

NAPA VALLEY - 4th PLAT

Street, Stormwater, Master Drainage Plan, and Erosion and Sediment Control

LOTS 147-165

PART OF THE NW 1/4 SECTION 36. TOWNSHIP 47 N, RANGE 32 W
LEE'S SUMMIT, JACKSON COUNTY, MISSOURI

CONSTRUCTION AND DESIGN NOTES:

STREET & STORM SEWERS:

- 1 ~ STREET PAVEMENT SHALL CONSIST OF TYPE CG-2 CURBS WITH PAVEMENT PER TABLE LS-2 OF THE LEE'S SUMMIT DESIGN AND CONSTRUCTION MANUAL
- OPTION 1) 4" TYPE 5 ASPHALT BASE AND 2" TYPE 5 OR 6 ASPHALT SURFACE OVER A 6" MoDOT TYPE 5 BASE AND A SUBGRADE MIXTURE OF 6" FLY ASH STABILIZED SUBGRADE IN ACCORDANCE WITH THE CITY OF LEE'S SUMMIT DESIGN AND CONSTRUCTION MANUAL.
- OPTION 2) 4" TYPE 5 ASPHALT BASE AND 2" TYPE 5 OR 6 ASPHALT SURFACE OVER 10" MoDOT TYPE 5 BASE OVERTOP A BIAXIAL GEOGRID MEETING THE REQUIREMENTS OF TABLE 2201.6-1

2 ~ RESIDENTIAL STREETS SHALL BE PER APWA STANDARD FOR 50' R/W TYPICAL SECTION TABLE LS-2 SECTION 5200 (RESIDENTIAL LOCAL STREET). RESIDENTIAL STREETS SHALL BE PER APWA STANDARD FOR 60' R/W TYPICAL SECTION TABLE LS-2 SECTION 5200 (RESIDENTIAL COLLECTOR).

3 ~ STORM SEWER PIPE SHALL BE HIGH DENSITY POLYETHYLENE (HDPE) AS APPROVED BY CITY OF LEE'S SUMMIT DESIGN AND CONSTRUCTION MANUAL.

4 ~ JUNCTION BOXES SHALL BE PER CITY OF LEE'S SUMMIT STANDARD DRAWING NO. JB-1. FIELD INLETS SHALL BE PER CITY OF LEE'S SUMMIT STANDARD DRAWING FI-1. TOEWALLS SHALL BE PER CITY OF LEE'S SUMMIT DRAWING NO. SD-35. STORM MANHOLES SHALL BE PER CITY OF LEE'S SUMMIT DETAIL SD-27. ROCK LINING AND RIP RAP SHALL BE PER CITY OF LEE'S SUMMIT.

WATER:

1 ~ THE CONTRACTOR SHALL NOTIFY THE CITY OF LEE'S SUMMIT WATER UTILITIES DEPARTMENT AT 816.969.1900 AT LEAST 48 HOURS PRIOR TO CONNECTING TO ANY EXISTING WATER MAIN.

2 ~ ALL WATER MAINS SHALL COMPLY WITH ANSI/AWWA C150/A21.50 AND C151/A21.51, AND CITY OF LEE'S SUMMIT STANDARDS.

3 ~ FIRE HYDRANTS SHALL BE OPTIC YELLOW WATEROUS "PACER" MODEL NO. WB-67-250 WITH NON-RISING STEM OR CITY ENGINEER APPROVED EQUAL. HYDRANTS SHALL HAVE A 5 1/4" VALVE WITH A 4 1/2" PUMPER NOZZLE AND 2 - 2 1/2" HOSE NOZZLES (LEFT HAND OPENING).

4 ~ GATE VALVES SHALL BE MUELLER NO. A 2380-5 HUB END "O" RING SEAL NON-RISING STEM. VALVES 12" OR LARGER SHALL BE BUTTERFLY VALVES MANUFACTURED BY THE HENRY PRATT COMPANY OR CITY ENGINEER APPROVED EQUAL. LEFT HAND OPENING. MINIMUM 200# TESTING AWWA.

5 ~ VALVE BOXES SHALL BE CLAY & BAILEY NO. P-108 OR CITY ENGINEER APPROVED EQUAL. ALL VALVE BOXES SHALL BE LOCATED OUT OF EXISTING OR PROPOSED PAVEMENT AREAS.

6 ~ ALL WATER MAINS SHALL BE CONSTRUCTED WITH A MINIMUM COVER OF 42 INCHES. STREET GRADING SHALL BE COMPLETED PRIOR TO BEGINNING CONSTRUCTION OF WATER MAINS.

7 ~ ALL BENDS, TEES AND FIRE HYDRANTS SHALL BE INSTALLED WITH SUITABLE CONCRETE THRUST BLOCKS POURED IN PLACE AGAINST UNDISTURBED EARTH AND PER CITY OF LEE'S SUMMIT AND APWA STANDARDS.

8 ~ THE MINIMUM SEPARATION BETWEEN THE PROPOSED WATER MAIN AND SANITARY OR STORM SEWERS IS AS FOLLOWS:

A ~ SANITARY SEWERS: HORIZONTAL = 10 FEET - VERTICAL = 18 INCHES

B ~ STORM SEWERS: HORIZONTAL = 5 FEET - VERTICAL = 18 INCHES

THESE SEPARATIONS SHALL PREVAIL OVER ANY DATA SHOWN IN THESE PLANS AND THE CONTRACTOR SHALL INSTALL BENDS OR OTHER FITTINGS AS NECESSARY TO ACHIEVE THE REQUIRED SEPARATIONS.

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 NOTIFY THE CITY OF LEE'S SUMMIT PUBLIC WORKS INSPECTION AT 816.969.1800 AT LEAST 48 HOURS PRIOR TO THE COMMENCEMENT OF ANY CONSTRUCTION.

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 ~ 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.

NOTE :

ALL CONSTRUCTION SHALL FOLLOW THE CITY OF LEE'S SUMMIT DESIGN AND CONSTRUCTION MANUAL AS ADOPTED BY ORDINANCE 5813. WHERE DISCREPANCIES EXIST BETWEEN THESE PLANS AND THE DESIGN AND CONSTRUCTION MANUAL, THE DESIGN AND CONSTRUCTION MANUAL SHALL PREVAIL.

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.

KCP&L ~ 288-1196

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

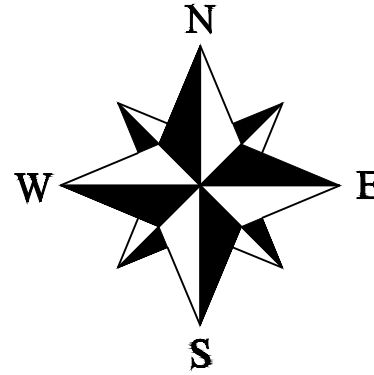
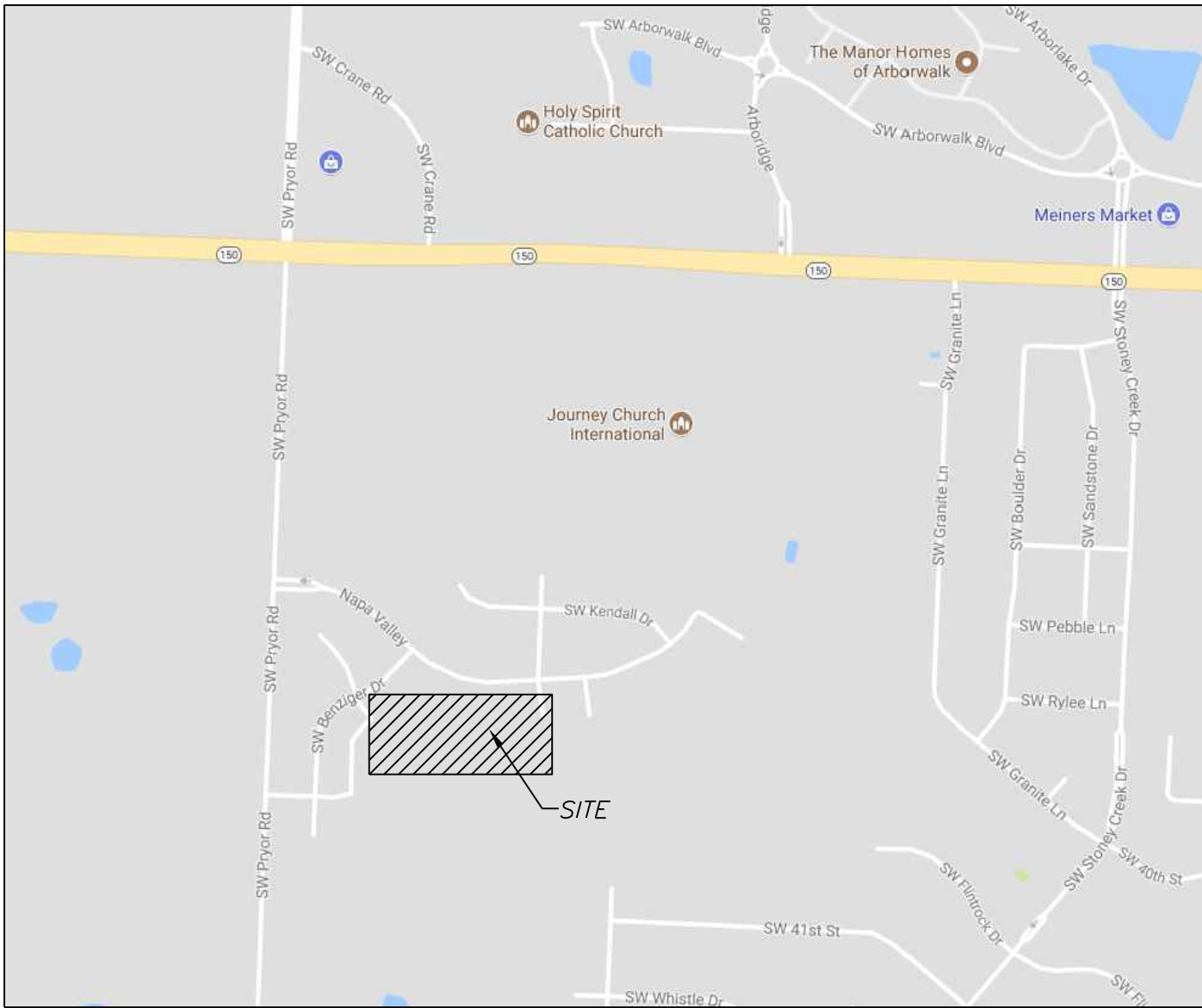
CITY OF LEE'S SUMMIT PUBLIC WORKS INSPECTIONS ~ 969-1800

CITY OF LEE'S SUMMIT WATER UTILITIES ~ 969-1900

MISSOURI ONE CALL (DIG RITE) ~ 1-800-344-7483

INDEX OF SHEETS:

- C.001 ~ COVER SHEET
C.050 ~ ESC PHASE 1 - Pre Clearing Plan
C.051 ~ ESC PHASE 2 - Inactive Area Stabilization Plan
C.052 ~ ESC PHASE 3 - Final Restoration Plan
C.053 ~ ESC DETAILS
C.100 ~ SITE PLAN
C.101 ~ STREET SIGNAGE PLAN
C.200 ~ MASTER DRAINAGE PLAN SHEET 1 OF 3 GRADING PLAN - SWPPP
C.201 ~ MASTER DRAINAGE PLAN SHEET 2 OF 3 SPOT ELEVATIONS
C.202 ~ MASTER DRAINAGE PLAN SHEET 3 OF 3 DRAINAGE AREA MAP
C.203 ~ STREET PLAN AND PROFILE
C.300 ~ STORM SEWER GENERAL LAYOUT
C.301 ~ STORM SEWER PLAN AND PROFILE
C.302 ~ 10 YR & 100 YR STORM TABLES
C.303 ~ STORM SEWER DETAILS
C.600 ~ CONSTRUCTION DETAILS
C.601 ~ CONSTRUCTION DETAILS
C.602 ~ CONSTRUCTION DETAILS



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

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.

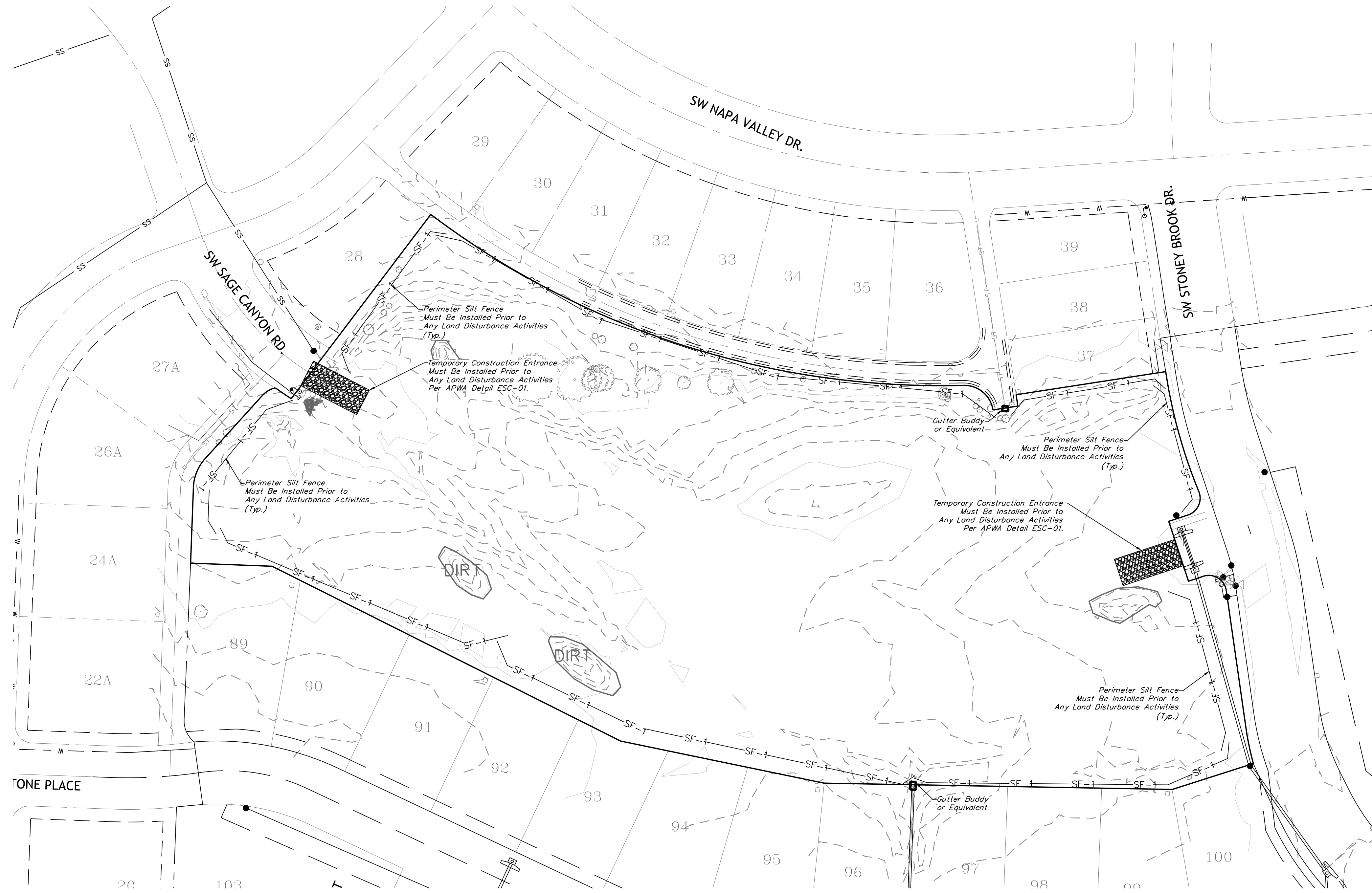
CITY OF LEE'S SUMMIT, MISSOURI

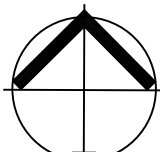
APPROVED: DATE: _____

BY: _____
CITY ENGINEER

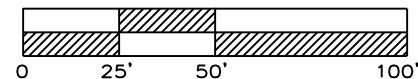
Digitally signed by
Kent Monter
Reason: I am
approving this
document
Date: 2020.08.06
15:21:01-05'00'

RELEASE FOR
CONSTRUCTION
AS NOTED ON PLANS REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
08/06/2020





North



0 25' 50' 100'

PRE CLEARING PLAN

SCALE: 1" = 50'



SILT FENCE PROTECTION
TO BE MAINTAINED BY CONTRACTOR

LEGEND

PHASE 1 SILT FENCE — SF-1 — SF-1 —

PHASE 2 SILT FENCE — SF-2 — SF-2 —

INLET PROTECTION
GUTTER BUDDY OR EQUIVALENT 

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

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.

 Updated Title in Title Block.

