

# WINTERSET VALLEY, 13TH PLAT

IN THE CITY OF LEE'S SUMMIT  
JACKSON COUNTY, MISSOURI

## EARTHWORK:

1. IT IS RECOMMENDED THAT A GEOTECHNICAL ENGINEER OBSERVE AND DOCUMENT ALL EARTHWORK ACTIVITIES.
2. CONTOURS SHALL BE SHOWN AT 1-FOOT OR 2-FOOT INTERVALS, AS INDICATED. GRADINGS 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.
3. 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 APRIL-2018. THE CONTOUR ELEVATIONS PROVIDED MAY NOT BE EXACT GROUND ELEVATIONS, BUT RATHER INTERPRETATIONS OF SURVEY DATA 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.
4. PROPOSED CONTOURS ARE TO APPROXIMATE FINISHED GRADE.
5. 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.
6. UNLESS OTHERWISE NOTED, ALL EARTHWORK IS CONSIDERED UNCLASSIFIED. NO ADDITIONAL COMPENSATION WILL BE PROVIDED FOR ROCK OR SHALE EXCAVATION, UNLESS SPECIFICALLY STATED OTHERWISE.
7. 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.
8. 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 THEN 6-INCHES AND OTHER DELETERIOUS MATERIALS SHALL BE REMOVED AND PROPERLY DISPOSED OF OFFSITE OR AS DIRECTED BY THE OWNER OR HIS APPOINTED REPRESENTATIVE.
9. 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).
10. FILL MATERIALS SHALL BE PER GEOTECHNICAL REPORT AND SHALL NOT INCLUDE ORGANIC MATTER, DEBRIS OR TOPSOIL. ALL FILL SHALL BE PLACED IN LIFTS GREATER THAN 6" SHALL BE BENCHED.
11. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REDISTRIBUTING THE TOPSOIL OVER PROPOSED TURF AND LANDSCAPED AREAS TO A MINIMUM DEPTH OF 8-INCHES BELOW FINAL GRADE.
12. ALL AREAS SHALL BE GRADED FOR POSITIVE DRAINAGE. UNLESS NOTED OTHERWISE THE FOLLOWING GRADES SHALL APPLY:
  - A. TURF AREAS – 2.5% MINIMUM, 4H:1V MAXIMUM
  - B. PAVED AREAS – 1.2% MINIMUM, 5% MAXIMUM
13. 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.
14. ALL DISTURBED AREAS IN THE RIGHT-OF-WAY SHALL BE SODDED.
15. UNDERDRAINS ARE RECOMMENDED FOR ALL PAVED AREAS ADJACENT TO IRRIGATED TURF AND LANDSCAPED BEDS.
16. 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:**

1. 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.
2. 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.
3. 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.
4. UTILITY SEPARATION: WATERLINES SHALL HAVE A MINIMUM OF 10 FEET HORIZONTAL AND 2 FEET VERTICAL SEPARATION FROM ALL SANITARY AND STORM SEWER LINES. IF MINIMUM SEPARATIONS CAN NOT BE OBTAINED, A CONTINUOUS CASING PIPE MUST BE USED ON THE WATER LINE AND EXTEND NO LESS THAN 10 FEET IN EACH DIRECTION FROM THE CROSSING OF THE SANITARY OR STORM SEWER LINE IN CONFLICT.
5. PAYMENT FOR TRENCHING, BACKFILLING, PIPE EMBEDMENT, FLOWABLE FILL, BACKFILL MATERIALS, CLEAN UP, FLOODING, SODDING AND ANY OTHER ITEMS NECESSARY FOR THE CONSTRUCTION OF THE UTILITY LINE SHALL BE INCLUDED IN THE CONTRACT PRICE FOR THE UTILITY INSTALLATION.
6. 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.
7. TRENCH SPALLS 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.

CONFORMING TO CONSTRUCTION RECORDS.

AJC	10.29.2020
BY	DATE

Sheet List Table	
Sheet Number	Sheet Title
1	COVER SHEET
2	PRE-CLEARING PLAN
3	ECP-CONSTRUCTION
4	FINAL STABILIZATION PLAN
5	EROSION CONTROL DETAILS
6	EROSION CONTROL DETAILS
7	GENERAL LAYOUT
8	MASTER DRAINAGE PLAN - GRADING PLAN
9	MASTER DRAINAGE PLAN - SPOT ELEVATIONS
10	MASTER DRAINAGE PLAN - DRAINAGE MAP
11	MASTER DRAINAGE PLAN-DRAINAGE MAP CONT'D
12	NW THOREAU DRIVE PLAN AND PROFILE
13	NW THOREAU PL AND NW THOREAU LN PLAN AND PROFILE
14	INTERSECTION DETAILS
15	INTERSECTION DETAILS
16	STORM PLAN
17	STORM PROFILES
18	DETENTION BASIN
19	STREET AND STORM DETAILS
20	STREET AND STORM DETAILS
21	STREET AND STORM DETAILS
22	STREET AND STORM DETAILS
23	SIGNING PLAN
24	STREET SIGN DETAILS

PREPARED BY:



11.05.2020  
SCHLAGEL & ASSOCIATES, P.A.

WINTERSET VALLEY, 13TH PLAT  
T, STORMWATER, MASTER DRAINAGE PLAN AND  
EROSION AND SEDIMENT CONTROL

NW THOREAU DRIVE AND AUDUBON LANE  
LEE'S SUMMIT, MISSOURI

MISSOURI GEOGRAPHIC REFERENCE SYSTEM  
BENCH MARK:

BM JA-136, LOCATED AT INTERSECTION OF SW OLDHAM PARKWAY AND SW WARD ROAD, 61 FT SOUTH OF CL OF OLDHAM PARKWAY AND 28.9 FT EAST OF THE EAST EDGE OF WARD ROAD.

ELEV. 993.11'

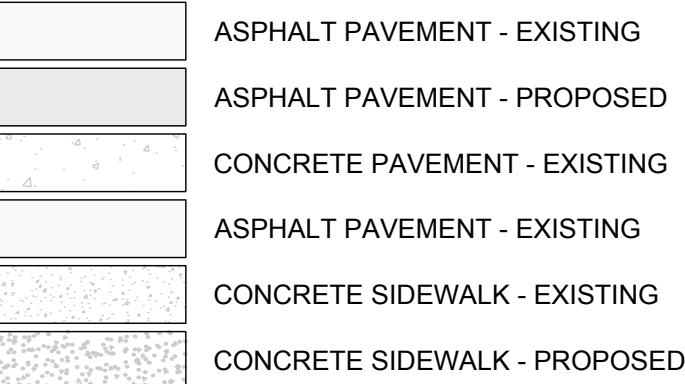
### PROJECT BENCH MARK:

SANITARY MANHOLE H2 AT NW CORNER OF LOT 1153 WINTERSET  
VALLEY 1ST PLAT, APPROX. 39' RT. OF CL OF NW PEALE BLVD.

ELEV.935.45

**LEGEND:**

- A/E - ACCESS EASEMENT
- BC - BACK OF CURB
- B/B - BACK TO BACK
- BM - BENCHMARK
- BL or B.L. - BUILDING LINE
- CO - CLEANOUT
- TJB - TELEPHONE JUNCTION BOX
- C&G - CURB AND GUTTER
- D/E - DRAINAGE EASEMENT
- E/E - ELECTRICAL EASEMENT
- EL - ELEVATION
- FL - FLOW LINE
- G/E - GAS LINE EASEMENT
- HDPE - HIGH-DENSITY POLYETHYLENE
- L/E - LANDSCAPE EASEMENT
- MSFE - MINIMUM SERVICEABLE FLOOR ELEVATION
- PVC - POLYVINYL CHLORIDE
- P/L - PROPERTY LINE
- PUB/E - PUBLIC EASEMENT
- RCP - REINFORCED CONCRETE PIPE
- RCP or RW - RIGHT-OF-WAY
- S/E - SANITARY SEWER EASEMENT
- SL - SERVICE LINE
- S/W - SIDEWALK
- TE - TOP ELEVATION
- U/E - UTILITY EASEMENT
- WSE - WATER SURFACE ELEVATION
- W/E - WATERLINE EASEMENT



CURB & GUTTER - EXISTING

TREELINE

EXISTING LOT AND R/W LINES

EXISTING PLAT LINES

P/L

PROPERTY LINES

ROW

RIGHT-OF-WAY

SANITARY SEWER MAIN

SANITARY SEWER MAIN - EXIST.

STO

STORM SEWER

STORM SEWER - EXISTING

CATV<sub>x</sub>

CABLE TV - EXISTING

FOC<sub>x</sub>

FIBER OPTIC CABLE - EXISTING

T<sub>x</sub>

TELEPHONE LINE - EXIST.

E<sub>x</sub>

ELECTRIC LINE - EXISTING

CHP<sub>x</sub>

OVERHEAD POWER LINE - EXIST.

UGE<sub>x</sub>

UNDERGROUND ELECTRIC - EX.

G<sub>x</sub>

GAS LINE - EXISTING

W<sub>x</sub>

WATERLINE - EXISTING

☀

LIGHT - EXISTING

☐

EXISTING MANHOLE

∞

CLEANOUT

●

EXISTING SANITARY MANHOLE

●

PROPOSED SANITARY MANHOLE

■

EXISTING AREA INLET

GI

EXISTING CURB INLET

GI

EXISTING GRATE INLET

JIB

EXISTING JUNCTION BOX

⊙

EXISTING STORM MANHOLE

## SUMMARY OF QUANTITIES

	ITEM	QUANTITY	UNITS
1	GRADING	1	LS
2	SEEDING AND SODDING	1	LS
3	TYPE "CG-2" CURB AND GUTTER	1,535	LF
4	TYPE "CG-1" CURB AND GUTTER	151	LF
5	SAWCUT EXISTING PAVEMENT	5	LF
6	2" SURFACE COURSE - TYPE 3	2,732	SY
7	4" BASE COURSE - TYPE 1	2,732	SY
8	10" BASE COURSE - MODOT TYPE 5 (WITH GEOGRID) (OPTION B)	3,210	SY
9 *	6" BASE COURSE - MODOT TYPE 5 (6" CHEMICAL STABILIZATION) (OPTION A)	3,210	SY
10 *	TYPE I SIDEWALK RAMP	2	EA
11	TYPE II SIDEWALK RAMP	1	EA
12	TYPE III SIDEWALK RAMP (MID-BLOCK RAMP)	3	EA
13	15" HDPE	255	LF
14	18" HDPE	130	LF
15	24" HDPE	160	LF
16	48" HDPE	238	LF
17	18" HDPE END SECTION W/ TOEWALL	1	EA
18	24" HDPE END SECTION W/ TOEWALL	2	EA
19	48" HDPE END SECTION W/ TOEWALL	1	EA
20	STD. 6"x4" CURB INLET	5	EA
21	STD. 4"x4" AREA INLET	1	EA
22	6'X6' DETENTION STRUCTURE	1	EA
23	SCOUR BASIN/PLUNGE POOL	1	EA
24	D <sub>100</sub> -15" STONE RIP-RAP W/ FILTER FABRIC	13	CY
25	EROSION CONTROL DEVICES	1	LS
26	AB-3 FOR STREET CROSSING	62	SY
27	SIGNAGE & PAVEMENT MARKING	1	LS
28	CITY PERMIT FEE	1	LS
29	LAND DISTURBANCE CITY FEE	1	LS
30	BONDS	1	LS

\* NOTE:  
QUANTITIES PULLED FOR STREET OPTION A & B FROM CITY OF LEE'S SUMMIT DESIGN CRITERIA, SECTION 5200, TABLE LS-2: MINIMUM ASPHALT PAVEMENT THICKNESSES. EITHER IS ALLOWED AT CONTRACTORS OPTION (SEE TABLE ON DETAIL SHEET 22.)

SECTION 3-47N-32W

**UTILITY CONTACTS:**

MISSOURI DEPARTMENT OF  
TRANSPORTATION (MODOT)  
Steve Holloway  
600 NE Colbern Road  
Lee's Summit, MO 64086  
(816) 607-2186

**MISSOURI GAS ENERGY (MGE)**  
Brent Jones  
3025 SE Clover Drive  
Lee's Summit, MO 64082  
(816) 399-9633  
brent.jones@spireenergy.com

**KANSAS CITY POWER & LIGHT  
COMPANY (KCP&L)**  
Ron DeJarnette  
1300 SE Hamblin Road  
Lee's Summit, MO 64081  
Office: (816) 347-4316  
Cell: (816) 810-5234  
ron.dejarnette@kcpl.com

## CITY OF LEES SUMMIT PUBLIC WORKS

220 SE Green Street  
Lee's Summit, MO 64063  
(816) 969-1800

**AT&T**  
Mark Manion or Marty Loper  
500 E. 8th Street, Room 370  
Kansas City, MO 64106  
(816) 275-2341 or (816) 275-1550

COMCAST CABLE

John Meadows  
4700 Little Blue Parkway  
Independence, MO 64057  
(816) 795-2257

## PUBLIC WATER SUPPLY DISTRICT

Mark Schaufler  
220 SE Green Street  
Lee's Summit, MO 64063  
(816) 969-1900

**GENERAL NOTES:**

1. ALL CONSTRUCTION TO FOLLOW THE CITY OF LEE'S SUMMIT DESIGN AND CONSTRUCTION MANUAL AS ADOPTED BY ORDINANCE 5813.
2. ALL WORKMANSHIP AND MATERIALS SHALL BE SUBJECT TO THE INSPECTION AND APPROVAL OF THE ENGINEERING DEPARTMENT OF THE CITY OF LEE'S SUMMIT, MISSOURI.
3. LINEAL FOOT MEASUREMENTS SHOWN ON THE PLANS ARE HORIZONTAL MEASUREMENTS, NOT SLOPE MEASUREMENTS. ALL PAYMENTS SHALL BE MADE ON HORIZONTAL MEASUREMENTS.
4. NO GEOTECHNICAL INVESTIGATION HAS BEEN PERFORMED ON THE SITE.
5. 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.
6. 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-TRIE. 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.
7. 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.
8. THE CONTRACTOR SHALL PROTECT ALL MAJOR TREES FROM DAMAGE. NO TREE SHALL BE REMOVED WITHOUT PERMIT FROM THE CITY OWNER, UNLESS SHOWN OTHERWISE.
9. 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.
10. ALL WASTE MATERIAL RESULTING FROM THE PROJECT SHALL BE DISPOSED OF OFF-SITE BY THE CONTRACTOR, OR AS DIRECTED BY THE OWNER.
11. ALL EXCAVATIONS SHALL BE UNCLASSIFIED. NO SEPARATE PAYMENT WILL BE MADE FOR ROCK EXCAVATION.
12. THE CONTRACTOR SHALL CONTROL THE EROSION AND SILTATION DURING ALL PHASES OF CONSTRUCTION, AND SHALL KEEP THE STREETS CLEAN OF MUD AND DEBRIS.
13. ALL MANHOLES, CATCH BASINS, UTILITY VALVES AND METER PITS TO BE ADJUSTED OR REBUILT TO GRADE AS REQUIRED.
14. THE CONTRACTOR SHALL CONTACT DEVELOPMENT SERVICES INSPECTIONS AT: 816-969-1800 TO OBTAIN A DEVELOPMENT SERVICES CONSTRUCTION PERMIT. A MINIMUM 48 HOUR NOTICE SHALL BE GIVEN PRIOR TO PERMIT ISSUANCE.
15. THE CONTRACTOR SHALL CONTACT THE CITY'S EROSION CONTROL SPECIALIST AT: 816-969-1800 PRIOR TO ANY LAND DISTURBANCE.
16. 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.
17. 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:**

1. 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.
2. ALL INSPECTION OF STREET CONSTRUCTION TO BE PERFORMED BY THE CITY OF LEE'S SUMMIT PUBLIC WORKS DEPARTMENT.
3. CURB RETURN RADII SHALL BE 25' AT BACK OF CURB UNLESS OTHERWISE NOTED.
4. SUBGRADE TO BE COMPACTED TO 95% STANDARD PROCTOR DENSITY.
5. ASSUMED DESIGN SPEED = 25 MPH (COLLECTOR).
6. MINIMUM STOPPING SIGHT DISTANCE = 155 FEET.
7. MINIMUM K, SAG CURVE = 26 (14 WITH LIGHTING), CREST CURVE = 12.
8. GRADE INTERSECTIONS TO DRAIN AS SHOWN.
9. SSD = STOPPING SIGHT DISTANCE.



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LEGEND	
	TEMPORARY STORAGE AREA FOR EXCESS MATERIAL
	TEMP. CONSTRUCTION ENTRANCE AND STAGING AREA
	CONCRETE WASHOUT AREA
	SILT FOAM DIKE - STAKED & INSTALL PER MFR'S RECOMMENDATIONS
	ROCK DITCH CHECK
	SILT FENCE (PRIOR TO LAND DISTURBANCE)
	SILT FENCE (DURING CONSTRUCTION)
	SILT SOCK / ROCK SOCK / SOCK WATTLE
	LIMITS OF DISTURBANCE
	EXISTING CONTOURS
	PROPOSED CONTOURS
	GRAVEL FILTER FOR STORM SEWER STRUCTURES ONLY
	BMP PLAN REF. NO.

PHASE	EROSION AND SEDIMENT CONTROL 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 1 (PRIOR TO LAND DISTURBANCE)	E	PLACE WHERE INDICATED, REPAIR OR REPLACE AS NECESSARY AND REMOVE ONLY WHEN GRADED AREAS HAVE SUFFICIENT GROUND COVER ESTABLISHED
		3*	EXISTING INLET PROTECTION	E	PLACE WHERE INDICATED, REPAIR OR REPLACE AS NECESSARY AND REMOVE ONLY WHEN GRADED AREAS HAVE SUFFICIENT GROUND COVER ESTABLISHED
		3a	FOAM SILT DIKE OR ROCK DITCH CHECK AND SEDIMENT TRAPS	E	PLACE WHERE INDICATED AT EXISTING SWALES AND DRAINAGE COURSES
CONSTRUCTION PHASE	B - MASS GRADING	4	SILT FENCE 2 (DURING CONSTRUCTION)	E	PLACE WHERE INDICATED, REPAIR OR REPLACE AS NECESSARY AND REMOVE ONLY WHEN GRADED AREAS HAVE SUFFICIENT GROUND COVER ESTABLISHED
		5	FOAM SILT DIKE OR ROCK DITCH CHECK AND SEDIMENT TRAPS	E	PLACE WHERE INDICATED AS SOON AS SWALE IS ESTABLISHED, REPAIR OR REPLACE AS NECESSARY
	C - UTILITY CONSTRUCTION	6	CONCRETE WASHOUT AREA	E	MAINTAIN, REPAIR, OR REPLACE AS NECESSARY
7		INLET PROTECTION (SILT FENCE)	D/E	PLACE SILT FENCE AROUND ALL STORM SEWER STRUCTURES / YARD AREA STORM STRUCTURES TO HAVE SILT FENCE REMOVED ONLY WHEN GRADED AREAS HAVE SUFFICIENT GROUND COVER ESTABLISHED	
FINAL STABILIZATION PHASE	D - AFTER PAVING OPERATIONS	8	INLET PROTECTION (GRAVEL FILTER BAGS)	E	BOARDS SHALL BE PLACED IN FRONT OF INLET OPENING FROM THE TIME SILT FENCE IS REMOVED UNTIL SUCH TIME THAT THE CURB / THROAT IS POURED. PLACE GRAVEL FILTER BAGS AT THE OPENING OF ALL CURB INLETS IMMEDIATELY AFTER THE INLET THROATS ARE POURED
		9	SILT FENCE 2 (AFTER CURB CONSTRUCTION)	E	PLACE WHERE INDICATED, REPAIR OR REPLACE AS NECESSARY AND REMOVE ONLY WHEN GRADED AREAS HAVE SUFFICIENT GROUND COVER ESTABLISHED
		10	SEEDING AND MULCHING	E	ALL DISTURBED AREAS AFTER 14 DAYS OF CONSTRUCTION INACTIVITY
		E - UNTIL CLOSURE OF LAND DISTURBANCE PERMIT			

\* NOTE:  
MULCH BERMS ARE AN ACCEPTABLE ALTERNATIVE TO SILT FENCE REQUIRED PRIOR TO LAND DISTURBANCE AND ADJACENT TO WOODED/UNDEVELOPED AREAS.

DISTURBED AREA = 6.77 A.C.

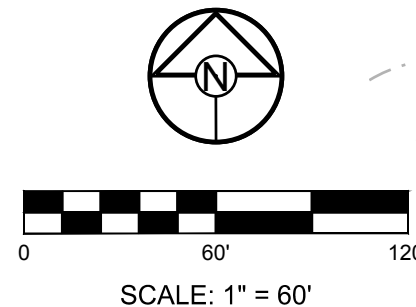
SITE SPECIFIC NOTES:

- THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL EXISTING UTILITY LOCATIONS PRIOR TO EXCAVATION.
- THERE ARE NO WETLANDS, NATURAL OR ARTIFICIAL 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 29095C0412G DATED JANUARY 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 SOIL 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.

CONFORMING TO CONSTRUCTION RECORDS.

AJC 10.29.2020  
BY DATE



PREPARED BY:



SCHLAGEL & ASSOCIATES, P.A.

WINTERSET VALLEY, 13TH PLAT  
STREET, STORMWATER, MASTER DRAINAGE PLAN AND  
EROSION AND SEDIMENT CONTROL  
NW THOREAU DRIVE AND AUDUBON LANE  
LEE'S SUMMIT, MISSOURI

REVISION DATE	DESCRIPTION
4-10-19	CITY COMMENTS
8-1-19	CITY COMMENTS
8-21-19	CITY COMMENTS
9-18-19	CITY COMMENTS
10-24-19	CITY COMMENTS
05-04-2020	SCHLAGEL REVISION
06-24-2020	SCH. TOPO REV.
10-29-2020	AS-BUILT

DRAWN BY:	####
CHECKED BY:	####
DATE PREPARED:	2-15-19
PROJ. NUMBER:	18-230

PRE-CLEARING PLAN

SHEET



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LEGEND			
	TEMPORARY STORAGE AREA FOR EXCESS MATERIAL		SILT FENCE (PRIOR TO LAND DISTURBANCE)
	TEMP. CONSTRUCTION ENTRANCE AND STAGING AREA		SILT FENCE (DURING CONSTRUCTION)
	CONCRETE WASHOUT AREA		SILT SOCK / ROCK SOCK / SOCK WATTLE
	SILT FOAM DIKE - STAKED & INSTALL PER MFR'S RECOMMENDATIONS		LIMITS OF DISTURBANCE
	ROCK DITCH CHECK		EXISTING CONTOURS
			PROPOSED CONTOURS
			GRAVEL FILTER FOR STORM SEWER STRUCTURES ONLY
			BMP PLAN REF. NO.

