GENERAL NOTES:

1 ~ ALL CONSTRUCTION SHALL CONFORM TO THE CITY OF LEE'S SUMMIT DESIGN AND CONSTRUCTION MANUAL AS ADOPTED BY ORDINANCE 5813.
2 ~ ALL REQUIRED EASEMENTS WITHIN THE BOUNDARY OF THIS PROJECT SHALL BE PROVIDED FOR ON THE FINAL PLAT.
3 ~ ANY REQUIRED EASEMENT LOCATED OUTSIDE OF THE BOUNDARY OF THIS PROJECT SHALL BE PROVIDED FOR BY SEPARATE

INSTRUMENT PRIOR TO ISSUANCE OF CONSTRUCTION PERMITS.

4 ~ 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.

5 ~ THE CONTRACTOR SHALL NOTIFY ENGINEERING SOLUTIONS AT 816.623.9888 OF ANY CONFLICT WITH THE IMPROVEMENTS PROPOSED BY THESE PLANS AND SITE CONDITIONS.

 $6 \sim$ THE CONTRACTOR SHALL NOTIFY THE CITY ENGINEER AND OBTAIN THE APPROPRIATE BLASTING PERMITS FOR A REQUIRED BLASTING. IF BLASTING IS ALLOWED, ALL BLASTING SHALL CONFORM TO STATE REGULATIONS AND LOCAL ORDINANCES.

UTILITY COMPANIES:

THE FOLLOWING LIST OF UTILITY COMPANIES IS PROVIDED FOR INFORMATION ONLY. WE DO NOT OFFER ANY GUARANTEE OR WARRANTY THAT THIS LIST IS COMPLETE OR ACCURATE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING ALL UTILITY COMPANIES THAT MAY BE AFFECTED BY THE PROPOSED CONSTRUCTION AND VERIFYING THE ACTUAL LOCATION OF EACH UTILITY LINE. THE CONTRACTOR SHALL NOTIFY ENGINEERING SOLUTIONS AT 816.623.9888 OF ANY CONFLICT WITH PROPOSED IMPROVEMENTS.

EVERGY ~ 298-1196 MISSOURI GAS ENERGY ~ 756-5261 SOUTHWESTERN BELL TELEPHONE ~ 761-5011 COMCAST CABLE ~ 795-1100 WILLIAMS PIPELINE ~ 422-6300

CITY OF LEE'S SUMMIT PUBLIC WORKS ~ 969-1800 CITY OF LEE'S SUMMIT DEVELOPMENT ENGINEERING INSPECTION AT 816.969.1200

CITY OF LEE'S SUMMIT WATER UTILITIES ~ 969-1900 MISSOURI ONE CALL (DIG RITE) ~ 1-800-344-7483

<u>DEVELOPER:</u> LIVING FAITH INC PO BOX 1471 LEE'S SUMMIT, MO 64063

PROPERTY DESCRIPTION

LOT 1, SOUTH SUMMIT CHRISTIAN CHURCH LOT 1.

OIL - GAS WELLS

ACCORDING TO EDWARD ALTON MAY JR'S ENVIRONMENTAL IMPACT STUDY OF ABANDONED OIL AND GAS WELLS IN LEE'S SUMMIT, MISSOURI IN 1995, THERE ARE NOT OIL AND GAS WELLS WITHIN 185 FEET OF THE PROPERTY AS SURVEYED HEREON.

FLOOD INFORMATION

THE SUBJECT PROPERTY SURVEYED LIES WITHIN A FLOOD ZONE DESIGNATED ZONE (X), AREAS LOCATED OUTSIDE THE 100 YEAR FLOOD PLAIN, PER F.E.M.A. MAP, COMMUNITY PANEL NO. 29095C0532G EFFECTIVE DATE: JANUARY 20, 2017.

LEGEND:

B/L - BUILDING SET-BACK

C/A - COMMON AREA

D/E - DRAINAGE EASEMENT

FND. - FOUND

L/E - LANDSCAPE EASEMENT
L.N.A. - LIMITS OF NO ACCESS
R/W - RIGHT OF WAY
SAN - SANITARY SEWER LINE
S/W - SIDEWALK

U/E - UTILITY EASEMENT
W - WATER LINE
ST - STORM SEWER LINE



Vicinity Map



LIVING FAITH CHURCH PARKING LOT ADDITION FINAL DEVELOPMENT PLAN

LOT 1, SOUTH SUMMIT CHRISTIAN CHURCH LOT 1 Part of Section 25, Township 47 North, Range 32 West LEE'S SUMMIT, JACKSON COUNTY, MISSOURI

Tract 2 Brookhollow Doc. No. 198710774902 South Summit Christian Doc. No. 2003I0083239 1121 SW Hook Lee's Summit, MO 64082 Lot 1 Holt Estates Doc. No. 198110456998 Lot 2 Holt Estates Doc. No. 198110456998

SITE LOCATION MAP

ALL PAVING ON THE PARKING LOT WILL COMPLY WITH THE UNIFIED DEVELOPMENT ORDINANCE ARTICLE 8 IN TERMS OF PAVING THICKNESS AND BASE

<u>Site Impervious Area</u>

Total Area 9.63 acres (419,428 sq. ft.)

Proposed Site
Site Area 9.63 Acres
Proposed Parking/Sidewalk 35,743 sq. ft
Existing Building 7,244 sq. ft.
Existing Parking/Sidewalk 35,702 sq. ft

Impervious Area 78,689 sq. ft (18.8% of Site)

Parking: Existi

90 Standard (8 ADA Accessible)
Provided
114 Standard (0 ADA Accessible)
Total
204 Standard (8 ADA Accessible)

Required (1 space per 3 seats) - 256 Seat Sanctuary 85 Standard (4 ADA Accessible)

Site Improvement Notes Sanitary Sewer Improvements

-N/A

Water Main Improvements -N/A

Storm Sewe

Storm Sewer

- The onsite storm water runoff will be directed toward the new detention facility located at the southeast corner of the site.

INDEX OF SHEETS:

C.001 ~ COVER SHEET

C.050 ~ ESC PHASE 1 - PRE CLEARING PLAN

C.051 ~ ESC PHASE 2 - INITIAL AREA STABILIZATION PLAN

C.052 ~ ESC PHASE 3 - FINAL RESTORATION PLAN

C.053 ~ ESC - STANDARD DETAILS C.100 ~ OVERALL GENERAL LAYOUT

C.101 ~ PARKING LOT SITE PLAN

C.200 ~ GRADING PLAN C.201 ~ SPOT ELEVATIONS

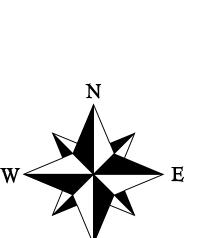
C.300 ~ UTILITY PLAN

C.600 ~ STANDARD DETAILS

C.601 ~ STANDARD DETAILS L.100 ~ LANDSCAPE PLAN

ENGINEER'S CERTIFICATION:

I HEREBY CERTIFY THAT THIS PROJECT HAS BEEN DESIGNED AND THESE PLANS PREPARED IN ACCORDANCE WITH THE CURRENT DESIGN CRITERIA OF THE CITY OF LEE'S SUMMIT, MISSOURI AND THE STATE OF MISSOURI. I FURTHER CERTIFY THAT THESE PLANS WERE DESIGNED IN ACCORDANCE TO AASHTO STANDARDS.



IGINEERING & SURVEYIN OLUTIONS 50 SE 30TH STREET

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Professional Registration
Missouri
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Kansas
Engineering E-1695
Surveying LS-218
Oklahoma
Engineering 6254
Nebraska
Engineering CA2821

LIVING FAITH CHURCH SUMMIT, JACKSON COUNTY, MISSO

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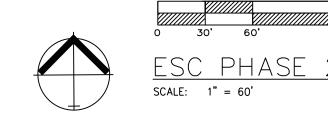
In Date:

Construction Plans for: LIVING FAITH CHURCH e's Summit, Jackson County, Miss



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SILT FENCE PROTECTION TO BE MAINTAINED BY CONTRACTOR

LEGEND

PHASE 1 SILT FENCE

PHASE 2 SILT FENCE

INLET PROTECTION

DURING ALL PHASES OF CONSTRUCTION, INACTIVE AREA STABILIZATION METHODS AS DESCRIBED IN APWA SECTION 5111.3 SHALL BE USED TO CONTROL EROSION AND SILTATION.

——SF-1——SF-1

NOTES: The Land Disturbance Plans indicates the Final placement of erosion control devices. The contractor(s) may proceed with construction prior to the final placement of these devices by providing additional devices to control erosion on their items of work. These devices shall be maintained until the final devices are in place.

EROSION CONTROL DESCRIPTION:

1.) SILT FENCE SHALL BE PLACE AT THE PERIMETER OF THE GRADING AND AT INTERMEDIATE AREAS THROUGHOUT THE SITE AS SHOWN ON THE PLAN. INLET SEDIMENT TRAPS SHALL BE PLACED SURROUNDING ALL STORM INLETS

2.) INSTALL TEMPORARY CONSTRUCTION ENTRANCE AS SHOWN ON PLAN

EROSION CONTROL PROCEDURE:

SILT FENCE AND TEMPORARY CONSTRUCTION ENTRANCE SHALL BE INSTALLED AT THE PERIMETER OF THE GRADED AREAS PRIOR TO BEGINNING OF CLEARING OR DEMOLITION OPERATIONS. THE CONTRACTOR SHALL INSTALL SILT FENCE AS SHOWN ON PLANS AS GRADING PROGRESSES.

TEMPORARY CONSTRUCTION ENTRANCE NOTES:

A.) INSTALLATION

1.) AVOID LOCATING ON STEEP SLOPES OR AT CURVES ON PUBLIC STREETS. IF POSSIBLE, LOCATE WHERE PERMANENT ROADS WILL EVENTUALLY BE CONSTRUCTED

2.) REMOVE ALL VEGETATION AND OTHER UNSUITABLE MATERIAL FROM THE FOUNDATION AREA, GRADE AND CROWN FOR POSITIVE DRAINAGE. 3.) IF SLOPE TOWARDS THE PUBIC ROAD EXCEED 2% CONSTRUCT A 6 TO 8 INCH HIGH RIDGE WITH 3H : 1V SIDE SLOPES ACROSS THE FOUNDATION APPROXIMATELY 15 FEET FROM THE EDGE OF THE PUBLIC ROAD TO DIVERT RUNOFF AWAY FROM IT.

4.) INSTALL PIPE UNDER THE ENTRANCE IF NEEDED TO MAINTAIN DRAINAGE DITCHES ALONG PUBLIC ROADS

5.) PLACE STONE TO DIMENSIONS AND GRADES AS SHOWN ON PLANS. LEAVE SURFACE SMOOTH AND SLOPED FOR DRAINAGE

6.) DIVERT ALL SURFACE RUNOFF AND DRAINAGE FROM THE ENTRANCE TO A SEDIMENT CONTROL DEVICE

7.) IF WET CONDITIONS ARE ANTICIPATED PLACE GEOTEXTILE FABRIC ON THE GRADED FOUNDATION TO IMPROVE STABILITY

B.) TROUBLESHOOTING

1.) CONSULT WITH A QUALIFIED DESIGN PROFESSIONAL IF ANY OF THE FOLLOWING OCCUR: -INADEQUATE RUNOFF CONTROLS TO THE EXTENT THAT SEDIMENT WASHES ONTO PUBLIC ROADS

- INSTALL DIVERSIONS OR OTHER RUNOFF CONTROL MEASURES

-SMALL STONE, THIN PAD, OR ABSENCE OF GEOTEXTILE FABRIC RESULTS IN RUTS AND MUDDY CONDITIONS AS STONE IS PRESSED INTO SOIL -INCREASE STONE SIZE OR PAD THICKNESS OR ADD GEOTEXTILE FABRIC -PAD TOO SHORT FOR HEAVY CONSTRUCTION TRAFFIC - EXTEND PAD BEYOND THE MINIMUM 50 FOOT LENGTH AS NECESSARY

C.) INSPECTION AND MAINTENANCE

1.) INSPECT STONE PAD AND SEDIMENT DISPOSAL AREA WEEKLY AND AFTER ANY RAIN EVENT

2.) RESHAPE PAD AS NEEDED FOR PROPER DRAINAGE AND RUNOFF CONTROL 3.) TOP DRESS WITH CLEAN 2 AND 3 INCH STONE AS NEEDED

4.) IMMEDIATELY REMOVE MUD OR SEDIMENT TRACKED OR WASHED ONTO PUBLIC ROADWAY. REPAIR ANY BROKEN ROAD PAVEMENT IMMEDIATELY 5.) REMOVE ALL TEMPORARY ROAD MATERIALS FROM AREAS WHERE PERMANENT VEGETATION WILL BE ESTABLISHED

MAINTENANCE:

TO MAINTAIN THE EROSION AND SEDIMENT CONTROLS, THE FOLLOWING PROCEDURES WILL BE PERFORMED:

SEDIMENT CAPTURE DEVICES: SEDIMENT WILL BE REMOVED FROM THE UPSTREAM OR UPSLOPE SIDE OF THE FILTER FABRIC FENCES, WHEN THE DEPTH OF ACCUMULATED SEDIMENT REACHES ABOUT ONE-THIRD THE HEIGHT OF THE STRUCTURE. STORM SEWER INLETS: ANY SEDIMENT IN THE STORM SEWER INLETS WILL BE REMOVED AND DISPOSED OF PROPERLY.

