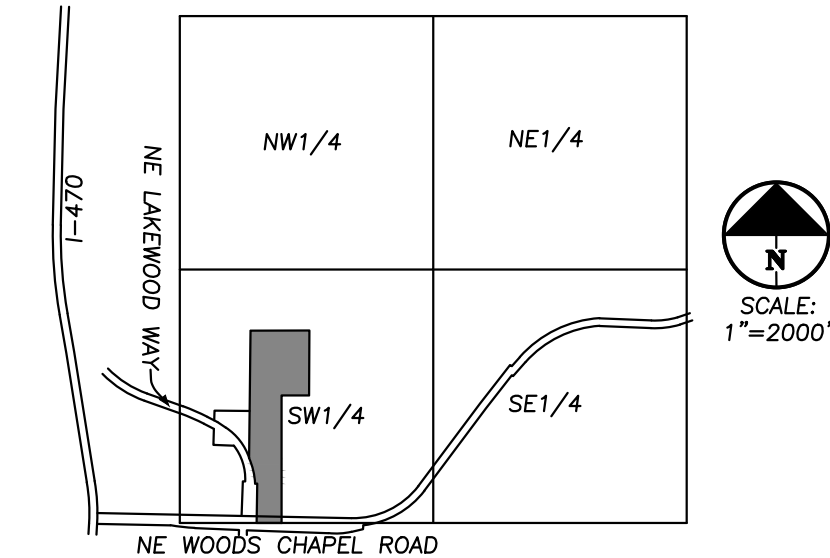


MASS GRADING AND EROSION SEDIMENT CONTROL PLANS  
FOR  
ORCHARD WOODS  
IN THE CITY OF LEE'S SUMMIT, JACKSON COUNTY, MISSOURI

PL2022322

PRSUBD 20230406



VICINITY MAP  
SEC. 9-48-31

LEGEND	
— PL —	PROPERTY LINE
— LOT —	LOT LINE
— R/W —	RIGHT-OF-WAY
=====	2' CURB & GUTTER
	ASPHALT PAVEMENT
	CONCRETE PAVEMENT
	CONCRETE SIDEWALK

GENERAL NOTES:

- ALL CONSTRUCTION TO FOLLOW THE CITY OF LEE'S SUMMIT DESIGN AND CONSTRUCTION MANUAL AS ADOPTED BY ORDINANCE 5813.
- ALL WORKMANSHIP AND MATERIALS SHALL BE SUBJECT TO THE INSPECTION AND APPROVAL OF THE ENGINEERING DEPARTMENT OF THE CITY OF LEE'S SUMMIT, MISSOURI.
- LINEAL FOOT MEASUREMENTS SHOWN ON THE PLANS ARE HORIZONTAL MEASUREMENTS, NOT SLOPE MEASUREMENTS. ALL PAYMENTS SHALL BE MADE ON HORIZONTAL MEASUREMENTS.
- NO GEOLOGICAL INVESTIGATION HAS BEEN PERFORMED ON THE SITE.
- THE UTILITY LOCATIONS SHOWN ON THESE PLANS ARE TAKEN FROM UTILITY COMPANY RECORDS AND APPARENT FIELD LOCATIONS. THE CONTRACTOR SHALL VERIFY THE LOCATION AND DEPTH OF ALL UTILITIES PRIOR TO CONSTRUCTION.
- THE CONTRACTOR SHALL ADHERE TO THE PROVISIONS OF THE SENATE BILL NUMBER 583, 78TH GENERAL ASSEMBLY OF THE STATE OF MISSOURI. THE BILL REQUIRES THAT ANY PERSON OR FIRM DOING EXCAVATION ON PUBLIC RIGHT OF WAY DO SO ONLY AFTER GIVING NOTICE TO, AND OBTAINING INFORMATION FROM, UTILITY COMPANIES. STATE LAW REQUIRES 48 HOURS ADVANCE NOTICE. THE CONTRACTOR MAY ALSO UTILIZE THE FOLLOWING TOLL FREE PHONE NUMBER PROVIDED BY "MISSOURI ONE CALL SYSTEM, INC.": 1-800-DIG-RITE. THIS PHONE NUMBER IS APPLICABLE ANYWHERE WITHIN THE STATE OF MISSOURI. PRIOR TO COMMENCEMENT OF WORK, THE CONTRACTOR SHALL NOTIFY ALL THOSE COMPANIES WHICH HAVE FACILITIES IN THE NEAR VICINITY OF THE CONSTRUCTION TO BE PERFORMED.
- PRIOR TO ORDERING PRECAST STRUCTURES, SHOP DRAWING SHALL BE SUBMITTED TO THE DESIGN ENGINEER FOR APPROVAL. AFTER APPROVAL OF THE SHOP DRAWINGS, A COPY OF THE APPROVED AND SIGNED SHOP DRAWINGS SHALL BE PROVIDED TO THE CITY INSPECTOR UPON REQUEST.
- THE CONTRACTOR SHALL PROTECT ALL MAJOR TREES FROM DAMAGE. NO TREE SHALL BE REMOVED WITHOUT PERMISSION OF THE OWNER, UNLESS SHOWN OTHERWISE.
- CLEARING AND GRUBBING OPERATIONS AND DISPOSAL OF ALL DEBRIS THEREFROM SHALL BE PERFORMED BY THE CONTRACTOR IN STRICT ACCORDANCE WITH ALL LOCAL CODES AND ORDINANCES.
- ALL WASTE MATERIAL RESULTING FROM THE PROJECT SHALL BE DISPOSED OF OFF-SITE BY THE CONTRACTOR, OR AS DIRECTED BY THE OWNER.
- ALL EXCAVATIONS SHALL BE UNCLASSIFIED. NO SEPARATE PAYMENT WILL BE MADE FOR ROCK EXCAVATION.
- THE CONTRACTOR SHALL CONTROL THE EROSION AND SILTATION DURING ALL PHASES OF CONSTRUCTION, AND SHALL KEEP THE STREETS CLEAN OF MUD AND DEBRIS.
- ALL MANHOLES, CATCH BASINS, UTILITY VALVES AND METER PITS TO BE ADJUSTED OR REBUILT TO GRADE AS REQUIRED.
- THE CONTRACTOR SHALL CONTACT THE CITY'S DEVELOPMENT SERVICES ENGINEERING INSPECTION TO SCHEDULE A PRE-CONSTRUCTION MEETING WITH A FIELD ENGINEERING INSPECTOR PRIOR TO ANY LAND DISTURBANCE WORK AT (816) 969-1200
- THE CONTRACTOR SHALL CONTACT THE RIGHT OF WAY INSPECTOR AT 816-969-1800 PRIOR TO ANY LAND DISTURBANCE ACTIVITIES WITHIN THE RIGHT OF WAY. THESE ACTIVITIES MAY REQUIRE A PERMIT.
- THE CONTRACTOR SHALL PROVIDE AND MAINTAIN ALL TRAFFIC HANDLING MEASURES NECESSARY TO ENSURE THAT THE GENERAL PUBLIC IS PROTECTED AT ALL TIMES. TRAFFIC CONTROL SHALL CONFORM TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD-LATEST EDITION).

