

USER: Bryan-Nicole Samuels TAB: Cover  
DATE: December 6, 2019 -- 3:41:19 PM  
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LEGEND

EXISTING		PROPOSED
--- 460 --- --- 459 --- +620.15	CONTOURS	--- 460 --- --- 459 --- +621.25 (TOP OF CURB) (FINISH PAVEMENT)
~~~~~	SPOT GRADE	~~~~~
~~~~~	TREE LINE	~~~~~
☼	TREE	☼
⊙	BUSH	⊙
⊙	STORM MANHOLE	⊙
⊙	AREA INLET	⊙
⊙	CURB INLET	⊙
⊙	GRATED INLET	⊙
⊙	FLARED END SECTION	⊙
12" RCP	STORM SEWER	12" RCP
①	GRATED MANHOLE	①
○ DS	STORM DESIGNATOR	○ DS
DP	DOWNSPOUT	DP
---	DRAINAGE PIPE	---
---	SWALE/SLOPE INDICATOR	---
⊙	SANITARY MANHOLE	⊙
---	SANITARY SEWER	---
⊙	CLEAN OUT	⊙
⊙	SANITARY DESIGNATOR	⊙
⊙	UTILITY POLE	⊙
⊙	GUY WIRE	⊙
OU	OVERHEAD UTILITY	OU
UE	UNDERGROUND ELECTRIC	UE
UE	ELECTRIC MARKER	UE
UE	ELECTRIC METER	UE
UE	ELECTRIC BOX	UE
UE	ELECTRIC PULL BOX	UE
UE	ELECTRIC TRANSFORMER	UE
UE	ELECTRIC MANHOLE	UE
UE	UNDERGROUND TELEPHONE	UE
UE	FIBER OPTIC MARKER	UE
UE	CABLE MARKER	UE
UE	GAS LINE	UE
UE	GAS VALVE	UE
UE	GAS METER	UE
UE	GAS MARKER	UE
UE	WATER LINE	UE
UE	WATER VALVE	UE
UE	WATER METER	UE
UE	FIRE HYDRANT	UE
UE	SIGN	UE
UE	MAIL BOX	UE
UE	TEST HOLE	UE
UE	LIGHT STANDARD	UE
UE	FENCE	UE
UE	BOLLARD	UE
UE	RETAINING WALL	UE
UE	CONCRETE PAVEMENT	UE
UE	SILTATION FENCE	UE
UE	AIR CONDITIONER	UE
UE	FLAG POLE	UE
UE	MONITORING WELL	UE
UE	PARKING METER	UE
UE	PLANTER	UE
UE	SPRINKLER CONTROL BOX	UE
UE	SPRINKLER	UE
UE	SPRINKLER VALVE	UE
UE	TRAFFIC CONTROL BOX	UE
UE	TRAFFIC POLE	UE
UE	YARD LIGHT	UE
UE	GUARD RAIL	UE
UE	PROPERTY LINE	UE
UE	EASEMENT	UE
UE	SETBACK	UE
UE	INLET PROTECTION	UE
UE	WATTLE	UE
UE	CHECK DAM	UE
UE	USE IN PLACE	UE
UE	TO BE REMOVED	UE
UE	ADJUST TO GRADE	UE
UE	TO BE REMOVED & RELOCATED	UE
UE	TYPICAL	UE
UE	NOT TO SCALE	UE
UE	HIGH POINT IN GRADE	UE
UE	LOW POINT IN GRADE	UE
UE	TOP OF WALL	UE
UE	BOTTOM OF WALL	UE
UE	NOT IN CONTRACT	UE

SITE BENCHMARK INFORMATION

X 205 -- DISK LOCATED 0.6 MILE SOUTH ALONG THE MISSOURI PACIFIC RAILROAD FROM THE STATION AT LEE'S SUMMIT. 19.1 FEET WEST OF THE WEST RAIL OF THE MAIN TRACK, SET IN THE TOP OF THE WEST END OF THE NORTHWEST ABUTMENT OF AN OVERPASS OVER U.S. HIGHWAY 50. ELEVATION = 1046.10

LION'S CHOICE

LOT 4D OF SUMMIT ORCHARD  
LEE'S SUMMIT, MO 64063



Saint Louis, Missouri Since 1967

FINAL DEVELOPMENT PLAN



LOCATION MAP  
(NOT TO SCALE)

PERTINENT DATA

SITE DATA  
PARCEL NUMBER 52-900-03-65-00-0-00-000  
CURRENT ZONING DISTRICT PMIX, PLANNED MIX USE  
PROPOSED ZONING DISTRICT PMIX, PLANNED MIX USE

AREA CALCULATIONS  
BUILDING AREA 2,311 S.F. = 0.05 AC  
IMPERVIOUS AREA 24,758 S.F. = 0.57 AC  
PERVIOUS AREA 12,179 S.F. = 0.28 AC  
TOTAL SITE AREA 39,248 S.F. = 0.90 AC

UTILITIES

GAS SERVICE	SPIRE 3025 SE CLOVER DR. LEE'S SUMMIT, MO 64082 CONTACT: JON HARRELL (816)969-2298	COMMUNICATIONS SERVICE	AT&T CONTACT: MARTY LOPER (800)499-7928
WATER SERVICE	CITY OF LEE'S SUMMIT PUBLIC WORKS WATER UTILITIES 1200 SE HAMBLIN ROAD, LEE'S SUMMIT, MO 64081 (816)969-1900	SANITARY SEWER SERVICE	CITY OF LEE'S SUMMIT PUBLIC WORKS WATER UTILITIES 1200 SE HAMBLIN ROAD, LEE'S SUMMIT, MO 64081 (816)969-1900
ELECTRIC SERVICE	KANSAS CITY POWER AND LIGHT 1201 WALNUT ST. P.O. BOX 418679 KANSAS CITY, MO 64141 (816)471-5275	STORM SEWER SERVICE	CITY OF LEE'S SUMMIT PUBLIC WORKS WATER UTILITIES 1200 SE HAMBLIN ROAD, LEE'S SUMMIT, MO 64081 (816) 969-1940

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DESIGN AND DEVELOPMENT CONTACTS

OWNER	LION'S CHOICE 12977 NORTH FORTY DRIVE ST. LOUIS, MO 63141 (314) 821-8665 CONTACT: JASON DENBOW
CIVIL ENGINEER	COLE & ASSOCIATES, INC. 401 SOUTH 18TH STREET, SUITE 200 ST. LOUIS, MO 63103 (314) 984-9887 CONTACT: CHRIS WILSON
ARCHITECT	OCULUS INC ONE SOUTH MEMORIAL DR SUITE 1500 ST. LOUIS, MO 63102 (314) 367-6100 CONTACT: JACK BOWE
SURVEYOR	COLE & ASSOCIATES, INC. 401 SOUTH 18TH STREET, SUITE 200 ST. LOUIS, MO 63103 (314) 984-9887 CONTACT: TOM REYNOLDS

LAND DESCRIPTION (PER TITLE)

LOT 4D, SUMMIT ORCHARD, LOTS 4A-4E, A SUBDIVISION IN LEE'S SUMMIT, JACKSON COUNTY, MISSOURI, ACCORDING TO THE PLAT THEREOF.

FLOODPLAIN INFORMATION

AS DETERMINED THROUGH GRAPHIC PLOTTING ONLY, SUBJECT TRACT FALLS IN ZONE "X"; AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN PER THE FEDERAL EMERGENCY MANAGEMENT AGENCY FLOOD INSURANCE RATE MAP FOR JACKSON COUNTY, MISSOURI AND INCORPORATED AREAS, PANEL 417 OF 625, MAP NUMBER 29095C0417G, EFFECTIVE DATE OF JANUARY 20, 2017.

UTILITY INFORMATION

UTILITIES SHOWN HAVE BEEN TAKEN FROM AVAILABLE SURVEYS, UTILITY COMPANY MAPS AND PHYSICAL PROPERTY INSPECTION. THE LOCATIONS AND FACILITIES SHALL BE CONSIDERED APPROXIMATE ONLY. THERE MAY BE ADDITIONAL UTILITIES THAT HAVE NOT BEEN SHOWN ON THIS SURVEY. THE CONTRACTOR WILL BE RESPONSIBLE FOR THE LOCATIONS OF ALL UTILITIES PRIOR TO EXCAVATION OR CONSTRUCTION.



CALL 1-800-DIG-RITE (MISSOURI ONE CALL) TO HAVE LOCATIONS MARKED IN THE FIELD (SUBSCRIBING UTILITIES REQUIRE 48 HOURS NOTICE PRIOR TO CONSTRUCTION).

DEVELOPER/OWNER:  
**RED LION BEEF CORPORATION**  
12977 N FORTY DRIVE, SUITE 100  
ST. LOUIS, MO 63141  
(314) 821-8665

THE PROFESSIONAL WHOSE SIGNATURE AND PERSONAL SEAL APPEAR HEREON HAS ASSURED THAT THIS PLAN WAS PREPARED BY HIMSELF OR UNDER HIS CLOSE PERSONAL SUPERVISION AND THAT HE IS A LICENSED PROFESSIONAL ENGINEER IN THE STATE OF MISSOURI. HE HAS REVIEWED THE PLANS AND SPECIFICATIONS, ESTIMATES, REPORTS, OR OTHER DOCUMENTS OR INSTRUMENTS NOTED HEREON, AND HE HAS FOUND THEM TO BE CORRECT AND COMPLETE. HE HAS NOTED ANY CHANGES TO THE PLANS OR SPECIFICATIONS, ESTIMATES, REPORTS, OR OTHER DOCUMENTS OR INSTRUMENTS NOTED HEREON, AND HE HAS FOUND THEM TO BE CORRECT AND COMPLETE. HE HAS NOTED ANY CHANGES TO THE PLANS OR SPECIFICATIONS, ESTIMATES, REPORTS, OR OTHER DOCUMENTS OR INSTRUMENTS NOTED HEREON, AND HE HAS FOUND THEM TO BE CORRECT AND COMPLETE.

CIVIL ENGINEERS  
CORPORATE  
OFFICE  
CENTRAL  
ST. LOUIS, MO 63103  
JOHN F. WILSON  
REGISTERED PROFESSIONAL ENGINEER  
PE NO. E-20718  
DATE 9/10/19

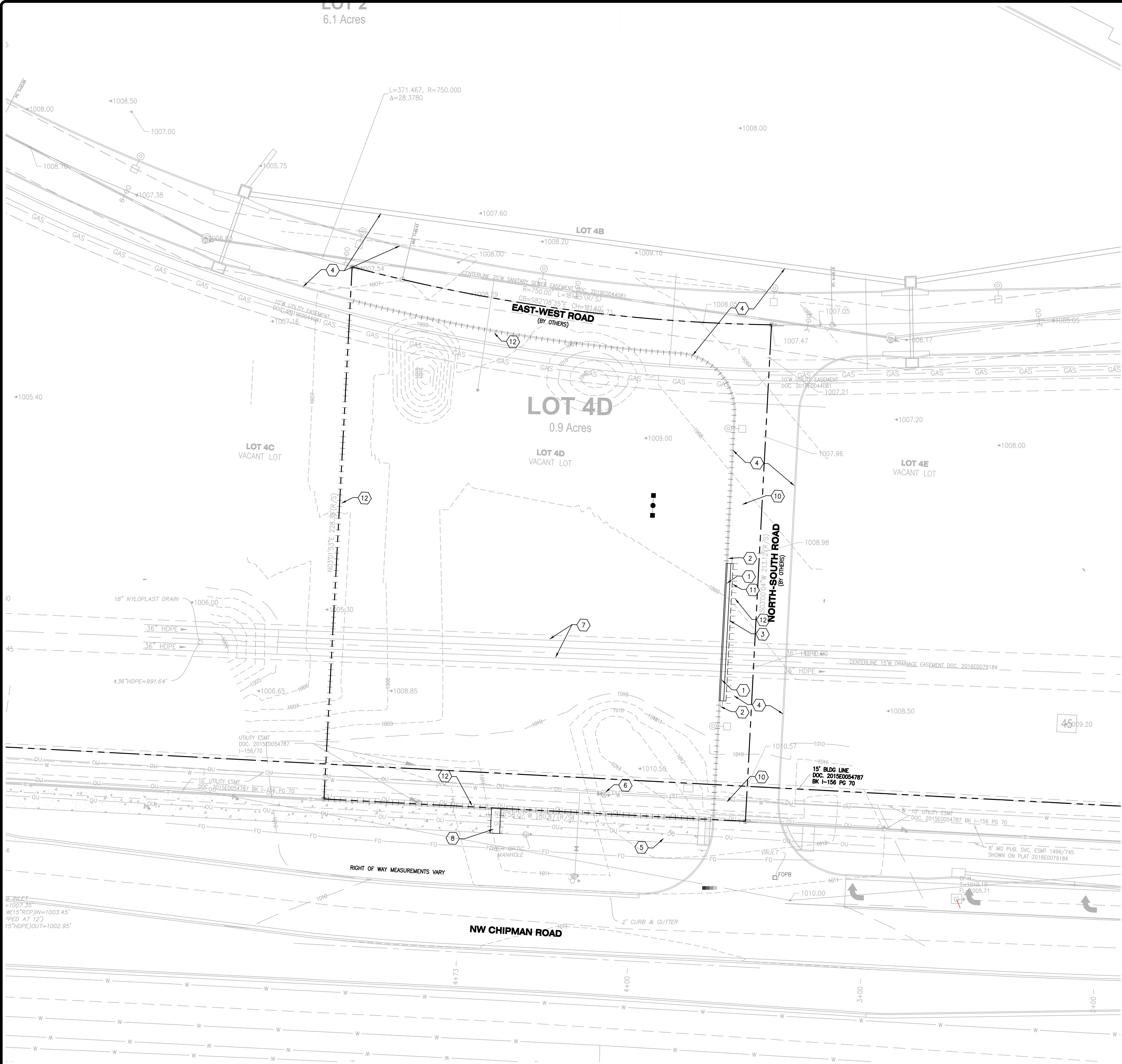
**LION'S CHOICE**  
SUMMIT ORCHARD  
440 NW CHIPMAN ROAD  
LEE'S SUMMIT, MO  
**COVER SHEET**

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CAW  
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AS SHOWN  
DATE  
08/29/2019  
Job Number  
18-0136  
Sheet Number  
C1.0



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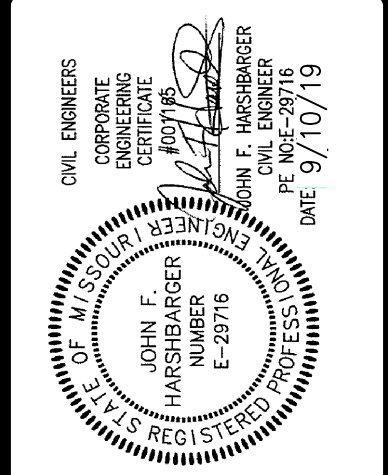
## KEYED NOTES

- EXISTING CURB AND GUTTER TO BE REMOVED.
- EXISTING CURB AND GUTTER TO REMAIN.
- EXISTING CONCRETE PAVEMENT TO BE REMOVED.
- ALL INFRASTRUCTURE BY OTHERS.
- EXISTING SIDEWALK TO BE REMAIN.
- EXISTING WATER SERVICE TO REMAIN.
- EXISTING 36" HDPE STORM SEWER TO REMAIN.
- EXISTING SIDEWALK TO BE REMOVED AND REPLACED IN KIND.
- (NOT USED)
- EXISTING LIGHT STANDARD TO REMAIN. CONTRACTOR TO PROTECT IN PLACE AS NEEDED DURING CONSTRUCTION.
- NEW SAWCUT LINE.
- NEW LIMITS OF DISTURBANCE.

NO	REVISION DESCRIPTION	DATE
1	REVIEW COMMENTS	10/17/19
2	REVIEW COMMENTS	10/17/19
3	REVIEW COMMENTS	10/17/19
4	REVIEW COMMENTS	10/17/19

DEVELOPER/OWNER:  
**RED LION BEEF CORPORATION**  
12977 N FORTY DRIVE, SUITE 100  
ST. LOUIS, MO 63141  
(314) 821-8665

THE PROFESSIONAL WHOSE SIGNATURE AND PERSONAL SEAL APPEAR HEREON HAS REVIEWED THIS DRAWING FOR CONFORMANCE WITH THE PROFESSIONAL SEAL REQUIREMENTS OF THE BOARD OF ARCHITECTS OF THE STATE OF MISSOURI. THIS REVIEW IS LIMITED TO THE TECHNICAL ASPECTS OF THE DRAWING AND DOES NOT CONSTITUTE A GUARANTEE OF THE ACCURACY OF THE INFORMATION PROVIDED OR THE RESULTS OF THE DESIGN. THE PROFESSIONAL IS NOT RESPONSIBLE FOR THE DESIGN OR THE RESULTS OF THE DESIGN. THE PROFESSIONAL IS NOT RESPONSIBLE FOR THE DESIGN OR THE RESULTS OF THE DESIGN.

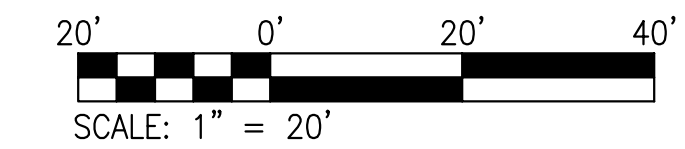
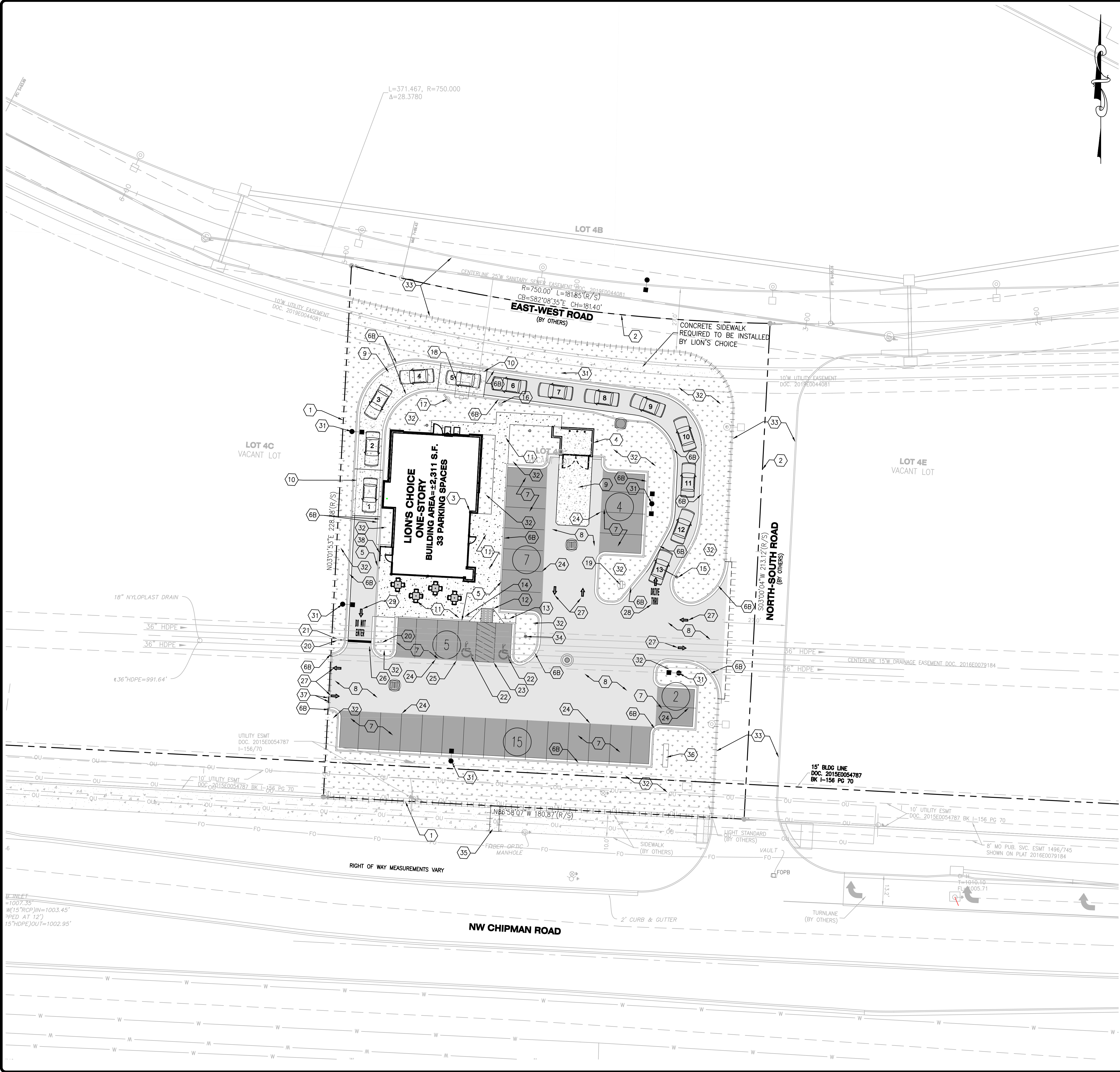


**LION'S CHOICE**  
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LEE'S SUMMIT, MO

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DRAWN BY	MAB
CHECKED BY	CAW
DRAWING SCALE	AS SHOWN
DATE	08/29/2019
Job Number	18-0136
Sheet Number	C3.0



## KEYED NOTES

- ALL IMPROVEMENTS ARE PARALLEL AND PERPENDICULAR TO THE SOUTH AND WEST PROPERTY LINE(S) UNLESS DIMENSIONED OTHERWISE.

### NEW STRUCTURES

- NEW LION'S CHOICE PROPERTY AREA LIMITS.
- NEW LION'S CHOICE BUILDING. REFER TO ARCHITECTURAL PLANS.
- NEW DUMPSTER ENCLOSURE. REFER TO ARCHITECTURAL PLANS.

### NEW CURBS

- NEW INTEGRAL CONCRETE CURB (STANDARD SECTION). REFER TO DETAIL ON SHEET C8.0.
- (NOT USED).
- NEW CONCRETE CURB AND GUTTER. PER CITY OF LEE SUMMIT DETAIL GEN-4. REFER TO DETAIL ON SHEET C8.2.

### NEW PAVEMENTS

- NEW ASPHALT PAVEMENT (LIGHT DUTY). REFER TO DETAIL ON SHEET C8.0.
- NEW ASPHALT PAVEMENT (HEAVY DUTY). REFER TO DETAIL ON SHEET C8.0.
- NEW CONCRETE PAVEMENT (HEAVY DUTY). REFER TO DETAIL ON SHEET C8.0.
- NEW CONCRETE PAVEMENT (HEAVY DUTY) WITH DETECTOR LOOP. REFER TO MECHANICAL PLANS. REFER TO SHEET C8.0 FOR CONCRETE PAVEMENT (HEAVY DUTY) DETAIL.

### NEW SIDEWALKS

- NEW CONCRETE SIDEWALK. REFER TO DETAIL ON SHEET C8.0.
- NEW CURB RAMP (TYPE A). REFER TO DETAIL ON SHEET C8.0.
- NEW CURB RAMP (TYPE B). REFER TO DETAIL ON SHEET C8.0.

### NEW SIGNS

- NEW ACCESSIBLE PARKING SIGN. REFER TO DETAIL ON SHEET C8.1.
- NEW VAN ACCESSIBLE PARKING SIGN. REFER TO DETAIL ON SHEET C8.1.
- NEW DRIVE-THRU CLEARANCE BAR.
- NEW PREVIEW BOARD.
- NEW MENU BOARD.
- NEW CANOPY AND SPEAKER POST.
- NEW "DRIVE-THRU" SIGN.
- NEW "DO NOT ENTER" SIGN. REFER TO DETAIL ON SHEET C8.1.
- NEW "STOP" SIGN. REFER TO DETAIL ON SHEET C8.1.

### NEW PAVEMENT MARKINGS

- NEW PAINTED ACCESSIBLE PARKING SYMBOL. REFER TO DETAIL ON SHEET C8.1.
- NEW PAINTED AISLE (BLUE). REFER TO DETAIL ON SHEET C8.1.
- NEW PAINTED PARKING SPACE LINE (WHITE). REFER TO DETAIL ON SHEET C8.1.
- NEW PAINTED PARKING SPACE LINE (BLUE). REFER TO DETAIL ON SHEET C8.1.
- NEW PAINTED STOP BAR LINE (WHITE). REFER TO DETAIL ON SHEET C8.1.
- NEW PAINTED TRAFFIC FLOW ARROW. REFER TO DETAIL ON SHEET C8.1.
- NEW "DRIVE-THRU" STRIPING AND TRAFFIC FLOW ARROW. REFER TO DETAIL ON SHEET C8.1.
- NEW "DO NOT ENTER" STRIPING AND TRAFFIC FLOW ARROWS. REFER TO DETAIL ON SHEET C8.1.
- (NOT USED).

### NEW MISCELLANEOUS ITEMS

- NEW AREA LIGHT. REFER TO PHOTOMETRIC PLANS.
- NEW LANDSCAPE AREA. REFER TO LANDSCAPE PLANS.
- INTERNAL DRIVE AISLE BY OTHERS.
- NEW FLAGPOLE.
- REPLACE CONCRETE SIDEWALK IN KIND.
- NEW MONUMENT SIGN.
- TEMPORARY CONCRETE CURB. REFER TO DETAIL ON SHEET C8.0.
- NEW 36" TWO RAIL. SMOOTH TOP, STYLE E PREMANUFACTURED COMMERCIAL ALUMINUM FENCE.