TEMPORARY CONTROLS: ALL TEMPORARY CONTROLS WILL BE REMOVED AFTER THE DISTURBED AREAS HAVE BEEN STABILIZED.

INSPECTION PROCEDURES:

INSPECTIONS WILL BE DONE BY THE RESPONSIBLE PERSON(S) AT LEAST ONCE EVERY WEEK AND WITHIN 24 HOURS EACH STORM EVENT PRODUCING ANY AMOUNT OF RAINFALL. AREAS THAT HAVE BEEN RESEEDED WILL BE INSPECTED REGULARLY AFTER SEED GERMINATION TO ENSURE COMPLETE COVERAGE OF EXPOSED AREAS. DISTURBED AREAS THAT HAVE NOT BEEN FINALLY STABILIZED SHALL HAVE ALL POLLUTION CONTROL MEASURES INSPECTED FOR PROPER INSTALLATION, OPERATION AND MAINTENANCE. LOCATIONS WHERE STORM WATER LEAVES THE SITE SHALL BE INSPECTED FOR EVIDENCE OF EROSION OR SEDIMENT DEPOSITION. ANY DEFICIENCIES SHALL BE NOTED IN A REPORT OF THE INSPECTION AND CORRECTED WITHIN SEVEN CALENDAR DAYS OF THE INSPECTION. THE PERMITTEE SHALL PROMPTLY NOTIFY THE SITE CONTRACTORS RESPONSIBLE FOR OPERATION AND MAINTENANCE OF POLLUTION CONTROL DEVICES OF DEFICIENCIES.

IF THE EXISTING GROUND COVER IS NATURAL GRASS. DISTURBED AREAS SHALL BE TEMPORARILY SEEDED WITH WHEAT/RYE AT A RATE OF 1.5 POUNDS PER 1000 SQUARE FEET. PERMANENT SEEDING SHALL CONSIST OF 90% IN THREE EQUAL PARTS OF THIN BLADE, TURF-TYPE, TALL FESCUE AND 10% BLUEGRASS SEED AT A RATE OF 10 POUNDS PER 1000 SQUARE FEET. BOTH TEMPORARY AND PERMANENT SEEDED AREAS SHALL BE MULCHED AND WATERED TO MAINTAIN THE PROPER MOISTURE LEVEL OF THE SOIL TO ESTABLISH GRASS. NEW GRASS SHALL BE WATERED AND MAINTAINED UNTIL IT REACHES A HEIGHT OF 3 INCHES. ANY BARE AREAS SHALL BE RESEEDED.

ALL EROSION CONTROL DEVICES SHALL BE REMOVED BY GENERAL CONTRACTOR AFTER SITE STABILIZATION IS COMPLETE AND APPROVED BY ENGINEER.

THE DEVELOPER WILL DESIGNATE A QUALIFIED PERSON OR PERSONS TO PERFORM THE FOLLOWING INSPECTIONS:

STABILIZATION MEASURES: DISTURBED AREAS AND AREAS USED FOR STORAGE OF MATERIALS THAT ARE EXPOSED TO PRECIPITATION WILL BE INSPECTED FOR EVIDENCE OF, OR THE POTENTIAL FOR, POLLUTANTS ENTERING THE DRAINAGE SYSTEM. AFTER A PORTION OF THE SITE IS FINALLY STABILIZED, INSPECTIONS WILL BE CONDUCTED AT LEAST ONCE EVERY MONTH THROUGHOUT THE LIFE OF THE PROJECT. CONTRACTOR CAN CONTACT ENGINEERING SOLUTIONS FOR COPIES OF THE INSPECTION FORM TO BE USED FOR STABILIZATION MEASURES.

STRUCTURAL CONTROLS: FILTER FABRIC FENCES AND ALL OTHER EROSION AND SEDIMENT CONTROL MEASURES IDENTIFIED IN THE PLAN WILL BE INSPECTED REGULARLY FOR PROPER POSITIONING, ANCHORING, AND EFFECTIVENESS IN TRAPPING SEDIMENTS. SEDIMENT WILL BE REMOVED FROM THE UPSTREAM OR UPSLOPE SIDE OF THE FILTER FABRIC. CONTRACTOR CAN CONTACT ENGINEERING SOLUTIONS FOR COPIES OF THE INSPECTION FORM TO BE USED FOR STABILIZATION

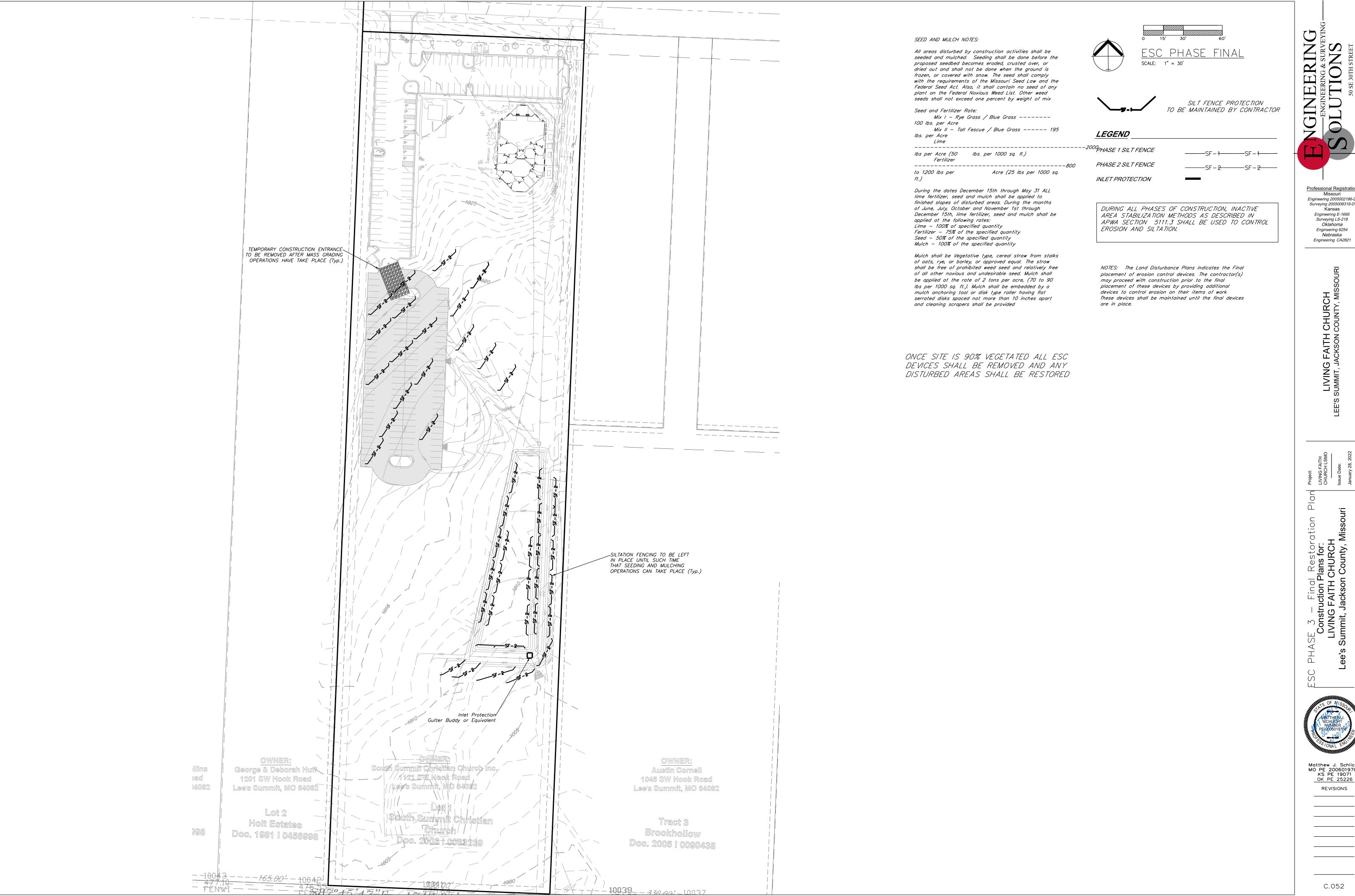
DISCHARGE POINTS: DISCHARGE POINTS OR LOCATIONS WILL BE INSPECTED TO DETERMINE WHETHER EROSION CONTROL MEASURES ARE EFFECTIVE IN PREVENTING SIGNIFICANT AMOUNTS OF POLLUTANTS FROM ENTERING RECEIVING WATERS. CONSTRUCTION ENTRANCE: LOCATIONS WHERE VEHICLES ENTER OR EXIT THE SITE WILL BE INSPECTED FOR EVIDENCE OF OFF-SITE SEDIMENT TRACKING.

A LOG OF EACH INSPECTION SHALL BE KEPT. THE INSPECTION REPORT IS TO INCLUDE THE FOLLOWING MINIMUM INFORMATION: INSPECTOR'S NAME, DATE OF INSPECTION, OBSERVATIONS RELATIVE TO THE EFFECTIVENESS OF THE POLLUTION CONTROL DEVICES, ACTIONS TAKEN OR NECESSARY TO CORRECT DEFICIENCIES, AND LISTING OF AREAS WHERE LAND DISTURBANCE OPERATIONS HAVE PERMANENTLY OR TEMPORARILY STOPPED. THE INSPECTION REPORT SHALL BE SIGNED BY THE PERMITTEE OR BY THE PERSON PERFORMING THE INSPECTION IF DULY AUTHORIZED TO DO SO.

