09	EOR
5026	1111.10	1531814.28	2593986.62	EOR
5027	1110.93	1531826.84	2593981.12	EOR
5028	1110.84	1531839.43	2593975.62	EOR
5029	1110.94	1531853.04	2593973.75	EOR
5030	1110.94	1532133.68	2593974.09	EOR
5031	1110.52	1532155.95	2593979.36	EOR
5032	1110.28	1532173.54	2593993.99	EOR
5033	1111.20	1532192.00	2594018.47	EOR
5034	1111.32	1532040.97	2594017.87	TOP INLET
5035	1111.32	1531940.97	2594017.79	TOP INLET
5036	1111.32	1531940.81	2594207.70	TOP INLET
5037	1111.32	1532040.81	2594207.79	TOP INLET
5038	1108.28	1532041.01	2593966.15	END 8" PPC
5039	1108.78	1531941.01	2593967.40	END 8" PPC

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APS/A-1
FARROW TO WEAN COMPLEX ADDITION
COUNTY ROAD 250 ATCHISON CO. MO.

SHEET TITLE:
GRADING PLAN & STAKING DATA

FILE NAME APS1
DRAWN BY DPT
CHECKED BY TRD
PROJECT ENGINEER JEB
DATE 12-29-20
JOB NUMBER 20-3937
SHEET NUMBER 3 of 4

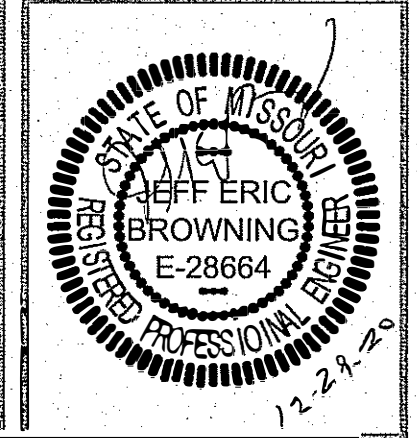


BREEDING / GESTATION BLDG
SG=1104.93
TOP SLAT=1113.60

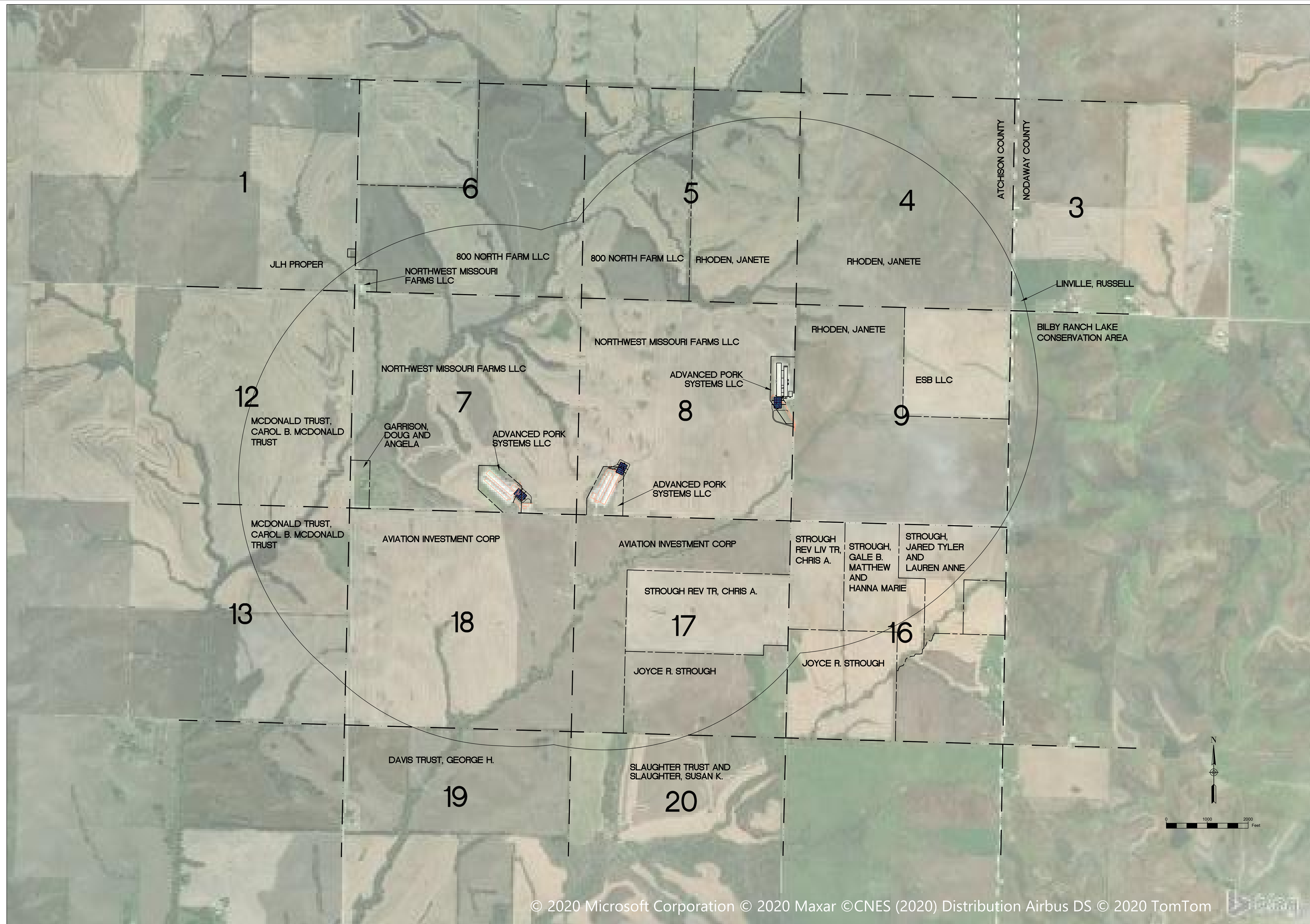
FILE NAME	APS1
DRAWN BY	DPT
CHECKED BY	TRD
PROJECT ENGINEER	JEB
DATE	12-29-20
JOB NUMBER	20-3937
SHEET NUMBER	4 of 4

APS/A-1
FARROW TO WEAN COMPLEX ADDITION
COUNTY ROAD 250 ATCHISON CO. MO.
SHEET TITLE:
AERIAL MAP

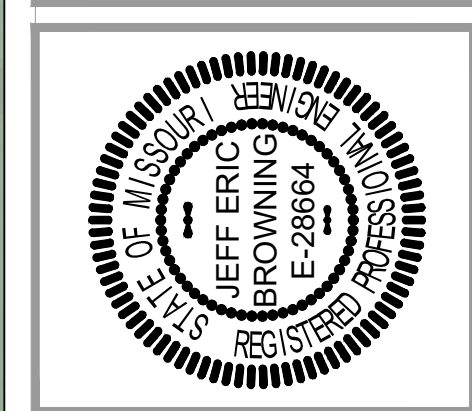
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APS/A-1, A-2 & A-3
FARROW TO WEAN COMPLEX ADDITION
COUNTY ROAD 250 ATCHISON CO. MO.
SHEET TITLE:
6,000 FOOT RADIUS
PUBLIC NOTICE MAP

FILE NAME
APS 1,2 &3
DRAWN BY
DPT
CHECKED BY
TRD
PROJECT ENGINEER
JEB
DATE
1-15-21
JOB NUMBER
20-3937

SHEET NUMBER
1 of 2

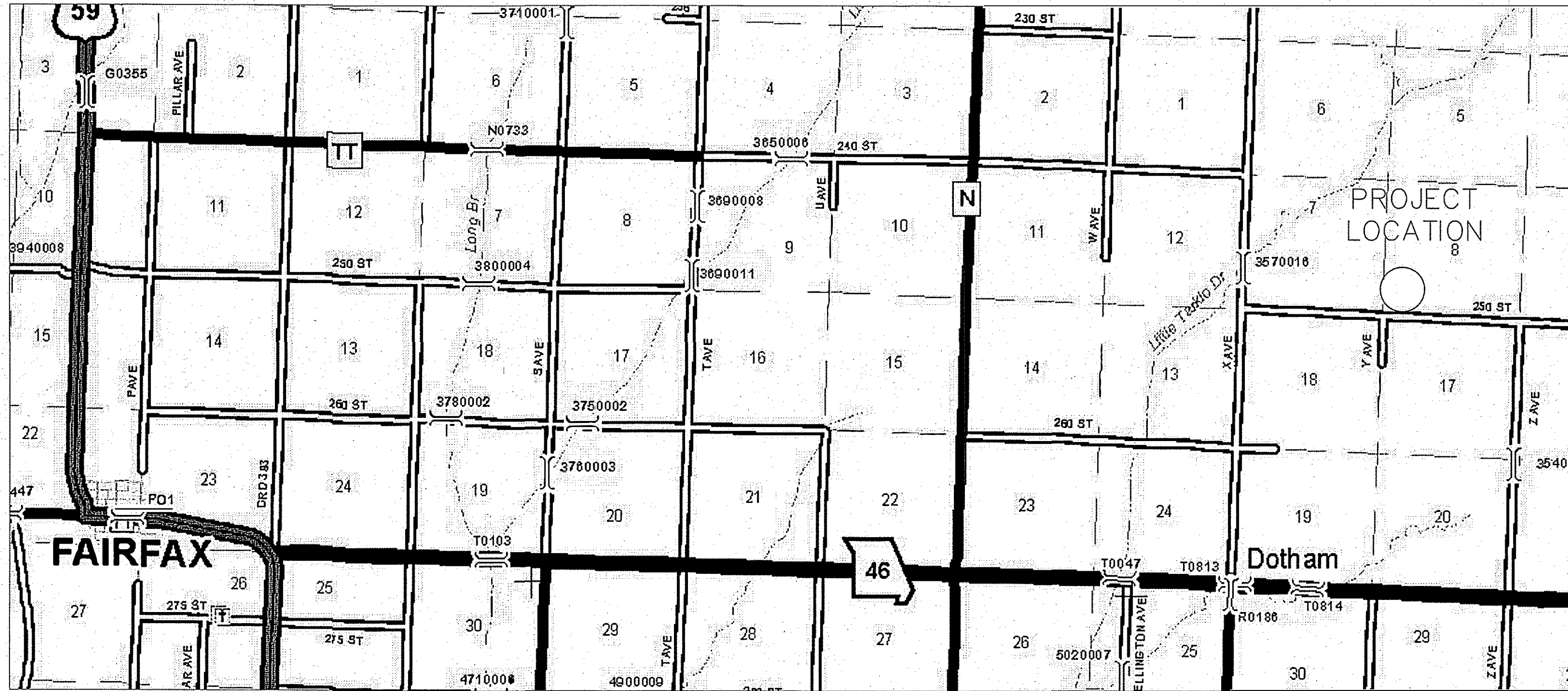
SPECIFICATIONS:

- ELEVATIONS SHOWN ON THIS PLAN ARE BASED ON AN ASSUMED BENCH-MARK ELEVATION AND DO NOT REPRESENT MEAN SEA LEVEL DATUM.
- THE CONTRACTOR SHALL VERIFY THE LOCATION AND DEPTH OF ALL UTILITIES A MINIMUM OF 24 HOURS PRIOR TO CONSTRUCTION. THE CONTRACTOR MAY UTILIZE THE TOLL FREE NUMBER FOR THE "MISSOURI ONE CALL SYSTEM, INC." 1-(800)-DIG-RITE.
- LOCATE, IDENTIFY, AND PROTECT UTILITIES THAT REMAIN FROM DAMAGE. IF ANY UTILITY IS DAMAGED THROUGH THE CARELESSNESS OR NEGLIGENT ACTIONS OF THE CONTRACTOR, THE UTILITY SHALL BE REPAIRED BY ITS OWNER AT AT THE CONTRACTOR'S EXPENSE.
- IT IS THE GRADING CONTRACTOR'S RESPONSIBILITY TO PERFORM ALL GRADING OPERATIONS IN ACCORDANCE WITH THIS PLAN. ANY DEVIATION FROM THIS PLAN MUST BE APPROVED BY THE ENGINEER PRIOR TO MAKING SUCH CHANGE. GRADES SHOWN ON THE BUILDING PADS DO NOT ACCOUNT FOR FINAL BERMING AT THE BUILDINGS.
- BUILDING PAD ELEVATIONS SHOWN ON THIS DRAWING REPRESENT TOP OF SUBGRADE. SEE PAD CROSS SECTION ON DETAIL SHEET FOR GRADE REFERENCE POINT. THE PAD SIDE SLOPES SHALL BE 3:1 UNLESS NOTED OTHERWISE ON THE DRAWING.
- ANY NEW WATER SUPPLY WELLS PLACED ON THE SITE MUST BE A MINIMUM OF 325 FEET FROM THE CLOSEST POINT OF THE LAGOON, AND 125 FEET FROM THE CLOSEST POINT OF AN ANIMAL CONFINEMENT BUILDING, OR SEWER LINE.
- THE SERVICE AREA IN FRONT OF THE BUILDINGS SHALL RECEIVE A LAYER OF GEOTEXTILE FABRIC TO A DISTANCE OF 35 FEET IN FRONT OF THE BUILDINGS. LAP DISTANCE AT THE SEAM SHALL BE 1 FOOT. 3/4" ROAD STONE SHALL BE PLACED ON TOP OF THE MAT TO A DEPTH OF 4 INCHES. THE ROAD ACCESSING THE SERVICE AREA SHALL BE 18 FEET WIDE WITH SAME FABRIC AND STONE TREATMENT.
- STRIPPING EXCAVATION SHALL EXTEND TO A DEPTH SUFFICIENT TO EXPOSE SUBSOIL REASONABLY FREE OF ROOTS AND OTHER PERISHABLE MATERIAL. EXCAVATED EARTH MATERIAL DEEMED SATISFACTORY BY THE ENGINEER SHALL BE USED FOR EARTH FILL OR TOPSOIL. STRIPPED MATERIAL SUITABLE FOR TOPSOIL SHALL BE STOCKPILED AND SPREAD, AS SPECIFIED IN THESE SPECIFICATIONS.
- STRIPPING EXCAVATION FOR FOUNDATIONS SHALL EXTEND TO CONSOLIDATED SUBSOIL AND SHALL BE LEFT AS REASONABLY SMOOTH SURFACES FREE OF UNCONSOLIDATED OR LOOSE SOIL. UNLESS OTHERWISE SHOWN ON THE DRAWINGS, FOUNDATION SLOPES SHALL BE EXCAVATED TO ONE TO ONE, OR FLATTER, SLOPES.
- THE CONTRACTOR SHALL MAINTAIN THE SITE AND CONDUCT EARTHWORK OPERATIONS TO ENSURE THAT THE PROPERTY HAS PROPER DRAINAGE AT ALL TIMES AND REQUIRED EROSION CONTROL IS IN PLACE.
- WHEN EMBANKMENTS, REGARDLESS OF HEIGHT, ARE PLACED AGAINST HILLSIDES OR EXISTING EMBANKMENTS HAVING A SLOPE STEEPER THAN 1 VERTICAL TO 4 HORIZONTAL, THE EXISTING SLOPE SHALL BE BENCHMARKED OR STEPPED IN APPROXIMATELY 24 INCH RISES. FILL SHALL BE BROUGHT UP IN 6 INCH MAXIMUM LIFTS. THE MATERIAL BLADED OUT AND THE BOTTOM AREA CUT TO FORM BENCHES AND THE EMBANKMENT MATERIAL BEING PLACED SHALL BE COMPACTED TO THE SPECIFIED DENSITY FORMATION AND COMPACTION OF BENCHES SHALL NOT BE MEASURED AND PAID FOR DIRECTLY BUT WILL BE CONSIDERED INCIDENTAL WORK.
- FILL: WHEN PLACING FILL, PLACE IN SUCCESSIVE HORIZONTAL LIFTS UNIFORMLY DISTRIBUTED OVER THE FULL WIDTH OF THE FILL AREA. EACH LIFT SHALL NOT EXCEED 6 INCHES IN LOOSE THICKNESS AND SHALL BE COMPACTED ACCORDING TO THE REQUIREMENTS FOR THAT PARTICULAR FILL. AS COMPACTION OF EACH LAYER PROGRESSES, CONTINUOUS BLADING AND DOZING WILL BE REQUIRED TO LEVEL THE SURFACE AND INSURE UNIFORM COMPACTION.
- EXCAVATED SOILS CONSISTING OF SILT AND CLAY SHALL BE DEEMED SATISFACTORY FOR EARTH FILL TO THE EXTENT NEEDED. SANDY SOIL SHALL BE BLENDED TO PROVIDE FOR EARTH FILLS, OR BE WASTED AS DIRECTED BY THE ENGINEER. THE SELECTION, BLENDING, ROUTING, AND DISPOSITION OF MATERIAL SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND SUBJECT TO APPROVAL BY THE ENGINEER. FILL MATERIALS SHALL CONTAIN NO FROZEN MATERIAL, ICE, SNOW, SOD, BRUSH, ROOTS, OR OTHER PERISHABLE MATERIALS, OR ROCKS LARGER THAN FOUR INCHES IN DIAMETER. NO FILL SHALL BE PLACED ON A FROZEN SURFACE.
- PRIOR TO PLACEMENT OF FILL, THE ENTIRE AREA TO RECEIVE FILL SHALL BE ROLLED AND INSPECTED TO IDENTIFY ANY UNSUITABLE SOILS THAT REQUIRE REMOVAL. UNSUITABLE MATERIALS SHALL BE OVEREXCAVATED TO A DEPTH OF 2 FEET. AFTER STRIPPING OR OVEREXCAVATING, THE FOUNDATION SHALL BE LOOSENEED THOROUGHLY BY SCARPING OR DISCING TO A MINIMUM DEPTH OF 6 INCHES. THE ENTIRE FOUNDATION AREA SHALL THEN BE COMPACTED TO THE DENSITY AND AT THE MOISTURE SPECIFIED FOR THE FILL.
- ALL FOUNDATION EXCAVATION AND/OR PREPARATION SHALL BE COMPLETED BEFORE PLACING FILL. THE FILL SHALL BE PLACED SUCH THAT THE DISTRIBUTION OF MATERIALS IS ESSENTIALLY UNIFORM THROUGHOUT THE ENTIRE FILL AND IS FREE FROM LENSES, POCKETS, STREAKS, OR LAYERS OF MATERIAL DIFFERING SUBSTANTIALLY FROM SURROUNDING MATERIAL.
- FILL SHALL BE PLACED AT WITHIN SPECIFIED MOISTURE CONTENTS. WHEN MATERIAL DEPOSITED ON THE FILL IS TOO DRY, WATER MAY BE ADDED TO THE FILL MATERIAL IN THE BORROW AREA, OR AFTER MATERIAL HAS BEEN BROUGHT ONTO THE FILL. ON THE FILL, UNIFORM MOISTURE DISTRIBUTION SHALL BE OBTAINED BY DISCING, BLADING, OR OTHER APPROVED METHODS. UNLESS OTHERWISE SPECIFIED ON THE PLANS, THE FILL SHALL BE COMPACTED TO THE FOLLOWING SPECIFICATIONS AS DETERMINED BY ASTM-D-698.
ROCKS WITH A DIAMETER LARGER THAN 4 INCHES SHALL BE SEGREGATED AND USED IN FILL PLACEMENT BEYOND THE 1:1 BACKSLOPE. TOE-IN OF STRUCTURAL FILL OR ROCKS CAN BE SEGREGATED AND USED AS EROSION PROTECTION ELSEWHERE ON THE FARM. NO ROCKS GREATER THAN 4 INCHES IN DIAMETER CAN BE UTILIZED IN STORAGE POND FILL.
- COMPACTION OF FILL ADJACENT TO CONCRETE COLUMNS, WALLS OR FLATWORK SHALL NOT BE STARTED UNTIL SEVEN DAYS HAVE ELAPSED AFTER PLACEMENT.
- "NOT USED"
- IN AREAS TO BE SEEDDED OR SODDED, THE UPPER 12 INCHES SHALL BE EARTH MATERIAL AND THE TOP SIX INCHES SUITABLE FOR SUSTAINING GRASS.
- BUILDING SLAB GRADES SHALL BE WITHIN PLUS 0.1 FOOT FROM REQUIRED ELEVATIONS.
- PIPE TRENCH BOTTOMS SHALL BE UNIFORM SO THAT THE PIPE WILL LAY ON THE BOTTOM WITHOUT BRIDGING. CLODS, ROCKS, AND UNEVEN SPOTS WHICH COULD DAMAGE OR CAUSE NON-UNIFORM SUPPORT TO THE PIPE SHALL BE REMOVED. WHERE ROCKS, BOULDERS, OR ANY OTHER MATERIAL WHICH MIGHT DAMAGE PIPE ARE ENCOUNTERED, THE TRENCH BOTTOM SHALL BE UNDERCUT A MINIMUM OF 4 INCHES BELOW FINAL COMPACTED FINE-GRAINED SOILS. PROVISIONS SHALL BE MADE TO INSURE SAFE WORKING CONDITIONS WHERE UNSTABLE SOIL, TRENCH DEPTH, OR OTHER CONDITIONS ARE SUCH AS TO IMPOSE SAFETY HAZARD TO PERSONNEL WORKING IN THE TRENCH.
- PIPE SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS. INITIAL PIPE BACKFILL SHALL BE OF SELECTED MATERIAL FREE FROM SHARP EDGE ROCKS, STONES, OR CLODS. CARE SHALL BE TAKEN TO AVOID DEFORMATION OR DISPLACEMENT OF THE PIPE DURING INITIAL BACKFILL OPERATION. THE REMAINDER OF THE BACKFILL SHALL BE PLACED AND SPREAD IN APPROXIMATELY UNIFORM LAYERS IN SUCH A MANNER AS TO COMPLETELY FILL THE TRENCH SO THAT THERE WILL BE NO UNFILLED SPACES IN THE BACKFILL. MOUND THE BACKFILL SOIL TO REPLACE THE SOIL REMOVED FROM THE TRENCH.
- POLY VINYL CHLORIDE (PVC) SEWER PIPE: POLY VINYL CHLORIDE SEWER PIPE SHALL CONFORM TO ASTM D-3034 AND HAVE A MINIMUM WALL THICKNESS CONFORMING TO SDR-35.
 - FLEXIBLE GASKET JOINTS FOR PVC PIPE AND FITTINGS SHALL BE COMPRESSION TYPE JOINTS WITH THE GASKET CONFINED IN EITHER THE SPIGOT OR THE BELL END OF THE PIPE. RUBBER GASKET RINGS SHALL BE NEOPRENE OR OTHER SYNTHETIC MATERIAL AND CONFORM TO ASTM D-1869. NATURAL RUBBER GASKETS WILL NOT BE ACCEPTABLE.
 - FITTINGS FOR PVC SEWER PIPE SUCH AS TEE CONNECTIONS SHALL BE SADDLE TYPE FITTINGS OF PVC PLASTIC.
- CLEANOUT JOINTS SHALL BE PLACED IN CONCRETE TO PREVENT ANY VERTICAL FORCES FROM BLOWING JOINTS APART.
- CONCRETE USED FOR EMBEDMENT AND ENCASEMENT SHALL HAVE A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 3000 PSI.
- THE CONTRACTOR SHALL REMOVE ANY WATER WHICH MAY ACCUMULATE IN THE TRENCHES PRIOR TO BACKFILLING.
- PIPE INSTALLATION SHALL BE IN ACCORDANCE WITH APPLICABLE STANDARDS, SUCH AS ASTM C-12, D-2321 AND ANSI/AWWA C600.