## LAND USE SCHEDULE

TOTAL FLOOR AREA	=	2,311 SQFT	
TOTAL LOT AREA	=	39,248 SQFT	
FLOOR AREA RATIO	=	2,311/39,248	=0.059
TOTAL IMPERVIOUS AREA	=	24,758 SQFT	

WATERSHED = LITTLE BLUE RIVER

LAND USE	
EXISTING	VACANT / UNDEVELOPED LOT
PROPOSED	LION'S CHOICE RESTAURANT

### PARKING REQUIREMENTS (STANDARD)

USE CATEGORY	14 SPACE PER 1,000 S.F. GROSS FLOOR AREA
GROSS FLOOR AREA	2,311 S.F.
CALCULATION	(14 SPACE/1000 S.F.) * (2,311 S.F.) = 32.4 SPACES

### PARKING REQUIREMENTS (ACCESSIBLE)

26 TO 50 STANDARD SPACES	2 ACCESSIBLE SPACES
VAN ACCESSIBLE REQUIREMENT	1 VAN ACCESSIBLE SPACE FOR EVERY 6 ACCESSIBLE SPACES

### PARKING DATA

SPACES REQUIRED (TOTAL) 33 SPACES

SPACES PROVIDED (STANDARD)	31 SPACES
SPACES PROVIDED (ACCESSIBLE)	2 SPACES (1 VAN ACCESSIBLE)
SPACES PROVIDED (TOTAL)	33 SPACES

### DRIVE THRU STACKING REQUIREMENTS

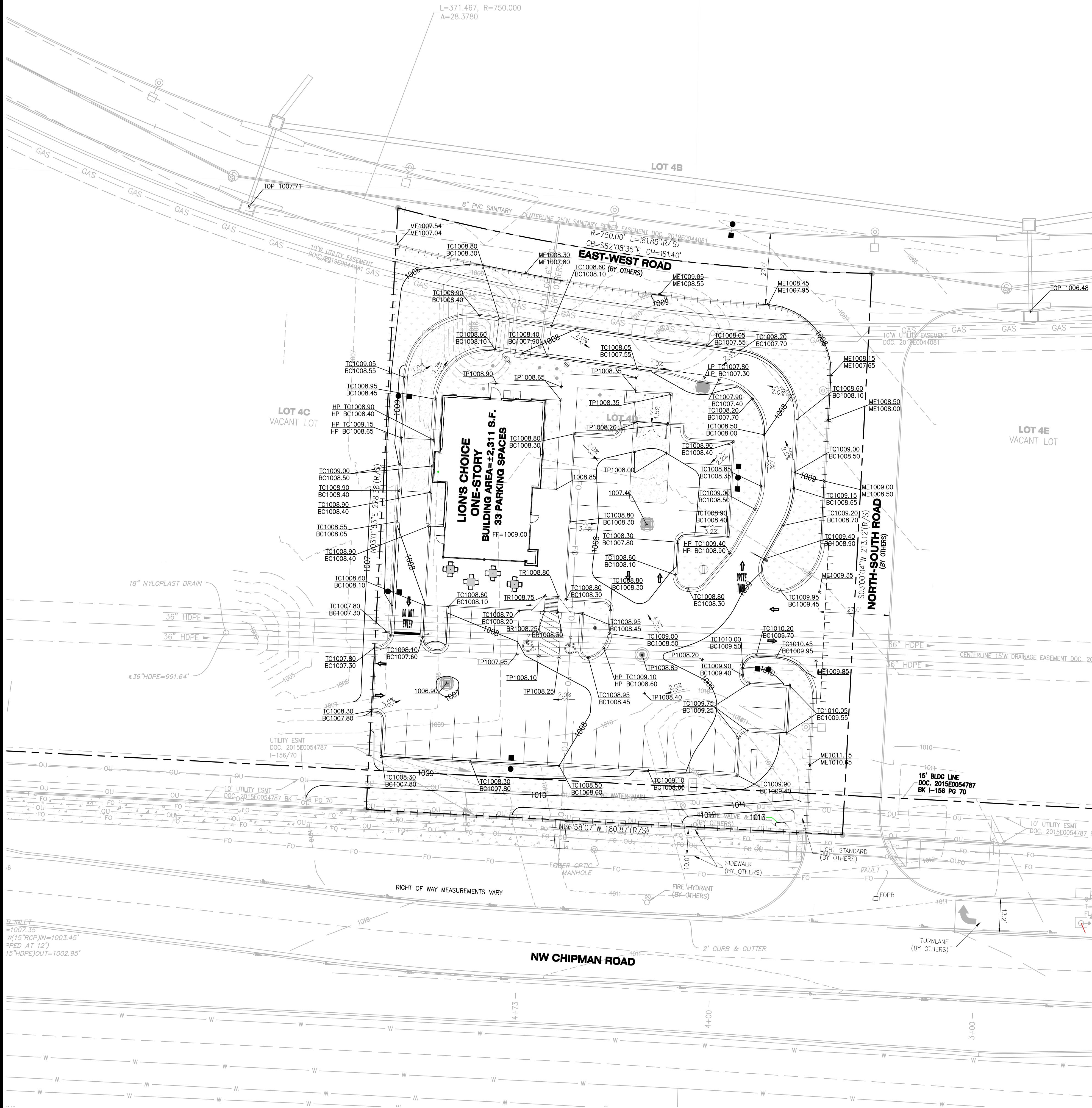
SPACES REQUIRED:	4 BEHIND THE MENU BOARD AND 4 IN FRONT OF THE MENU BOARD TO THE PICKUP WINDOW.
SPACES PROVIDED:	8 BEHIND THE MENU BOARD AND 4 IN FRONT OF THE MENU BOARD TO THE PICKUP WINDOW

SETBACKS	
FRONT	= 15'
SIDE	= 0'
REAR	= 0'

DEVELOPER/OWNER: <b>RED LION BEEF CORPORATION</b> 12977 N FORTY DRIVE, SUITE 100 ST. LOUIS, MO 63141 (314) 821-8665		12/2/19 10/17/19 9/9/19	1 2 1	PREP ARCHITECT COMMENTS REVIEW COMMENTS REVISION DESCRIPTION
CIVIL ENGINEERS CORPORATE OFFICE CENTRAL STATION JOHN F. HARBINGER E-29718 PE NCE-2018 DATE 9/10/19				
<b>LION'S CHOICE</b> SUMMIT ORCHARD 440 NW CHIPMAN ROAD LEE'S SUMMIT, MO		<b>SITE PLAN</b>		
<b>+ ST. LOUIS</b> 1515 15th Street Suite 100 St. Louis, MO 63103 314.984.9887 tel www.coletest.com <b>COLE</b> CIVIL ENGINEERING / SURVEYING / PLANNING / LANDSCAPE ARCHITECTURE Cole & Associates, Inc. is an Equal Opportunity Employer. All qualified applicants will receive consideration for employment without regard to race, color, sex, gender, religion, age, national origin, disability status, or any other characteristic protected by law.		DESIGN/CALC BY LLW DRAWN BY MAB CHECKED BY CAW DRAWING SCALE AS SHOWN DATE 08/29/2019 Job Number 18-0136 Sheet Number C4.0		

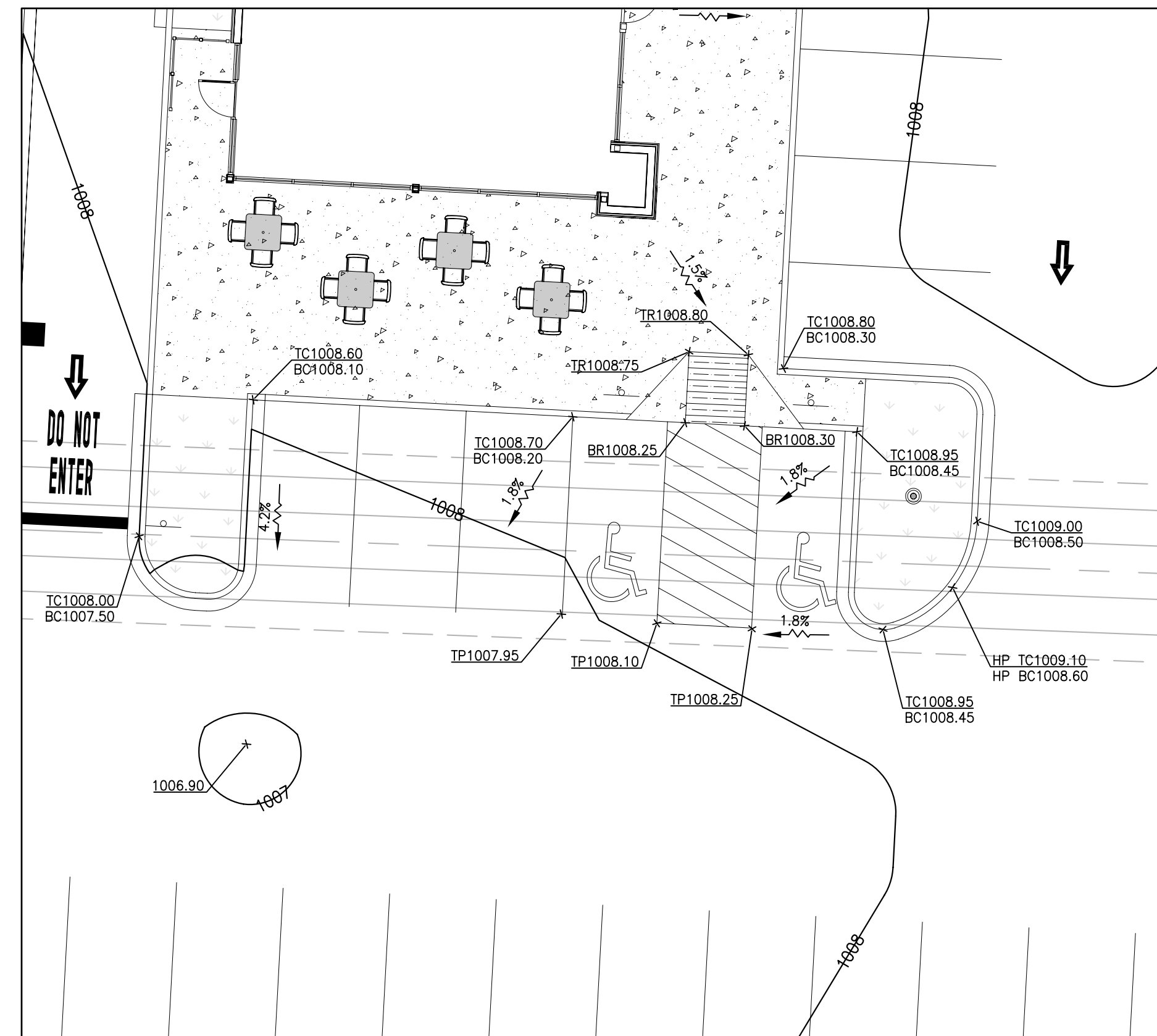


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## GRADING ABBREVIATIONS

BC BOTTOM OF CURB FACE  
BW BOTTOM OF WALL  
EC EDGE OF CONCRETE  
FF FINISHED FLOOR  
FG FINISHED GRADE  
HP HIGH POINT  
LP LOW POINT  
ME MATCH EXISTING  
TC TOP OF CURB FACE  
TP TOP OF PAVEMENT  
TW TOP OF WALL



## ADA PARKING DETAIL

10' 0' 10' 20'  
SCALE: 1" = 10'

DEVELOPER/OWNER:  
**RED LION BEEF CORPORATION**  
12977 N FORTY DRIVE, SUITE 100  
ST. LOUIS, MO 63141  
(314) 821-8665

CIVIL ENGINEERS  
CORPORATE  
CENTRAL  
ST. LOUIS, MO  
JOHN F. WARDENBARGER  
PE No. E-29718  
JUNE 9/10/19

LION'S CHOICE

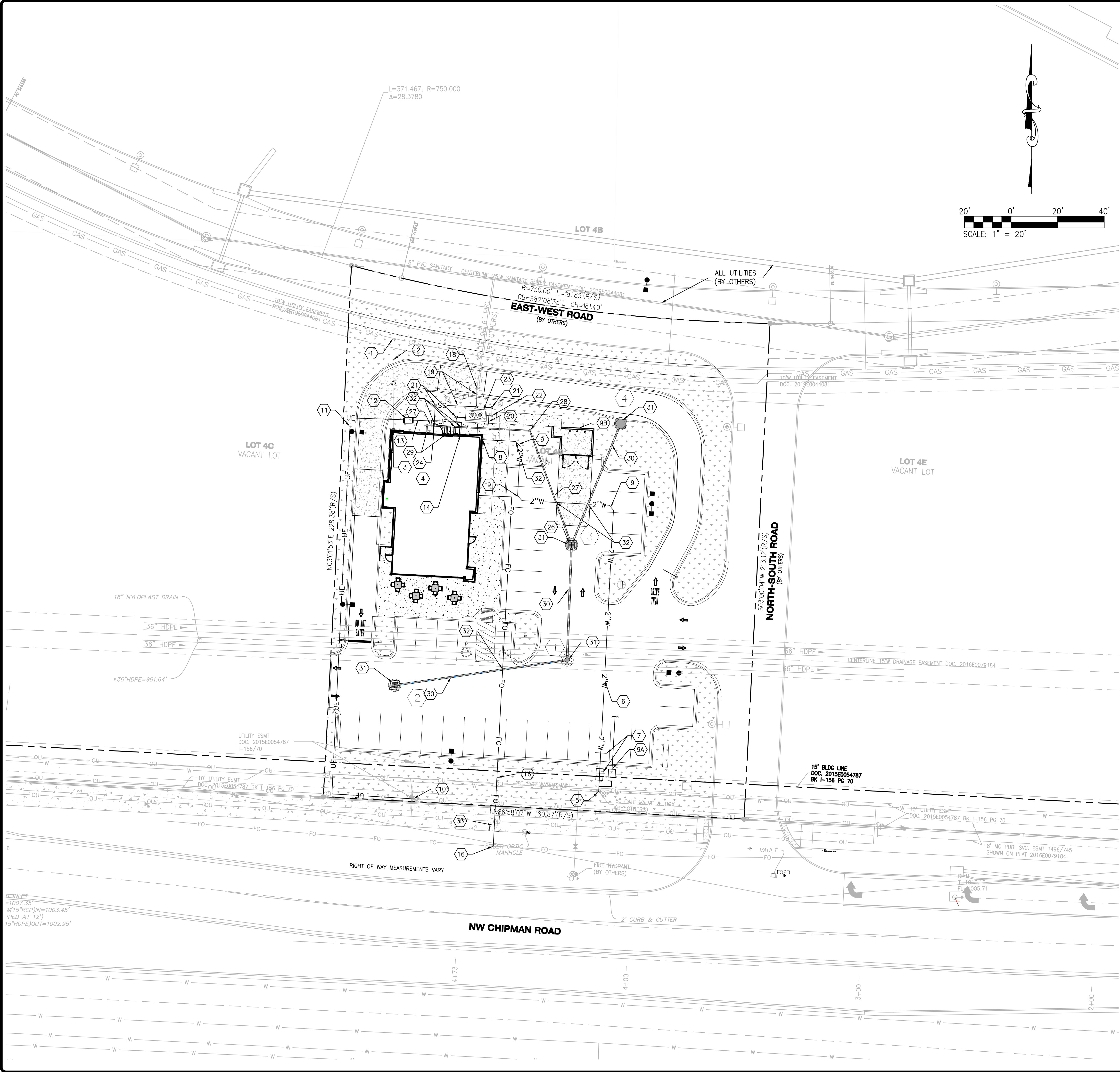
SUMMIT ORCHARD  
440 NW CHIPMAN ROAD  
LEE'S SUMMIT, MO

GRADING PLAN

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C5.0

12/2/19 4 PRELIMINARY COMMENTS  
10/17/19 2 REVIEW COMMENTS  
9/9/19 1 REVISION DESCRIPTION  
DATE NO



## KEYED NOTES

### GAS SERVICE

1. NEW GAS SERVICE POINT OF CONNECTION. ALL MATERIAL AND INSTALLATION BY GAS UTILITY AT THE CONTRACTOR'S EXPENSE. THE CONTRACTOR SHALL CONTACT GAS UTILITY AS SOON AS POSSIBLE TO ACCOMMODATE REQUIRED LEAD TIME FOR DESIGN AND COORDINATION OF THE NEW SERVICE.
2. NEW 2" GAS SERVICE. ALL MATERIAL AND INSTALLATION BY GAS UTILITY AT THE CONTRACTOR'S EXPENSE.
3. NEW GAS METER. ALL MATERIAL AND INSTALLATION BY GAS UTILITY AT THE CONTRACTOR'S EXPENSE.
4. REFER TO ARCHITECTURAL PLANS FOR EXACT LOCATION AND CONTINUATION OF GAS SERVICE.

### WATER SERVICE

5. NEW POINT OF CONNECTION TO EXISTING 8" MAIN. THE CONTRACTOR SHALL CONTACT WATER UTILITY AS SOON AS POSSIBLE TO ACCOMMODATE REQUIRED LEAD TIME FOR DESIGN AND COORDINATION OF THE NEW SERVICE.
6. NEW 203' - 2" PVC DOMESTIC WATER SERVICE WITH 42" MINIMUM COVER.
7. NEW 2" DOMESTIC WATER METER AND PIT (PER WATER UTILITY STANDARDS) WITH 10' MINIMUM OF SOFT TYPE "K" COPPER BEYOND THE METER (PER CITY OF LEE SUMMIT DETAIL WAT-11). WATER UTILITY TO PROVIDE AND SET THE METER AT THE CONTRACTOR'S EXPENSE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL OTHER MATERIAL AND INSTALLATION.
8. REFER TO ARCHITECTURAL PLANS FOR EXACT LOCATION AND CONTINUATION OF DOMESTIC WATER SERVICE.
9. NEW 45° BEND WITH CONCRETE THRUST BLOCK (PER WATER UTILITY STANDARDS).
- 9A. NEW 3/4" IRRIGATION METER AND PIT. (PER CITY OF LEE SUMMIT DETAIL WAT-11).
- 9B. LOCATION OF IRRIGATION CONTROL.

### ELECTRIC SERVICE

10. NEW ELECTRIC SERVICE POINT OF CONNECTION. ALL MATERIAL AND INSTALLATION BY ELECTRIC UTILITY AT THE CONTRACTOR'S EXPENSE. THE CONTRACTOR SHALL CONTACT ELECTRIC UTILITY AS SOON AS POSSIBLE TO ACCOMMODATE REQUIRED LEAD TIME FOR DESIGN AND COORDINATION OF THE NEW SERVICE.
11. NEW PRIMARY UNDERGROUND ELECTRIC SERVICE. ELECTRIC UTILITY SHALL SIZE CONDUIT AND PROVIDE AND PULL CONDUCTOR AT THE CONTRACTOR'S EXPENSE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING AND INSTALLING THE CONDUIT.
12. NEW GROUND MOUNTED TRANSFORMER (PER ELECTRIC UTILITY STANDARDS). ELECTRIC UTILITY TO PROVIDE AND INSTALL THE TRANSFORMER AT THE CONTRACTOR'S EXPENSE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING AND INSTALLING THE CONCRETE PAD (ELECTRIC UTILITY STANDARDS).
13. NEW SECONDARY UNDERGROUND ELECTRIC SERVICE. ELECTRIC UTILITY TO SIZE CONDUIT AND CONDUCTOR. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL MATERIAL AND INSTALLATION.
14. REFER TO ARCHITECTURAL PLANS FOR EXACT LOCATION AND CONTINUATION OF ELECTRIC SERVICE.

### COMMUNICATIONS SERVICE

15. NEW COMMUNICATIONS SERVICE POINT OF CONNECTION. ALL MATERIAL AND INSTALLATION BY COMMUNICATIONS UTILITY AT THE CONTRACTOR'S EXPENSE. THE CONTRACTOR SHALL CONTACT COMMUNICATIONS UTILITY AS SOON AS POSSIBLE TO ACCOMMODATE REQUIRED LEAD TIME FOR DESIGN AND COORDINATION OF THE NEW SERVICE. [NEW COMMUNICATIONS SERVICE TO THE NEAREST POINT OF CONNECTION. ALL MATERIAL AND INSTALLATION BY COMMUNICATIONS UTILITY AT THE CONTRACTOR'S EXPENSE. THE CONTRACTOR SHALL CONTACT COMMUNICATIONS UTILITY AS SOON AS POSSIBLE TO ACCOMMODATE REQUIRED LEAD TIME FOR DESIGN AND COORDINATION OF THE NEW SERVICE.]
16. NEW (1) 2" PVC AND (1) 4" PVC COMMUNICATION SERVICE CONDUIT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING AND INSTALLING THE CONDUIT AND PULLWIRE. ALL OTHER MATERIAL AND INSTALLATION BY COMMUNICATIONS UTILITY AT THE CONTRACTOR'S EXPENSE.
17. REFER TO MECHANICAL PLANS FOR EXACT LOCATION AND CONTINUATION OF COMMUNICATIONS SERVICE. COORDINATE DEPTH OF INSTALL - AT LEAST 18" BELOW GROUND.

### SANITARY SEWER SERVICE

18. NEW SANITARY SEWER SERVICE POINT OF CONNECTION (PER SANITARY SEWER UTILITY STANDARDS, INVERT ELEVATION = 1000.41).
19. NEW 75' - 6" PVC SANITARY SEWER SERVICE WITH 2.0% MINIMUM SLOPE AND 42" MINIMUM COVER.
20. NEW 2" VENT PIPE.
21. NEW SANITARY SEWER CLEANOUT. REFER TO DETAIL ON SHEET C8.1.
22. NEW SANITARY SEWER SAMPLING MANHOLE (PER SANITARY SEWER UTILITY STANDARDS).
23. NEW GREASE TRAP. REFER TO ARCHITECTURAL PLANS.
24. NEW SANITARY SEWER POINT OF BUILDING ENTRY (INVERT ELEVATION = 1005.00). REFER TO ARCHITECTURAL PLANS FOR EXACT LOCATION AND CONTINUATION OF SANITARY SEWER SERVICE.
25. (NOT USED)

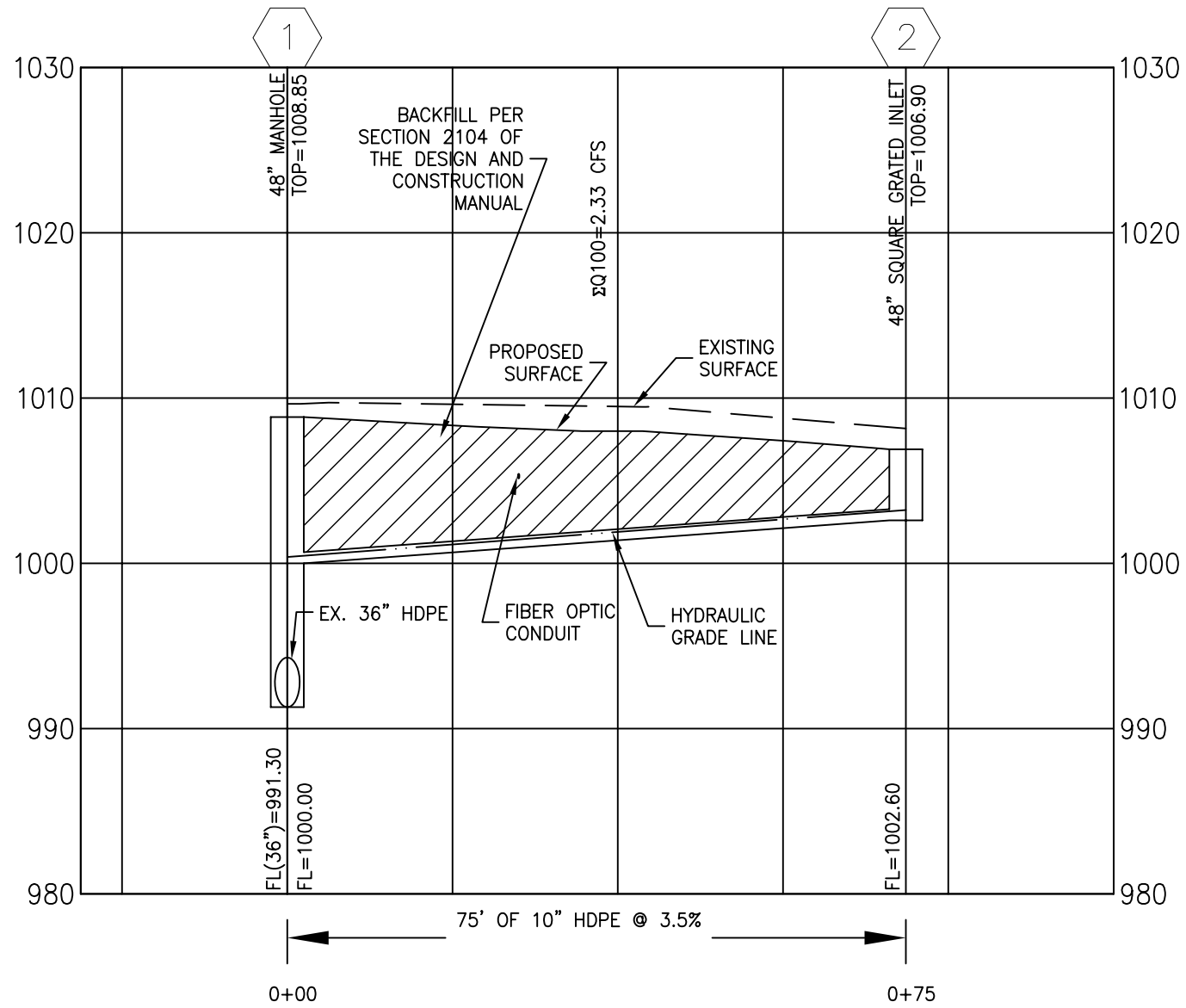
### STORM SEWER SERVICE

26. NEW ROOF DRAIN POINT OF CONNECTION TO PROPOSED STRUCTURE (INVERT = 1001.00).
27. NEW 6" HDPE ROOF DRAIN WITH 2.00% MINIMUM SLOPE AND 42" MINIMUM COVER.
28. NEW STORM SEWER CLEANOUT. REFER TO DETAIL ON SHEET C8.1.
29. NEW ROOF DRAIN DOWNSPOUT CONNECTION (INVERT = 1003.00). REFER TO ARCHITECTURAL PLANS FOR EXACT LOCATION AND CONTINUATION OF ROOF DRAIN.
30. NEW STORM SEWER. REFER TO STORM SEWER PROFILES ON SHEET C6.1.
31. NEW STORM SEWER STRUCTURE. REFER TO STORM SEWER PROFILES ON SHEET C6.1.

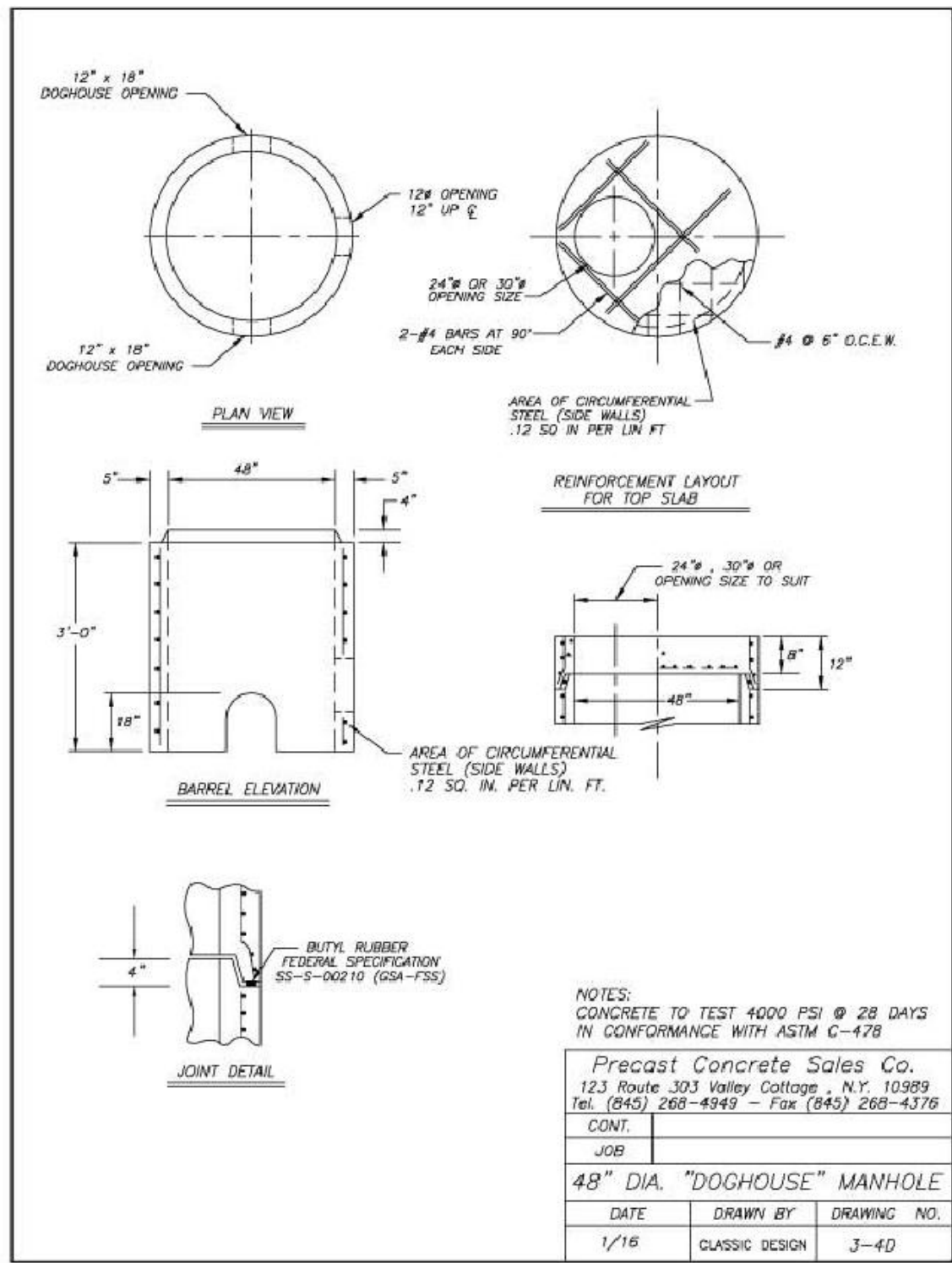
### MISCELLANEOUS ITEMS

32. THE CONTRACTOR SHALL MAINTAIN 18" MINIMUM VERTICAL CLEARANCE AT ALL UTILITY CROSSINGS.
33. REMOVE AND REPLACE EXISTING SIDEWALK IN KIND AS NECESSARY TO INSTALL THE PROPOSED UTILITIES.