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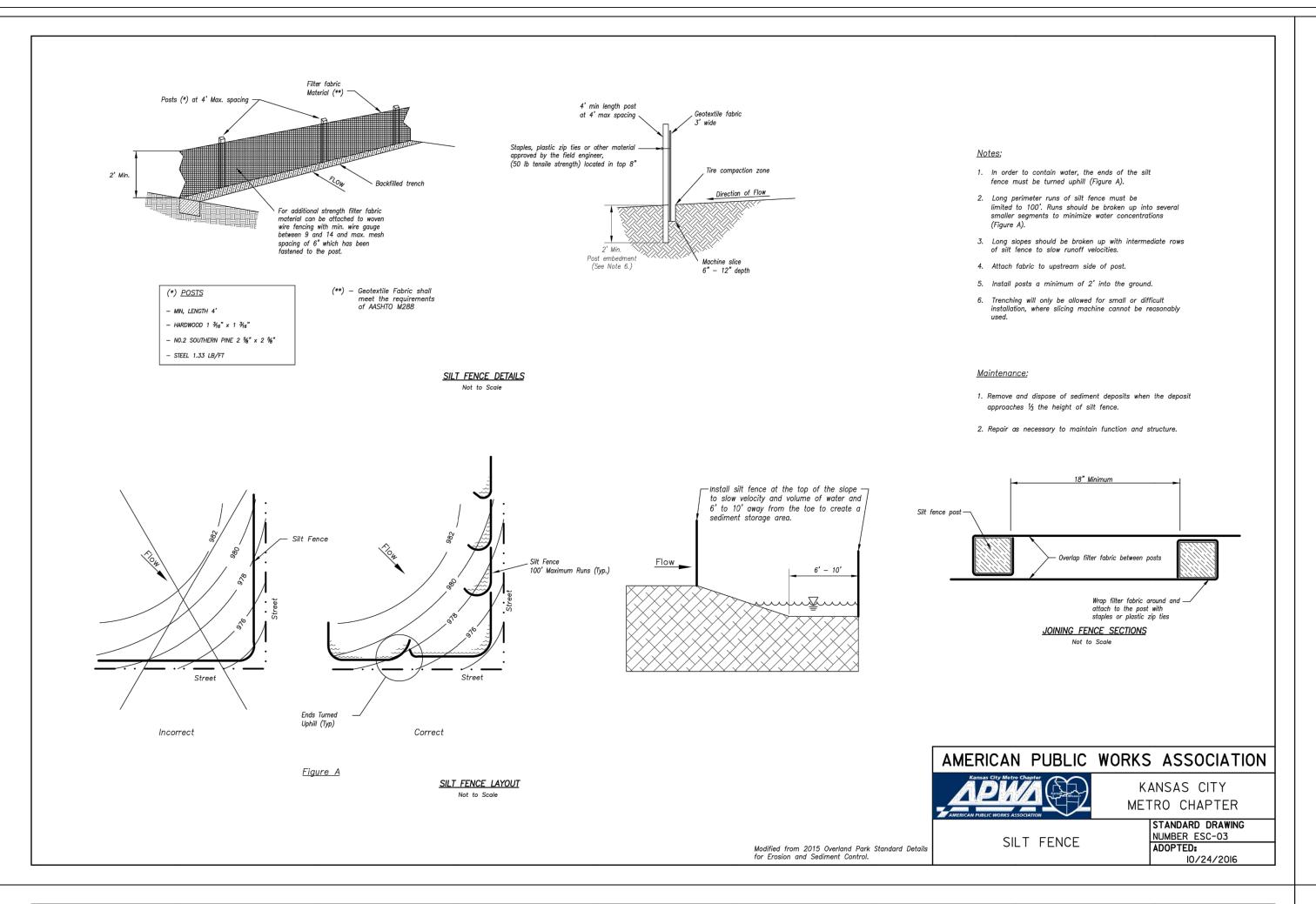
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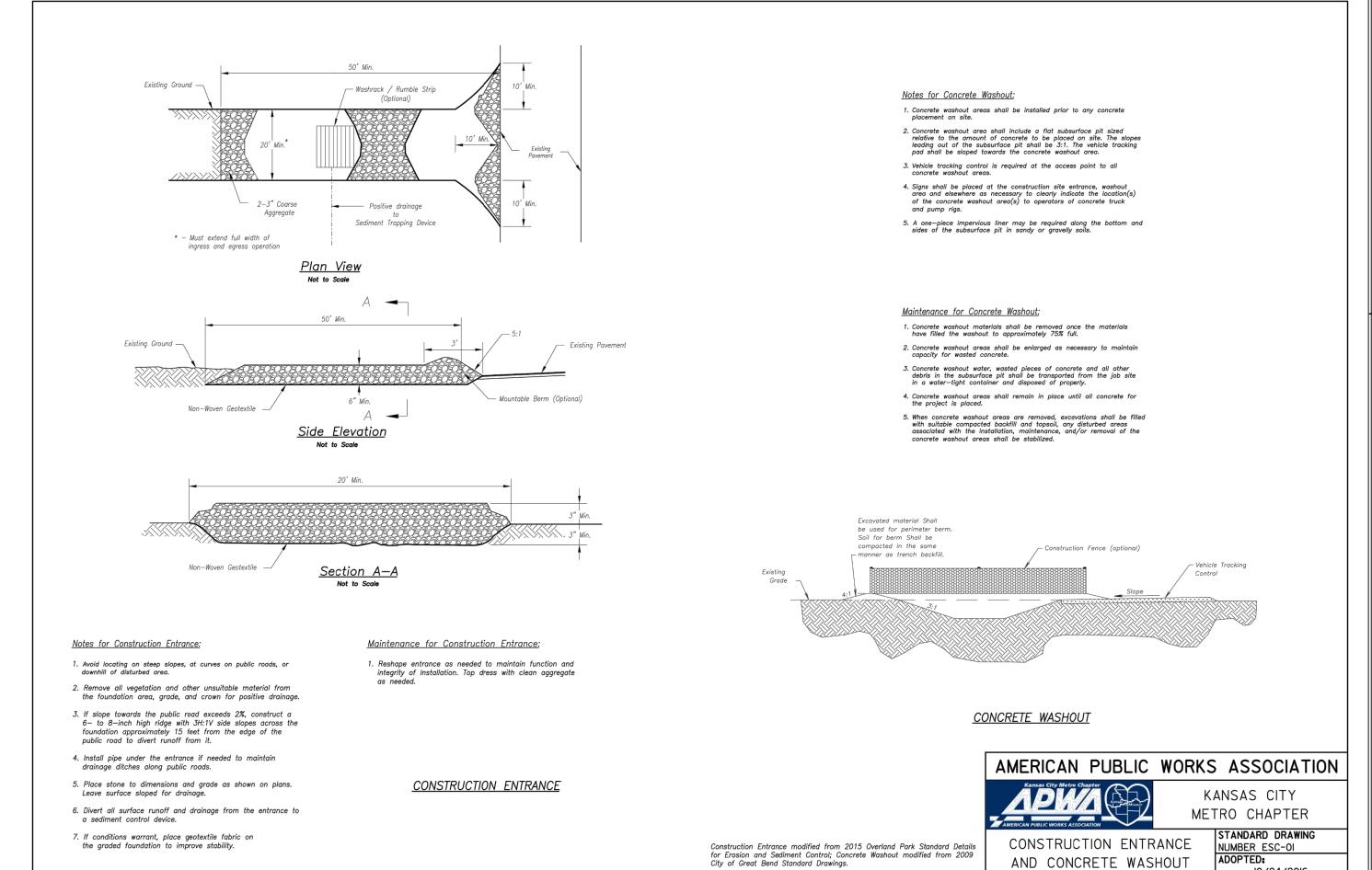
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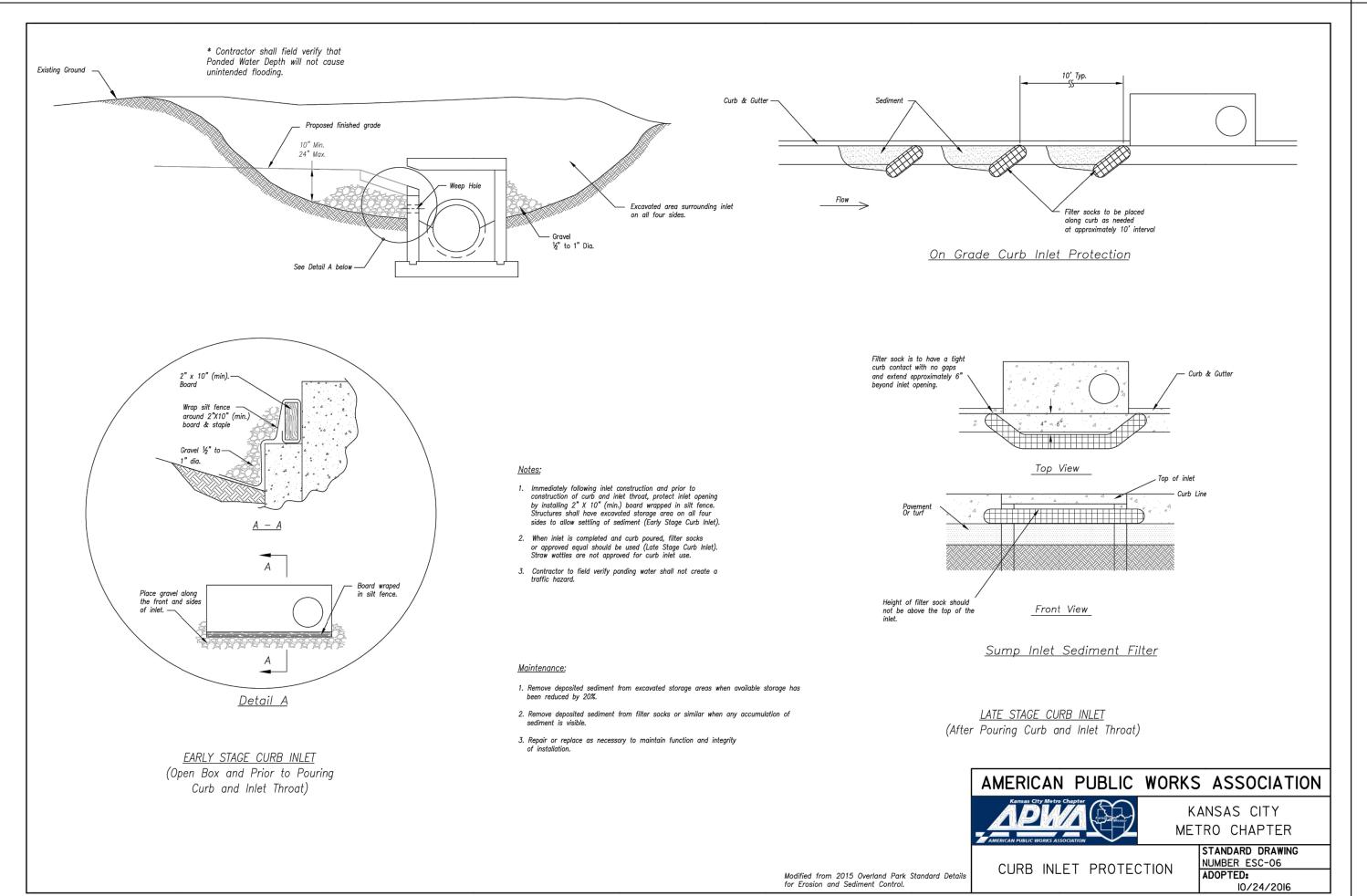
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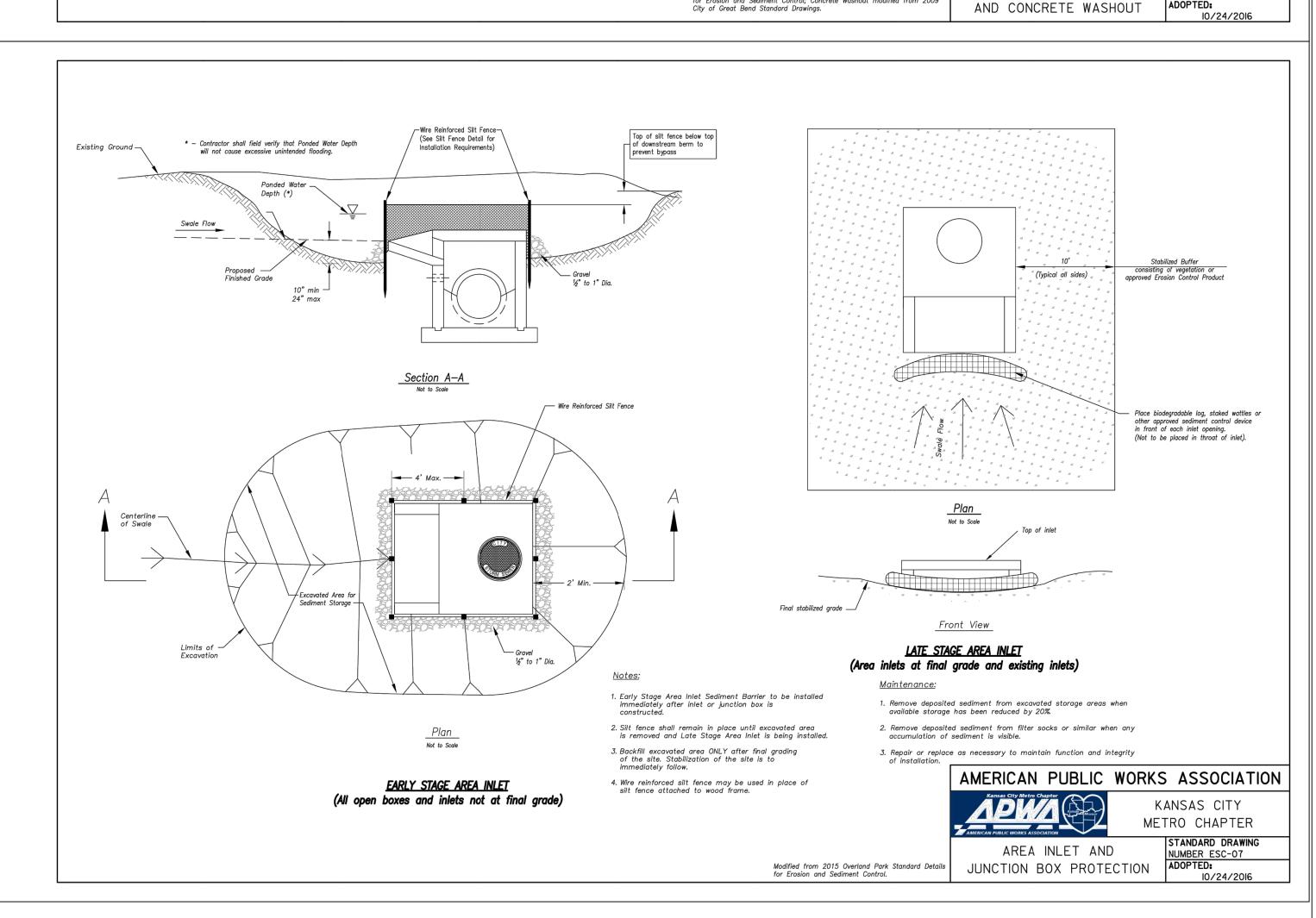
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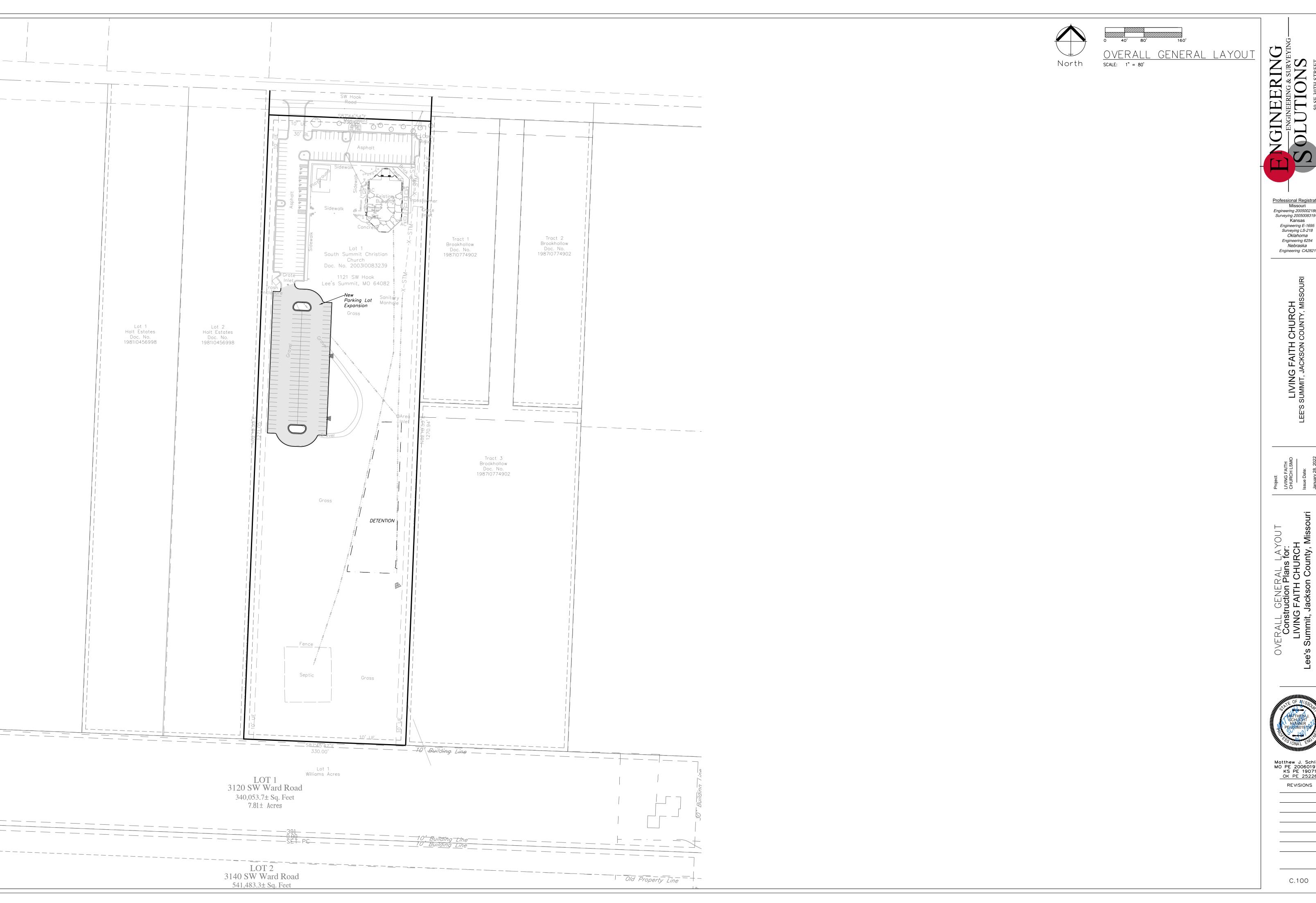