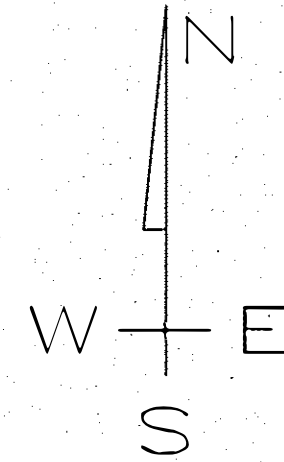
APS/A-2

FARROW TO WEAN

COMPLEX ADDITION



GENERAL LOCATION MAP
ATCHISON COUNTY, MISSOURI
SEC. 8, T64N, R38W



SHEET LEGEND

- | | | |
|---------|---|-----------------------------|
| SHEET 1 | - | COVER SHEET |
| SHEET 2 | - | GENERAL LAYOUT |
| SHEET 3 | - | GRADING PLAN & STAKING DATA |
| SHEET 4 | - | AERIAL MAP |

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APS/A-2
FARROW TO WEAN COMPLEX ADDITION
COUNTY ROAD 250 ATCHISON CO. MO.

SHEET TITLE:
COVER SHEET

FILE NAME

APS2

DRAWN BY

DPT

CHECKED BY

TRD

PROJECT ENGINEER

JEB

DATE

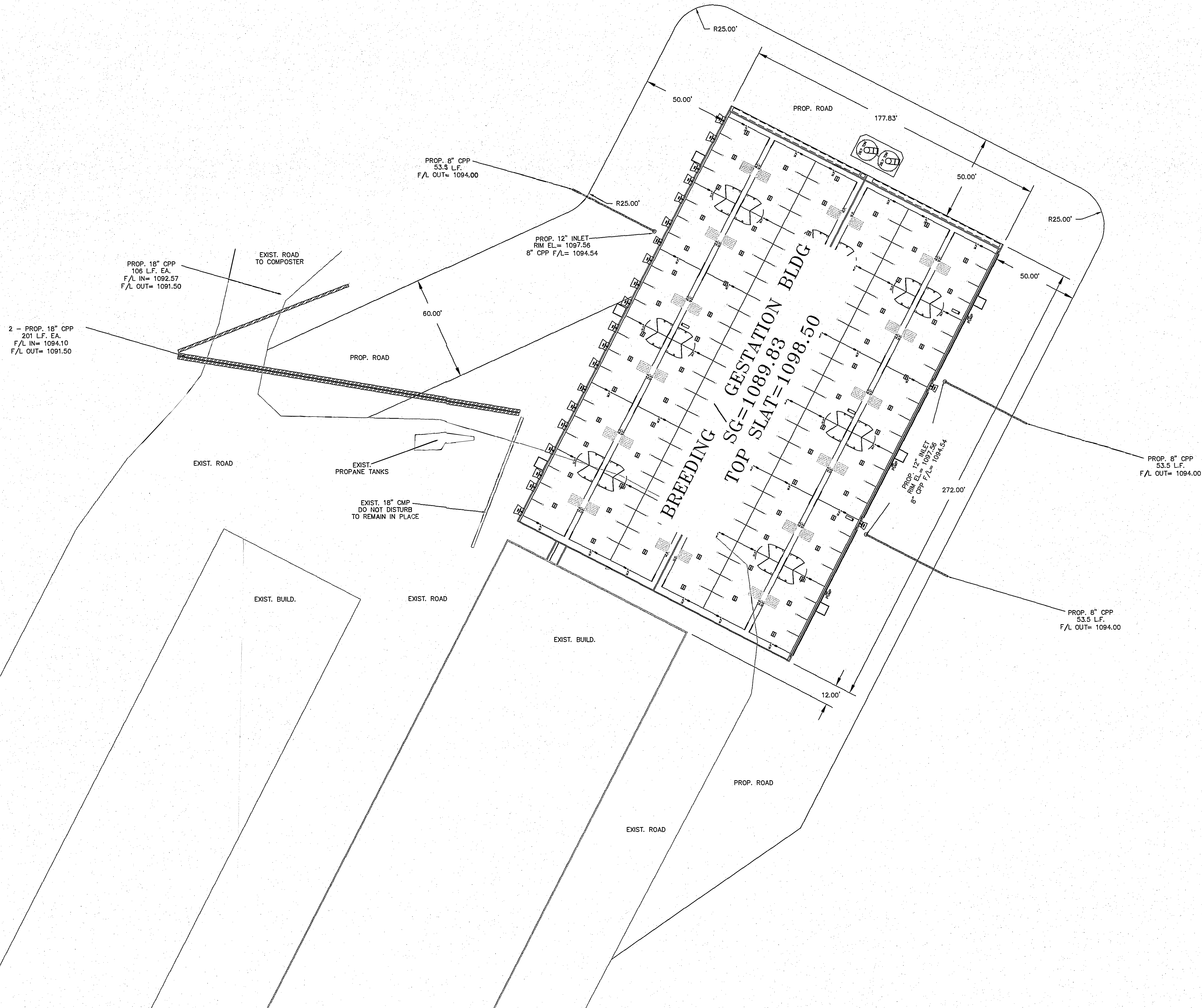
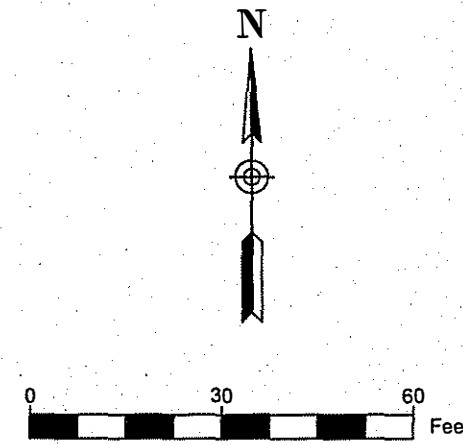
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JOB NUMBER

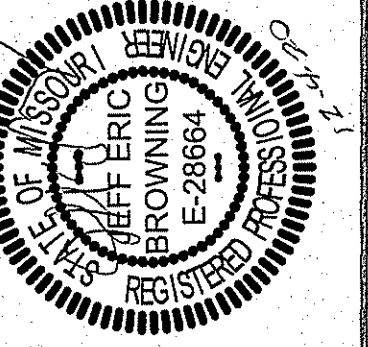
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SHEET NUMBER

1 of 4



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APS/A-2
FARROW TO WEAN COMPLEX ADDITION
COUNTY ROAD 250 ATCHISON CO. MO.