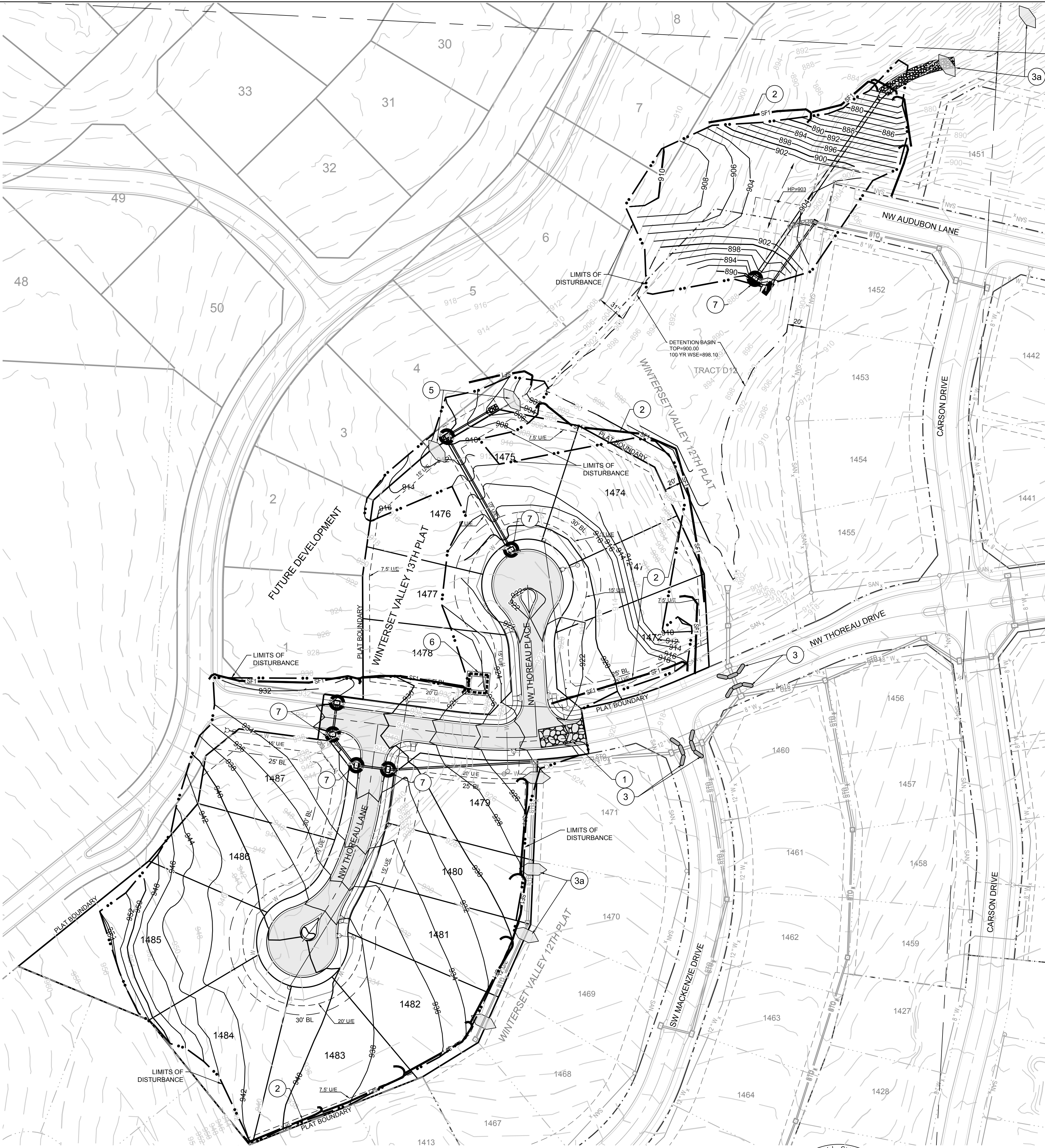
PHASE	EROSION AND SEDIMENT CONTROL STAGING CHART				
	PROJECT STAGE	BMP PLAN REF. NO.	BMP DESCRIPTION	REMOVE AFTER STAGE	NOTES:
PRE-CLEARING PHASE	A - PRIOR TO LAND DISTURBANCE	1	CONSTRUCTION ENTRANCE & STAGING AREA	D	MAINTAIN, REPAIR, OR REPLACE AS NECESSARY
		2	SILT FENCE 1 (PRIOR TO LAND DISTURBANCE)	E	PLACE WHERE INDICATED, REPAIR OR REPLACE AS NECESSARY AND REMOVE ONLY WHEN GRADED AREAS HAVE SUFFICIENT GROUND COVER ESTABLISHED
		3	EXISTING INLET PROTECTION	E	PLACE WHERE INDICATED, REPAIR OR REPLACE AS NECESSARY AND REMOVE ONLY WHEN GRADED AREAS HAVE SUFFICIENT GROUND COVER ESTABLISHED
		3a	FOAM SILT DIKE OR ROCK DITCH CHECK AND SEDIMENT TRAPS	E	PLACE WHERE INDICATED AT EXISTING SWALES AND DRAINAGE COURSES
CONSTRUCTION PHASE	B - MASS GRADING	4	SILT FENCE 2 (DURING CONSTRUCTION)	E	PLACE WHERE INDICATED, REPAIR OR REPLACE AS NECESSARY AND REMOVE ONLY WHEN GRADED AREAS HAVE SUFFICIENT GROUND COVER ESTABLISHED
		5	FOAM SILT DIKE OR ROCK DITCH CHECK AND SEDIMENT TRAPS	E	PLACE WHERE INDICATED AS SOON AS SWALE IS ESTABLISHED, REPAIR OR REPLACE AS NECESSARY
	C - UTILITY CONSTRUCTION	6	CONCRETE WASHOUT AREA	E	MAINTAIN, REPAIR, OR REPLACE AS NECESSARY
FINAL STABILIZATION PHASE	D - AFTER PAVING OPERATIONS	7	INLET PROTECTION (SILT FENCE)	D/E	PLACE SILT FENCE AROUND ALL STORM SEWER STRUCTURES / YARD AREA STORM STRUCTURES TO HAVE SILT FENCE REMOVED ONLY WHEN GRADED AREAS HAVE SUFFICIENT GROUND COVER ESTABLISHED
		8	INLET PROTECTION (GRAVEL FILTER BAGS)	E	BOARDS SHALL BE PLACED IN FRONT OF INLET OPENING FROM THE TIME SILT FENCE IS REMOVED UNTIL SUCH TIME THAT THE CURB / THROAT IS POURED. PLACE GRAVEL FILTER BAGS AT THE OPENING OF ALL CURB INLETS IMMEDIATELY AFTER THE INLET THROATS ARE POURED
		9	SILT FENCE 2 (AFTER CURB CONSTRUCTION)	E	PLACE WHERE INDICATED, REPAIR OR REPLACE AS NECESSARY AND REMOVE ONLY WHEN GRADED AREAS HAVE SUFFICIENT GROUND COVER ESTABLISHED
	E - UNTIL CLOSURE OF LAND DISTURBANCE PERMIT	10	SEEDING AND MULCHING	E	ALL DISTURBED AREAS AFTER 14 DAYS OF CONSTRUCTION INACTIVITY
					ADDITIONAL SEDIMENT AND EROSION CONTROL MEASURES MAY BE REQUIRED ANY TIME CURRENT MEASURES ARE FOUND TO BE INEFFECTIVE.

DISTURBED AREA = 6.77 A.C.

SITE SPECIFIC NOTES:

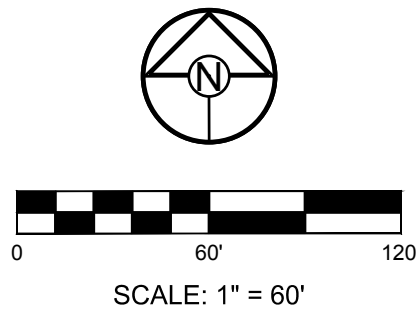
- THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL EXISTING UTILITY LOCATIONS PRIOR TO EXCAVATION.
- THERE ARE NO WETLANDS, NATURAL OR ARTIFICIAL WATER STORAGE DETENTION AREAS IN THE PROJECT AREA.
- NO PART OF THE PROJECT LIES WITHIN THE 100 YEAR FLOOD PLAIN PER FEMA FLOOD INSURANCE RATE MAP NUMBER 29095C0412G DATED JANUARY 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 SOIL 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.



CONFORMING TO CONSTRUCTION RECORDS.

AJC  
BY  
DATE 10.29.2020



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Missouri State Certificates of Authority  
#E2002003600-F #LAC2001005237 #LS2002008659-F

PREPARED BY:  
  
11.05.2020  
SCHLAGEL & ASSOCIATES, P.A.

WINTERSET VALLEY, 13TH PLAT  
STREET, STORMWATER, MASTER DRAINAGE PLAN AND  
EROSION AND SEDIMENT CONTROL  
NW THOREAU DRIVE AND AUDUBON LANE  
LEE'S SUMMIT, MISSOURI

REVISION DATE	DESCRIPTION
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05-04-2020	SCHLAGEL REVISION
06-24-2020	SCH. TOPO REV.
10-29-2020	AS-BUILT

ECP-CONSTRUCTION

SHEET  
**3**



I:\PROJECTS\2018\18-230\3.0 DWG Plans\6.0 SS\18-230 SS-EROS CONT PLAN.dwg, 1/15/2020 9:25:12 AM, 1:1

LEGEND			
	TEMPORARY STORAGE AREA FOR EXCESS MATERIAL		SILT FENCE (PRIOR TO LAND DISTURBANCE)
	TEMP. CONSTRUCTION ENTRANCE AND STAGING AREA		SILT FENCE (DURING CONSTRUCTION)
	CONCRETE WASHOUT AREA		SILT SOCK / ROCK SOCK / SOCK WATTLE
	SILT FOAM DIKE - STAKED & INSTALL PER MFR'S RECOMMENDATIONS		LIMITS OF DISTURBANCE
	ROCK DITCH CHECK		EXISTING CONTOURS
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		EROSION AND SEDIMENT CONTROL STAGING CHART			
		PROJECT STAGE	BMP PLAN REF. NO	BMP DESCRIPTION	REMOVE AFTER STAGE
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CONSTRUCTION PHASE	B - MASS GRADING	4	SILT FENCE 2 (DURING CONSTRUCTION)	E	PLACE WHERE INDICATED, REPAIR OR REPLACE AS NECESSARY AND REMOVE ONLY WHEN GRADED AREAS HAVE SUFFICIENT GROUND COVER ESTABLISHED
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	C - UTILITY CONSTRUCTION	6	CONCRETE WASHOUT AREA	E	MAINTAIN, REPAIR, OR REPLACE AS NECESSARY
7		INLET PROTECTION (SILT FENCE)	D/E	PLACE SILT FENCE AROUND ALL STORM SEWER STRUCTURES / YARD AREA STORM STRUCTURES TO HAVE SILT FENCE REMOVED ONLY WHEN GRADED AREAS HAVE SUFFICIENT GROUND COVER ESTABLISHED	
FINAL STABILIZATION PHASE	D - AFTER PAVING OPERATIONS	8	INLET PROTECTION (GRAVEL FILTER BAGS)	E	BOARDS SHALL BE PLACED IN FRONT OF INLET OPENING FROM THE TIME SILT FENCE IS REMOVED UNTIL SUCH TIME THAT THE CURB / THROAT IS POURED. PLACE GRAVEL FILTER BAGS AT THE OPENING OF ALL CURB INLETS IMMEDIATELY AFTER THE INLET THROATS ARE POURED
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		10	SEEDING AND MULCHING	E	ALL DISTURBED AREAS AFTER 14 DAYS OF CONSTRUCTION INACTIVITY
	E - UNTIL CLOSURE OF LAND DISTURBANCE PERMIT				

**DISTURBED AREA = 6.77 A.C.**

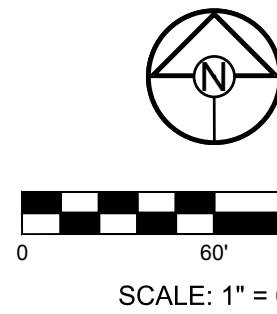
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AJC 10.29.2020  
BY DATE



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STREET, STORMWATER, MASTER DRAINAGE PLAN AND  
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10-29-2020	AS-BUILT'S

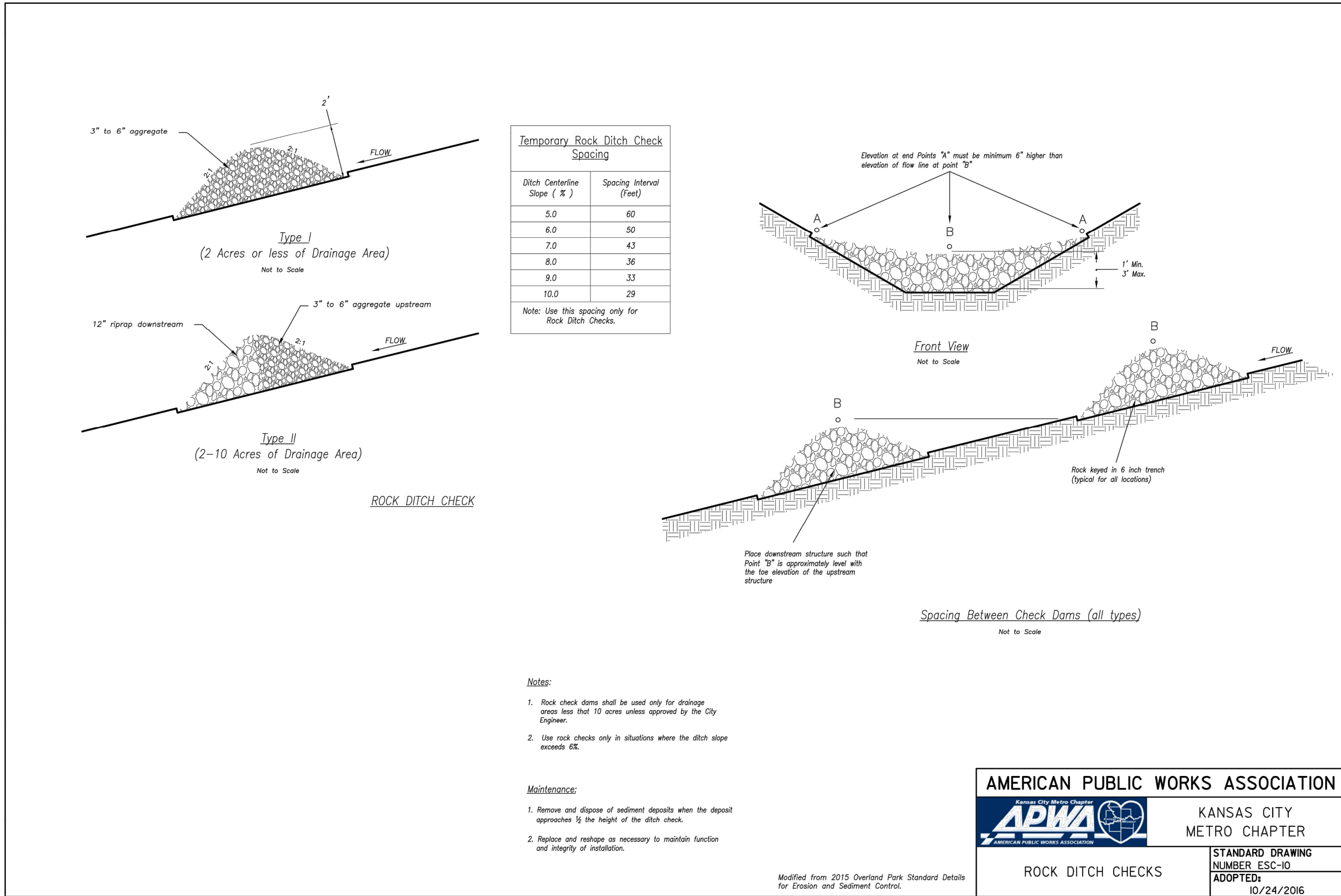
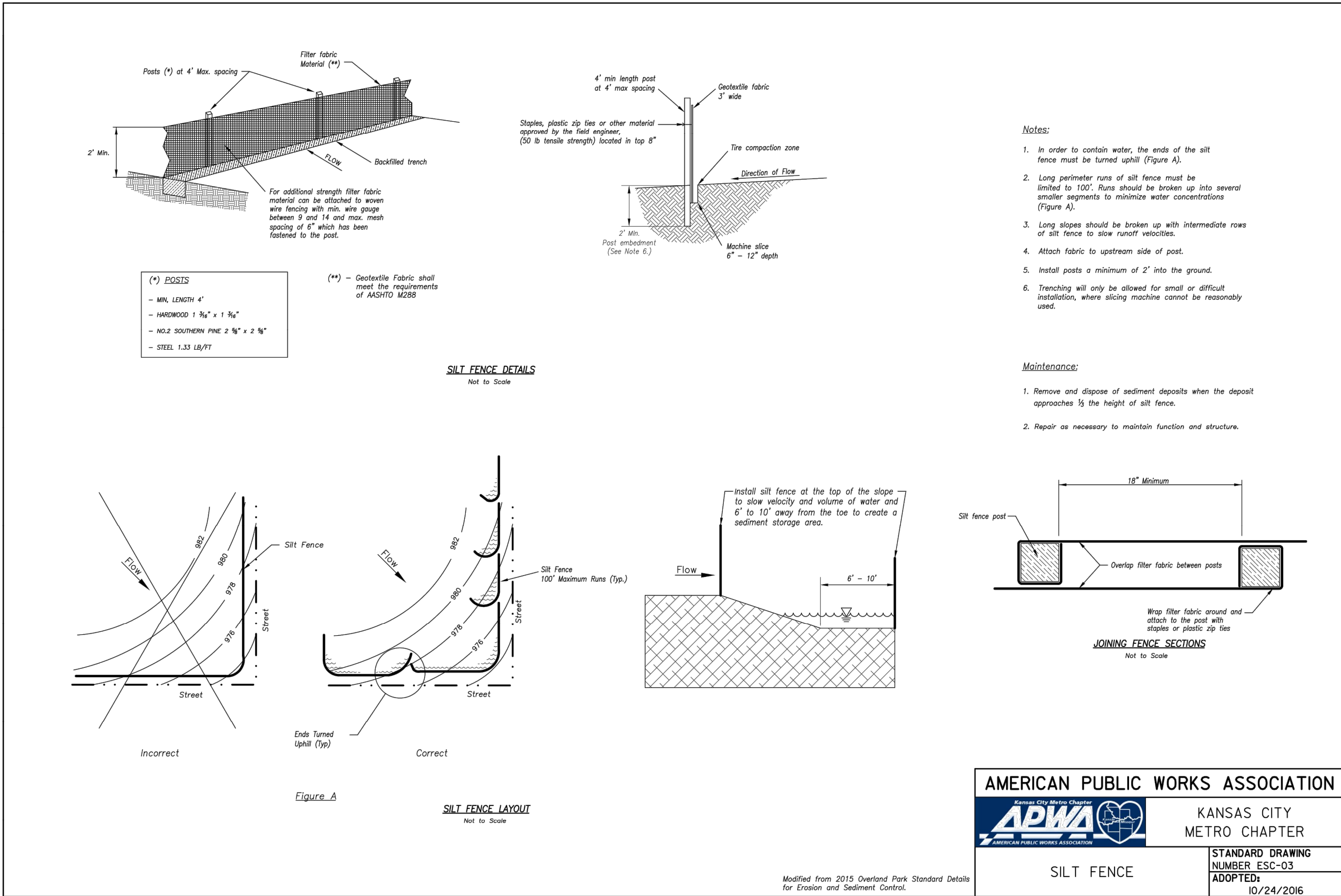
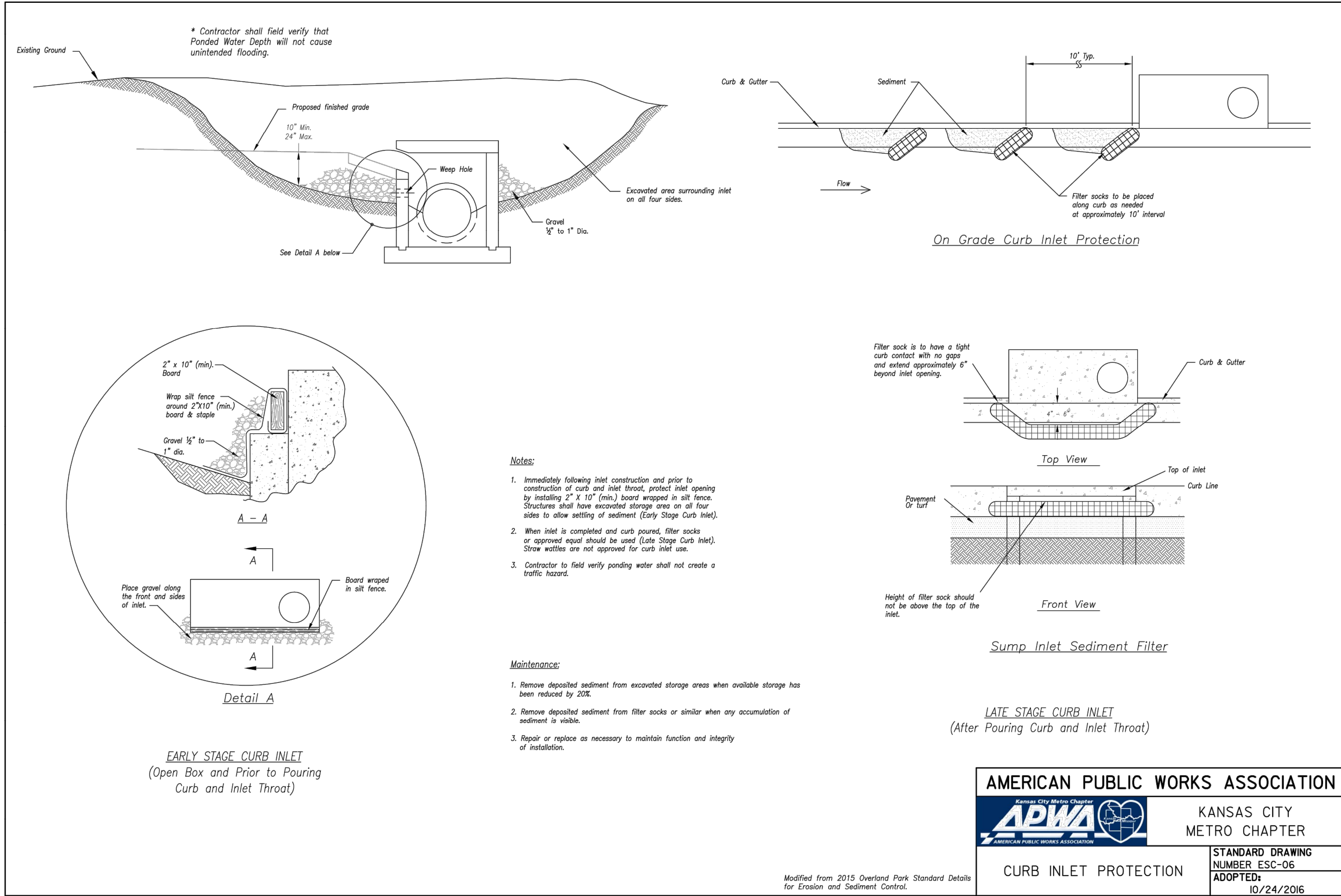
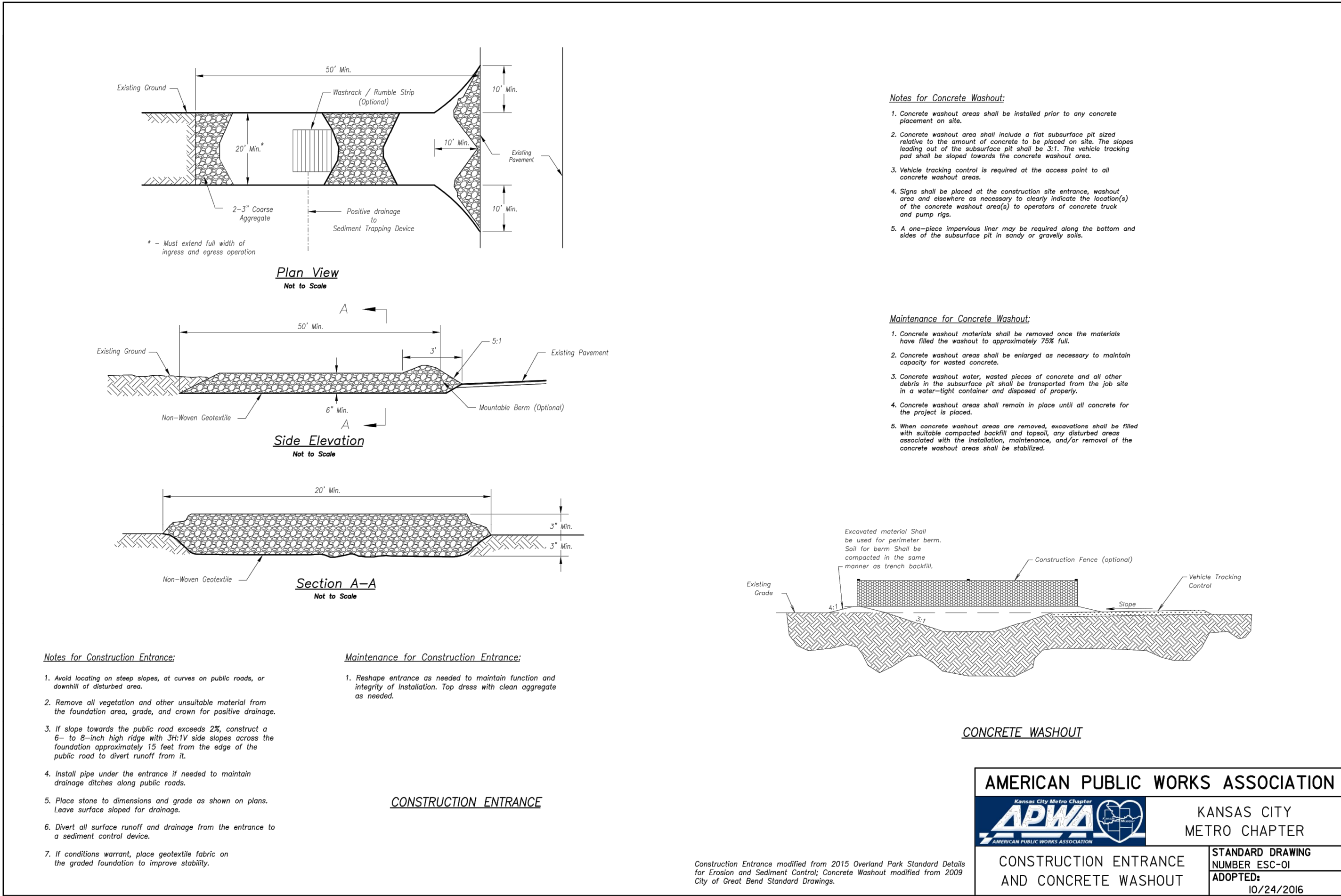
DRAWN BY: ###	CITY COMMENTS
CHECKED BY: ###	CITY COMMENTS
DATE PREPARED: 2-15-19	SCHLAGEL REVISION
PROJ. NUMBER: 18-230	AS-BUILT'S

FINAL STABILIZATION PLAN

SHEET


4






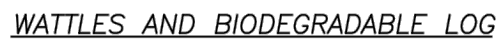
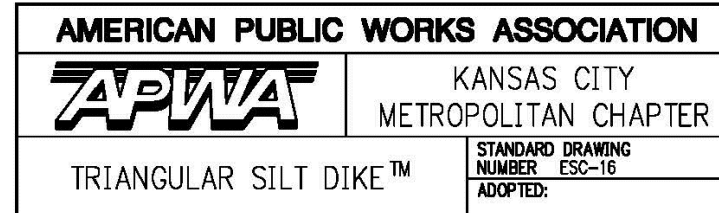




<b>AMERICAN PUBLIC WORKS ASSOCIATION</b> 		<b>KANSAS CITY METRO CHAPTER</b>
<b>AREA INLET AND JUNCTION BOX PROTECTION</b>	<b>STANDARD DRAWING NUMBER ESC-07 ADOPTED:</b> 10/24/2016	



<b>AMERICAN PUBLIC WORKS ASSOCIATION</b> Kansas City Metro Chapter  KANSAS CITY METRO CHAPTER	
SEDIMENT TRAPS	STANDARD DRAWING NUMBER ESC-08 ADOPTED: 10/24/2016



Notes for Wattles and Biodegradable Log Slope Protection:

1. The Slope barriers shall be placed along contour lines, with a short section turned upward at each end of the barrier. The maximum length of the slope barrier shall not exceed 250 feet, and the barrier ends need to be staggered.
2. Install wattles and biodegradable logs per manufacturer's instructions.
3. Spacing of stakes per manufacturer's instructions with 4' max. spacing. Length of stakes shall be a minimum of 2 times the diameter of the log with minimum of 24".

