

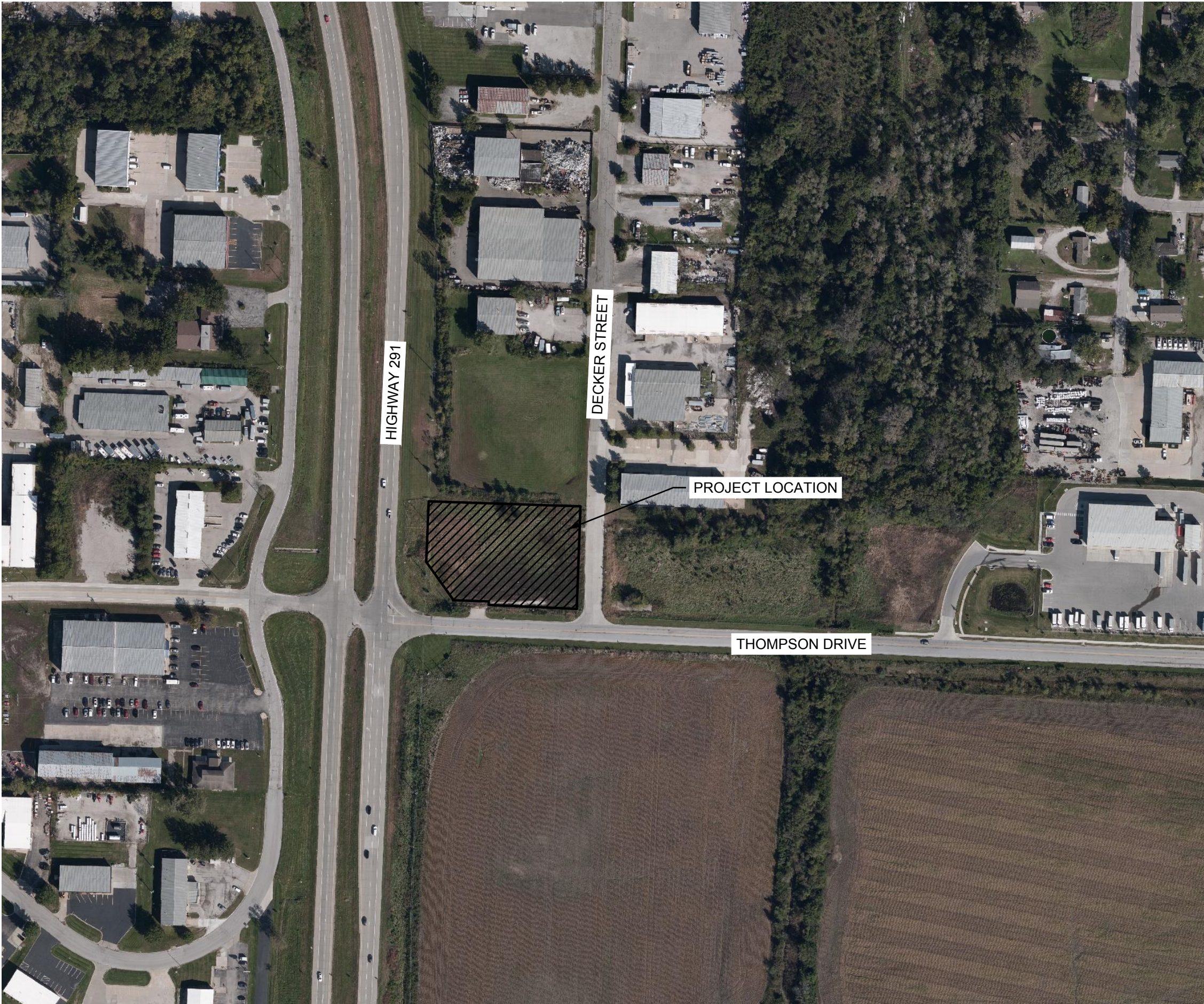
MIDWEST CARWASH FINAL DEVELOPMENT PLAN

LOT 13, LEMONE-SMITH BUSINESS & RETAIL CENTER, PLAT 8, A SUBDIVISION IN
LEE'S SUMMIT, JACKSON COUNTY, MISSOURI

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BENCHMARKS

OLSSON BENCH MARK #1: SET CHISELED SQUARE
ELEVATION=1000.20' 2825112.3168' EASTING 991377.1377' NORTHING



NOT TO SCALE

PROPERTY DESCRIPTION

LOT 13, LEMONE-SMITH BUSINESS & RAIL CENTER, PLAT 8, A SUBDIVISION IN LEE'S SUMMIT, JACKSON COUNTY, MISSOURI. EXCEPT AND SUBJECT TO: EASEMENTS, RESTRICTIONS AND ASSESSMENTS OF RECORD, AND ALL THE TAXES AND ASSESSMENTS THAT MAY BE LEVIED, IMPOSED OR BECOME PAYABLE HEREAFTER.

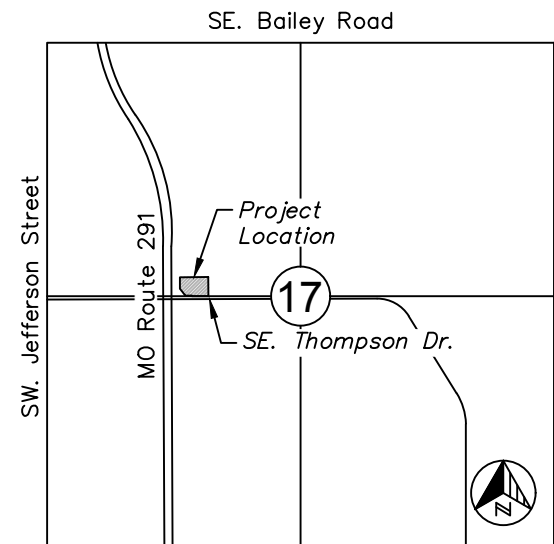
DEVELOPMENT TEAM CONTACT INFORMATION	
OWNER/DEVELOPER	
MIDWEST WASH GROUP	JASON BOHNERT MIDWEST WASH GROUP PH: 816-258-0583 JBOHNERT@MIDWESTWASHGROUP.COM
CIVIL ENGINEER	
MITCH PLEAK OLSSON	7301 W 133RD STREET SUITE 200 OVERLAND PARK, KS 66213 PH: 913-381-1170 mpleak@olsson.com
UTILITY AND GOVERNING AGENCY CONTACT INFORMATION	
CITY OF LEE'S SUMMIT, MISSOURI	220 SE GREEN LEE'S SUMMIT, MO 64063
CITY HALL	816.969.1000
BUILDING INSPECTIONS	816.969.1200
SPECIAL INSPECTIONS	816.969.1200
BUILDING PERMITS	816.969.1200
LAND DEVELOPMENT DIVISION/INSPECTIONS	816.969.1200
TRAFFIC OPERATIONS	816.969.1800
LEE'S SUMMIT WATER UTILITIES	1200 SE HAMBLEN ROAD LEE'S SUMMIT, MO 64081
LEE'S SUMMIT WATER & SERVICES	816.969.1940
LEE'S SUMMIT PUBLIC WORKS	816.969.1800
SPIRE (MGE)	314.342.0500
EVERGY	8700 EAST FRONT STREET KANSAS CITY, MO 64120 816.471.5275
TELEPHONE SERVICE	
AT&T	816.221.1781
CABLE TELEVISION SERVICE	
SPECTRUM	877.772.2253
GOOGLE FIBER	877.454.6959