SHEET TITLE:
GENERAL LAYOUT

FILE NAME
APS2

DRAWN BY
DPT

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TRD

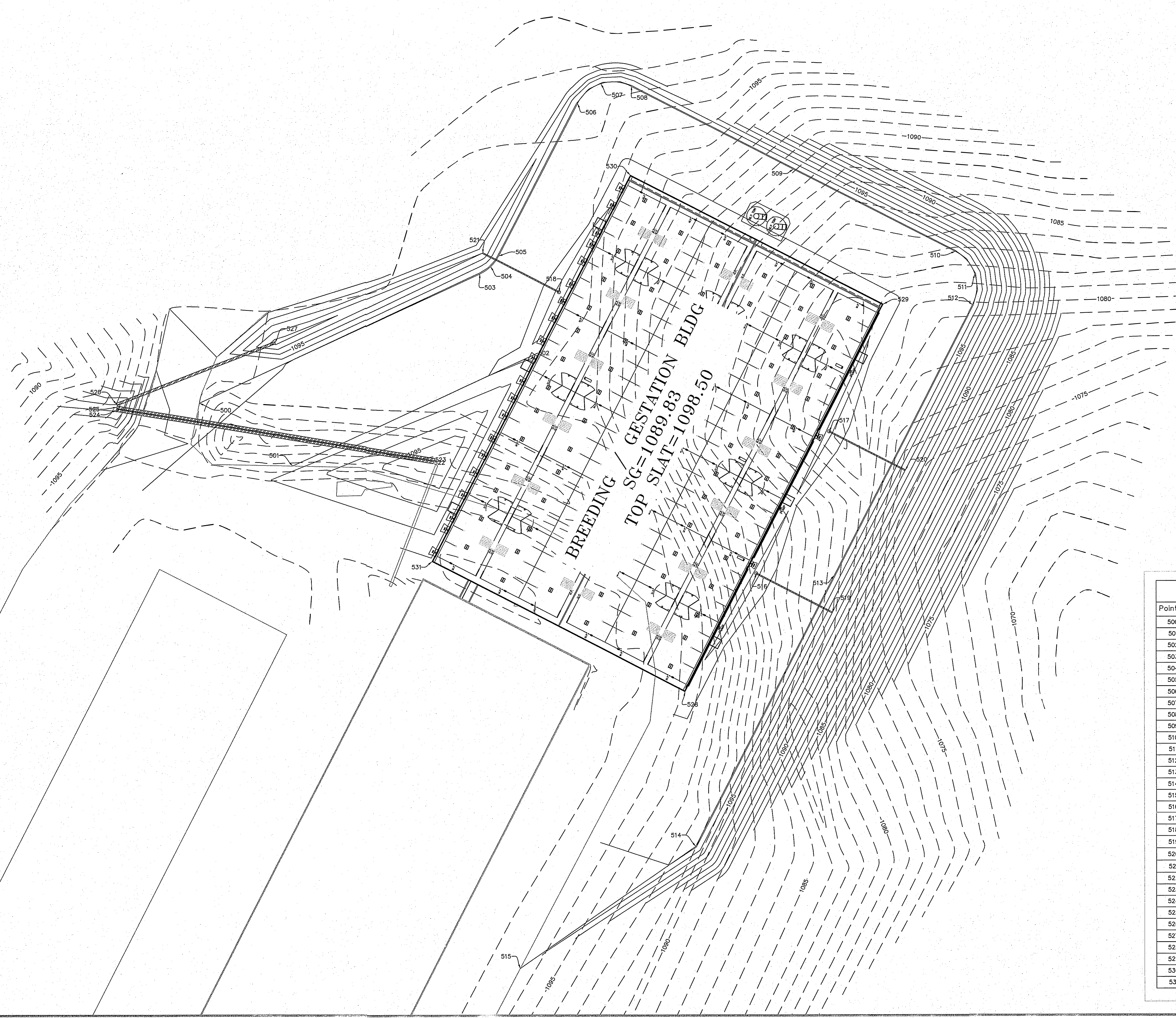
PROJECT ENGINEER
JEB

DATE
12-04-20

JOB NUMBER
20-3937

SHEET NUMBER

2 of 4



Point Table				
Point #	Elevation	Northing	Easting	Description
500	1096.99	1530393.51	2590013.75	EDGE OF ROAD
501	1097.33	1530354.26	2590072.04	EDGE OF ROAD
502	1098.17	1530424.81	2590225.68	EDGE OF ROAD
503	1097.18	1530474.19	2590189.42	EDGE OF ROAD
504	1097.18	1530478.84	2590196.27	EDGE OF ROAD
505	1097.18	1530485.47	2590201.22	EDGE OF ROAD
506	1097.18	1530581.64	2590250.70	EDGE OF ROAD
507	1097.11	1530594.01	2590265.30	EDGE OF ROAD
508	1097.18	1530592.43	2590284.37	EDGE OF ROAD
509	1097.18	1530540.31	2590385.66	EDGE OF ROAD
510	1097.18	1530488.20	2590486.96	EDGE OF ROAD
511	1097.17	1530473.60	2590499.33	EDGE OF ROAD
512	1097.18	1530454.53	2590497.75	EDGE OF ROAD
513	1097.18	1530285.67	2590410.88	EDGE OF ROAD
514	1097.18	1530116.82	2590324.00	EDGE OF ROAD
515	1096.36	1530040.77	2590214.06	EDGE OF ROAD
516	1097.56	1530287.02	2590362.13	TOP INLET
517	1097.56	1530375.94	2590407.88	TOP INLET
518	1097.56	1530462.82	2590239.00	TOP INLET
519	1094.00	1530262.54	2590409.70	END 8"PPC
520	1094.00	1530351.46	2590455.45	END 8"PPC
521	1094.00	1530487.30	2590191.43	END 8"PPC
522	1094.10	1530356.75	2590160.28	FL 18 IN CMP
523	1094.10	1530358.56	2590160.97	FL 18 IN CMP
524	1091.50	1530389.24	2589961.77	FL 18 IN CMP
525	1091.50	1530391.11	2589962.07	FL 18 IN CMP
526	1091.50	1530392.94	2589962.02	FL 18 IN CMP
527	1092.57	1530431.03	2590061.08	FL 18 IN CMP
528	1098.50	1530213.31	2590317.41	BLDG CORNER
529	1098.50	1530455.17	2590441.85	BLDG CORNER
530	1098.50	1530536.53	2590283.72	BLDG CORNER
531	1098.50	1530294.67	2590159.28	BLDG CORNER

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ALLIED ENGINEERING SERVICES, LLC
Engineering-Surveying-Construction

P.O. BOX 22
SILEX, MO 63377
PHONE: (573) 324-6860

APS/A-2

FARROW TO WEAN COMPLEX ADDITION
COUNTY ROAD 250 ATCHISON CO. MO.