**Notes for Mulch and Compost Filter Basin:**

1. The sediment control berm shall be placed uncompact in a window at locations shown on the plans or as directed by the Engineer.
2. Parallel to the base of the slope, or around the perimeter of other affected areas, construct a 1 to 3 ft high top layer of mulch (see Figure 1) and 1 to 3 ft of maximum water treatment ability or for steep slopes, construct a 1.5 to 4 foot high top layer of mulch, a minimum of 4 feet wide at the base (See Figure 2). Extreme caution, at all times, must be taken to ensure a second berm shall be constructed at the top of slope. Engineer will specify berm requirements.
3. If berm is to be left as permanent or part of the natural landscape, the completed channels needed during application for permanent vegetation.
4. Do not use compost or wood mulch berries in any roof channels.
5. Wood mulch shall consist of tree and shrub debris resulting from clearing and grubbing and shall be ground by the mechanical means of a mulch mill, hammermill, log grinder or other approved method.
6. Mulch using water with a maximum width of 2" and a maximum length of 10".

Maintenance for Mulch and Compost Filter Bags:

1. Berm shall be reshaped and material added as necessary to maintain function and dimensions.

2. Breaches in the berm shall be repaired promptly.

**AMERICAN CITY WORKS ASSOCIATION**

**APWA**  
AMERICAN CITY WORKS ASSOCIATION  
Logo featuring a stylized globe with a water drop and a leaf.

**KANSAS CITY  
METRO CHAPTER**

**WATTLES/BIODEGRADABLE LOG  
AND  
MULCH/COMPOST FILTER BERM**

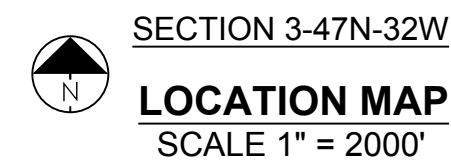
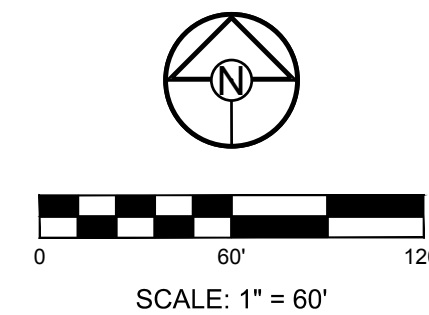
**STANDARD DRAWING  
NUMBER ESC-04  
ADOPTED:** 10/24/2016






REVISION DATE	DESCRIPTION
1. 4-10-19	CITY COMMENTS
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8. 10-29-2020	AS-BUILTS





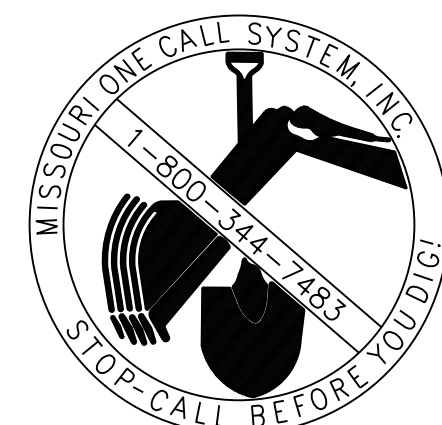




	DENOTES LIMITS OF DISTURBANCE
	DENOTES PROPOSED MAJOR CONTOUR
	DENOTES PROPOSED MINOR CONTOUR
	DENOTES AS-BUILT MAJOR CONTOUR
	DENOTES AS-BUILT MINOR CONTOUR

ELEV.935.45

AJC	10.29.2020
BY	DATE



WINTERSET VALLEY, 13TH PLAT  
STREET, STORMWATER, MASTER DRAINAGE PLAN AND  
EROSION AND SEDIMENT CONTROL  
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LEE'S SUMMIT, MISSOURI

MASTER  
DRAINAGE PLAN  
- GRADING PLAN

8



I:\PROJECTS\2018\2030\0 DWG\2030 MASTER DRAINAGE PLAN.dwg, 11/5/2020 9:28:25 AM, 1:1



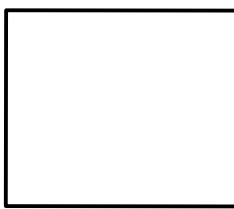
LOT TYPE TABLE	
LOT #	BASEMENT TYPE
1472	WALKOUT
1473	WALKOUT
1474	WALKOUT
1475	WALKOUT
1476	WALKOUT
1477	DAYLIGHT
1478	STANDARD
1479	DAYLIGHT
1480	DAYLIGHT
1481	DAYLIGHT
1482	DAYLIGHT
1483	DAYLIGHT
1484	STANDARD
1485	STANDARD
1486	STANDARD
1487	STANDARD

- NOTE:**
- DAYLIGHT BASED ON ADJACENT GRADE 4 FT BELOW TOP OF FOUNDATION WHILE MAINTAINING 2.5% (MIN) GRADE TO LOT CORNERS.
  - WALKOUT BASED ON ADJACENT GRADE AT BASEMENT FLOOR ELEVATION WHILE MAINTAINING 2.5% (MIN) GRADE TO LOT CORNERS.

**NOTES:**

- MBOE = MINIMUM BUILDING OPENING ELEVATION FOR HOUSES ADJACENT TO ENGINEERED OVERFLOW SWALES SHALL BE MINIMUM 2 FEET ABOVE THE 100 YR WATER SURFACE ELEVATION.
- EGL = ENERGY GRADE LINE (100 YR)
- WSE = WATER SURFACE ELEVATION (100 YR)
- ENGINEERED SWALES TO BE GRADED TO NORMAL DEPTH OF FLOW (WATER SURFACE ELEVATION) OR 1.0 FT, WHICHEVER IS GREATER. MINIMUM SLOPE OF ENGINEERED SWALES SHALL BE AS NOTED.
- MBOE'S ADJACENT TO SUMPED INLETS SHALL BE A MINIMUM OF 1' ABOVE TOP OF ADJACENT BERM

EL 933.8 EX DENOTES EXISTING GRADE ELEVATION  
EL 936.48 FG DENOTES FINISHED GRADE ELEVATION

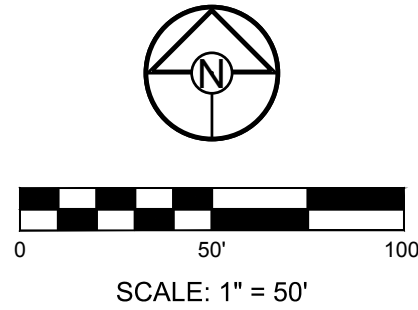


DENOTES CONCEPTUAL BUILDING FOOTPRINT

**NOTE:**

THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL EXISTING UTILITY LOCATIONS PRIOR TO EXCAVATIONS.

- -- DENOTES LIMITS OF DISTURBANCE
- — — — — DENOTES PROPOSED MAJOR CONTOUR
- — — — — DENOTES PROPOSED MINOR CONTOUR
- — — — — DENOTES AS-BUILT MAJOR CONTOUR
- — — — — DENOTES AS-BUILT MINOR CONTOUR

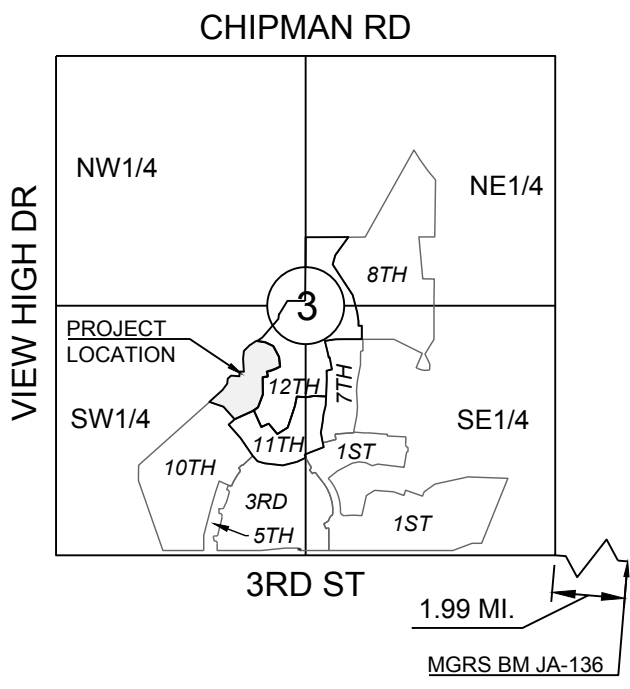


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AJC 10.29.2020  
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100 YEAR OVERFLOW SWALES												
SECTION	DRAINAGE AREA (AC.)	Q100 (CFS)	Q10 (CFS)	DESIGN OVERFLOW (CFS)	BED SLOPE (%)	BASE WIDTH (FT.)	SIDE SLOPE	TOP WATER SURFACE WIDTH (FT.)	NORMAL DEPTH (FT.)	VELOCITY (FPS)	VELOCITY HEAD (FT.)	EGL (FT.)
A-A	1.61	10.59	7.00	3.59	2.60	8	3:1	9.1	0.18	2.36	0.09	0.27
B-B	0.91	5.99	3.96	2.03	2.50	8	3:1	8.8	0.13	1.88	0.05	0.18
C-C	1.14	7.50	4.96	2.54	2.50	8	3:1	8.9	0.15	2.02	0.06	0.21
*D-D	0.51	3.36	2.39	3.36*	8.34	8	3:1	8.7	0.12	3.35	0.17	0.29
E-E	0.99	6.51	4.31	2.21	5.64	8	3:1	8.7	0.11	2.43	0.09	0.20
F-F	0.52	3.42	2.26	1.16	7.66	8	3:1	8.4	0.07	2.03	0.06	0.13
G-G	0.11	0.72	0.48	0.72	2.38	8	3:1	8.4	0.07	1.25	0.02	0.09

\* EMERGENCY OVERFLOW SWALE - ASSUME INLET CLOGGED, Q<sub>DESIGN</sub>=100YR



SECTION 3-47N-32W  
**LOCATION MAP**  
SCALE 1" = 2000'

**MISSOURI GEOGRAPHIC REFERENCE SYSTEM BENCH MARK:**

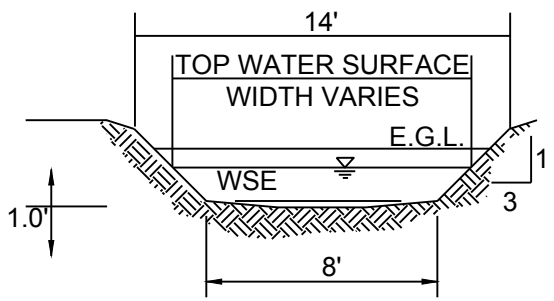
BM JA-136, LOCATED AT INTERSECTION OF SW OLDHAM PARKWAY AND SW WARD ROAD, 61 FT SOUTH OF CL OF OLDHAM PARKWAY AND 28.9 FT EAST OF THE EAST EDGE OF WARD ROAD.

ELEV. 993.11'

**PROJECT BENCH MARK:**

SANITARY MANHOLE H2 AT NW CORNER OF LOT 1153 WINTERSET VALLEY 1ST PLAT, APPROX. 39' RT. OF CL OF NW PEALE BLVD.

ELEV. 935.45'



**100 YR OVERFLOW SWALE SECTIONS**  
SECTION A-A, B-B, C-C, D-D, E-E, F-F  
(SEE ADJACENT CHART)

**RUNOFF CALCULATIONS:**  
 $Q = K \cdot C \cdot I \cdot A$   
 $K_{10} = 1.0 \quad K_{100} = 1.25 \quad C = 0.51 \quad I = \text{INTENSITY}$   
 $\text{DESIGN OVERFLOW} = Q_{\text{OVERFLOW}} = Q_{100} - Q_{10}$   
MANNINGS "n" = .030 FOR SWALES

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9-18-19	CITY COMMENTS
10-24-19	CITY COMMENTS
05-04-2020	SCHLAGEL REVISION
06-24-2020	SCH. TOPO REV.
10-29-2020	AS-BUILTS

DRAWN BY: ###	CITY COMMENTS
CHECKED BY: ###	CITY COMMENTS
DATE PREPARED: 2-15-19	PROJ. NUMBER: 18-230

**MASTER DRAINAGE PLAN - SPOT ELEVATIONS**

SHEET

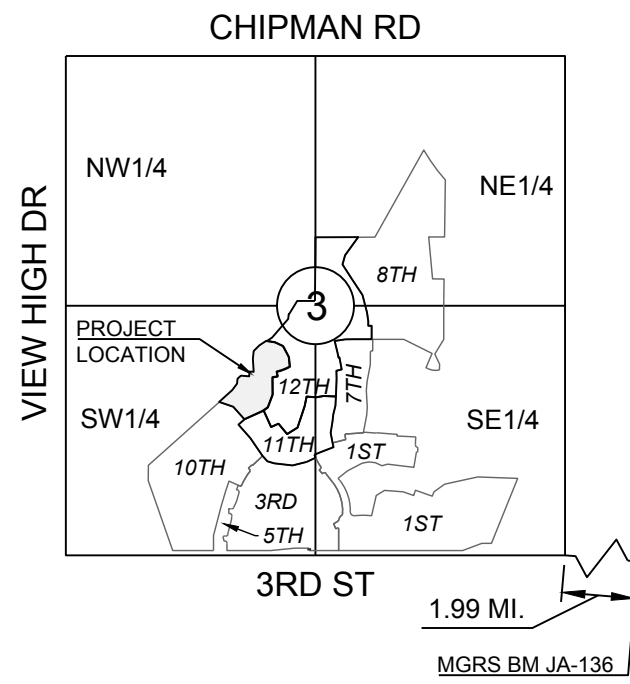
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I:\PROJECTS\2018\2303\0 Design\3.0 DWG Plans\6.0 SS18-230 MASTER DRAINAGE PLAN.dwg, 11/9/2020 9:28:50 AM, 1:1



MATCHLINE



SECTION 3-47N-32W  
LOCATION MAP  
SCALE 1" = 2000'

**MISSOURI GEOGRAPHIC REFERENCE SYSTEM  
BENCH MARK:**

BM JA-136, LOCATED AT INTERSECTION OF SW OLDHAM PARKWAY AND SW WARD ROAD, 61 FT SOUTH OF CL OF OLDHAM PARKWAY AND 28.9 FT EAST OF THE EAST EDGE OF WARD ROAD.

ELEV. 993.11'

**PROJECT BENCH MARK:**

SANITARY MANHOLE H2 AT NW CORNER OF LOT 1153 WINTERSET VALLEY 1ST PLAT, APPROX. 39' RT. OF CL OF NW PEALE BLVD.

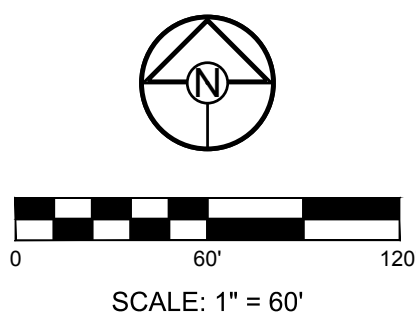
ELEV. 935.45'

**10 YR STORM SEWER CALCULATIONS**

Runoff Calculations														Pipe Properties													
Inlet #	Area (acres)	"C" Value	Cumul. Area (acres)	Cumul. Cx.A	Tc	Intensity	Runoff To Inlet	Cumul. Runoff	Pipe Cap.	Pipe Vel.	Up Piped Inlet 1	Up Piped Inlet 2	Up Area (acres)	Up Cx.A	Up Inlet	Down Inlet	Pipe Type	"n" Value	Pipe Size	Length	Slope %	Drop In Inlet	FL Up	FL Down	Inlet Top	HGL Elev.	
LINE 100																											
101	0.57	0.51	4.74	2.42	5.2	7.30	2.12	17.65	24.87	7.92			0.00	0.00	101	EX 502	HDPE	0.012	24	160.03	1.03	0.50	920.15	918.50	931.32	922.03	
102	1.41	0.51	4.17	2.13	5.1	7.31	5.26	15.55	24.41	13.81			0.00	0.00	102	101	HDPE	0.012	18	35.00	4.60	0.50	922.26	920.65	931.32	924.36	
103	1.43	0.51	2.76	1.41	5.1	7.34	5.35	10.33	16.09	9.11			0.00	0.00	103	102	HDPE	0.012	18	42.40	2.00	0.50	923.61	922.76	931.88	925.18	
104	1.33	0.51	1.33	0.68	5.0	7.35	4.99	4.99	13.09	10.67			0.00	0.00	104	103	HDPE	0.012	15	35.00	3.50	N/A	925.33	924.11	931.88	926.45	
LINE 200																											
201	1.51	0.51	2.06	1.05	5.2	7.29	5.62	7.66	11.38	6.44			0.00	0.00	201	200	HDPE	0.012	18	50.46	1.00	0.50	906.00	905.50	910.01	907.33	
202	0.55	0.51	0.55	0.28	5.0	7.35	2.06	2.06	14.68	11.96			0.00	0.00	202	201	HDPE	0.012	15	142.61	4.40	N/A	912.78	906.50	920.76	913.46	
LINE 300																											
301	1.53	0.51	1.53	0.78	5.0	7.35	5.74	5.74	12.60	10.26			0.00	0.00	301	300	HDPE	0.012	15	77.23	3.24	N/A	894.50	892.00	906.00	895.72	
LINE 400																											
401	35.42	0.51	35.42	18.06	5.0	7.35	132.83	132.83	270.87	21.56			0.00	0.00	401	500	HDPE	0.012	48	237.26	3.03	N/A	878.00	870.81	898.60	882.48	

**100 YR STORM SEWER CALCULATIONS**

Runoff Calculations													Pipe Properties														
Inlet #	Area (acres)	"C" Value	Cumul. Area (acres)	Cumul. Cx.A	To	Intensity	Runoff To Inlet	Cumul. Runoff	Pipe Cap.	Pipe Vel.	Up Piped Inlet 1	Up Piped Inlet 2	Up Area (acres)	Up Cx.A	Up Inlet	Down Inlet	Pipe Type	"n" Value	Pipe Size	Length	Slope %	Drop In Inlet	FL Up	FL Down	Inlet Top	HGL Elev.	
LINE 100																											
101	0.57	0.51	4.74	2.42	5.2	10.25	3.72	30.97	24.87	7.92			0.00	0.00	101	EX 502	HDPE	0.012	24	160.03	1.03		DS TAILWATER @ STR #X502			FREE	
102	1.41	0.51	4.17	2.13	5.1	10.27	9.23	27.30	24.41	13.81			0.00	0.00	102	101	HDPE	0.012	18	35.00	4.60		0.50	920.15	918.50	931.32	923.74
103	1.43	0.51	2.76	1.41	5.1	10.30	9.39	18.12	16.09	9.11			0.00	0.00	103	102	HDPE	0.012	18	42.40	2.00		0.50	922.26	920.65	931.32	927.60
104	1.33	0.51	1.33	0.68	5.0	10.32	8.75	8.75	13.09	10.67			0.00	0.00	104	103	HDPE	0.012	15	35.00	3.50	N/A	925.33	924.11	931.88	930.44	
LINE 200																											
201	1.51	0.51	2.06	1.05	5.2	10.24	9.86	13.45	11.38	6.44			0.00	0.00	201	200	HDPE	0.012	18	50.46	1.00		0.50	906.00	905.50	910.01	908.08
202	0.55	0.51	0.55	0.28	5.0	10.32	3.62	3.62	14.68	11.96			0.00	0.00	202	201	HDPE	0.012	15	142.61	4.40	N/A	912.78	906.50	920.76	913.71	
LINE 300																											
301	1.53	0.51	1.53	0.78	5.0	10.32	10.07	10.07	12.60	10.26			0.00	0.00	301	300	HDPE	0.012	15	77.23	3.24	N/A	894.50	892.00	906.00	896.23	
LINE 400																											
401	35.42	0.51	35.42	18.06	5.0	10.32	233.09	233.09	270.87	21.56			0.00	0.00	401	500	HDPE	0.012	48	237.26	3.03	N/A	878.00	870.81	898.60	884.67	



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10.29.2020  
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Missouri State Certificates of Authority  
#E2002003600-F #LAC2001006237 #LS2002008659-F

PREPARED BY:  
  
SCHLAGEL & ASSOCIATES, P.A.

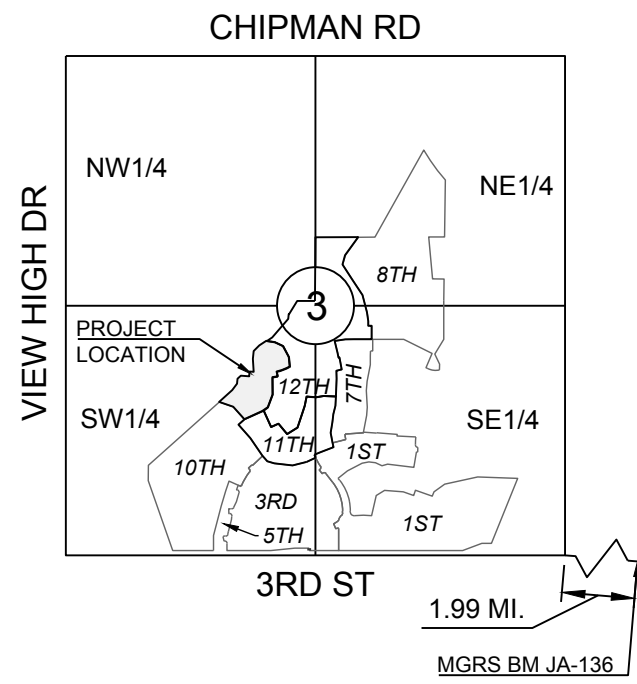
WINTERSET VALLEY, 13TH PLAT  
STREET, STORMWATER, MASTER DRAINAGE PLAN AND  
EROSION AND SEDIMENT CONTROL  
NW THOREAU DRIVE AND AUDUBON LANE  
LEE'S SUMMIT, MISSOURI

REVISION DATE	DESCRIPTION
4-10-19	CITY COMMENTS
8-1-19	CITY COMMENTS
8-21-19	CITY COMMENTS
9-18-19	CITY COMMENTS
10-24-19	CITY COMMENTS
05-04-2020	SCHLAGEL REVISION
06-24-2020	SCH. TOPO REV.
10-29-2020	AS-BUILTS

DRAWN BY:	####
CHECKED BY:	####
DATE PREPARED:	2-15-19
PROJ. NUMBER:	18-230

MASTER DRAINAGE PLAN - DRAINAGE MAP
SHEET
10





SECTION 3-47N-32W  
**LOCATION MAP**  
SCALE 1" = 2000'

**MISSOURI GEOGRAPHIC REFERENCE SYSTEM  
BENCH MARK:**

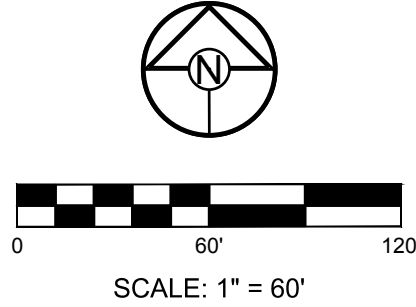
BM JA-136, LOCATED AT INTERSECTION OF SW OLDHAM PARKWAY AND SW WARD ROAD, 61 FT SOUTH OF CL OF OLDHAM PARKWAY AND 28.9 FT EAST OF THE EAST EDGE OF WARD ROAD.

ELEV. 993.11'

**PROJECT BENCH MARK:**

SANITARY MANHOLE H2 AT NW CORNER OF LOT 1153 WINTERSET VALLEY 1ST PLAT, APPROX. 39' RT. OF CL OF NW PEALE BLVD.

ELEV. 935.45'



MATCHLINE

CUL-DE-SAC  
INSTALLATION  
PER SEPARATE  
CONTRACT

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PREPARED BY:

SCHLAGEL & ASSOCIATES, P.A.