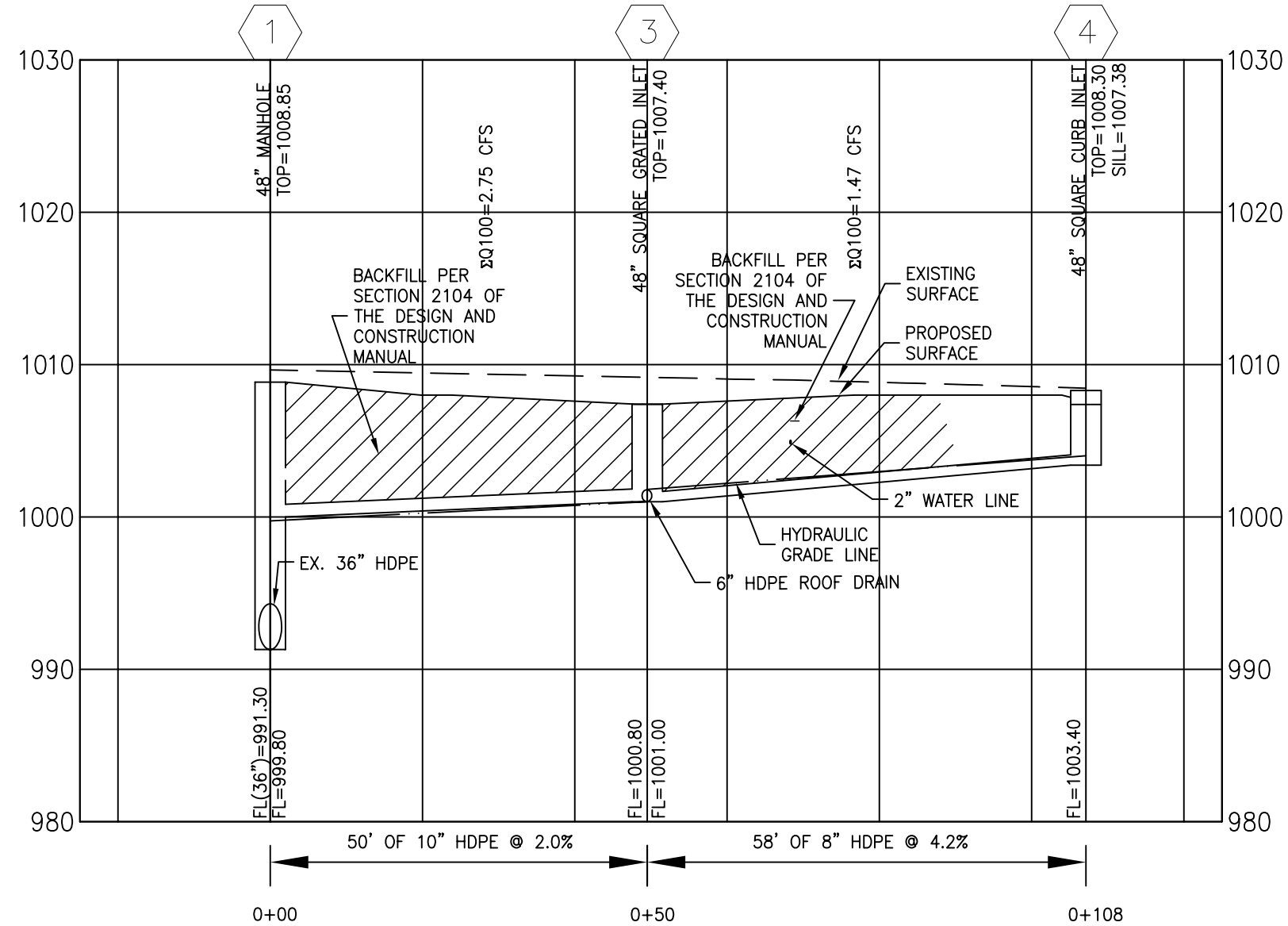
DEVELOPER/OWNER: <b>RED LION BEEF CORPORATION</b> 12977 N FORTY DRIVE, SUITE 100 ST. LOUIS, MO 63141 (314) 821-8665		12/2/19 10/17/19 9/9/19 DATE	1 2 1 NO REVISION DESCRIPTION	
CIVIL ENGINEERS CORPORATE OFFICE CENTRAL STATION JOHN F. WARDENBARGER PE No. E-29718 JANUARY 1, 2020 DATE 9/10/19		12/2/19 10/17/19 9/9/19 DATE		1 2 1 NO REVISION DESCRIPTION
LION'S CHOICE SUMMIT ORCHARD 440 NW CHIPMAN ROAD LEE'S SUMMIT, MO		UTILITY PLAN		
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		DATE 08/29/2019		
		Job Number 18-0136		
		Sheet Number C6.0		



**1 STORM SEWER PROFILE**  
SCALE: 1"=20' HORIZ. 1"=10' VERT. REF. DWG. C6.0



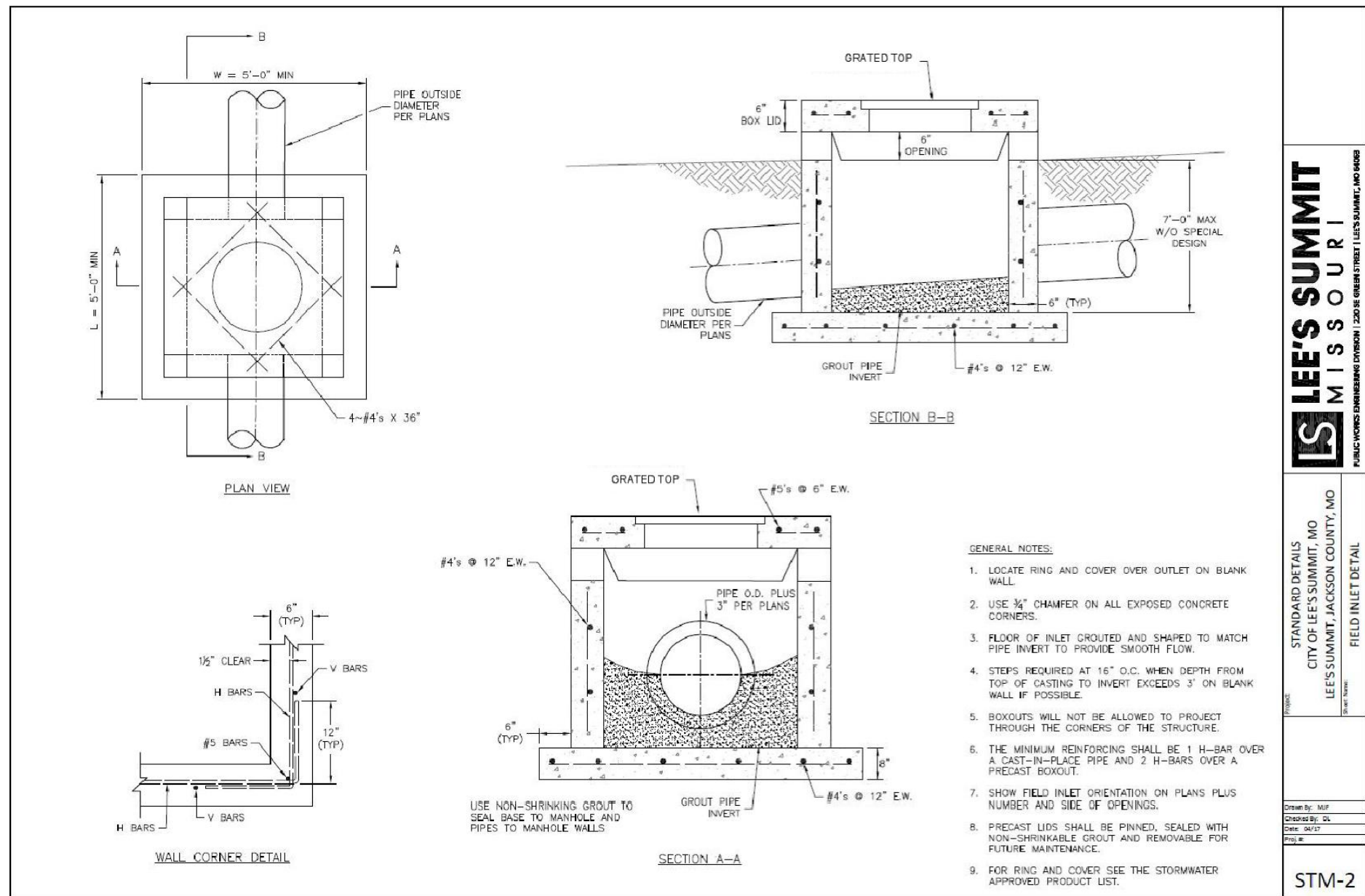
**1 DOG HOUSE CONNECTION AT STRUCTURE 1**  
SCALE: NTS REF. DWG. C6.1



**2 STORM SEWER PROFILE**  
SCALE: 1"=20' HORIZ. 1"=10' VERT. REF. DWG. C6.0

Conduit FlexTable: Cole																			
Label	Diameter (in)	Length (Unified) (ft)	Manning's n	Bend Angle (Calculated) (degrees)	Slope (Calculated) (ft/ft)	Flow (cfs)	Capacity (Excess Full Flow) (cfs)	Capacity (Full Flow) (cfs)	Velocity (In) (ft/s)	Velocity (Out) (ft/s)	Stop Node	Invert (Stop) (ft)	Elevation Ground (Stop) (ft)	Hydraulic Grade Line (Out) (ft)	Start Node	Invert (Start) (ft)	Elevation Ground (Start) (ft)	Hydraulic Grade Line (In) (ft)	Freeboard
3-4	8.0	57.6	0.010	19.61	0.042	1.47	1.74	3.21	4.64	4.21	GL-3	1,001.00	1,007.40	1,001.93	GL-4	1,002.40	1,007.80	1,003.97	3.83
2-1	10.0	74.9	0.010	0.00	0.035	2.33	2.96	5.31	4.88	9.42	MH-1	1,000.00	1,008.85	1,000.39	GL-2	1,002.60	1,006.90	1,003.26	3.62
1-3	10.0	49.5	0.010	0.00	0.020	2.75	1.30	4.05	5.43	7.70	MH-1	1,000.00	1,008.85	1,000.52	GL-3	1,001.00	1,007.40	1,001.73	5.67

**3 HYDRAULIC CALCULATIONS (100 YR, 5 MIN.)**  
SCALE: N/A REF. DWG. C6.0

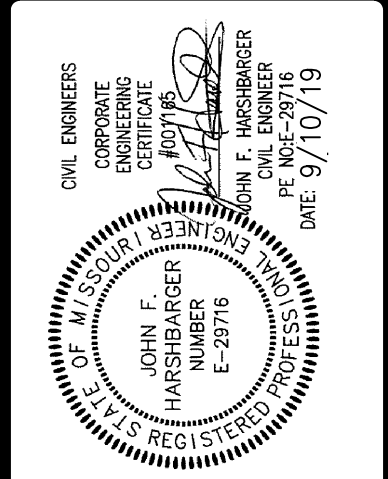


**1 FIELD INLET DETAIL**  
SCALE: NTS REF. DWG. C6.0

NO	REVISION DESCRIPTION	DATE	BY	CHKD	APP'D
1	REVIEW COMMENTS	9/9/19			
2	REVIEW COMMENTS	10/17/19			
3	REVIEW COMMENTS	12/2/19			

DEVELOPER/OWNER:  
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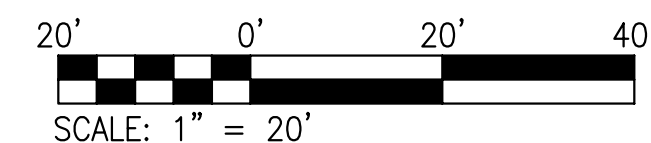
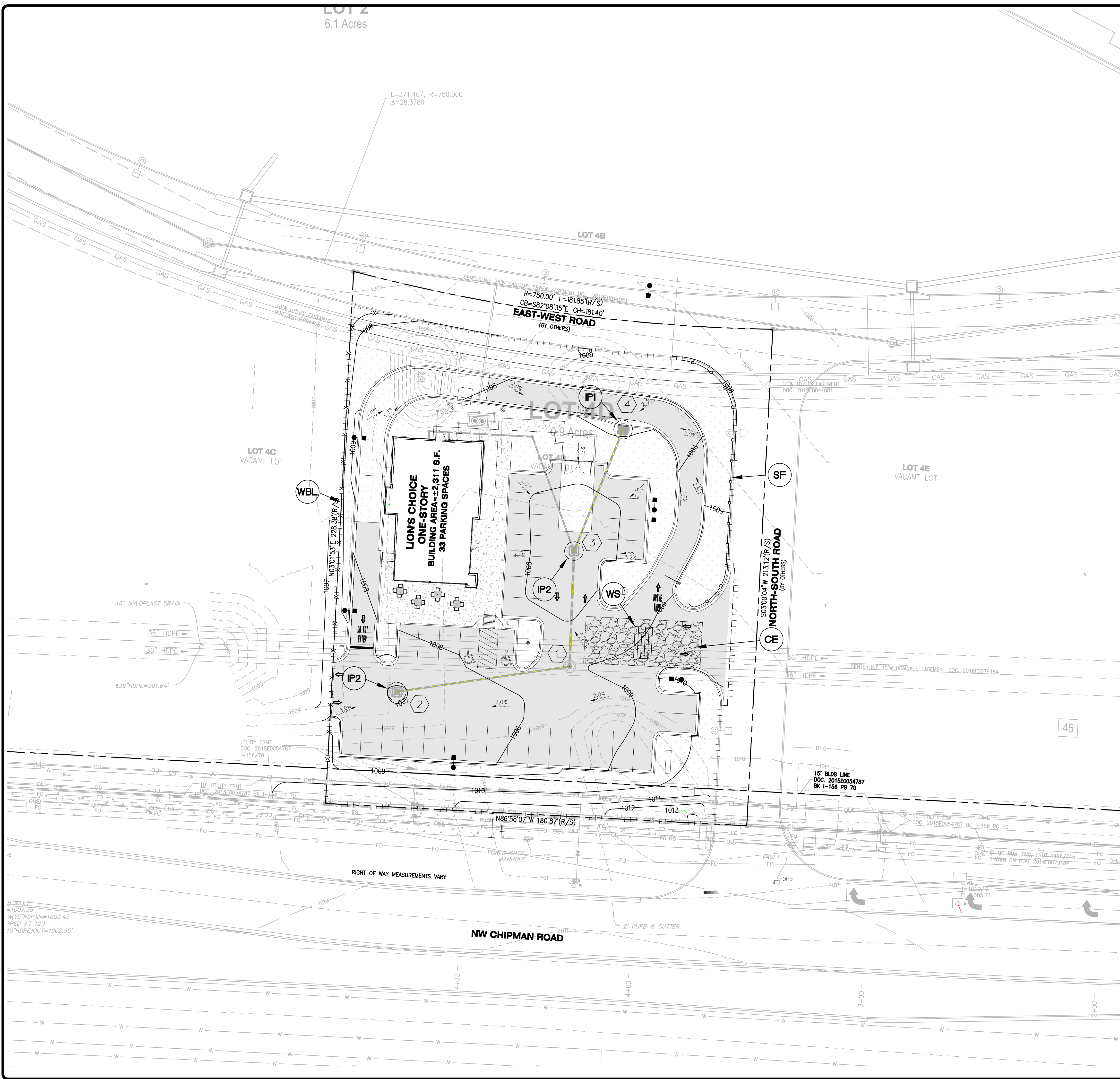
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DATE  
08/29/2019

Job Number  
18-0136

Sheet Number  
C6.1

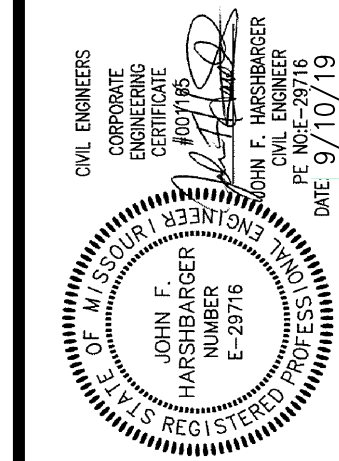


EROSION CONTROL LEGEND		
LABEL	SYMBOL	DESCRIPTION
LD		LIMITS OF DISTURBANCE
CE		CONSTRUCTION ENTRANCE – APWA (REFER TO DETAIL ON SHEET C7.2)
IP1		CURB INLET PROTECTION – APWA (REFER TO DETAIL ON SHEET C7.2)
IP2		INLET PROTECTION – DANDY BAG (REFER TO DETAIL ON SHEET C7.2)
PS		PERMANENT SEEDING / SODDING (REFER TO SUMMARY ON SHEET C7.2)
SF		SILT FENCE – APWA (REFER TO DETAIL ON SHEET C7.2)
WBL		WATTLES / BIODEGRADABLE LOG – APWA (REFER TO DETAIL ON SHEET C7.2)
WS		WASHDOWN STATION – APWA (REFER TO DETAIL ON SHEET C7.2)

[illegible]

DEVELOPER/OWNER:  
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LION'S CHOICE

SUMMIT ORCHARD  
40 NW CHIPMAN ROAD  
LEE'S SUMMIT, MO

## EROSION CONTROL PLAN

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18-0136

Sheet Number

## C7.0



Map Unit Symbol	Map Unit Name	Acres in A01	Percent of A01
10082	Arisburg-Urban land complex, 1 to 5 percent slopes	1.2	100.0%
<b>Totals for Area of Interest</b>		<b>1.2</b>	<b>100.0%</b>

## SOILS MAP KEY

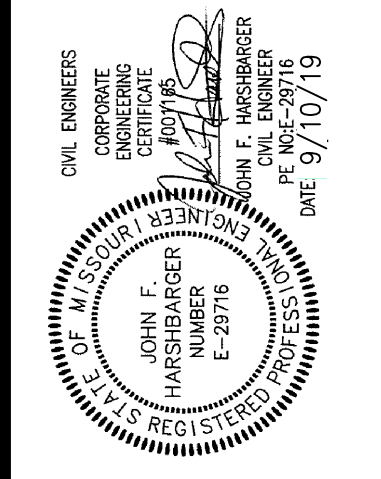
(NOT TO SCALE)

1. INSTALL STABILIZED CONSTRUCTION ENTRANCE(S) AND SWPPP INFORMATION SIGN.
2. INSTALL SILT FENCE(S) AND WATTLES/ BIODEGRADABLE LOG(S) ON THE SITE (CLEAR ONLY THOSE AREAS NECESSARY TO INSTALL SILT FENCE).
3. PREPARE TEMPORARY PARKING AND STORAGE AREA.
4. HALT ALL ACTIVITIES AND OBTAIN ANY AND ALL REQUIRED INITIAL BMP INSPECTIONS BEFORE PROCEEDING WITH CONSTRUCTION.
5. INSTALL AND STABILIZE ANY HYDRAULIC CONTROL STRUCTURES (DIKES, SWALES, CHECK DAMS, ETC.).
6. BEGIN CLEARING AND GRUBBING THE SITE.
7. BEGIN GRADING THE SITE.
8. START CONSTRUCTION OF THE BUILDING PAD AND ACCESSORY STRUCTURES.
9. TEMPORARILY SEED THROUGHOUT CONSTRUCTION, DENUEDED AREAS THAT WILL BE INACTIVE FOR 14 DAYS OR MORE.
10. INSTALL BUILDING AND ACCESSORY STRUCTURES.
11. INSTALL PIPING, UTILITIES, UNDERDRAINS, STORM SEWERS, CURBS AND GUTTERS.
12. INSTALL INLET PROTECTION AT ALL STORM SEWER STRUCTURES AS EACH INLET STRUCTURE IS INSTALLED.
13. PERMANENTLY STABILIZE AREAS TO BE VEGETATED AS THEY ARE BROUGHT TO FINAL GRADE.
14. PREPARE SITE FOR PAVING.
15. PAVE SITE.
16. INSTALL APPROPRIATE INLET PROTECTION DEVICES FOR PAVED AREAS AS WORK PROGRESSES.
17. COMPLETE GRADING AND INSTALL PERMANENT STABILIZATION OVER ALL AREAS.
18. OBTAIN CONCURRENCE FROM THE OWNER/DEVELOPER'S DESIGNATED REPRESENTATIVE (AS APPROPRIATE) THAT THE SITE HAS BEEN FULLY STABILIZED.
19. REMOVE ALL REMAINING TEMPORARY EROSION AND SEDIMENT CONTROL DEVICES.
20. STABILIZE ANY AREAS DISTURBED BY THE REMOVAL OF BMP'S.
21. OBTAIN ANY AND ALL REQUIRED FINAL BMP INSPECTIONS.

1. THE STORMWATER POLLUTION PREVENTION PLAN IS COMPRISED OF THIS DRAWING ("SITE MAP"), THE STANDARD DETAILS, PLUS THE PERMIT AND ALL SUBSEQUENT REPORTS AND RELATED DOCUMENTS.
2. ALL CONTRACTORS AND SUBCONTRACTORS INVOLVED WITH STORM WATER POLLUTION PREVENTION SHALL OBTAIN A COPY OF THE STORM WATER POLLUTION PREVENTION PLAN AND THE STATE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM GENERAL PERMIT (NPDES PERMIT) AND BECOME FAMILIAR WITH THEIR CONTENTS.
3. THE GENERAL CONTRACTOR SHALL IMPLEMENT BEST MANAGEMENT PRACTICES AS REQUIRED BY THE SWPPP. ADDITIONAL BEST MANAGEMENT PRACTICES SHALL BE IMPLEMENTED AS DICTATED BY CONDITIONS AT NO ADDITIONAL COST TO OWNER THROUGHOUT ALL PHASES OF CONSTRUCTION.
4. BEST MANAGEMENT PRACTICES (BMP'S) AND CONTROLS SHALL CONFORM TO FEDERAL, STATE, OR LOCAL REQUIREMENTS OR MANUAL OF PRACTICE, AS APPLICABLE. THE GENERAL CONTRACTOR SHALL IMPLEMENT ADDITIONAL CONTROLS AS DIRECTED BY PERMITTING AGENCY OR OWNER.
5. SITE MAP MUST CLEARLY DELINEATE ALL STATE WATERS. PERMITS FOR ANY CONSTRUCTION ACTIVITY IMPACTING STATE WATERS OR REGULATED WETLANDS MUST BE MAINTAINED ON SITE AT ALL TIMES.
6. THE GENERAL CONTRACTOR SHALL MINIMIZE CLEARING TO THE MAXIMUM EXTENT PRACTICAL OR AS REQUIRED BY THE GENERAL PERMIT.
7. THE GENERAL CONTRACTOR SHALL DENOTE ON PLAN THE TEMPORARY PARKING AND STORAGE AREA WHICH SHALL ALSO BE USED AS THE EQUIPMENT MAINTENANCE AND CLEANING AREA, EMPLOYEE PARKING AREA, AND AREA FOR LOCATING PORTABLE FACILITIES, OFFICE TRAILERS, AND TOILET FACILITIES. CONTRACTOR SHALL CONSTRUCT TEMPORARY BERM ON DOWN STREAM SIDES IN COMPLIANCE WITH THIS SWPPP.
8. ALL WASH WATER (CONCRETE TRUCKS, VEHICLE CLEANING, EQUIPMENT CLEANING, ETC.) SHALL BE DETAINED AND PROPERLY TREATED OR DISPOSED.
9. SUFFICIENT OIL AND GREASE ABSORBING MATERIALS AND FLOTATION BOOMS SHALL BE MAINTAINED ON SITE OR READILY AVAILABLE TO CONTAIN AND CLEAN-UP FUEL OR CHEMICAL SPILLS AND LEAKS.
10. DUST ON THE SITE SHALL BE CONTROLLED. THE USE OF MOTOR OILS AND OTHER PETROLEUM BASED OR TOXIC LIQUIDS FOR DUST SUPPRESSION OPERATIONS IS PROHIBITED.
11. RUBBISH, TRASH, GARBAGE, LITTER, OR OTHER SUCH MATERIALS SHALL BE DEPOSITED INTO SEALED CONTAINERS. MATERIALS SHALL BE PREVENTED FROM LEAVING THE PREMISES THROUGH THE ACTION OF WIND OR STORM WATER DISCHARGE INTO DRAINAGE DITCHES OR WATERS OF THE STATE.
12. ALL STORM WATER POLLUTION PREVENTION MEASURES PRESENTED ON THIS SITE MAP, AND IN THE STORM WATER POLLUTION PREVENTION PLAN, SHALL BE INITIATED AS SOON AS PRACTICABLE.
13. ALL DENUDED AREAS THAT WILL BE INACTIVE FOR 14 DAYS OR MORE MUST BE STABILIZED TEMPORARILY WITH THE USE OF FAST-GERMINATING ANNUAL GRASS/GRAIN VARIETIES, STRAW/HAY MULCH, WOOD CELLULOSE FIBERS, TACKIFIERS, NETTING OR BLANKETS AS SHOWN ON SITE MAP.
14. DISTURBED PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITY HAS PERMANENTLY STOPPED SHALL BE PERMANENTLY STABILIZED AS SHOWN ON THE PLANS. THESE AREAS SHALL BE SEEDED, SODDED, AND/OR VEGETATED NO LATER THAN 14 DAYS AFTER THE LAST CONSTRUCTION ACTIVITY OCCURRING IN THESE AREAS. REFER TO THE GRADING PLAN AND/OR LANDSCAPE PLAN.
15. IF THE ACTION OF VEHICLES TRAVELING OVER THE GRAVEL CONSTRUCTION ENTRANCES IS NOT SUFFICIENT TO REMOVE THE MAJORITY OF DIRT OF MUD, THEN THE TIRES MUST BE WASHED BEFORE THE VEHICLES ENTER A PUBLIC ROAD. IF WASHING IS USED, PROVISIONS MUST BE MADE TO INTERCEPT THE WASH WATER AND TRAP THE SEDIMENT BEFORE IT IS CARRIED OFF THE SITE. ONLY USE INGRESS/EGRESS LOCATIONS AS PROVIDED.
16. ALL MATERIALS SPILLED, DROPPED, WASHED, OR TRACKED FROM VEHICLES ONTO ROADWAYS OR INTO STORM DRAINS MUST BE REMOVED IMMEDIATELY.
17. THE GENERAL CONTRACTOR WILL BE RESPONSIBLE FOR REMOVING SEDIMENT IN THE DETENTION POND AND ANY SEDIMENT THAT MAY HAVE COLLECTED IN THE STORM SEWER DRAINAGE SYSTEMS IN CONJUNCTION WITH THE STABILIZATION OF THE SITE.
18. ON-SITE & OFFSITE SOIL STOCKPILE AND BORROW AREAS SHALL BE PROTECTED FROM EROSION AND SEDIMENTATION THROUGH IMPLEMENTATION OF BEST MANAGEMENT PRACTICES. STOCKPILE AND BORROW AREA LOCATIONS SHALL BE NOTED ON THE SITE MAP AND PERMITTED IN ACCORDANCE WITH GENERAL PERMIT REQUIREMENTS.
19. SLOPES SHALL BE LEFT IN A ROUGHENED CONDITION DURING THE GRADING PHASE TO REDUCE RUNOFF VELOCITIES AND EROSION.
20. DUE TO THE GRADE CHANGES DURING THE DEVELOPMENT OF THE PROJECT, THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR ADJUSTING THE EROSION AND SEDIMENT CONTROL MEASURES (SILT FENCES, ETC.) TO PREVENT EROSION AND POLLUTION DISCHARGE.
21. SEE SITE PLAN FOR PERMANENT AND TEMPORARY SIGNAGE.
22. GENERAL CONTRACTOR IS TO DESIGNATE/IDENTIFY AREAS ON THE SITE MAPS, INSIDE OF THE LIMITS OF DISTURBANCE, FOR WASTE DISPOSAL AND DELIVERY AND MATERIAL STORAGE.
23. REFER TO THE APPLICABLE NPDES PERMIT FOR REPORTABLE SPILL QUANTITIES OF PETROLEUM PRODUCTS AND/OR HAZARDOUS WASTES.
24. GENERAL CONTRACTOR TO LIMIT DISTURBANCE OF SITE IN STRICT ACCORDANCE WITH EROSION CONTROL SEQUENCING SHOWN ON THIS PLAN. NO UNNECESSARY OR IMPROPERLY SEQUENCED CLEARING AND/OR GRADING SHALL BE PERMITTED.
25. ALL CONSTRUCTION VEHICLES SHALL ENTER AND EXIT THE CONSTRUCTION SITE BY USING THE DESIGNATED ENTRANCE OVERLAIN WITH GRAVEL.
26. NO CONSTRUCTION MATERIALS OR EQUIPMENT CAN BE STORED ON ADJACENT PROPERTIES.
27. NO COMBUSTIBLE RUBBISH SHALL ACCUMULATE ON THE CONSTRUCTION SITE. ALL COMBUSTIBLE RUBBISH MUST BE REMOVED DAILY AND SHALL NOT BE DISPOSED OF BY BURNING.
28. THE GENERAL CONTRACTOR SHALL MAINTAIN THE SILTATION CONTROL DEVICES SO AS TO PREVENT SILT FROM BYPASSING THEM AND DISTURBED AREAS SHALL BE BE ADEQUATELY RE-VEGETATED.
29. ALL GRADED AREAS SHALL BE PROTECTED FROM EROSION BY EROSION CONTROL DEVICES AND/OR SEEDING AND MULCHING. EROSION CONTROL SHALL NOT BE LIMITED TO WHAT IS SHOWN ON THE PLAN. WHATEVER MEANS NECESSARY SHALL BE TAKEN TO PREVENT SILTATION AND EROSION FROM ENTERING NATURAL STREAMS AND ADJACENT ROADWAYS, PROPERTIES AND DITCHES.
30. WHEN GRADING OPERATIONS ARE COMPLETED OR SUSPENDED FOR MORE THAN 30 DAYS, PERMANENT GRASS MUST BE ESTABLISHED AT SUFFICIENT DENSITY TO PROVIDE EROSION CONTROL ON THE SITE. BETWEEN PERMANENT GRASS SEEDING PERIODS, TEMPORARY COVER SHALL BE PROVIDED.