SHEET TITLE:
GRADING PLAN & STAKING DATA

FILE NAME
APS2

DRAWN BY
DPT

CHECKED BY
TRD

PROJECT ENGINEER
JEB

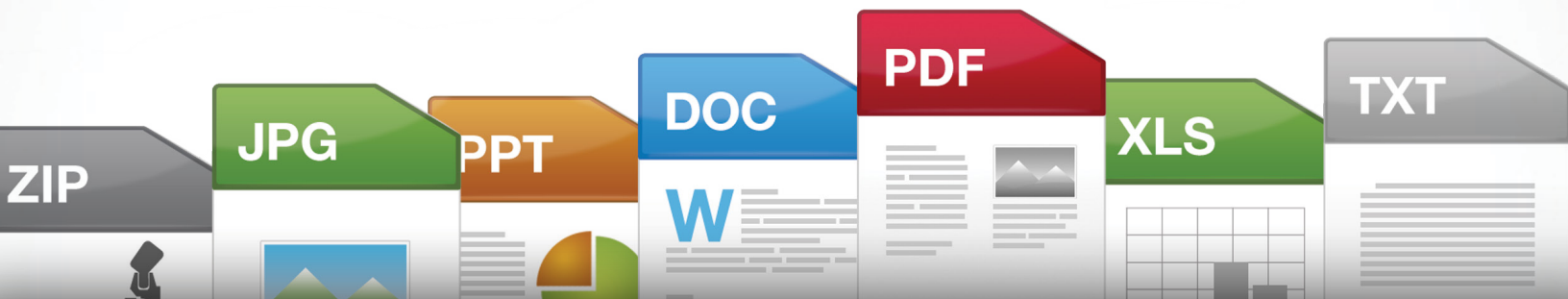
DATE
12-04-20

JOB NUMBER
20-3937

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3 of 4

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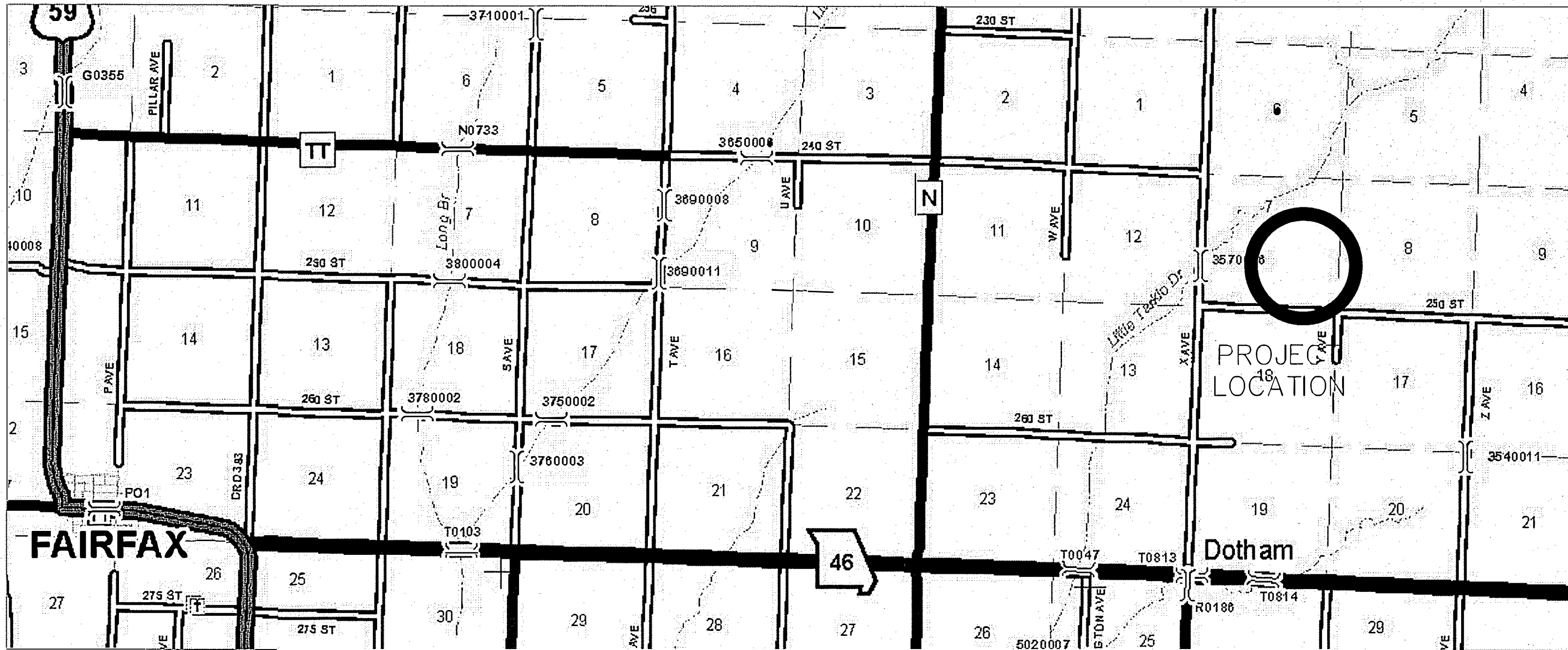
SPECIFICATIONS:

- ELEVATIONS SHOWN ON THIS PLAN ARE BASED ON AN ASSUMED BENCH-MARK ELEVATION AND DO NOT REPRESENT MEAN SEA LEVEL DATUM.
- THE CONTRACTOR SHALL VERIFY THE LOCATION AND DEPTH OF ALL UTILITIES A MINIMUM OF 24 HOURS PRIOR TO CONSTRUCTION. THE CONTRACTOR MAY UTILIZE THE TOLL FREE NUMBER FOR THE "MISSOURI ONE CALL SYSTEM, INC." 1-(800)-DIG-RITE.
- LOCATE, IDENTIFY, AND PROTECT UTILITIES THAT REMAIN FROM DAMAGE. IF ANY UTILITY IS DAMAGED THROUGH THE CARELESSNESS OR NEGLIGENT ACTIONS OF THE CONTRACTOR, THE UTILITY SHALL BE REPAIRED BY ITS OWNER AT AT THE CONTRACTOR'S EXPENSE.
- IT IS THE GRADING CONTRACTOR'S RESPONSIBILITY TO PERFORM ALL GRADING OPERATIONS IN ACCORDANCE WITH THIS PLAN. ANY DEVIATION FROM THIS PLAN MUST BE APPROVED BY THE ENGINEER PRIOR TO MAKING SUCH CHANGE. GRADES SHOWN ON THE BUILDING PADS DO NOT ACCOUNT FOR FINAL BERMING AT THE BUILDINGS.
- BUILDING PAD ELEVATIONS SHOWN ON THIS DRAWING REPRESENT TOP OF SUBGRADE. SEE PAD CROSS SECTION ON DETAIL SHEET FOR GRADE REFERENCE POINT. THE PAD SIDE SLOPES SHALL BE 3:1 UNLESS NOTED OTHERWISE ON THE DRAWING.
- ANY NEW WATER SUPPLY WELLS PLACED ON THE SITE MUST BE A MINIMUM OF 325 FEET FROM THE CLOSEST POINT OF THE LAGOON, AND 125 FEET FROM THE CLOSEST POINT OF AN ANIMAL CONFINEMENT BUILDING, OR SEWER LINE.
- THE SERVICE AREA IN FRONT OF THE BUILDINGS SHALL RECEIVE A LAYER OF GEOTEXTILE FABRIC TO A DISTANCE OF 35 FEET IN FRONT OF THE BUILDINGS LAD DISTANCE AT THE SEAM SHALL BE 1 FOOT. 3/4" ROAD STONE SHALL BE PLACED ON TOP OF THE MAT TO A DEPTH OF 4 INCHES. THE ROAD ACCESSING THE SERVICE AREA SHALL BE 18 FEET WIDE WITH SAME FABRIC AND STONE TREATMENT.
- STRIPPING EXCAVATION SHALL EXTEND TO A DEPTH SUFFICIENT TO EXPOSE SUBSOIL REASONABLY FREE OF ROOTS AND OTHER PERISHABLE MATERIAL. EXCAVATED EARTH MATERIAL DEEMED SATISFACTORY BY THE ENGINEER SHALL BE USED FOR EARTH FILL OR TOPSOIL. STRIPPED MATERIAL SUITABLE FOR TOPSOIL SHALL BE STOCKPILED AND SPREAD, AS SPECIFIED IN THESE SPECIFICATIONS.
- STRIPPING EXCAVATION FOR FOUNDATIONS SHALL EXTEND TO CONSOLIDATED SUBSOIL AND SHALL BE LEFT AS REASONABLY SMOOTH SURFACES FREE OF UNCONSOLIDATED OR LOOSE SOIL. UNLESS OTHERWISE SHOWN ON THE DRAWINGS, FOUNDATION SLOPES SHALL BE EXCAVATED TO ONE TO ONE, OR FLATTER, SLOPES.
- THE CONTRACTOR SHALL MAINTAIN THE SITE AND CONDUCT EARTHWORK OPERATIONS TO ENSURE THAT THE PROPERTY HAS PROPER DRAINAGE AT ALL TIMES AND REQUIRED EROSION CONTROL IS IN PLACE.
- WHEN EMBANKMENTS, REGARDLESS OF HEIGHT, ARE PLACED AGAINST HILLSIDES OR EXISTING EMBANKMENTS HAVING A SLOPE STEEPER THAN 1 VERTICAL TO 4 HORIZONTAL, THE EXISTING SLOPE SHALL BE BENCHED OR STEPPED IN APPROXIMATELY 24 INCH RISERS. FILL SHALL BE BROUGHT UP IN 6 INCH MAXIMUM LIFTS. THE MATERIAL BLADED OUT AND THE BOTTOM AREA CUT TO FORM BENCHES AND THE EMBANKMENT MATERIAL BEING PLACED SHALL BE COMPACTED TO THE SPECIFIED DENSITY. FORMATION AND COMPACTION OF BENCHES SHALL NOT BE MEASURED AND PAID FOR DIRECTLY BUT WILL BE CONSIDERED INCIDENTAL WORK.
- FILL: WHEN PLACING FILL, PLACE IN SUCCESSIVE HORIZONTAL LIFTS UNIFORMLY DISTRIBUTED OVER THE FULL WIDTH OF THE FILL AREA. EACH LIFT SHALL NOT EXCEED 8 INCHES IN LOOSE THICKNESS AND SHALL BE COMPACTED ACCORDING TO THE REQUIREMENTS FOR THAT PARTICULAR FILL. AS COMPACTION OF EACH LAYER PROGRESSES, CONTINUOUS BLADING AND DOZING WILL BE REQUIRED TO LEVEL THE SURFACE AND INSURE UNIFORM COMPACTION.
- EXCAVATED SOILS CONSISTING OF SILT AND CLAY SHALL BE DEEMED SATISFACTORY FOR EARTH FILL TO THE EXTENT NEEDED. SANDY SOIL SHALL BE BLENDED TO PROVIDE FOR EARTH FILLS, OR BE WASTED AS DIRECTED BY THE ENGINEER. THE SELECTION, BLENDING, ROUTING, AND DISPOSITION OF MATERIAL SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND SUBJECT TO APPROVAL BY THE ENGINEER. FILL MATERIALS SHALL CONTAIN NO FROZEN MATERIAL, ICE, SNOW, SOD, BRUSH, ROOTS, OR OTHER PERISHABLE MATERIALS, OR ROCKS LARGER THAN FOUR INCHES IN DIAMETER. NO FILL SHALL BE PLACED ON A FROZEN SURFACE.
- PRIOR TO PLACEMENT OF FILL, THE ENTIRE AREA TO RECEIVE FILL SHALL BE ROLLED AND INSPECTED TO IDENTIFY ANY UNSUITABLE SOILS THAT REQUIRE REMOVAL. UNSUITABLE MATERIALS SHALL BE OVEREXCAVATED TO A DEPTH OF 2 FEET. AFTER STRIPPING OR OVEREXCAVATING, THE FOUNDATION SHALL BE LOOSENEED THOROUGHLY BY SCOURING OR DISCING TO A MINIMUM DEPTH OF 6 INCHES. THE ENTIRE FOUNDATION AREA SHALL THEN BE COMPACTED TO THE DENSITY AND AT THE MOISTURE SPECIFIED FOR THE FILL.
- ALL FOUNDATION EXCAVATION AND/OR PREPARATION SHALL BE COMPLETED BEFORE PLACING FILL. THE FILL SHALL BE PLACED SUCH THAT THE DISTRIBUTION OF MATERIAL IS ESSENTIALLY UNIFORM THROUGHOUT THE ENTIRE FILL AND IS FREE FROM LENSES, POCKETS, STREAKS, OR LAYERS OF MATERIAL DIFFERING SUBSTANTIALLY FROM SURROUNDING MATERIAL.
- FILL SHALL BE PLACED AT WITHIN SPECIFIED MOISTURE CONTENTS. WHEN MATERIAL DEPOSITED ON THE FILL IS TOO DRY, WATER MAY BE ADDED TO THE FILL MATERIAL IN THE BORROW AREA, OR AFTER MATERIAL HAS BEEN BROUGHT ONTO THE FILL. ON THE FILL, UNIFORM MOISTURE DISTRIBUTION SHALL BE OBTAINED BY DISCING, BLADING, OR OTHER APPROVED METHODS. UNLESS OTHERWISE SPECIFIED ON THE PLANS, THE FILL SHALL BE COMPACTED TO THE FOLLOWING SPECIFICATIONS AS DETERMINED BY ASTM-D-698.
ROCKS WITH A DIAMETER LARGER THAN 4 INCHES SHALL BE SEGREGATED AND USED IN FILL PLACEMENT BEYOND THE 1:1 BACKSLOPE TOE-IN OF STRUCTURAL FILL OR ROCKS CAN BE SEGREGATED AND USED AS EROSION PROTECTION ELSEWHERE ON THE FARM. NO ROCKS GREATER THAN 4 INCHES IN DIAMETER CAN BE UTILIZED IN STORAGE POND FILL.
- COMPACTION OF FILL ADJACENT TO CONCRETE COLUMNS, WALLS OR FLATWORK SHALL NOT BE STARTED UNTIL SEVEN DAYS HAVE ELAPSED AFTER PLACEMENT.
- "NOT USED"
- IN AREAS TO BE SEEDED OR SODDED, THE UPPER 12 INCHES SHALL BE EARTH MATERIAL AND THE TOP SIX INCHES SUITABLE FOR SUSTAINING GRASS.
- BUILDING SLAB GRADES SHALL BE WITHIN PLUS 0.1 FOOT FROM REQUIRED ELEVATIONS.
- PIPE TRENCH BOTTOMS SHALL BE UNIFORM SO THAT THE PIPE WILL LAY ON THE BOTTOM WITHOUT BRIDGING. CLOUDS, ROCKS, AND UNEVEN SPOTS WHICH COULD DAMAGE OR CAUSE NON-UNIFORM SUPPORT TO THE PIPE SHALL BE REMOVED. WHERE ROCKS, BOULDERS, OR ANY OTHER MATERIAL WHICH MIGHT DAMAGE PIPE ARE ENCOUNTERED, THE TRENCH BOTTOM SHALL BE UNDERCUT A MINIMUM OF 4 INCHES BELOW FINAL COMPACTED FINE-GRAINED SOILS. PROVISIONS SHALL BE MADE TO INSURE SAFE WORKING CONDITIONS WHERE UNSTABLE SOIL, TRENCH DEPTH, OR OTHER CONDITIONS ARE SUCH AS TO IMPOSE SAFETY HAZARD TO PERSONNEL WORKING IN THE TRENCH.
- PIPE SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS. INITIAL PIPE BACKFILL SHALL BE OF SELECTED MATERIAL FREE FROM SHARP EDGE ROCKS, STONES, OR CLOUDS. CARE SHALL BE TAKEN TO AVOID DEFORMATION OR DISPLACEMENT OF THE PIPE DURING INITIAL BACKFILL OPERATION. THE REMAINDER OF THE BACKFILL SHALL BE PLACED AND SPREAD IN APPROXIMATELY UNIFORM LAYERS IN SUCH A MANNER AS TO COMPLETELY FILL THE TRENCH SO THAT THERE WILL BE NO UNFILLED SPACES IN THE BACKFILL. MOUND THE BACKFILL SO TO REPLACE THE SOIL REMOVED FROM THE TRENCH.
- POLY VINYL CHLORIDE (PVC) SEWER PIPE: POLY VINYL CHLORIDE SEWER PIPE SHALL CONFORM TO ASTM D-3034 AND HAVE A MINIMUM WALL THICKNESS CONFORMING TO SDR-35.
 - FLEXIBLE GASKET JOINTS FOR PVC PIPE AND FITTINGS SHALL BE COMPRESSION TYPE JOINTS WITH THE GASKET CONFINED IN EITHER THE SPIGOT OR THE BELL END OF THE PIPE. RUBBER GASKET RINGS SHALL BE NEOPRENE OR OTHER SYNTHETIC MATERIAL AND CONFORM TO ASTM D-1869. NATURAL RUBBER GASKETS WILL NOT BE ACCEPTABLE.
 - FITTINGS FOR PVC SEWER PIPE SUCH AS TEE CONNECTIONS SHALL BE SADDLE TYPE FITTINGS OF PVC PLASTIC.
- CLEANOUT JOINTS SHALL BE PLACED IN CONCRETE TO PREVENT ANY VERTICAL FORCES FROM BLOWING JOINTS APART.
- CONCRETE USED FOR EMBEDMENT AND ENCASEMENT SHALL HAVE A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 3000 PSI.
- THE CONTRACTOR SHALL REMOVE ANY WATER WHICH MAY ACCUMULATE IN THE TRENCHES PRIOR TO BACKFILLING.
- PIPE INSTALLATION SHALL BE IN ACCORDANCE WITH APPLICABLE STANDARDS, SUCH AS ASTM C-12, D-2321 AND ANSI/AWWA C600.