WINTERSET VALLEY, 13TH PLAT  
STREET, STORMWATER, MASTER DRAINAGE PLAN AND  
EROSION AND SEDIMENT CONTROL  
NW THOREAU DRIVE AND AUDUBON LANE  
LEE'S SUMMIT, MISSOURI

REVISION DATE	DESCRIPTION
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05-04-2020	SCHLAGEL REVISION
06-24-2020	SCH. TOPO REV.
10-29-2020	AS-BUILTS

MASTER  
DRAINAGE  
PLAN-DRAINAGE  
MAP CONT'D



MISSOURI GEOGRAPHIC REFERENCE SYSTEM  
BENCH MARK:

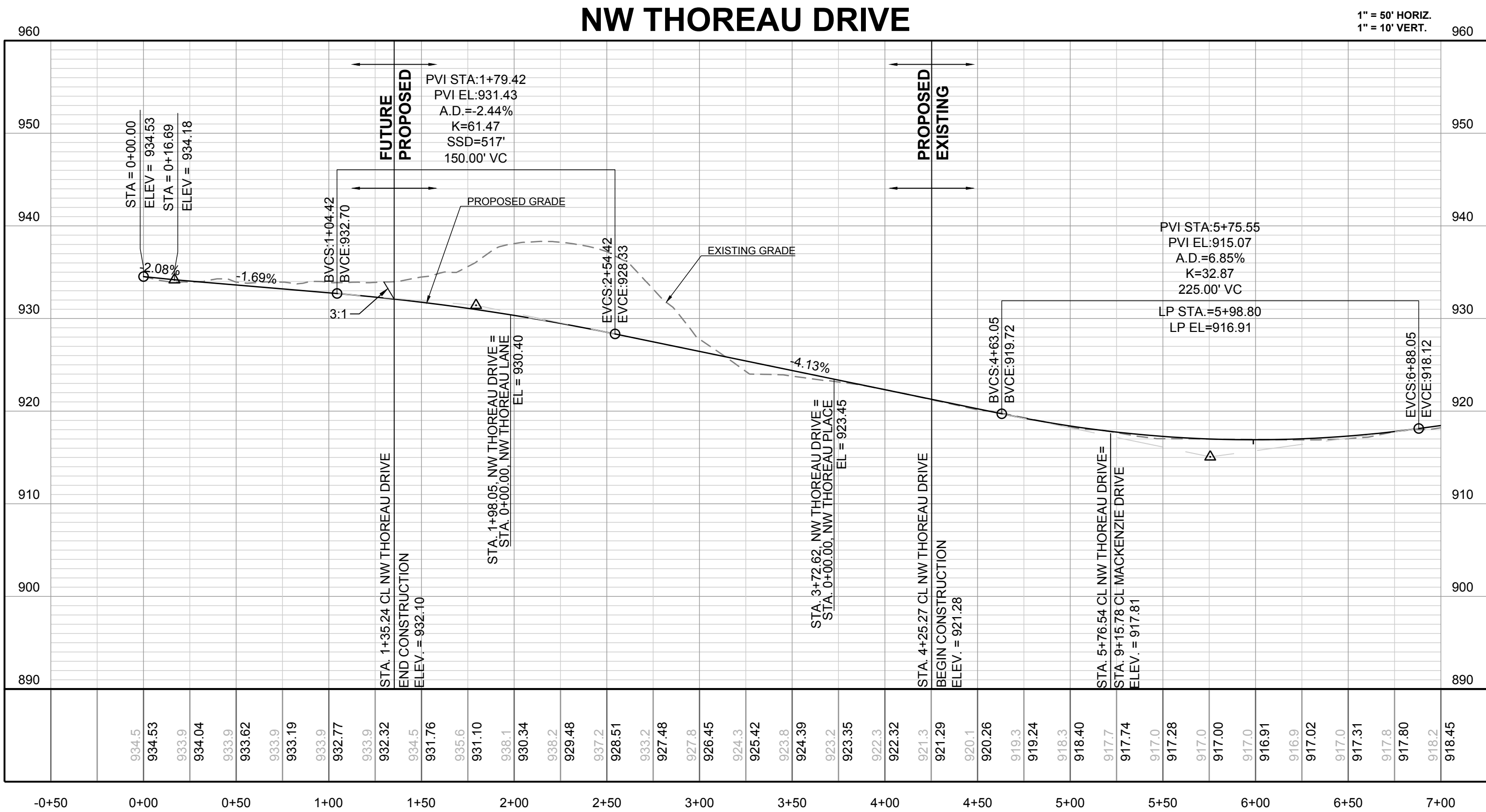
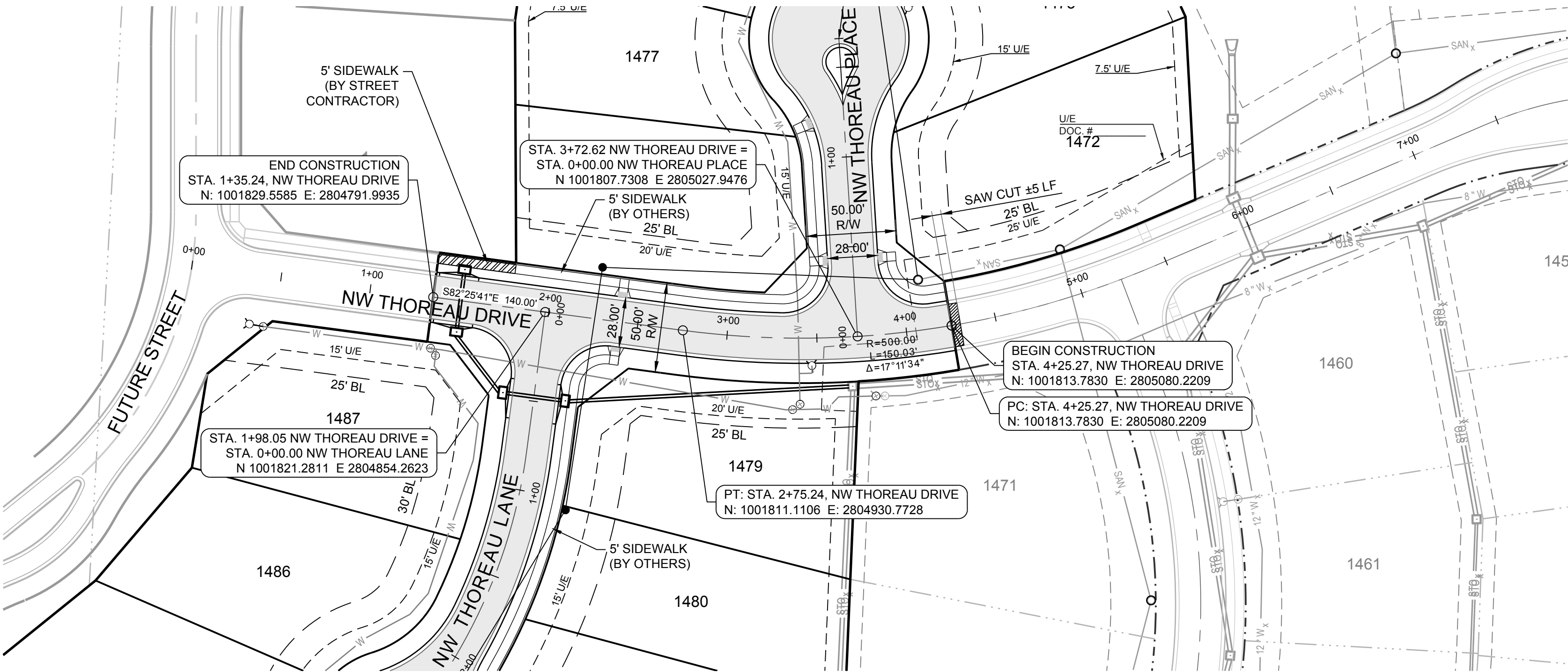
BM JA-136, LOCATED AT INTERSECTION OF SW OLDHAM PARKWAY AND SW WARD ROAD, 61 FT SOUTH OF CL OF OLDHAM PARKWAY AND 28.9 FT EAST OF THE EAST EDGE OF WARD ROAD.

ELEV. 993.11'

PROJECT BENCH MARK:

SANITARY MANHOLE H2 AT NW CORNER OF LOT 1153 WINTERSET VALLEY 1ST PLAT, APPROX. 39' RT. OF CL OF NW PEALE BLVD.

ELEV. 935.45'



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#E2002003600-F #AC2001005237 #LS2002008659-F

PREPARED BY:

**MARK ALLEN BREUER**  
PROFESSIONAL ENGINEER  
NUMBER PE-2003007268  
11.05.2020  
SCHLAGEL & ASSOCIATES, P.A.

WINTERSET VALLEY, 13TH PLAT  
STREET, STORMWATER, MASTER DRAINAGE PLAN AND  
EROSION AND SEDIMENT CONTROL  
NW THOREAU DRIVE AND AUDUBON LANE  
LEE'S SUMMIT, MISSOURI

REVISION DATE	DESCRIPTION
4-10-19	CITY COMMENTS
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10-24-19	CITY COMMENTS
05-04-2020	SCHLAGEL REVISION
06-24-2020	SCH. TOPO REV.
10-29-2020	AS-BUILTS

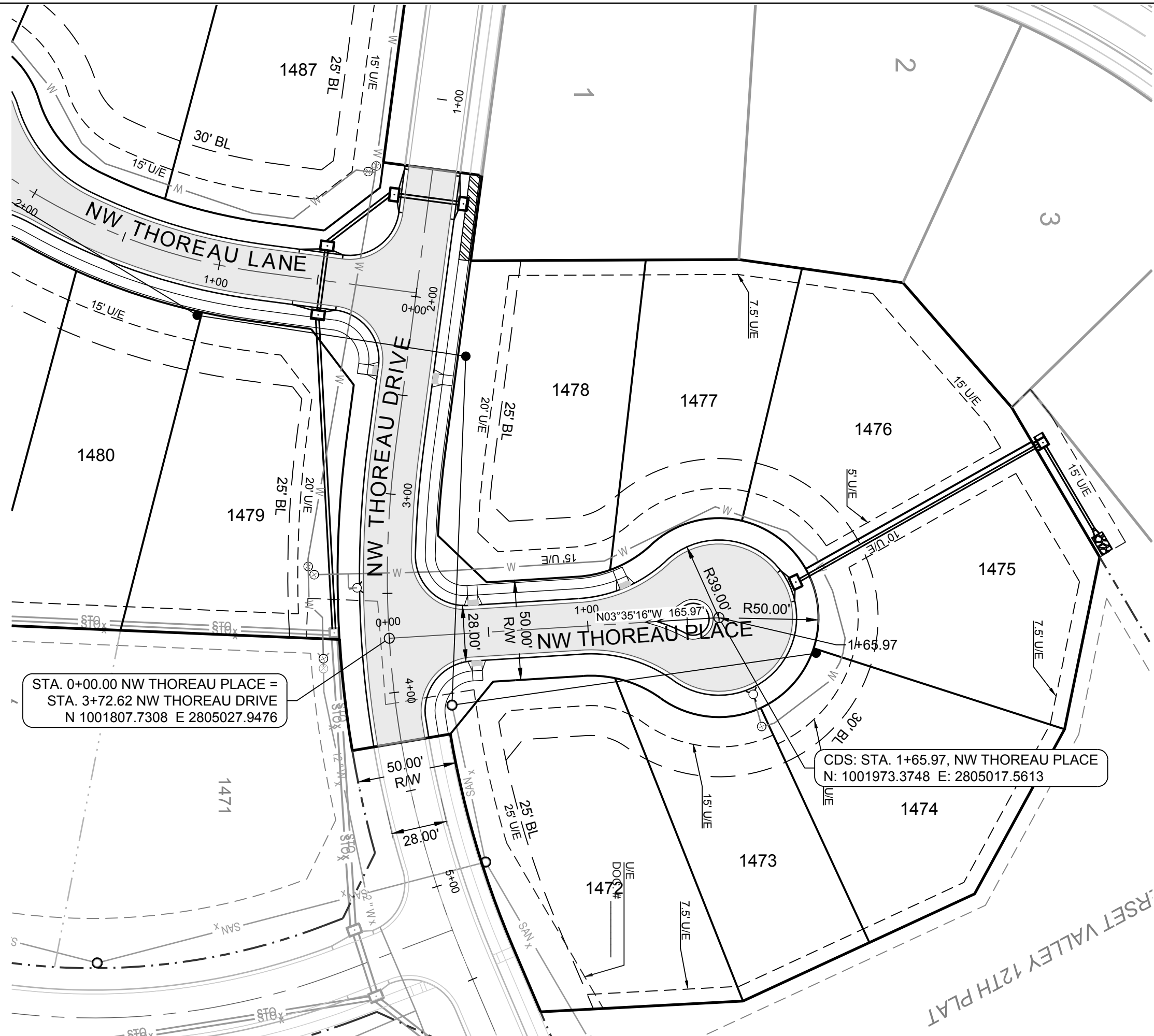
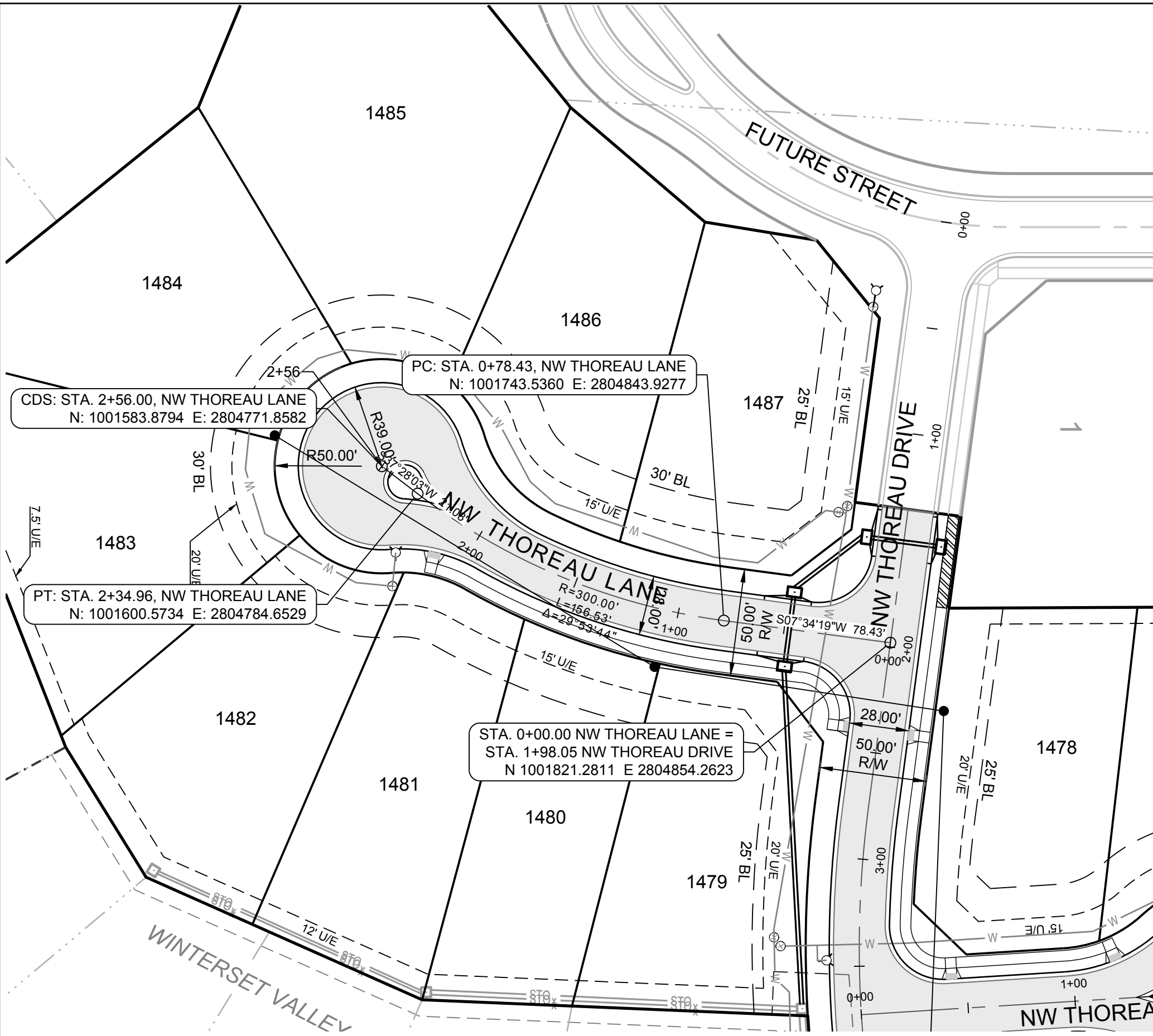
NW THOREAU  
DRIVE PLAN AND  
PROFILE

SHEET

12



I:\PROJECTS\2018\18-230\3.0 DWG Plans\6.0 SS\18-230 STREET PP.dwg, 11/5/2020 9:32:44 AM, 1:1



**MISSOURI GEOGRAPHIC REFERENCE SYSTEM  
BENCH MARK:**

BM JA-136, LOCATED AT INTERSECTION OF SW OLDHAM PARKWAY AND SW WARD ROAD, 61 FT SOUTH OF CL OF OLDHAM PARKWAY AND 28.9 FT EAST OF THE EAST EDGE OF WARD ROAD.

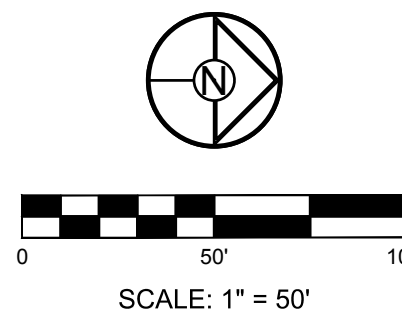
ELEV. 993.11'

**PROJECT BENCH MARK:**

SANITARY MANHOLE H2 AT NW CORNER OF LOT 1153 WINTERSET VALLEY 1ST PLAT, APPROX. 39' RT. OF CL OF NW PEALE BLVD.

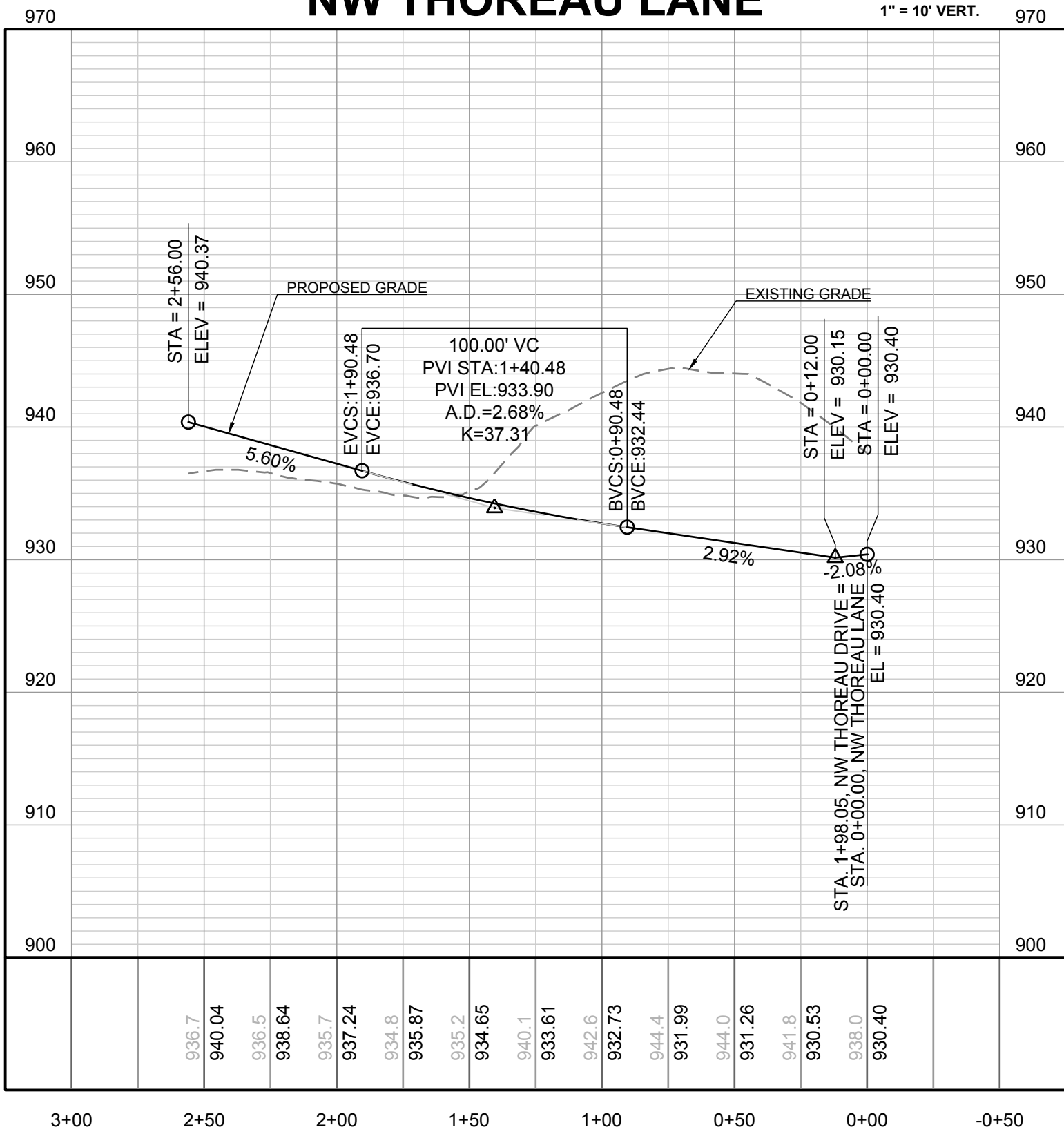
ELEV. 935.45'

////// DENOTES SIDEWALK TO BE BUILT BY STREET CONTRACTOR



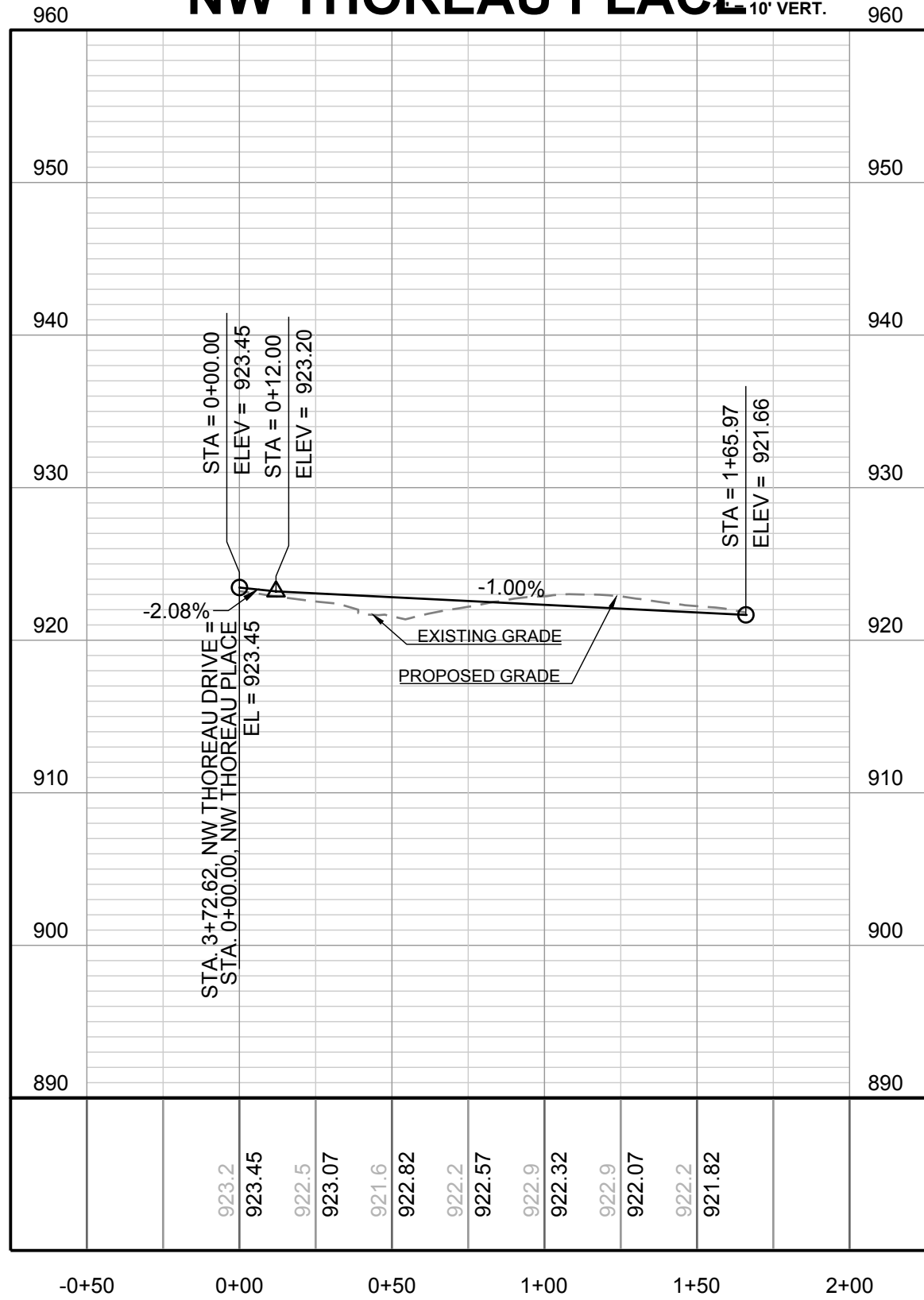
**NW THOREAU LANE**

1" = 50' HORIZ.  
1" = 10' VERT.



**NW THOREAU PLACE**

1" = 50' HORIZ.  
1" = 10' VERT.