STREET NOTES:

- ALL STREET CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE CITY OF LEE'S SUMMIT DESIGN AND CONSTRUCTION MANUAL. ALL APPLICABLE AASHTO STANDARDS HAVE BEEN MET.
- ALL INSPECTION OF STREET CONSTRUCTION TO BE PERFORMED BY THE CITY OF LEE'S SUMMIT DEVELOPMENT ENGINEERING.
- CURB RETURN RADII SHALL BE 25' AT BACK OF CURB UNLESS OTHERWISE NOTED.
- SUBGRADE TO BE COMPACTED TO 95% STANDARD PROCTOR DENSITY.
- ASSUMED DESIGN SPEED = 25 MPH (COLLECTOR).
- MINIMUM STOPPING SIGHT DISTANCE = 155 FEET.
- MINIMUM K, SAG CURVE = 26 (14 WITH LIGHTING), CREST CURVE = 12.
- GRADE INTERSECTIONS TO DRAIN AS SHOWN.
- SSD = STOPPING SIGHT DISTANCE.
- ALL ADA SIDEWALK RAMPS SHALL BE CONSTRUCTED BY THE DEVELOPER WITH THE PUBLIC INFRASTRUCTURE.

EARTHWORK:

- It is recommended that a Geotechnical Engineer observe and document all earthwork activities. Contours have been shown at 1-foot or 2-foot intervals, as indicated. Grading shall consist of completing the earthwork required to bring the physical ground elevations of the existing site to the finished grade (or sub-grade) elevations provided on the plans as spot grades, contours or others means as indicated on the plans.
- The existing site topography depicted on the plans by contouring has been established by aerial photography and field verified by g.p.s. observation near 2-20-19. The contour elevations provided may not be exact ground elevations, but rather interpretations of such. Accuracy shall be considered to be such that not more than 10 percent of spot elevation checks shall be in error by more than one-half the contour interval provided, as defined by the National Map Accuracy Standards. Any quantities provided for earthwork volumes are established using this topography contour accuracy, and therefore the inherent accuracy of any earthwork quantity is assumed from the topography accuracy.
- Proposed contours are to approximate finished grade.
- Unless otherwise noted, payment for earthwork shall include backfilling of the curb and gutter, sidewalk and further manipulation of utility trench spoils. The site shall be left in a mowable condition and positive drainage maintained throughout.
- Unless otherwise noted, all earthwork is considered Unclassified. No additional compensation will be provided for rock or shale excavation, unless specifically stated otherwise.
- Prior to earthwork activities, pre-disturbance erosion and sediment control devices shall be in place per the Storm Water Pollution Prevention plan and/or the Erosion and Sediment Control Plan prepared for this site.
- All topsoil shall be stripped from all areas to be graded and stockpiled adjacent to the site at an area specified by the project owner or his appointed representative. Vegetation, trash, trees, brush, tree roots and limbs, rock fragments greater than 6-inches and other deleterious materials shall be removed and properly disposed of offsite or as directed by the owner or his appointed representative.
- Unless otherwise specified in the Geotechnical Report, all fills shall be placed in maximum 6-inch lifts and compacted to 95-percent of maximum density as defined using a standard proctor test (AASHTO T99/ASTM 698).
- Fill materials shall be per Geotechnical Report and shall not include organic matter, debris or topsoil. All fills placed on slopes greater than 6:1 shall be benched.
- The Contractor shall be responsible for redistributing the topsoil over proposed turf and landscaped areas to a minimum depth of 6-inches below final grade.
- All areas shall be graded for positive drainage. Unless noted otherwise the following grades shall apply:
  - Turf Areas - 2.5% Minimum, 4H:1V Maximum
  - Paved Areas - 1.2% Minimum, 5% Maximum
- All disturbed areas shall be fertilized, seeded and mulched immediately after earthwork activities have ceased. Seeding shall be per the Erosion and Sediment Control Plan and/or Landscape Plan. If not specified seeding shall be per APWA Section 2400, latest edition. Unless otherwise noted, seeding shall be subsidiary to the contract price for earthwork and grading activities.
- All disturbed areas in the right-of-way shall be sodded.
- Underdrains are recommended for all paved areas adjacent to irrigated turf and landscaped beds.
- The Contractor shall adhere to the reporting requirements outlined in the Storm Water Pollution Prevention Plan (SWPPP) prepared for this project. Erosion and Sediment control devices shall be properly maintained and kept clean of silt and debris and in good working order. Additional erosion and sediment control measures shall be installed as required.