- ALL MEASURES STATED ON THIS SITE MAP, AND IN THE STORM WATER POLLUTION PREVENTION PLAN, SHALL BE MAINTAINED IN FULLY FUNCTIONAL CONDITION UNTIL NO LONGER REQUIRED FOR A COMPLETED PHASE OF WORK OR FINAL STABILIZATION OF THE SITE. ALL EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE CHECKED BY A QUALIFIED PERSON IN ACCORDANCE WITH CONTRACT DOCUMENTS OR THE APPLICABLE PERMIT, WHICHEVER IS MORE STRINGENT, AND REPAIRED IN ACCORDANCE WITH THE FOLLOWING:
1. INLET PROTECTION DEVICES AND BARRIERS SHALL BE REPAIRED OR REPLACED IF THEY SHOW SIGNS OF UNDERMINING OR DETERIORATION.
2. ALL SEEDED AREAS SHALL BE CHECKED REGULARLY TO SEE THAT A GOOD STAND IS MAINTAINED. AREAS SHOULD BE FERTILIZED, WATERED, AND RESEED AS NEEDED.
3. SILT FENCES SHALL BE REPAIRED TO THEIR ORIGINAL CONDITIONS IF DAMAGED. SEDIMENT SHALL BE REMOVED FROM THE SILT FENCES WHEN IT REACHES ONE-HALF THE HEIGHT OF THE SILT FENCE.
4. THE CONSTRUCTION ENTRANCES SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOW OF MUD ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING OF THE CONSTRUCTION ENTRANCES AS CONDITIONS DEMAND.
5. THE TEMPORARY PARKING AND STORAGE AREA SHALL BE KEPT IN GOOD CONDITION (SUITABLE FOR PARKING AND STORAGE). THIS MAY REQUIRE PERIODIC TOP DRESSING OF THE TEMPORARY PARKING AREA AS CONDITIONS DEMAND.
6. OUTLET STRUCTURES IN THE SEDIMENTATION BASINS SHALL BE MAINTAINED IN OPERATIONAL CONDITIONS AT ALL TIMES. SEDIMENT SHALL BE REMOVED FROM SEDIMENT BASINS OR TRAPS WHEN THE DESIGN CAPACITY AS BEEN REDUCED BY 50%.
7. PRIOR TO LEAVING THE SITE, ALL VEHICLES SHALL BE CLEANED OF DEBRIS, ANY DEBRIS AND/OR SEDIMENT REACHING THE PUBLIC STREET SHALL BE CLEANED IMMEDIATELY BY A METHOD OTHER THAN FLUSHING.

DEVELOPER, OWNER:  
**RED LION BEEF CORPORATION**  
12977 N FORTY DRIVE, SUITE 100  
ST. LOUIS, MO 63141  
(314) 821-8665



**LION'S CHOICE**

SUMMIT ORCHARD  
440 NW CHIPMAN ROAD  
LEE'S SUMMIT, MO

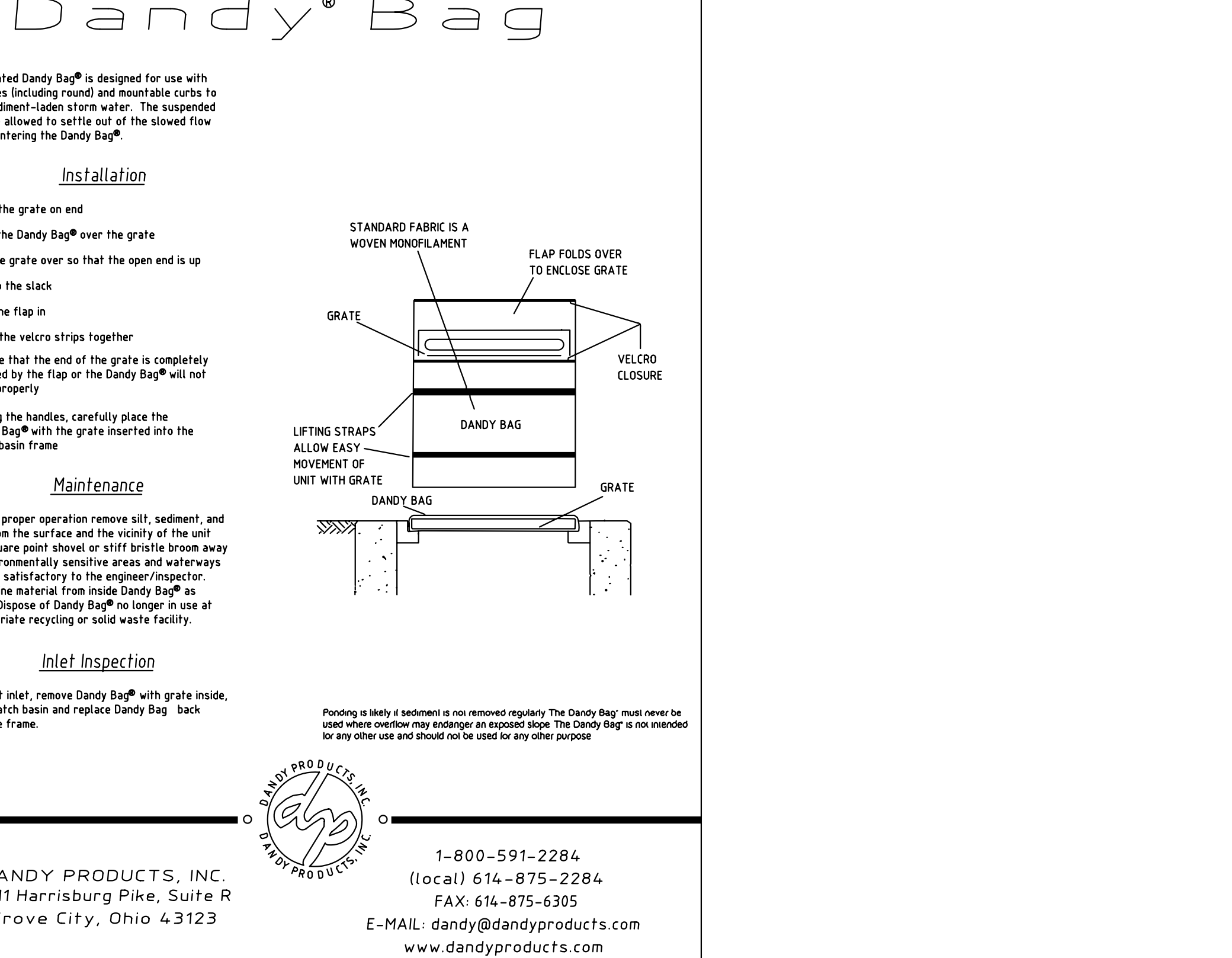
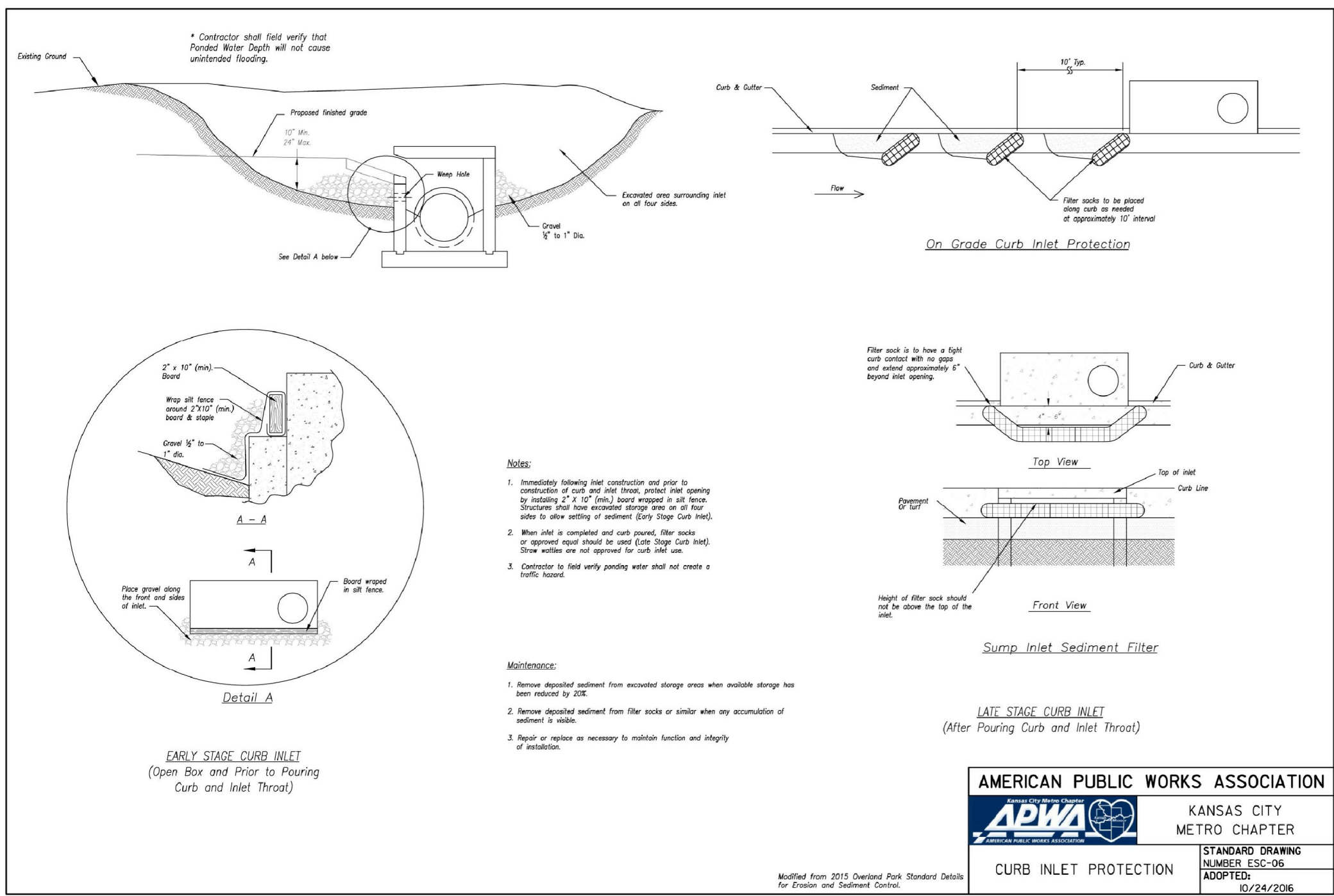
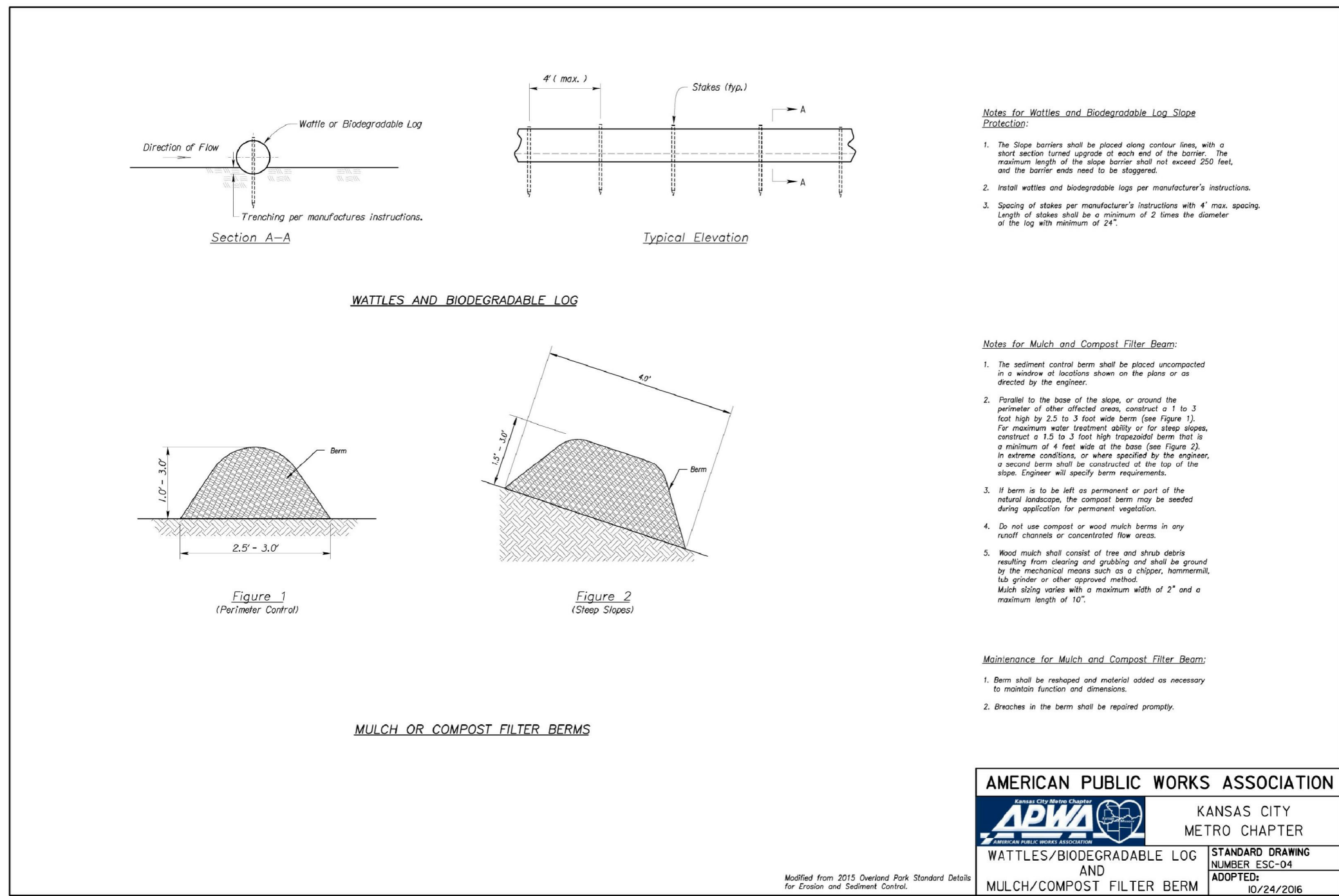
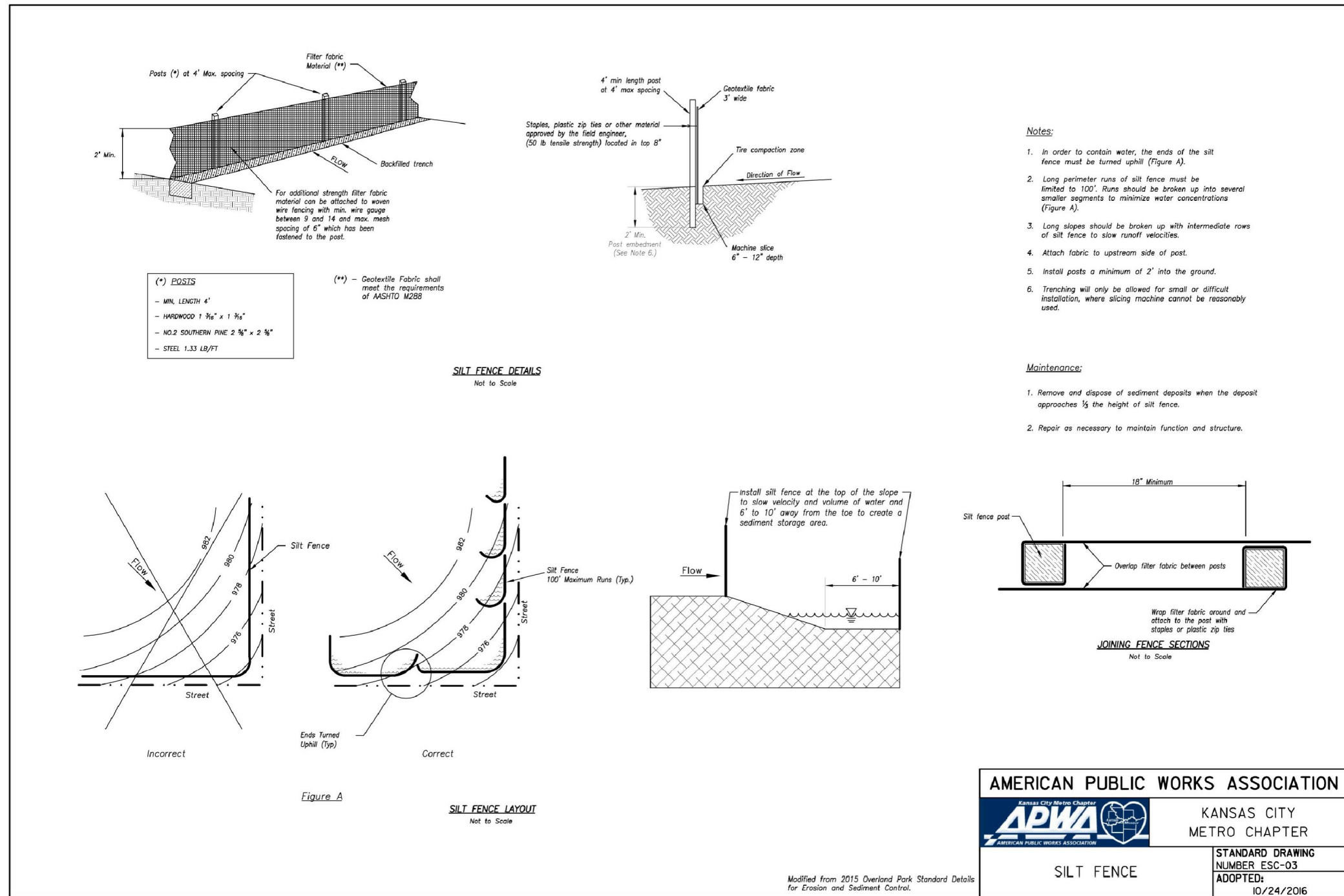
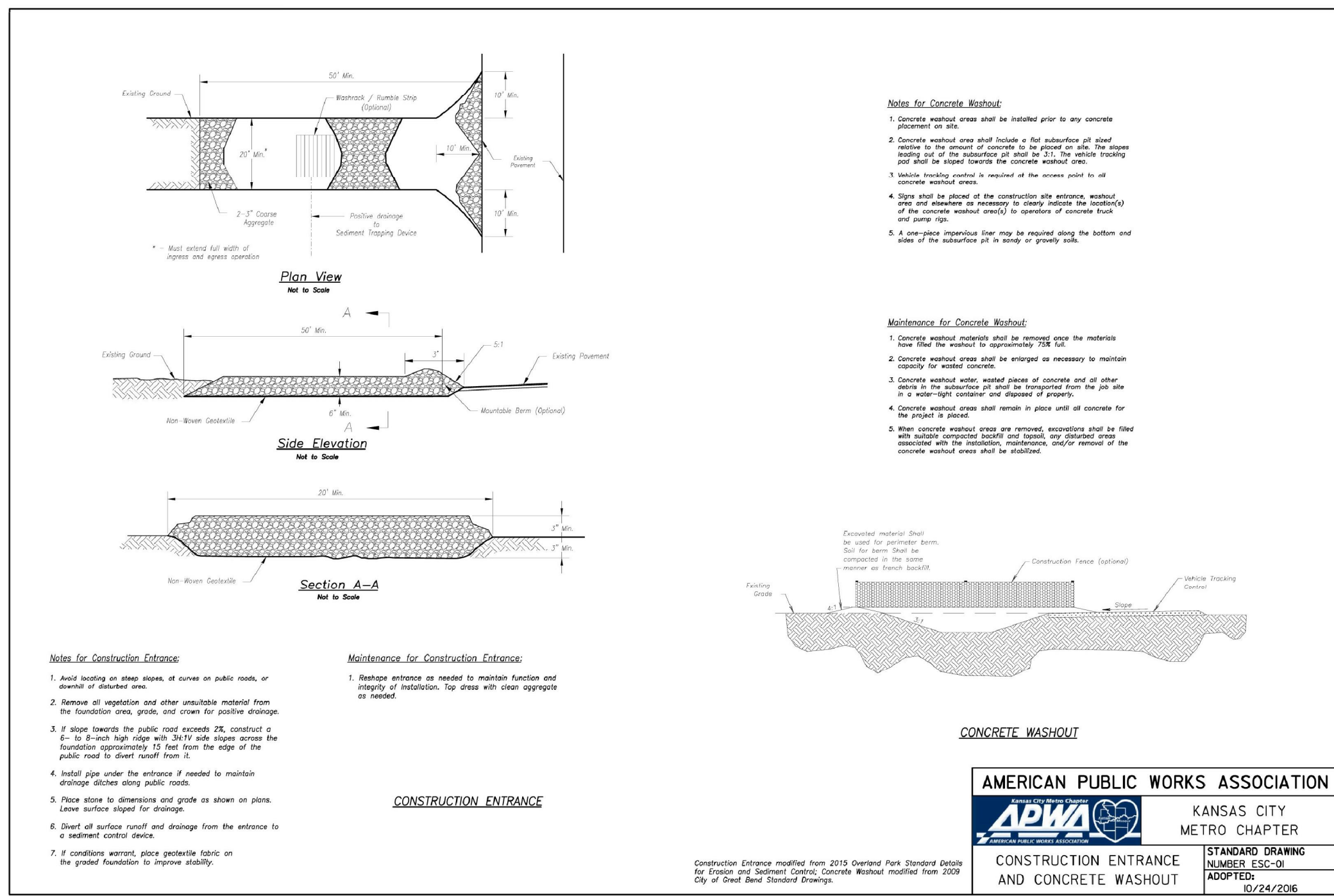
**EROSION CONTROL NOTES**

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Job Number	
18-0136	
Sheet Number	
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## TABLE 1: VEGETATION/SEEDING RATES AND MIXTURES

SEEDING REQUIREMENTS												
Dates for Seeding												
Permanent Seeding	Jan	Feb	March	April	May	June	July	Aug	Sep	Oct	Nov	Dec
Tall Fescue												
Smooth Brome												
Fescue & Brome												
Fescue, Rye & Bluegrass	A	A	O	O	O	P	P	O	O	P	P	A

Temporary Seeding	Jan	Feb	March	April	May	June	July	Aug	Sep	Oct	Nov	Dec
Rye or Sudan	A	A	O	O	O	O	O	O	O	O	A	A
Oats												

O = Optimum seeding dates  
A = Acceptable seeding dates  
P = Permitted seeding dates with reseeding 2 months later - Initially use 50% of seed and 75% of fertilizer. Reseed with additional 75% seed and remaining fertilizer.

Permanent Seeding*	Pounds per acre	Pounds Per 1000 sq. ft.
Tall Fescue	300	7.0
Smooth Brome	200	4.6
Mixture #1	250	5.7
Mixture #2	210	4.8

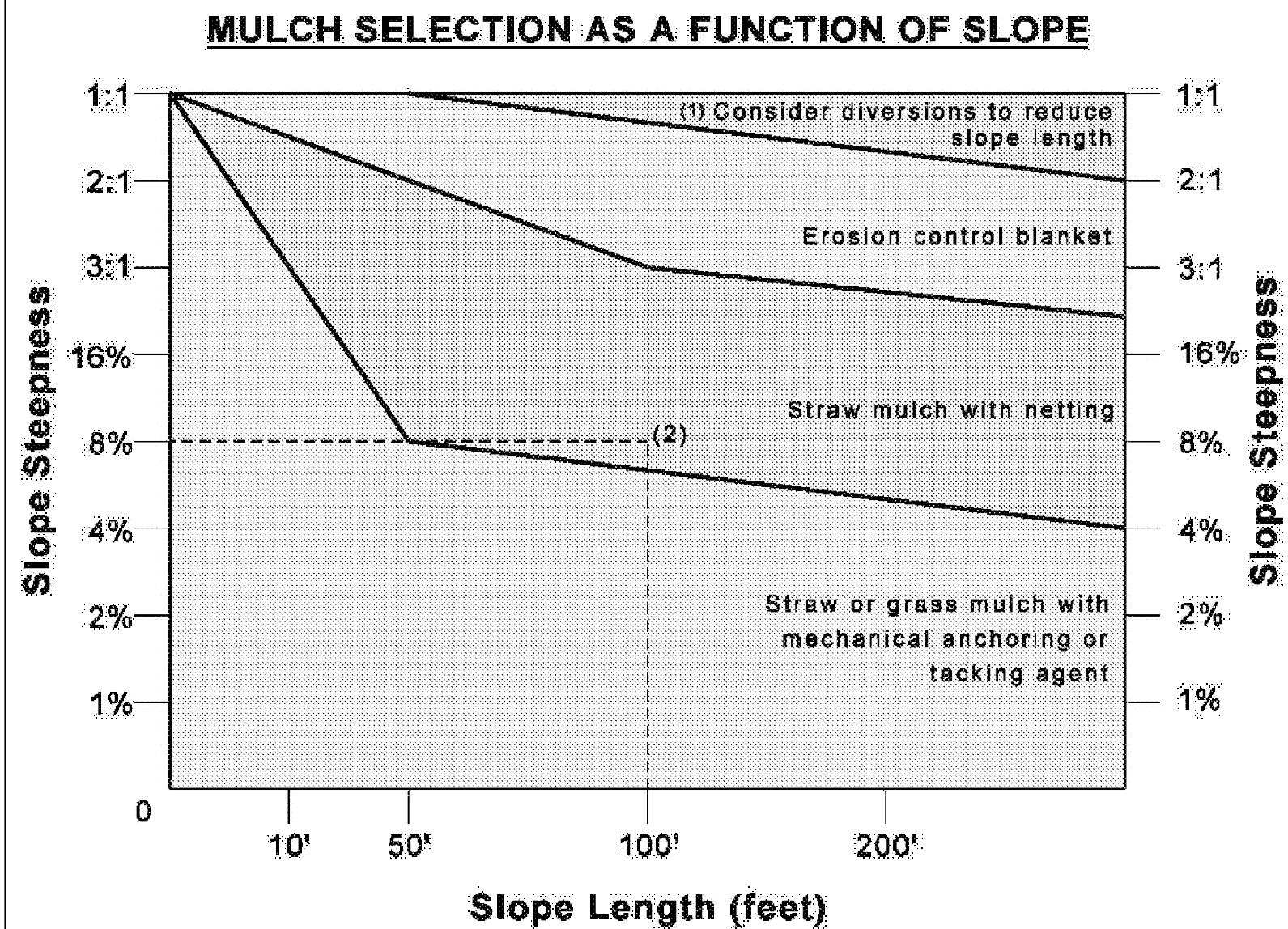
Mixture #1 = Tall Fescue @ 150 pounds per acre and Brome @ 100 pounds per acre.  
Mixture #2 = Tall Fescue @ 100 pounds per acre, Perennial Rye grass @ 100 pounds per acre, and Kentucky Blue grass @ 10 pounds per acre.  
\* = Seeding rate for slopes in excess of 20% (5:1), shall be 10 pounds per 1000 sq. ft.

Temporary Seeding	Pounds per acre	Pounds Per 1000 sq. ft.
Rye or Sudan	150	3.5
Oats	200	2.5

Fertilizer	Permanent Seeding (pounds per acre)	Temporary Seeding (pounds per acre)
Nitrogen	45	30
Phosphate	65	30
Potassium	65	30
Lime - ENM	600	600

ENM = Effective neutralizing material per State evaluation of quarried rock.

## TABLE 2: MULCH SCHEDULE



- (1) For slopes steeper than 1:1, consider building a diversion above slope to divert water.  
(2) Example: An 8% slope, 100 feet long, requires straw mulch with netting

## GENERAL MULCH RECOMMENDATIONS TO PROTECT FROM SPLASH AND SHEET FLOW

Material	Rate Per Acre	Requirements	Notes
Straw	2 to 2.5 tons	Dry, unchopped or machine; avoid weeds	Spread by hand or machine; may be tacked or tied down
Wood Fiber or Wood Cellulose	0.5 to 1 ton		Use with hydro seeder; may be used to tack straw. Do not use in hot, dry weather.
Wood Chips	5 to 6 tons	Air dry. Add nitrogen fertilizer at 12 lb per ton	Apply with blower, chip handler, or by hand. Not for fine turf areas.
Bark	35 cu. yds.	Air dry, shredded, or hammermilled; or chips	Apply with mulch blower, chip handler or by hand. Do not use asphalt tack.