**RELEASE FOR
CONSTRUCTION**
AS NOTED ON PLANS REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI

08/06/2020

ENGINEERING SOLUTIONS

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Engineering 2005002186-D
Surveying 2005008319-D

Kansas
Engineering E-1695
Surveying LS-218

Oklahoma
Engineering 6254

Nebraska
Engineering CA2821

Project: NAPA VALLEY LS100

Issue Date: July 13, 2018

ESC PHASE 1 PLAN

Street, Stormwater, Master Drainage Plan,
and Erosion and Sediment Control Plans

for:
Napa Valley 4th Plat

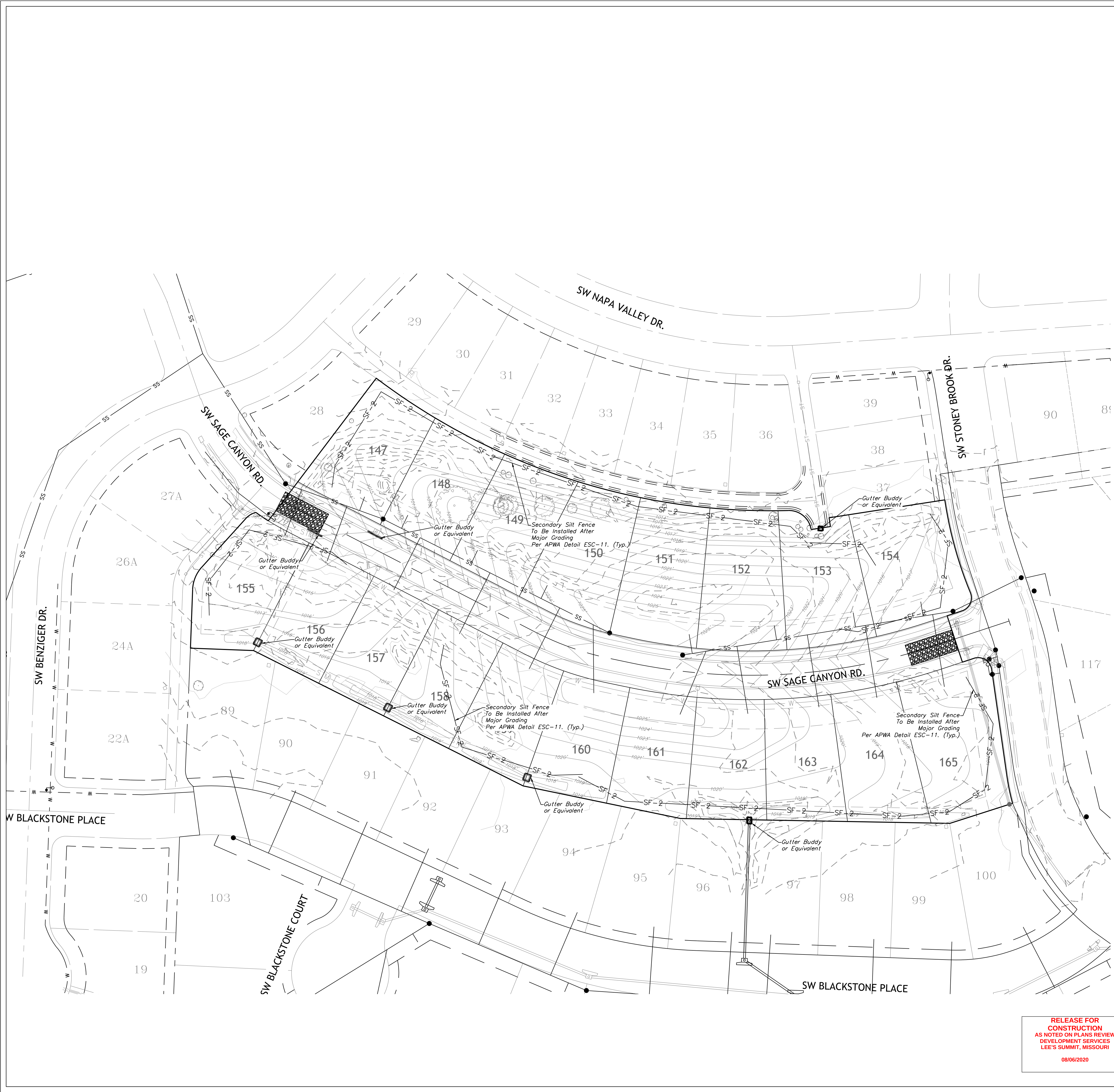
Lee's Summit, Jackson County, Missouri

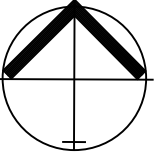
Matthew J. Schlicht
MO PE 2006019708
KS PE 19071
OK PE 25226
NE PE E-14335

REVISIONS

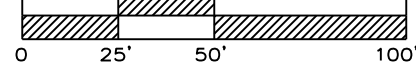
	REV. 8/02/18
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C.050





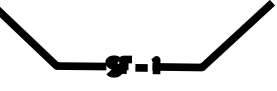
North



0 25 50 100'

INACTIVE AREA STABELIZATION PLAN

SCALE: 1" = 50'



SILT FENCE PROTECTION
TO BE MAINTAINED BY CONTRACTOR

LEGEND

Phase 1 Silt Fence	SF-1	SF-1
Phase 2 Silt Fence	SF-2	SF-2
Proposed Storm Line	S	S S S
Existing Storm Line	X	STM - - - -
Inlet Protection		
Gutter Buddy or Equivalent		

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

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.

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 RESEED WITH WHEAT/RYE AT A RATE OF 15 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 RESEED 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 RESEED.

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 MEASURES.
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.

EROSION CONTROL DESCRIPTION:

1.) SILT FENCE SHALL BE PLACED 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:

1.) 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 PUBLIC 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

RELEASE FOR CONSTRUCTION

AS NOTED ON PLANS REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI

08/06/2020

ENGINEERING SOLUTIONS

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Surveying 2005008319-D
Kansas
Engineering E-1695
Surveying LS-218
Oklahoma
Engineering 6254
Nebraska
Engineering CA2821

Project: Napa Valley LSI/MO

Issue Date: July 13, 2018

ESC PHASE 2 PLAN

Street, Stormwater, Master Drainage Plan, and Erosion and Sediment Control Plans

for:

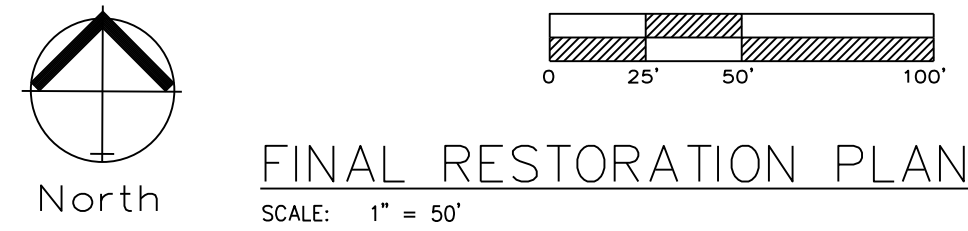
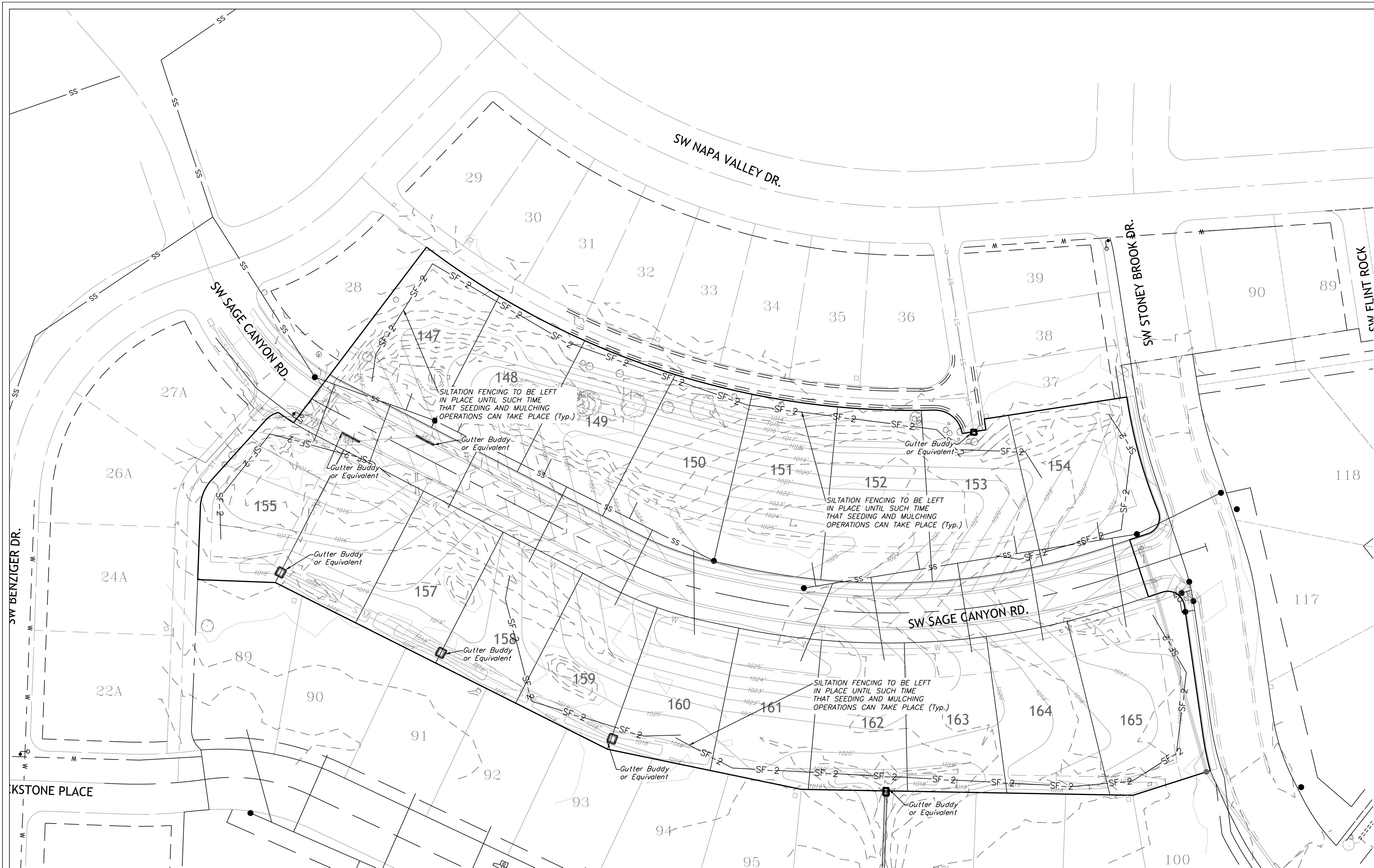
Napa Valley 4th Plat

Lee's Summit, Jackson County, Missouri

REVISIONS
REV. 8/02/18
REV. 9/11/18

Matthew J. Schlicht
MO PE 2006019708
KS PE 19071
OK PE 25226
NE PE E-14335

C. 051



SILT FENCE PROTECTION
TO BE MAINTAINED BY CONTRACTOR

LEGEND

- PHASE 1 SILT FENCE ———— SF-1 ———— SF-1 ————
- PHASE 2 SILT FENCE ———— SF-2 ———— SF-2 ————
- INLET PROTECTION
GUTTER BUDDY OR EQUIVALENT 

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

ONCE SITE IS 90% VEGETATED ALL ESC DEVICES SHALL BE REMOVED AND ANY DISTURBED AREAS SHALL BE RESTORED

- NOTES:
- 1) 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.
 - 2) Per Unified Ordinance Section 14.050.B.2 All portions of the site not covered with paving or buildings shall be landscaped. Open areas not covered with other materials shall be covered with sod. Ground cover shall be utilized on all slopes in excess of 3:1 slope.

ONCE SITE IS 90% VEGETATED ALL ESC DEVICES SHALL BE REMOVED AND ANY DISTURBED AREAS SHALL BE RESTORED

Updated Title in Title Block

RELEASE FOR
CONSTRUCTION
AS NOTED ON PLANS REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
08/06/2020

SEED AND MULCH NOTES:

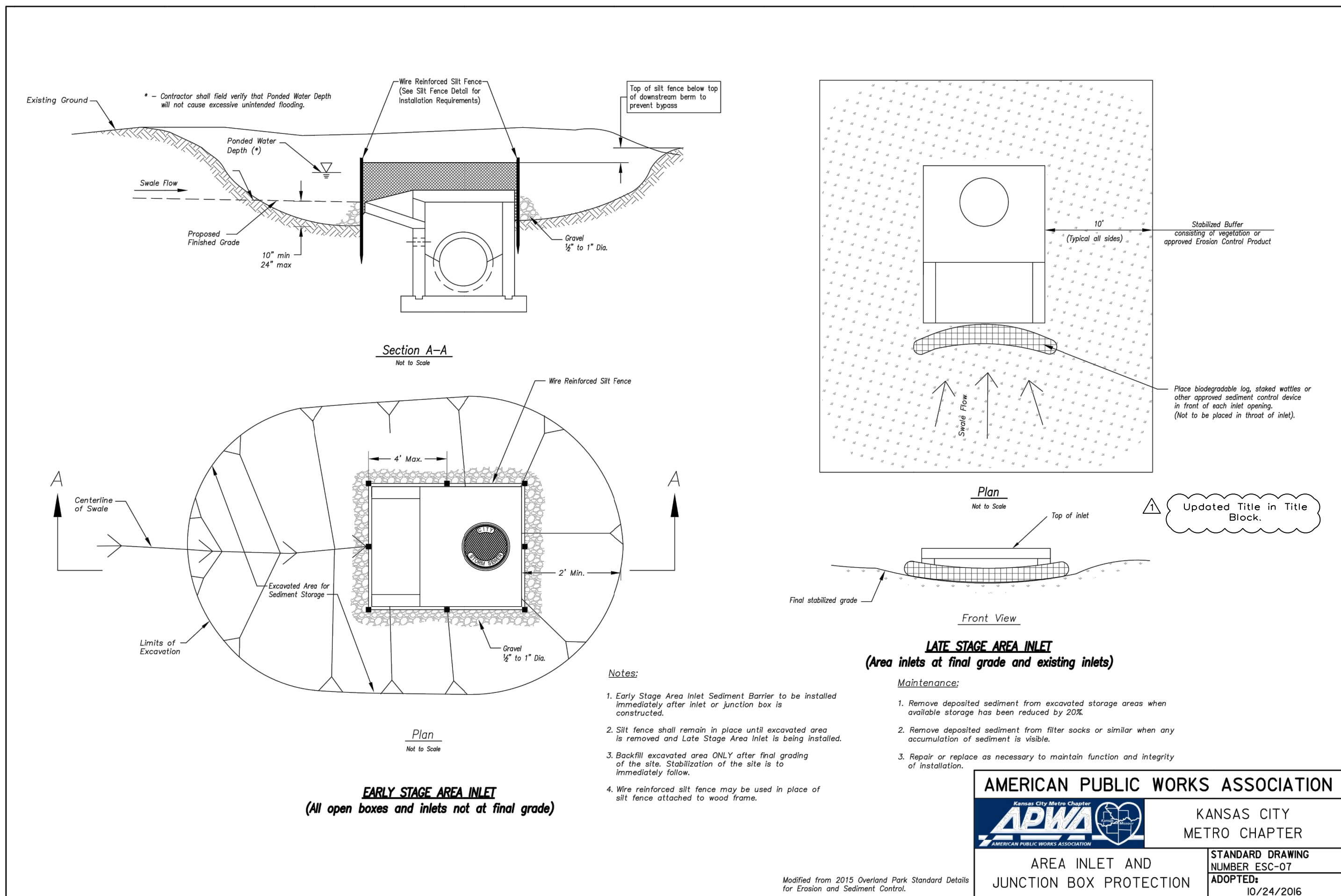
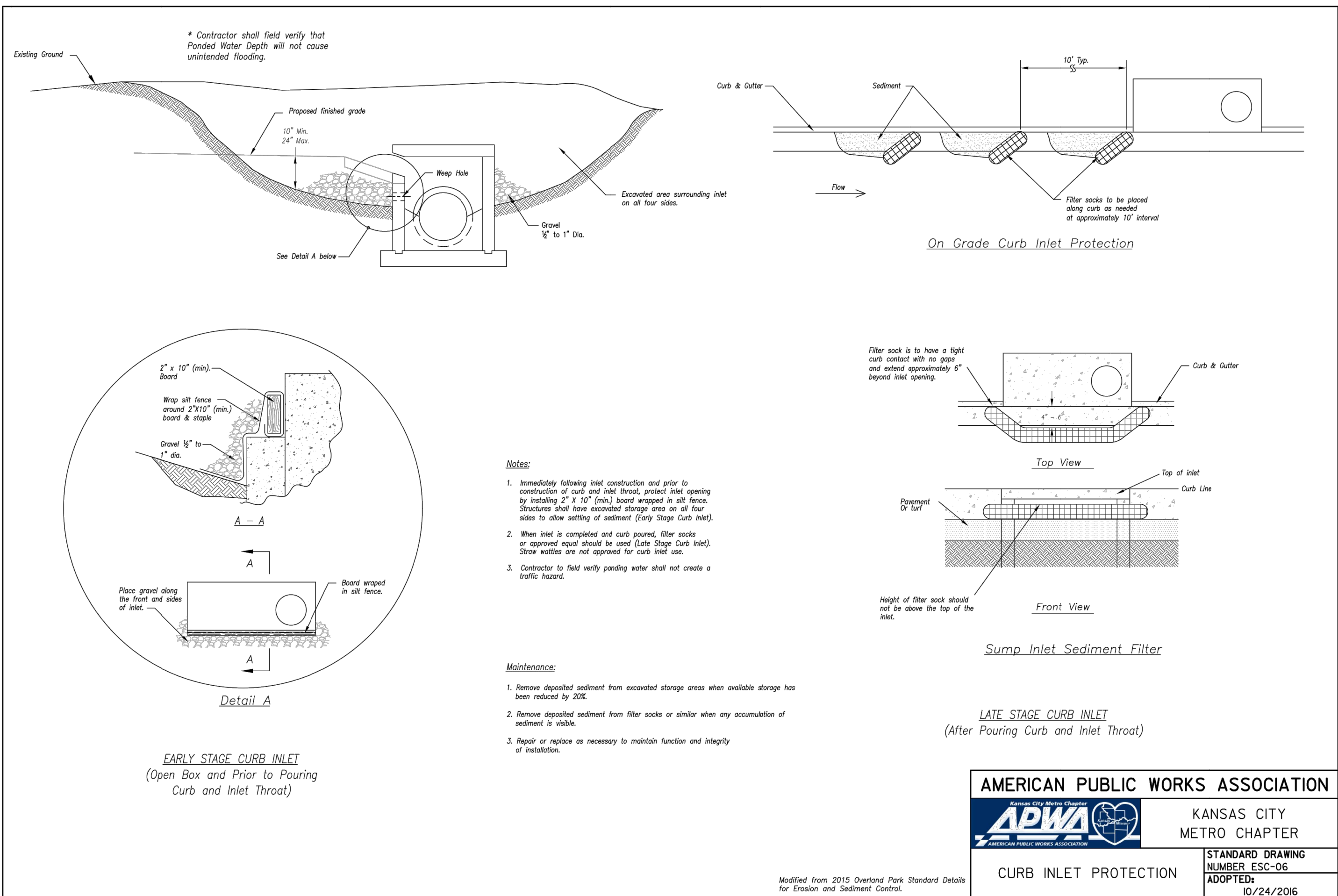
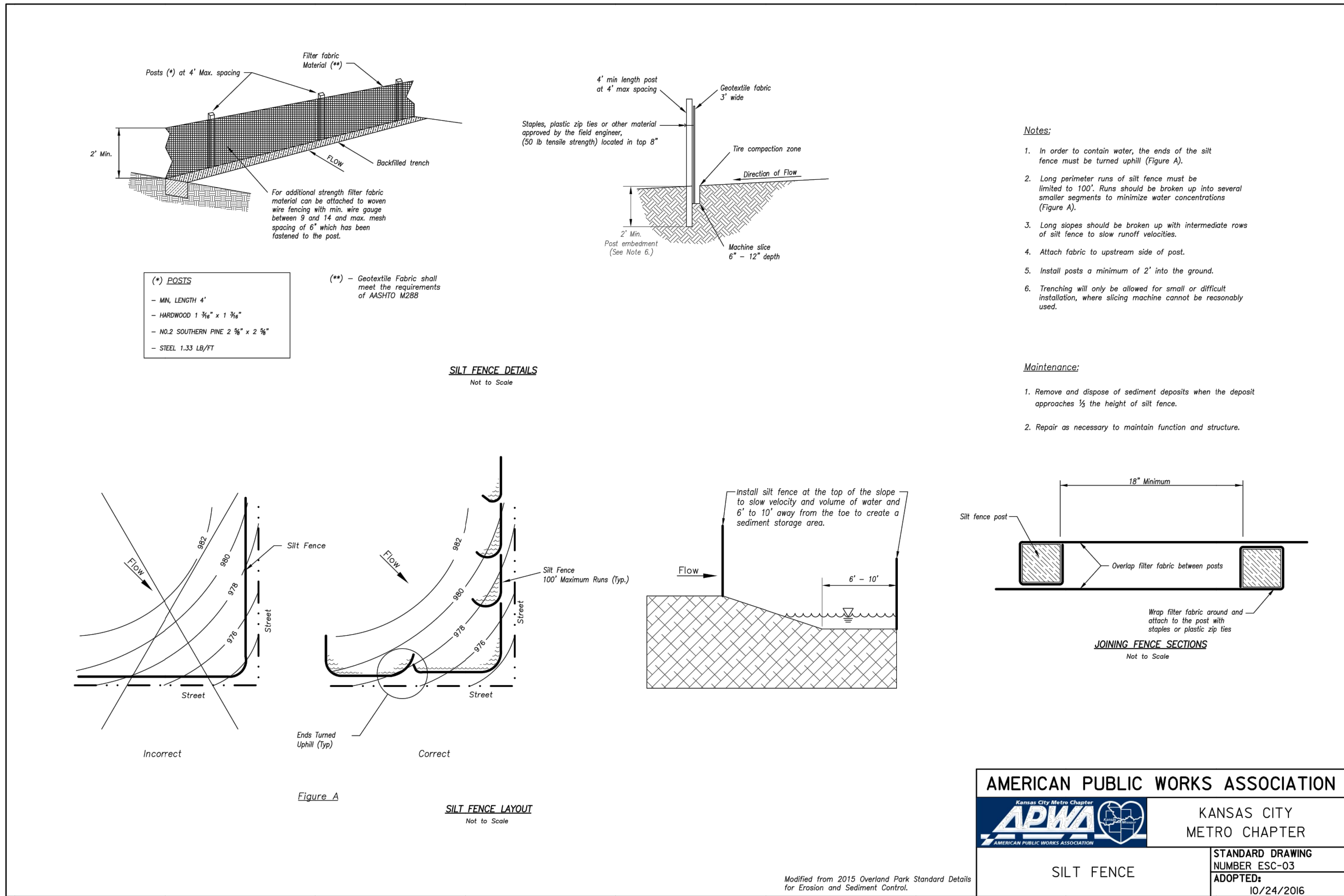
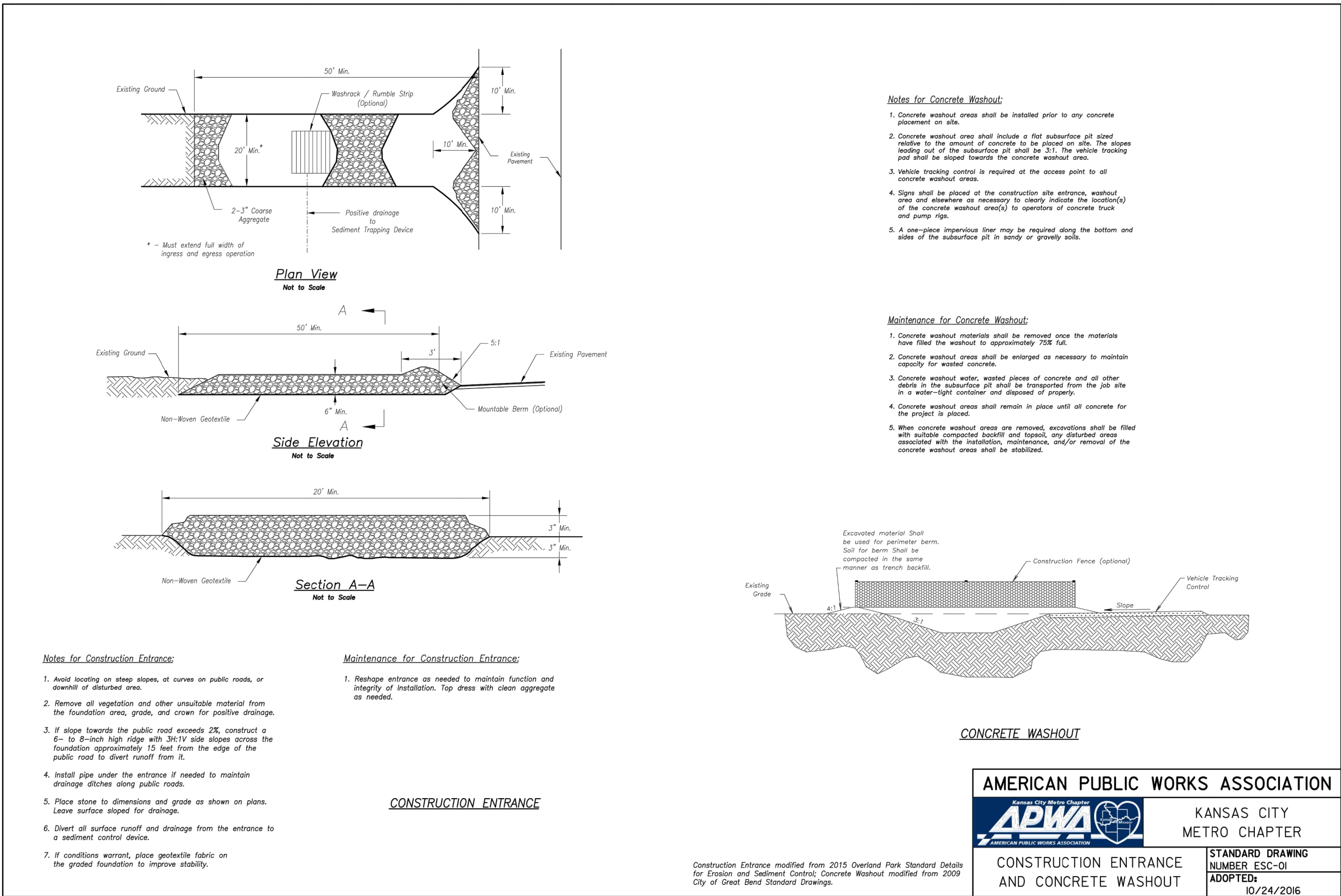
Seeding shall be done before the proposed seedbed becomes eroded, crusted over, or dried out and shall not be done when the ground is frozen, or covered with snow. The seed shall comply with the requirements of the Missouri Seed Law and the Federal Seed Act. Also, it shall contain no seed of any plant on the Federal Noxious Weed List. Other weed seeds shall not exceed one percent by weight of mix

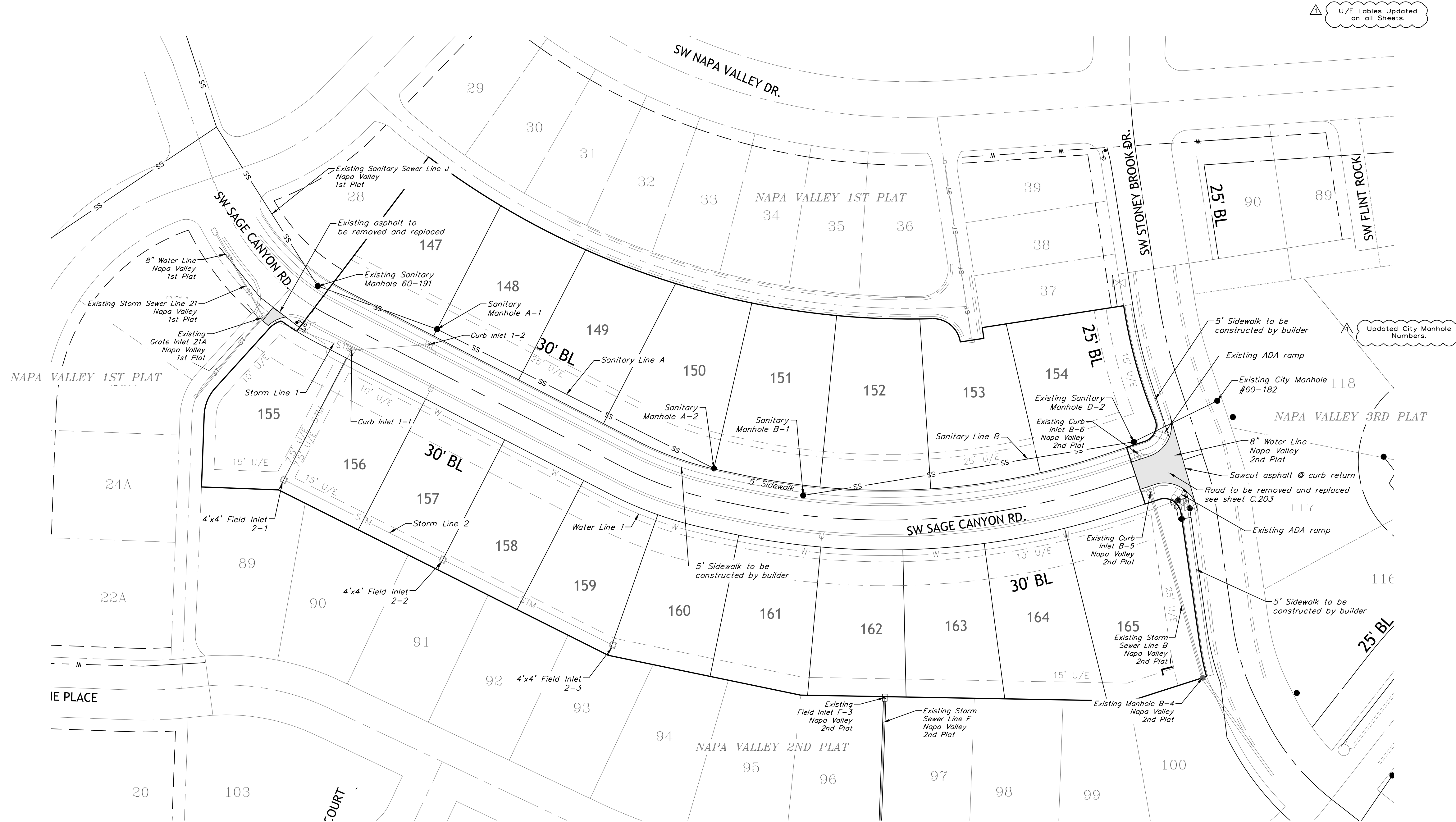
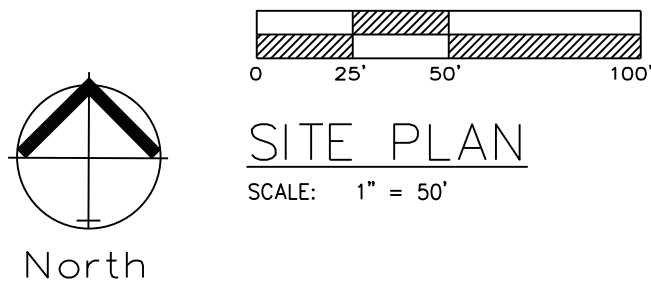
Seed and Fertilizer Rate:
Mix I - Rye Grass / Blue Grass ----- 100 lbs. per Acre
Mix II - Tall Fescue / Blue Grass ----- 195 lbs. per Acre
Lime -----2000 lbs per Acre (50 lbs. per 1000 sq. ft.)
Fertilizer -----800 to 1200 lbs per Acre (25 lbs per 1000 sq. ft.)

During the dates December 15th through May 31 ALL lime fertilizer, seed and mulch shall be applied to finished slopes of disturbed areas. During the months of June, July, October and November 1st through December 15th, lime fertilizer, seed and mulch shall be applied at the following rates:
Lime - 100% of specified quantity
Fertilizer - 75% of the specified quantity
Seed - 50% of the specified quantity
Mulch - 100% of the specified quantity

Mulch shall be Vegetative type, cereal straw from stalks of oats, rye, or barley, or approved equal. The straw shall be free of prohibited weed seed and relatively free of all other noxious and undesirable seed. Mulch shall be applied at the rate of 2 tons per acre, (70 to 90 lbs per 1000 sq. ft.). Mulch shall be embedded by a mulch anchoring tool or disk type roller having flat serrated disks spaced not more than 10 inches apart and cleaning scrapers shall be provided

Relocated Detail.





U/E Lobes Updated on all Sheets.

Updated City Manhole Numbers.

Updated Title in Title Block.

RELEASE FOR CONSTRUCTION
AS NOTED ON PLANS REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
08/06/2020

ENGINEERING SOLUTIONS
ENGINEERING & SURVEYING
50 SE 30TH STREET
LEE'S SUMMIT, MO 64082
P: (816) 623-9888 F: (816) 623-9849

Professional Registration
Missouri
Engineering 2005002186-D
Surveying 2005008319-D
Kansas
Engineering E-1695
Surveying LS-218
Oklahoma
Engineering 6254
Nebraska
Engineering CA2821

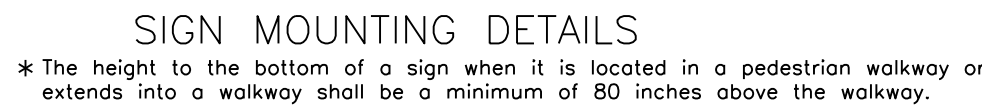
Napa Valley 4th Plat
Lee's Summit, Jackson County, Missouri

Project: NAPA VALLEY LS100
Issue Date: July 13, 2018

SITE PLAN
Street, Stormwater, Master Drainage Plan,
and Erosion and Sediment Control Plans
for:
Napa Valley 4th Plat
Lee's Summit, Jackson County, Missouri

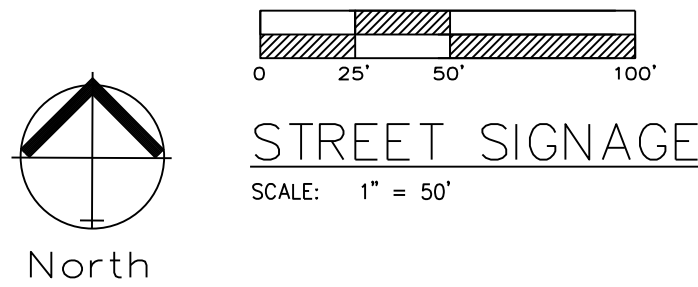
Matthew J. Schlicht
MO PE 2006019708
KS PE 19071
OK PE 25226
NE PE E-14335

REVISIONS	
REV. 8/02/18	
REV. 9/11/18	



**RELEASE FOR
CONSTRUCTION
AS NOTED ON PLANS REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI**

08/06/2020



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Napa Valley 4th Plat
Lee's Summit, Jackson County, Missouri

Project: NAPA VALLEY LSMO

Issue Date: July 13, 2018

Street Signage
Street, Stormwater, Master Drainage Plan,
and Erosion and Sediment Control Plans
for:
Napa Valley 4th Plat
Lee's Summit, Jackson County, Missouri

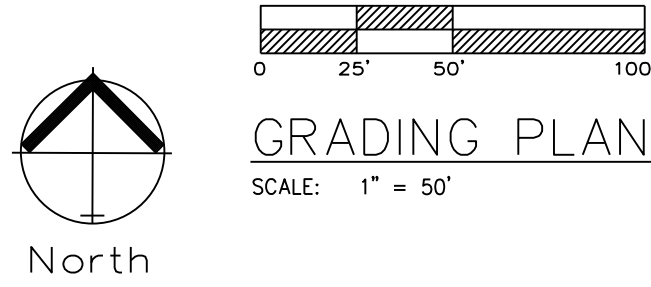
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OK PE 25226
NE PE E-14335

REVISIONS	
1	REV. 8/02/18
2	REV. 9/11/18

C.101

Notes

1. Contractor is responsible for verifying all existing utility locations prior to excavation.
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 City 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.