UTILITIES:

- Existing utilities have been shown to the greatest extent possible based upon information provided to the Engineer. The contractor is responsible for contacting the respective utility companies and field locating utilities prior to construction and identifying any potential conflicts. All conflicts shall immediately be brought to the attention of the Engineer.
- The contractor shall be responsible for coordinating any required utility relocations. Utilities damaged through the negligence of the contractor shall be repaired at the contractor's expense.
- Contractor shall verify flow-lines and structure tops prior to construction, and shall notify Engineer of any discrepancies. Provide shop drawings for all precast and manufactured utility structures for review by the Engineer prior to construction of the structures.
- Utility Separation: Waterlines shall have a minimum of 10 feet horizontal and 2 feet vertical separation from all sanitary sewer lines, manholes, and sanitary sewer service laterals, as measured from edge to edge. If minimum separations can not be obtained, concrete encasement of the sanitary line shall be required 10 feet in each direction of the conflict.
- Payment for trenching, backfilling, pipe embedment, flowable fill, backfill materials, clean up, seeding, sodding and any other items necessary for the construction of the utility line shall be included in the contract price for the utility installation.
- The Contractor shall be responsible for contacting respective utility companies 48-hours in advance for the inspection of any proposed utility main extension or service line or service connection to any existing main.
- Trench spoils shall be neatly placed onsite adjacent to the trench, and compacted to prevent saturation and excess sediment runoff. Unsuitable materials, excess rock and shale, asphalt, concrete, trees, brush etc. shall be properly disposed of offsite. Materials may be wasted onsite at the direction of the Owner or his appointed representative.
- All excavation is considered unclassified, unless noted otherwise. Unclassified excavation for utility trenching is subsidiary to the unit price provided for the pipe. Any quantity provided for rock excavation is estimated based on the best information provided to the Project Engineer. The Engineer has the authority to identify and define the physical characteristics to determine the classification. Unit price quantities for rock excavation will be paid at a trench width of the nominal pipe diameter of the installed main plus 18 inches. Contractor is required to dispose of excess rock from their trenches by disposing it in areas as specified by the Project Engineer.

RELEASED FOR CONSTRUCTION  
As Noted on Plan Review

Development Services Department  
Lee's Summit, Missouri  
02/15/2023

	INDEX
1	COVER SHEET
2	PRE CONSTRUCTION EROSION CONTROL PLAN
3	EROSION CONTROL PLAN
4	POST CONSTRUCTION EROSION CONTROL PLAN
5	EROSION CONTROL DETAILS
6	SEDIMENT BASIN DETAILS

PREPARED & SUBMITTED BY:

PHELPS ENGINEERING, INC.  
1270 N. WINCHESTER  
OLATHE, KS 66061  
913-393-1155 OFFICE  
913-393-1166 FAX  
CONTACT: JUDD CLAUSSEN, P.E.

OWNER:

ENTRES DEVELOPMENT, LLC  
ATTN: DANIEL VILLANUEVA  
424 NE BROCKTON DR  
LEE'S SUMMIT MO, 64064  
(310) 760-6205

BENCHMARKS:

BM #1  
CENTER LINE FRONT FACE OF CURB INLET SOUTHEAST COR. OF  
INTERSECTION OF NE LAKEWOOD WAY, PRIVATE DRIVE FOR HOPE CHAPEL,  
AND PRIVATE DRIVE FOR LEE'S SUMMIT WATER TOWER.  
ELEVATION = 963.96

BM #2  
"+- CUT S.W. CORNER CURB INLET EAST SIDE OF INTERSECTION OF NE  
SUWANNEE DRIVE & NE PIEDMONT DRIVE  
ELEVATION=965.22

UTILITY COMPANIES:

MISSOURI GAS ENERGY (816) 969-2218  
LUCAS WALLS (LUCAS.WALLS@SUG.COM)  
3025 SOUTHEAST CLOVER DRIVE  
LEE'S SUMMIT, MO 64082

EVERGY (816) 347-4339  
PHILLIP INGRAM (PHILLIP.INGRAM@KCPL.COM)  
RON DEJARNETTE (RON.DEJARNETTE@KCPL.COM) (816) 347-4316  
1300 HAMBLEN ROAD  
LEE'S SUMMIT, MO 64081

STORM SEWER (PUBLIC WORKS DEPARTMENT) (816) 969-1800  
220 SE GREEN STREET  
LEE'S SUMMIT, MO 64063

SANITARY SEWER & WATER (WATER UTILITIES DEPT.) (816)-969-1900  
1200 SE HAMBLEN ROAD,  
LEE'S SUMMIT, MO 64081

AT&T (913) 383-4929  
MR. CLAYTON ANSPAUGH (CA4089@ATT.COM) (913) 383-4849-FAX  
9444 NALL AVENUE  
OVERLAND PARK, KANSAS 66207



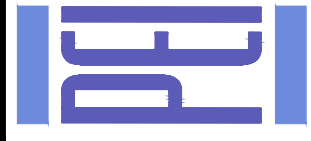
UTILITY NOTES:  
VISUAL INDICATIONS OF UTILITIES ARE AS SHOWN.  
UNDERGROUND LOCATIONS SHOWN, AS FURNISHED BY THEIR  
LESSORS, ARE APPROXIMATE AND SHOULD BE VERIFIED IN  
THE FIELD AT THE TIME OF CONSTRUCTION. FOR ACTUAL  
FIELD LOCATIONS OF UNDERGROUND UTILITIES CALL 811.