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AJC 10.29.2020  
BY DATE



WINTERSET VALLEY, 13TH PLAT  
STREET, STORMWATER, MASTER DRAINAGE PLAN AND  
EROSION AND SEDIMENT CONTROL  
NW THOREAU DRIVE AND AUDUBON LANE  
LEE'S SUMMIT, MISSOURI

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05-04-2020	SCHLAGEL REVISION
09-24-2020	SCH. TOPO REV.
10-29-2020	AS-BUILT

NW THOREAU PL  
AND NW  
THOREAU LN  
PLAN AND  
PROFILE

SHEET

13

PREPARED BY:

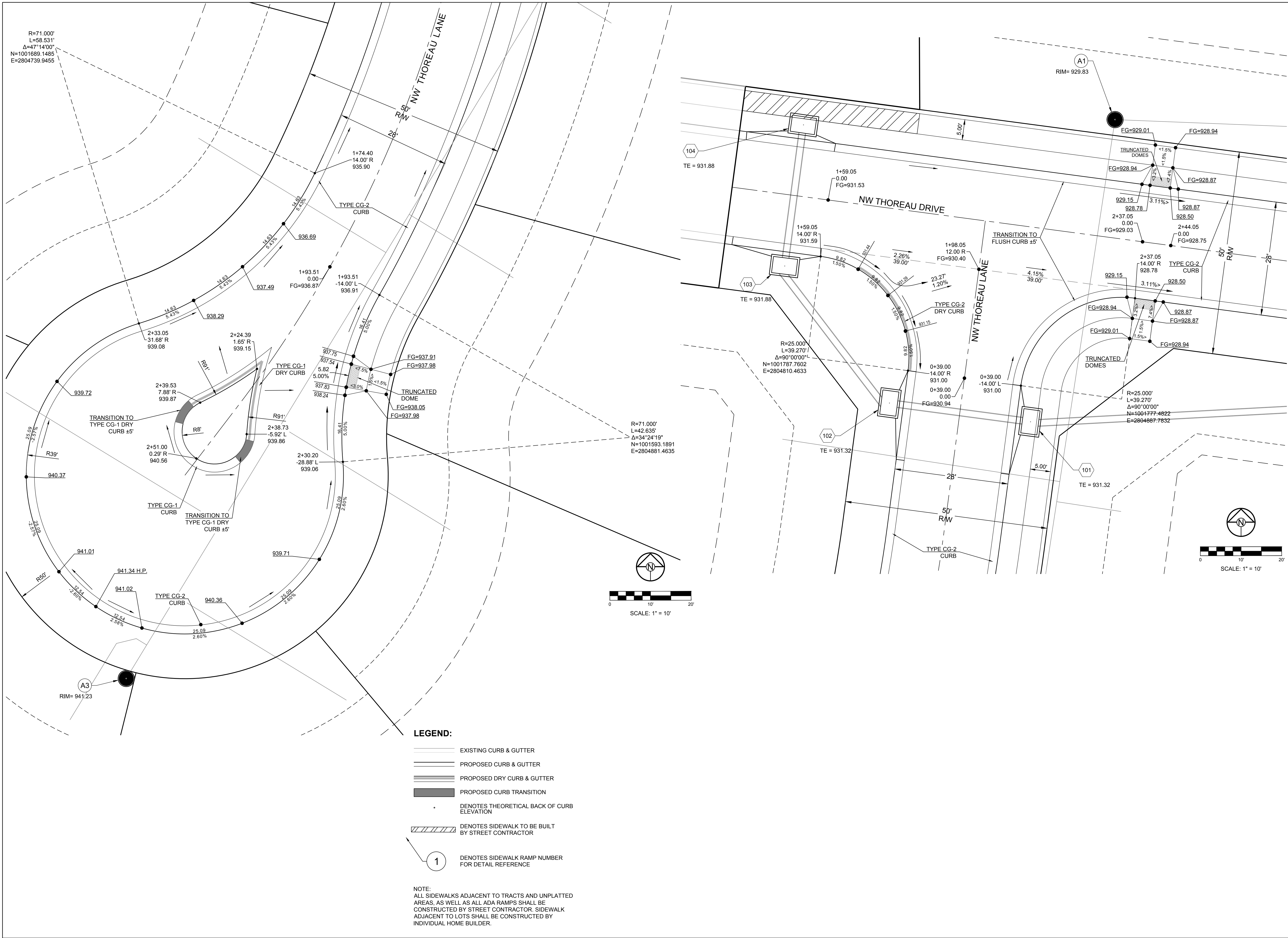


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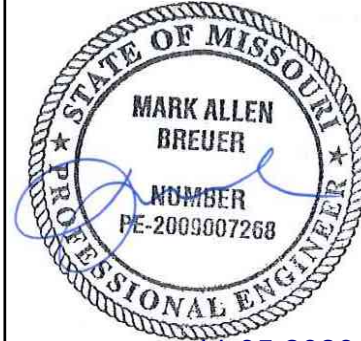
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PREPARED BY:



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WINTERSET VALLEY, 13TH PLAT  
STREET, STORMWATER, MASTER DRAINAGE PLAN AND  
EROSION AND SEDIMENT CONTROL  
NW THOREAU DRIVE AND AUDUBON LANE  
LEE'S SUMMIT, MISSOURI

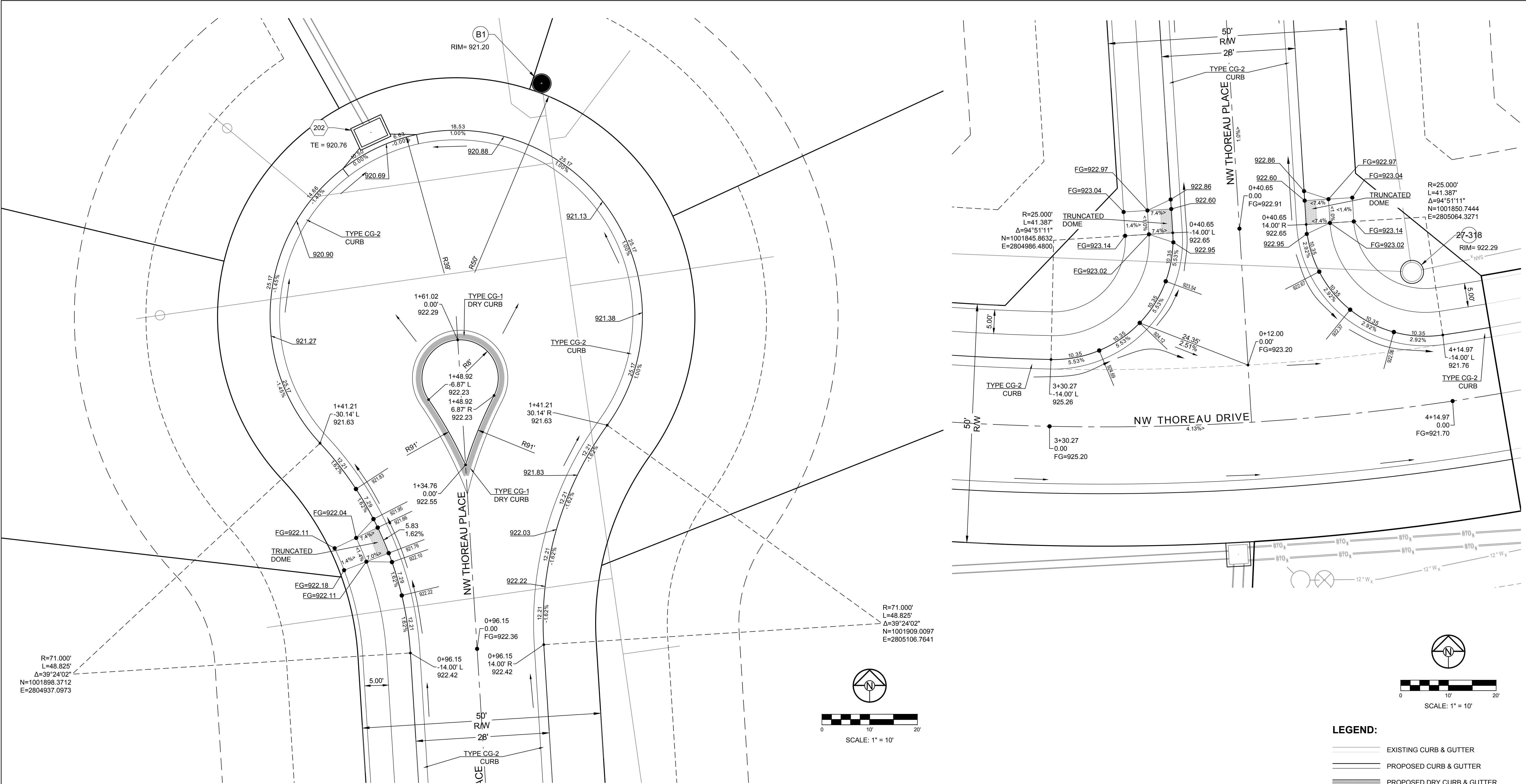
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8-21-19	CITY COMMENTS
9-18-19	CITY COMMENTS
10-24-19	CITY COMMENTS
05-04-2020	SCHLAGEL REVISION
09-24-2020	SCH. TOPO REV.
10-29-2020	AS-BUILTS

DRAWN BY:	###
CHECKED BY:	###
DATE PREPARED:	2-15-19
PROJ. NUMBER:	18-230

INTERSECTION DETAILS
SHEET
14



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REVISION DATE	DESCRIPTION
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10-24-19	CITY COMMENTS
05-04-2020	SCHLAGEL REVISION
06-24-2020	SCH. TOPO REV.
10-29-2020	AS-BUILTS

DRAWN BY: ###	CHECKED BY: ###	DATE PREPARED: 2-15-19	PROJ. NUMBER: 18-230
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**MISSOURI GEOGRAPHIC REFERENCE SYSTEM  
BENCH MARK:**

BM JA-136, LOCATED AT INTERSECTION OF SW OLDHAM PARKWAY AND SW WARD ROAD, 61 FT SOUTH OF CL OF OLDHAM PARKWAY AND 28.9 FT EAST OF THE EAST EDGE OF WARD ROAD.

ELEV. 993.11'

**PROJECT BENCH MARK:**

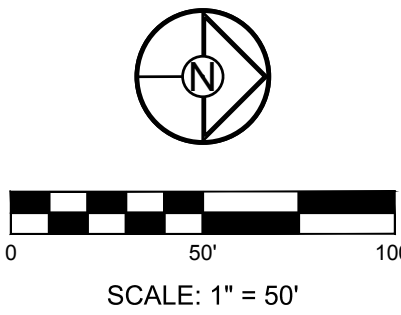
SANITARY MANHOLE H2 AT NW CORNER OF LOT 1153 WINTERSET VALLEY 1ST PLAT, APPROX. 39' RT. OF CL OF NW PEALE BLVD.

ELEV. 935.45'

Storm Sewer Construction Notes	
Structure	Notes
101	STA 1+60.03, LINE 100 INSTALL 6 X 4 CURB INLET N 1001771.8893 E 2804865.3506
102	STA 1+95.03, LINE 100 INSTALL 6 X 4 CURB INLET N 1001776.5013 E 2804830.6558
103	STA 2+37.43, LINE 100 INSTALL 6 X 4 CURB INLET N 1001810.1882 E 2804804.9060
104	STA 2+72.43, LINE 100 INSTALL 6 X 4 CURB INLET N 1001844.8828 E 2804809.5179
200	STA 0+00.00, LINE 200 INSTALL 18 INCH HDPE END SECTION W/ TOEWALL AND 5 CY STONE RIP RAP N 1002161.7177 E 2804973.0890
201	STA 0+50.46, LINE 200 INSTALL 4 X 4 AREA INLET WITH OPENING TO SOUTHEAST F.F.B. S30°27'54"E N 1002136.1343 E 2804929.5961
202	STA 1+93.07, LINE 200 INSTALL 6 X 4 CURB INLET N 1002011.9194 E 2804999.6569
300	STA 2+26.31, LINE 400 INSTALL 42" HDPE END SECTION W/ TOEWALL AND 8 CY STONE RIP RAP N 1002306.4992 E 2805286.6945
301	STA 1+49.08, LINE 400 INSTALL 4 X 4 AREA INLET N 1002369.4023 E 2805331.5086

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RECORDS.

AJC 10.29.2020  
BY DATE



PREPARED BY:



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WINTERSET VALLEY, 13TH PLAT  
STREET, STORMWATER, MASTER DRAINAGE PLAN AND  
EROSION AND SEDIMENT CONTROL  
NW THOREAU DRIVE AND AUDUBON LANE  
LEE'S SUMMIT, MISSOURI

REVISION DATE	DESCRIPTION
4-10-19	CITY COMMENTS
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10-24-19	CITY COMMENTS
05-04-2020	SCHLAGEL REVISION
06-24-2020	SCH. TORO REV.
10-29-2020	AS-BUILTS

DRAWN BY: ###  
CHECKED BY: ###  
DATE PREPARED: 2-15-19  
PROJ. NUMBER: 18-230

STORM PLAN

SHEET

16

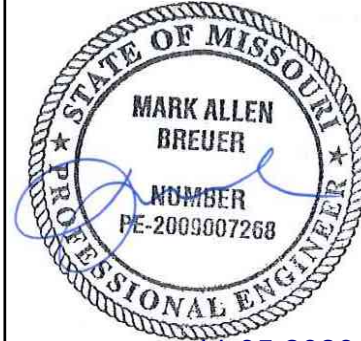


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BY

10.29.2020  
DATE

PREPARED BY:



SCHLAGEL & ASSOCIATES, P.A.

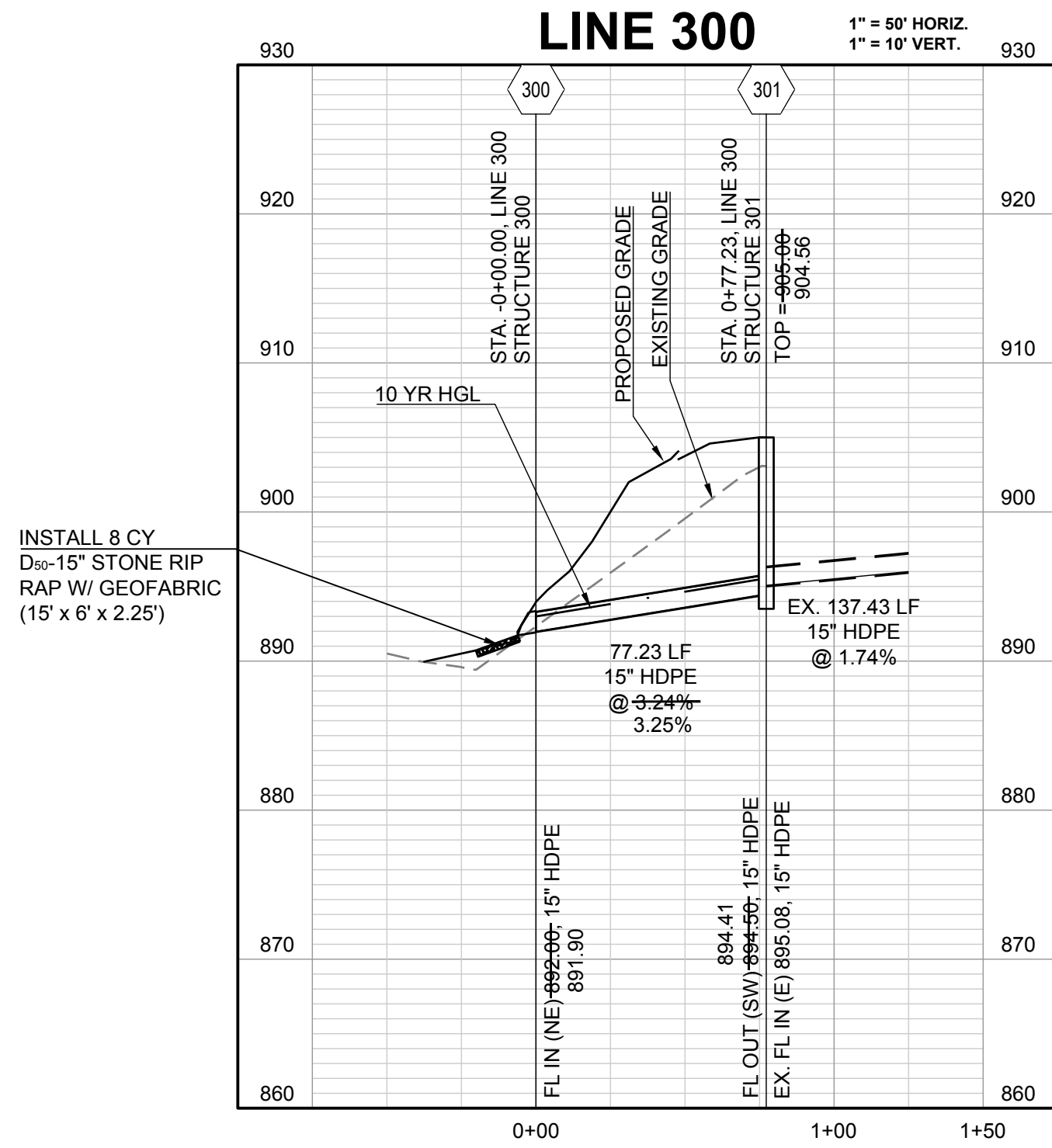
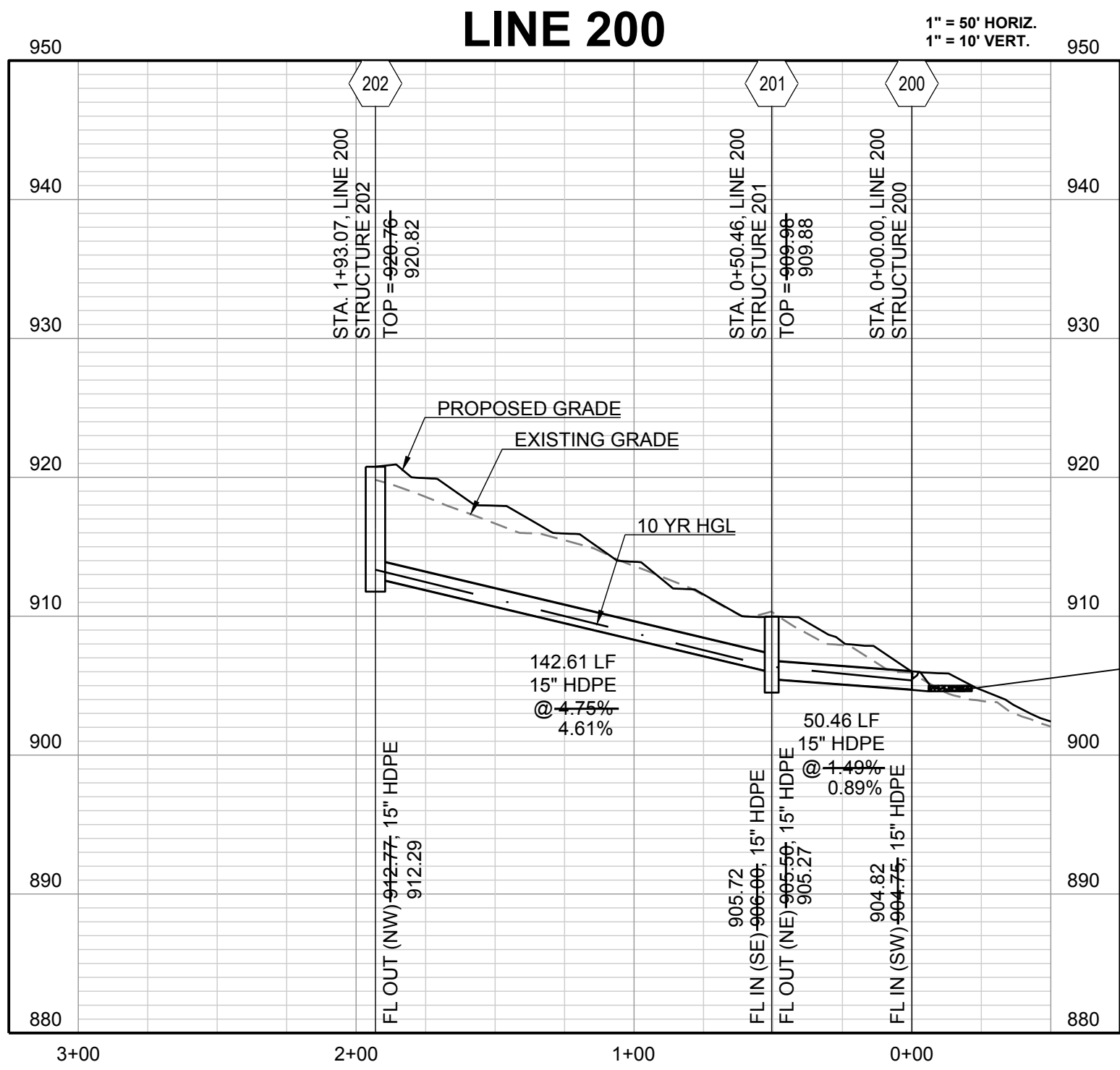
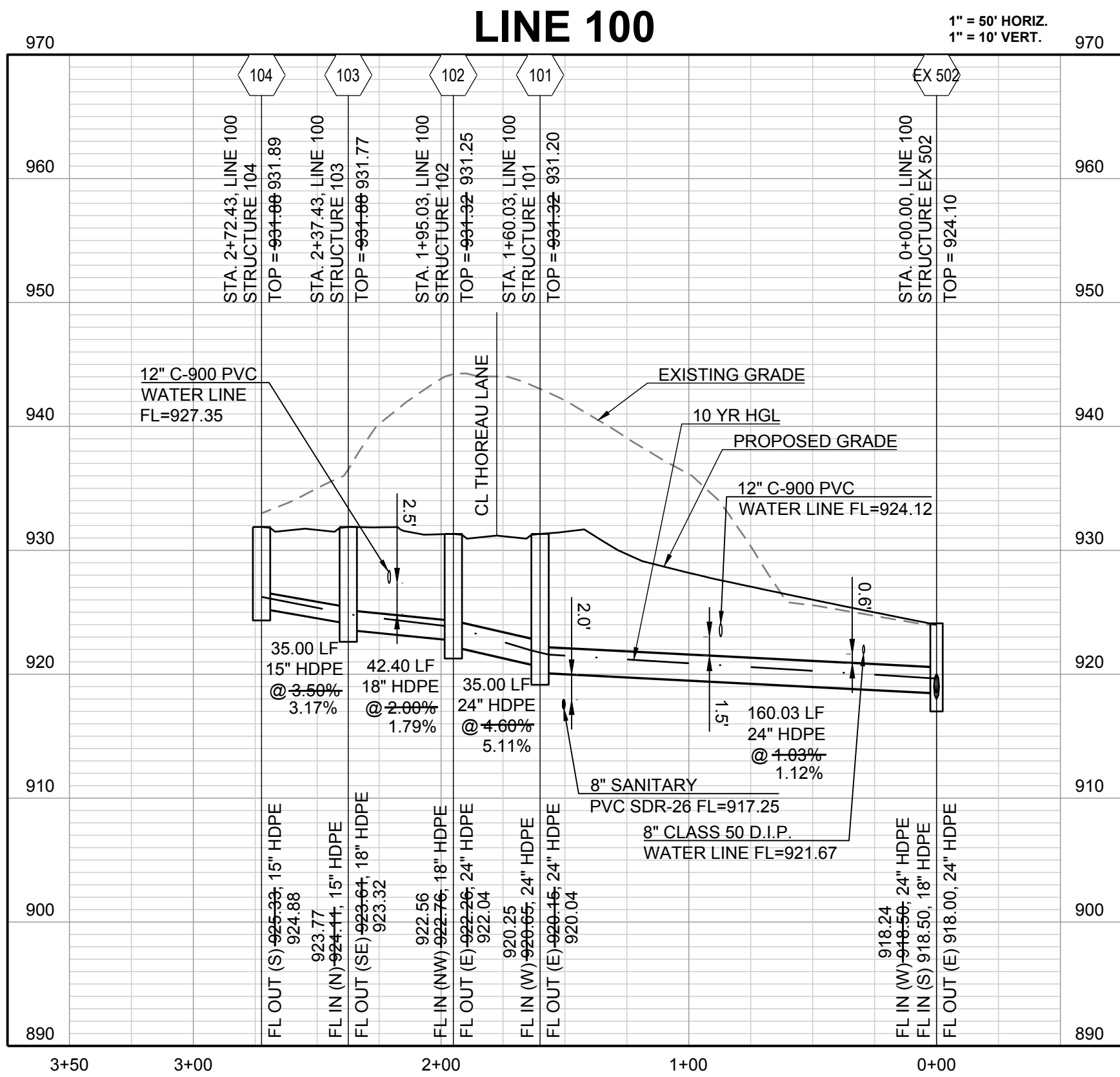
WINTERSET VALLEY, 13TH PLAT  
STREET, STORMWATER, MASTER DRAINAGE PLAN AND  
EROSION AND SEDIMENT CONTROL  
NW THOREAU DRIVE AND AUDUBON LANE  
LEE'S SUMMIT, MISSOURI

REVISION	DATE	DESCRIPTION
1	4-10-19	CITY COMMENTS
2	8-1-19	CITY COMMENTS
3	8-21-19	CITY COMMENTS
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5	10-24-19	CITY COMMENTS
6	05-04-2020	SCHLAGEL REVISION
7	06-24-2020	SCH. TOPO REV.
8	10-29-2020	AS-BUILT