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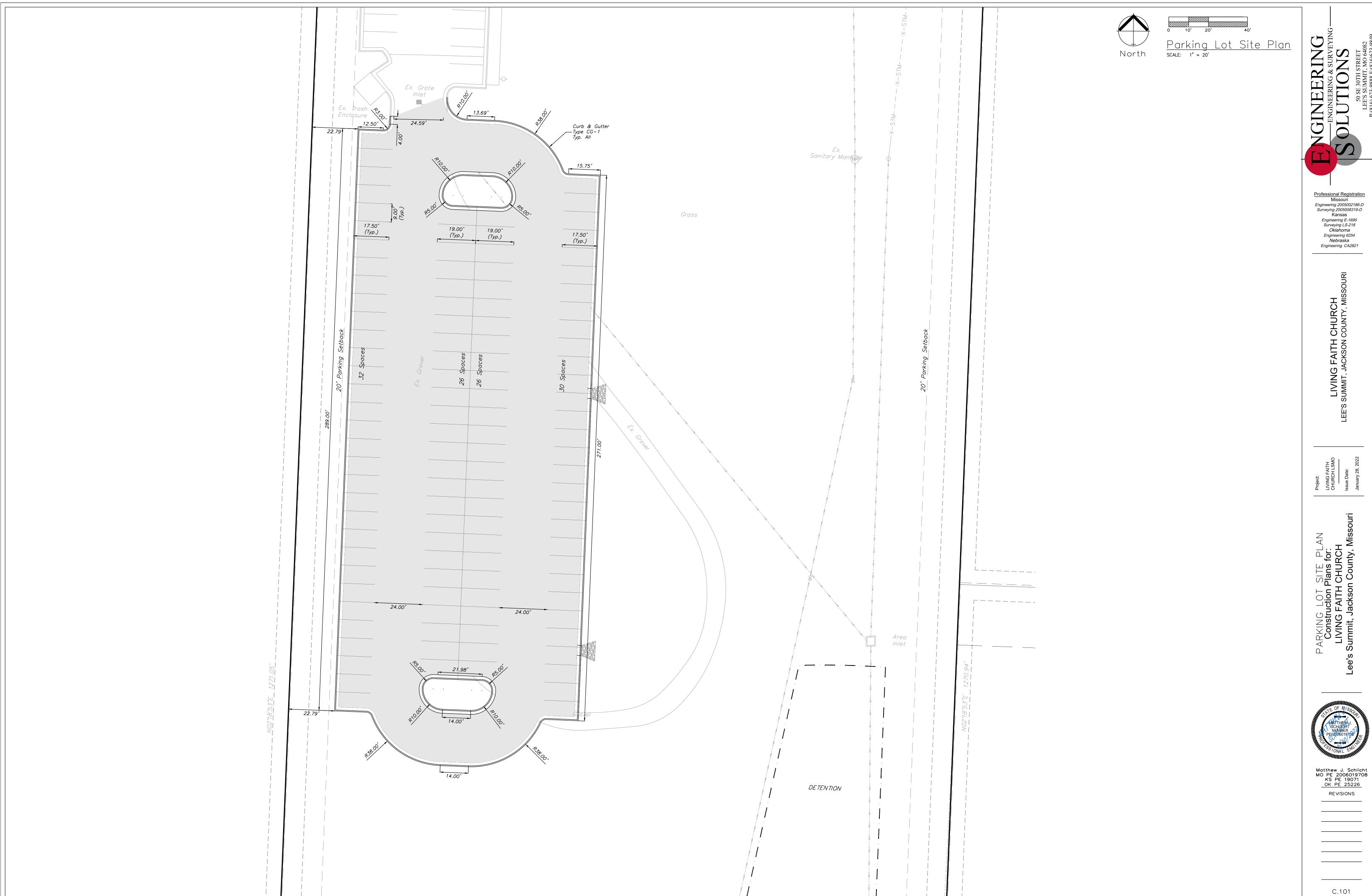
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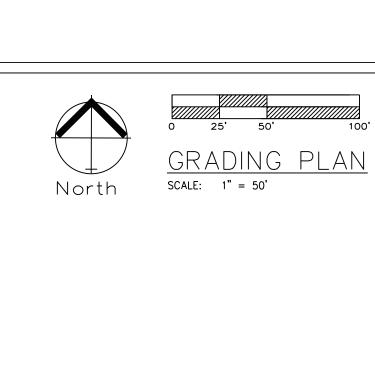
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Kansas
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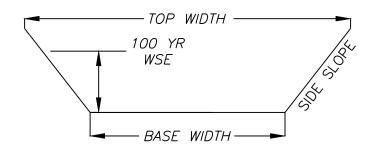


<u>Notes</u>

- 1. Contractor is responsible for verifying all existing utility locations prior to
- 2. There are no known natural or artificial water storage detention areas, or wetlands in the area designated for construction
 3. No part of the project lies within the 100 year flood plain
 4. All erosion and sediment control measures need to be implemented prior
- to construction

 5. Additional erosion control may be required by the Clty Engineer, Design
 Engineer or Owner at any time problematic areas are noted in the field or
 existing measures are found to be ineffective

 6. Soil Stabilization of disturbed areas shall be completed within 14 days of
- construction inactivity
 7. Contractor responsible for all density testing of roadway subgrade and
- granular base.



TYPICAL CHANNEL SECTION SWALE DETAIL Not To Scale

NOTE: Swale sections extend the entire length between upstream and downstream structures with the exception of a transition at each structure.

	100 YEAR - SWALE SECTIONS								
Section	100 Yr. Runoff	Bed Slope	Base	Side Slope	100 Yr	Sectional	Velocity 100Yr.	Hydraulic	Shear Stress
	(c.f.s.)	(%)	Width (ft)	(1:V)	WSE (ft)	Area	(f.p.s.)	Radius (ft)	(p.s.f.)
1-1	2.14	3.53	10	5	0.11	1.15	1.86	0.11	0.23
2-2	8 13	3.80	10	5	0.23	2.57	3 16	0.21	0.49

NOTE: Swale should be lined with "Straw with Net" turf reinforcement (Curlex Blanket or Eqv.). Per Table 5607—1 in APWA Manual

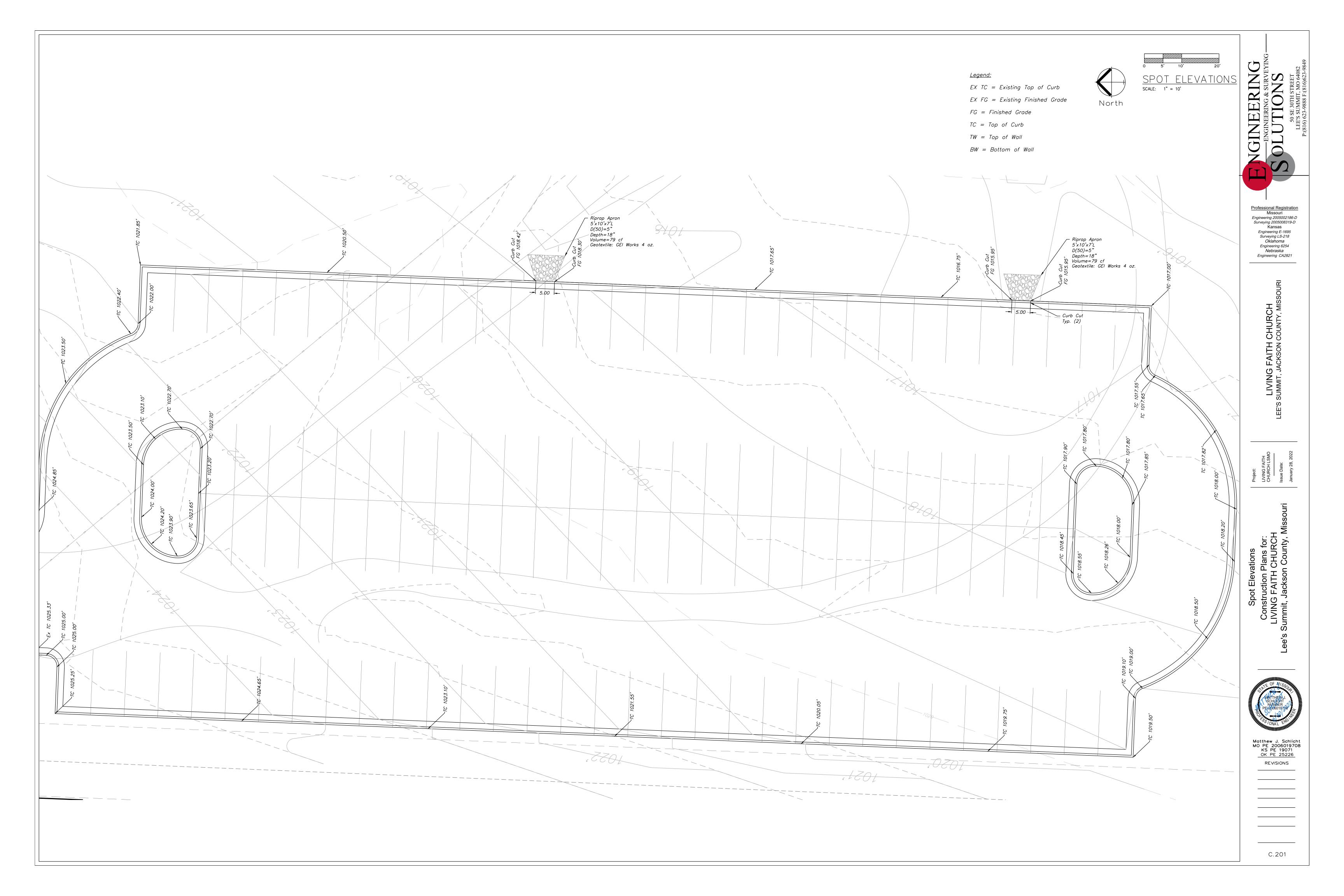
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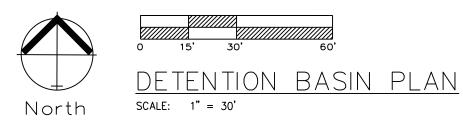
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Structure

Top 1012.00'

NOTES:

1. THE BASIN SHALL BE CONSTRUCTED WITH THE EROSION AND SEDIMENT CONTROL MEASURES. 2. AN AS-BUILT DETENTION BASIN PLAN SHALL BE SUBMITTED AND ACCEPTED PRIOR TO ISSUANCE OF A CERTIFICATE OF SUBSTANTIAL COMPLETION, WITH AS-BUILT VERSUS PROPOSED STORAGE.