Know what's below.  
Call before you dig.



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Fax (913) 393-1166  
www.phelpsiengineering.com

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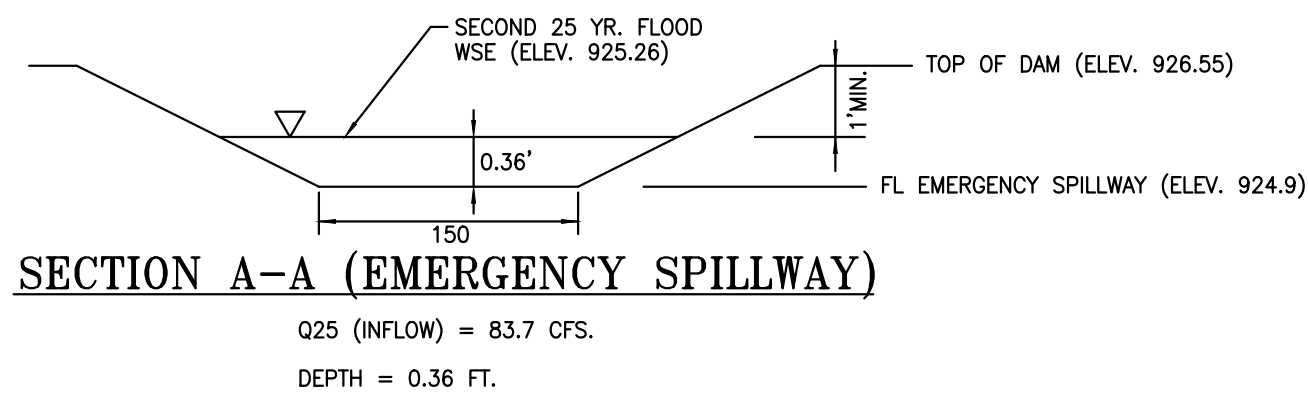
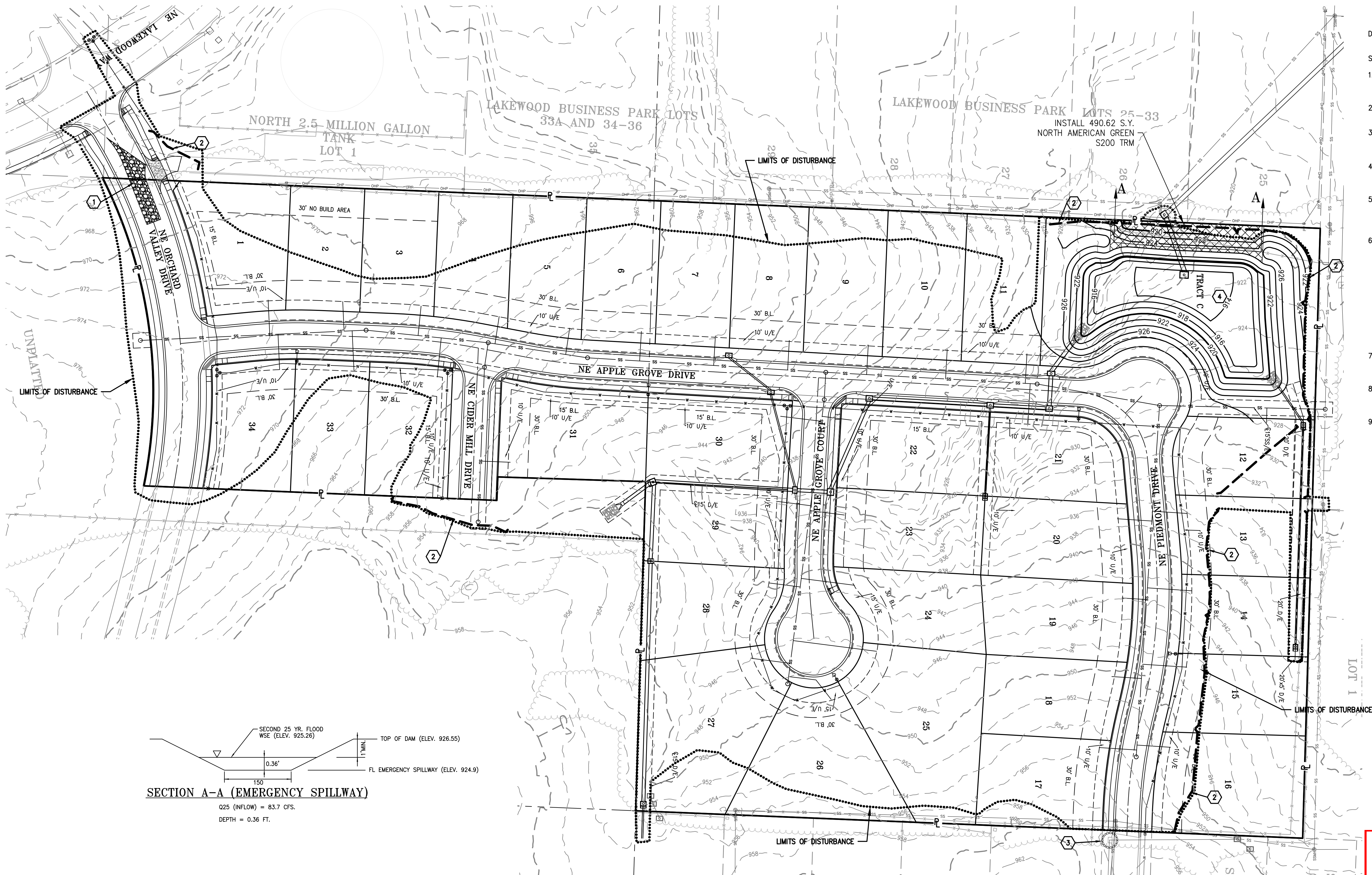
COVER SHEET  
ORCHARD WOODS  
LEE'S SUMMIT, JACKSON COUNTY, MISSOURI