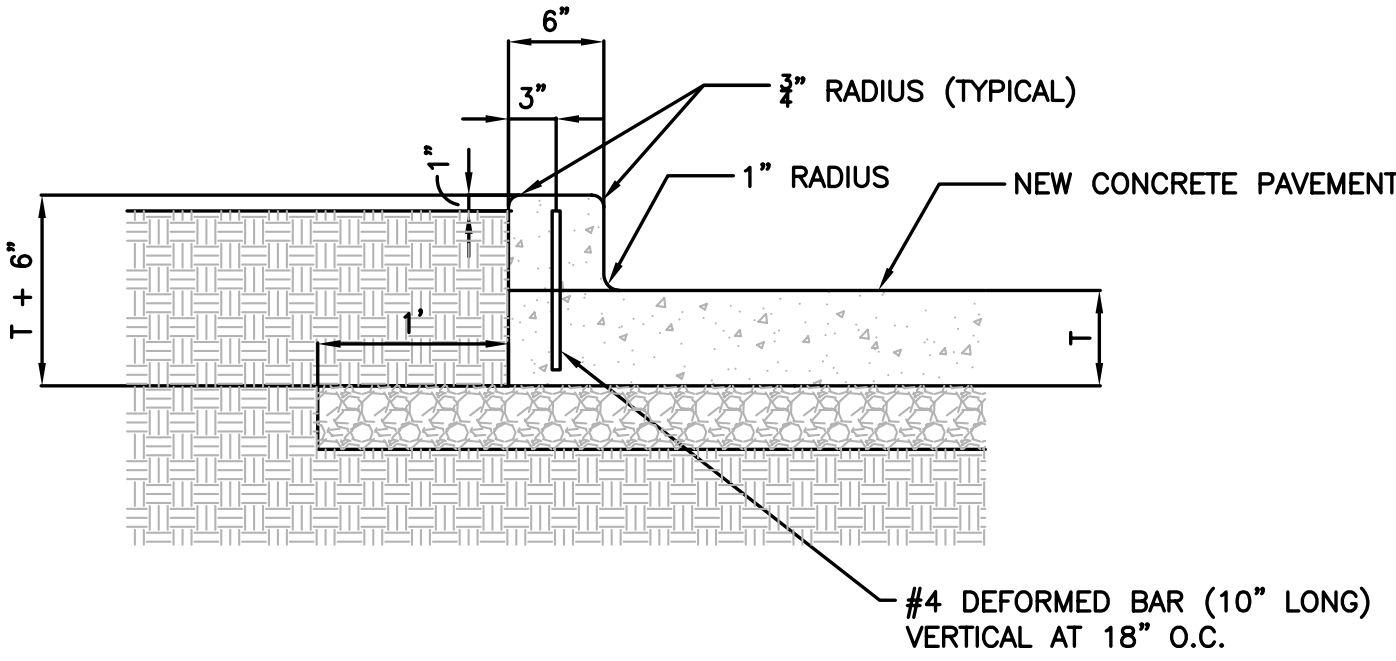
DEVELOPER/OWNER:  
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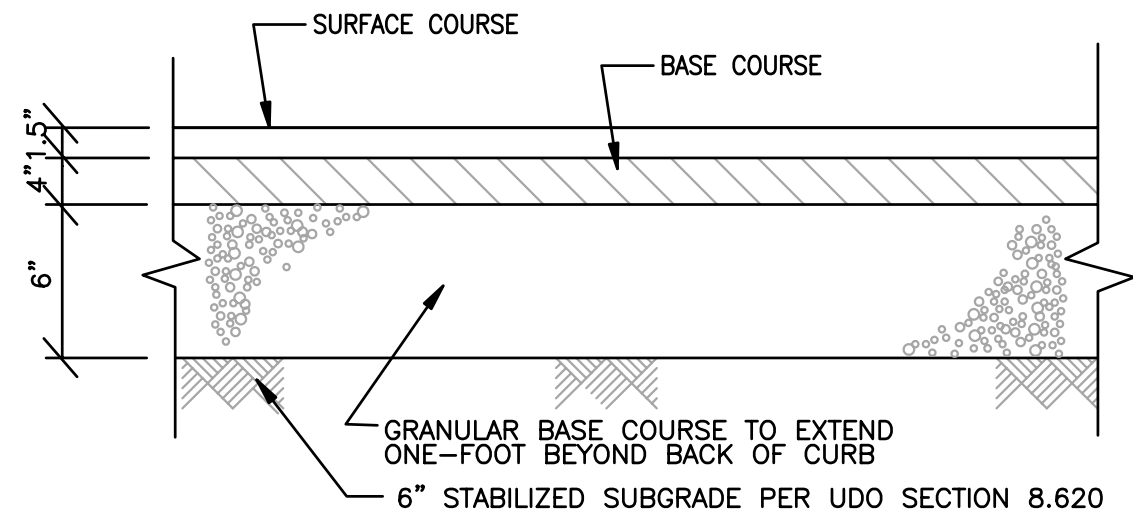
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DATE  
08/29/2019  
Job Number  
18-0136  
Sheet Number  
C7.2



- DETAIL NOTES:**
1. COMPACT AGGREGATE BASE COURSE TO 95% MODIFIED PROCTOR PER ASTM D-1557.
  2. COMPACT PREPARED EARTH SUBGRADE TO 90% OR GREATER OF MAXIMUM DRY DENSITY PER ASTM D-1557.
  3. IF CURB IS POURED INTEGRAL WITH PAVEMENT, THEN DOWEL BAR AND CONSTRUCTION JOINT MAY BE OMITTED.
  4. CONTINUE ALL PAVEMENT JOINTS THROUGH CURB.

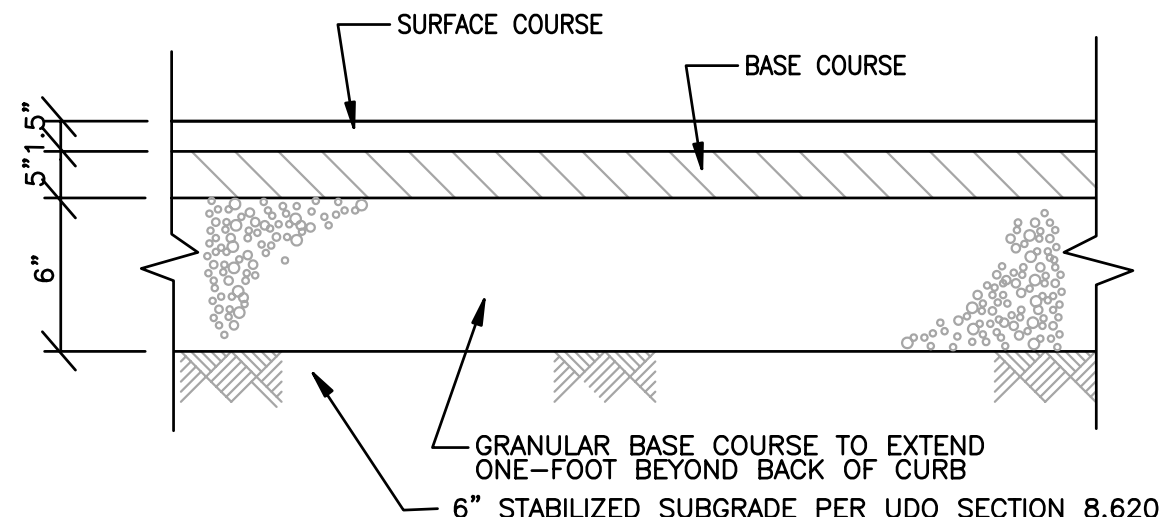
### 1 INTEGRAL CONCRETE CURB DETAIL (STANDARD SECTION)

SCALE: N.T.S. REF. DWG. C4.0



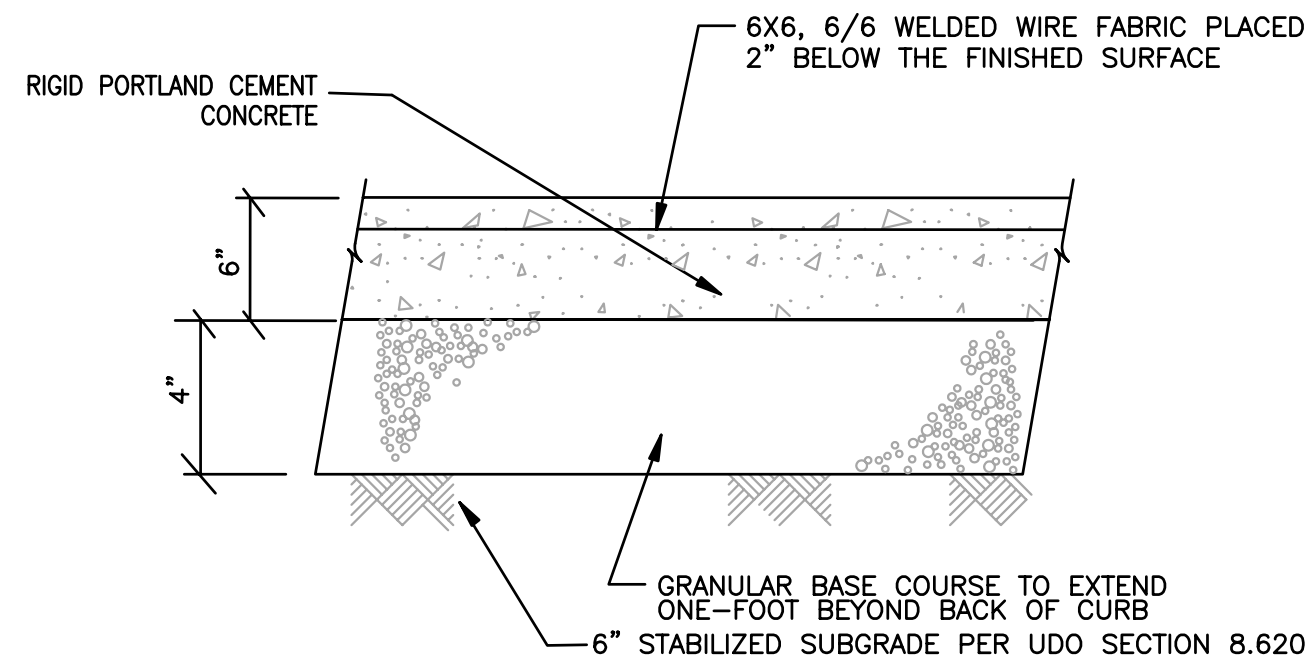
### 4 ASPHALT PAVEMENT (LIGHT DUTY)

SCALE: N.T.S. REF. DWG. C4.0



### 5 ASPHALT PAVEMENT (HEAVY DUTY)

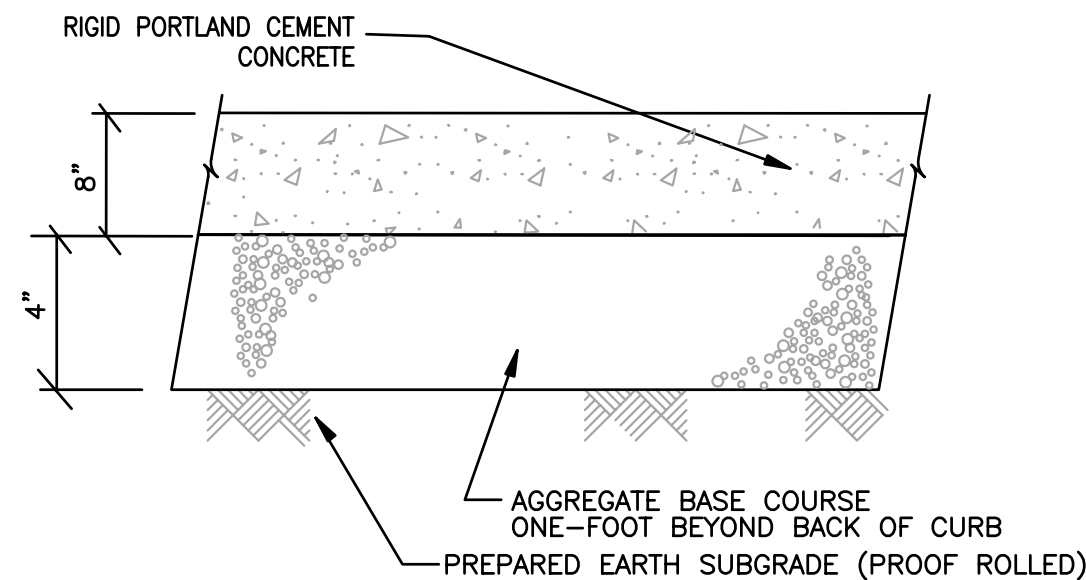
SCALE: N.T.S. REF. DWG. C4.0



**NOTE:**  
CONTRACTOR TO INSTALL CONCRETE PAVEMENT JOINTS PER THE AMERICAN CONCRETE INSTITUTES "GUIDE FOR DESIGN AND CONSTRUCTION OF CONCRETE PARKING LOTS"

### 6 CONCRETE PAVEMENT (HEAVY DUTY)

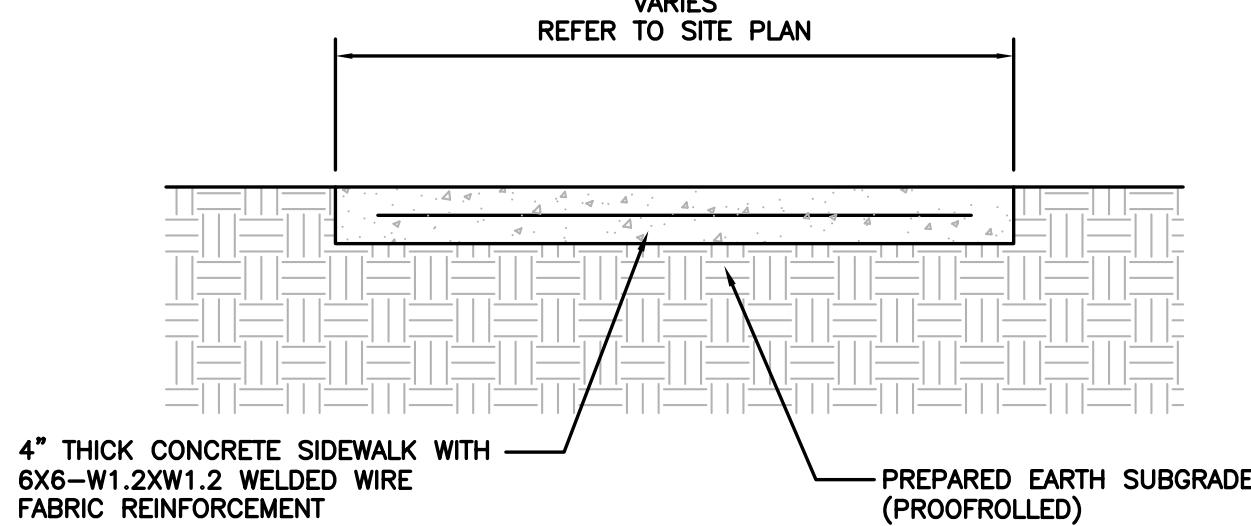
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**NOTE:**  
CONTRACTOR TO INSTALL CONCRETE PAVEMENT JOINTS PER THE AMERICAN CONCRETE INSTITUTES "GUIDE FOR DESIGN AND CONSTRUCTION OF CONCRETE PARKING LOTS"

### 7 CONCRETE PAVEMENT (HEAVY DUTY) WITH DETECTOR LOOP

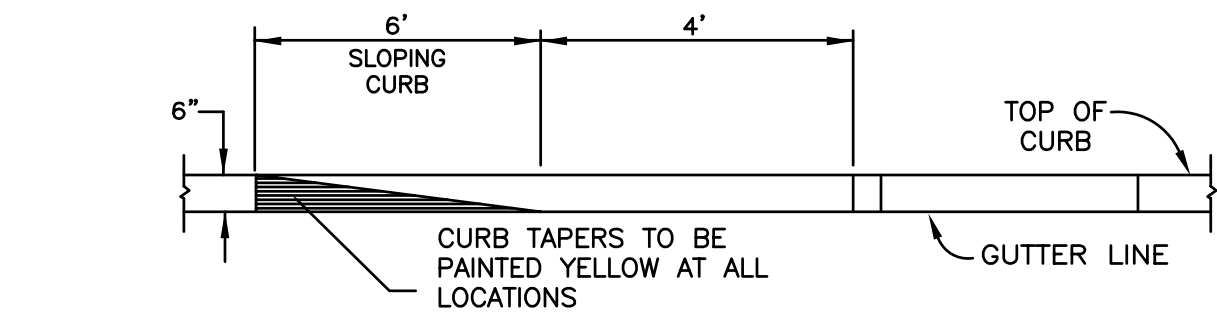
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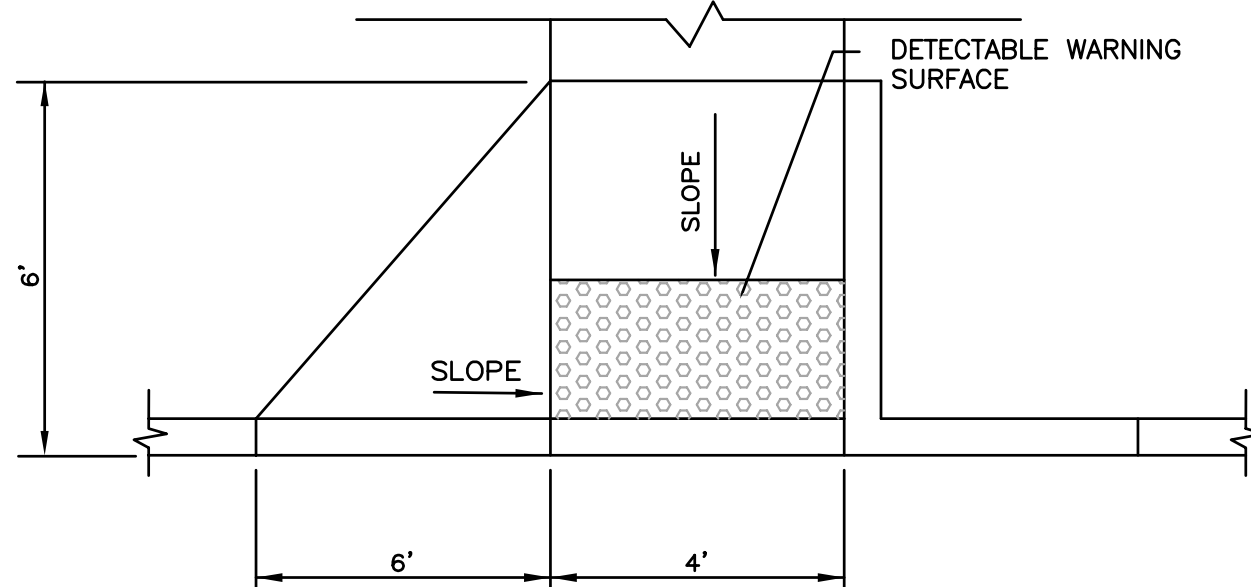
- DETAIL NOTES:**
1. PROVIDE 1/4" PREMOLDED EXPANSION JOINT FILLER AT 60' CENTERS.
  2. PROVIDE TOOLED CONTRACTION JOINTS AT 10' CENTERS.

### 8 CONCRETE SIDEWALK DETAIL

SCALE: N.T.S. REF. DWG. C4.0



**ELEVATION**

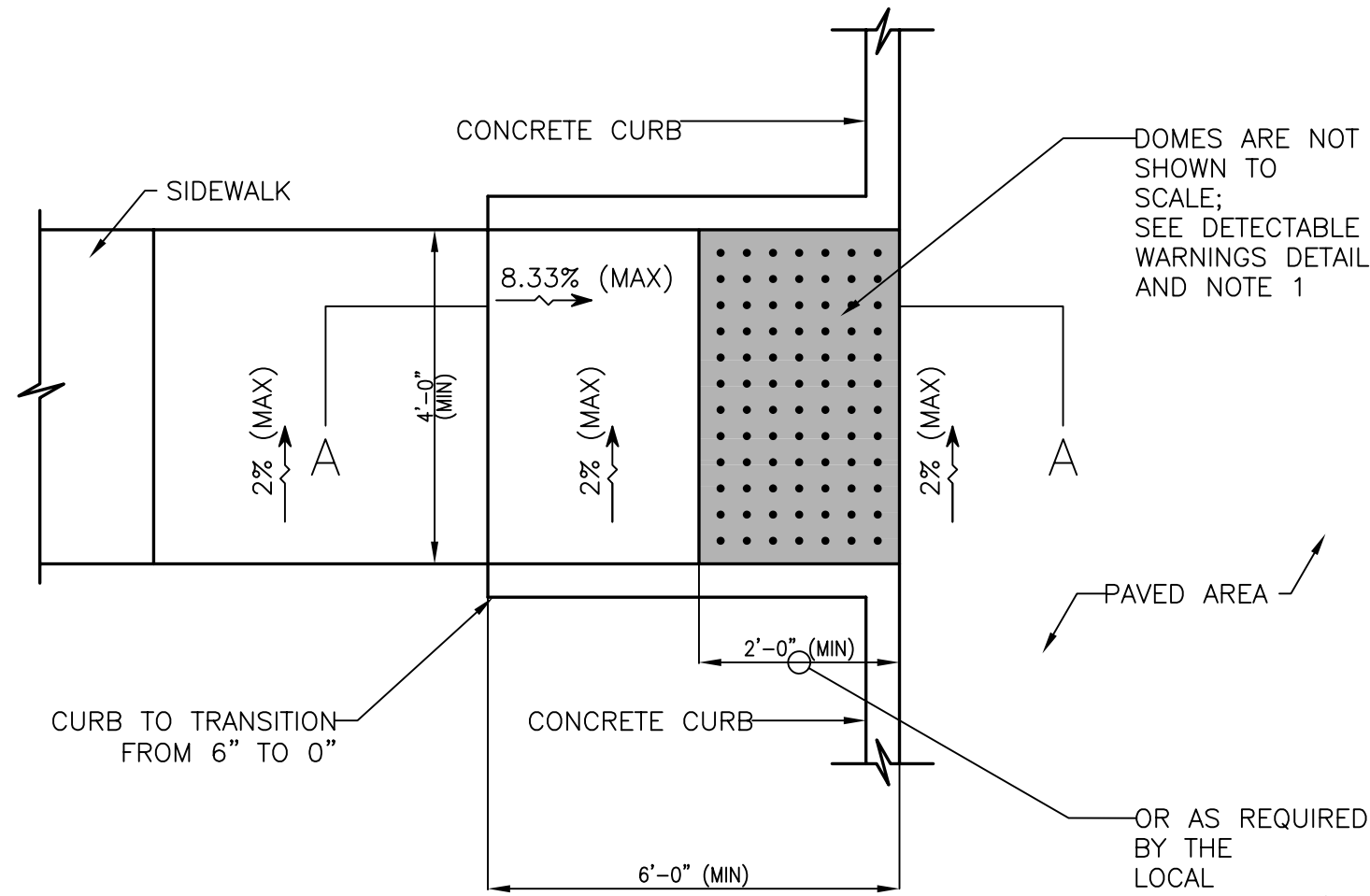


**PLAN**

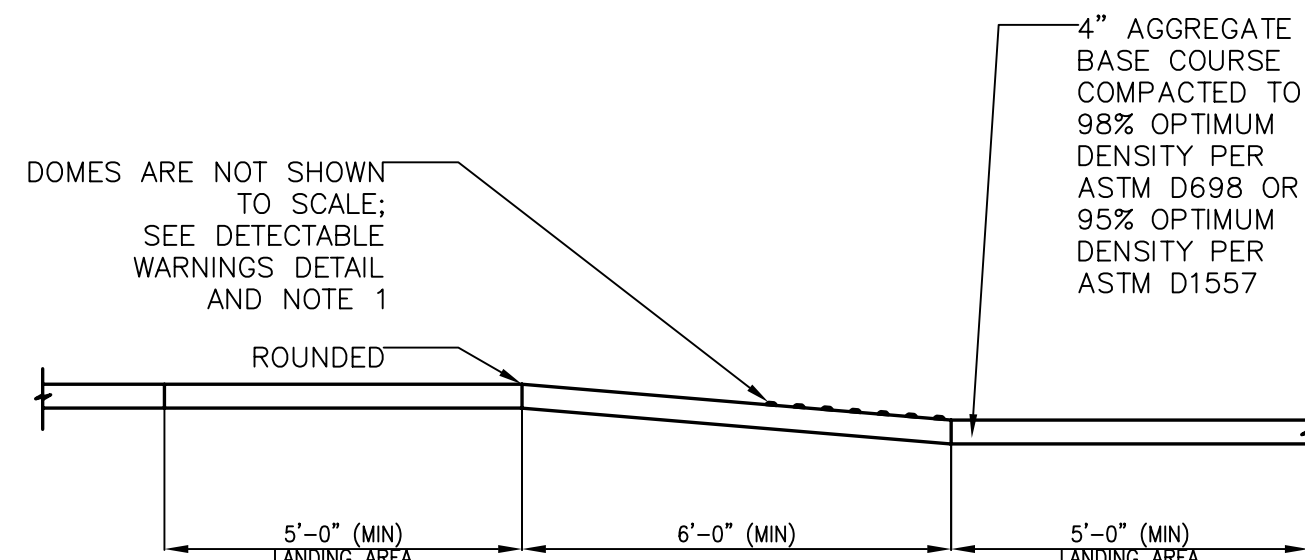
**NOTE:** MAINTAIN 4" SIDEWALK THICKNESS IN DEPRESSED AREA.

### 9 CURB RAMP (TYPE A) DETAIL

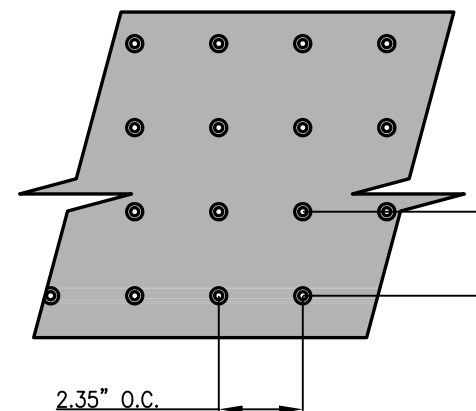
SCALE: N.T.S. REF. DWG. C4.0



**PLAN - STRAIGHT**



**SECTION A-A**



**PLAN**

**DETAIL NOTE:**

PREFABRICATED PANELS PER A.D.A. ACCESSIBILITY GUIDELINES SECTION 4.29.2 & A4.29.2 SHALL BE USED.

**DETECTABLE WARNING DETAIL**

**DETAIL NOTES:**

1. THE SURFACE OF RAMP SHALL HAVE DETECTABLE WARNINGS AS SHOWN. DETECTABLE WARNINGS SHALL CONSIST OF RAISED TRUNCATED DOMES. SEE DETECTABLE WARNINGS DETAIL.
2. RAMP SIDE SLOPE VARIES UNIFORMLY FROM A MAXIMUM OF UP TO 10% AT CURB TO CONFORM WITH LONGITUDINAL SIDEWALK SLOPE ADJACENT TO TOP OF THE RAMP.
3. CONSTRUCT PER A.D.A. STANDARDS.
4. REFER TO PLANS FOR ADJACENT SLOPES.
5. THE CROSS SLOPE OF THE RAMP SURFACE SHALL BE NO GREATER THAN 1:50.