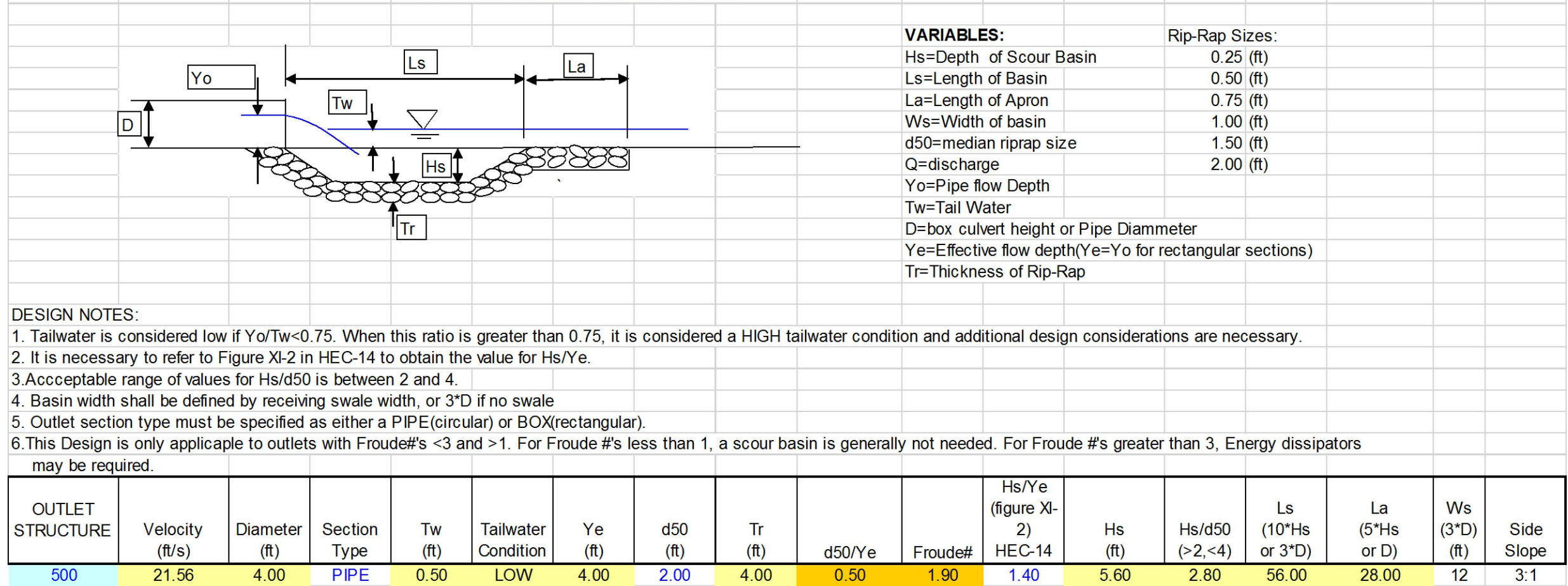
STORM  
PROFILES

SHEET

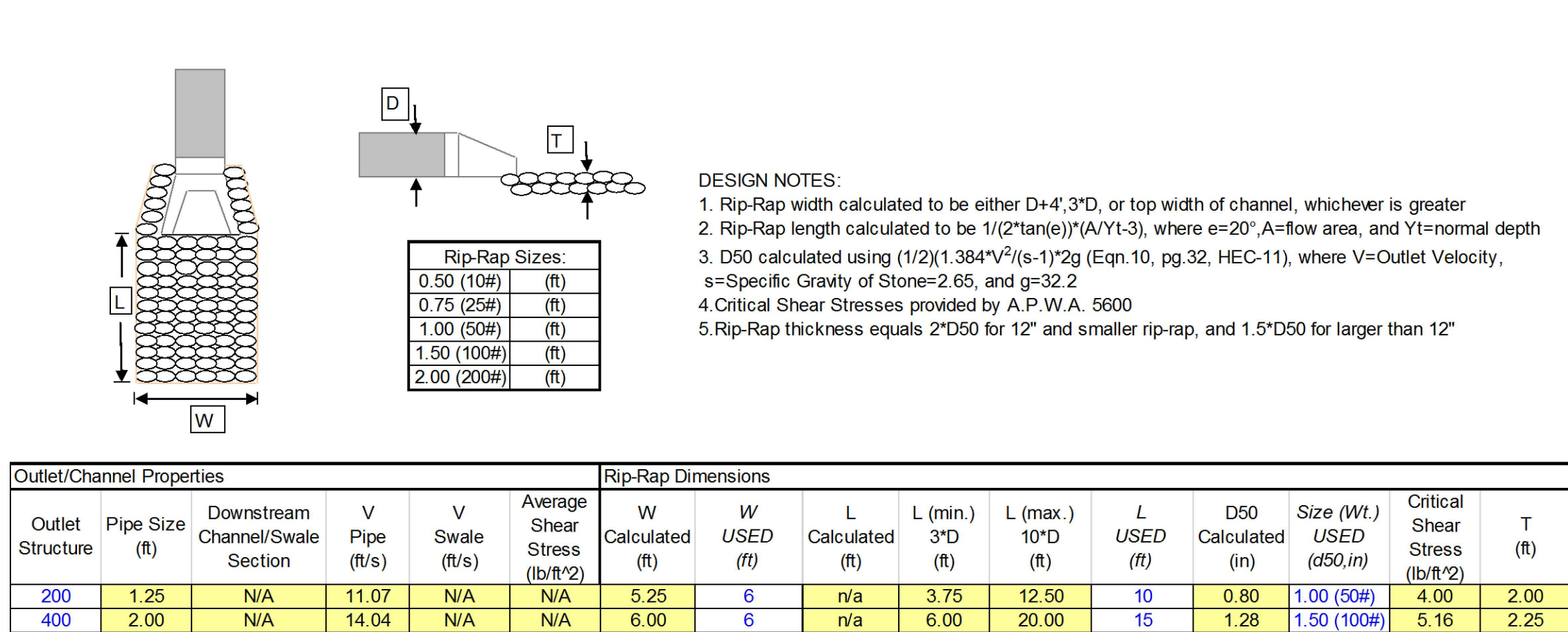
17



SCOUR BASIN DESIGN SHEET v1.1

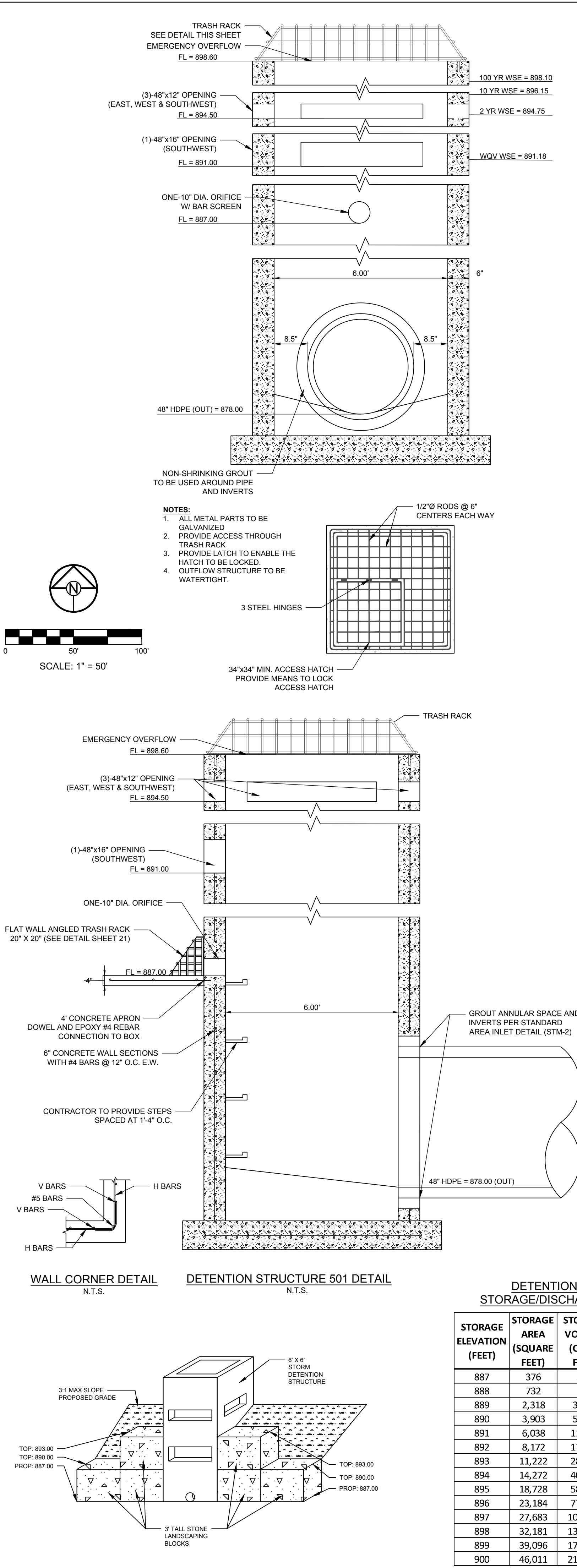
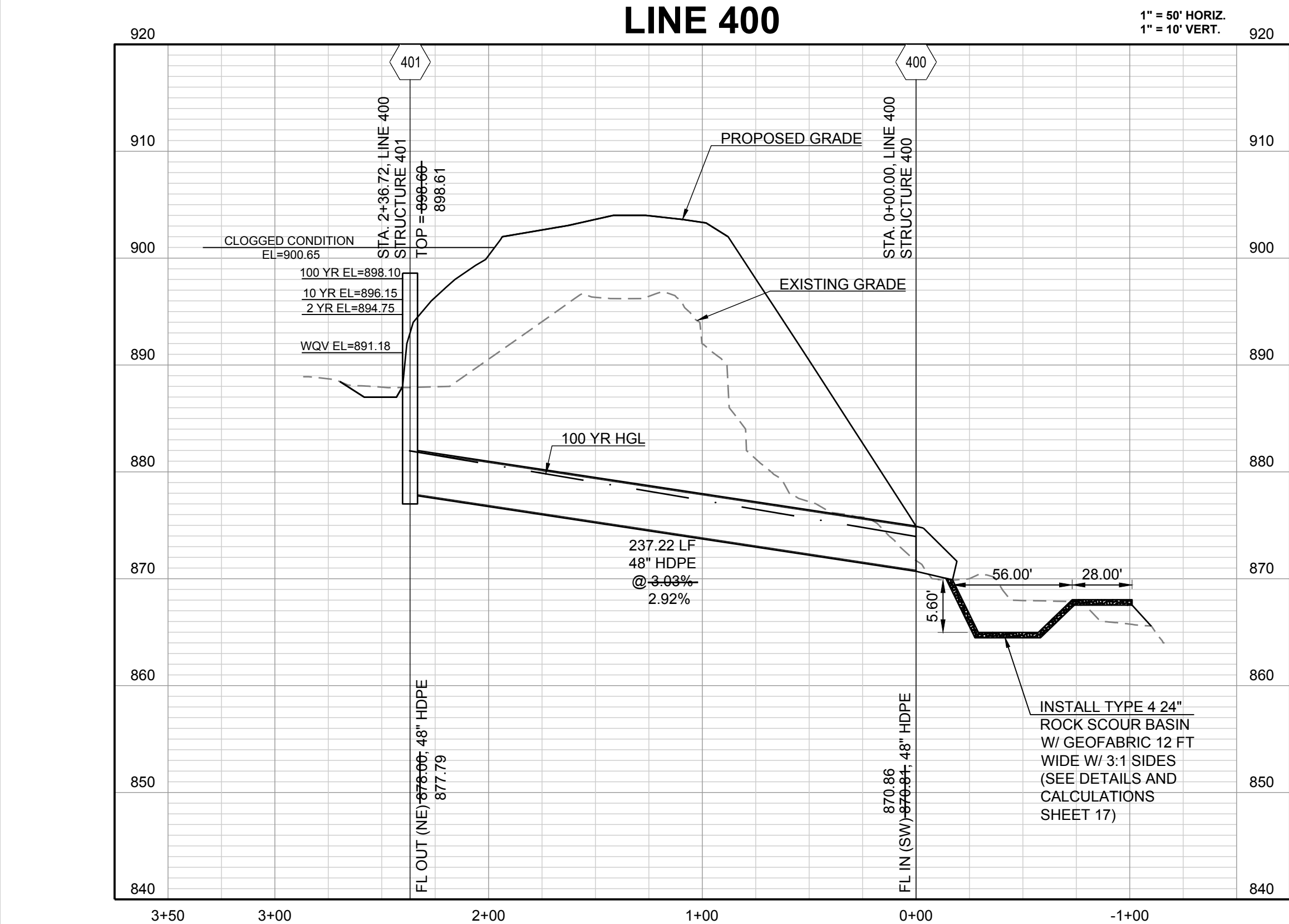
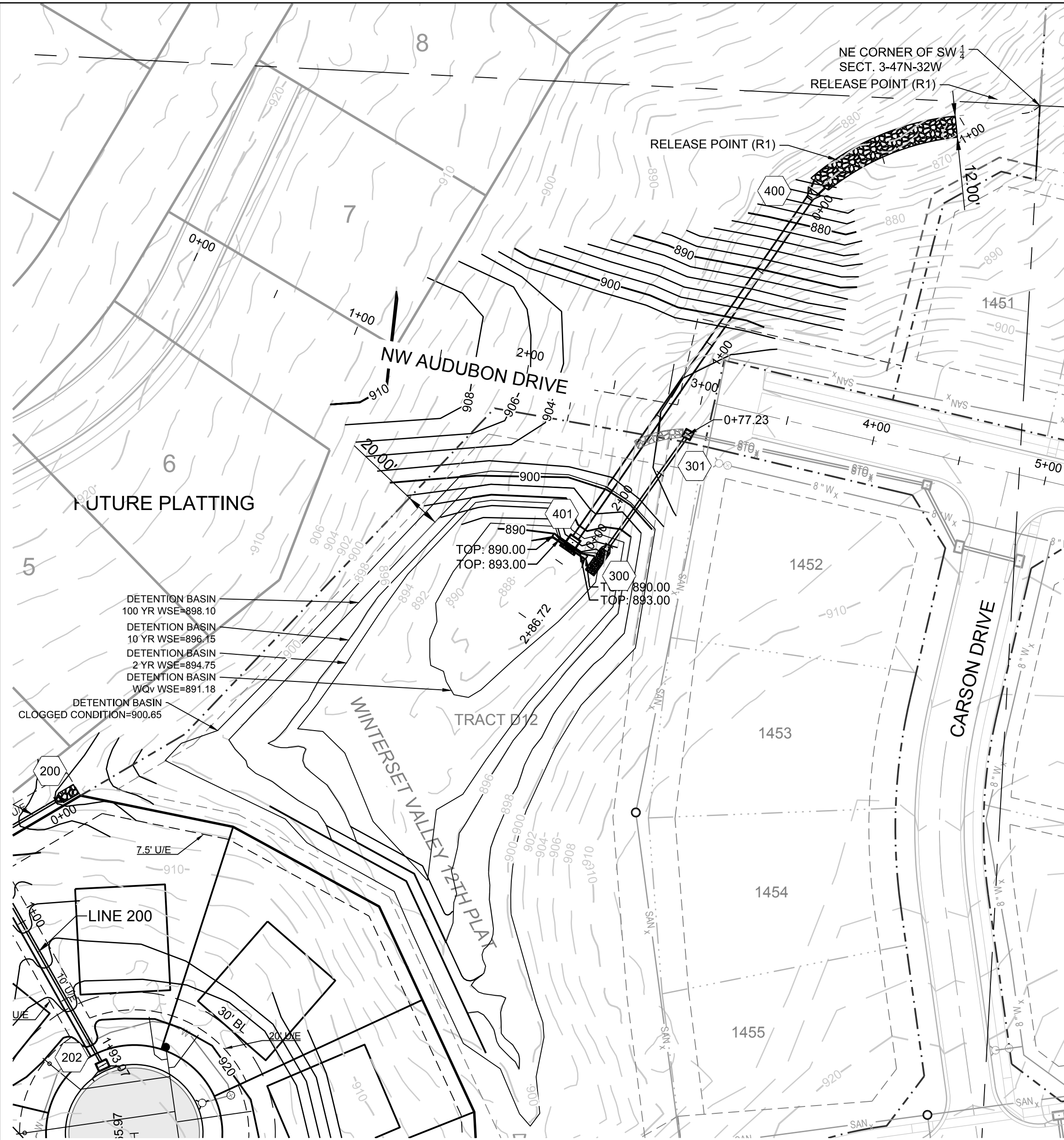


OUTLET RIP-RAP DESIGN WORKSHEET v1.0





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DETENTION BASIN STORAGE/DISCHARGE TABLE			
STORAGE ELEVATION (FEET)	STORAGE AREA (SQUARE FEET)	STORAGE VOLUME (CUBIC FEET)	DISCHARGE (CFS)
887	376	536	0.00
888	732	912	2.01
889	2,318	3,230	3.30
890	3,903	5,547	4.22
891	6,038	11,585	4.97
892	8,172	17,622	18.46
893	11,222	28,844	35.53
894	14,272	40,066	45.83
895	18,728	58,794	50.11
896	23,184	77,522	96.20
897	27,683	105,205	148.89
898	32,181	132,887	173.10
899	39,096	171,983	210.48
900	46,011	211,079	270.59

DETENTION BASIN DESIGN INFORMATION				
	AREA (AC)	CN	Tc (MIN)	100 YR RUNOFF (CFS)
EXISTING DRAINAGE AREA	40.89	80	21.40	237.98
PROPOSED DRAINAGE AREA	35.42	86	16.10	262.19
PROPOSED ONSITE DETENTION BYPASS	4.34	86	12.90	35.42
DETENTION BASIN RELEASE RATE	---	---	---	175.19
FLOW AT RELEASE POINT	---	---	---	195.40

MAX. ALLOWABLE FLOW = EXISTING FLOW = 237.98 CFS  
TOTAL DEVELOPED CONDITION 100 YR RELEASE RATE TO R1 = 195.40 CFS < 237.98 CFS  
EXISTING WATER QUALITY = 7.09 CFS  
PROPOSED WATER QUALITY = 6.71 CFS < 7.09 CFS

CONFORMING TO CONSTRUCTION RECORDS.  
A/C BY 10.29.2020  
DATE

SCHLAGEL

ENGINEERS, PLANNERS, SURVEYORS, LANDSCAPE ARCHITECTS

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Missouri State Certificate of Authority  
#E2002003600-F #LAC2001005237 #LS2002008659-F

PREPARED BY:

MARK ALLEN BREUER

NUMBER PE-2005007268

11.05.2020

SCHLAGEL & ASSOCIATES, P.A.

WINTERSET VALLEY, 13TH PLAT

STREET, STORMWATER, MASTER DRAINAGE PLAN AND EROSION AND SEDIMENT CONTROL

NW THOREAU DRIVE AND AUDUBON LANE

LEE'S SUMMIT, MISSOURI

REVISION DATE	DESCRIPTION
4-10-19	CITY COMMENTS
8-1-19	CITY COMMENTS
8-21-19	CITY COMMENTS
9-18-19	CITY COMMENTS
10-24-19	CITY COMMENTS
05-04-2020	SCHLAGEL REVISION
06-24-2020	SCH. TOPO REV.
10-29-2020	AS-BUILTS