Top Pond EL 1012.28'

Maximum Storage 87,788 c.f.

100 Year Clogged

WSE=1011.28'

100 Year

WSE=1010.49'

<u>SECTION VIEW - BASIN A</u>

2-YR

10-YR

35,439

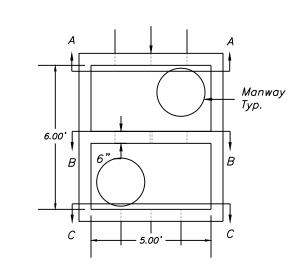
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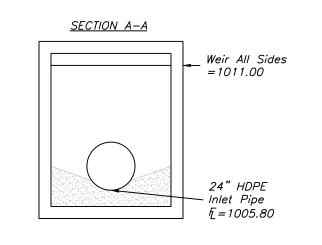
100-YR

54,908

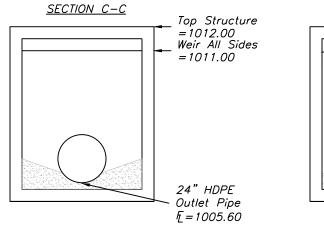
17.88

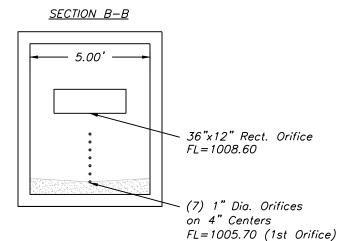
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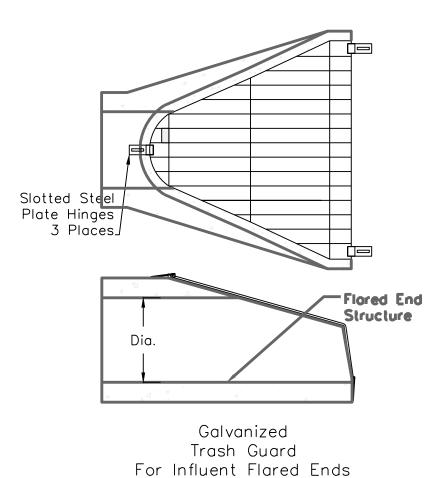


<u>Structural Notes:</u> 4,000 PSI Concrete . Grade 60 Rebar Top: #5 Bars @ 6" O.C.E.W. Walls: #5 Bars @ 12" O.C.E.W. Slab: #5 Bars @ 6" O.C.E.W.





<u>CONTROL STRUCTURE - BASIN A</u>



EXAMPLE CALCULATION

Field End Section #

Storm

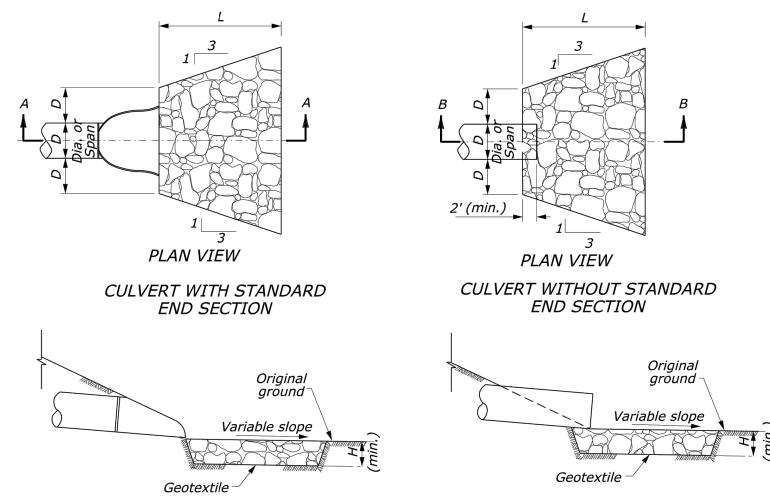
|Nominal Storage (cf)

Allowable Release Rate POI-A (cfs)

Q =	17.21	cfs	D ₅₀ = riprap size, m(ft)
D =	2	ft	Q = design discharge, m^3/s (ft^3/s)
Tw =	0.8	ft	D = culvert diameter (circular), m(ft)
g =	32.2	ft/s^2	Tw = tailwater depth, m(ft), if unknown use 0.4*D
			g = acceleration due to gravity, 9.81 m/s^2 (32.2 ft/s^2)
D ₅₀ =	5.23	inches	Subcritical Flow
S =	0.0083	ft/ft	S = pipe slope, m/m(ft/ft)
n =	0.01		n = manning's roughness coefficient, unitless
Qcap =		ft^3/s	Qcap = full pipe capacity, m^3/s(ft^3/s)
Q/Qcap =	0.64		Q/Qcap = design discharge/full pipe capacity, unitless
d/D =	0.58		d/D = water depth/pipe diameter, unitless
d =	1.16	ft	d = depth of flow, m(ft)
Vcap =	8.51	ft^2/s	Velocity Full m^2/s(ft^2/s)
V/Vcap	1.0599		V/Vcap = design velocity/full pipe velocity, unitless
V =	9.02	ft/s	$V = velocity of flow segment, m^2/s(ft^2/s)$
Fr=	1.48		Fr > 1 Supercritical, Fr = 1 Critical, Fr < 1 Subcritical
Flow =	Supercritical		If flow is Supercritical adjust culvert diameter
D' =	1.58	ft	D' = culvert diameter adjustment, m(ft)
yn =	1.16	ft	yn = normal (supercritcal) depth in culvert, m(ft)
D ₅₀ =	7.16	inches	
Classify	7.16	inches	

Class 3	Use D ₅₀ = 10			
Apron Length =	5 * D	10.00 ft	Use	10.00 ft
Apron Depth =	2.4 * D ₅₀	24.00 inches	Use	24.00 inches
Apron Width =	3*D+(2/3)L	12.67 ft	Use	13.00 ft

STANDARD RIPRAP APRON DETAIL



SECTION B-B SECTION A-A

NOTES:
1. ALL RIPRAP APRONS SHALL CONFORM TO THE STANDARD CONFIGURATION SHOWN IN THE STANDARD DETAIL ABOVE UNLESS OTHERWISE NOTED. PLAN VIEW DIMENSIONS SHOWN SHALL BE MET OR EXCEEDED INCLUDING AREAS OF LONGITUDINAL AND/OR TRANSVERSE SLOPE.

2. DIMENSIONS FOR EACH RIPRAP APRON AND ASSOCIATED RIPRAP ARE DETAILED IN THE PLAN SET.

3. GEOTEXTILE SHALL BE "GEI WORKS 4 OUNCE" NON-WOVEN FILTER FABRIC DESIGNED FOR FILTRATION, STABILIZATION AND SEPARATION WRAPPED CONTINUOUSLY ALONG THE SIDEWALLS AND BOTTOM OF THE PREPARED AREA OR SLOPE.

- WATER FLOW = 120 GPM/SF

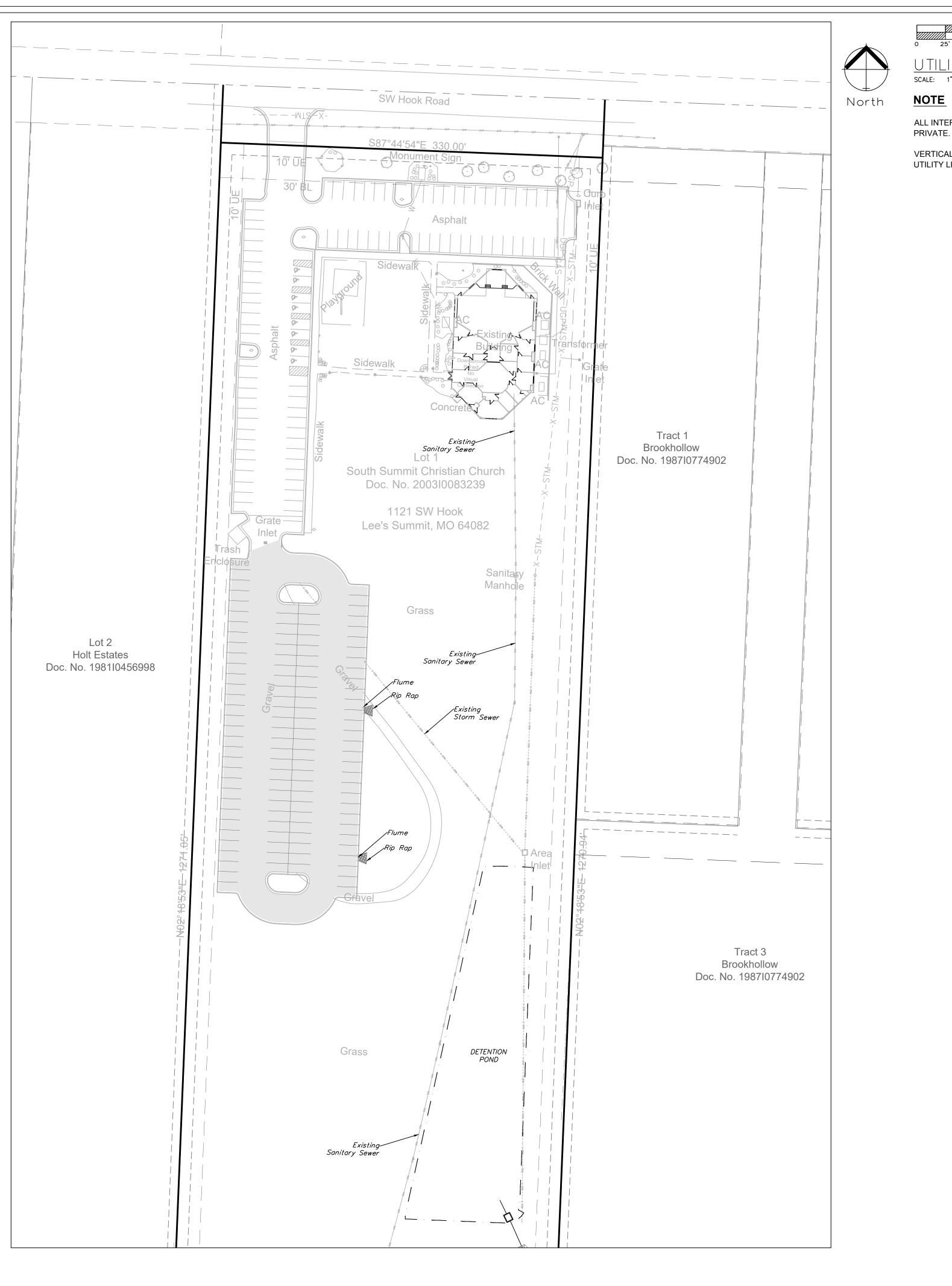
- CRAR STRENCTH (MIN) - 400 N

- GRAB STRENGTH (MIN) = 400 N - PUNCTURE STRENGTH (MIN) = 178 NTRAPEZOIDAL TEAR (MIN) = 133 NELONGATION (MIN) = 15%

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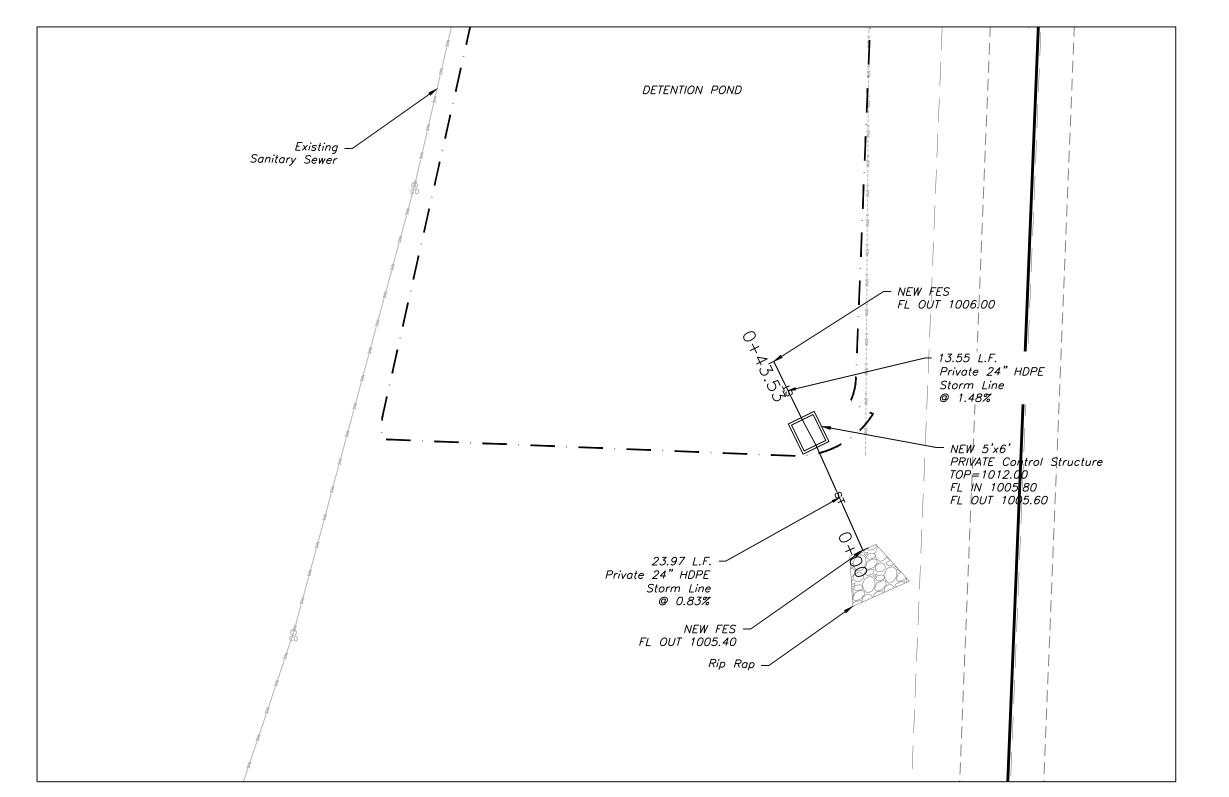
SCALE: 1" = 50'