PROJECT NO.	211142	No.	Date	Revisions:	By	App.
DATE: 11-14-2022	1	12/15/22	1	REVISED PER CITY COMMENTS	KSJ	DEU
CHECKED: DEU	2	01/18/23	2	REVISED PER CITY COMMENTS	AEB	DEU
CERTIFICATE OF AUTHORIZATION						
LAND SURVEYING - LS-82						
ENGINEERING - E-361						
CERTIFICATE OF AUTHORIZATION						
LAND SURVEYING-2007001028						
ENGINEERING-2007000298						

SHEET  
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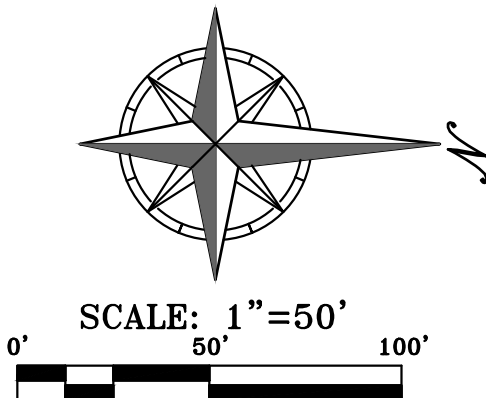
STAGING CHART

	Project Stage	BMP Plan Ref No.	BMP Description	Remove after Stage:	Notes:
Pre Clearing Phase	A. Prior to Land Disturbance	①	Construction Entrance & Staging Area	D	Maintain, repair, or replace as necessary.
		②	Silt Fence with Woven Wire Fencing	D	Place downstream project site perimeter.
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		⑤	Concrete Washout Pit	C	
	C. Utility Construction	⑥	Inlet Protection	E	Install silt fence inlet protection with wire support.
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		⑧	Inlet Protection	E	Install gravel filter bags.
	E. Until closure of Land Disturbance Permit	⑨	Silt Fence	E	Place sediment fence back of curb.
			Seed	N/A	Seed & Landscape Disturbed Area upon completion of construction.

CONTRACTOR TO CONSTRUCT STORM WATER MANAGEMENT FACILITIES, SPECIFICALLY THOSE FEATURES RELATED TO DETENTION PRIOR TO ANY LAND DISTURBANCE OF THE SITE AND PRIOR TO THE CONSTRUCTION OF ANY OTHER SITE DEVELOPMENT WORK AS NOT TO EFFECT DOWNSTREAM NEIGHBORS WITH UNDETAINED STORM WATER DISCHARGE

- Stabilized Rock Entrance
- Concrete Washout Pit
- Silt Fence with Woven Wire (Prior to Disturbance)
- Silt Fence (During Construction)
- Limits of Disturbed Area
- Existing Inlet Protection
- Proposed Curb Inlet Protection
- Proposed Area Inlet Protection
- Rock Ditch Check
- Existing Inlet Protection

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Lee's Summit, Missouri  
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DISTURBED AREA = 11.0 ACRES

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Fax: (913) 993-1165  
www.philipsengineering.com

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PRE CONSTRUCTION EROSION CONTROL PLAN