### 10 CURB RAMP (TYPE B) DETAIL

SCALE: N.T.S. REF. DWG. C4.0

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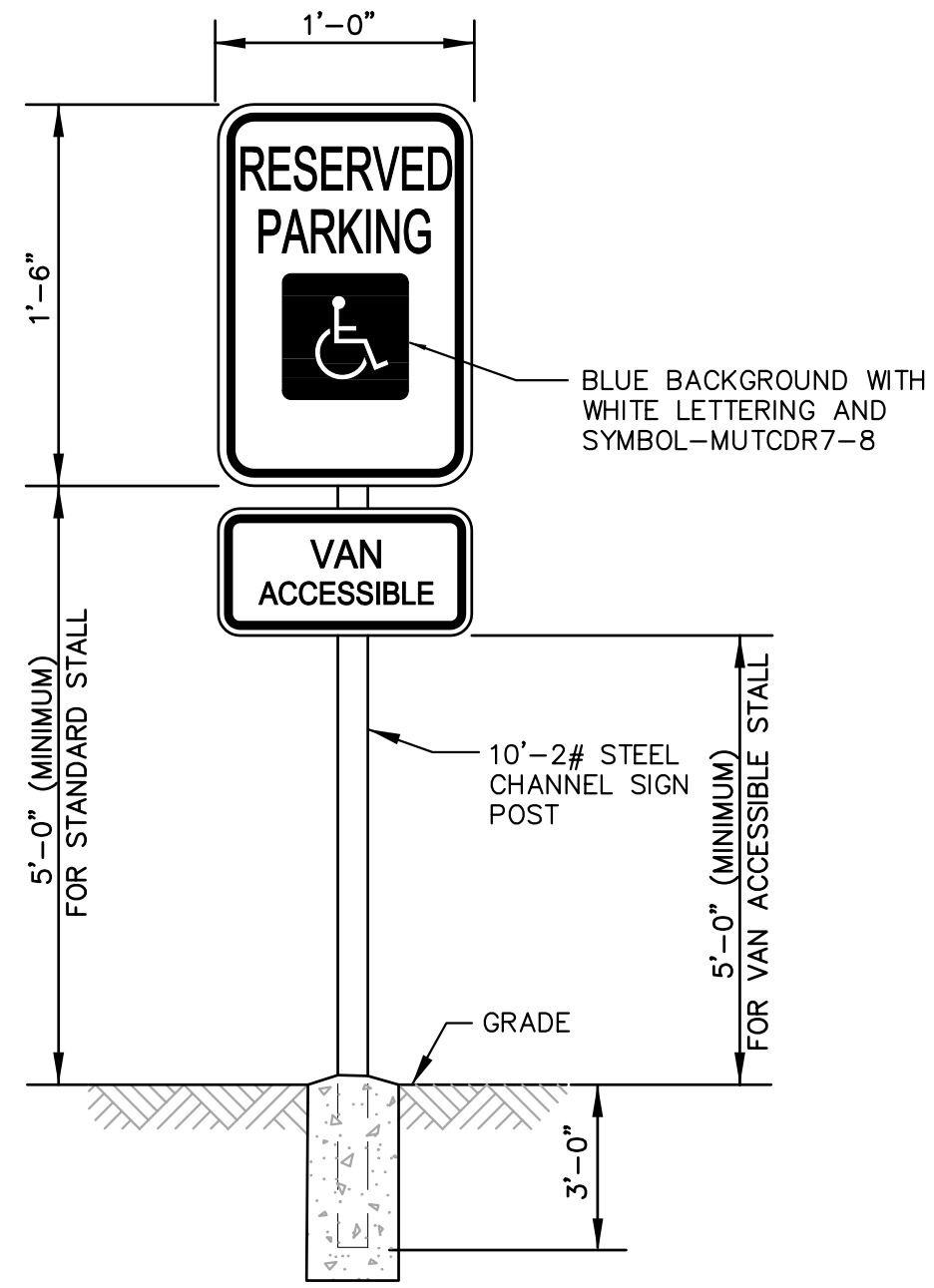
CIVIL ENGINEERS  
CORPORATE  
OFFICE  
CENTRAL  
STATION  
ST. LOUIS, MO 63103  
JOHN F. WARDENBARGER  
E-29718  
DATE 9/10/19

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440 NW CHIPMAN ROAD  
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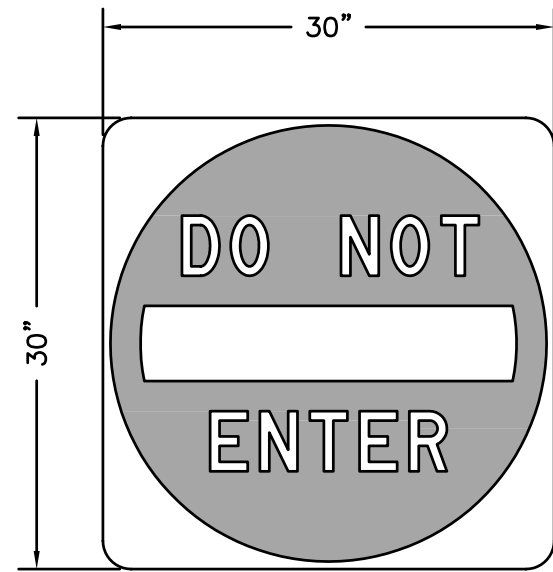
**DETAIL SHEET**

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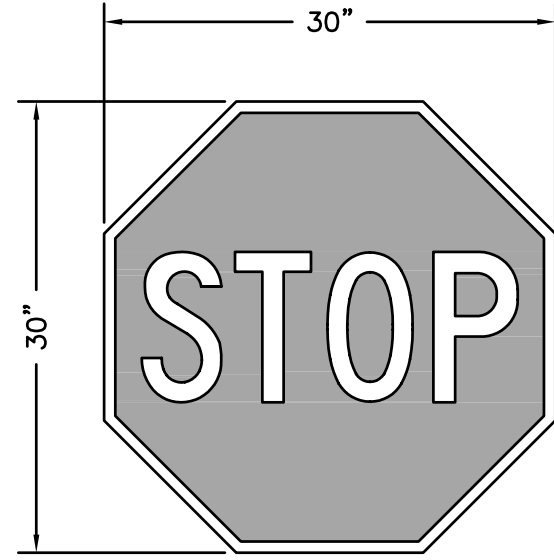
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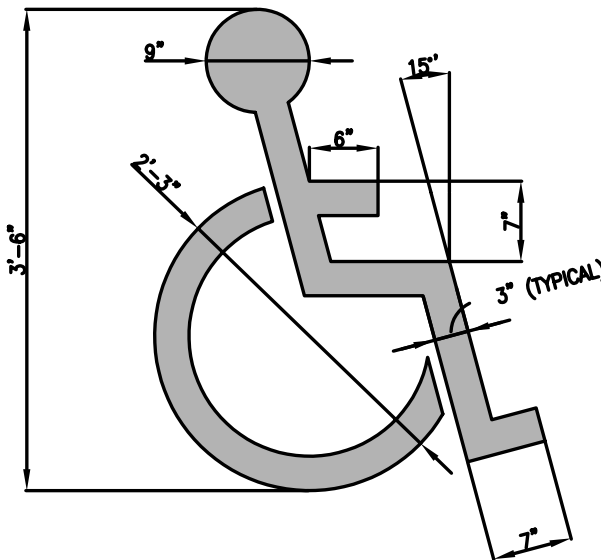
1 **ACCESSIBLE SIGN DETAIL**  
SCALE: N.T.S. REF. DWG. C4.0



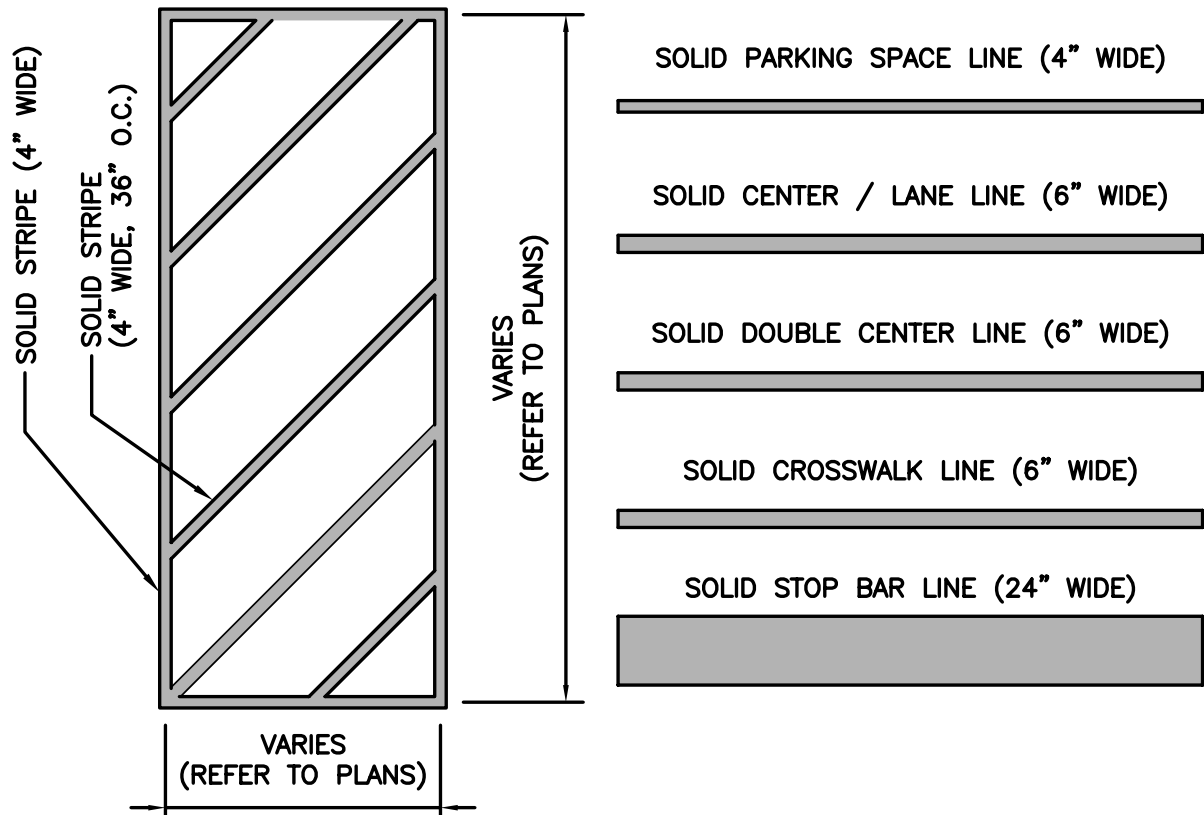
2 **"DO NOT ENTER" SIGN DETAIL**  
SCALE: N.T.S. REF. DWG. C4.0



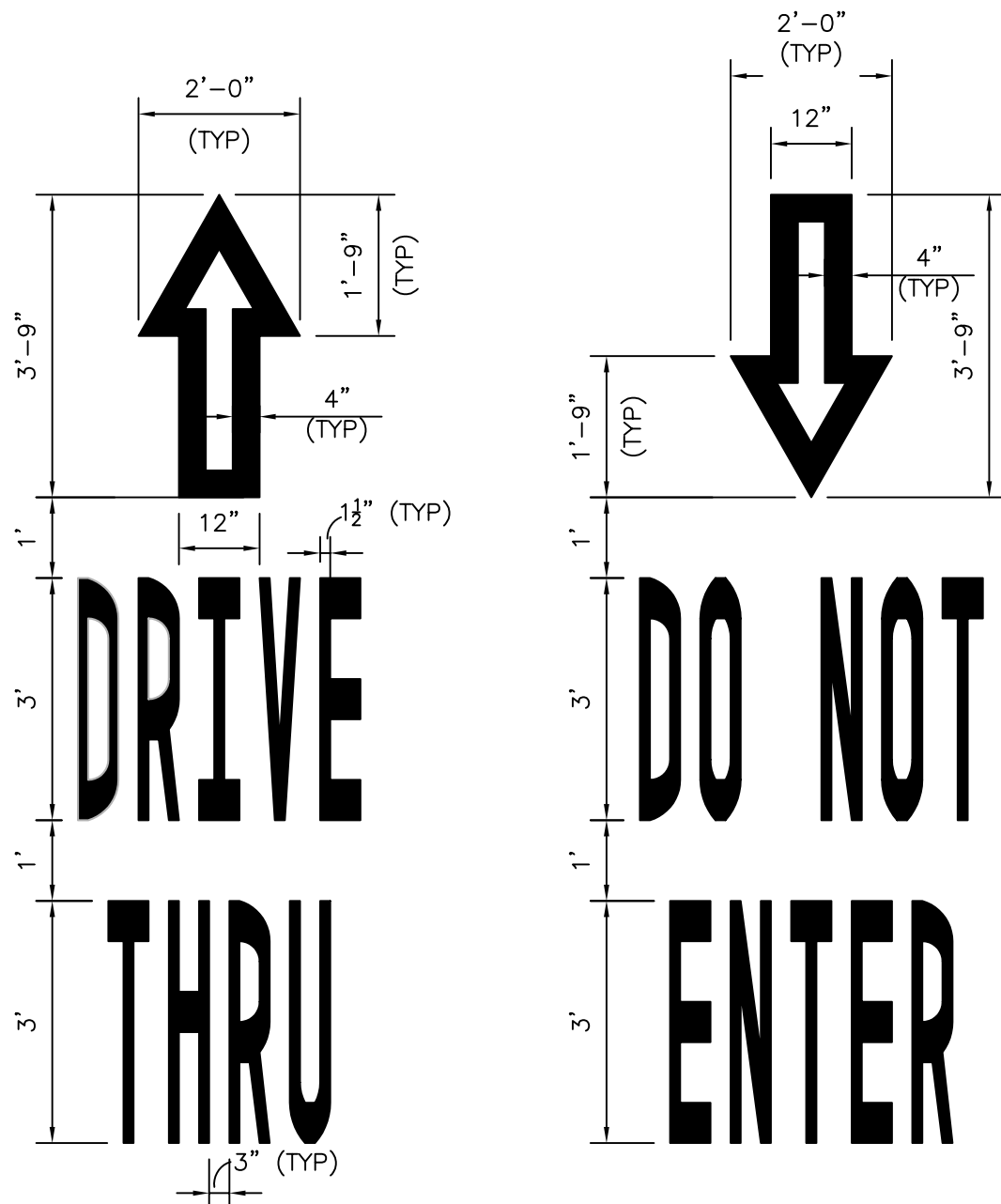
3 **"STOP" SIGN DETAIL**  
SCALE: N.T.S. REF. DWG. C4.0



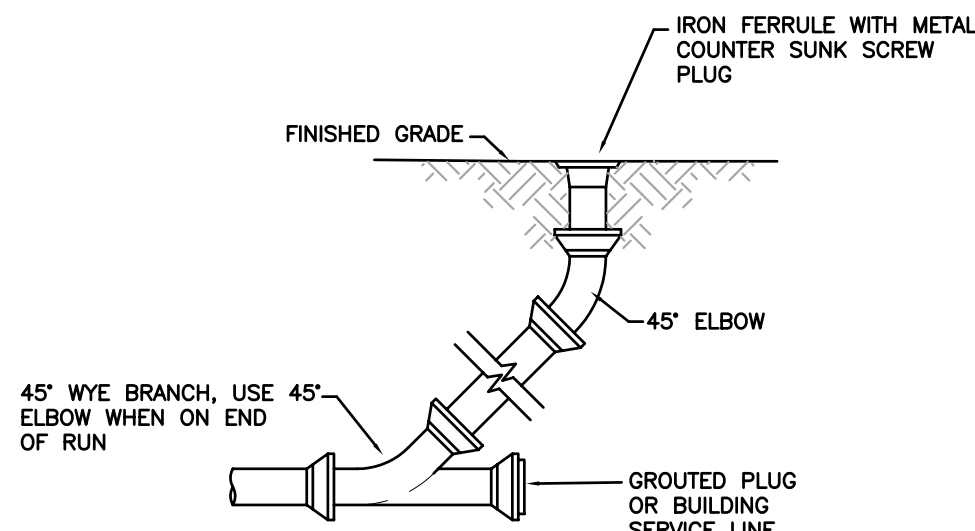
4 **HANDICAP SYMBOL DETAIL**  
SCALE: N.T.S. REF. DWG. C4.0



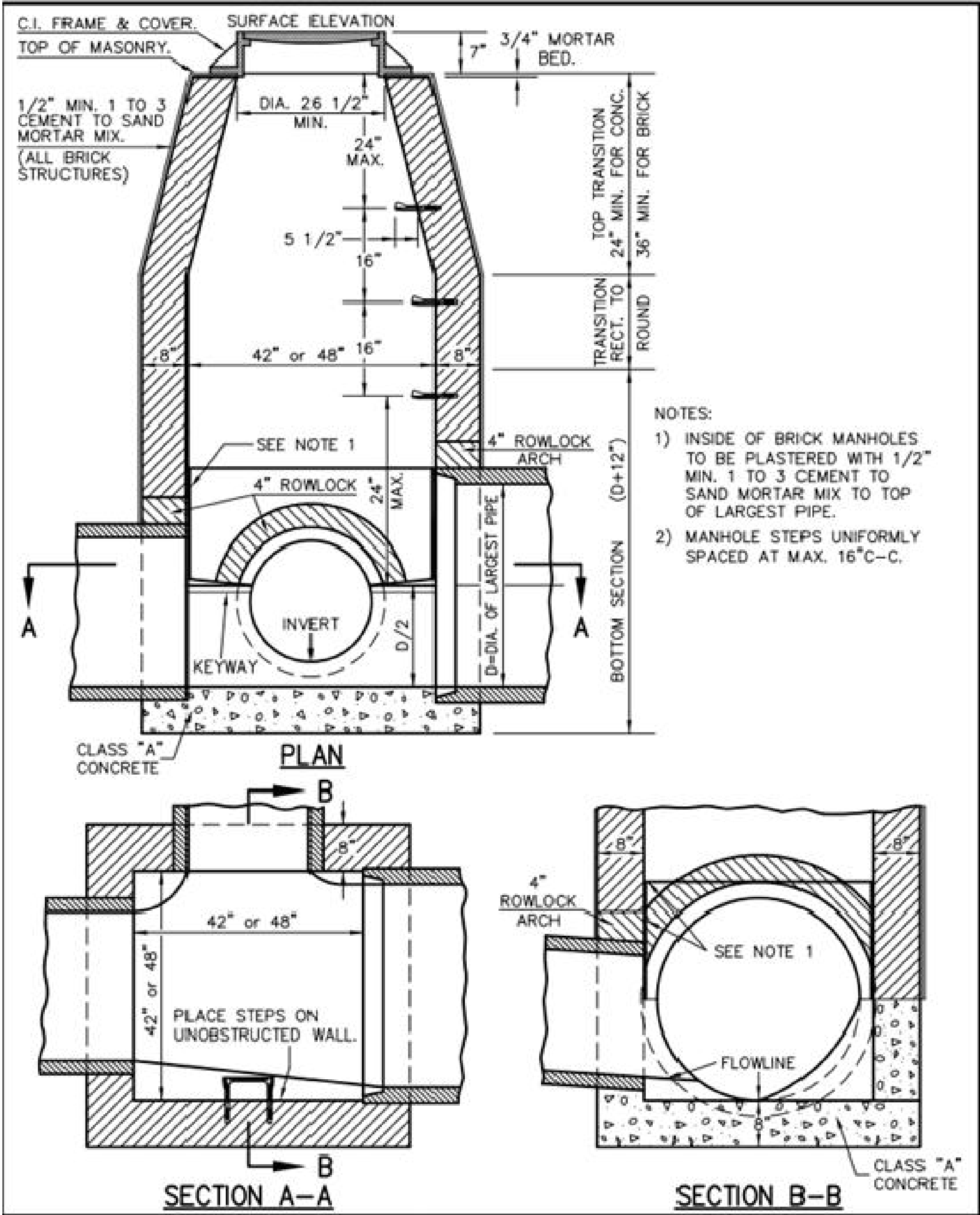
5 **PAVEMENT STRIPING DETAIL**  
SCALE: N.T.S. REF. DWG. C4.0



6 **DRIVE-THRU/DO NOT ENTER DETAIL**  
SCALE: N.T.S. REF. DWG. C4.0



7 **CLEANOUT DETAIL**  
SCALE: N.T.S. REF. DWG. C4.0



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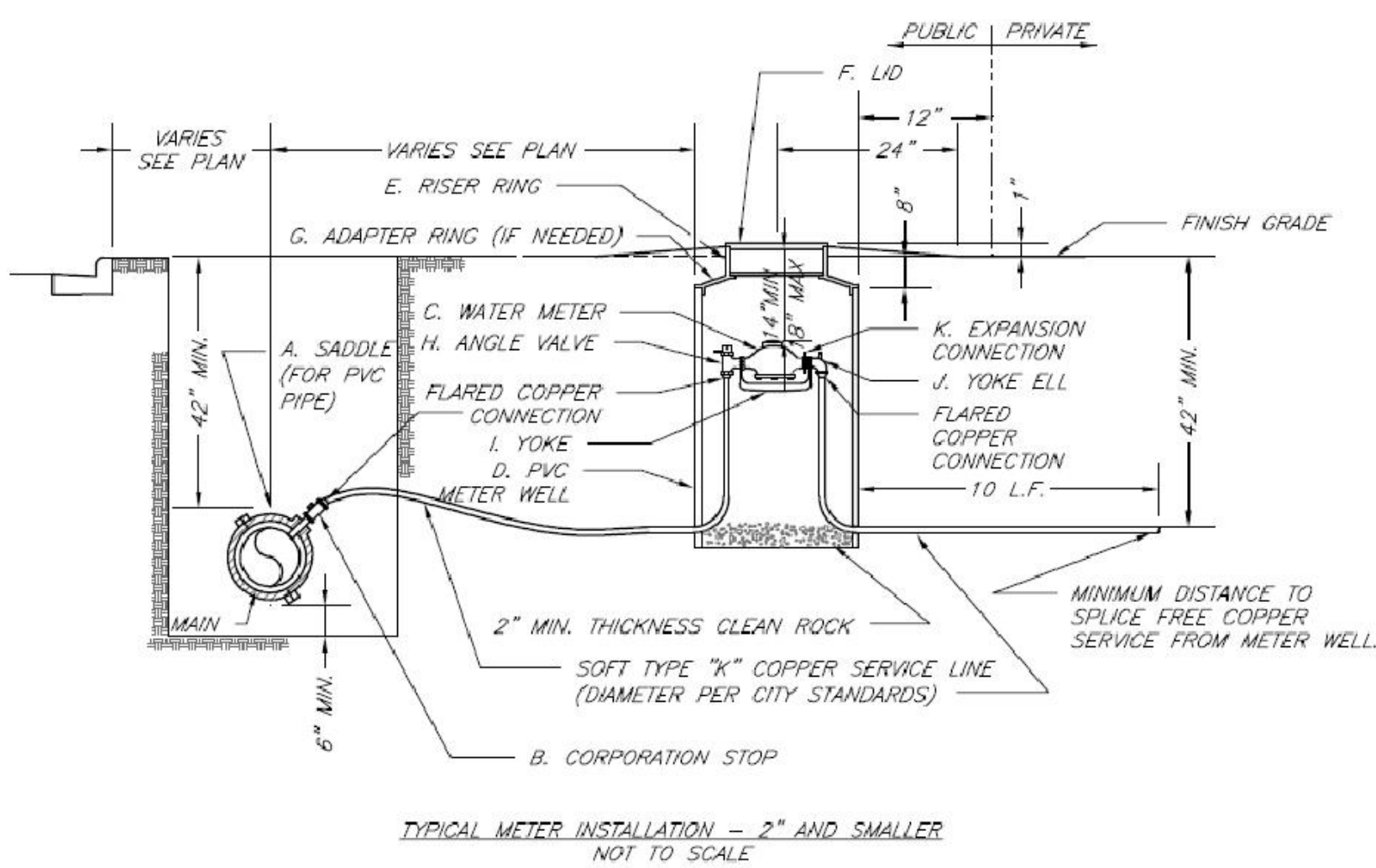
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Job Number  
18-0136  
Sheet Number  
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DEVELOPER/OWNER:  
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DETAIL SHEET



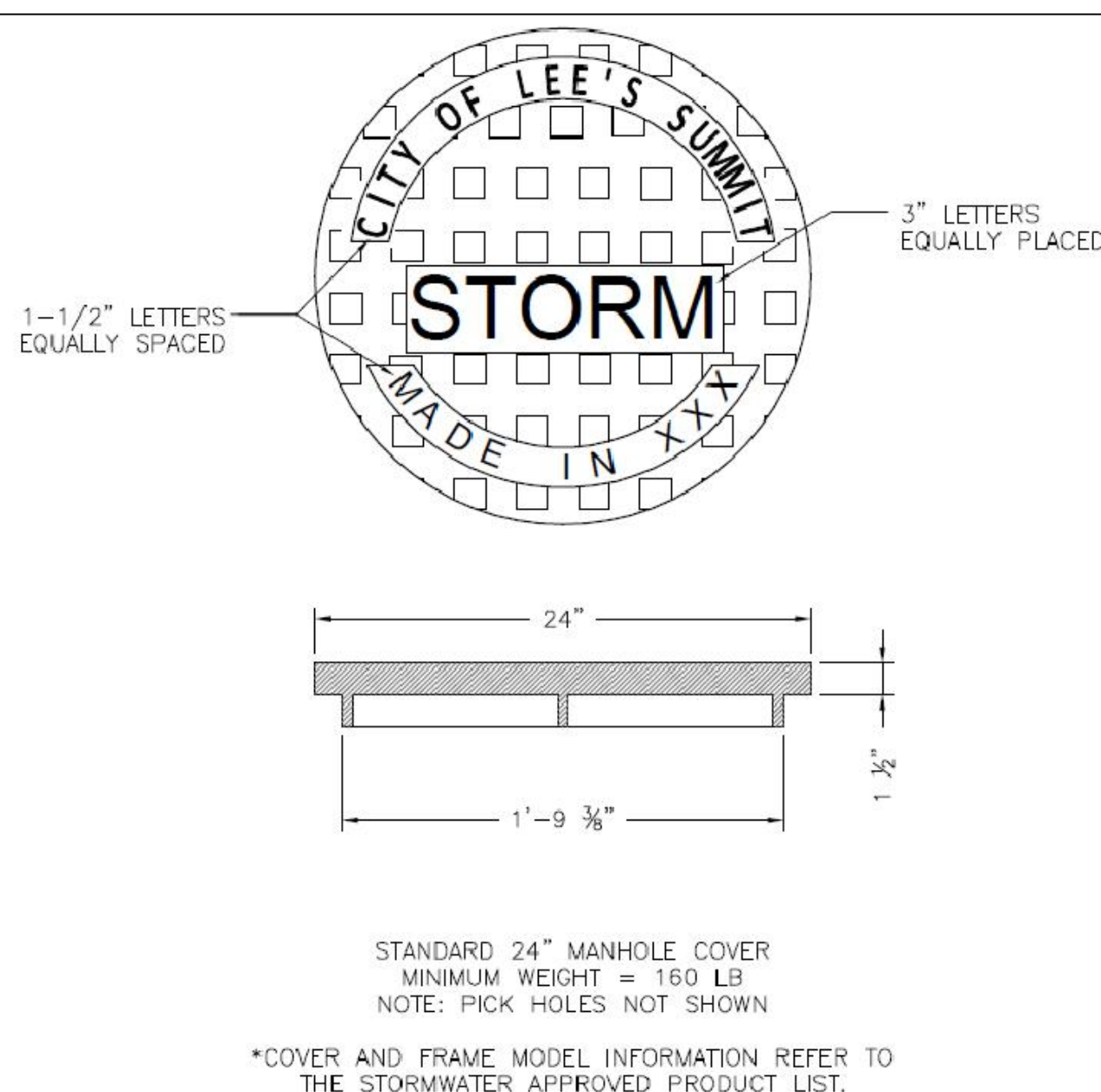
#### NOTES:

1. METER INSTALLATION SHALL NOT BE LOCATED IN AREAS SUBJECT TO VEHICULAR TRAFFIC OR IN CONCRETE PAVEMENT WITHOUT CITY APPROVAL.
2. IF METER IS TO BE LOCATED OTHER THAN IN FRONT OF PROPERTY LINE, CITY APPROVAL SHALL BE OBTAINED.
3. CITY TO FURNISH ITEMS A-K.
4. NO OTHER EQUIPMENT SHALL BE INSTALLED IN THIS PIT.
5. 42" MINIMUM BURY DEPTH FOR ALL SERVICE LINES.
6. EXCAVATION FOR TAP TO EXPOSE 4' LINEAR FEET OF MAIN.
7. NO SPLICES ALLOWED BETWEEN METER AND MAIN.
8. SERVICE CONNECTION TAP AT APPROXIMATELY 45 DEGREES.
9. LID AND RISER RING SHALL BE SET SO THAT GROUND WATER WILL DRAIN AWAY FROM THE WELL.
10. CONTACT WATER UTILITIES, 816-969-1900, FOR REQUIREMENTS OF A METER LARGER THAN 2"



**LEE'S SUMMIT  
MISSOURI**  
PUBLIC WORKS ENGINEERING DIVISION | 220 SE GREEN STREET | LEE'S SUMMIT, MO 64083

Date: 02/13  
Drawn By: JLN  
Checked By: DL  
File: WAT-11  
Rev: 1/14  
Rev:



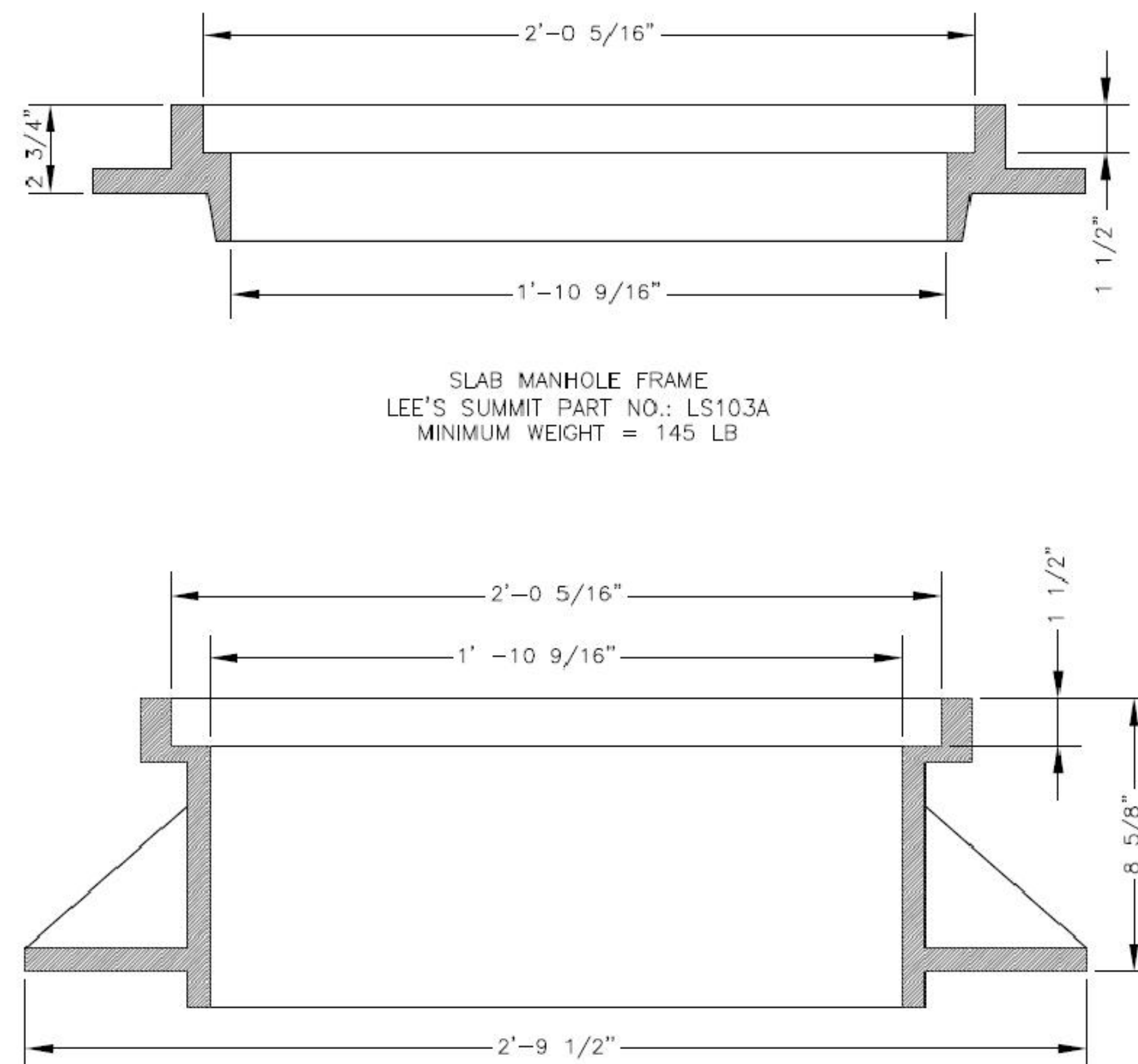
STANDARD 24" MANHOLE COVER  
MINIMUM WEIGHT = 160 LB  
NOTE: PICK HOLES NOT SHOWN

\*COVER AND FRAME MODEL INFORMATION REFER TO THE STORMWATER APPROVED PRODUCT LIST.