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Master Drainage Plan 1 of 3:

Grading Plan
Street, Stormwater, Master Drainage Plan,
and Erosion and Sediment Control Plans
for:
Napa Valley 4th Plat
Lee's Summit, Jackson County, Missouri

Project:
NAPA VALLEY LS MO

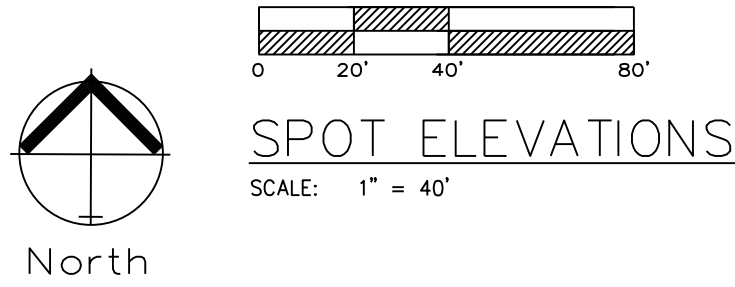
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Napa Valley 4th Plat
Lee's Summit, Jackson County, Missouri

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REV. 8/02/18
REV. 9/11/18



Lot Number	Basement Type	MBOE
147	Daylight	1012.9
148	Daylight	1013.9
149	Walkout	1013.9
150	Walkout	1014.9
151	Walkout	1015.9
152	Walkout	1015.9
153	Daylight	1017.9
154	Full	1018.4
155R	Full	1019.21
155L	Full	1019.21
156R	Full	1019.21
156L	Full	1020.3
157R	Full	1020.3
157L	Full	1019.16
158R	Full	1019.16
158L	Full	1020.3
159R	Full	1020.3
159L	Full	1019.3
160R	Daylight	1019.3
160L	Daylight	1020.7
161R	Daylight	1020.7
161L	Daylight	1020.76
162R	Daylight	1020.76
162L	Daylight	1019.65
163R	Daylight	1019.65
163L	Daylight	1020.7
164R	Full	1020.7
164L	Full	1019.16
165R	Full	1019.16
165L	Full	1017.15



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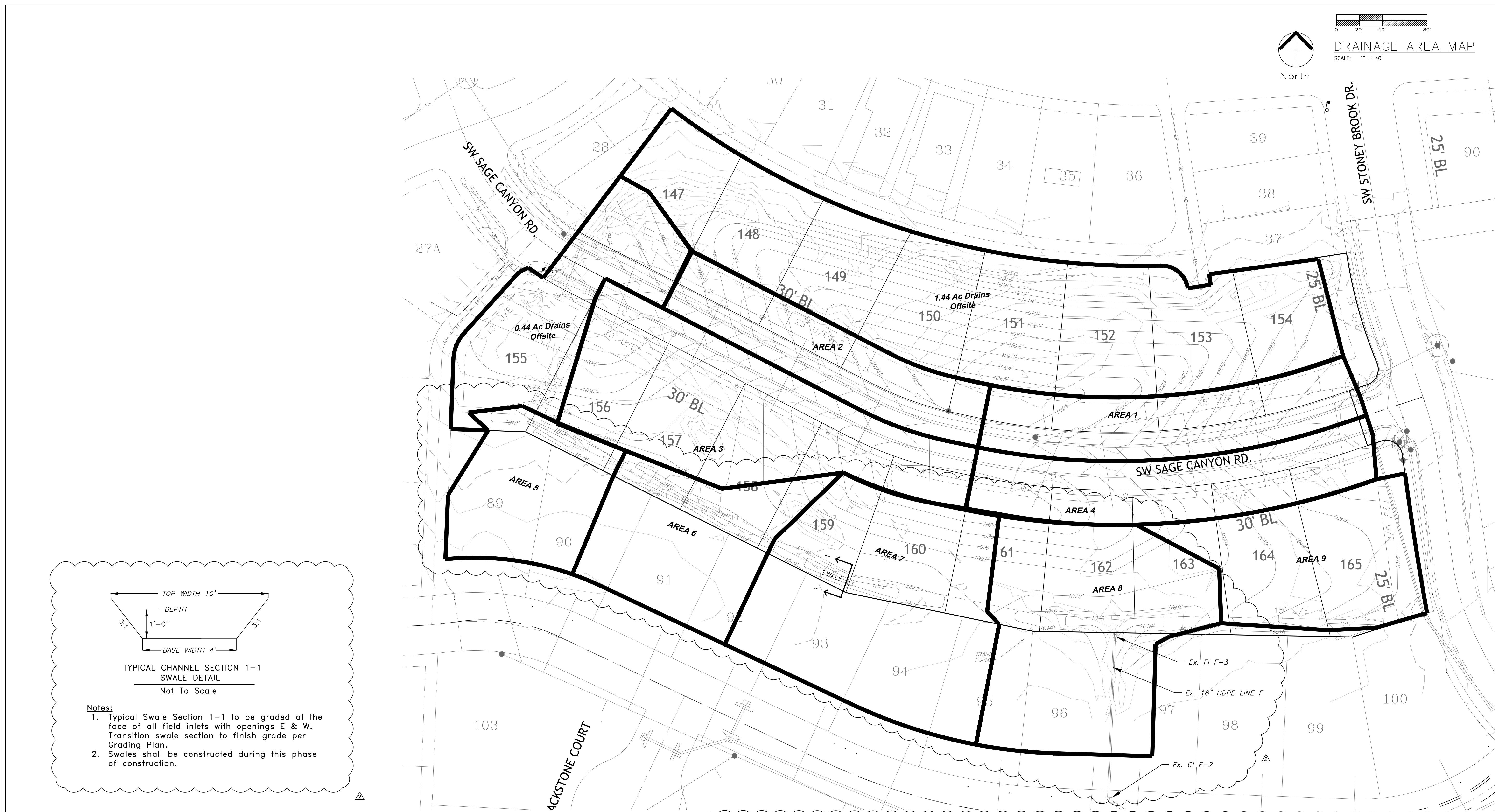
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Missouri
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Surveying 2005008319-D
Kansas
Engineering E-1695
Surveying LS-218
Oklahoma
Engineering 6254
Nebraska
Engineering CA2821

Project: NAPA VALLEY LS/MO
Issue Date: July 13, 2018

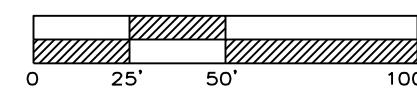
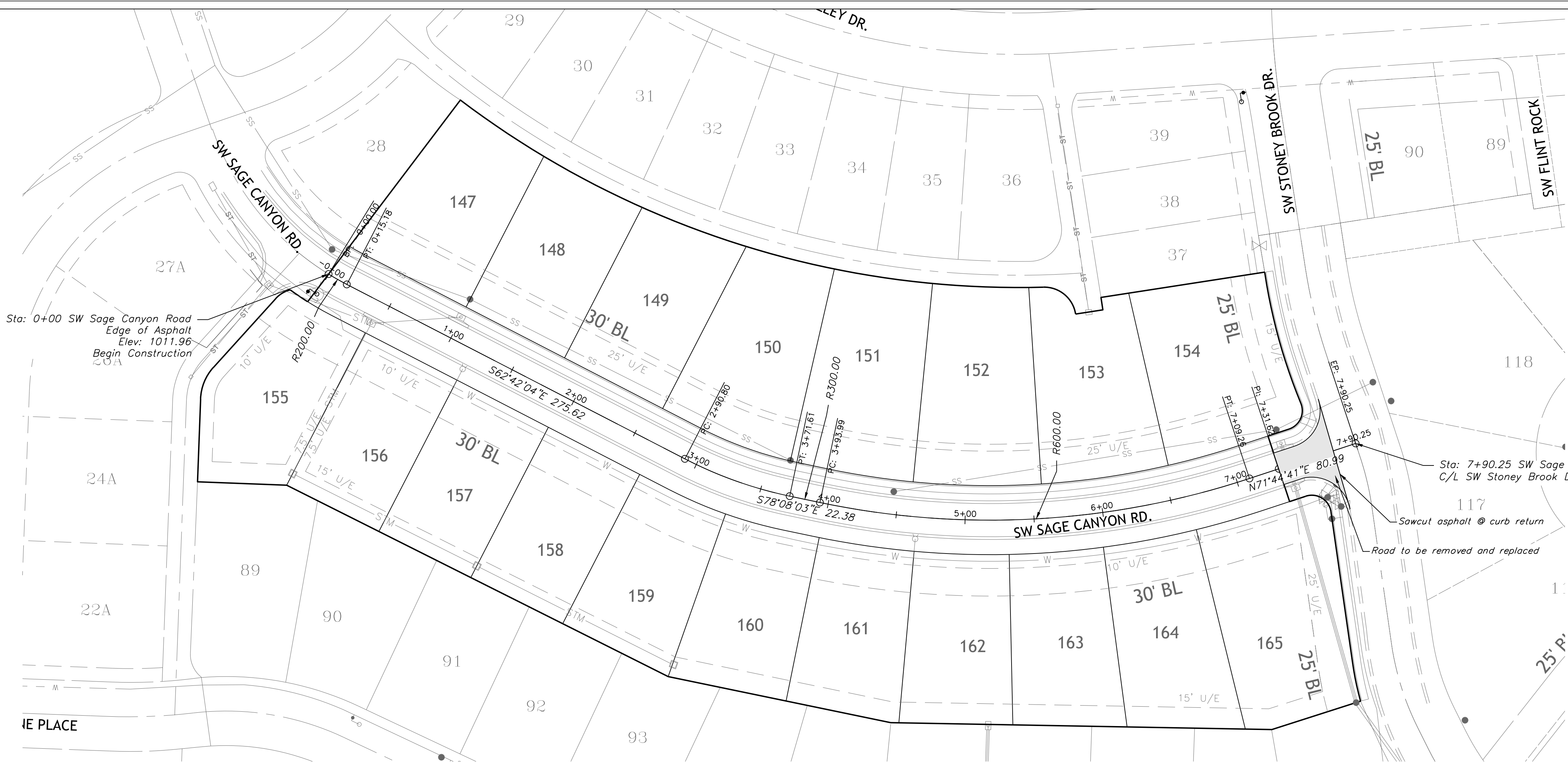
Master Drainage Plan 2 of 3:
Spot Elevations
Street, Stormwater, Master Drainage Plan,
and Erosion and Sediment Control Plans
for:
Napa Valley 4th Plat
Lee's Summit, Jackson County, Missouri

Matthew J. Schlicht
MO PE 2006019708
KS PE 19071
OK PE 25226
NE PE E-14335
REVISIONS
REV. 8/02/18
REV. 9/11/18

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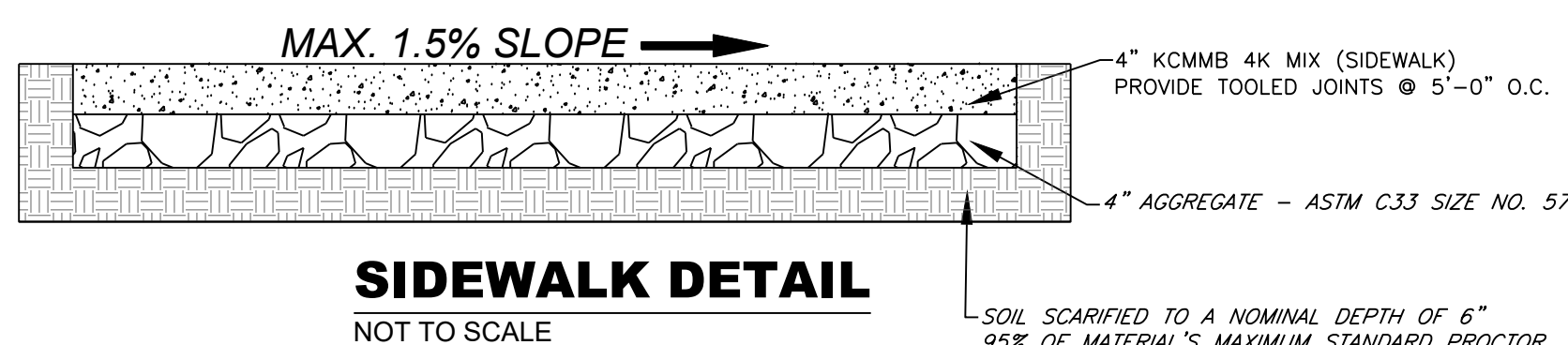
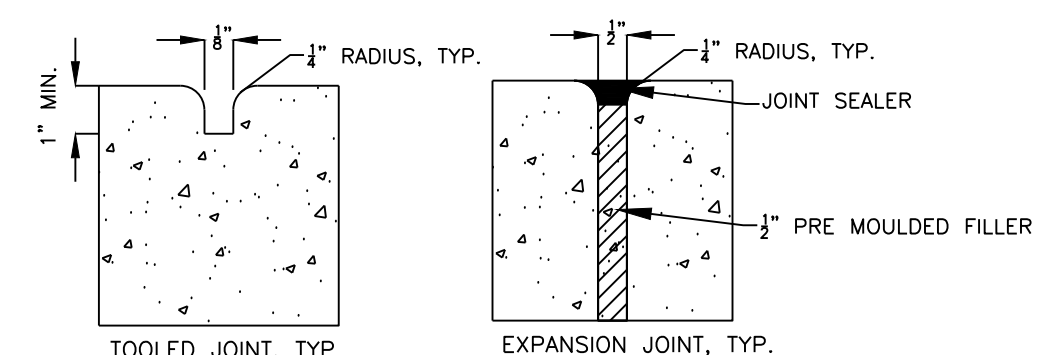
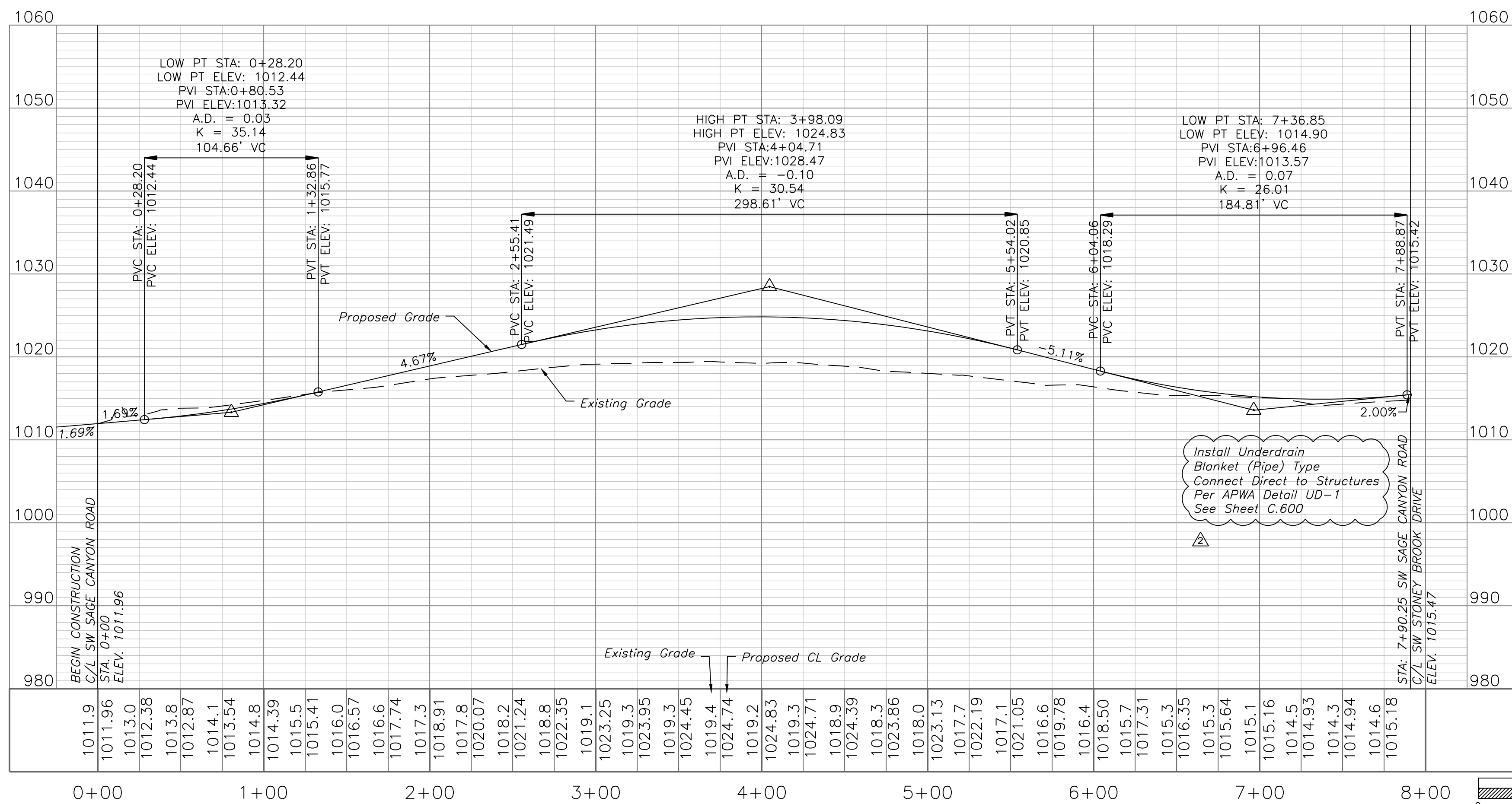
APWA STORM DRAINAGE "TC" COMPUTATIONS FOR : Napa Valley 4th Plat																								
AREA ID		yellow areas are self computing overwrite if necessary				Surface types: SURFACE CODES		Asph/ConcBus/Com		Dirt		Grass/Park		Lake	MultFam	SnglFam	Undev	Other	TC COMPUTATION				k = 1.25	
		"C" Values		Overwrite Length - DN		Elev or Slope if necessary		SURFACE CODE P or U		P=Paved U=Unpaved		Overwrite Slope or Elevations if necessary		Channel Length	UP ELEV	DN ELEV	SLOPE %	VELOCITY F/S						
		TOTAL WATERSHED				SURFACE CODE	"C" VALUE	OVR LND LENGTH	UP ELEV	DN ELEV	SLOPE %	P	U	CHANNEL LENGTH	UP ELEV	DN ELEV	SLOPE %	VELOCITY	Cal Overland Flow (T)	Used Min 5 Max 15 (T)	Cal Channel One (T)	Total T@ 10	CFS	AREA ID
1	0.41	395.8	1026.5	1014.9	S	0.51	100.0	1026.5	1024.5	2.0	P		295.8	1024.5	1014.9	3.25	3.7	8.5	8.5	1.3	9.8	2.26	1	
2	0.37	395.8	1026.5	1014.5	S	0.51	100.0	1026.5	1024.5	2.0	P		295.8	1024.5	1014.5	3.38	3.7	8.4	8.4	1.3	9.7	2.05	2	
3	0.85	409.6	1026.5	1012.8	S	0.51	100.0	1026.5	1024.5	2.0	P		309.6	1024.5	1012.8	3.76	3.9	8.4	8.4	1.3	9.7	4.70	3	
4	0.44	353.6	1026.5	1014.9	S	0.51	100.0	1026.5	1024.5	2.0	P		253.6	1024.5	1014.9	3.79	4.0	8.5	8.5	1.1	9.5	2.45	4	
5	0.35	80.0	1019.0	1017.0	S	0.51	80.0	1019.0	1017.0	2.5								7.0	7.0	0.0	7.0	2.13	5	
6	0.45	80.0	1019.0	1017.0	S	0.51	80.0	1019.0	1017.0	2.5								7.0	7.0	0.0	7.0	2.74	6	
7	0.84	120.0	1020.0	1017.0	S	0.51	100.0	1020.0	1017.5	2.5	P		20.0	1017.5	1017.0	2.50	3.2	7.8	7.8	0.1	7.9	4.94	7	
8	0.74	100.0	1019.0	1016.5	S	0.51	100.0	1019.0	1016.5	2.5								7.8	7.8	0.0	7.8	4.37	8	
9	0.47	250.0	1023.0	1015.0	S	0.51	100.0	1023.0	1020.0	3.0	P		150.0	1020.0	1015.0	3.33	3.7	7.4	7.4	0.7	8.0	2.76	9	
** Velocity = 16.1345 x SQRT(slope) [Unpaved] Velocity = 20.3282 x SQRT(slope) [Paved] Formula taken from "Urban Hydrology for Small Watersheds - Technical Release 55", Appendix F.																								
*** T(T) = 1.8 x (1.1-C) x SQRT(overland length) / (slope)^1/3 Formula taken from American Public Works Association 5602.5.																								
*** T(T) = Channel Length / Velocity Formula taken from "Urban Hydrology for Small Watersheds - Technical Release 55", Eq. 3-1.																								