ORCHARD WOODS  
LEE'S SUMMIT, JACKSON COUNTY, MISSOURI

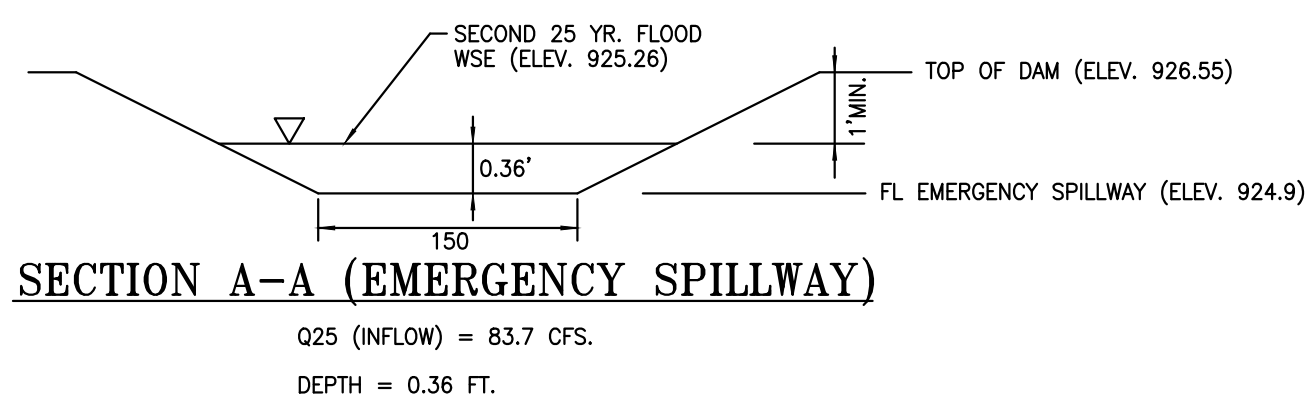
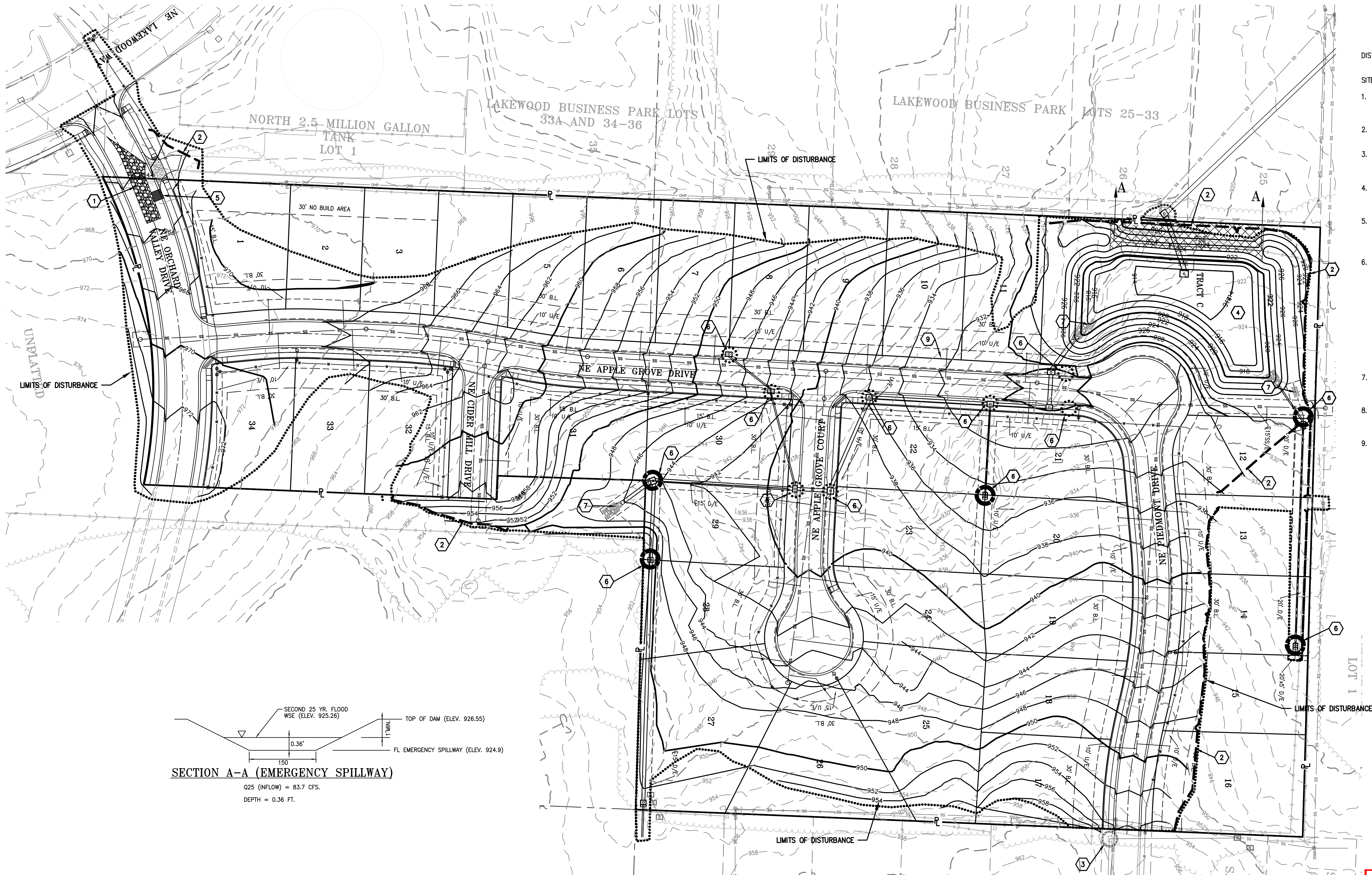
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CERTIFICATE OF AUTHORIZATION					
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ENGINEERING - E-SF					
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SHEET

2



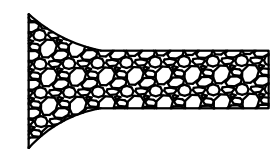
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STAGING CHART

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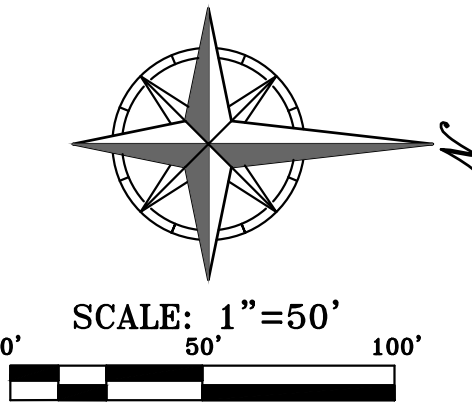


Stabilized Rock Entrance  
Concrete Washout Pit  
Silt Fence with Woven Wire (Prior to Disturbance)  
Silt Fence (During Construction)  
Limits of Disturbed Area

Existing Inlet Protection  
Proposed Curb Inlet Protection  
Proposed Area Inlet Protection  
Rock Ditch Check  
Existing Inlet Protection

LEGEND

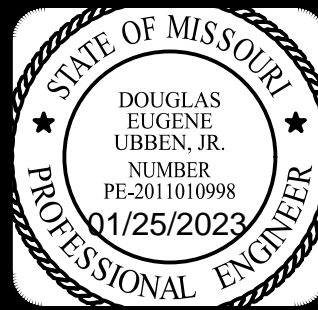
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PLANNING  
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EROSION CONTROL PLAN  
ORCHARD WOODS  
LEE'S SUMMIT, JACKSON COUNTY, MISSOURI