I CERTIFY THAT TO THE BEST OF MY KNOWLEDGE AND ABILITY THAT ALL LAND DISTURBANCE ACTIVITY, CONSTRUCTION, AND DEVELOPMENT ASSOCIATED WITH THIS PROJECT WILL BE DONE PURSUANT TO THIS PLAN

OWNER/DEVELOPER/OPERATOR/CONTRACTOR _____ DATE _____

CITY APPROVAL

RELEASED FOR CONSTRUCTION	DATE
---------------------------	------



Section 17, T47N, R31W
VICINITY MAP
Scale: 1" = 2000'

Property Owner:
Midwest Wash Group, LLC
1362 NW. Windsor Drive
Lee's Summit, MO 64086

Prepared For:
Kadean Construction
Attn: Rob Geist
1821 McGee Street
Kansas City, MO 64108

Prepared By:
Olsson, Inc.
7301 West 133rd Street, Suite 200
Overland Park, KS 66213
Phone: (913) 381-1170
Fax: (913) 381-1174



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, & OBTAINING INFORMATION FROM, UTILITY COMPANIES. STATE LAW REQUIRES 48 HOURS ADVANCE NOTICE. CALL 1-800-DIG-RITE.

LEGEND

	SECTION CORNER		OVERHEAD POWER LINE
	ALUMINUM MONUMENT		GAS LINE
	SET 1/2" REBAR W/LC 114 CAP IN CONCRETE		UNDERGROUND POWER LINE
	FOUND 1/2" REBAR		UNDERGROUND TELEPHONE LINE
	FIRE HYDRANT		SANITARY SEWER LINE
	WATER VALVE		STORM LINE
	WATER METER		WATER LINE
	WATER METER PIT		TELEPHONE MANHOLE
	GAS VALVE		TELEPHONE PEDESTAL
	GAS METER		TELEPHONE CABINET
	SPRINKLER BOX		TRAFFIC SIGNAL BOX
	SANITARY SEWER MANHOLE		TRAFFIC SIGNAL POLE
	STORM SEWER MANHOLE		CABLE BOX
	SANITARY SEWER CLEANOUT		FIBER OPTIC BOX
	ELECTRIC BOX		TELEVISION PEDESTAL
	BREAKER BOX		TELEPHONE BOOTH
	ELECTRIC METER		AIR CONDITIONING UNIT
	TRANSFORMER		GRATE INLET
	POWER POLE		WOOD POST
	POWER POLE/W LIGHT		BOLLARD
	GUY WIRE		STEEL POST
	LIGHT POLE		COLUMN
	YARD LIGHT		FLAG POLE
	BOREHOLE LOCATION		BUSH
			SIGN
			TREE

BY

NO

REVISIONS DESCRIPTION

TE

REV. NO.	DATE
1	06/13/2021

TITLE SHEET
FINAL DEVELOPMENT PLAN

MIDWEST WASH
HWY 291 & THOMPSON DRIVE

LEE'S SUMMIT, MISSOURI

2023

drawn by: _____ BP
checked by: _____ MP
approved by: _____ LM
QA/QC by: _____ BE
project no.: _____ 022-4040
drawing no.: _____
date: _____ 05.13.23

SHEET
C100

MITCHELL ALAN
PLEAK
M. A. Pleak
NUMBER
PE-2009016764
06-19-23

301 West 133rd Street, Suite 200
Overland Park, KS 66213-4750
TEL 913.381.1170 www.olsson.com

USER: bpoynmez
F: 2022\04001-04500\022-04040\40-design\AutoCAD\final plans\Sheets\GNCV\CTL01_02204040.dwg
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DATE: Jun 19, 2023 11:22am



Southside Industrial Park
Lot 17
Bk. 148, Pg. 38
Owner: One Twenty, LLC

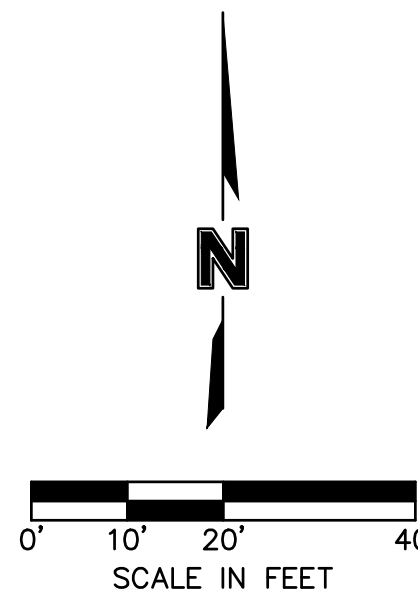
1. CONTRACTOR TO PRESERVE ALL SURVEY CONTROL

15. SEE UTILITY PLANS FOR ADDITIONAL INFORMATION.
16. CONTRACTOR SHALL COORDINATE WITH THE OWNER FOR ANY ADDITIONAL TREE REMOVAL NOT IDENTIFIED WITHIN THE PLANS.
17. SEE ELECTRICAL PLANS FOR EXISTING LIGHT & ELECTRICAL EQUIPMENT REMOVAL AND RELOCATION.
18. AT END OF JOB ALL CONCRETE PAVEMENT SHALL LOOK NEW. ANY CRACKS IN CONCRETE PAVEMENT WILL NOT BE ACCEPTED.
19. MAINTAIN ACCESS TO ALL EXISTING FIELDS THROUGHOUT PROJECT.