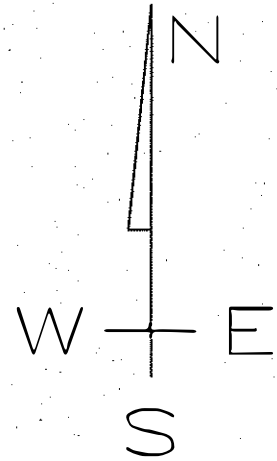
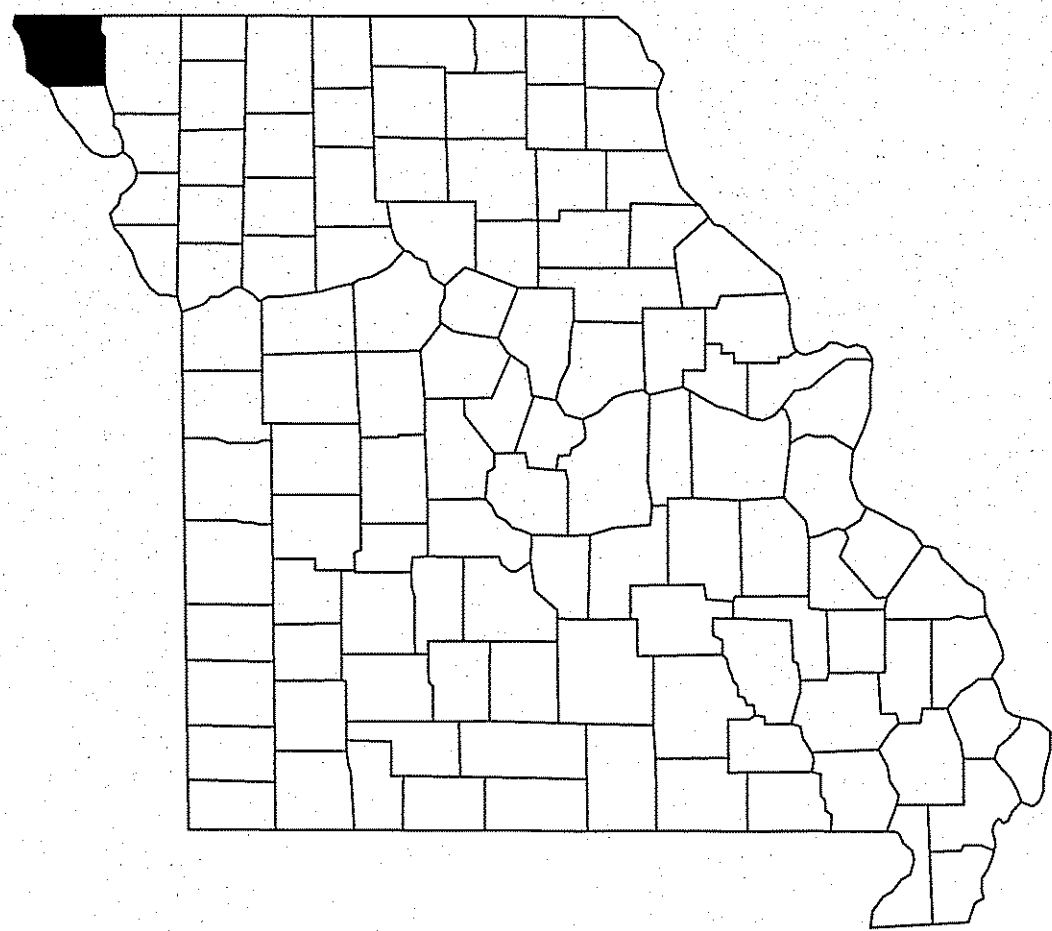
APS/A-3