DRAWN BY: ###

CHECKED BY: ###

DATE PREPARED: 2-15-19

PROJ. NUMBER: 18-230

DETENTION BASIN

SHEET

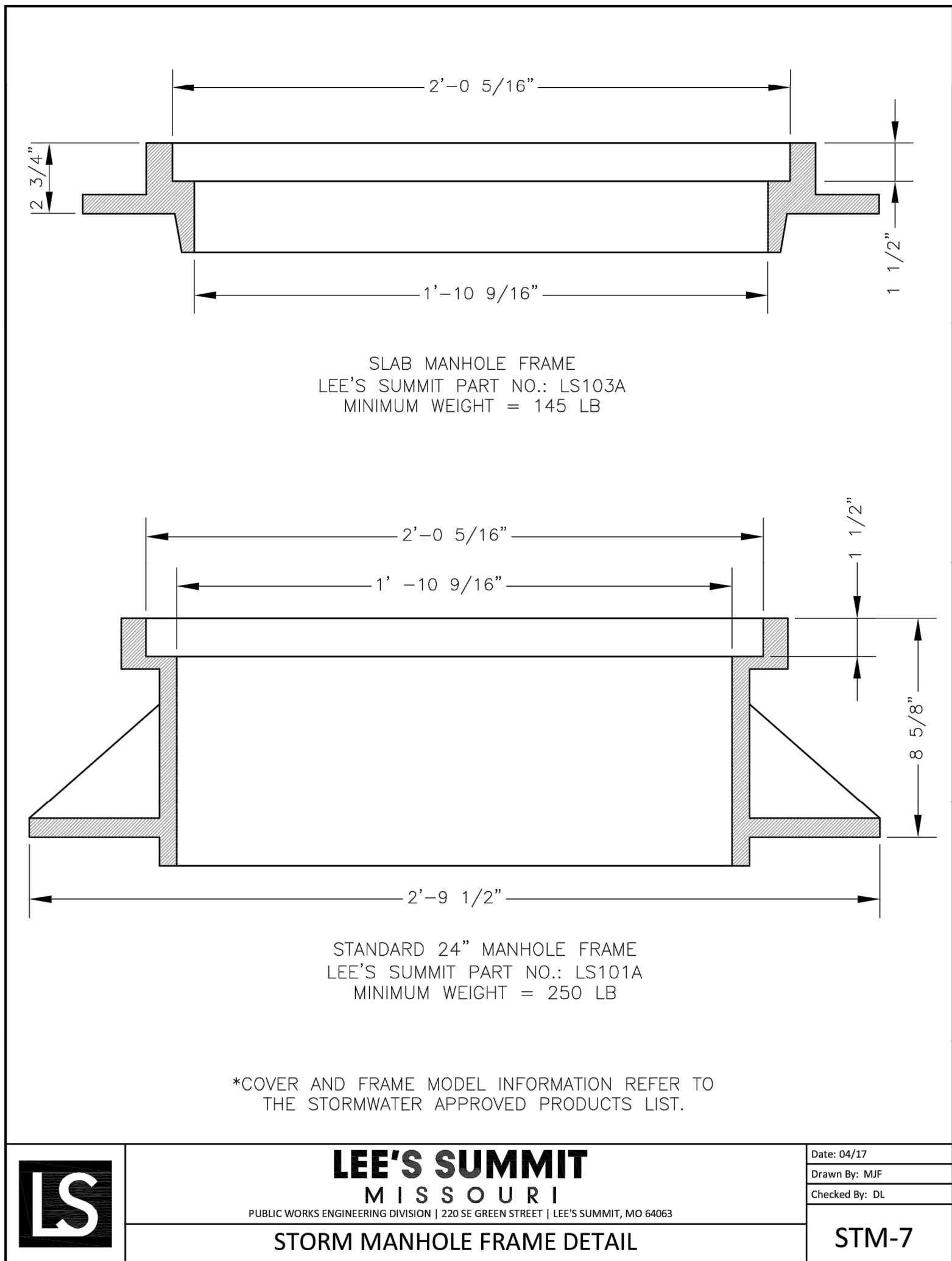
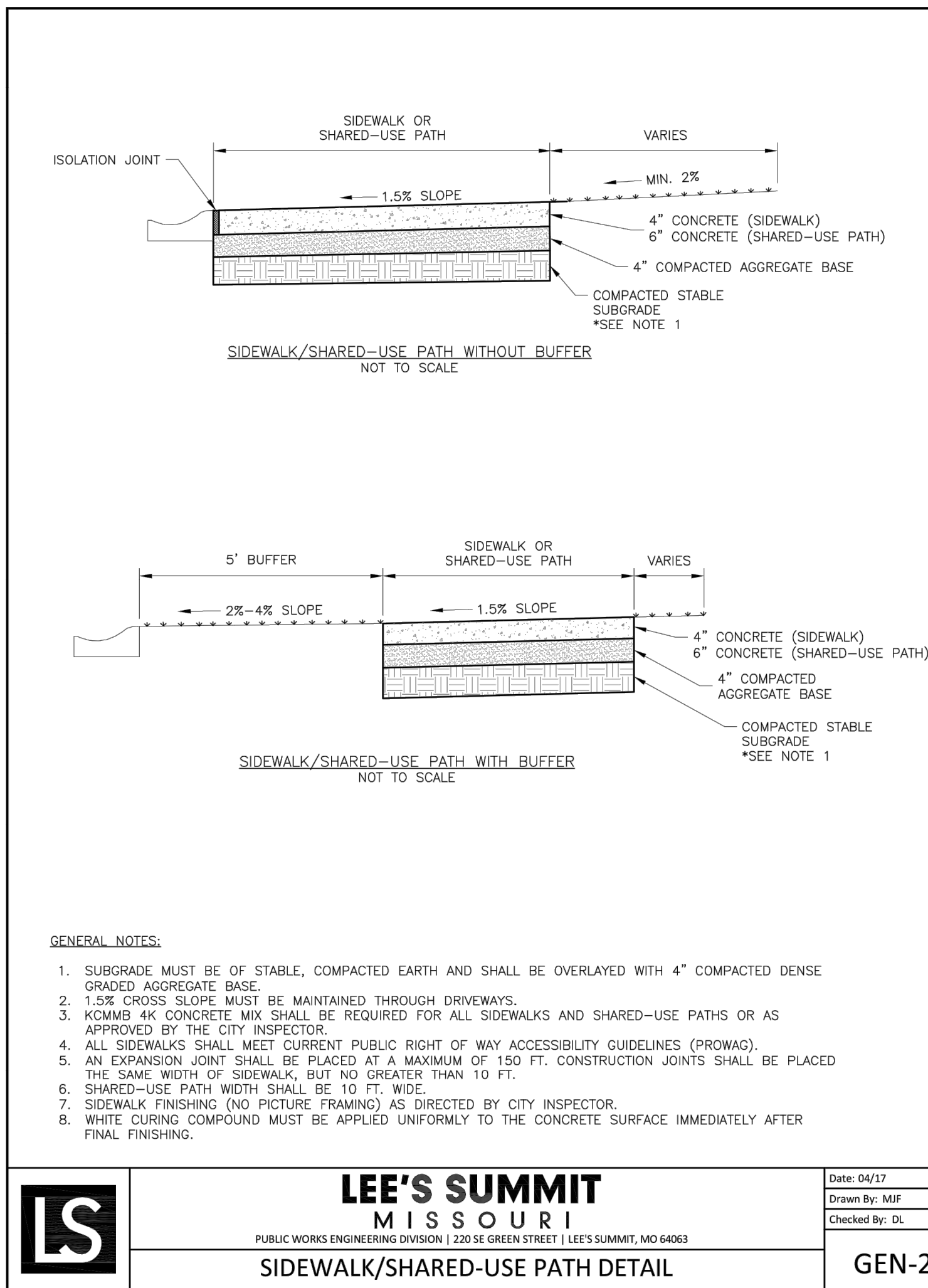
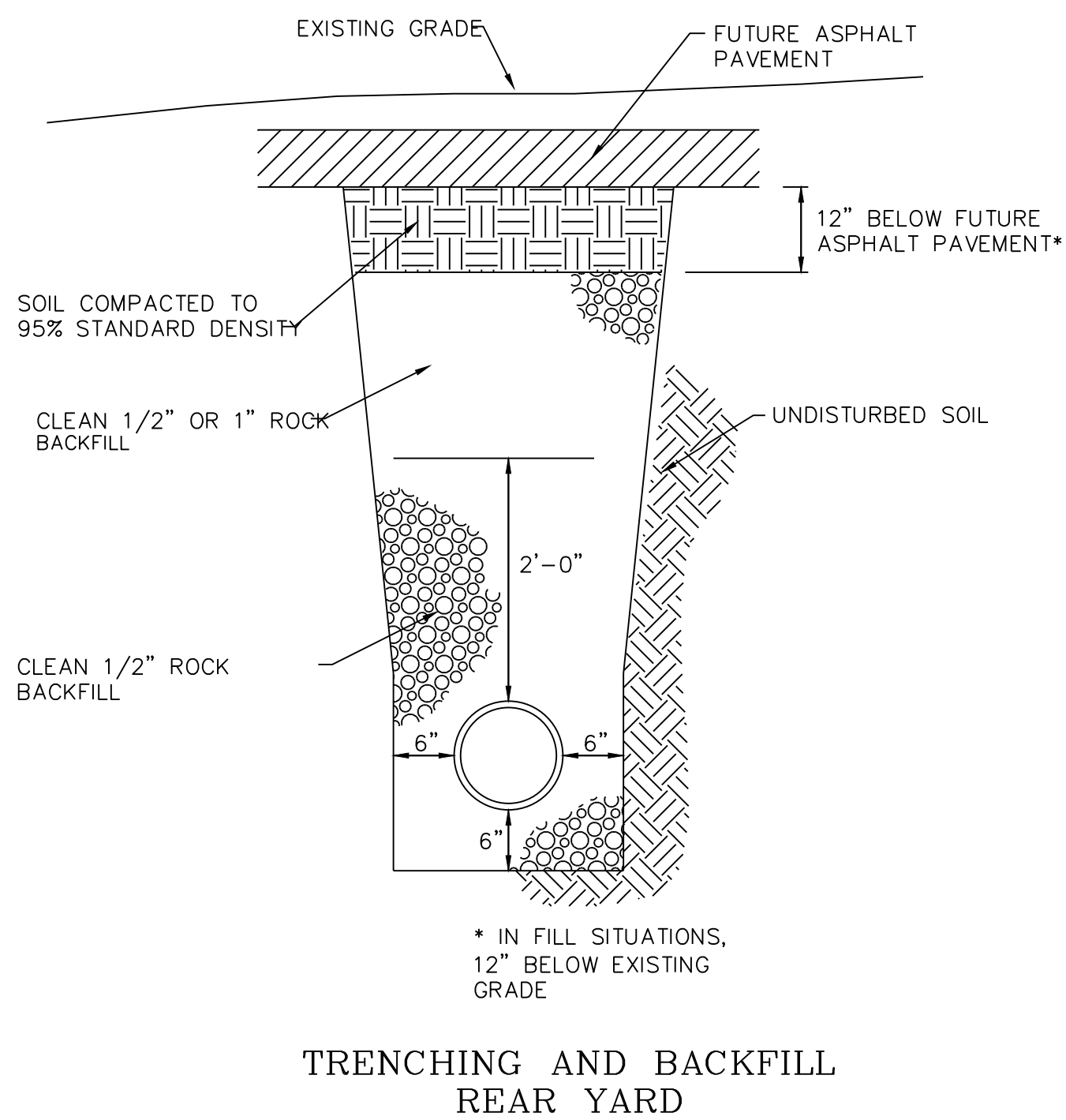
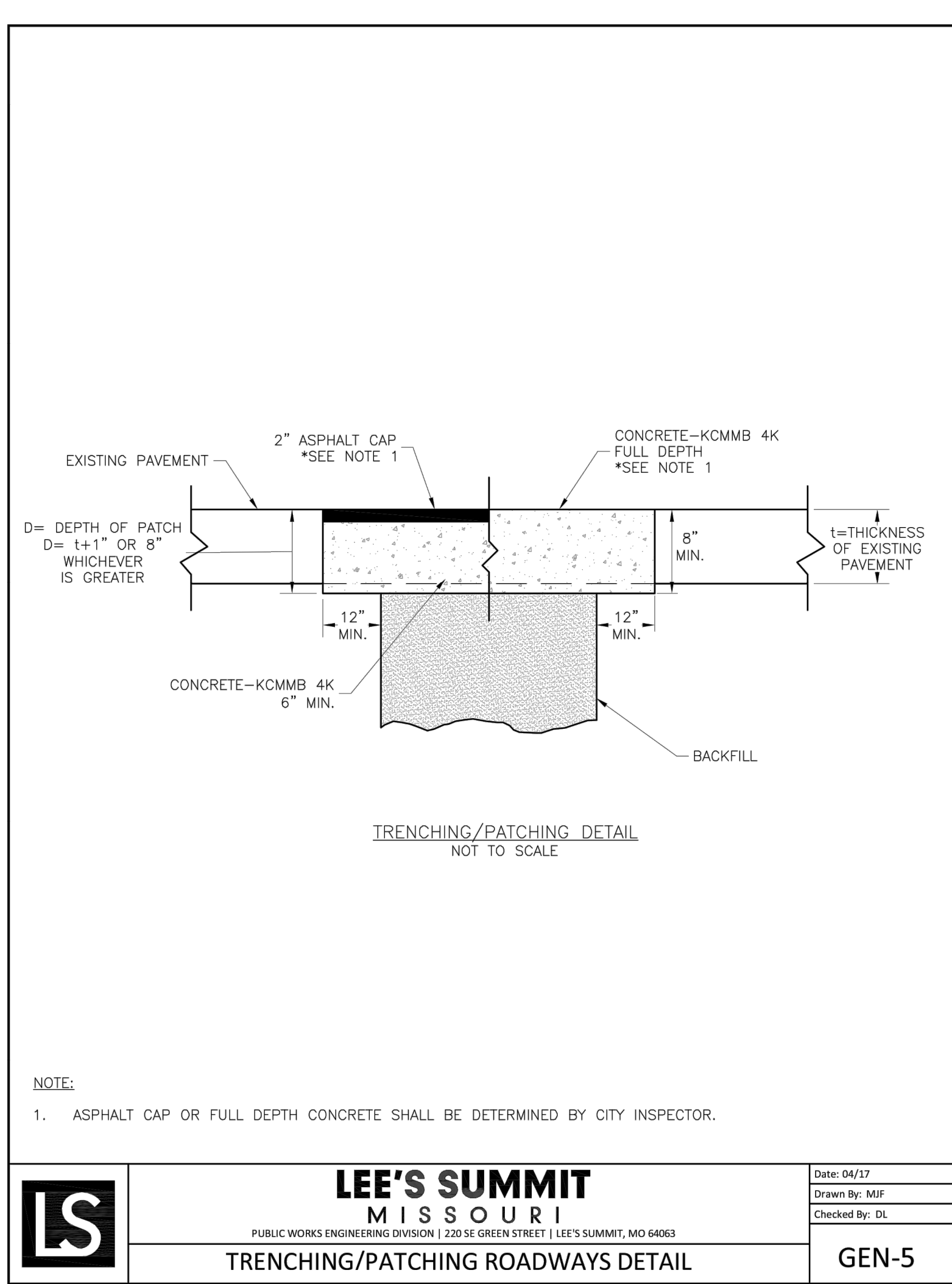
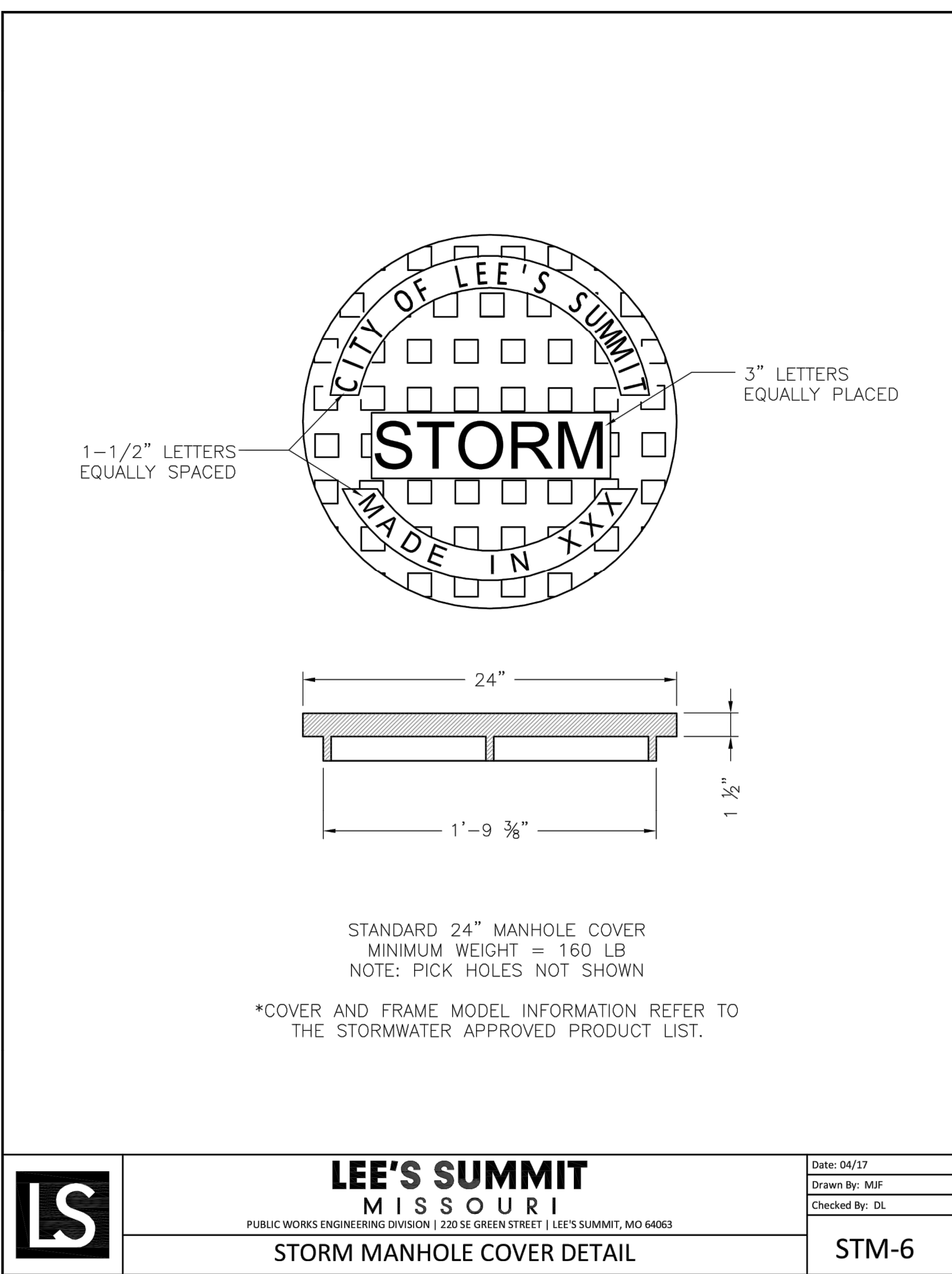
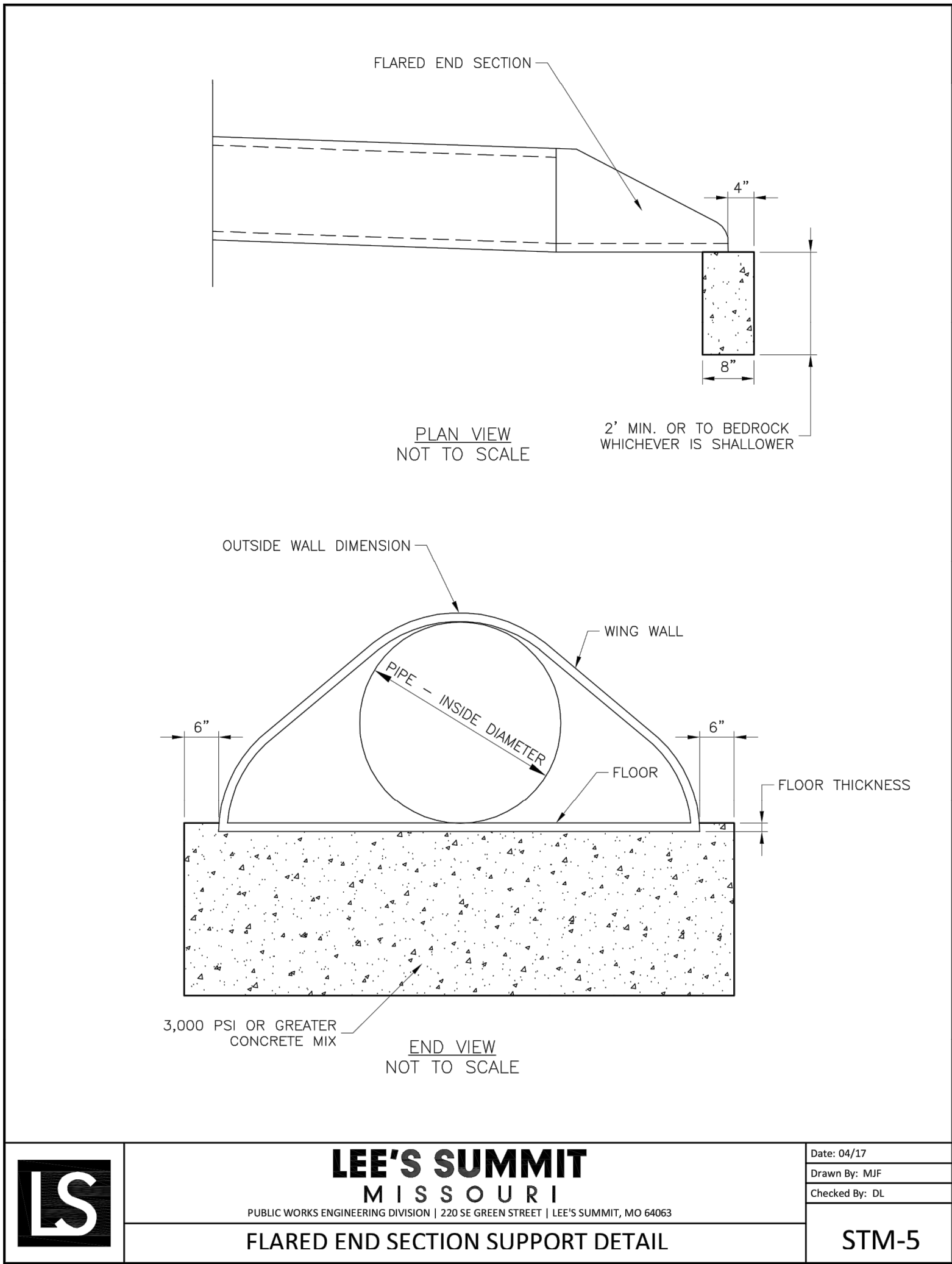
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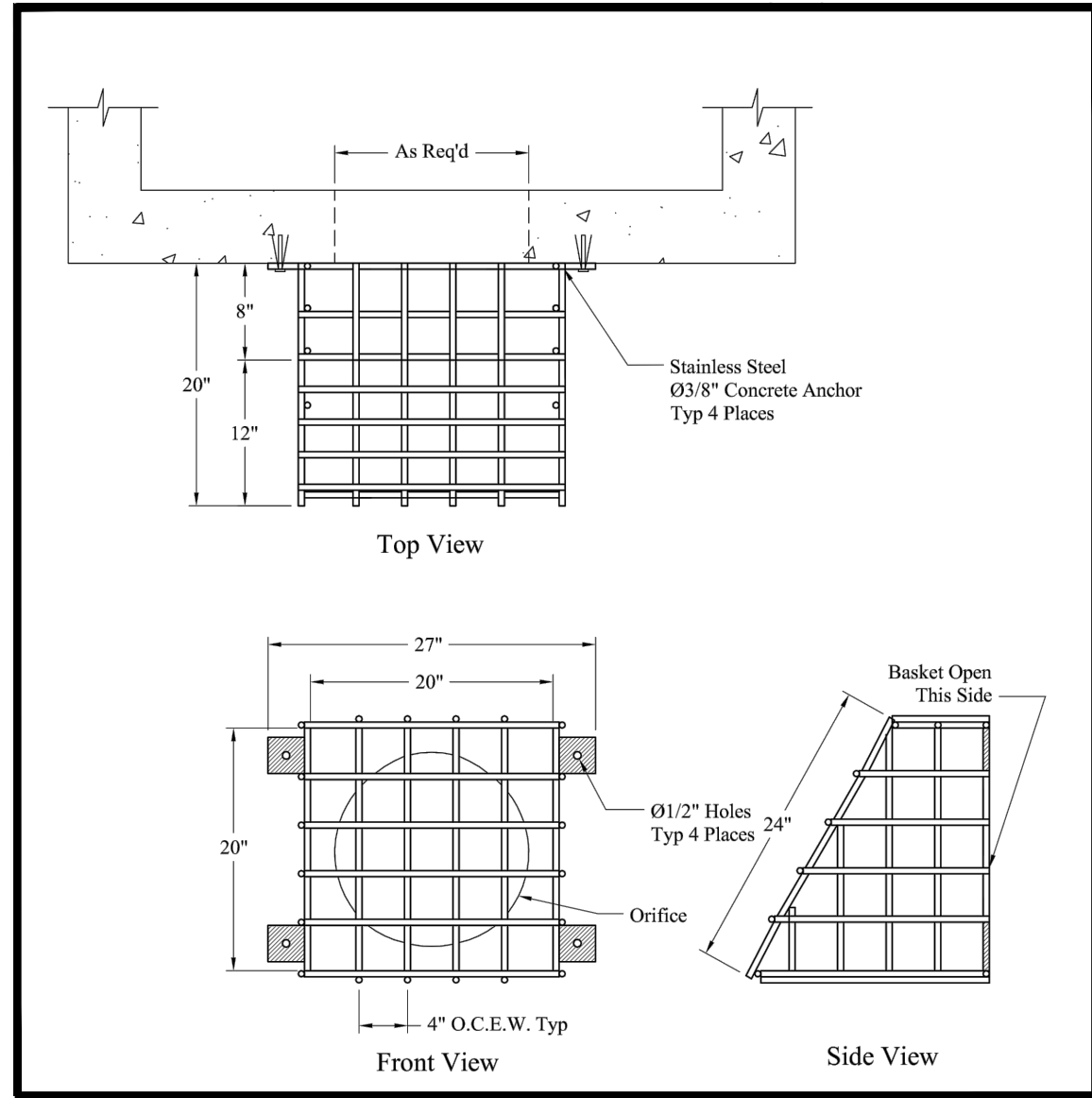
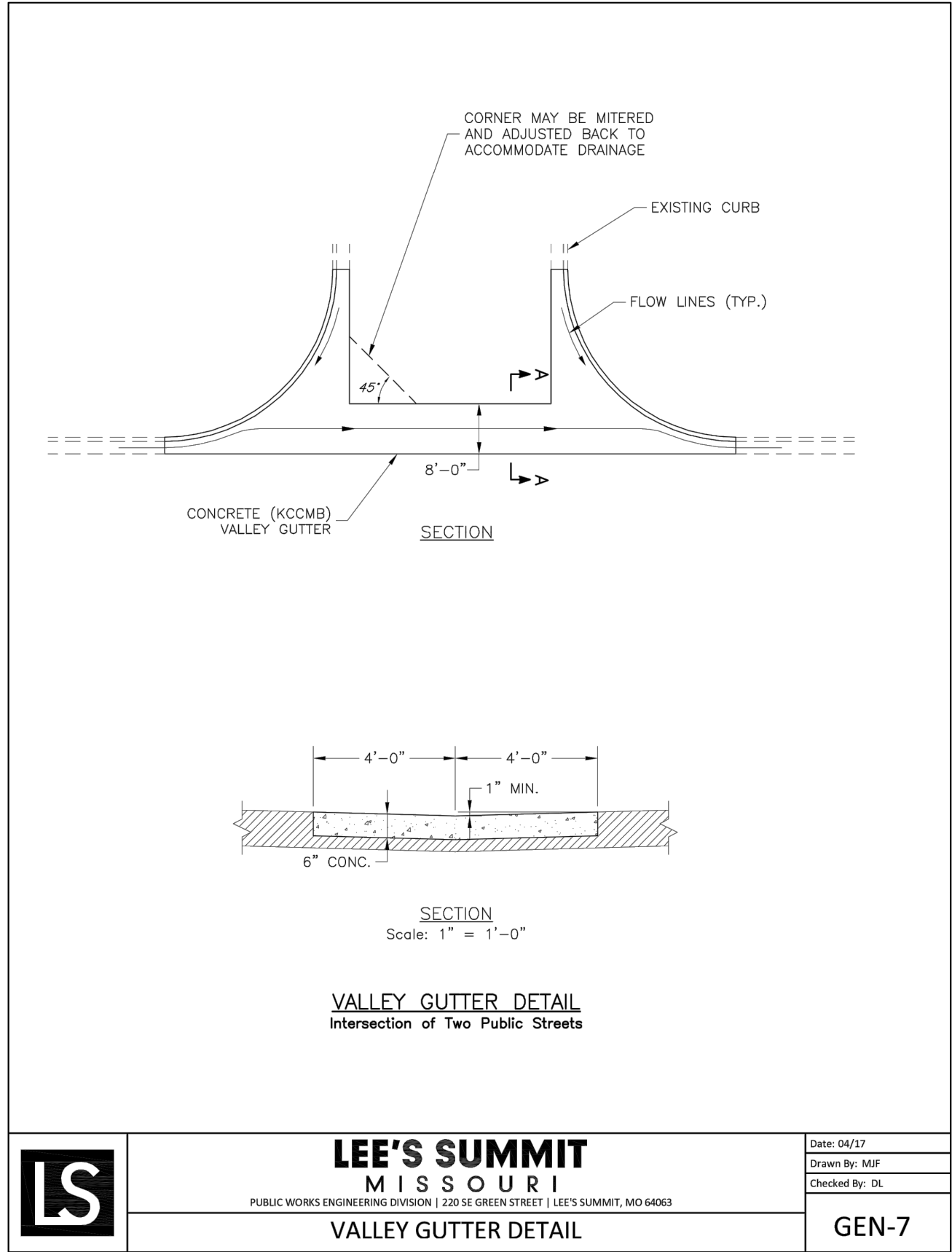
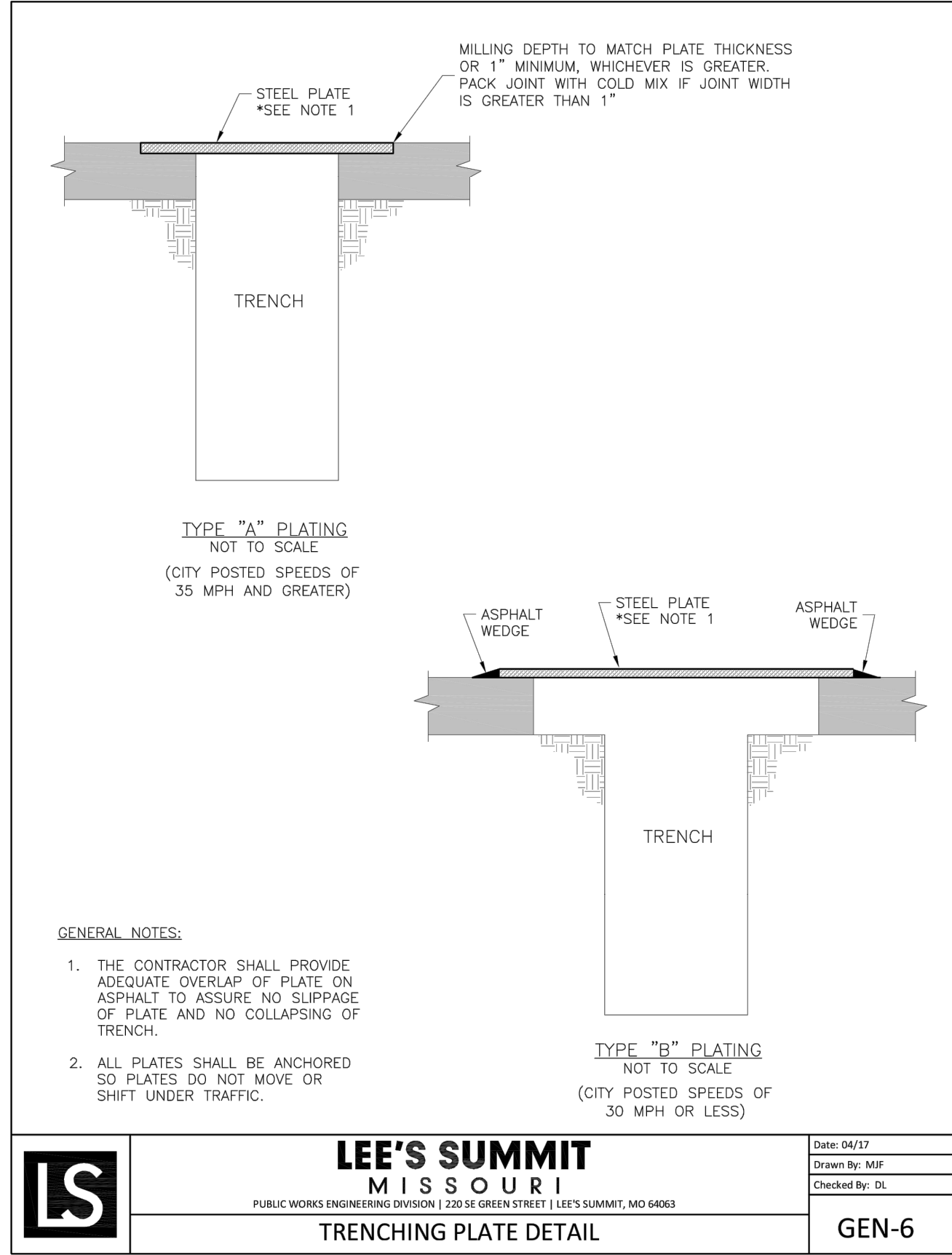
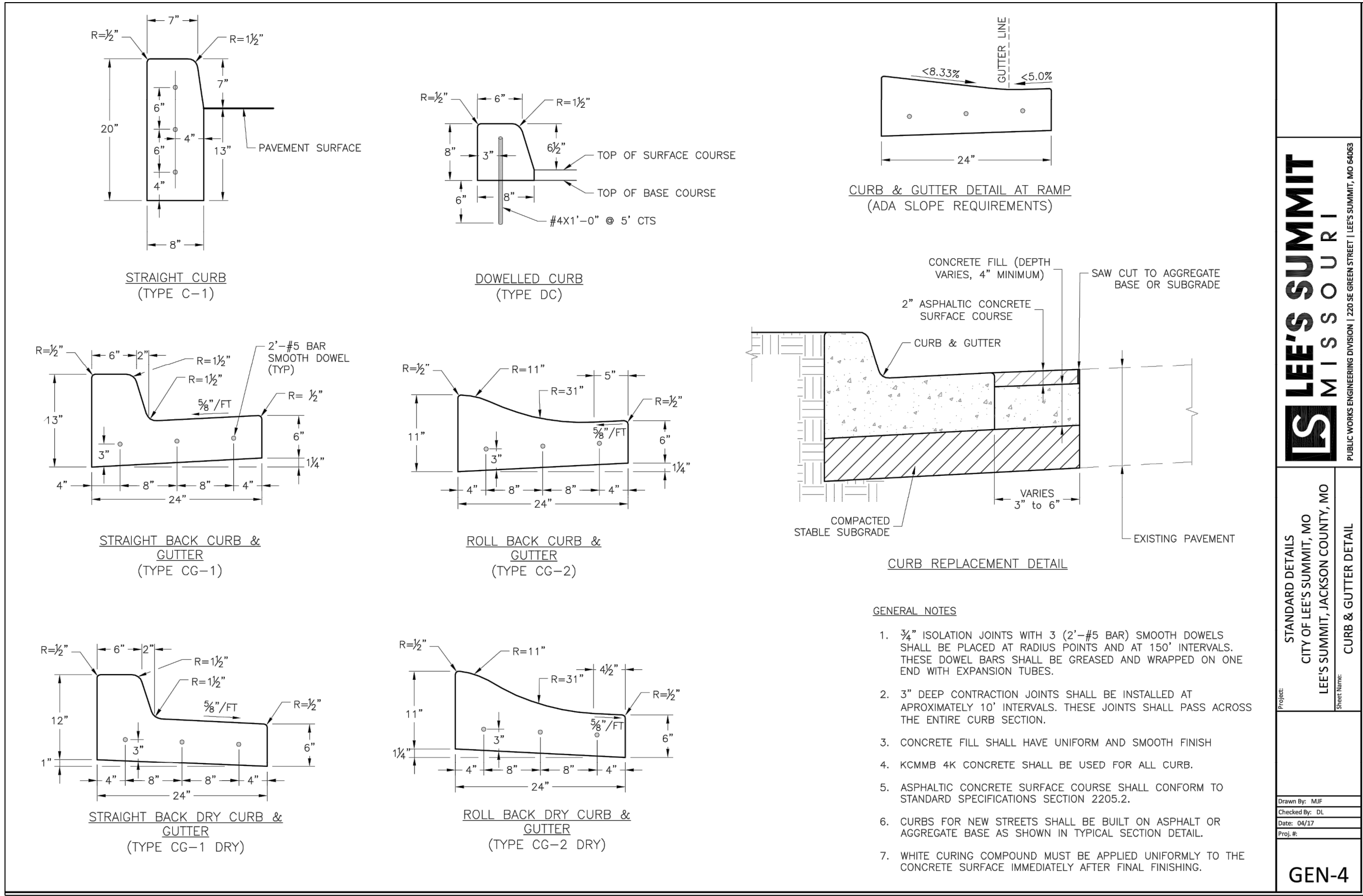
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REVISION	DATE	DESCRIPTION
1	4-10-19	CITY COMMENTS
2	8-1-19	CITY COMMENTS
3	8-21-19	CITY COMMENTS
4	9-18-19	CITY COMMENTS
5	10-24-19	CITY COMMENTS
6	05-04-2020	ISCHLAGEI REVISION
7	08-24-2020	ISCH. TORO REV.
8	10-29-2020	
9		