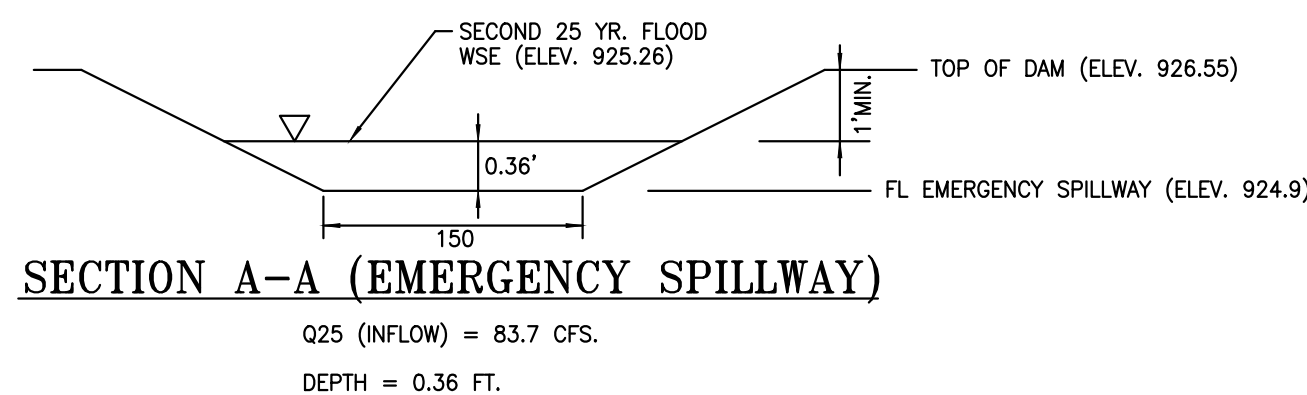
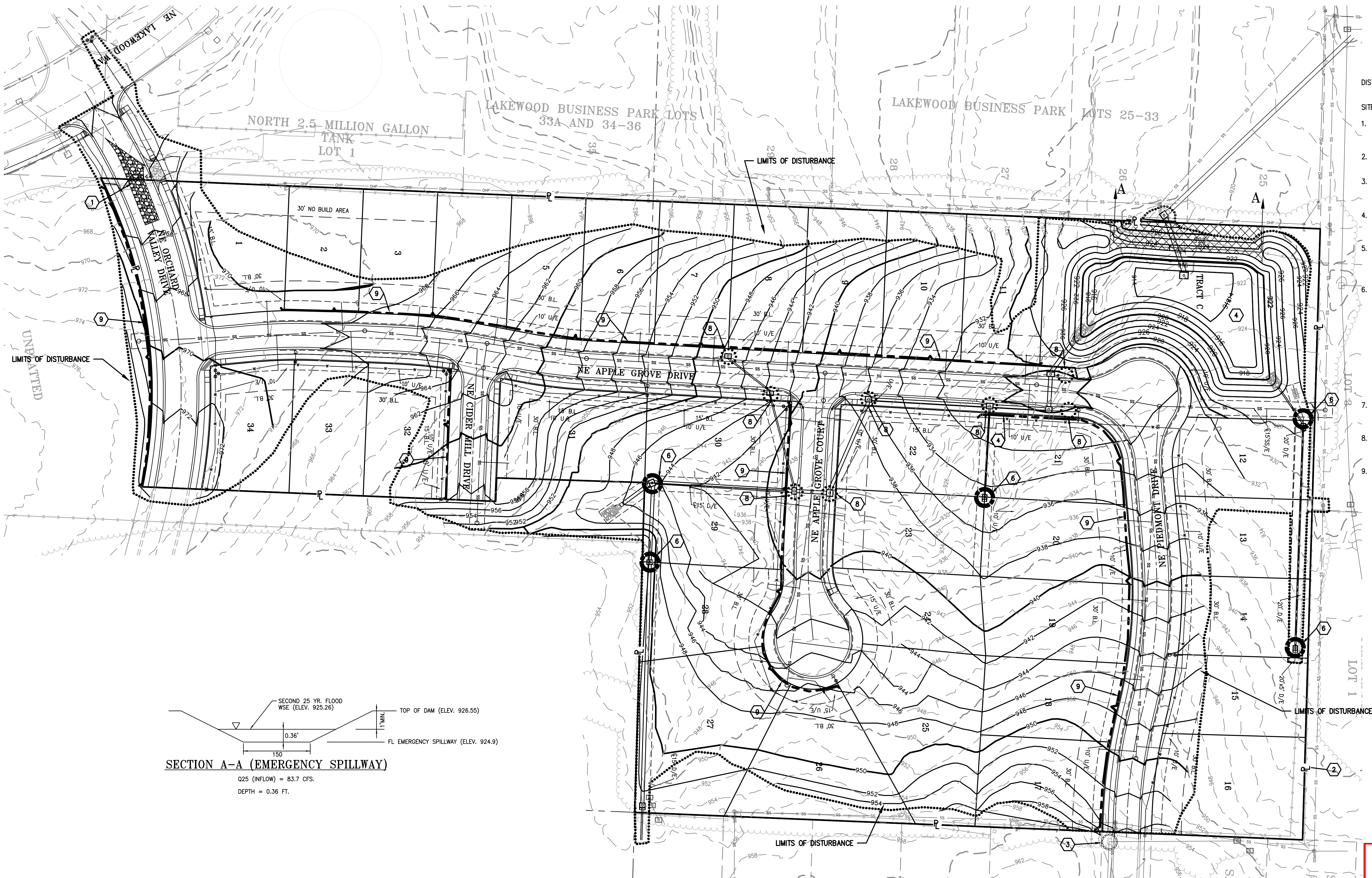
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REVISIONS:					
REVISED PER CITY COMMENTS					
REVISED PER CITY COMMENTS					
DATE OF AUTHORIZATION					
LAND SURVEYING - LS-82					
ENGINEERING - E-SF					
STATE OF AUTHORIZATION					
LAND SURVEYING-200701028					
ENGINEERING-200700208					