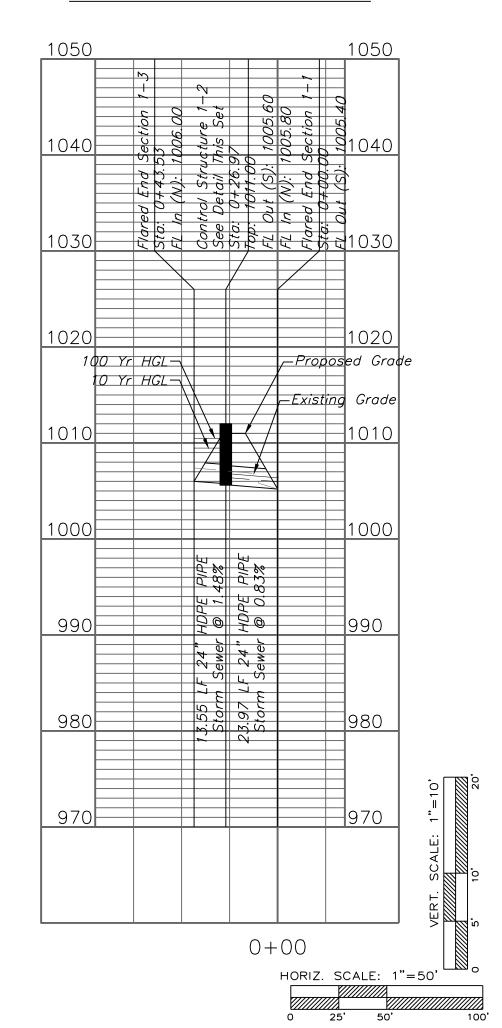
ALL INTERIOR STORM LINES ARE PRIVATE.

VERTICAL CLEARANCE BETWEEN UTILITY LINES TO BE 18" MINIMUM.



North





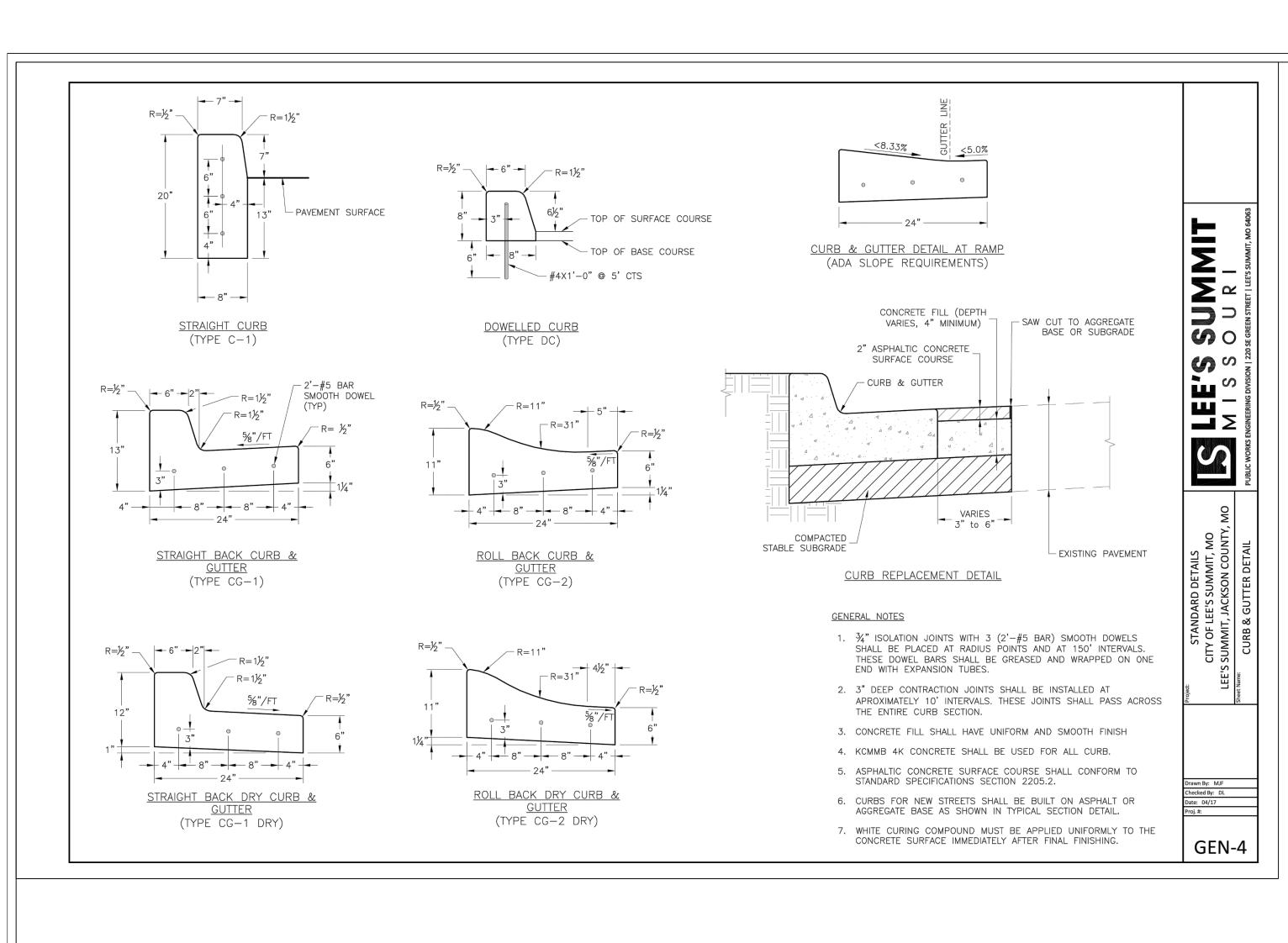
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Surveying 2005008319-D
Kansas
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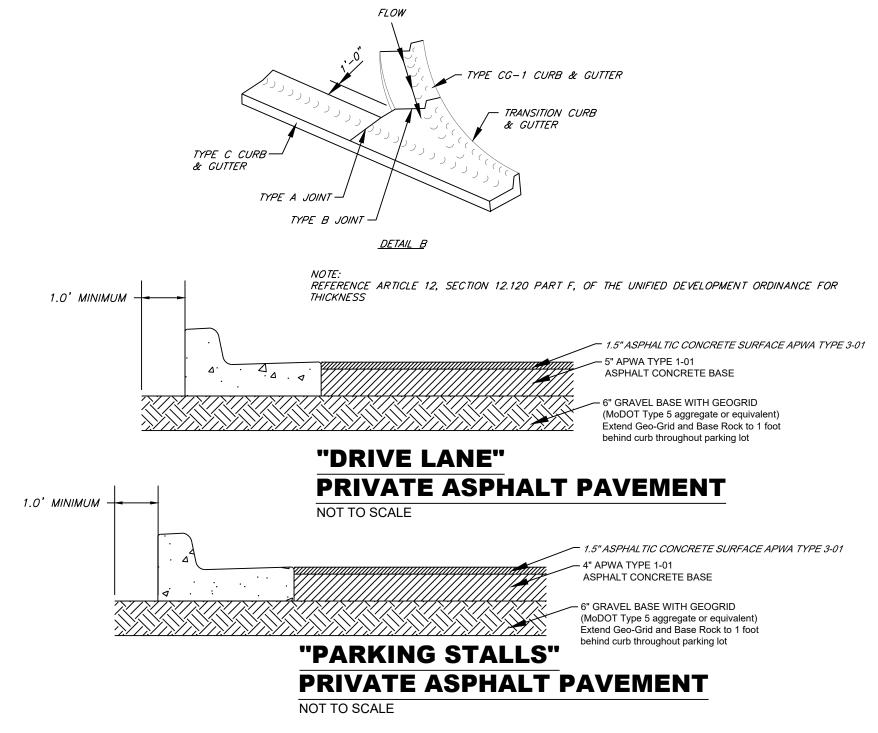
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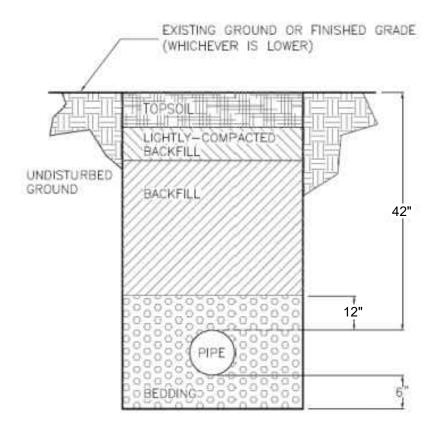
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LIVING FAITH CHURCH UMMIT, JACKSON COUNTY, MIS

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TRENCH AND BACKFILL DETAIL N.T.S.

HOUR ENGINEERING & SURVEY
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So SE 30TH STREET
LEE'S SUMMIT, MO 64082
P:(816) 623-9888 F:(816)623-98

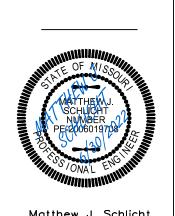
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Engineering CA2821