KEY NOTE LEGEND	
	REMOVE EXISTING CONCRETE PAVEMENT
	REMOVE CURB AND GUTTER
	SAWCUT PAVEMENT
	ABANDON WATER MAIN IN PLACE. COORDINATE WITH CITY.
	WATER VALVES AND EQUIPMENT TO BE REMOVED.
	REMOVE TREE

LEGEND

	PROPERTY LINE
	EXISTING CONCRETE CURB & GUTTER
SS	EXISTING SANITARY SEWER MAIN
P-UG	EXISTING UNDERGROUND POWER LINE
P-OH	EXISTING OVERHEAD POWER LINE
W	EXISTING WATER MAIN
G	EXISTING GAS MAIN
TEL	EXISTING TELEPHONE LINE
SD	EXISTING STORM SEWER
FO	EXISTING FIBER OPTIC



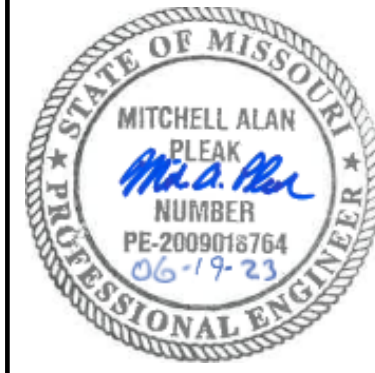
DEMOLITION PLAN
FINAL DEVELOPMENT PLAN

MIDWEST WASH
HWY 291 & THOMPSON DRIVE

LEE'S SUMMIT, MISSOURI

drawn by: _____ BP
checked by: _____ MP
approved by: _____ LM
QA/QC by: _____ BE
project no.: _____ 022-4040
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date: _____ 05.13.23

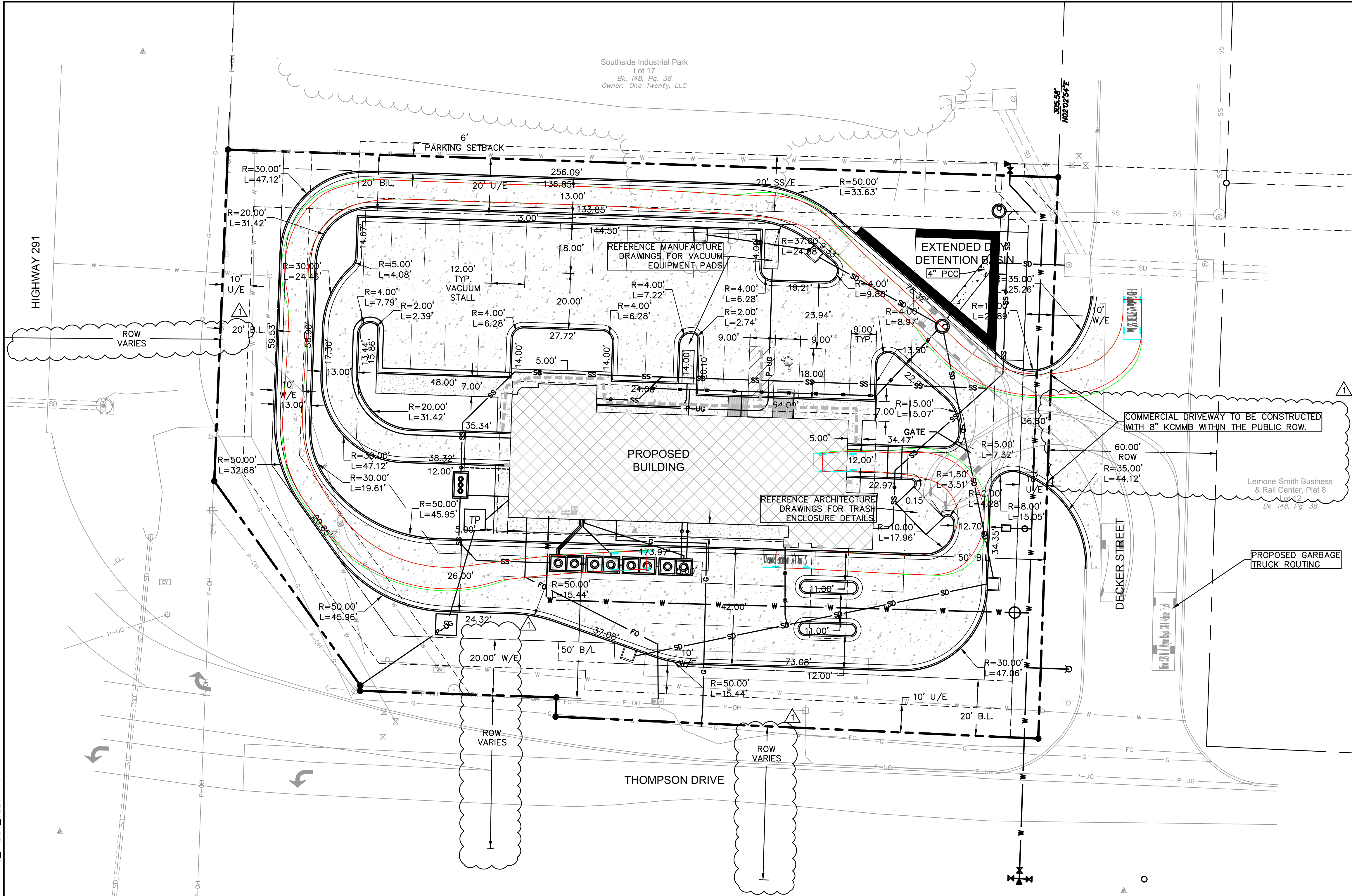
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Overland Park, KS 66213-4750
TEL 913.381.1170 www.olsson.com

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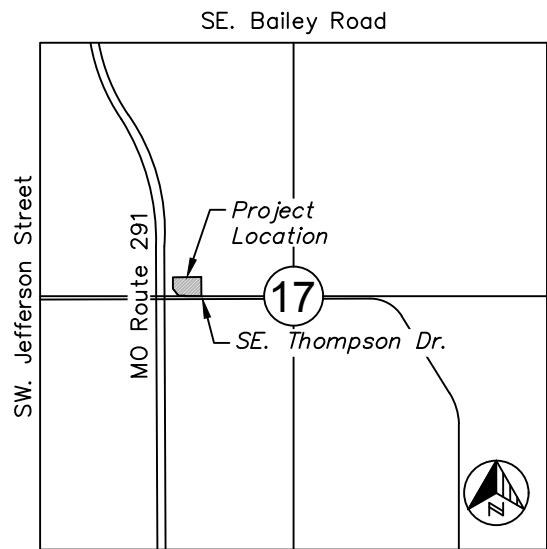
LEGEND

- PROPERTY LINE
- BUILDING SETBACK LINE
- ADA PATH - SIDEWALKS NOT DELINEATED AS ADA PATHS MAY NOT BE ADA COMPLIANT.
- CONCRETE PAVEMENT
- CONCRETE CURB & GUTTER
- PROPOSED RETAINING WALL WITH HANDRAIL
- PROPOSED SANITARY SEWER
- PROPOSED DOMESTIC WATER
- PROPOSED GAS LINE
- PROPOSED STORM
- EXISTING COMMUNICATION SERVICE
- EXISTING ELECTRICAL LINE
- EXISTING SANITARY SEWER
- EXISTING WATER LINE
- EXISTING GAS LINE
- EXISTING STORM
- EXISTING UNDERGROUND POWER
- ADA SIGN
- PARKING STALL COUNT
- UNDERSLAB HEATING (REF. OTHERS (MANUFACTURER))