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AJC 10.29.2020  
BY DATE

REVISION DATE	DESCRIPTION
4-10-19	CITY COMMENTS
8-1-19	CITY COMMENTS
8-21-19	CITY COMMENTS
9-18-19	CITY COMMENTS
10-24-19	CITY COMMENTS
05-04-2020	SCHLAGEL REVISION
06-24-2020	SCH. TOPO REV.
10-29-2020	

DRAWN BY: ###	CITY COMMENTS
CHECKED BY: ###	CITY COMMENTS
DATE PREPARED: 2-15-19	CITY COMMENTS
PROJ. NUMBER: 18-230	

STREET AND STORM DETAILS

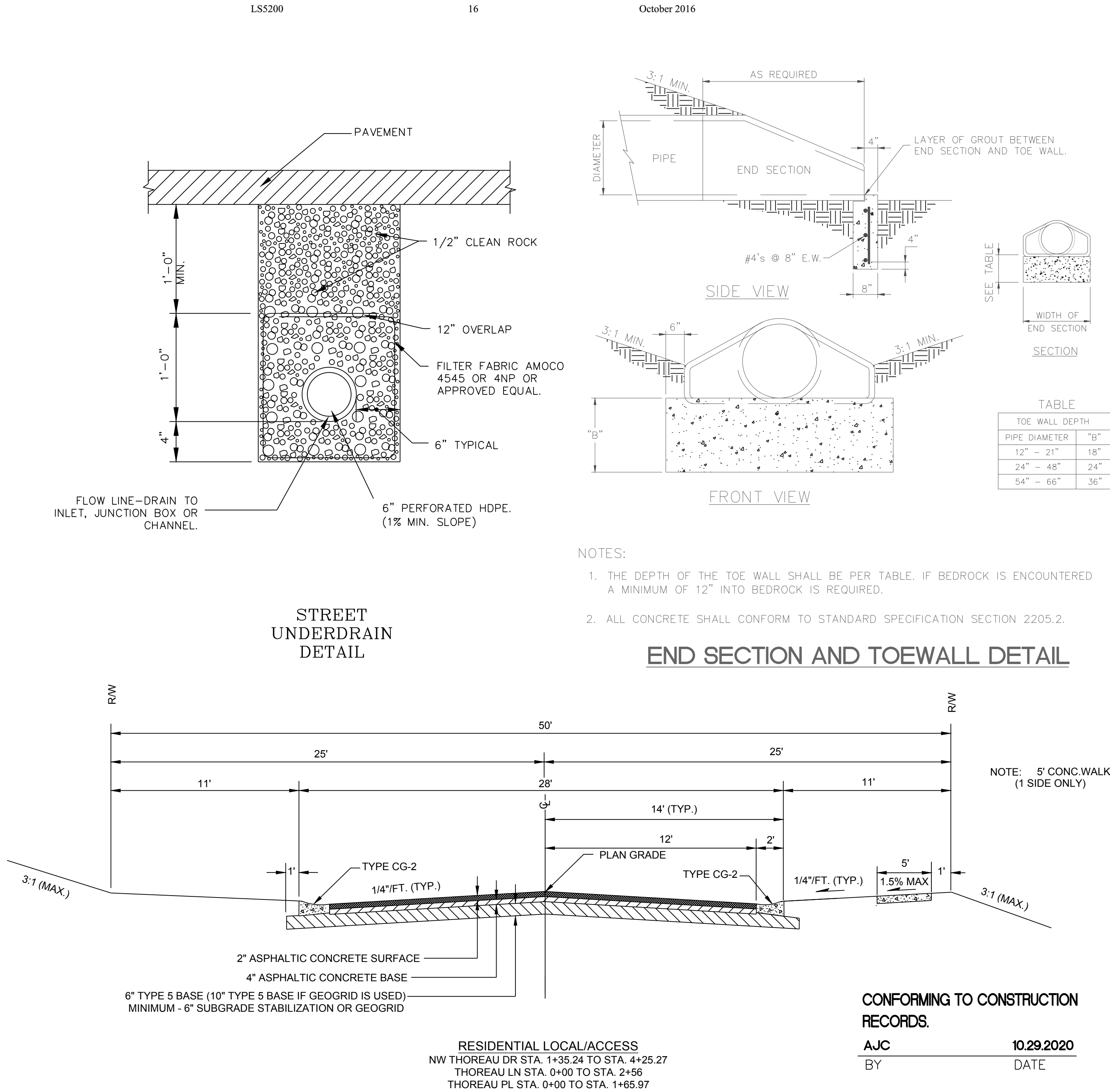


Street Classification	Pavement Option	AC Surface (in.)	AC Base (in.)	MoDOT Type 5 Base (in.)	Geogrid(1)	Chemical Subgrade Stabilization(2) (in.)
Residential Local/Access	A	2	4	6	--	6
	B	2	4	10	Geogrid	--
Residential Collector	A	2	5.5	6	--	9
	B	2	5.5	12	Geogrid	--
Commercial Industrial Local/Collector	A	2	7.5	6	--	9
	B	2	7.5	12	Geogrid	--

TABLE LS-3: MINIMUM PCC PAVEMENT THICKNESSES

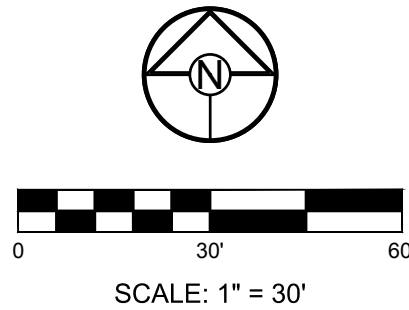
Street Classification	PCC (in.)	Aggregate Base (in.)	Subgrade Stabilization <sup>(1)</sup> (in.)
Residential Local/Access	6	4	--
Residential Collector	6	4	6
Commercial Industrial Local/Collector	8	4	9

(1) Subgrade Stabilization and 4" aggregate base may be replaced by approved geogrid and 6" of aggregate base





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BY  
10.29.2020  
DATE



**MISSOURI GEOGRAPHIC REFERENCE SYSTEM  
BENCH MARK:**

BM JA-136, LOCATED AT INTERSECTION OF SW OLDHAM PARKWAY AND SW WARD ROAD, 61 FT SOUTH OF CL OF OLDHAM PARKWAY AND 28.9 FT EAST OF THE EAST EDGE OF WARD ROAD.

ELEV. 993.11'

**PROJECT BENCH MARK:**

SANITARY MANHOLE H2 AT NW CORNER OF LOT 1153 WINTERSET VALLEY 1ST PLAT, APPROX. 39' RT. OF CL OF NW PEALE BLVD.

ELEV. 935.45'



PREPARED BY:



SCHLAGEL & ASSOCIATES, P.A.

WINTERSET VALLEY, 13TH PLAT  
STREET, STORMWATER, MASTER DRAINAGE PLAN AND  
EROSION AND SEDIMENT CONTROL  
NW THOREAU DRIVE AND AUDUBON LANE  
LEE'S SUMMIT, MISSOURI

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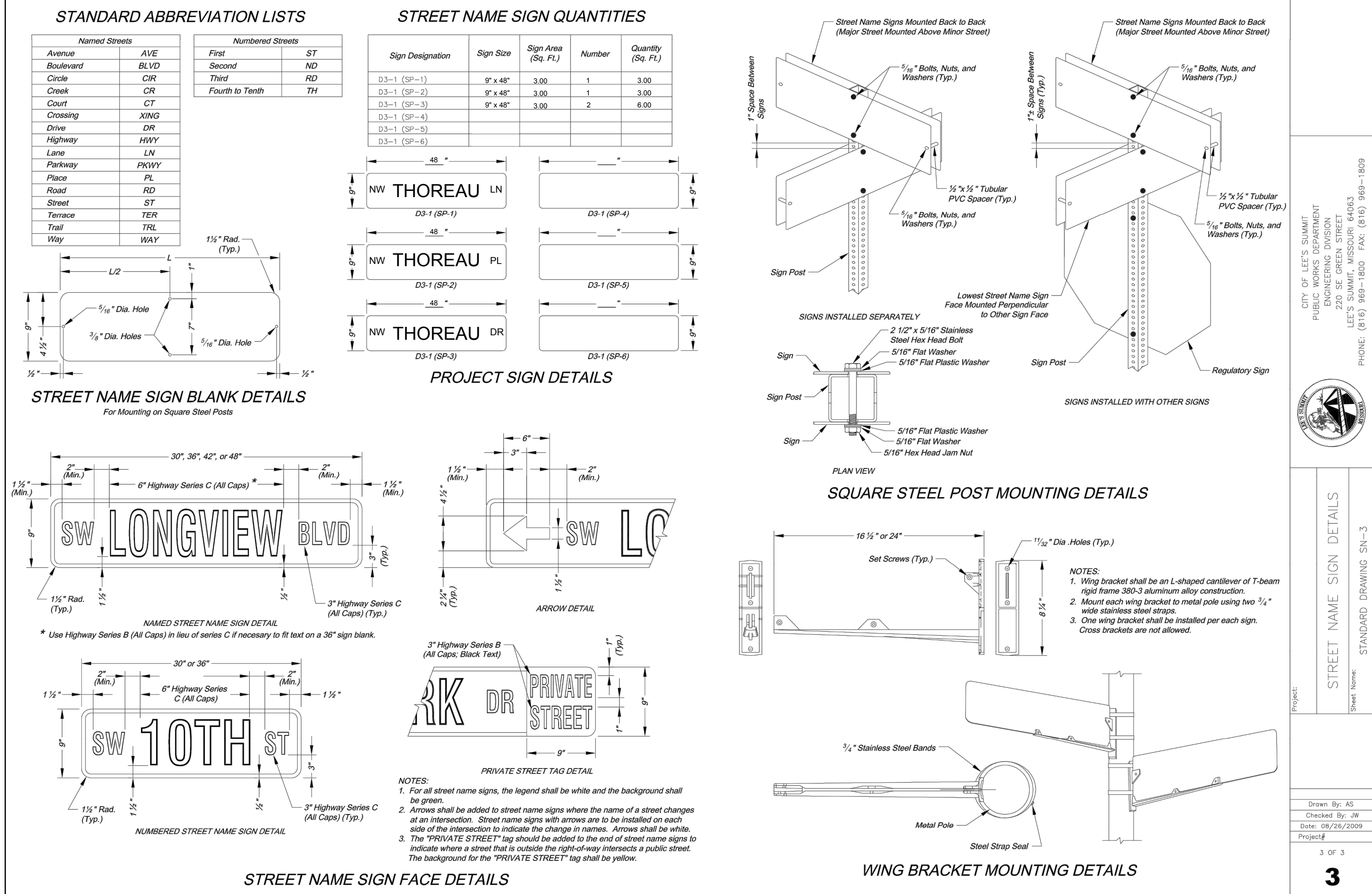
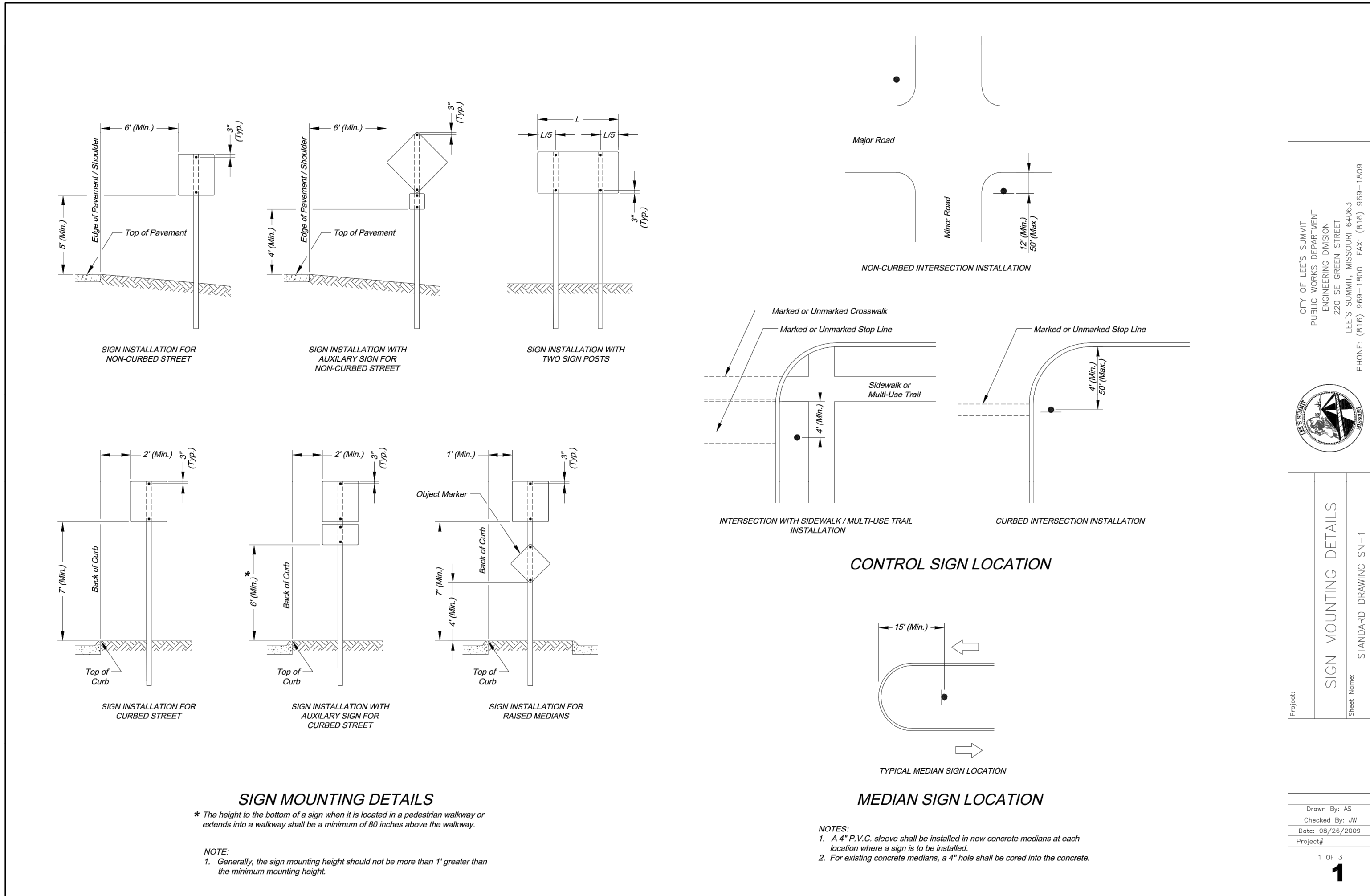
DRAWN BY: ###	CHECKED BY: ###	DATE PREPARED: 2-15-19	PROJ. NUMBER: 18-230
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SIGNING PLAN

SHEET

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CITY OF LEE'S SUMMIT  
PUBLIC WORKS DEPARTMENT  
ENGINEERING DIVISION  
220 SE GREEN STREET  
LEE'S SUMMIT, MISSOURI 64063  
PHONE: (816) 989-1800 FAX: (816) 989-1809

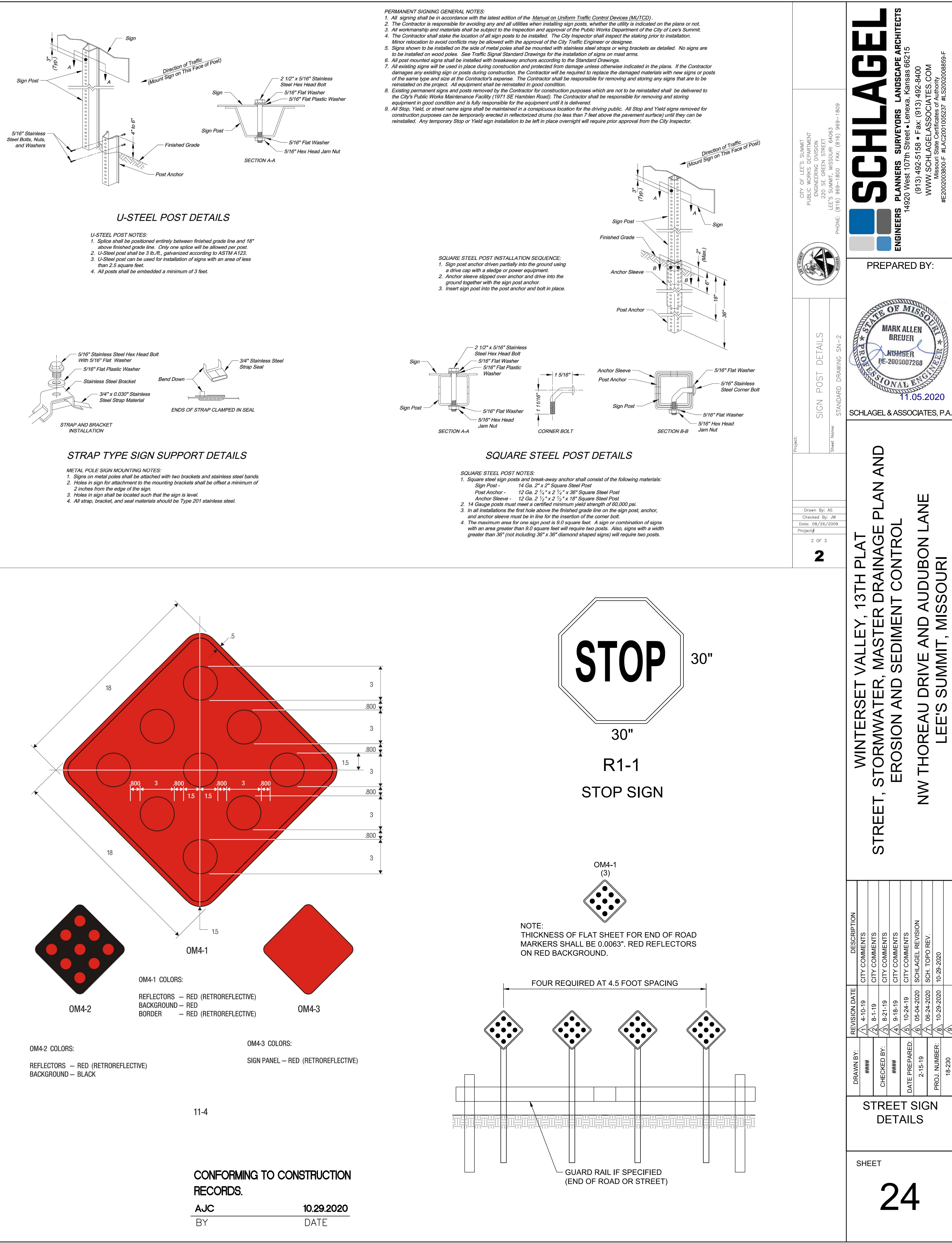
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SHEET NAME: STANDARD DRAWING SN-1

Drawn By: AS  
Checked By: JW  
Date: 08/26/2009  
Project: 1 OF 3

CITY OF LEE'S SUMMIT  
PUBLIC WORKS DEPARTMENT  
ENGINEERING DIVISION  
220 SE GREEN STREET  
LEE'S SUMMIT, MISSOURI 64063  
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PROJECT: STREET NAME SIGN DETAILS  
SHEET NAME: STANDARD DRAWING SN-3

Drawn By: AS  
Checked By: JW  
Date: 08/26/2009  
Project: 3 OF 3



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ENGINEERING DIVISION  
220 SE GREEN STREET  
LEE'S SUMMIT, MISSOURI 64063  
PHONE: (816) 989-1800 FAX: (816) 989-1809

PROJECT: SIGN POST DETAILS  
SHEET NAME: STANDARD DRAWING SN-2

Drawn By: AS  
Checked By: JW  
Date: 08/26/2009  
Project: 2 OF 3

CITY OF LEE'S SUMMIT  
PUBLIC WORKS DEPARTMENT  
ENGINEERING DIVISION  
220 SE GREEN STREET  
LEE'S SUMMIT, MISSOURI 64063  
PHONE: (816) 989-1800 FAX: (816) 989-1809

PROJECT: STREET SIGN DETAILS  
SHEET NAME: STANDARD DRAWING SN-4

Drawn By: AS  
Checked By: JW  
Date: 08/26/2009  
Project: 4 OF 4

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Missouri State Certificates of Authority  
#S2002003600F #LAC2001005237 #LS2002008659F

PREPARED BY:  
**MARK ALLEN BREUER**  
REGISTERED PROFESSIONAL ENGINEER  
NUMBER PE-2005007268  
11.05.2020  
SCHLAGEL & ASSOCIATES, P.A.

WINTERSET VALLEY, 13TH PLAT  
STREET, STORMWATER, MASTER DRAINAGE PLAN AND  
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2-15-19	SCH. TOPO REV.
09-24-2020	10-29-2020
18-230	

STREET SIGN DETAILS

SHEET

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