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ON COUNTY, MISSOURI

LIVING FAITH C LEE'S SUMMIT, JACKSON CO

HURCH LSMO

Construction Plans for:
LIVING FAITH CHURCH

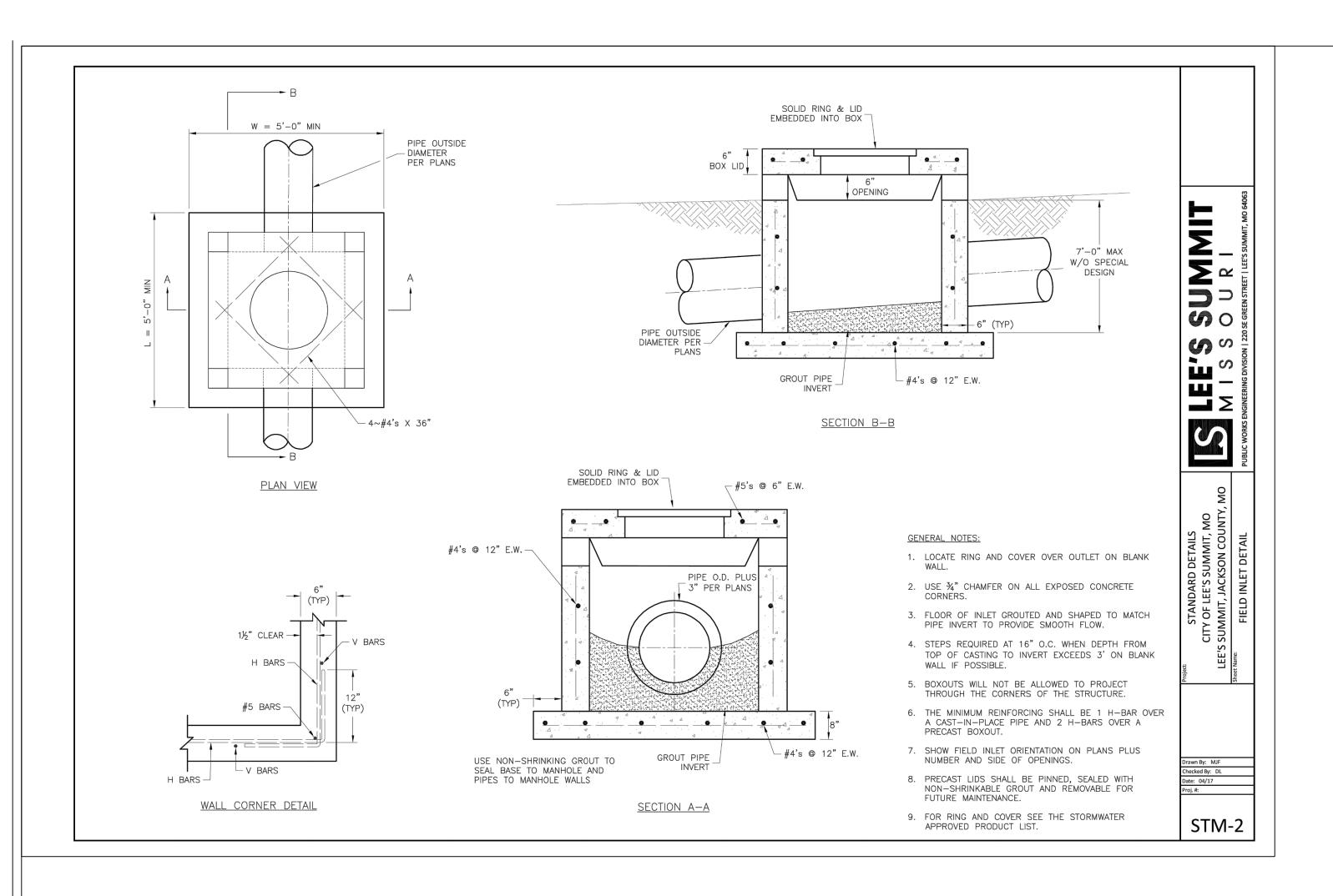


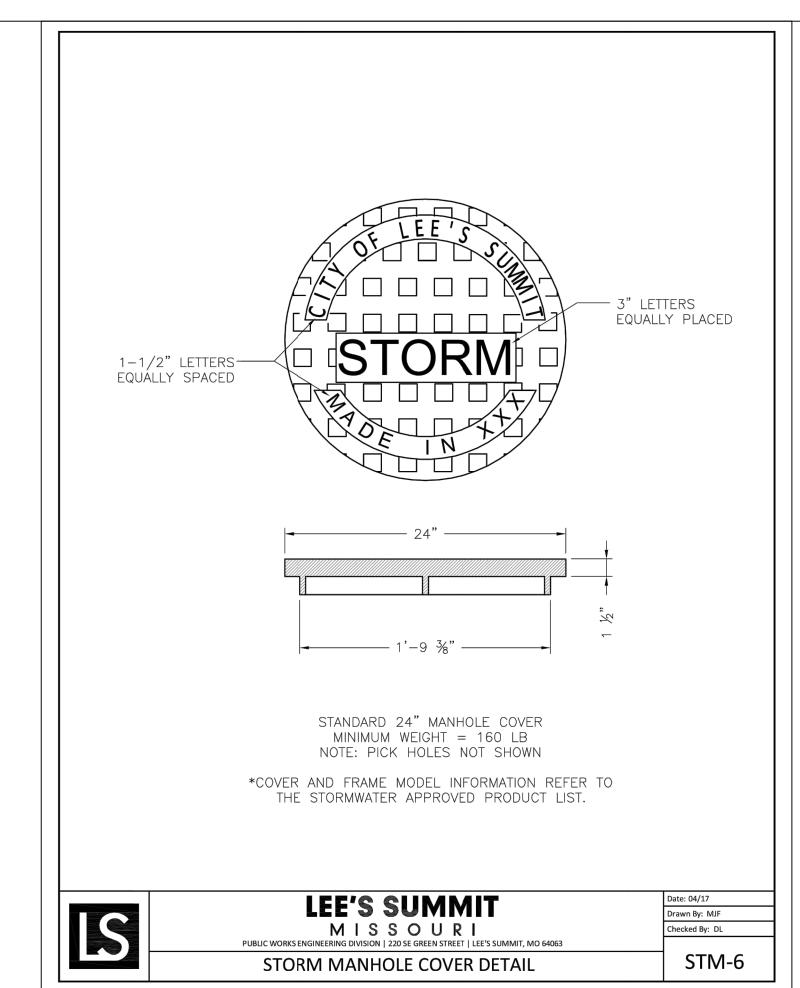
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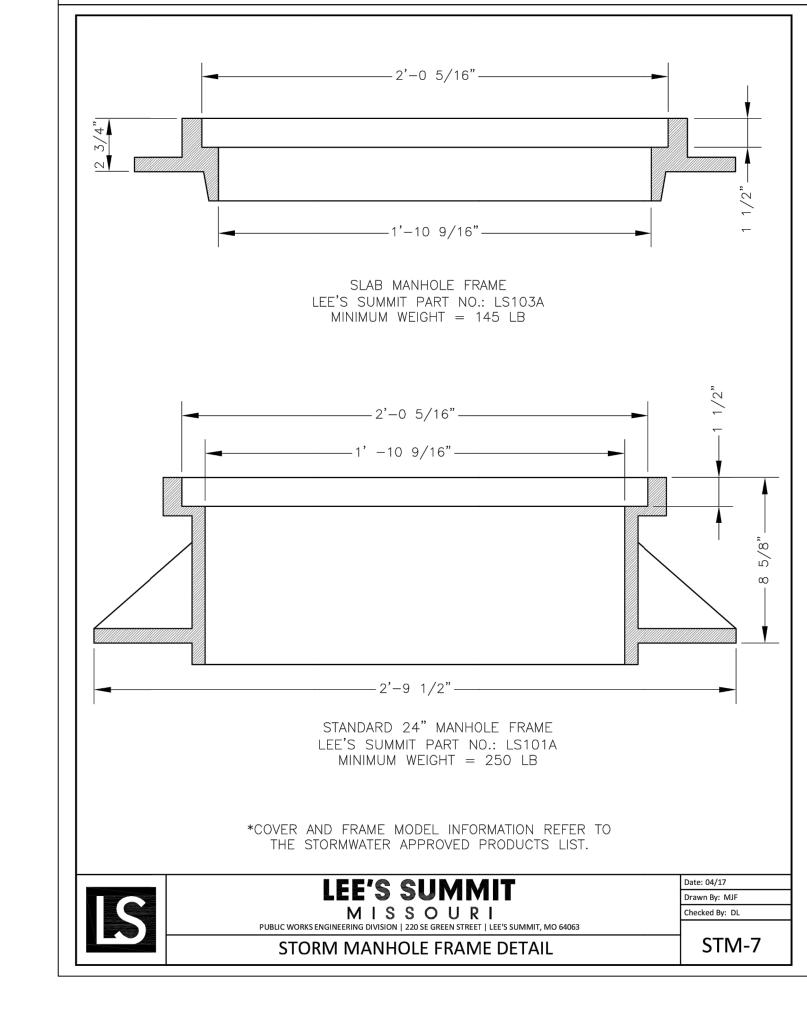
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GENERAL NOTE:

1 ~ ALL CONSTRUCTION SHALL CONFORM TO THE CITY OF LEE'S SUMMIT DESIGN AND CONSTRUCTION MANUAL AS ADOPTED BY ORDINANCE 5813.









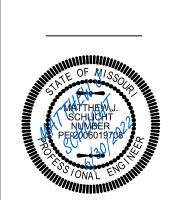
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ENGINEERING & SURVI ENGINEERING & SURVI SO SE 30TH STREET LEE'S SUMMIT, MO 640 P:(816) 623-9888 F:(816)623

Professional Registration
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LIVING FAITH CHURCH
E'S SUMMIT, JACKSON COUNTY, MISS

Construction Plans for: LIVING FAITH CHURCH tummit, Jackson County, Miss



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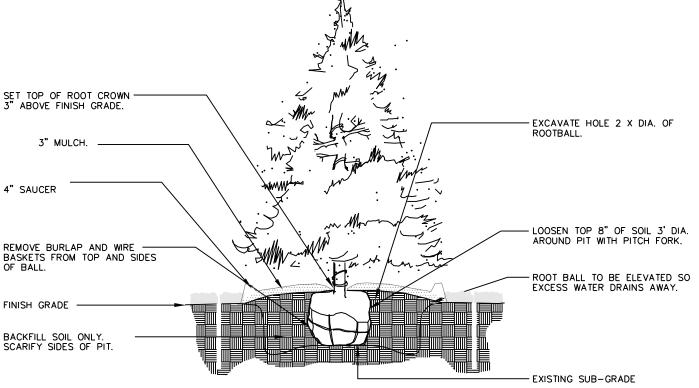
North

SCALE: 1" = 20'

GRAPHIC SCALE

SYMBOL QUANT. KEY NAMESIZEAMERICAN BASSWOOD LINDEN 3.0" CAL.

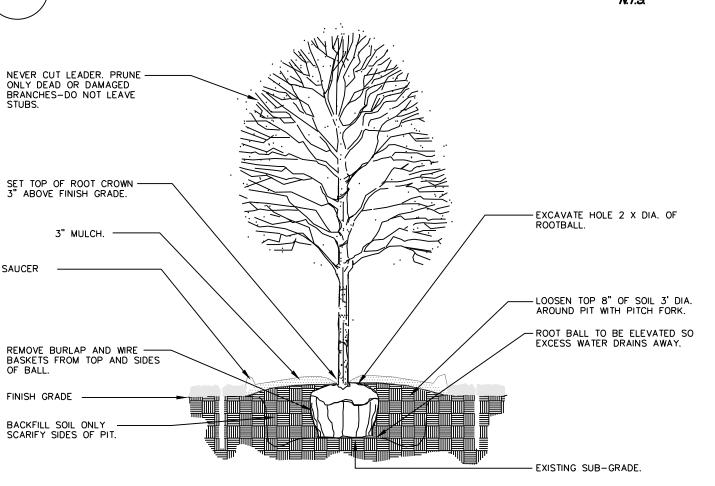
TILIA AMERICANA BURNING BUSH 2 Gallon Pot EUONYMUS ALATA "COMPACTUS"

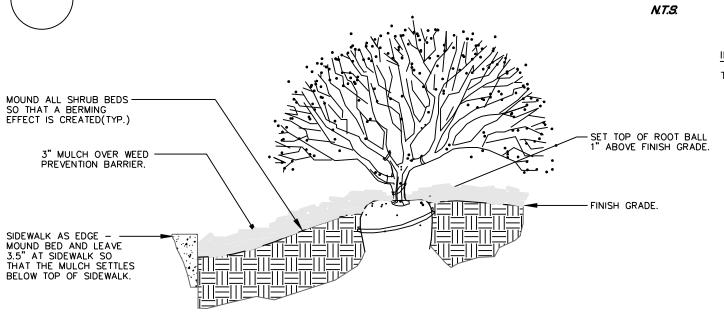


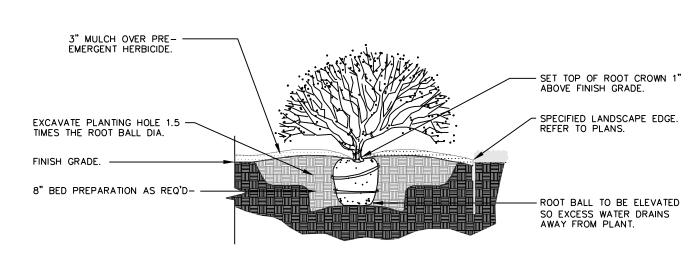
EVERGREEN TREE PLANTING

DECIDUOUS TREE PLANTING

SIDEWALK EDGE AT PLANT BED









GENERAL LANDSCAPE NOTES: PLANT MATERIAL

ALL PLANT MATERIAL SHALL BE FIRST CLASS REPRESENTATIVES OF SPECIFIED SPECIES, VARIETY OR CULTIVAR, IN HEALTHY CONDITION WITH NORMAL WELL DEVELOPED BRANCHES AND ROOT PATTERNS. PLANT MATERIAL MUST BE FREE OF OBJECTIONABLE FEATURES. PLANTS SHALL COMPLY IN ALL APPLICABLE RESPECTS WITH PROPER STANDARDS AS SET FORTH IN THE AMERICAN ASSOCIATION OF NURSERYMEN'S "AMERICAN STANDARD OF NURSERY STOCK", ANSI Z60.1-2004. SHRUBS SHALL BE CONTAINER GROWN AND WILL BE FREE OF DISEASE AND PESTS. NO BARE ROOT. ALL PLANT BEDS TO BE MULCHED TO A DEPTH OF 3" WITH DARK BROWN, HARDWOOD MULCH. PLANTING BEDS ARE TO BE FREE OF WEEDS AND GRASS. TREAT BEDS WITH A PRE-EMERGENT HERBICIDE PRIOR TO PLANTING AND MULCH PLACEMENT. APPLY IN ACCORDANCE WITH STANDARD TRADE PRACTICE. HOLE AREA FOR TREE TO BE TWICE (2x) THE DIAMETER OF THE ROOT BALL AND ROOT BALL SHALL BE SLIGHTLY MOUNDED FOR WATER RUN-OFF.