**LEE'S SUMMIT  
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Date: 04/17  
Drawn By: MIF  
Checked By: DL  
STM-6



SLAB MANHOLE FRAME  
LEE'S SUMMIT PART NO.: LS103A  
MINIMUM WEIGHT = 145 LB

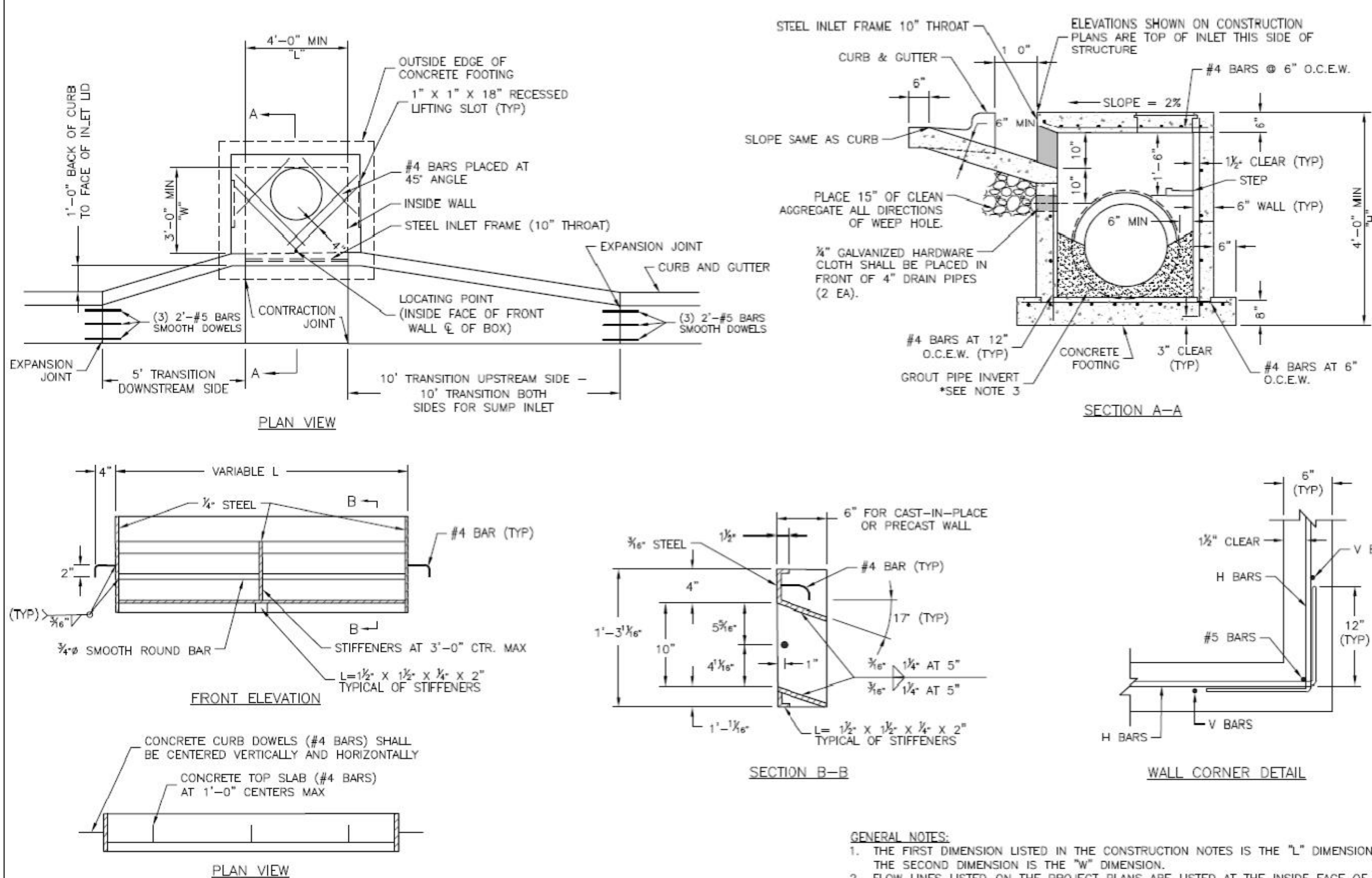
STANDARD 24" MANHOLE FRAME  
LEE'S SUMMIT PART NO.: LS101A  
MINIMUM WEIGHT = 250 LB

\*COVER AND FRAME MODEL INFORMATION REFER TO THE STORMWATER APPROVED PRODUCTS LIST.



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Date: 04/17  
Drawn By: MIF  
Checked By: DL  
STM-7



#### GENERAL NOTES:

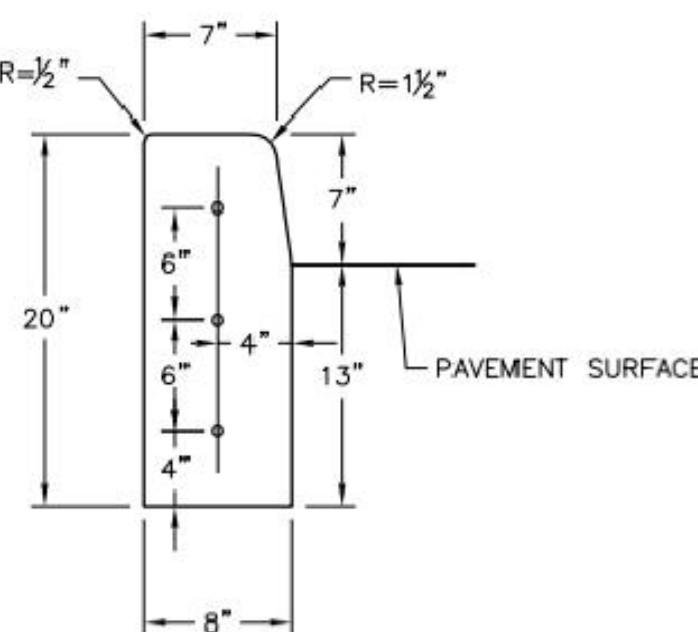
1. THE FIRST DIMENSION LISTED IN THE CONSTRUCTION NOTES IS THE "L" DIMENSION.
2. THE SECOND DIMENSION IS THE "W" DIMENSION.
3. FLOW LINES LISTED ON THE PROJECT PLANS ARE LISTED AT THE INSIDE FACE OF THE WALL.
4. FLOOR OF INLET GROUDED AND SHAPED TO MATCH PIPE INVERT TO PROVIDE SMOOTH FLOW.
5. LOCATE MH RING AND COVER ON BLANK WALL IF POSSIBLE.
6. STEPS SHALL BE SPACED AT 1'-4" O.C. VERTICALLY ON BLANK WALL IF POSSIBLE.
7. REVEAL ALL EXPOSED EDGES WITH 3/4" CHAMFER OR 1/2" TOOLE EDGE.
8. ON-GRADE INLETS SHALL CONFORM TO THE STREET GRADE AND SUMP INLETS SHALL BE LEVEL.
9. PRECAST LIDS SHALL BE PINNED, SEALED WITH NON-SHRINKABLE GROUT AND REMOVABLE FOR FUTURE MAINTENANCE.
10. LIFTING RINGS SHALL BE REMOVED AND SEALED WITH NON-SHRINKABLE GROUT FOR RING AND COVER SEE THE STORMWATER APPROVED PRODUCT LIST.

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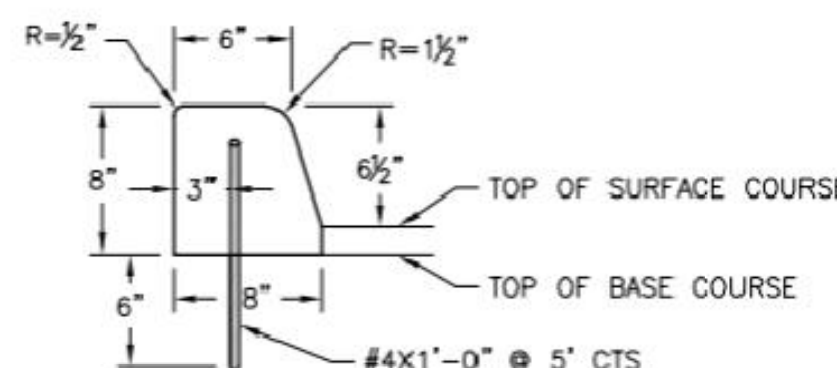
STANDARD DETAILS  
CITY OF LEE'S SUMMIT, MO  
LEE'S SUMMIT, JACKSON COUNTY, MO  
CURB & GUTTER DETAIL

STM-1

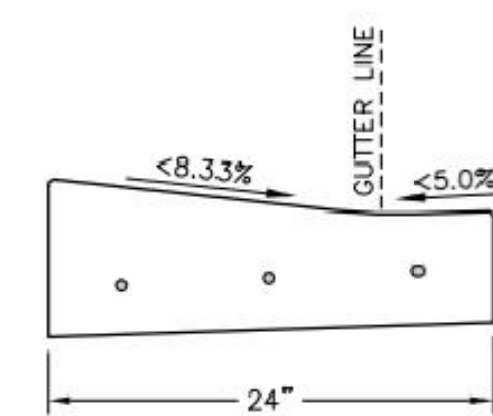
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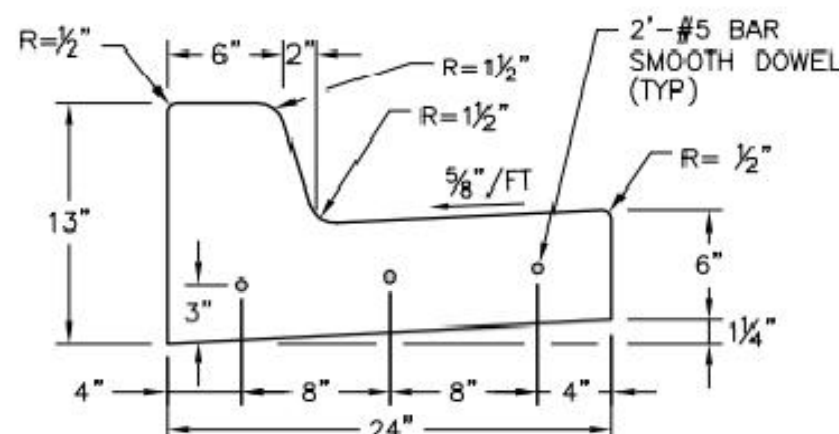
STRAIGHT CURB  
(TYPE C-1)



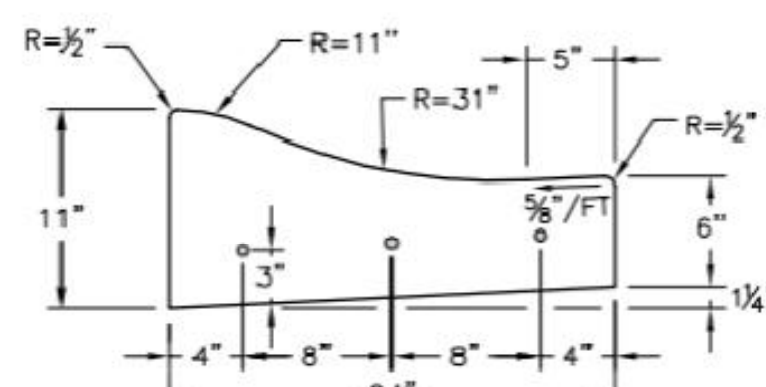
DOWELLED CURB  
(TYPE DC)



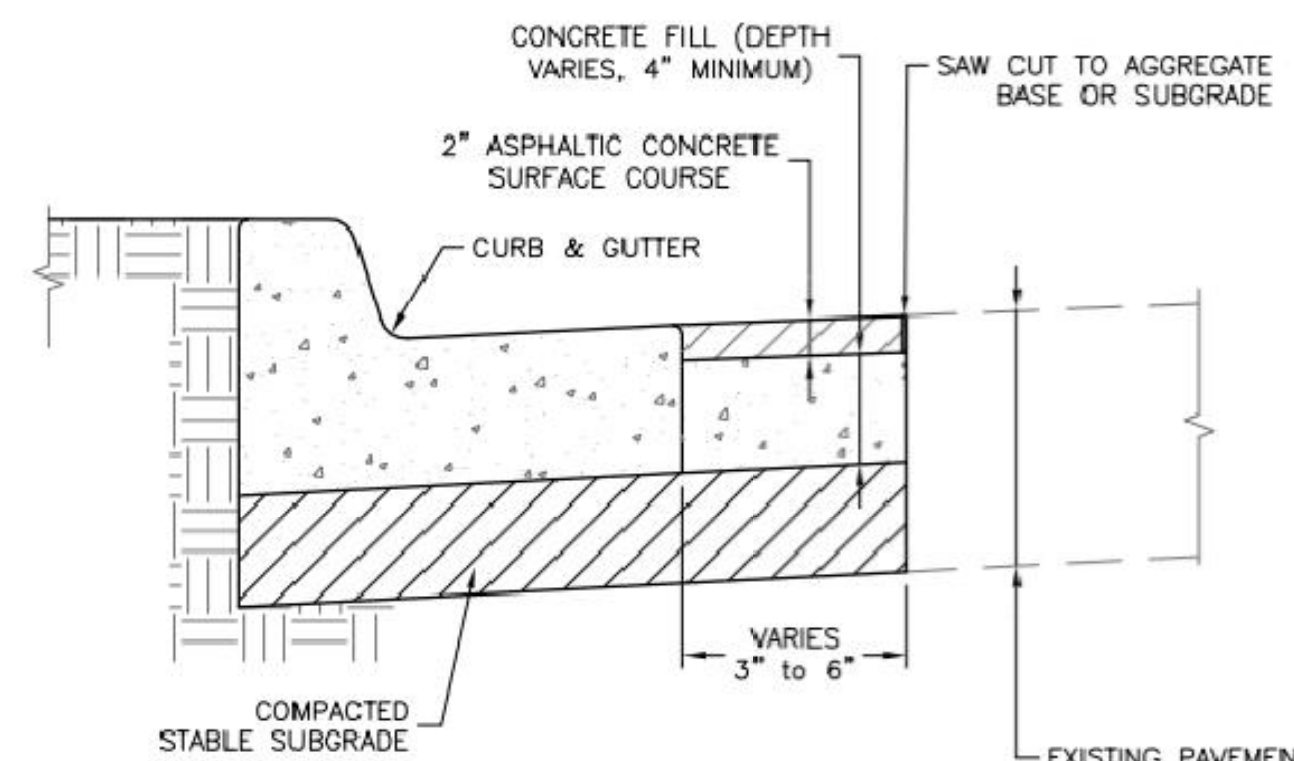
CURB & GUTTER DETAIL AT RAMP  
(ADA SLOPE REQUIREMENTS)



STRAIGHT BACK CURB &  
GUTTER  
(TYPE CG-1)



ROLL BACK CURB &  
GUTTER  
(TYPE CG-2)



CURB REPLACEMENT DETAIL

#### GENERAL NOTES:

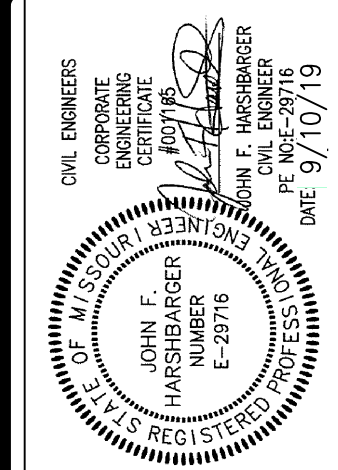
1. 3/4" ISOLATION JOINTS WITH 3 (2'-#5 BAR) SMOOTH DOWELS SHALL BE PLACED AT RADIUS POINTS AND AT 150' INTERVALS. THESE DOWEL BARS SHALL BE GREASED AND WRAPPED ON ONE END WITH EXPANSION TUBES.
2. 3" DEEP CONTRACTION JOINTS SHALL BE INSTALLED AT APPROXIMATELY 10' INTERVALS. THESE JOINTS SHALL PASS ACROSS THE ENTIRE CURB SECTION.
3. CONCRETE FILL SHALL HAVE UNIFORM AND SMOOTH FINISH
4. KCMMB 4K CONCRETE SHALL BE USED FOR ALL CURB.
5. ASPHALTIC CONCRETE SURFACE COURSE SHALL CONFORM TO STANDARD SPECIFICATIONS SECTION 2.205.2.
6. CURBS FOR NEW STREETS SHALL BE BUILT ON ASPHALT OR AGGREGATE BASE AS SHOWN IN TYPICAL SECTION DETAIL.
7. WHITE CURING COMPOUND MUST BE APPLIED UNIFORMLY TO THE CONCRETE SURFACE IMMEDIATELY AFTER FINAL FINISHING.

STANDARD DETAILS  
CITY OF LEE'S SUMMIT, MO  
LEE'S SUMMIT, JACKSON COUNTY, MO  
CURB & GUTTER DETAIL

Date: 04/17  
Drawn By: MIF  
Checked By: DL  
GEN-4

DATE	NO	REVISION DESCRIPTION
12/2/19	1	PER ARCHITECT COMMENTS
10/17/19	2	REVIEW COMMENTS
9/9/19	1	REVIEW COMMENTS

DEVELOPER/OWNER:  
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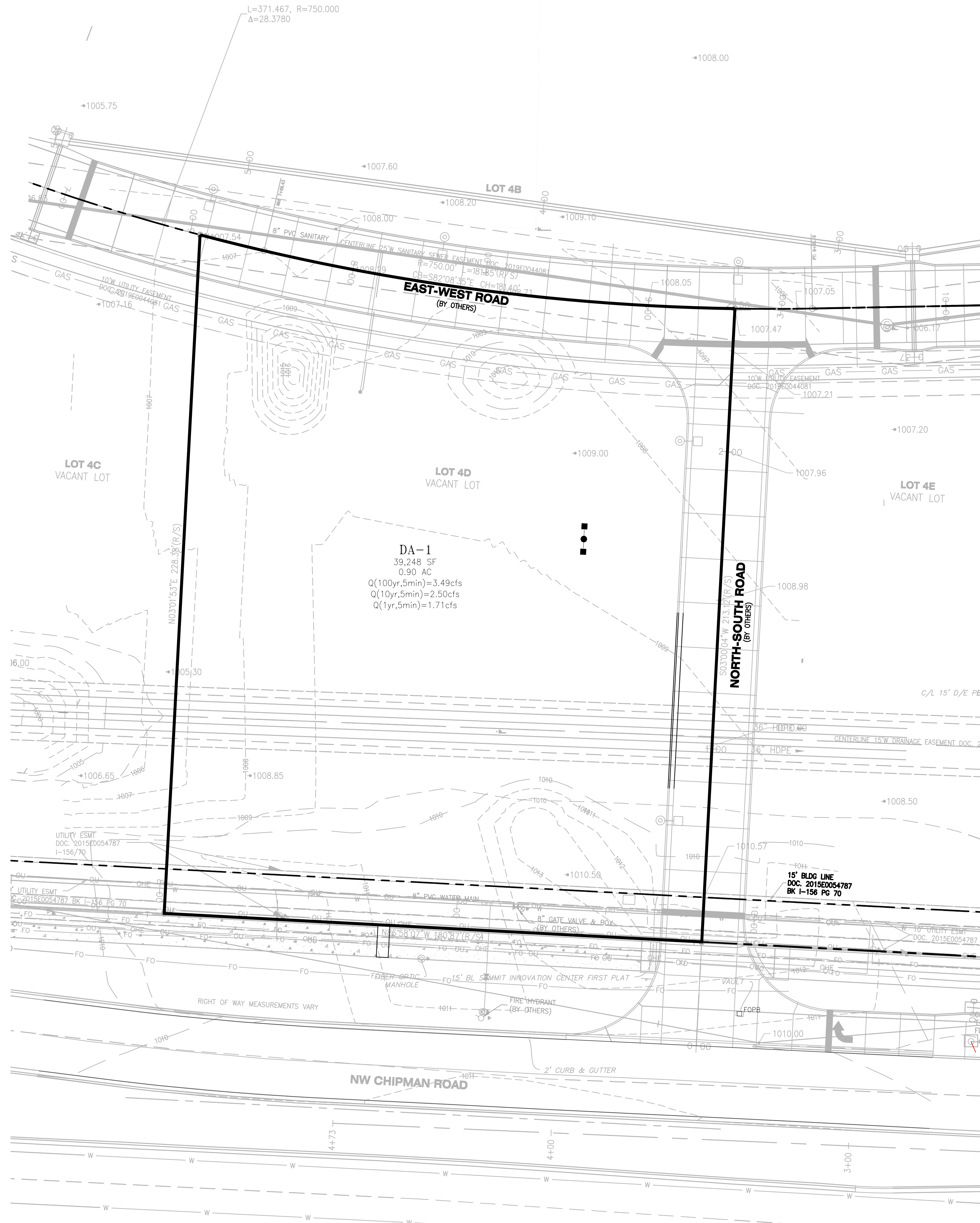
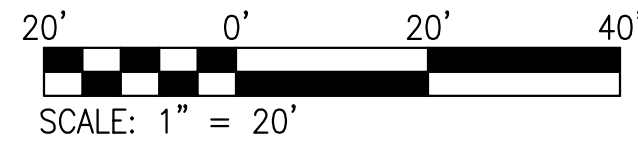
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CITY DETAIL SHEET

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DRAWN BY: MAB  
CHECKED BY: CAW  
DRAWING SCALE: AS SHOWN  
DATE: 08/29/2019  
Job Number: 18-0136  
Sheet Number: C8.2



Q VALUES  
RATIONAL METHOD:  
C (IMPERVIOUS) = 0.90  
C (PERVIOUS) = 0.30

PERVIOUS AREA = 0.78 AC.  
IMPERVIOUS AREA = 0.12 AC.  
TOTAL AREA = 0.90 AC.

100 YEAR STORM (1% CHANCE), 5 MIN. DURATION  
FOR 100 YEAR, 5 MINUTE DURATION = 10.2

Q(PER) = (0.30\*10.2\*0.78)  
Q(PER) = 2.39 CFS

Q(IMP) = (0.90\*10.2\*0.12)  
Q(IMP) = 1.10 CFS

Q100(TOTAL) = 3.49 CFS

10 YEAR STORM (10% CHANCE), 5 MIN. DURATION  
FOR 10 YEAR, 5 MINUTE DURATION = 7.3

Q(PER) = (0.30\*7.3\*0.78)  
Q(PER) = 1.71 CFS

Q(IMP) = (0.90\*7.3\*0.12)  
Q(IMP) = 0.79 CFS

Q10(TOTAL) = 2.50 CFS

1 YEAR STORM (100% CHANCE), 5 MIN. DURATION  
FOR 1 YEAR, 5 MINUTE DURATION = 5.0

Q(PER) = (0.30\*5.0\*0.78)  
Q(PER) = 1.17 CFS

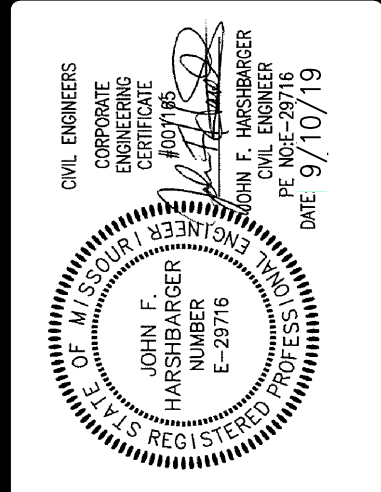
Q(IMP) = (0.90\*5.0\*0.12)  
Q(IMP) = 0.54 CFS

Q1(TOTAL) = 1.71 CFS

DATE	NO	REVISION DESCRIPTION
12/27/19	1	PER ARCHITECT COMMENTS
10/17/19	2	REVIEW COMMENTS
9/9/19	1	REVIEW COMMENTS

DEVELOPER/OWNER:  
**RED LION BEEF CORPORATION**  
12977 N FORTY DRIVE, SUITE 100  
ST. LOUIS, MO 63141  
(314) 821-8665

THE PROFESSIONAL WHOSE SIGNATURE AND PERSONAL SEAL APPEAR HEREON HAS REVIEWED THIS DRAWING FOR CONFORMANCE WITH THE PROFESSIONAL SEAL REQUIREMENTS OF THE STATE OF MISSOURI. THIS REVIEW IS LIMITED TO THE TECHNICAL ASPECTS OF THE DRAWING AND DOES NOT CONSTITUTE A GUARANTEE OF THE ACCURACY OF THE INFORMATION PROVIDED BY THE CLIENT OR THE ADEQUACY OF THE DESIGN FOR THE PROJECT TO WHICH THIS DRAWING RELATES.



**LION'S CHOICE**  
SUMMIT ORCHARD  
440 NW CHIPMAN ROAD  
LEE'S SUMMIT, MO

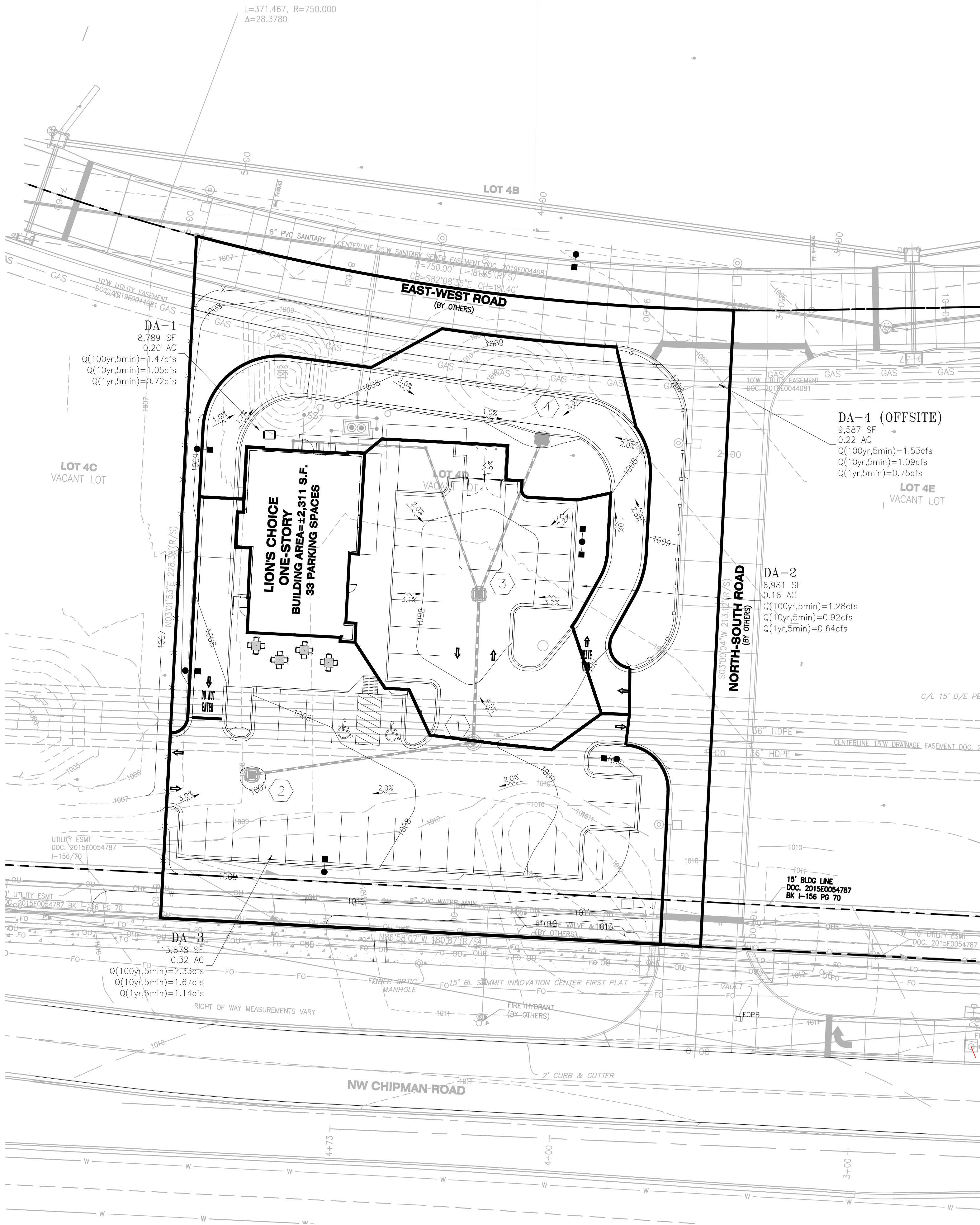
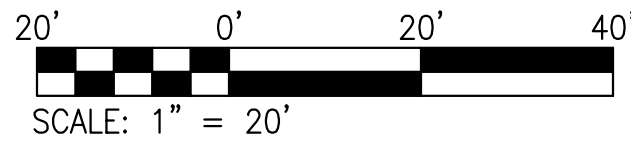
**DRAINAGE AREA MAP (PRE)**

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DRAWN BY	MAB
CHECKED BY	CAW
DRAWING SCALE	AS SHOWN
DATE	08/29/2019
Job Number	18-0136
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THIS SHEET IS FOR DRAINAGE CALCULATION PURPOSES ONLY AND NOT TO BE USED AS CONSTRUCTION PLANS



Q VALUES FOR CURB INLET (DA-1)  
RATIONAL METHOD:  
Q=CA  
C (IMPERVIOUS) =0.90  
C (PERVIOUS) =0.30

PERVIOUS AREA = 0.06 AC.  
IMPERVIOUS AREA = 0.14 AC.  
TOTAL AREA (A) = 0.20 AC.