STREET PLAN & PROFILE
SCALE: 1" = 50'

IE PLACE

SW SAGE CANYON ROAD



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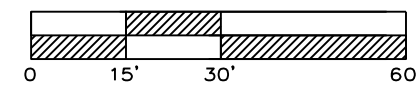
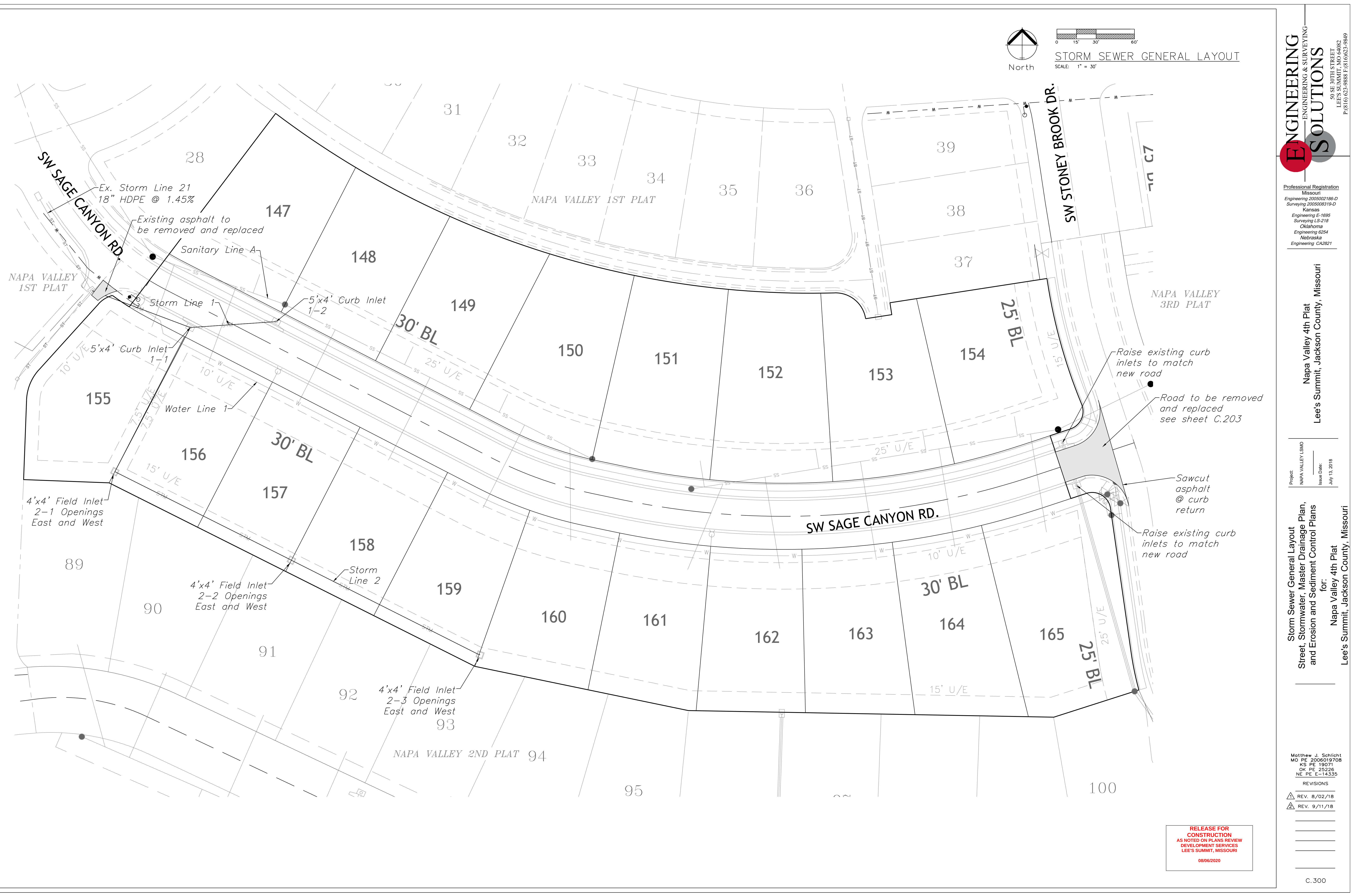
Napa Valley 4th Plat
Lee's Summit, Jackson County, Missouri

Project:
NAPA VALLEY LISMO
Issue Date:
July 13, 2018

STREET PLAN & PROFILE
Street, Stormwater, Master Drainage Plan,
and Erosion and Sediment Control Plans
for:
Napa Valley 4th Plat
Lee's Summit, Jackson County, Missouri

Matthew J. Schlicht
MO PE 2006019708
KS PE 19071
OK PE 25226
NE PE E-14335

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REV. 9/11/18



STORM SEWER GENERAL LAYOUT
SCALE: 1" = 30'

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Kansas
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Oklahoma
Engineering 6254
Nebraska
Engineering CA2821

Storm Sewer General Layout
Street, Stormwater, Master Drainage Plan,
and Erosion and Sediment Control Plans
for:
Napa Valley 4th Plat
Lee's Summit, Jackson County, Missouri

Project: NAPA VALLEY LS100
Issue Date: July 13, 2018

Matthew J. Schlicht
MO PE 2006019708
KS PE 19071
OK PE 25226
NE PE E-14335

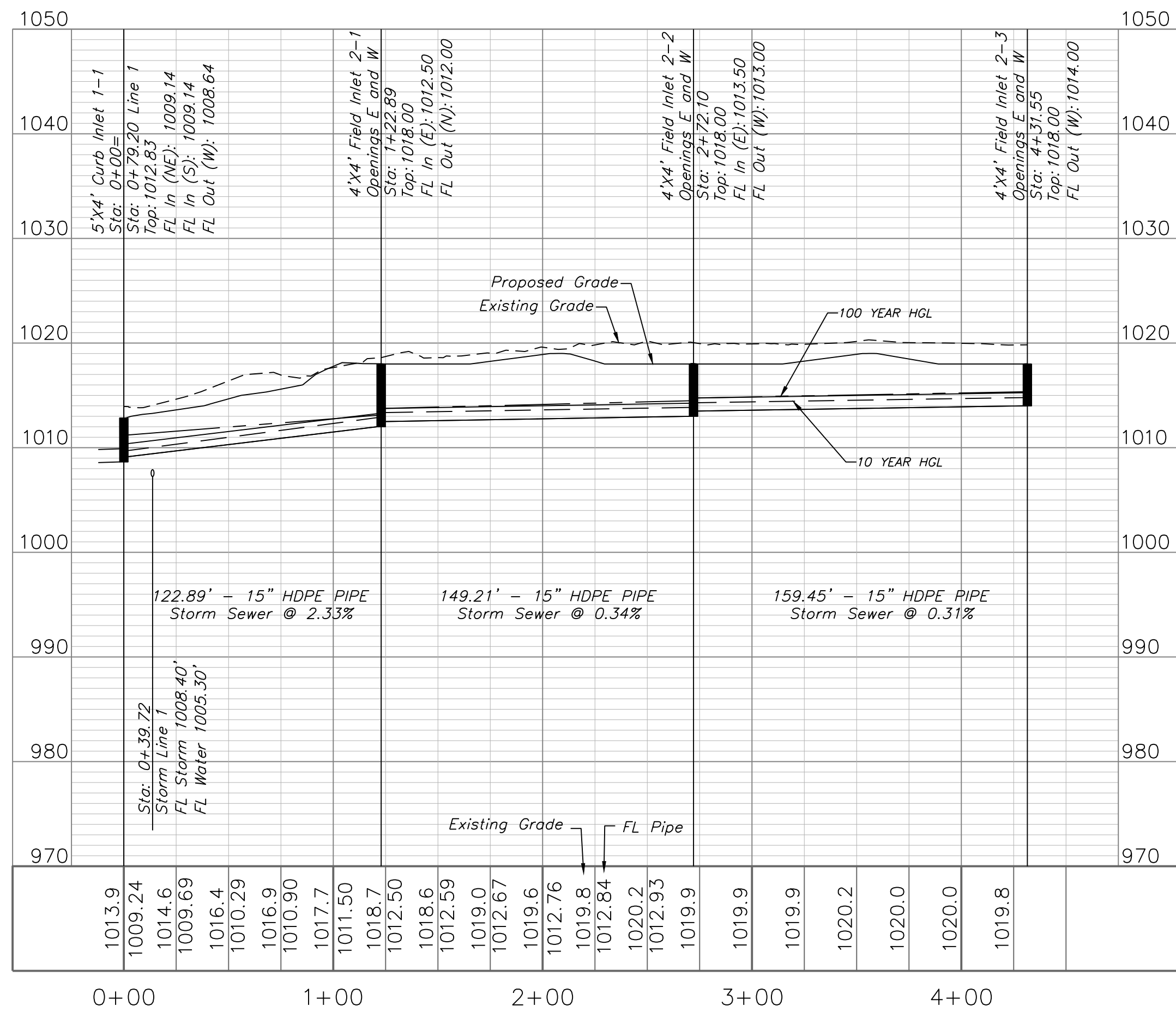
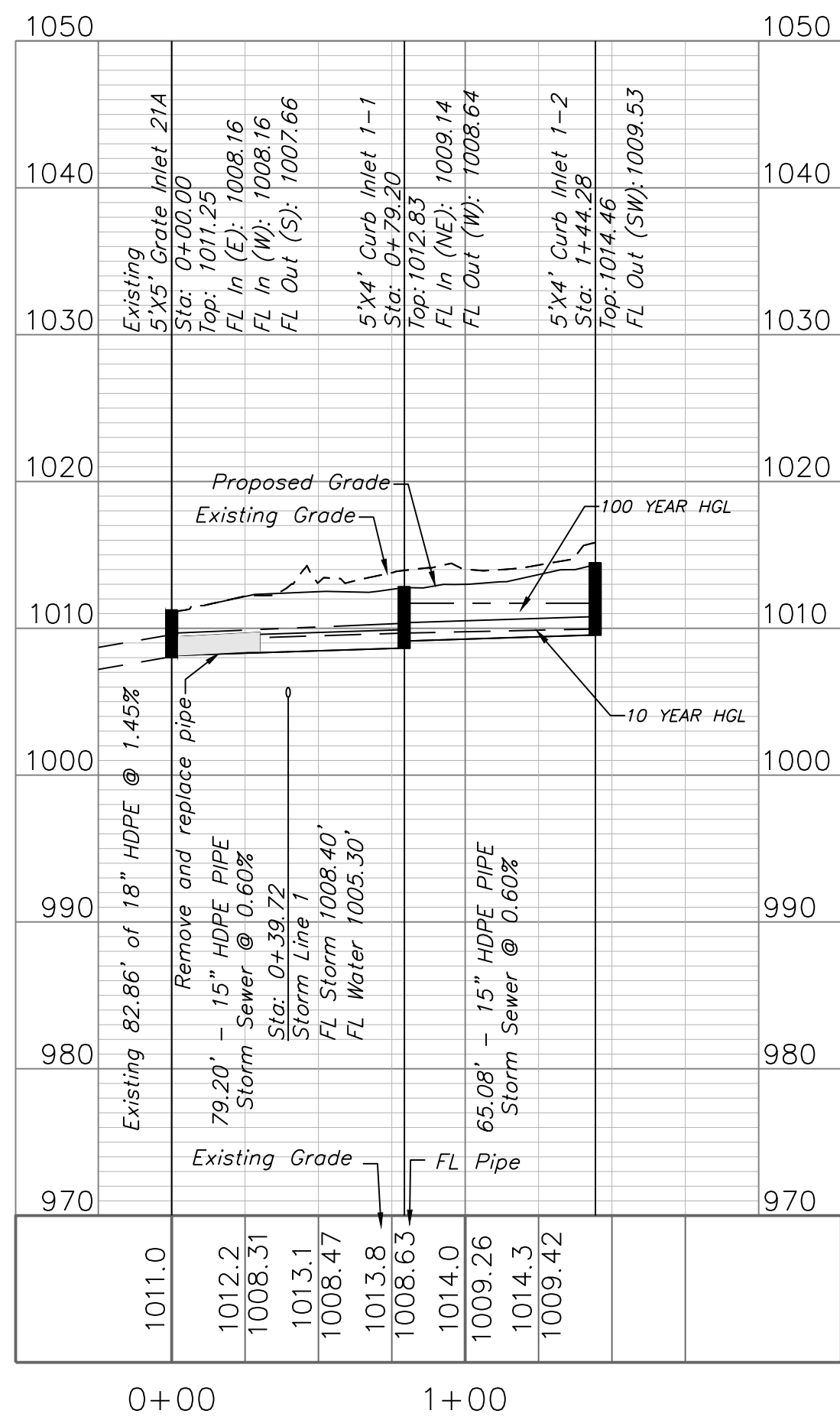
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DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
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STORM LINE 1

STORM LINE 2



RELEASE FOR
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DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
08/06/2020