SITE DATA	
SITE:	1.287 ACRES
PROPOSED USE:	CAR WASH
EXISTING ZONING:	PI
PROPOSED ZONING:	PI
BUILDING FLOOR AREA:	5,713 SF
FLOOR AREA RATIO:	0.102
REQUIRED PARKING:	1 PER EMPLOYEE MAX SHIFT STALLS
PROVIDED PARKING:	TOTAL: 7 PARKING SPACES (1 ADA) 18 VACUUM PARKING STALLS

PROPERTY DESCRIPTION

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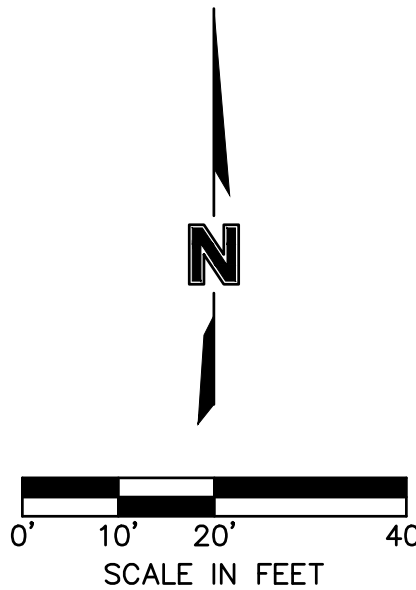


Section 17, T47N, R31W
VICINITY MAP
Scale: 1" = 2000'

Property Owner:
Midwest Wash Group, LLC
1362 NW Windsor Drive
Lee's Summit, MO 64086

Prepared For:
Kadean Construction
Attn: Rob Geist
1821 McGee Street
Kansas City, MO 64108

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olsson

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Overland Park, KS 66213-4750
TEL 913.381.1170 www.olsson.com

MITCHELL ALAN
PEAK
NUMBER
PE-2009016764
05/17/23
PROFESSIONAL ENGINEER

BY

REVISIONS DESCRIPTION

DATE

REV. NO.

1

06/13/2023

CITY COMMENTS

SITE PLAN
FINAL DEVELOPMENT PLAN

MIDWEST WASH
HWY 291 & THOMPSON DRIVE

LEE'S SUMMIT, MISSOURI

2023

drawn by: BP

checked by: MP

approved by: LM

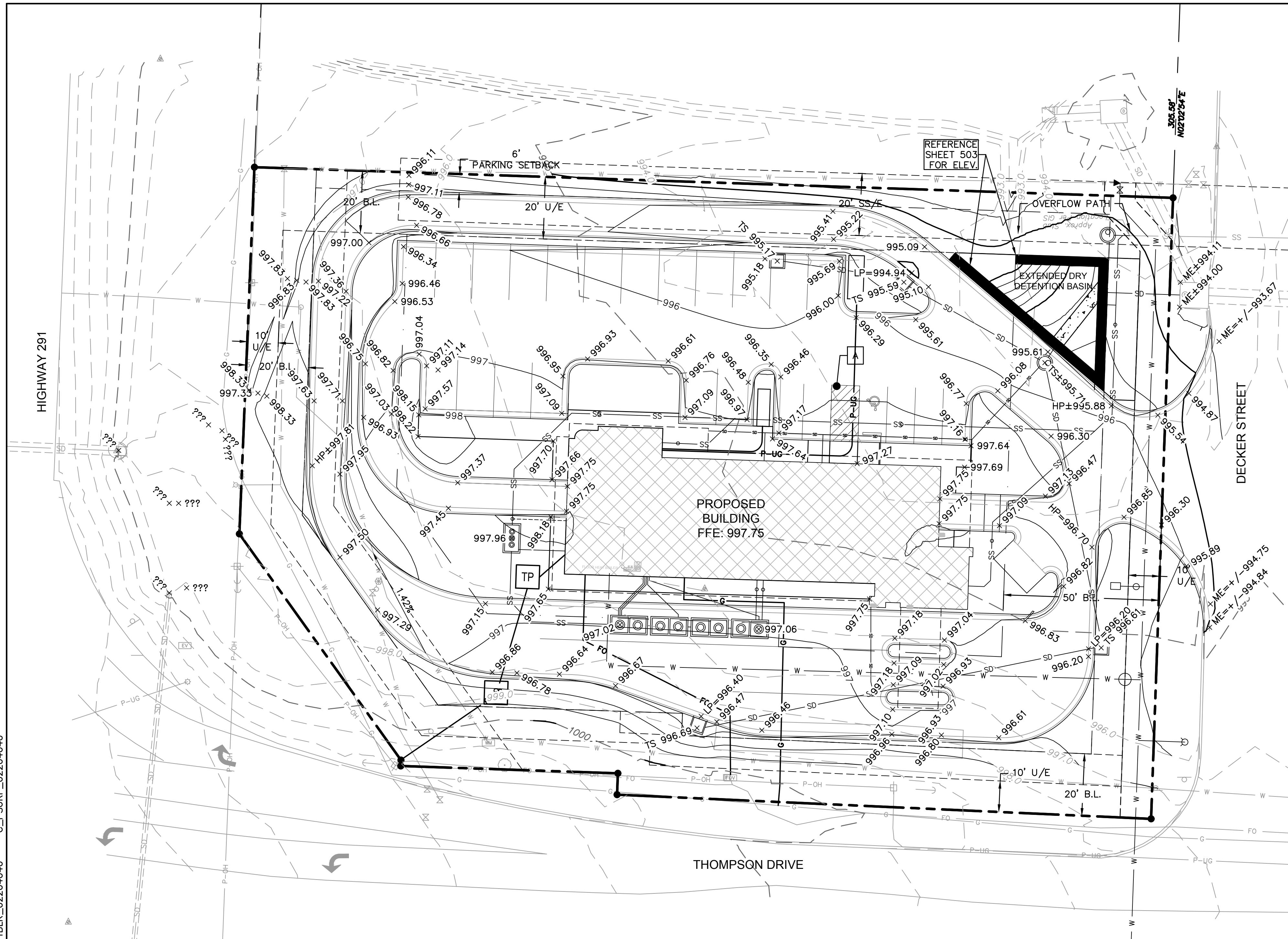
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project no.: 022-4040

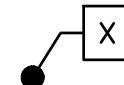
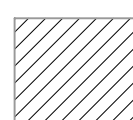
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LEGEND