4. ALL PLANT MATERIALS SHALL BE PROTECTED FROM THE DRYING ACTION OF THE SUN AND WIND AFTER BEING DUG, WHILE BEING TRANSPORTED, AND WHILE AWAITING PLANTING. BALLS OF PLANTS WHICH CANNOT BE PLANTED IMMEDIATELY SHALL BE PROTECTED FROM DRYING ACTION BY COVERING THEM WITH MOIST MULCH. PERIODICALLY, APPLY WATER TO MULCH-COVERED BALLS TO KEEP MOIST. IF PLANTING SHOULD OCCUR DURING GROWING SEASON, APPLY ANTI-DESICCANT TO LEAVES BEFORE TRANSPORT TO REDUCE THE LIKELIHOOD OF WINDBURN. REAPPLY ANTI- DESICCANT AFTER PLANTING TO REDUCE TRANSPIRATION. REMOVE TWINE AND BURLAP FROM ROOT BALLS. SOIL ON TOP OF CONTAINERIZED OR BALLED PLANTS IS TO BE REMOVED UNTIL ALL PLANTS' ROOT FLARES ARE EXPOSED. THIS IS THE NATIVE SOIL LINE AT WHICH PLANTING DEPTHS SHOULD BE MEASURED. AFTER PLANTING IS COMPLETED, PRUNE MINIMALLY TO REMOVE DEAD OR INJURED TWIGS AND BRANCHES. PRUNE IN SUCH A MANNER AS NOT TO CHANGE THE NATURAL HABIT OR SHAPE OF THE PLANT. MAKE CUTS BACK TO BRANCH COLLAR, NOT FLUSH. DO NOT PAINT ANY CUTS WITH WITH TREE PAINT. CENTRAL LEADERS SHALL

6. GUARANTEE TREES, SHRUBS, GROUND COVER PLANTS FOR ONE CALENDAR YEAR FOLLOWING PROVISIONAL ACCEPTANCE OF THE OVERALL PROJECT. DURING THE GUARANTEE PERIOD, PLANTS THAT DIE DUE TO NATURAL CAUSES OR THAT ARE UNHEALTHY OR UNSIGHTLY IN CONDITION, SHALL BE REPLACED BY THE CONTRACTOR.

LAWN AND TURF AREAS

7. ALL LAWN AREAS TO BE SODDED OR SEEDED AS SHOWN ON PLANS. SOD SHALL COMPLY WITH US DEPT. OF AGRICULTURE RULES AND REGULATIONS UNDER THE FEDERAL SEED ACT AND EQUAL IN QUALITY TO STANDARDS FOR CERTIFIED SEED. SOD SHALL BE HEALTHY, THICK TURF HAVING UNDERGONE A PROGRAM OF REGULAR FERTILIZING, MOWING AND WEED CONTROL. SEED AND SOD SHALL BE A TURF-TYPE TALL FESCUE (3 WAY) BLEND. SEED BLEND SHALL CONSIST OF THE FOLLOWING:

KENTUCKY BLUEGRASS

8. ALL SEEDED AREAS ARE TO BE MULCHED WITH STRAW OR HYDROMULCH AT TIME OF INSTALLATION UNTIL SEED HAS ESTABLISHED.

INSTALLATION

9. THE INSTALLATION OF ALL PLANT MATERIALS SHALL BE IN COMPLIANCE WITH THE REQUIREMENTS OF THE CITY OF LEE'S SUMMIT, MO. AND LANDSCAPE INDUSTRY STANDARDS. 10. ALL LANDSCAPE AREAS TO BE FREE OF ALL BUILDING DEBRIS AND TRASH, BACK FILLED WITH CLEAN FILL SOIL AND TOP DRESSED WITH 4" OF TOPSOIL. TOPSOIL SHALL HAVE A PH RANGE OF 5.5 TO 7 AND A 4% ORGANIC MATERIAL MINIMUM, ASTM D5268. 11. PLANT BEDS TO BE "MOUNDED". ALL PLANT MATERIAL, PLANT BEDS, MULCH AND DUG EDGE ARE TO BE INSTALLED PER LANDSCAPE PLANS, DETAILS, AND MANUFACTURER'S RECOMMENDATIONS.

REESTABLISH FINISH GRADES TO WITHIN ALLOWABLE TOLERANCES ALLOWING 3/4" FOR SOD AND 3" FOR MULCH IN PLANT BEDS. HAND RAKE ALL AREAS TO SMOOTH EVEN SURFACES FREE OF DEBRIS, CLODS, ROCKS, AND VEGETATIVE MATTER GREATER THAN 1". ALL PLANT BEDS, SHRUBS AND TREES SHALL BE MULCHED WITH 3" OF DARK BROWN, HARDWOOD MULCH, EXCEPT IF NOTED AS ROCK. DARK BROWN, HARDWOOD MULCH SHALL BE INSTALLED OVER DEWITT PRO 5 WEED

CONTROL FABRIC IN PLANT BEDS ONLY. CONTRACTOR IS RESPONSIBLE FOR INITIAL WATERING UPON INSTALLATION. DUG EDGES ARE TO BE DUG WHERE MULCH BEDS ARE ADJACENT TO TURF AREAS. NO EDGING IS REQUIRED ADJACENT TO PAVEMENT OR CURB.

THE EXACT LOCATION OF ALL UTILITIES, STRUCTURES, AND UNDERGROUND UTILITIES SHALL BE DETERMINED AND VERIFIED ON SITE BY THE LANDSCAPE CONTRACTOR PRIOR TO INSTALLATION OF THE MATERIALS. DAMAGE TO

EXISTING UTILITIES AND OR STRUCTURES SHALL BE REPLACED TO THEIR ORIGINAL CONDITION BY THE LANDSCAPE CONTRACTOR AT NO COST TO THE OWNER. LANDSCAPE CONTRACTOR IS RESPONSIBLE FOR OBTAINING NECESSARY PERMITS AND APPROVALS AND REQ'D INSPECTIONS BY LEGAL AUTHORITIES. PROVISIONS SHALL BE MADE FOR READILY ACCESSIBLE IRRIGATION WITHIN 100' MAX. OF ALL LANDSCAPED AREAS INCLUDING ALL PLANT BEDS, INDIVIDUAL TREES, AND TURF AREAS. ALL LAWN AREAS (AS SHOWN ON

PLANS) WILL BE IRRIGATED BY AN AUTOMATIC SPRINKLER SYSTEM. THE LANDSCAPE CONTRACTOR IS RESPONSIBLE FOR THE DESIGN AND INSTALLATION OF ALL IRRIGATION COMPONENTS, SLEEVING, PIPE AND CONTROL. DESIGN DRAWINGS OF IRRIGATION SYSTEM SHALL BE SUBMITTED TO THE LANDSCAPE ARCHITECT AND OWNER FOR REVIEW AND APPROVAL PRIOR TO INSTALLATION. 19. ANY SUBSTITUTIONS OR DEVIATIONS SHALL BE REQUESTED IN WRITING BY THE CONTRACTOR FOR APPROVAL BY THE LANDSCAPE ARCHITECT PRIOR TO INSTALLATION OF PLANT MATERIALS. ALL PLANTS ARE TO BE LOCATED AS SPECIFIED ON DRAWINGS.

MAINTENANCE BY OWNER

20. ALL SHRUBS ARE TO BE MAINTAINED IN THEIR NATURAL SHAPE TO ALLOW EVENTUAL GROWTH INTO A HEDGE. 21. MAINTAIN NATURAL HABIT OF ALL SPECIFIED PLANT MATERIAL.

22. NEW SOD TO BE THOROUGHLY WATERED UNTIL ROOTS "TAKE HOLD" OF SOD BED. CONTINUE WATERING AS REQUIRED, UNTIL COMPLETELY ESTABISHED.

IRRIGATION PERFORMANCE SPECIFICATION:

SPRAYING OVER SIDEWALKS.

- THE FOLLOWING CRITERIA SHALL BE CONSIDERED MINIMUM STANDARDS FOR DESIGN AND INSTALLATIONOF LANDSCAPE IRRIGATION SYSTEM: 1. GENERAL - IRRIGATION SYSTEM TO INCLUDE DRIP IRTRIGATION OF SHRUB BEDS ADJACENT TO BUILDINGS, SPRAY HEADS IN THE PARKING ISLANDS, AND ROTORS AROUND THE PERIMETER OF THE PARKING LOTS. HEADS SHALL THROW AWAY FROM BUILDING AND ACOID
- INRIGATION SYSTEM SHALL CONFORM TO ALL INDUSTRY STANDARDS AND ALL FEDERAL, STATE AND LOCAL LAWS GOVERNING DESIGN
- 3. WATERLINE TYPW, SIZE LOCATION, PRESSURE AND FLOW SHALL BE FIELD VERIFIED PRIOR TO SYSTEM DESIGN AND INSTALLATION.
- 4. ALL MATERIALS SHALL BE FROM NEW STOCK FREE OF DEFECTS AND CARRY A MINIMUM ONE YEAR WARRANTY FROM THE DATE OF SUBSTANTIAL COMPLETION.
- 5. THE IRRIGATION SYSTEM SHALL BE DESIGNED AND INSTALLED IN SUCH A WAY THAT ALL SYSTEM COMPONENTS OPERATE WITHIN THE GUIDELINES ESTABLISHED BY THE MANUFACTURER. 6. LAWN AREA AND SHRUB BEDS SHALLBE ON SEPARATE CIRCUITS.
- 7. PROVIDE WATER TAP, METER SET, METER VAULT AND ALL OTHER OPERATIONS NECESSARY TO PROVIDE WATER FOR IRRIGATION SHALL
- CONFORM TO LOCAL WATER GOVERNING AUTHORITY CUIDELINES AND STANDARDS.
- 8. BACKFLOW PREVENTION SHALL BE PROVIDED IN ACCORDANCE WITH STATE AND LOCAL REQULATIONS.
- 9. IRRIGATION CONTROLLER TO BE LOCATED IN UTILITY ROOM INSIDE BUILDING, AS IDENTIFIED BY OWNER.
- 10. IRRIGATION CONTROLLER STATIONS SHALL BE LABELED TO CORRESPOND WITH THE CIRCUIT IT CONTROLS.
- 11. CONTRACTOR SHALL PROVIDE TO THE OWNER WRITTEN OPERATION INFORMATION FOR ALL SYSTEM COMPONENTS. 12. CONTRACTOR SHALL PROVIDE O THE OWNER ALL KEYS, ACCESS TOOLS, WRENCHES AND ADJUSTING TOOLS NECESSARY TO GAIN ACCESS, ADJUST AND CONTROL THE SYSTEM.
- 13. CONTRACTOR SHALL PROVIDE SHOP DRAWINGS TO THE OWNER FOR REVIEW AND APPROVAL PRIOR TO INSTALLATION.
- 14. AN AUTOMATIC RAIN SHUT-OFF OR MOISTURE DEVICE SHALL BE INSTALLED. 15. INSTALL SCHEDULE 40 PVC SLEEVES UNDER ALL CURBS, PAVING AND SIDEWALKS. SLEEVES TO BE TWICE THE SIZE OF THE LINE IT HOUSES. 16. INSTALL MANUAL DRAIN BALBES AT LOWEST POSSIBLE ELEVATION ON IRRIGATION MAIN TO ALLOW GRAVITY DRAINING OF MAIN DURING

WINTER MONTHS. PROVIE QUICK COUPLERS AT MULTIPLE LOCATIONS TO ALLOW FOR EASY "BLOWING OUT" OF LATERAL AND MAIN

17. ZONES OR NOZZLES SHALL BE DESIGNED WITH MATCHED PRECIPITATION RATES.

b. COMPONENT NAME, MANUFACTURER, MODEL INFORMATION, SIZE AND QUANTITY

18. MINIMUM LATERAL DEPTH IS 15" AND MAIN DEPTH IS 18".

- 19. SUBMIT DESGN DRAWING WITH BID TO ALLOW OWNER TO EVALUATE SYSTEM. INCLUDE CUT SHEETS OF ALL COMPONENTS AND ZONE TABLE ILLUSTRATING FLOWS AND ANTICIPATED PRESSURE AT FURTHEST HEAD.
- 20. AN "AS-BUILT" SCALED DRAWING SHALL BE PROVIDED TO THE OWNER BY THE CONTRACTOR AND SHALL INCLUDE UT NOT BE LIMITED TO THE FOLLOWING:
- a. AS CONSTRUCTED LOCATION OF ALL COMPONENTS
- c. PIPE SIZE AND QUANTITY
- d. INDICATION OF SPRINKLER HEAD SPRAY PATTERN
- e. CIRCUIT IDENTIFICATION SYSTEM

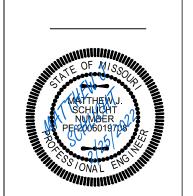
N.T.S.

f. DETAILED METHOD OF WINTERIZED SYSTEM

SUBMIT AS-BUILT DRAWING IN FULL SIZE DRAWING FORM AS WELL AS PDF ELECTRONIC FORMAT. (SCANNING FULL SIZE COPY OF PLAN IS ACCEPTABLE IF IT CAN BE PRINTED TO SCALE.

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