INLET 10-YEAR																										
D.S. Line	U.S. Line	Area (ac)	InletTime (min)	Int. (in/hr)	RunoffCoeff. (C)	Q =CIA (cfs)	Q Carry-over (cfs)	QCaptured (cfs)	QBypassed (cfs)	JunctType	CurbHeight (in)	CurbLength (ft)	GrateArea (sqft)	GrateLength (ft)	GrateWidth (ft)	GutterSlope (ft/ft)	GutterWidth (ft)	CrossSlope, Sw (ft/ft)	CrossSlope, Sx (ft/ft)	LocalDepr. (in)	InletDepth (ft)	BypassDepth (ft)	BypassSpread (ft)	tterDep (ft)	GutterSpread (ft)	BypassLine No.
Ex 20G	Ex 21A	0.83	9	6.29	0.51	2.66	1.69	4.36	0	Dp-Grate			4	2	2	Sag	2	0.02	0.02		0.32	n/a	n/a	0.32	34.04	Sag
Ex 21A	1-1	0.85	9.7	6.15	0.51	2.67	0	0.98	1.69	Curb	10	5				0.01	2	0.05	0.02	0	0.24	0.21	7.49	0.24	9.1	1
1-1	1-2	0.37	9.7	6.15	0.51	1.16	0	0.62	0.54	Curb	10	5				0.01	2	0.05	0.02	0	0.19	0.15	4.31	0.19	6.31	Offsite
1-2	2-1	0.35	7	6.74	0.51	1.2	0	1.2	0	Dp-Curb	6	8				Sag		0.02	0.02		0.14	n/a	n/a	0.14	6.79	Sag
2-1	2-2	0.45	7	6.74	0.51	1.55	0	1.55	0	Dp-Curb	6	8				Sag		0.02	0.02		0.16	n/a	n/a	0.16	8.03	Sag
2-2	2-3	0.84	7.9	6.53	0.51	2.8	0	2.8	0	Dp-Curb	6	8				Sag		0.02	0.02		0.24	n/a	n/a	0.24	11.93	Sag
PIPE 10-YEAR																										
D.S. Line	U.S. Line	LineLength (ft)	Incr.Area (ac)	TotalArea (ac)	RunoffCoeff. (C)	IncrC x A	TotalC x A	InletTime (min)	TimeConc (min)	RnfallInt (in/hr)	TotalRunoff (cfs)	AdnlFlow (cfs)	TotalFlow (cfs)	CapacFull (cfs)	Veloc (ft/s)	PipeSize (in)	PipeSlope (%)	Inv ElevDn (ft)	Inv ElevUp (ft)	HGLDn (ft)	HGLUp (ft)	Grnd/RimDn (ft)	Grnd/RimUp (ft)			
Ex 20G	Ex 21A	82.86	0.83	3.69	0.51	0.42	1.88	9	10.3	6	11.34	0	11.34	16.43	8.53	18	1.45	1006.46	1007.66	1007.38	1008.95	1010.03	1011.25			
Ex 21A	1-1	79.2	0.85	2.86	0.51	0.43	1.46	9.7	10.1	6.1	8.85	0	8.85	10.63	6.41	18	0.61	1008.16	1008.64	1009.21	1009.79	1011.25	1012.83			
1-1	1-2	65.08	0.37	0.37	0.51	0.19	0.19	9.7	9.7	6.2	1.16	0	1.16	6.5	2.48	15	0.6	1009.14	1009.53	1009.79	1009.95	1012.83	1014.46			
1-2	2-1	122.89	0.35	1.64	0.51	0.18	0.84	7	9.1	6.3	5.24	0	5.24	12.81	6.75	15	2.33	1009.14	1012	1009.79	1012.93	1012.83	1018			
2-1	2-2	149.21	0.45	1.29	0.51	0.23	0.66	7	8.6	6.4	4.2	0	4.2	4.86	4.46	15	0.34	1012.5	1013	1013.4	1013.9	1018	1018			
2-2	2-3	159.45	0.84	0.84	0.51	0.43	0.43	7.9	7.9	6.5	2.8	0	2.8	4.7	4	15	0.31	1013.5	1014	1014.2	1014.69	1018	1018			
INLET 100-YEAR																										
D.S. Line	U.S. Line	Area (ac)	InletTime (min)	Int. (in/hr)	RunoffCoeff. (C)	Q =CIA (cfs)	Q Carry-over (cfs)	QCaptured (cfs)	QBypassed (cfs)	JunctType	CurbHeight (in)	CurbLength (ft)	GrateArea (sqft)	GrateLength (ft)	GrateWidth (ft)	GutterSlope (ft/ft)	GutterWidth (ft)	CrossSlope, Sw (ft/ft)	CrossSlope, Sx (ft/ft)	LocalDepr. (in)	InletDepth (ft)	BypassDepth (ft)	BypassSpread (ft)	tterDep (ft)	GutterSpread (ft)	BypassLine No.
Ex 20G	Ex 21A	0.83	9	9.52	0.51	4.03	2.82	6.85	0	Dp-Grate			4	2	2	Sag	2	0.02	0.02		0.43	n/a	n/a	0.43	45.31	Sag
Ex 21A	1-1	0.85	9.7	9.3	0.51	4.03	0	1.22	2.82	Curb	10	5				0.01	2	0.05	0.02	0	0.28	0.25	9.31	0.28	10.8	1
1-1	1-2	0.37	9.7	9.3	0.51	1.76	0	0.78	0.98	Curb	10	5				0.01	2	0.05	0.02	0	0.21	0.18	5.82	0.21	7.61	Offsite
1-2	2-1	0.35	7	10.2	0.51	1.82	0	1.82	0	Dp-Curb	6	8				Sag		0.02	0.02		0.18	n/a	n/a	0.18	8.95	Sag
2-1	2-2	0.45	7	10.2	0.51	2.34	0	2.34	0	Dp-Curb	6	8				Sag		0.02	0.02		0.21	n/a	n/a	0.21	10.59	Sag
2-2	2-3	0.84	7.9	9.88	0.51	4.23	0	4.23	0	Dp-Curb	6	8				Sag		0.02	0.02		0.31	n/a	n/a	0.31	15.72	Sag
PIPE 100-YEAR																										
D.S. Line	U.S. Line	LineLength (ft)	Incr.Area (ac)	TotalArea (ac)	RunoffCoeff. (C)	IncrC x A	TotalC x A	InletTime (min)	TimeConc (min)	RnfallInt (in/hr)	TotalRunoff (cfs)	AdnlFlow (cfs)	TotalFlow (cfs)	CapacFull (cfs)	Veloc (ft/s)	PipeSize (in)	PipeSlope (%)	Inv ElevDn (ft)	Inv ElevUp (ft)	HGLDn (ft)	HGLUp (ft)	Grnd/RimDn (ft)	Grnd/RimUp (ft)			
Ex 20G	Ex 21A	82.86	0.83	3.69	0.51	0.42	1.88	9	10.6	9	16.99	0	16.99	16.43	10.16	18	1.45	1006.46	1007.66	1007.74	1009.1	1010.03	1011.25			
Ex 21A	1-1	79.2	0.85	2.86	0.51	0.43	1.46	9.7	10.5	9.1	13.24	0	13.24	10.63	7.49	18	0.61	1008.16	1008.64	1009.66	1010.41	1011.25	1012.83			
1-1	1-2	65.08	0.37	0.37	0.51	0.19	0.19	9.7	9.7	9.3	1.76	0	1.76	6.5	1.43	15	0.6	1009.14	1009.53	1011.72	1011.74	1012.83	1014.46			
1-2	2-1	122.89	0.35	1.64	0.51	0.18	0.84	7	9.1	9.5	7.92	0	7.92	12.81	6.67	15	2.33	1009.14	1012	1011.72	1013.11	1012.83	1018			
2-1	2-2	149.21	0.45	1.29	0.51	0.23	0.66	7	8.7	9.6	6.33	0	6.33	4.86	5.16	15	0.34	1012.5	1013	1013.75	1014.6	1018	1018			
2-2	2-3	159.45	0.84	0.84	0.51	0.43	0.43	7.9	7.9	9.9	4.23	0	4.23	4.7	3.49	15	0.31	1013.5	1014	1014.81	1015.18	1018	1018			



Revised storm tables.

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DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
08/06/2020

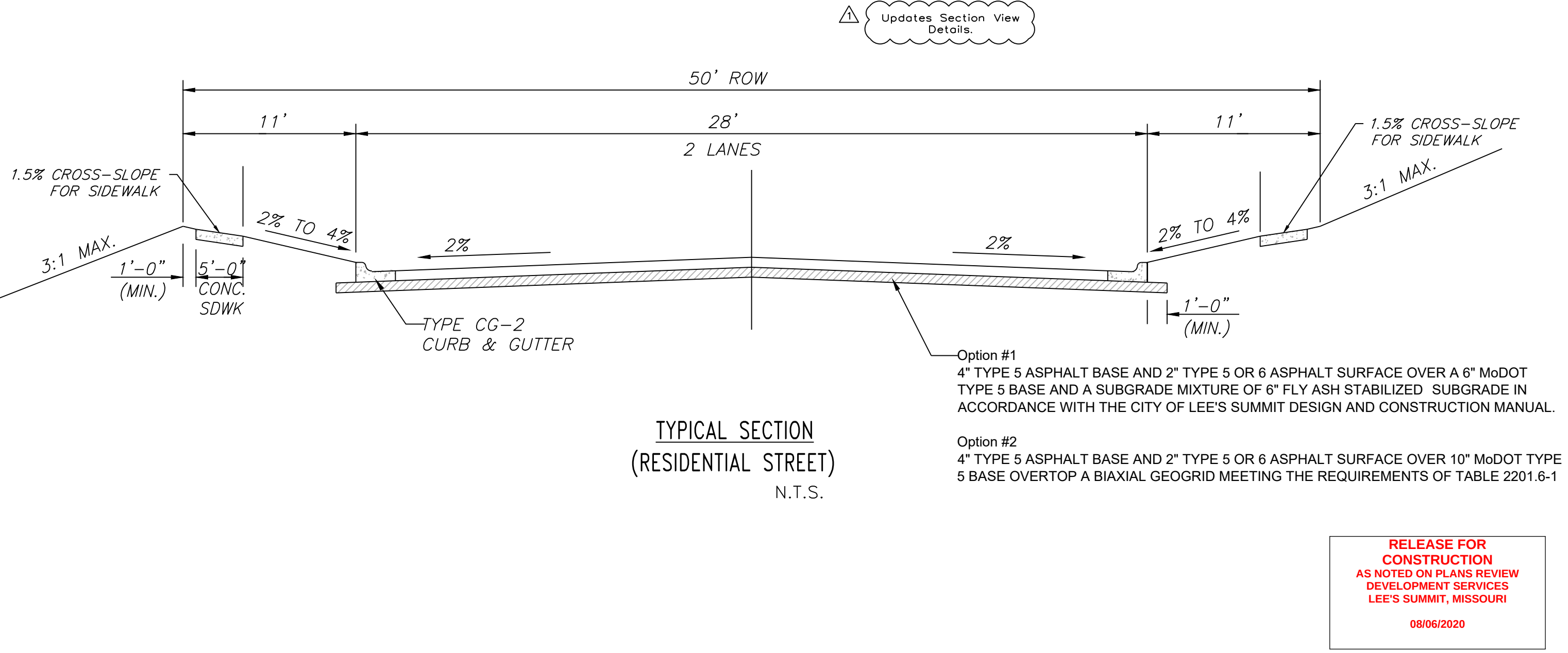
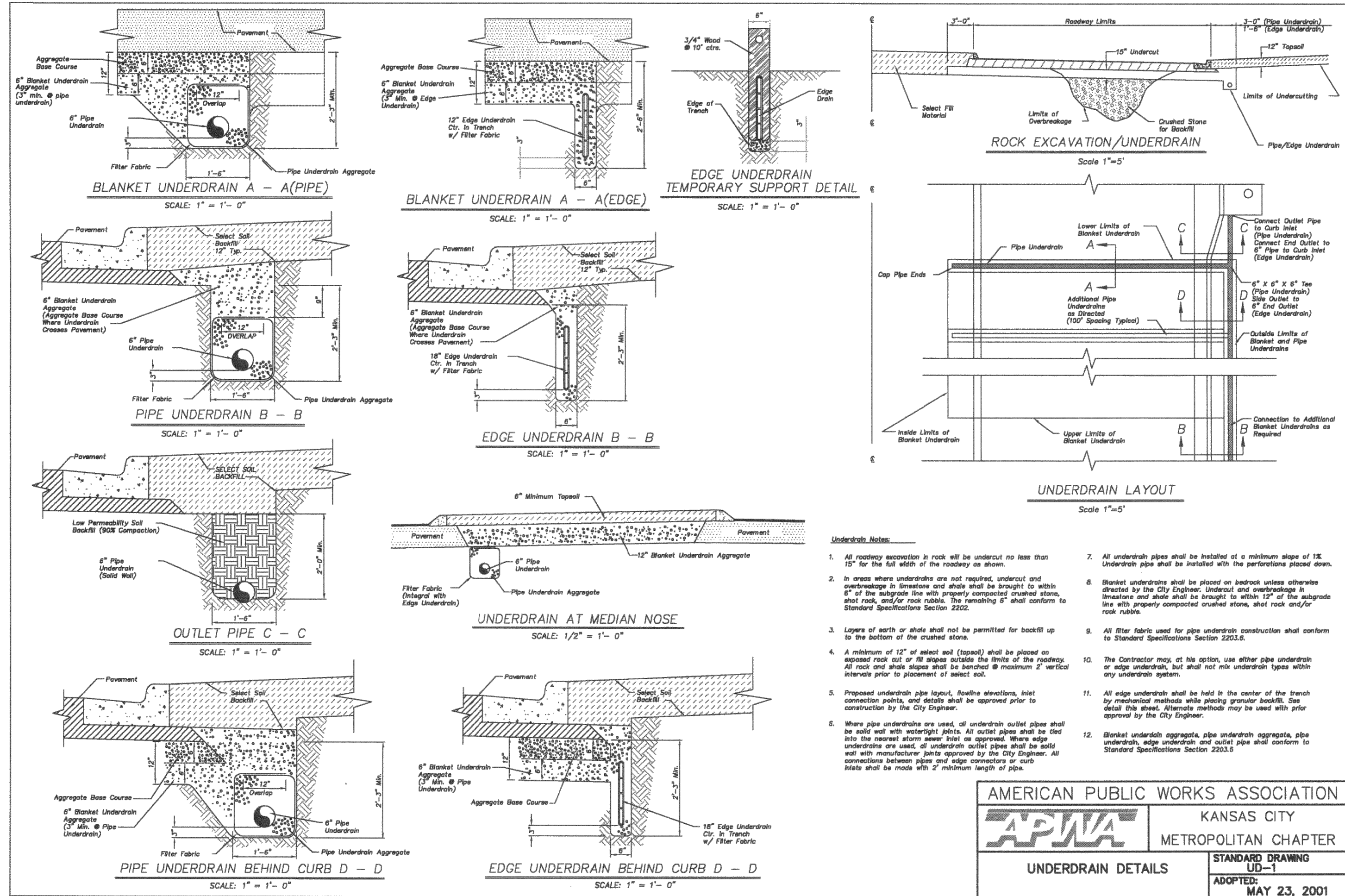
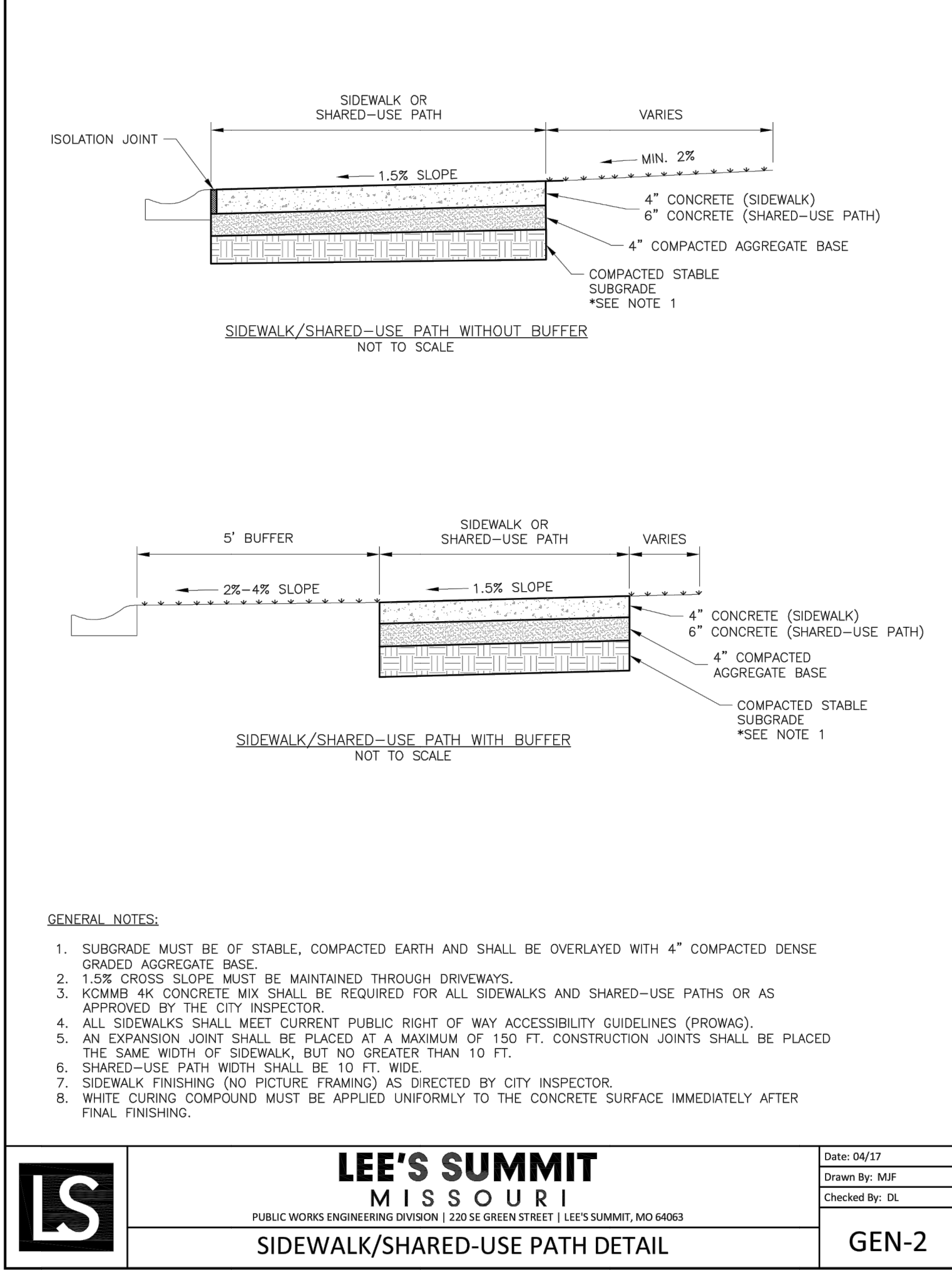
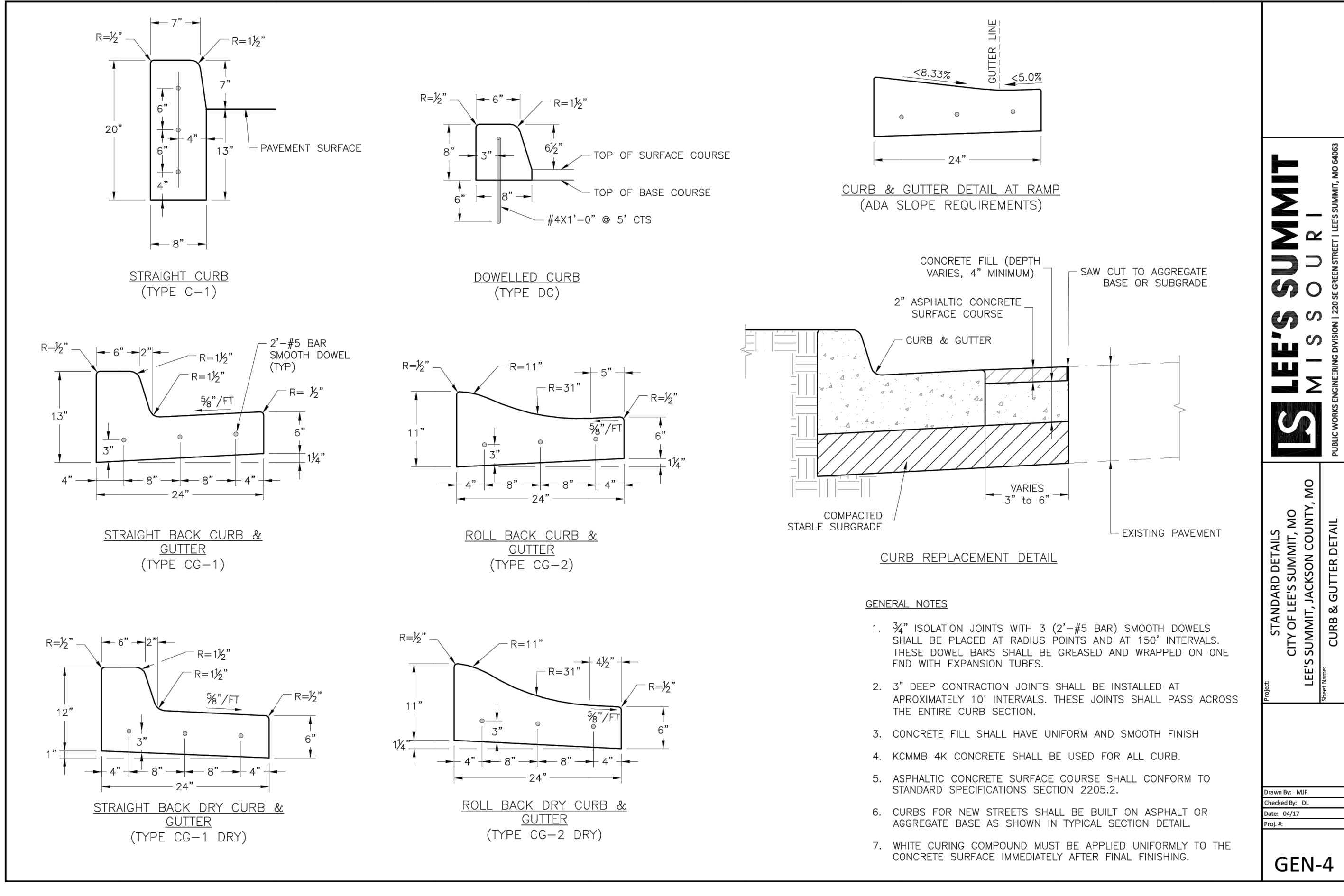
10 YR & 100 YR STORM TABLES
Street, Stormwater, Master Drainage Plan,
and Erosion and Sediment Control Plans
for:
Napa Valley 4th Plat
Lee's Summit, Jackson County, Missouri