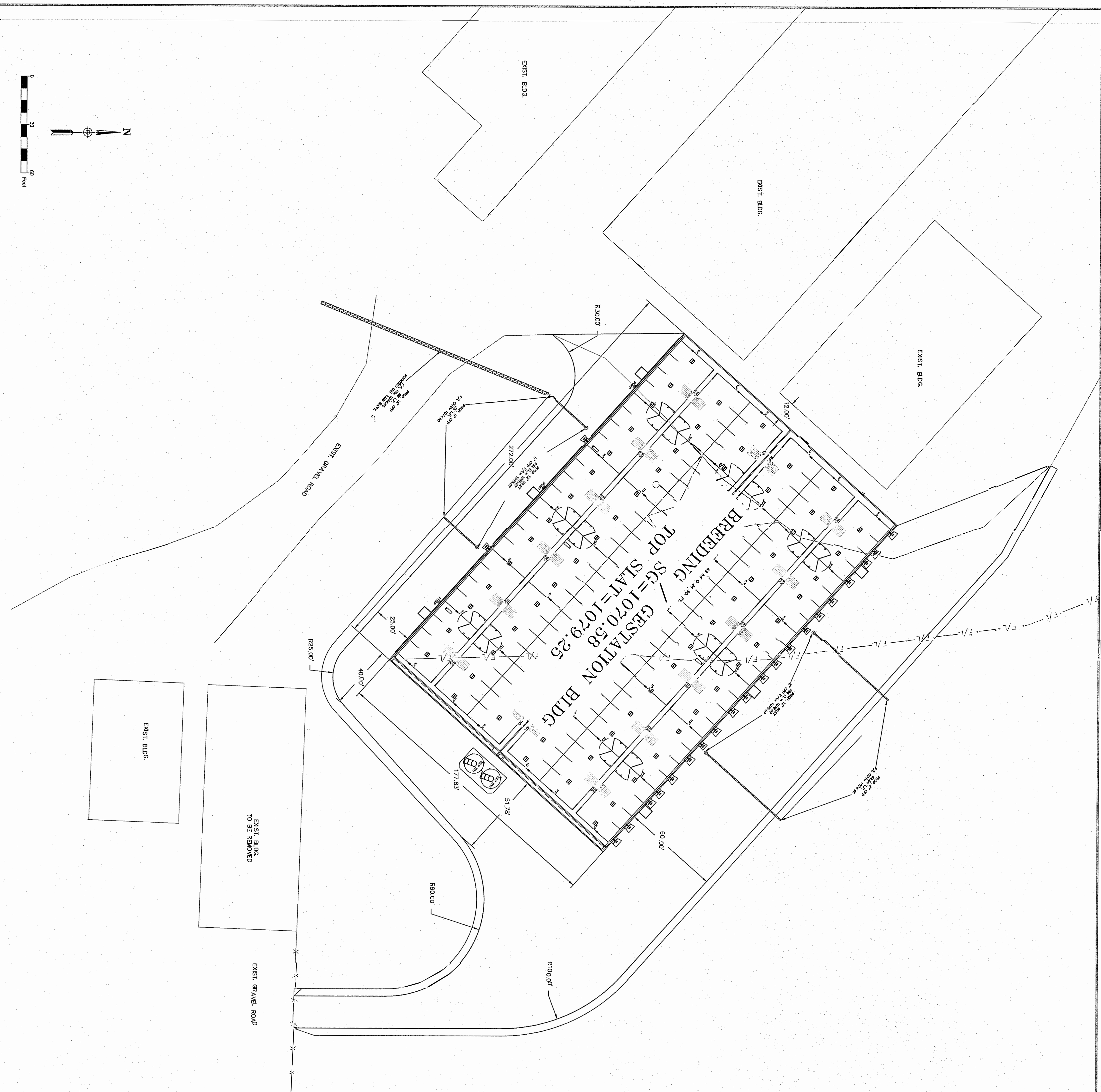
FARROW TO WEAN

COMPLEX ADDITION



GENERAL LOCATION MAP
ATCHISON COUNTY, MISSOURI
SEC. 7, T64N, R38W





SHEET TITLE:
GENERAL LAYOUT

Engineering-Surveying-Construction

P.O. BOX 22
SILEX, MO 63377
PHONE: (573) 324-6860



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FILE NAME

DRAWN BY:

DATE

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PROJECT ENGINEER

030

DATE _____

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20-397

SHEET NUMBER

2 of 4



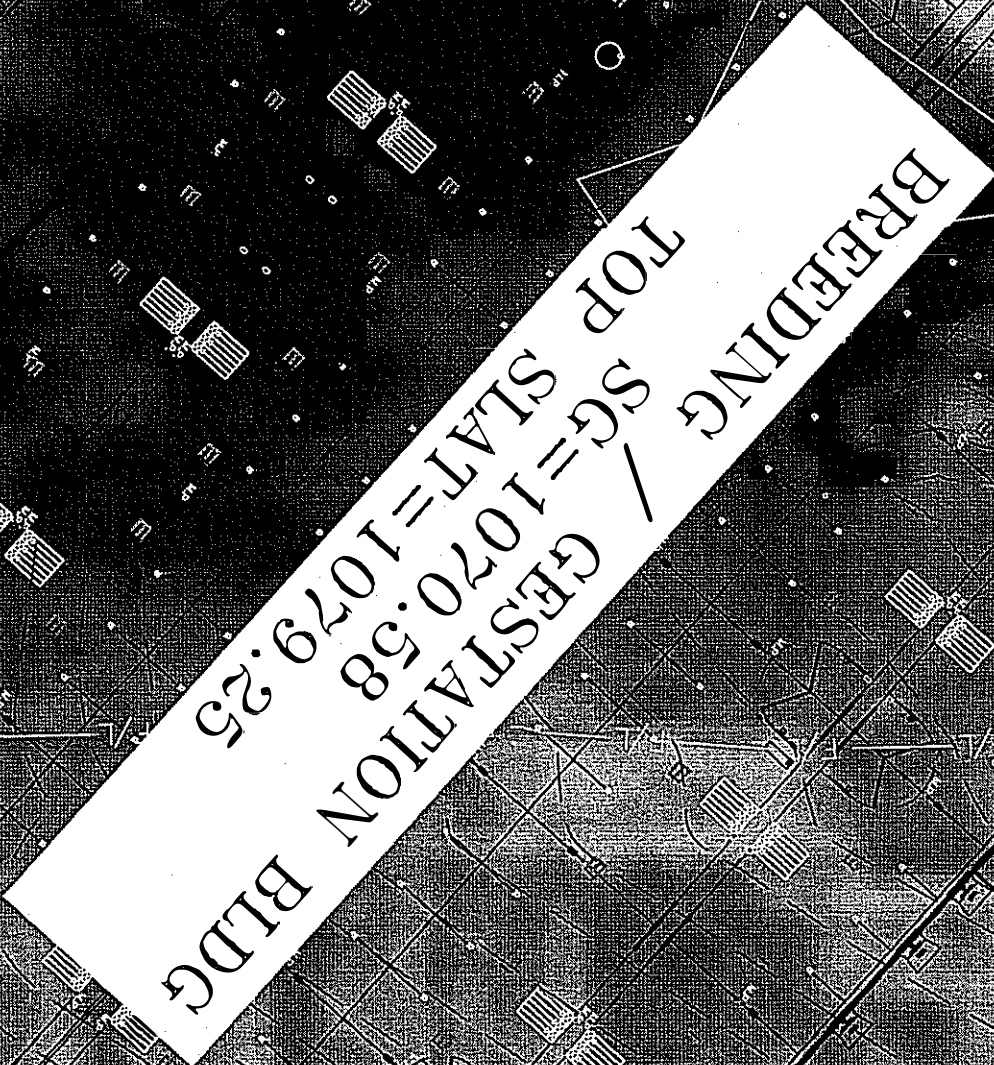
Point Table				
Point #	Elevation	Northing	Easting	Description
500	1079.25	1529580.46	2587867.36	BLDG CORNER
501	1079.25	1529713.13	2587985.77	BLDG CORNER
502	1079.25	1529894.25	2587782.85	BLDG CORNER
503	1079.25	1529761.58	2587664.43	BLDG CORNER
504	1078.07	1529701.13	2587723.08	TOP INLET
505	1078.07	1529634.48	2587797.63	TOP INLET
506	1078.07	1529842.82	2587849.55	TOP INLET
507	1078.07	1529776.29	2587924.21	TOP INLET
508	1074.45	1529822.95	2587965.79	F/L 8" CPP
509	1074.45	1529889.48	2587891.13	F/L 8" CPP
510	1074.80	1529680.26	2587704.42	F/L 8" CPP
511	1074.80	1529613.61	2587778.97	F/L 8" CPP
512	1074.80	1529677.35	2587702.41	F/L 24" CPP
513	1078.89	1529679.79	2587665.26	EOR
514	1077.55	1529693.84	2587689.58	EOR
515	1078.22	1529686.27	2587711.26	EOR
516	1078.22	1529551.92	2587861.78	EOR
517	1077.82	1529545.57	2587878.45	EOR
518	1077.77	1529551.95	2587895.10	EOR
519	1077.54	1529624.15	2587975.77	EOR
520	1082.65	1529634.22	2588040.27	EOR
521	1089.77	1529579.45	2588075.79	EOR
522	1094.84	1529522.41	2588075.79	EOR
523	1093.60	1529521.60	2588095.79	EOR
524	1084.10	1529650.57	2588095.79	EOR
525	1080.74	1529691.45	2588087.05	EOR
526	1077.39	1529725.18	2588062.38	EOR
527	1079.36	1529959.63	2587799.71	EOR
528	1079.20	1529989.45	2587745.29	EOR