	PROPERTY LINE
	EXISTING MAJOR CONTOUR
	EXISTING MINOR CONTOUR
	PROPOSED MAJOR CONTOUR
	PROPOSED MINOR CONTOUR
	GRADING DETAIL SEE SHEET C403
	CONSTRUCT CONCRETE (Type CG-1) CURB & GUTTER
	CONSTRUCT CONCRETE (Type CG-1 DRY) CURB & GUTTER
	DETECTABLE WARNINGS
	SIDEWALK RAMP

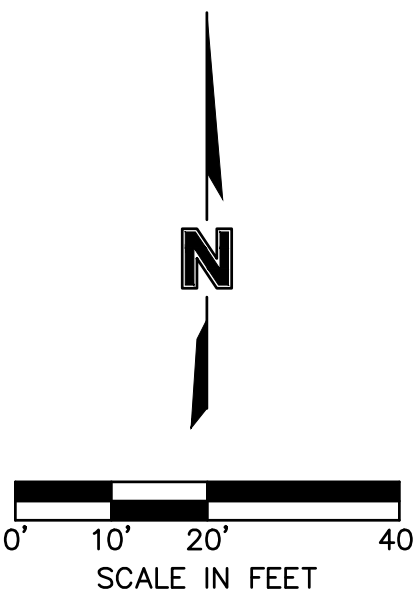
SPOT ELEVATION LEGEND

ALL SPOT ELEVATIONS ARE AT TOP PAVEMENT
UNLESS NOTED OTHERWISE.

FG= FINISHED GRADE WITHIN GREENSPACE
TC= TOP OF CURB
TS= TOP OF STRUCTURE
TP=TC= CURB DEPRESSED TO BE FLUSH WITH
ADJACENT PAVEMENT
MATCH EX.= MATCH EXISTING

NOTES:

1. CONTRACTOR TO REMOVE AND REPLACE ALL SIDEWALK NECESSARY FOR CONNECTION TO EXISTING.
2. ALL ADA ACCESSIBLE SIDEWALK CROSS SLOPES SHALL HAVE A MAXIMUM CROSS SLOPE OF 2.00% AND MAXIMUM LONGITUDINAL SLOPE OF 5.00%.
3. ALL ADA ACCESSIBLE PARKING AREAS SHALL NOT EXCEED 2.00% IN ANY DIRECTION.
4. ALL PLAYGROUND AREA CROSS SLOPES SHALL HAVE A MAXIMUM CROSS SLOPE OF 2.00%.
5. ALL RETAINING WALLS ARE DESIGN BUILT BY THE CONTRACTOR. THE CONTRACTOR MUST PROVIDE THE WALL DESIGN PLANS AND GLOBAL STABILITY TO THE ENGINEER AND CITY OF LEES SUMMIT IN A DEFERRED SUBMITTAL PRIOR TO CONSTRUCTION OF THE WALL. SEE C700.
6. SEE SHEETS C501 & C701 FOR SWALE CALCULATIONS.



GRADING PLAN
FINAL DEVELOPMENT PLAN

MIDWEST WASH
HWY 291 & THOMPSON DRIVE

SSOURI

drawn by: _____ BP
checked by: _____ MP
approved by: _____ LM
QA/QC by: _____ BE
project no.: _____ 022-4040
drawing no.: _____
date: _____ 05.13.23

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BY _____

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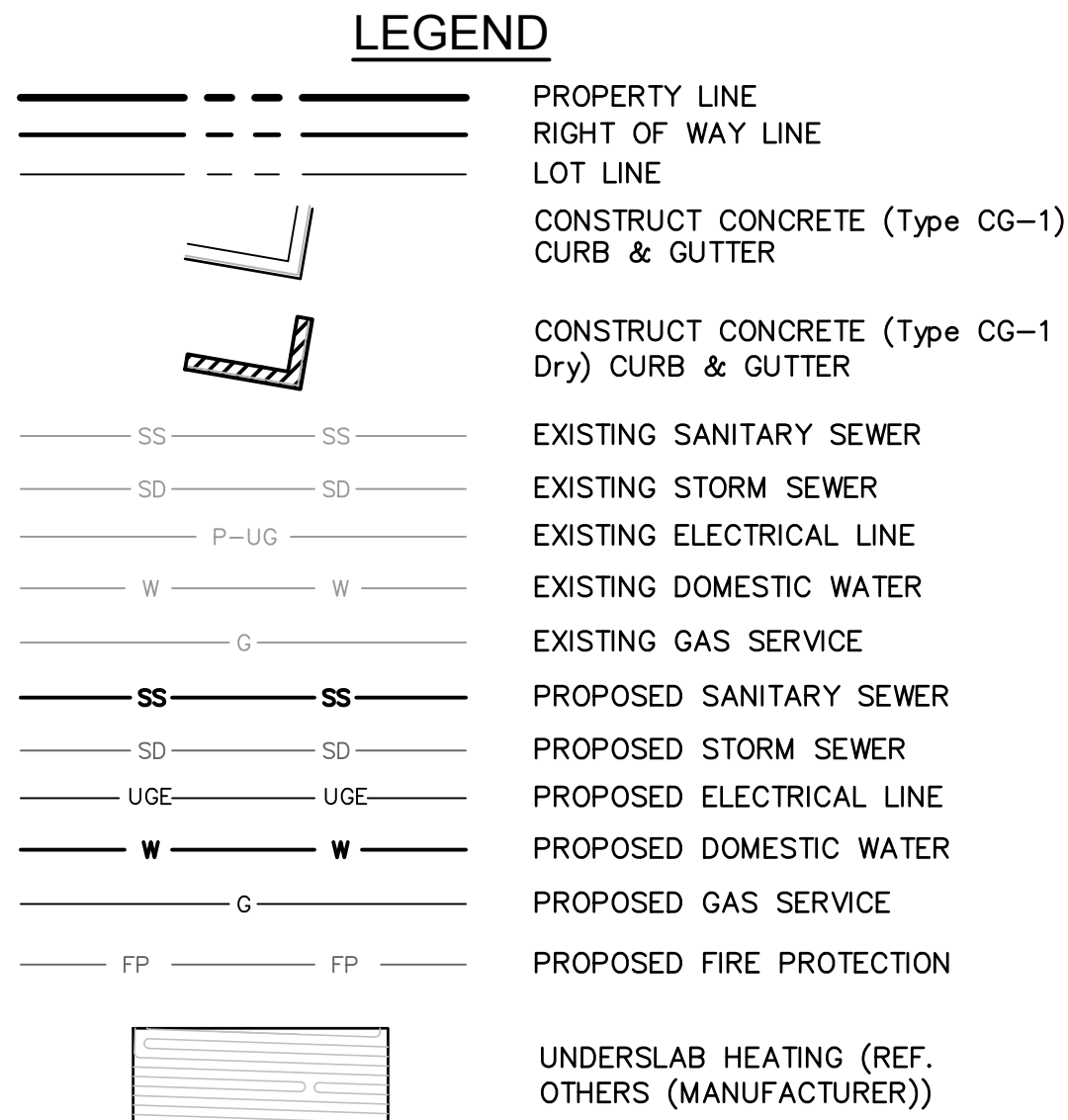
REVISIONS