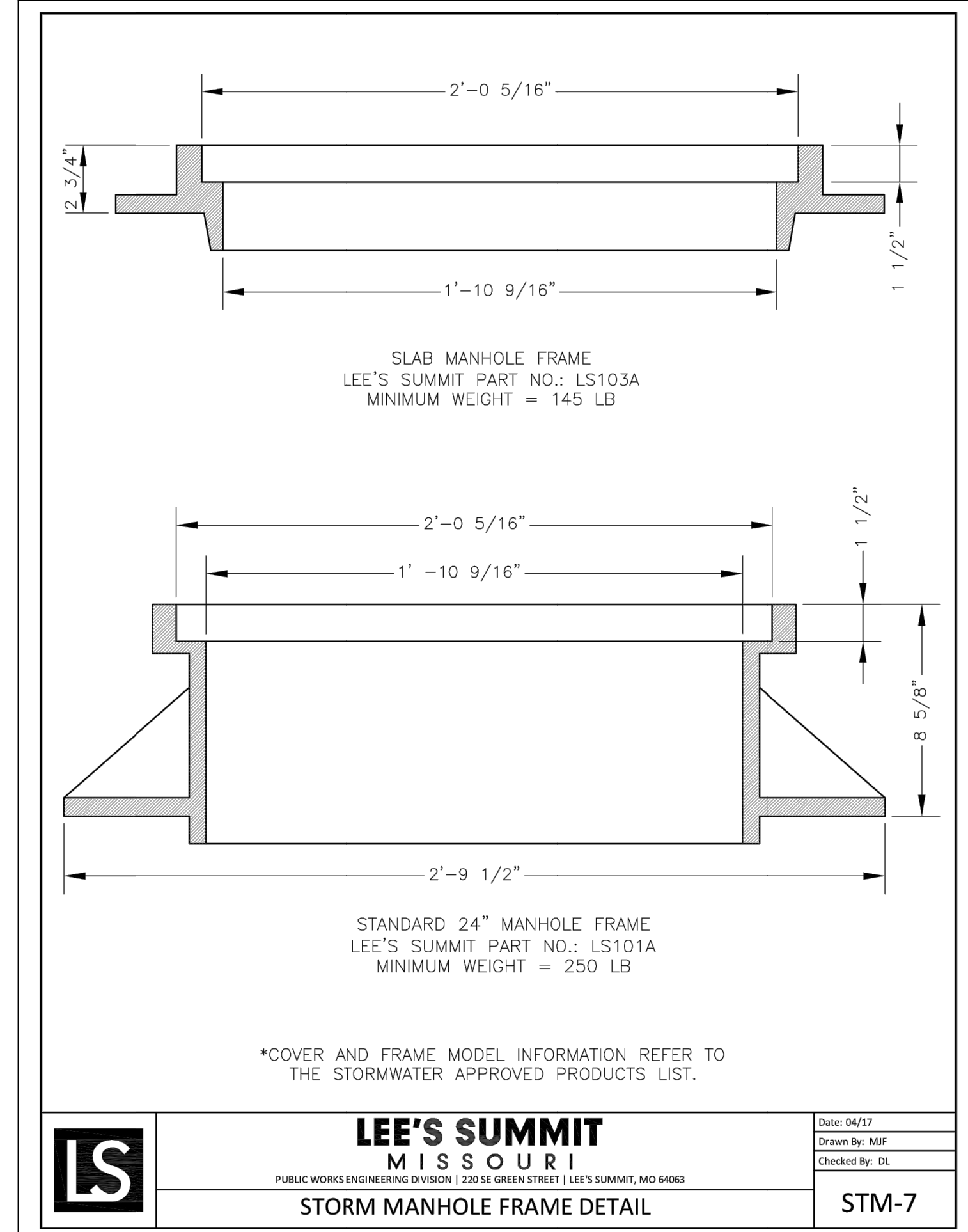
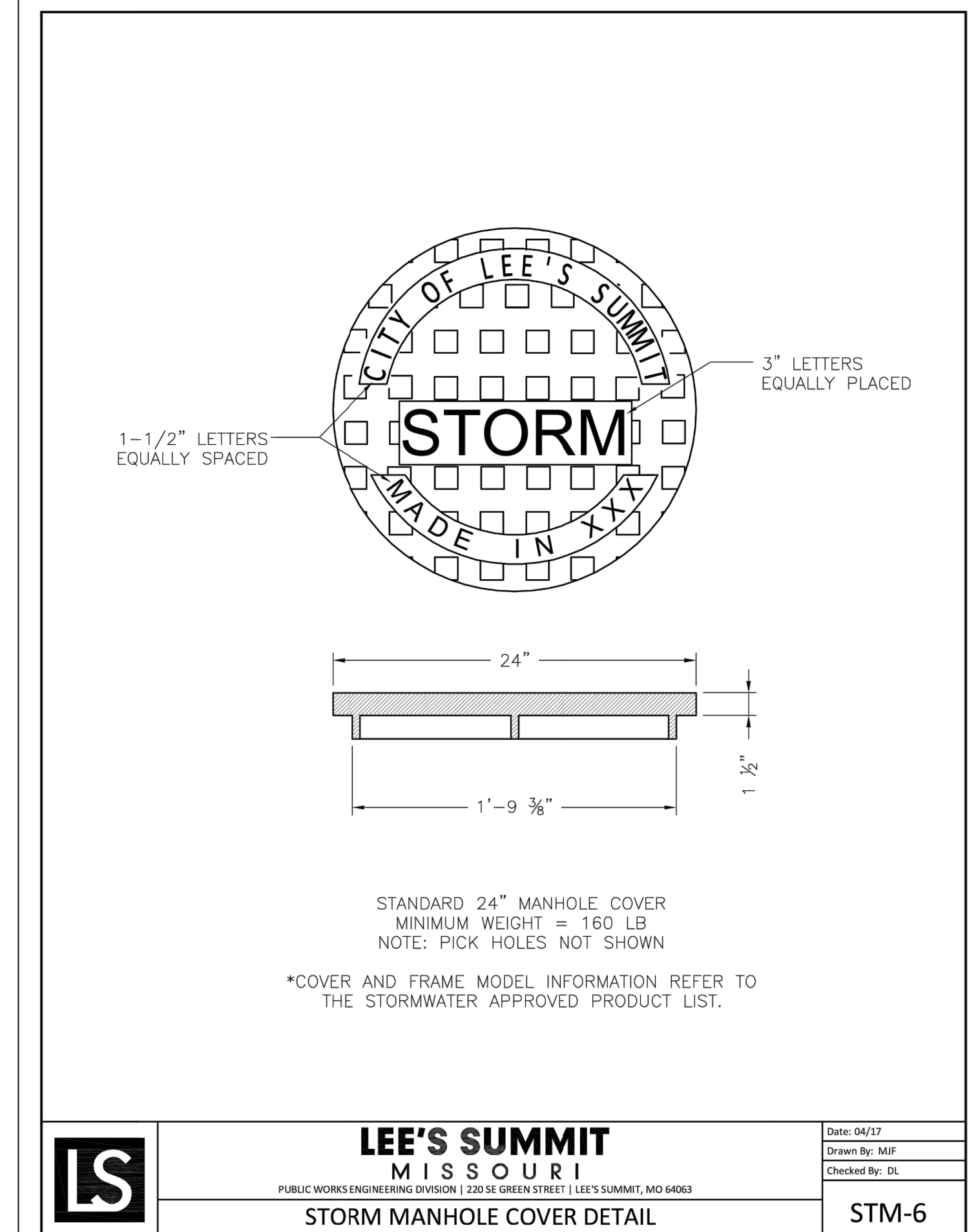
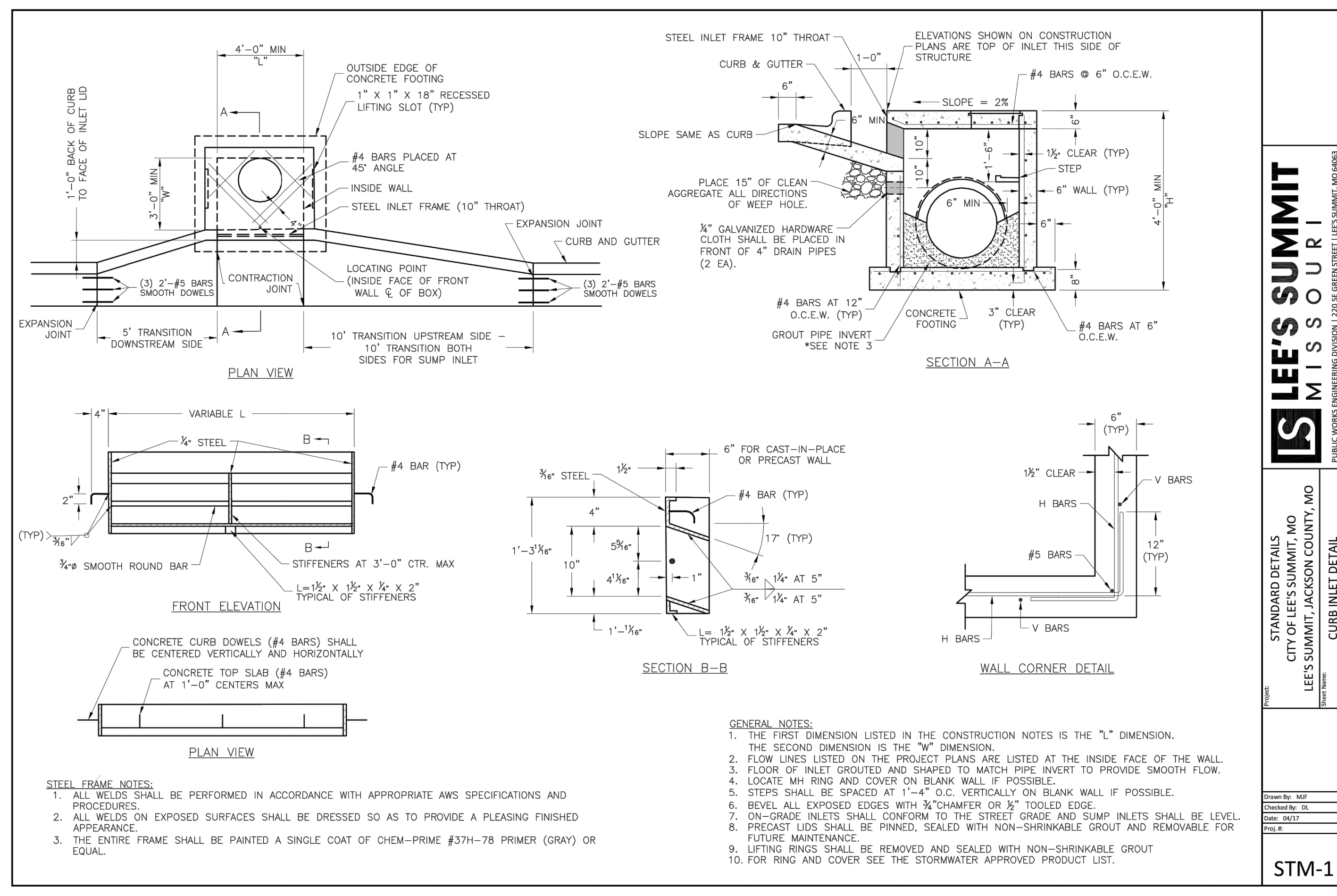
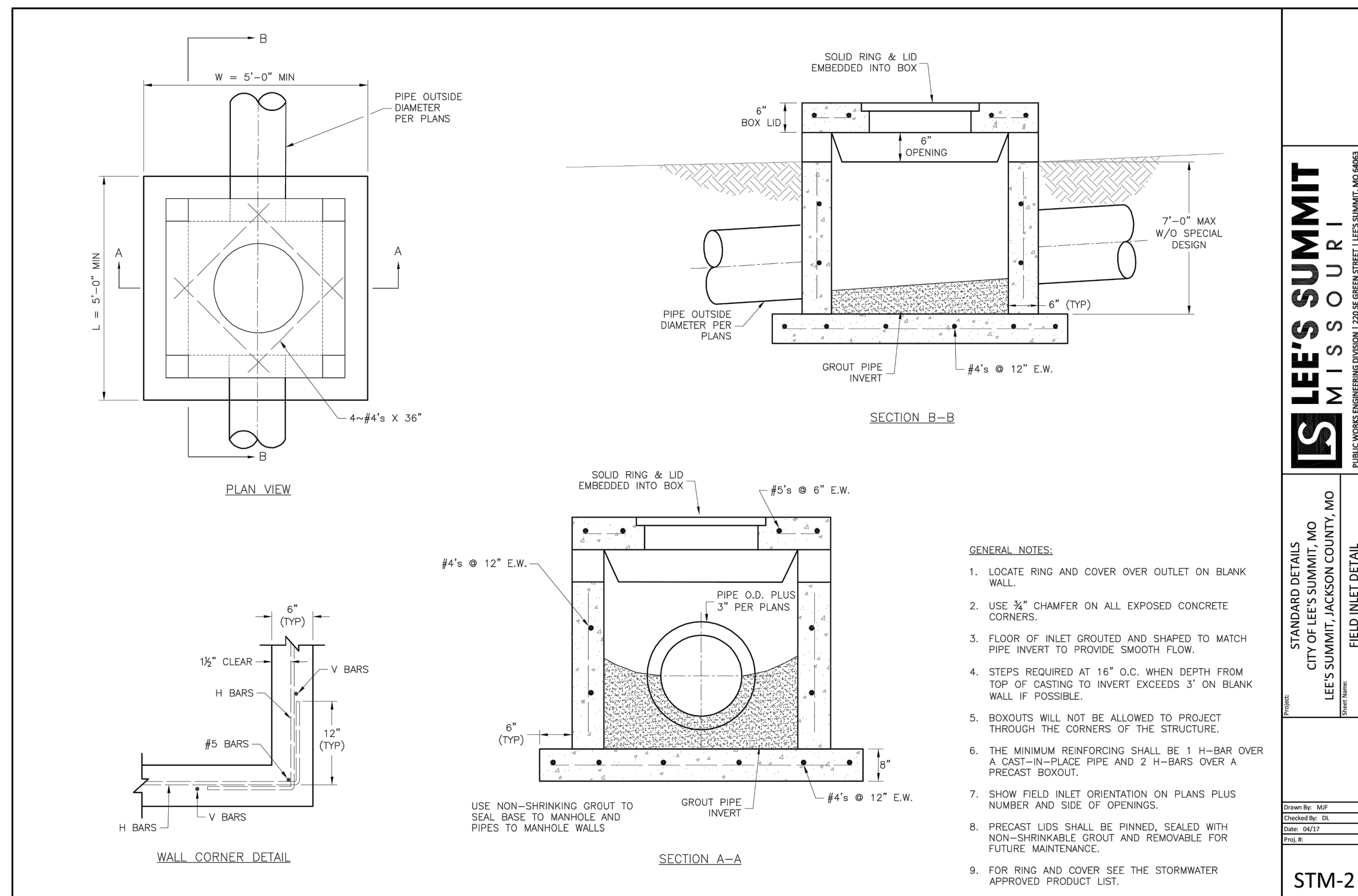
Project:
NAPA VALLEY LS100
Issue Date:
July 13, 2018