100 YEAR STORM (1% CHANCE), 5 MIN. DURATION  
I FOR 100 YEAR, 5 MINUTE DURATION = 10.2

Q(PER) =(0.30\*10.2\*0.06)  
Q(PER) =0.18 CFS

Q(IMP) =(0.90\*10.2\*0.14)  
Q(IMP) =1.29 CFS

Q100(TOTAL) =1.47 CFS

10 YEAR STORM (10% CHANCE), 5 MIN. DURATION  
I FOR 10 YEAR, 5 MINUTE DURATION = 7.3

Q(PER) =(0.30\*7.3\*0.06)  
Q(PER) =0.13 CFS

Q(IMP) =(0.90\*7.3\*0.14)  
Q(IMP) =0.92 CFS

Q10(TOTAL) =1.05 CFS

1 YEAR STORM (100% CHANCE), 5 MIN. DURATION  
I FOR 1 YEAR, 5 MINUTE DURATION = 5.0

Q(PER) =(0.30\*5.0\*0.06)  
Q(PER) =0.09 CFS

Q(IMP) =(0.90\*5.0\*0.14)  
Q(IMP) =0.63 CFS

Q1(TOTAL) =0.72 CFS

Q VALUES FOR GRATED INLET (DA-3)  
RATIONAL METHOD:  
Q=CA  
C (IMPERVIOUS) =0.90  
C (PERVIOUS) =0.30

PERVIOUS AREA = 0.10 AC.  
IMPERVIOUS AREA = 0.22 AC.  
TOTAL AREA (A) = 0.32 AC.

100 YEAR STORM (1% CHANCE), 5 MIN. DURATION  
I FOR 100 YEAR, 5 MINUTE DURATION = 10.2

Q(PER) =(0.30\*10.2\*0.10)  
Q(PER) =0.31 CFS

Q(IMP) =(0.90\*10.2\*0.22)  
Q(IMP) =2.02 CFS

Q100(TOTAL) =2.33 CFS

10 YEAR STORM (10% CHANCE), 5 MIN. DURATION  
I FOR 10 YEAR, 5 MINUTE DURATION = 7.3

Q(PER) =(0.30\*7.3\*0.10)  
Q(PER) =0.22 CFS

Q(IMP) =(0.90\*7.3\*0.22)  
Q(IMP) =1.45 CFS

Q10(TOTAL) =1.67 CFS

1 YEAR STORM (100% CHANCE), 5 MIN. DURATION  
I FOR 1 YEAR, 5 MINUTE DURATION = 5.0

Q(PER) =(0.30\*5.0\*0.10)  
Q(PER) =0.15 CFS

Q(IMP) =(0.90\*5.0\*0.22)  
Q(IMP) =0.99 CFS

Q1(TOTAL) =1.14 CFS

Q VALUES FOR GRATED INLET (DA-2)  
RATIONAL METHOD:  
Q=CA  
C (IMPERVIOUS) =0.90  
C (PERVIOUS) =0.30

PERVIOUS AREA = 0.03 AC.  
IMPERVIOUS AREA = 0.13 AC.  
TOTAL AREA (A) = 0.16 AC.

100 YEAR STORM (1% CHANCE), 5 MIN. DURATION  
I FOR 100 YEAR, 5 MINUTE DURATION = 10.2

Q(PER) =(0.30\*10.2\*0.03)  
Q(PER) =0.09 CFS

Q(IMP) =(0.90\*10.2\*0.13)  
Q(IMP) =1.19 CFS

Q100(TOTAL) =1.28 CFS

10 YEAR STORM (10% CHANCE), 5 MIN. DURATION  
I FOR 10 YEAR, 5 MINUTE DURATION = 7.3

Q(PER) =(0.30\*7.3\*0.03)  
Q(PER) =0.07 CFS

Q(IMP) =(0.90\*7.3\*0.13)  
Q(IMP) =0.85 CFS

Q10(TOTAL) =0.92 CFS

1 YEAR STORM (100% CHANCE), 5 MIN. DURATION  
I FOR 1 YEAR, 5 MINUTE DURATION = 5.0

Q(PER) =(0.30\*5.0\*0.03)  
Q(PER) =0.05 CFS

Q(IMP) =(0.90\*5.0\*0.13)  
Q(IMP) =0.59 CFS

Q1(TOTAL) =0.64 CFS

Q VALUES FOR OFFSITE DRAINAGE (DA-4)  
RATIONAL METHOD:  
Q=CA  
C (IMPERVIOUS) =0.90  
C (PERVIOUS) =0.30

PERVIOUS AREA = 0.08 AC.  
IMPERVIOUS AREA = 0.14 AC.  
TOTAL AREA (A) = 0.22 AC.

100 YEAR STORM (1% CHANCE), 5 MIN. DURATION  
I FOR 100 YEAR, 5 MINUTE DURATION = 10.2

Q(PER) =(0.30\*10.2\*0.08)  
Q(PER) =0.24 CFS

Q(IMP) =(0.90\*10.2\*0.14)  
Q(IMP) =1.29 CFS

Q100(TOTAL) =1.53 CFS

10 YEAR STORM (10% CHANCE), 5 MIN. DURATION  
I FOR 10 YEAR, 5 MINUTE DURATION = 7.3

Q(PER) =(0.30\*7.3\*0.08)  
Q(PER) =0.17 CFS

Q(IMP) =(0.90\*7.3\*0.14)  
Q(IMP) =0.92 CFS

Q10(TOTAL) =1.09 CFS

1 YEAR STORM (100% CHANCE), 5 MIN. DURATION  
I FOR 1 YEAR, 5 MINUTE DURATION = 5.0

Q(PER) =(0.30\*5.0\*0.08)  
Q(PER) =0.12 CFS

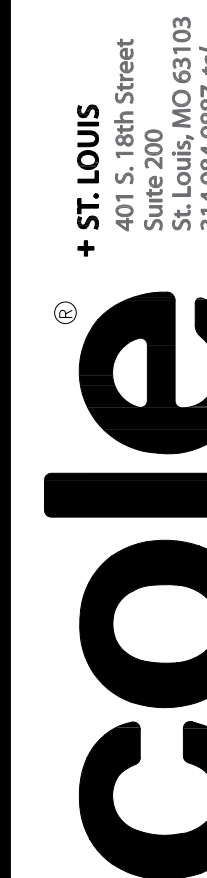
Q(IMP) =(0.90\*5.0\*0.14)  
Q(IMP) =0.63 CFS

Q1(TOTAL) =0.75 CFS

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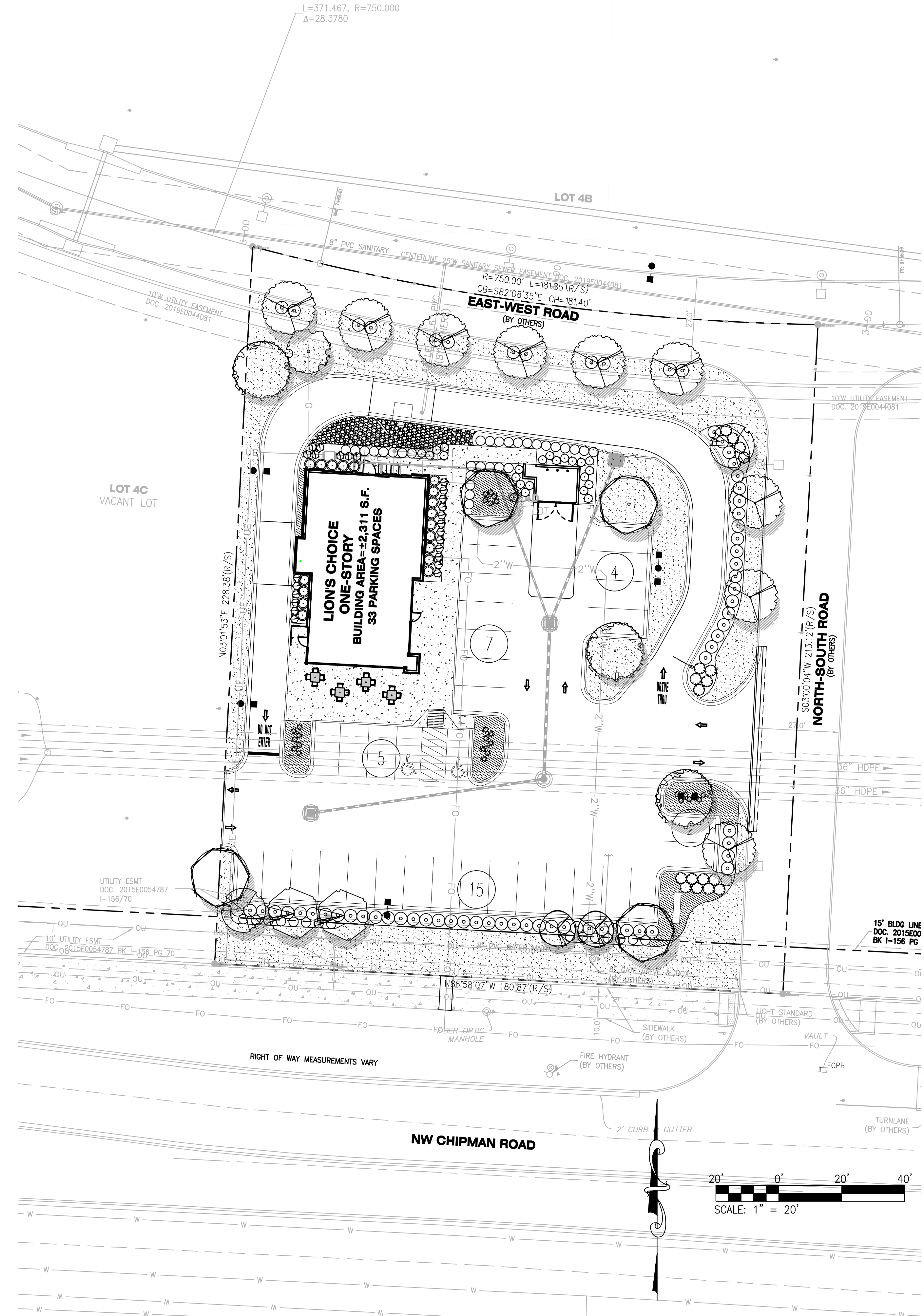


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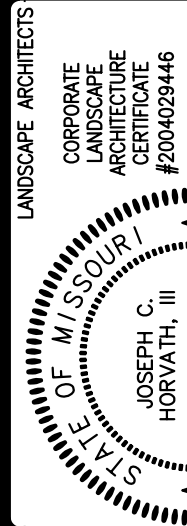
LANDSCAPE AND TREE REQUIREMENTS			
LEE'S SUMMIT UDO - SECTION 8.790 (a) (1)&(3) - STREET FRONTAGE			
REQUIREMENT	AREA / MEASUREMENT	REQ'D	PROVD
NW CHIPMAN ROAD 1 TREE FOR EVERY 30 LINEAL FEET OF FRONTAGE AND 1 SHRUB FOR EVERY 20 LINEAL FEET OF STREET FRONTAGE	+/- 167 LF OF FRONTAGE 167/30=5.6 - 6 TREES 167/20=8.35 - 9 SHRUBS	6 TREES 9 SHRUBS	6 TREES 49 SHRUBS AS REQUIRED BY SECT. 8.820 (C) (1)
EAST-WEST ROAD 1 TREE FOR EVERY 30 LINEAL FEET OF FRONTAGE AND 1 SHRUB FOR EVERY 20 LINEAL FEET OF STREET FRONTAGE	+/- 167 LF OF FRONTAGE 167/30=5.6 - 6 TREES 167/20=8.35 - 9 SHRUBS	6 TREES 9 SHRUBS	6 TREES 12 SHRUBS
LEE'S SUMMIT UDO - SECTION 8.790 (b) (1) - OPEN YARD AREAS			
2 SHRUBS PER 5,000 S.F. OF TOTAL LOT AREA	39,247.8 S.F. TOTAL LOT AREA 39,247.8/5,000 = 7.8 7.8x2 = 15.6 - 16 SHRUBS REQ.	16 SHRUBS	16 SHRUBS
LEE'S SUMMIT UDO - SECTION 8.790 (b) (3) - OPEN YARD AREAS			
1 TREE FOR EVERY 5,000 S.F. OF LOT AREA NOT COVERED BY BUILDINGS	39,247.8 S.F. TOTAL LOT AREA 39,247.8 - 2,285 = 36,962.8 S.F. 36,962.8/5,000 = 7.4 - 8 TREES REQ.	8 TREES	8 TREES
LEE'S SUMMIT UDO - SECTION 8.820 (c) (1) - SCREENING PARKING LOT			
NW CHIPMAN ROAD A HEDGE WITH MIN. 12 SHRUBS PER 40 LINEAR FEET MIN. 18" TALL AT INSTALL	+/- 167 LF OF FRONTAGE 167/40=4.1 4.1x12 = 49 SHRUBS	49 SHRUBS	49 SHRUBS
NORTH-SOUTH ROAD A HEDGE WITH MIN. 12 SHRUBS PER 40 LINEAR FEET MIN. 18" TALL AT INSTALL	+/- 136 LF OF FRONTAGE 136/40=3.4 3.4x12 = 41 SHRUBS	41 SHRUBS	41 SHRUBS

PLANT SCHEDULE						
CANOPY TREES	QTY	BOTANICAL NAME	COMMON NAME	SPACING	SIZE	COMMENTS
	3	Acer Rubrum	Red Maple	As Shown	3"Cal.	B&B
	4	Tilia americana	American Linden	As Shown	3"Cal.	B&B
	9	Gleditsia triacanthos f. inermis 'Skycole' SKYLINE	Skyline Honeylocust	As Shown	3"Cal.	B&B
FLOWERING ORNAMENTAL TREES	QTY	BOTANICAL NAME	COMMON NAME	SPACING	SIZE	COMMENTS
	1	Cercis canadensis	Eastern Redbud	As Shown	3"Cal.	B&B
	2	Betula nigra	River Birch	As Shown	3"Cal.	B&B
	2	Chionanthus retusus	Chinese Fringe Tree	As Shown	3"Cal.	B&B
SHRUBS	QTY	BOTANICAL NAME	COMMON NAME	SPACING	SIZE	COMMENTS
	18	Rhus aromatica 'Grow-Low'	Fragrant sumac	As Shown	18"-24" min.	Cont.
	25	SCHIZACHYRIUM SCOPARIUM	LITTLE BLUESTEM	As Shown	3 GAL.	Cont.
	18	Physocarpus opulifolius 'SMPOTW'	Tiny Wine Ninebark	As Shown	24" min.	Cont.
	45	Ceanothus americanus	New Jersey Tea	As Shown	24" min.	Cont.
	24	Juniperus x pfitzeriana 'Sea Green'	Chinese Juniper	As Shown	30" min.	Cont.
	23	Rhamnus frangula	Fine Line Buckthorn	As Shown	36" ht. min.	Cont.
ORNAMENTAL GRASS	QTY	BOTANICAL NAME	COMMON NAME	SPACING	SIZE	COMMENTS
	75	Sporobolus heterolepis	Prairie Dropseed	24" o.c.	1 gal.	Cont.
PERENNIALS	QTY	BOTANICAL NAME	COMMON NAME	SPACING	SIZE	COMMENTS
	27	Echinacea purpurea	Purple Coneflower	As Shown	1gal.	Cont.

## LANDSCAPE NOTES:

- LANDSCAPE CONTRACTOR TO VERIFY LOCATION OF UNDERGROUND UTILITIES BEFORE BEGINNING WORK.
- ALL LANDSCAPE SHALL COMPLY WITH THE CURRENT EDITION OF ANSI Z 60.1 "AMERICAN STANDARD FOR NURSERY STOCK."
- ALL PLANTS SHALL MEET THE REQUIREMENTS OF THE STATE AND FEDERAL LAW WITH RESPECT TO DISEASE AND INSECT INFESTATION.
- ALL PLANT BEDS SHALL BE MULCHED WITH DECORATIVE GRAVEL, 2" MIN. DEPTH WITH LANDSCAPE FABRIC. SUBMIT SAMPLE TO OWNERS REPRESENTATIVE FOR APPROVAL.
- GENERAL CONTRACTOR SHALL INSTALL DECORATIVE GRAVEL. DECORATIVE GRAVEL COLOR SHALL MATCH BUILDING COLOR AND BE 5/8"-1" IN SIZE.
- ALL LANDSCAPE SUBSTITUTIONS MUST BE APPROVED BY THE OWNER'S REPRESENTATIVE/LANDSCAPE ARCHITECT.
- FORMAL LINES AND GROUPINGS OF A SPECIES OF TREE, SHRUB, OR GROUNDCOVER SHALL BE MATCHED FOR SIZE, FORM, AND COLOR.
- ALL BACKFILL PLANTING BEDS AND TREE PITS SHALL BE BACKFILLED WITH PLANTING SOIL.
- ALL TREES OUTSIDE OF PLANT BEDS SHALL BE PLANTED WITH A MULCH RING. OBTAIN APPROVAL FROM OWNER'S REPRESENTATIVE/LANDSCAPE ARCHITECT FOR ANY TREES THAT WILL NOT BE MULCHED FOR EXCESSIVE MOISTURE REASONS.
- ALL LANDSCAPING SHALL BE INSTALLED AS SHOWN ON THE APPROVED PLAN.
- AT PLANTING, TREE TRUNKS MUST BE STRAIGHT WITH MINIMAL DOGLEGES.
- WIRE BASKETS, BURLAP WRAPPINGS, ROPE, TWINE OR ANY SIMILAR SHIPPING MATERIALS SHALL BE REMOVED BEFORE PLANTING.
- A SPADE CUT EDGE SHALL BE CREATED AT ALL LOCATIONS WHERE PLANTING BEDS ARE ADJACENT TO GRASS AREAS UNLESS OTHERWISE NOTED.
- SEE CIVIL PLANS FOR TYPE AND LOCATION OF EROSION CONTROL MATERIALS.
- DO NOT DISTURB EXISTING UTILITIES WITHIN WORK AREA. SILT FENCE AND PLANTINGS SHALL AVOID ANY EXISTING UTILITIES.
- THE CONTRACTOR SHALL FOLLOW THE LANDSCAPE PLANS. ANY SUBSTITUTION OR ALTERATION SHALL NOT BE ALLOWED WITHOUT APPROVAL OF THE OWNER'S REPRESENTATIVE/LANDSCAPE ARCHITECT. OVERALL PLANT QUANTITY AND QUALITY SHALL BE CONSISTENT WITH THE PLANS.
- THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL PLANT QUANTITIES. WRITTEN QUANTITIES TAKES PRECEDENCE OVER GRAPHIC QUANTITIES. NOTIFY OWNER'S REPRESENTATIVE/LANDSCAPE ARCHITECT OF DISCREPANCIES.
- THE OWNER'S REPRESENTATIVE/LANDSCAPE ARCHITECT RESERVES THE RIGHT TO INSPECT AND TAG ALL PLANT MATERIAL PRIOR TO SHIPPING TO THE SITE. IN ALL CASES, THE LANDSCAPE ARCHITECT MAY REJECT PLANT MATERIAL AT THE SITE IF MATERIAL IS DAMAGED, DISEASED, OR DECLINING IN HEALTH AT THE TIME OF ONSITE INSPECTIONS OR IF THE PLANT MATERIAL DOES NOT MEET THE MINIMUM SPECIFIED STANDARD INDICATED ON THE PLANS AND IN THE SPECIFICATIONS. THE CONTRACTOR SHALL COORDINATE WITH THE OWNER'S REPRESENTATIVE/LANDSCAPE ARCHITECT FOR INSPECTION AND APPROVAL OF ALL MATERIALS AND PRODUCTS PRIOR TO INSTALLATION.
- THE OWNER'S REPRESENTATIVE/LANDSCAPE ARCHITECT MAY ELECT TO UPSIZE PLANT MATERIAL AT THEIR DISCRETION BASED ON SELECTION, AVAILABILITY, OR TO ENHANCE SPECIFIC AREAS OF THE PROJECT. THE CONTRACTOR SHALL VERIFY PLANT MATERIAL SIZES WITH OWNER'S REPRESENTATIVE/LANDSCAPE ARCHITECT PRIOR TO PURCHASING, SHIPPING OR STOCKING OF PLANT MATERIALS. SUBMIT CHANGE ORDER REQUEST TO OWNER'S REPRESENTATIVE/LANDSCAPE ARCHITECT FOR APPROVAL IF ADDITIONAL COST IS REQUESTED BY THE CONTRACTOR PRIOR TO INSTALLATION. RE-STOCKING CHARGES WILL NOT BE APPROVED IF THE CONTRACTOR FAILS TO SUBMIT A REQUEST FOR MATERIAL CHANGES.
- THE CONTRACTOR SHALL WARRANTY ALL CONTRACTED WORK AND MATERIALS FOR A PERIOD OF ONE YEAR AFTER SUBSTANTIAL COMPLETION HAS BEEN ISSUED BY THE OWNER'S REPRESENTATIVE/LANDSCAPE ARCHITECT FOR THE ENTIRE PROJECT UNLESS OTHERWISE SPECIFIED IN THE CONTRACT DOCUMENTS OR SPECIFICATIONS.
- THE DEVELOPER, HIS SUCCESSORS AND ASSIGNS SHALL BE RESPONSIBLE FOR THE INSTALLATION, MAINTENANCE AND REPLACEMENT OF ALL LANDSCAPING MATERIALS SHOWN OR INDICATED ON THE APPROVED LANDSCAPE PLAN ON FILE WITH THE PLANNING DEPARTMENT. ALL LANDSCAPING WILL BE INSTALLED AS DELINEATED ON THE PLAN, PRIOR TO ISSUANCE OF CERTIFICATE OF OCCUPANCY.
- PRIOR TO INSTALLATION OF PLANT MATERIALS, AREAS THAT HAVE BEEN COMPACTED OR DISTURBED BY CONSTRUCTION ACTIVITY SHALL BE THOROUGHLY LOOSENEED TO A DEPTH OF 8" - 12" AND AMENDED.
- ALL LANDSCAPED AREAS ARE TO HAVE SOIL PREPARATION, (MINIMUM RATE OF 3 CU. YDS. OF ORGANIC MATTER PER 1000 S.F.). TREES SHALL NOT BE LOCATED IN DRAINAGE SWALES, DRAINAGE AREAS, OR UTILITY EASEMENTS. CONTACT OWNER'S REPRESENTATIVE/LANDSCAPE ARCHITECT FOR RELOCATION OF PLANTS IN QUESTIONABLE AREAS PRIOR TO INSTALLATION.
- ALL TREES ARE TO BE STAKED AND GUYED FOR A PERIOD OF 1 YEAR. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING STAKES AT THE END OF 1 YEAR FROM ACCEPTANCE OF LANDSCAPE INSTALLATION BY THE OWNER'S REPRESENTATIVE/LANDSCAPE ARCHITECT. OBTAIN APPROVAL BY OWNER'S REPRESENTATIVE PRIOR TO REMOVAL.
- PLACE PLANT MATERIAL IN SHRUB BED SO THAT ONCE PLANTS GROW TO FULL SIZE THEY ARE FULLY CONTAINED WITHIN THE SHRUB BED AREA AND DO NOT HANG OVER THE EDGER LINE.
- REFER TO IRRIGATION PLANS BY OTHERS FOR LIMITS AND TYPES OF IRRIGATION DESIGNED FOR THE LANDSCAPE. IN NO CASE SHALL IRRIGATION BE EMITTED WITHIN THE MINIMUM DISTANCE FROM BUILDING OR WALL FOUNDATIONS AS STIPULATED IN THE GEOTECHNICAL REPORT. ALL IRRIGATION DISTRIBUTION LINES, HEADS AND EMITTERS SHALL BE KEPT OUTSIDE THE MINIMUM DISTANCE AWAY FROM ALL BUILDING AND WALL FOUNDATIONS AS STIPULATED IN THE GEOTECHNICAL REPORT.
- LANDSCAPE AREAS SHALL BE IRRIGATED WITH AN AUTOMATIC UNDERGROUND IRRIGATION SYSTEM WITH INDIVIDUAL ZONES FOR TURF AND NON-TURF AREAS, AND MUST INCLUDE A MOISTURE DETECTION DEVICE TO PREVENT IRRIGATION DURING RAINY PERIODS. TURF AREAS SHALL BE IRRIGATED WITH AN AUTOMATIC POP-UP IRRIGATION SYSTEM. SHRUB AND PERENNIAL BEDS SHALL HAVE DRIP IRRIGATION.
- LANDSCAPE MATERIAL LOCATIONS SHALL HAVE PRECEDENCE OVER IRRIGATION MAINLINE AND LATERAL LOCATIONS. COORDINATE INSTALLATION OF IRRIGATION EQUIPMENT SO THAT IT DOES NOT INTERFERE WITH THE PLANTING OF TREES OR OTHER LANDSCAPE MATERIAL.
- THE LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR ENSURING POSITIVE DRAINAGE EXISTS IN ALL LANDSCAPE AREAS. SURFACE DRAINAGE ON LANDSCAPE AREAS SHALL NOT FLOW TOWARD STRUCTURES AND FOUNDATIONS. MAINTAIN SLOPE AWAY FROM FOUNDATIONS PER THE GEOTECHNICAL REPORT RECOMMENDATIONS. ALL LANDSCAPE AREAS BETWEEN WALKS AND CURBS AND CURBS SHALL DRAIN FREELY TO THE CURB UNLESS OTHERWISE IDENTIFIED ON THE GRADING PLAN. IN NO CASE SHALL THE GRADE, TURF THATCH, OR OTHER LANDSCAPE MATERIALS DAM WATER AGAINST WALKS. MINIMUM SLOPES ON LANDSCAPE AREAS SHALL BE 2%; MAXIMUM SLOPE SHALL BE 25% UNLESS SPECIFICALLY IDENTIFIED ON THE PLANS OR APPROVED BY THE OWNER'S REPRESENTATIVE/LANDSCAPE ARCHITECT.
- SHRUB, GROUNDCOVER AND PERENNIAL BEDS ARE TO BE CONTAINED BY A SPADE CUT EDGE. EDGER IS NOT REQUIRED WHEN ADJACENT TO CURBS, WALLS, WALKS OR SOLID FENCES WITHIN 3" OF PRE-MULCHED FINAL GRADE. EDGER SHALL NOT BE REQUIRED TO SEPARATE MULCH TYPES UNLESS SPECIFIED ON THE PLANS.
- AT SEED AREA BOUNDARIES ADJACENT TO EXISTING NATIVE AREAS, OVERLAP ABUTTING NATIVE AREAS BY THE FULL WIDTH OF THE SEEDER.
- EXISTING TURF AREAS THAT ARE DISTURBED DURING CONSTRUCTION, ESTABLISHMENT AND THE MAINTENANCE PERIOD SHALL BE RESTORED WITH NEW SOD TO MATCH EXISTING TURF SPECIES. DISTURBED NATIVE AREAS WHICH ARE TO REMAIN SHALL BE OVER SEEDED AND RESTORED WITH SPECIFIED SEED MIX.
- WHEN COMPLETE, ALL GRADES SHALL BE WITHIN +/- 1/8" OF FINISHED GRADES AS SHOWN ON THE PLANS. THESE PLANS ARE NOT INTENDED FOR CONSTRUCTION OR PERMITTING UNLESS STATED IN THE TITLE BLOCK.
- DRAWINGS ARE INTENDED TO BE PRINTED ON 24" X 36" PAPER. PRINTING THESE DRAWINGS AT A DIFFERENT SIZE WILL IMPACT THE SCALE. VERIFY THE GRAPHIC SCALE BEFORE REFERENCING ANY MEASUREMENTS ON THESE SHEETS. THE RECIPIENT OF THESE DRAWINGS SHALL BE RESPONSIBLE FOR ANY ERRORS RESULTING FROM INCORRECT PRINTING, COPYING, OR ANY OTHER CHANGES THAT ALTER THE SCALE OF THE DRAWINGS.
- VERIFY ALL PLAN DIMENSIONS PRIOR TO START OF CONSTRUCTION. NOTIFY THE OWNER'S REPRESENTATIVE TO ADDRESS ANY QUESTIONS OR CLARIFY ANY DISCREPANCIES.
- WRITTEN DIMENSIONS TAKE PRECEDENCE OVER SCALED DIMENSIONS.
- SUBMIT A CHANGE ORDER FOR APPROVAL FOR ANY CHANGES TO WORK SCOPE RESULTING FROM FIELD CONDITIONS OR DIRECTION BY OWNER'S REPRESENTATIVE WHICH REQUIRE ADDITIONAL COST TO THE OWNER PRIOR TO PERFORMANCE OF WORK.
- A METAL EDGE SHALL BE CREATED AT ALL LOCATIONS WHERE TURF IS ADJACENT TO GRAVEL PLANT BEDS.

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