2023



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Overland Park, KS 66213-4750
TEL 913.381.1170 www.olsson.com



ELECTRICAL: (EX)

- E1. INSTALL APPROXIMATELY 76± LF OF PRIMARY ELECTRICAL SERVICE PER EVERGY/LEE'S SUMMIT DESIGN STANDARDS AND SPECIFICATIONS. VERIFY CONDUIT SIZE AND ROUTING WITH CITY AND EVERGY. THE ALIGNMENT IS APPROXIMATE. CONTRACTOR SHALL COORDINATE ELECTRICAL SERVICE ROUTE DIRECTLY WITH CITY AND EVERGY.
- E2. PROPOSED TRANSFORMER AND PAD LOCATION TO BE PROVIDED WITH THE BUILDING PACKAGE. CONTRACTOR TO INSTALL TRANSFORMER PAD PER EVERGY STANDARDS AND SPECIFICATIONS.
- E3. INSTALL APPROXIMATELY 8± LF OF SECONDARY ELECTRICAL SERVICE PER EVERGY/LEE'S SUMMIT DESIGN STANDARDS AND SPECIFICATIONS. VERIFY CONDUIT SIZE AND ROUTING WITH CITY AND EVERGY. THE ALIGNMENT IS APPROXIMATE. CONTRACTOR SHALL COORDINATE ELECTRICAL SERVICE ROUTE DIRECTLY WITH CITY AND EVERGY.
- E4. REFERENCE MANUFACTURERS DRAWINGS FOR VACUUM EQUIPMENT.
- E5. INSTALL APPROXIMATELY 39± LF OF 2" PVC CONDUIT.
- E6. INSTALL APPROXIMATELY 112± LF OF 2" PVC CONDUIT.

WATER: (WX)

- W1. DOMESTIC WATER SERVICE. CONNECT TO MAIN 8" X 2" TAP, AND INSTALL 5± LF OF 2" SOFT TYPE "K" COPPER PIPE TO THE PROPOSED WATER METER PROVIDED BY THE CITY. CONTRACTOR SHALL COORDINATE WITH CITY ON CONNECTION.
- W2. INSTALL 2" WATER METER, 105± LF OF 2" SOFT TYPE "K" COPPER PIPE AFTER THE METER AND THEN 190± LF OF 2" IPS HDPE DR11 TO THE BUILDING CONNECTION POINT PER CITY WATER STANDARDS AND SPECIFICATIONS.
- W3. IRRIGATION WATER SERVICE. CONNECT TO MAIN 8" X 2" TAP, AND INSTALL 5± LF OF 2" SOFT TYPE "K" COPPER PIPE TO THE PROPOSED IRRIGATION WATER METER PROVIDED BY THE CITY. CONTRACTOR SHALL COORDINATE WITH CITY ON CONNECTION.
- W4. INSTALL 1" IRRIGATION WATER METER, 5± LF OF 1" SOFT TYPE "K" COPPER PIPE AFTER THE METER AND THEN INSTALL DOUBLE CHECK BACKFLOW PREVENTER, BELOW GRADE, IN APPROVED CONCRETE VAULT PER CITY REQUIREMENTS.
- W5. REFER TO PUBLIC WATER MAIN PLANS FOR PROPOSED PUBLIC HYDRANT INFORMATION.

SANITARY SEWER: (SX)

- S1. SANITARY SERVICE LINE. SEE SHEET C600

STORM SEWER: (DX)

- D1. PRIVATE STORM SEWER. SEE SHEET C501 TO C503 FOR DETAILS.
- D2. PRIVATE STORM SEWER 12" ROOF DRAIN/ROOF DRAIN HEADER. CONTRACTOR TO COORDINATE WITH MEP ON EXACT BUILDING ROOF DRAIN LOCATIONS. 12" ROOF DRAIN HEADER TO BE INSTALLED AT A MINIMUM SLOPE OF 1% WITH A MINIMUM COVER OF 2.5'.

GAS: (GX)

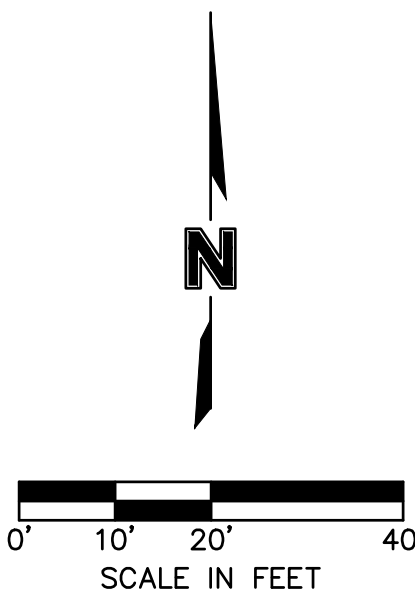
- G1. INSTALL 105 L.F. OF NEW GAS SERVICE TO EXISTING MAIN. COORDINATE WITH UTILITY COMPANY FOR EXACT LOCATION, ROUTING AND CONNECTION. COORDINATE WITH MEP PLANS FOR SPECIFICATIONS.