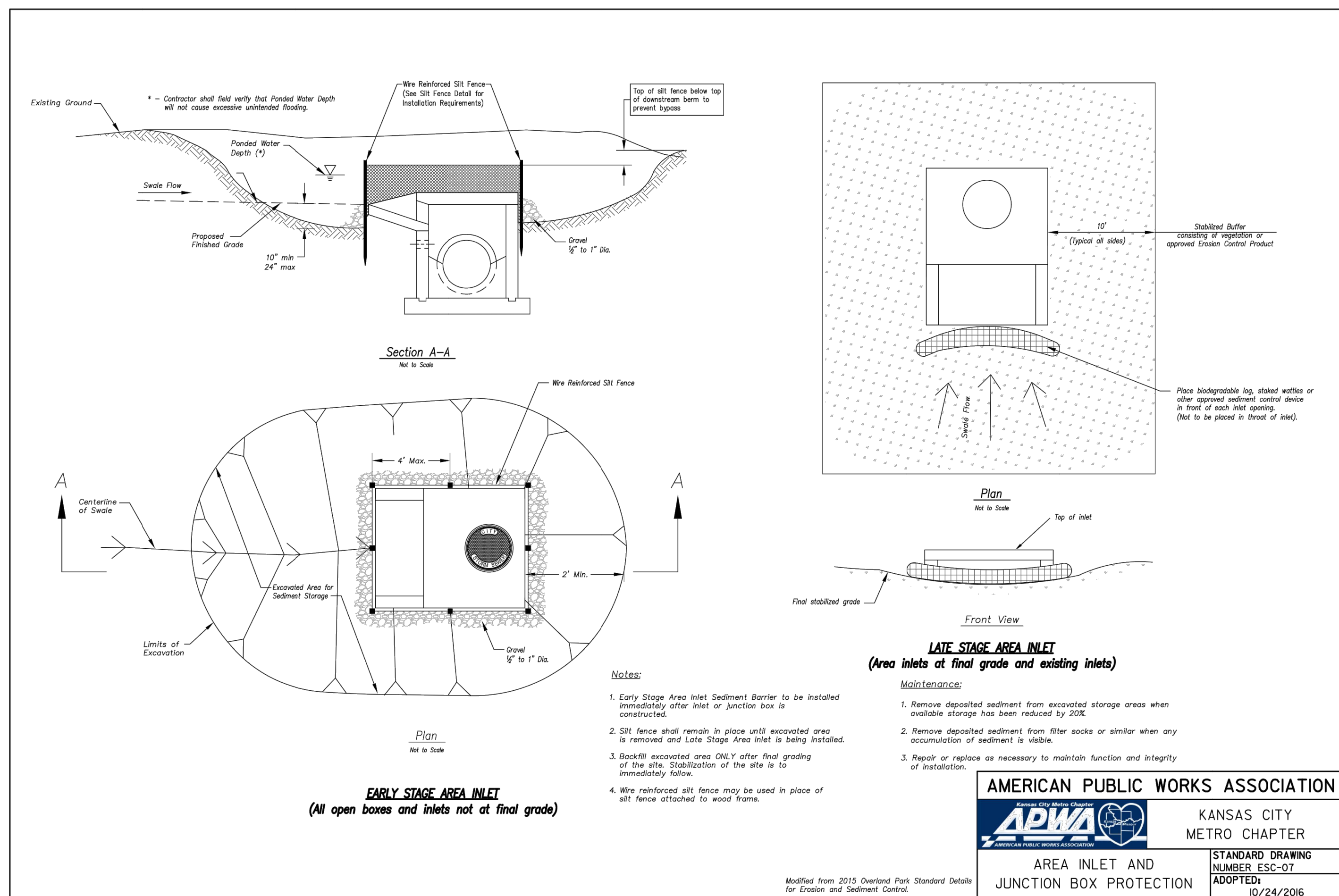
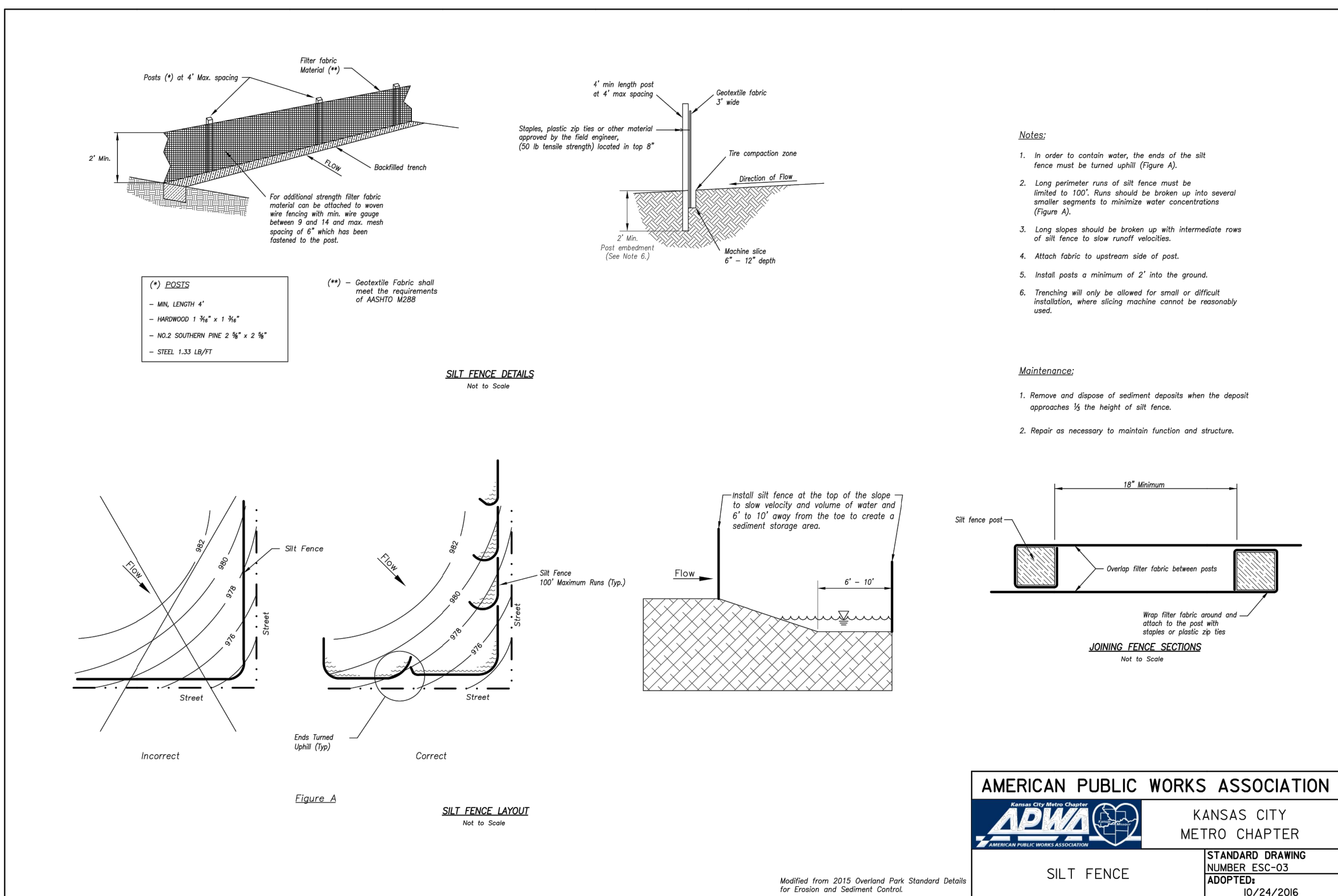
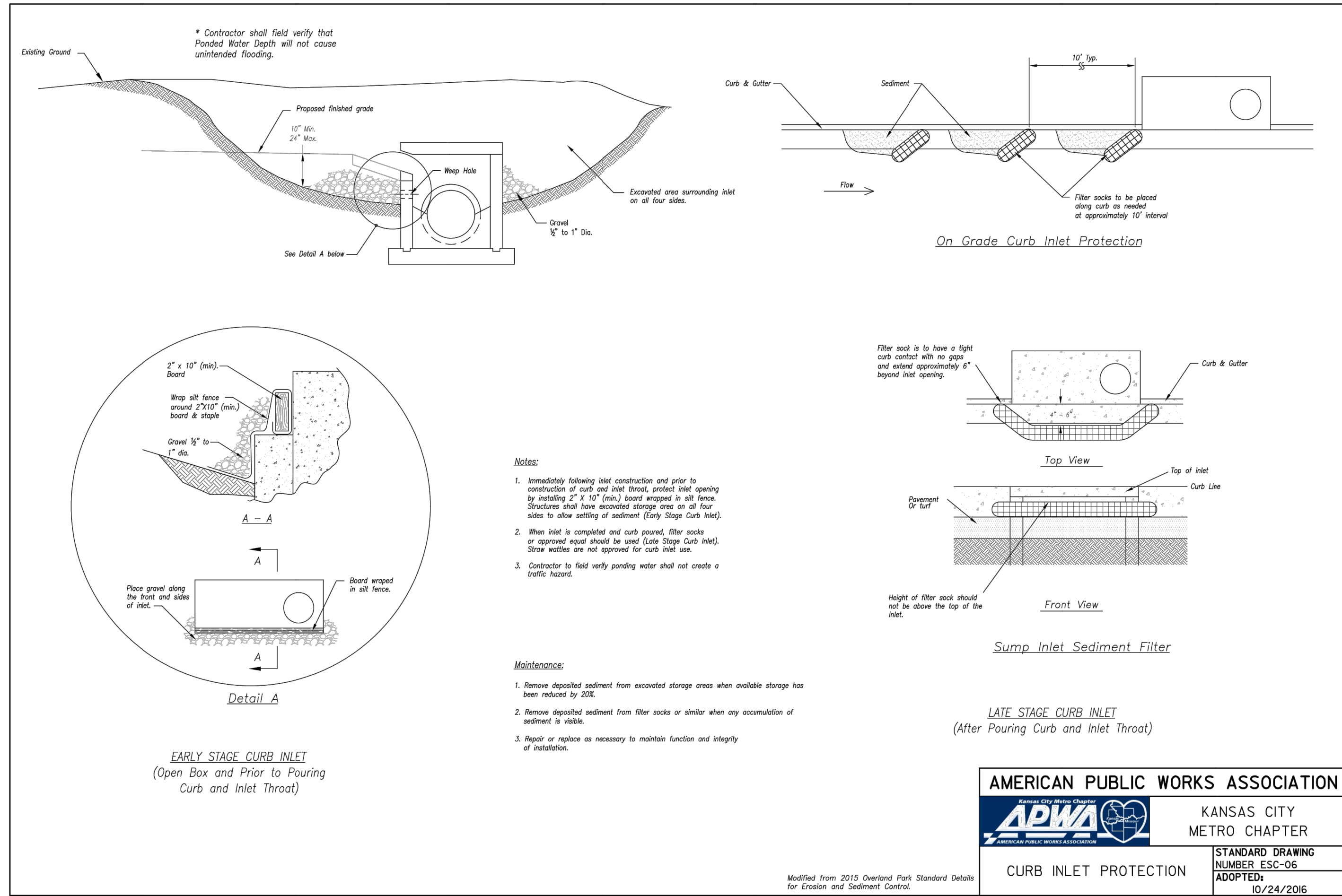
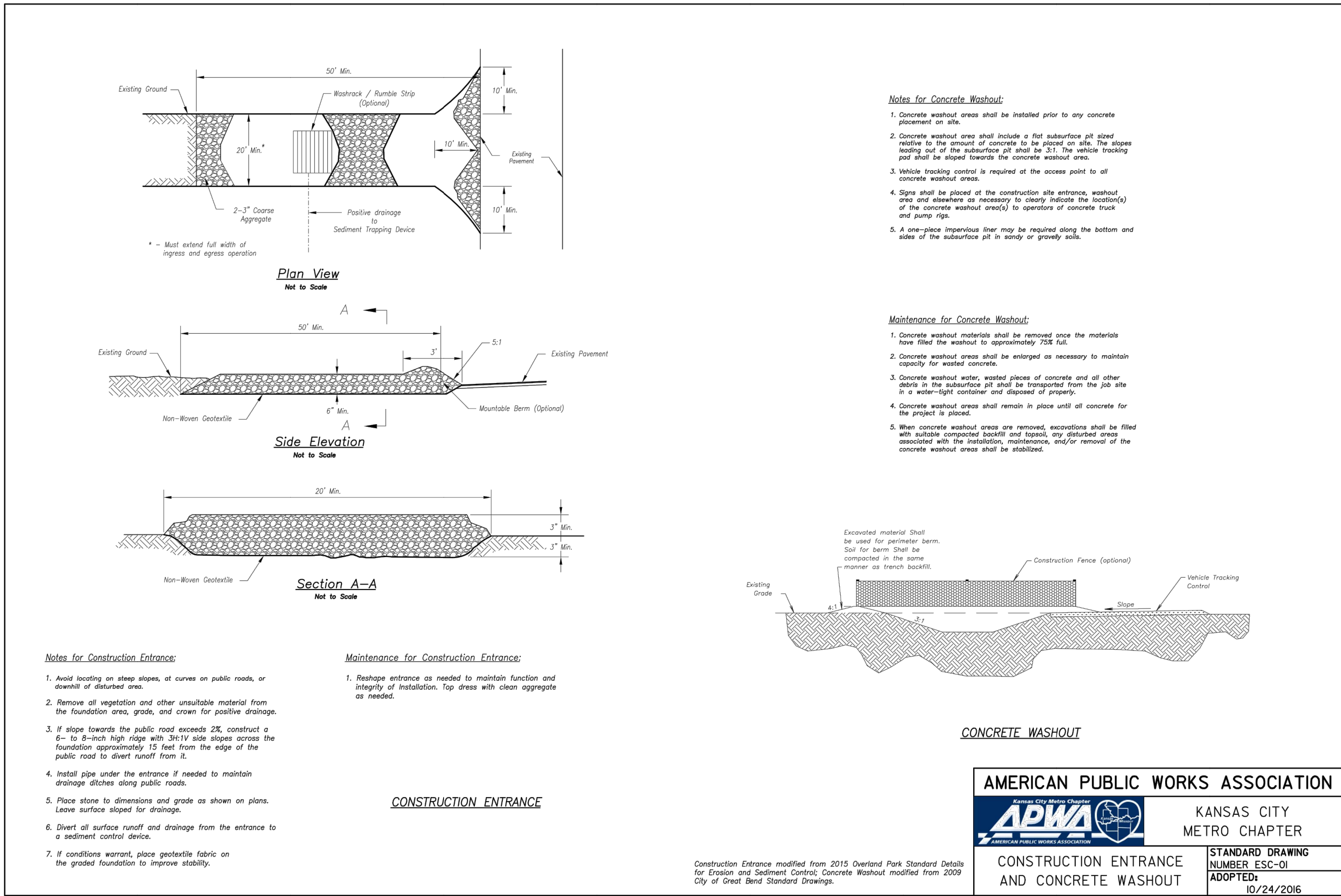
Matthew J. Schlicht
MO PE 2006019708
KS PE 19071
OK PE 25226
NE PE E-14335

REVISIONS
REV. 8/02/18
REV. 9/11/18

Napa Valley 4th Plat
Lee's Summit, Jackson County, Missouri







GENERAL NOTE:

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

RELEASE FOR CONSTRUCTION

AS NOTED ON PLANS REVIEW

DEVELOPMENT SERVICES

LEE'S SUMMIT, MISSOURI

08/06/2020