SHEET

3



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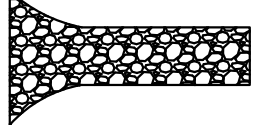



STAGING CHART


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Construction Phase	B. Mass Grading	④	Construct Sediment Basin	E	Sediment Basin to be fully constructed and operational prior to any other land disturbance operations. (Transition to Detention Basin upon stabilization of disturbed area.)
		⑤	Concrete Washout Pit	C	
	C. Utility Construction	⑥	Inlet Protection	E	Install silt fence inlet protection with wire support.
Final Stabilization Phase	D. After Paving	⑦	End-Section Protection	N/A	Install rip-rap at end-section immediately after installation.
		⑧	Inlet Protection	E	Install gravel filter bags.
	E. Until closure of Land Disturbance Permit	⑨	Silt Fence	E	Place sediment fence back of curb.
			Seed	N/A	Seed & Landscape Disturbed Area upon completion of construction.


CONTRACTOR TO CONSTRUCT STORM WATER MANAGEMENT FACILITIES, SPECIFICALLY THOSE FEATURES RELATED TO DETENTION PRIOR TO ANY LAND DISTURBANCE OF THE SITE AND PRIOR TO THE CONSTRUCTION OF ANY OTHER SITE DEVELOPMENT WORK AS NOT TO EFFECT DOWNSTREAM NEIGHBORS WITH UNDETAINED STORM WATER DISCHARGE


LEGEND


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Stabilized Rock Entrance
- 


Concrete Washout Pit
- 


Silt Fence with Woven Wire (Prior to Disturbance)
- 


Silt Fence (During Construction)
- 

Limits of Disturbed Area
- 

Existing Inlet Protection
- 

Proposed Curb Inlet Protection
- 

Proposed Area Inlet Protection
- 

Rock Ditch Check
- 

Existing Inlet Protection

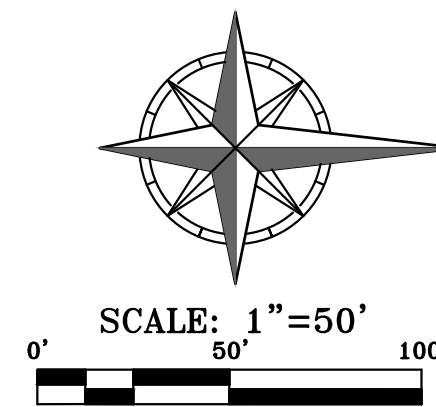
DISTURBED AREA = 11.0 ACRES

SITE SPECIFIC NOTES:

- THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL EXISTING UTILITY LOCATIONS PRIOR TO EXCAVATION.
- THERE ARE NO WETLANDS, NATURAL WATER STORAGE DETENTION AREAS IN THE PROJECT AREA.
- NO PART OF THE PROJECT LIES WITHIN THE 100 YEAR FLOOD PLAIN PER FEMA FLOOD INSURANCE RATE MAP NUMBER 29095C04306 DATED 1/20/2017
- ALL EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE IMPLEMENTED ACCORDING TO THE BMP STAGING CHART.
- ADDITIONAL EROSION CONTROL MAY BE REQUIRED BY THE CITY ENGINEER AT ANY TIME EXISTING MEASURES ARE FOUND TO BE INEFFECTIVE OR PROBLEMATIC AREAS ARE NOTED IN THE FIELD.
- STABILIZATION OF DISTURBED AREAS MUST, AT A MINIMUM, BE INITIATED IMMEDIATELY WHENEVER ANY CLEARING, GRADING, EXCAVATING, OR OTHER SOIL DISTURBING ACTIVITIES HAVE PERMANENTLY CEASED ON ANY PORTION OF THE SITE, OR TEMPORARILY CEASED ON ANY PORTION OF THE SITE AND WILL NOT RESUME FOR A PERIOD EXCEEDING 14 CALENDAR DAYS. THE DISTURBED AREAS SHALL BE PROTECTED FROM EROSION BY STABILIZING THE AREA WITH MULCH OR OTHER SIMILARLY EFFECTIVE SOIL STABILIZING BMPs. INITIAL STABILIZATION ACTIVITIES MUST BE COMPLETED WITHIN 14 DAYS AFTER DISTURBING ACTIVITIES CEASE.
- ALL PERIMETER SILT FENCE, EARTH DIKES, SEDIMENT BASINS, AND ROCK CONSTRUCTION ENTRANCES WILL BE INSTALLED BEFORE GRADING OPERATIONS BEGIN.
- SILT FENCE AND EARTH DIKES THAT ARE PLACED BEFORE GRADING BEGINS WILL BE MAINTAINED BY THE GRADING CONTRACTOR.
- AREAS WITHIN PUBLIC RIGHT-OF-WAY SHALL BE SODDED IMMEDIATELY AFTER CONSTRUCTION IS COMPLETE.

RELEASED FOR CONSTRUCTION  
As Noted on Plan Review

Development Services Department  
Lee's Summit, Missouri  
02/15/2023



PHILIPS ENGINEERING, INC.  
1370 N. Winchester  
Olathe, Kansas 66061  
(913) 993-1155  
Fax: (913) 993-1165  
www.philipsengineering.com



POST CONSTRUCTION EROSION CONTROL PLAN  
ORCHARD WOODS  
LEE'S SUMMIT, JACKSON COUNTY, MISSOURI

Revisions:	By	App.
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