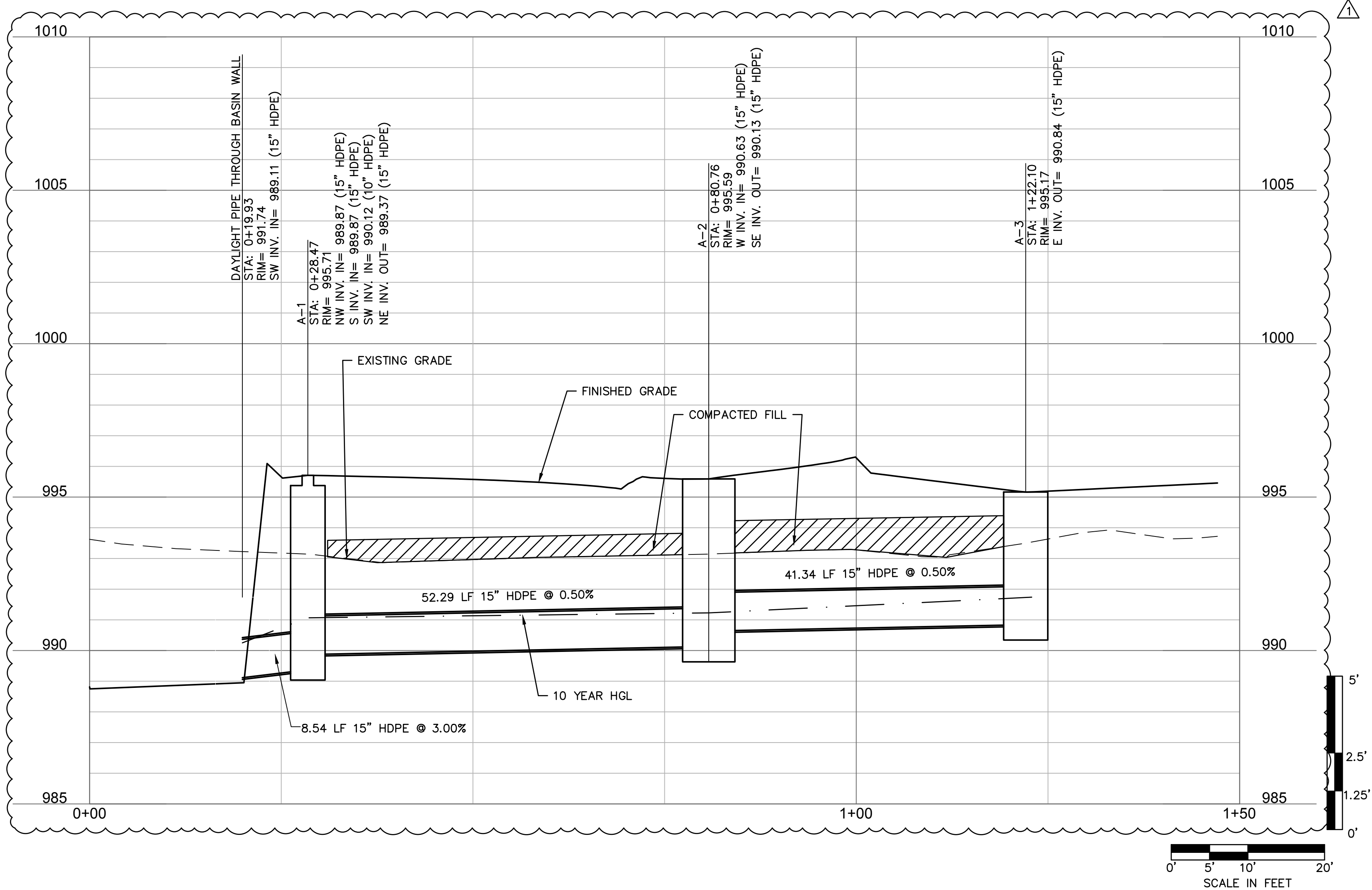
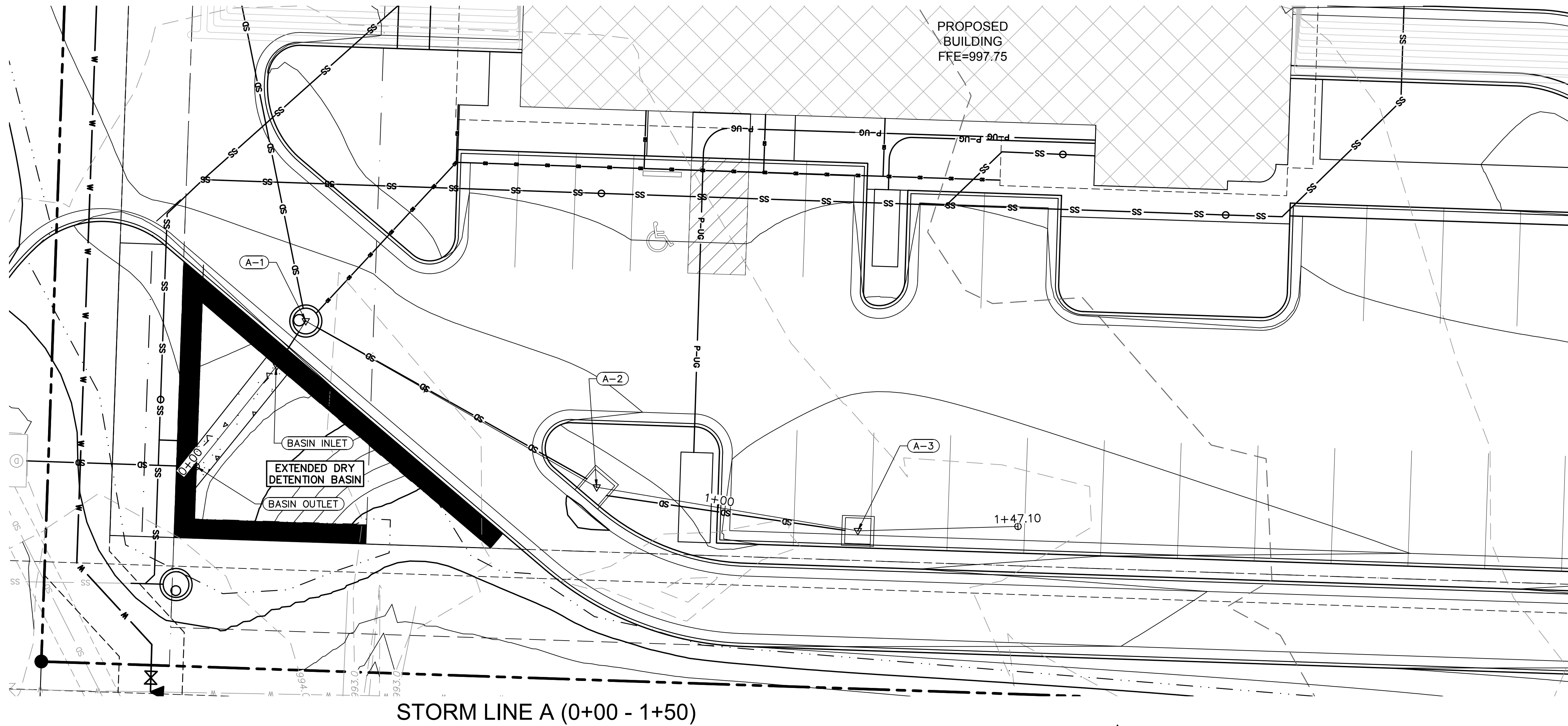
COMMUNICATION/FIBER: (CX)

- C1. INSTALL 94 L.F. OF NEW COMMUNICATION FIBER TO EXISTING MAIN. COORDINATE WITH UTILITY COMPANY FOR EXACT LOCATION, ROUTING AND CONNECTION. COORDINATE WITH MEP PLANS FOR SPECIFICATIONS.