ALLIED ENGINEERING SERVICES, LLC
Engineering-Surveying-Construction

APS/A-3
FARROW TO WEAN COMPLEX ADDITION
COUNTY ROAD 251 ATCHESON CO. MO.
SHEET TITLE:
RADING PLAN

FILE NAME
DRAWN BY DPT
CHECKED BY TRD
PROJECT ENGINEER JEB
DATE 01-04-21
JOB NUMBER 20-3937

SHEET NUMBER
3 of 4



SHEET TITLE:
AERIAL

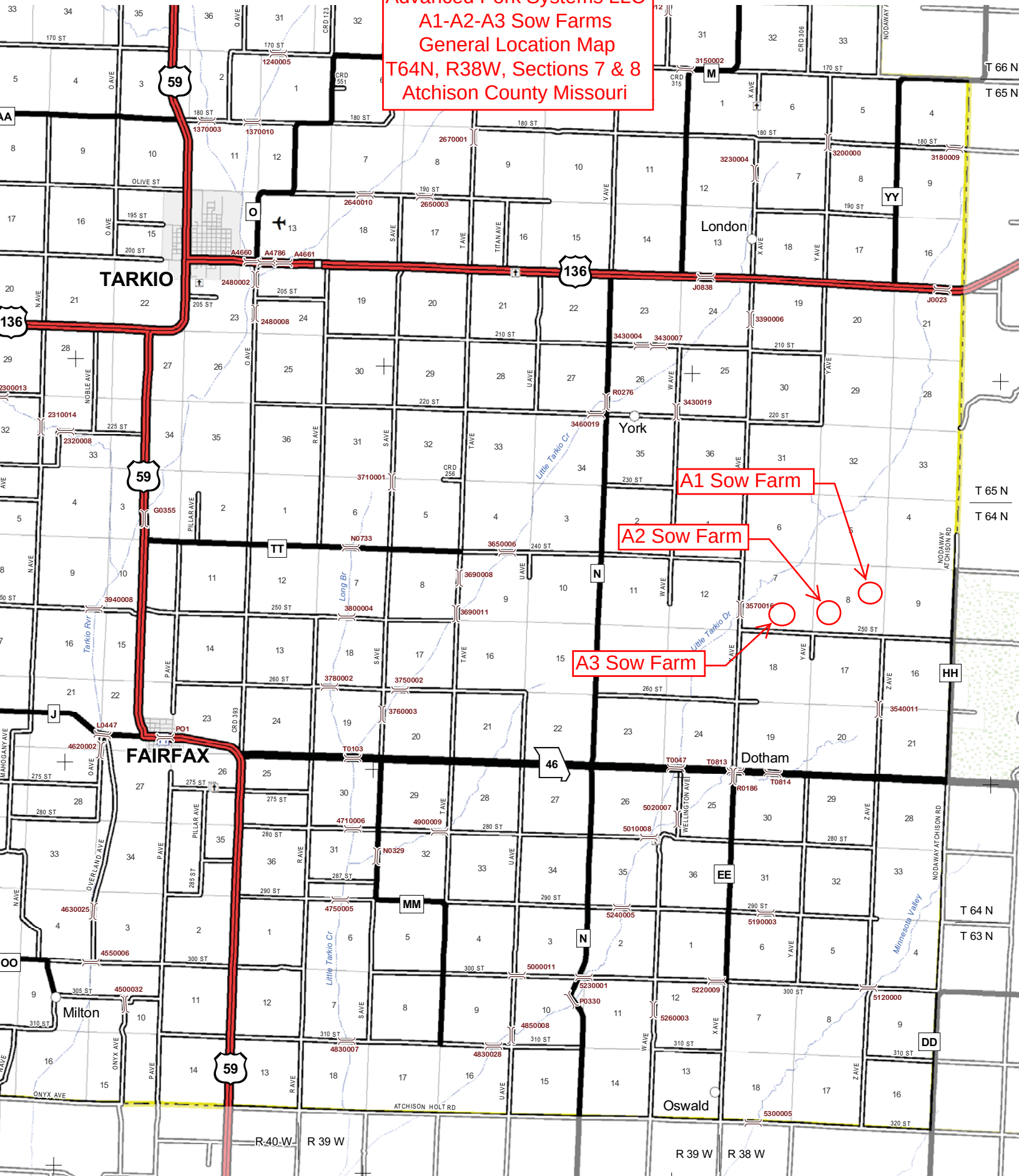
A circular professional engineer seal for the State of Missouri. The outer ring contains the text "STATE OF MISSOURI" at the top and "REGISTERED PROFESSIONAL ENGINEER" at the bottom. In the center, the name "JEFF ERIC BROWNING" is printed above the license number "E-28664". There is a handwritten "4-21" in the bottom right corner of the page.

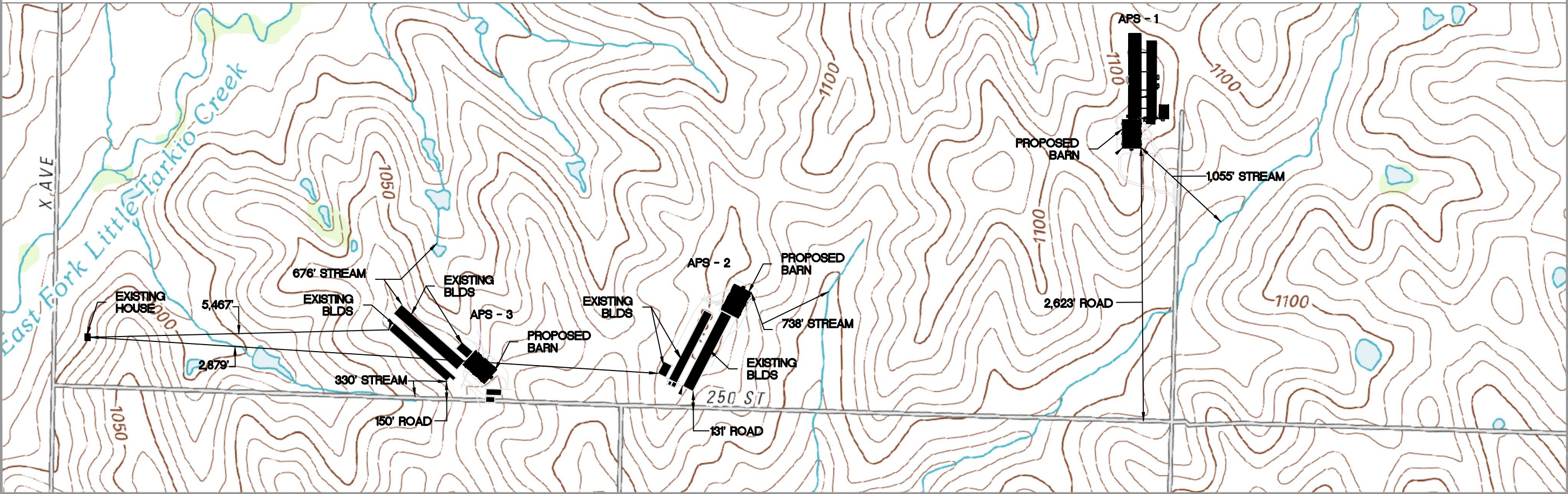
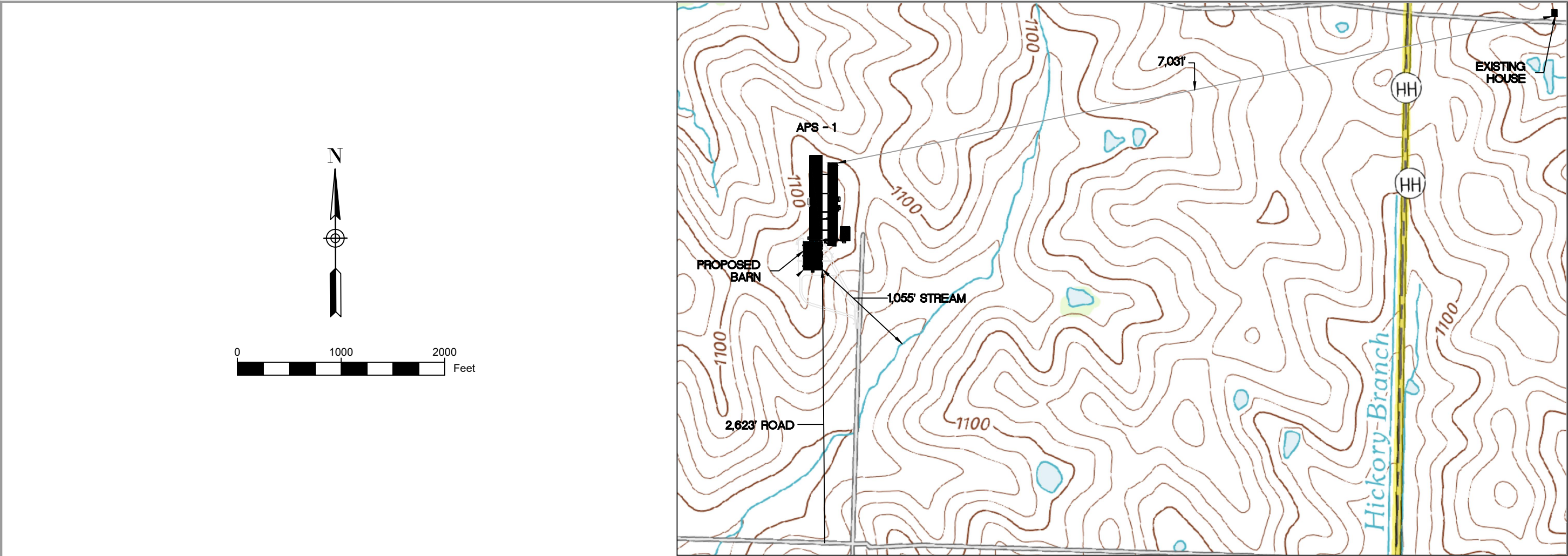
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SHEET NUMB.

4 of 4

Advanced Pork Systems LLC
A1-A2-A3 Sow Farms
General Location Map
T64N, R38W, Sections 7 & 8
Atchison County Missouri





ALLIED ENGINEERING SERVICES, LLC <i>Engineering-Surveying-Construction</i> P.O. BOX 22 SILEX, MO 63377 PHONE: (573) 324-6860	
ADVANCED PORK SYSTEMS A-1, A-2 & A-3	
SHEET TITLE: TOPOGRAPHIC MAP WITH FEATURES	
FILE NAME	
DRAWN BY TRD	
CHECKED BY TRD	
PROJECT ENGINEER JEB	
BOWLING GREEN DATE 1-19-21	
JOB NUMBER 20-3937	
SHEET NUMBER 1 of 1	