UTILITY NOTES:

1. CONTRACTOR TO SUBMIT SHOP DRAWINGS TO ENGINEER FOR APPROVAL PRIOR TO FABRICATION OF STRUCTURES AND ORDERING OF PIPE PRODUCTS.
2. THE SIZE AND LOCATION OF SERVICES SHALL BE VERIFIED WITH THE ARCHITECTURAL AND MEP PLANS PRIOR TO CONSTRUCTION. IF DISCREPANCIES EXIST, THE ENGINEER SHALL BE NOTIFIED IMMEDIATELY.
3. INSTALL ALL PIPE LENGTHS, BENDS, AND FITTINGS NECESSARY FOR UTILITY CONNECTIONS.
4. CONTRACTOR SHALL VERIFY ALL CROSSING ELEVATIONS AND LOCATIONS, SIZES, AND ELEVATIONS OF EXISTING UTILITIES PRIOR TO CONSTRUCTION OF STORM LINES AND ALL UTILITY SERVICE CONNECTIONS. ANY CONFLICTS SHALL BE MADE KNOWN TO THE ENGINEER AND RESOLVED PRIOR TO CONSTRUCTION.
5. CONTRACTOR RESPONSIBLE FOR PAYING ALL TAP AND CONNECTION FEES AND SHALL CONTRACT AND PAY FOR ANY REQUIRED SUB CONTRACTORS BY UTILITY COMPANIES.
6. CONTRACTOR TO REPAIR ALL AREA DAMAGED BY CONSTRUCTION TO EXISTING CONDITIONS OR BETTER.
7. LOCATION FOR POWER SHOWN IS APPROXIMATE AND SUBJECT TO CHANGE. CONTRACTOR TO VERIFY FINAL LOCATION AND DESIGN WITH UTILITY COMPANY PRIOR TO CONSTRUCTION.
8. CONTRACTOR SHALL COORDINATE CABLE/FIBER OPTIC CONDUIT AND SERVICE INSTALLATION WITH UTILITY COMPANY.
9. ALL WATER SERVICE INSTALLATIONS, INCLUDING BACKFLOW DEVICES, ARE SUBJECT TO FIELD VERIFICATION AND APPROVAL BY THE WATER DEPARTMENT INSPECTOR.
10. CONTRACTOR TO COORDINATE WITH UTILITY PROVIDERS AND FOLLOW UTILITY PROVIDERS STANDARDS IF CONFLICT EXISTS.
11. NO GAS WELLS ARE PRESENT ON THE PROPERTY BASED ON THE "ENVIRONMENTAL IMPACT STUDY OF ABANDONED OIL AND GAS WELLS IN LEE'S SUMMIT, MISSOURI", BY EDWARD ALTON MAY, JR. DATED 1995.





LEGEND			
---	SS	---	PROPERTY LINE
---	SD	---	EXISTING SANITARY SEWER
---	P-UG	---	EXISTING STORM SEWER
---	W	---	EXISTING ELECTRICAL LINE
---	G	---	EXISTING DOMESTIC WATER
---	SS	---	EXISTING GAS SERVICE
---	SD	---	PROPOSED SANITARY SEWER
---	SD	---	PROPOSED STORM SEWER
---	UGE	---	PROPOSED ELECTRICAL LINE
---	W	---	PROPOSED DOMESTIC WATER
---	G	---	PROPOSED GAS SERVICE
---	FP	---	PROPOSED FIRE PROTECTION

STRUCTURES	
ID	DESCRIPTION
A-1	48" I.D. MANHOLE WITH A TRAFFIC RATED GRATE LID 0+28.47, 0.00' STORM LINE A RIM= 995.71 INV IN = 989.87 (15" HDPE) INV IN = 989.87 (15" HDPE) INV IN = 990.12 (10" HDPE) INV OUT = 989.37 (15" HDPE) N: 991405.479; E: 2825411.261
A-2	4' X 4' NONSETBACK CURB INLET 0+80.76, 0.00' STORM LINE A RIM= 995.59 INV IN = 990.63 (15" HDPE) INV OUT = 990.13 (15" HDPE) N: 991431.403; E: 2825365.852
A-3	4' X 4' CURB-GRATE INLET 1+22.10, 0.00' STORM LINE A RIM= 995.17 INV OUT = 990.84 (15" HDPE) N: 991438.215; E: 2825325.077

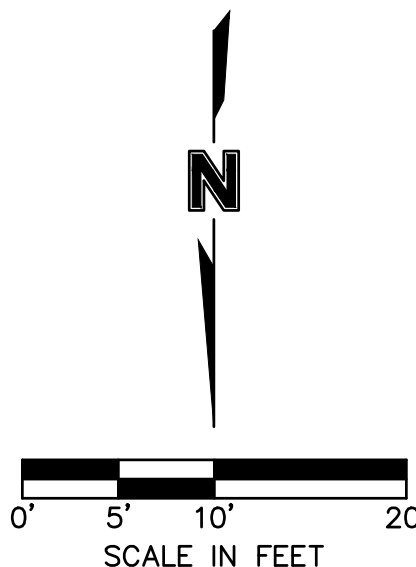
KEYNOTE LEGEND

XX PROPOSED STORM STRUCTURE

CONTRACTOR SHALL PROVIDE 95% COMPACTED FILL TO AN ELEVATION OF 2'-0" (MIN.) OVER THE TOP OF PROPOSED PIPE ELEVATION AND TEMPORARY FILL

STORM STRUCTURE NOTES

- CONTRACTOR TO PROVIDE STRUCTURAL DETAILS AND CALCULATIONS SEALED BY A LICENSED ENGINEER FOR STRUCTURES GREATER THAN 15' IN DEPTH.
- NORTHING & EASTINGS SHOWN REPRESENT CENTER OF INLET STRUCTURES AND ENDS OF FLARED END SECTIONS.
- SEE DETAILS IN THESE PLANS FOR INFORMATION ON STORM STRUCTURES.
- ALL STORM SEWER PIPE TO BE HDPE, RCP CLASS III, OR PRE-APPROVED EQUIVALENT.
- ALL AREA INLETS SHOULD BE CONSTRUCTED WITH 6" THROAT.
- COMPACTED FILL SHALL BE PLACED TO A MINIMUM 18" ABOVE THE TOP OF THE PIPE PRIOR TO INSTALLATION.



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LEGEND

---	---	PROPERTY LINE
---	---	RIGHT OF WAY LINE
---	---	LOT LINE
SS	SS	EXISTING SANITARY SEWER
SD	SD	EXISTING STORM SEWER
P-UG	P-UG	EXISTING ELECTRICAL LINE
W	W	EXISTING DOMESTIC WATER
G	G	EXISTING GAS SERVICE
SS	SS	PROPOSED SANITARY SEWER
SD	SD	PROPOSED STORM SEWER
UGE	UGE	PROPOSED ELECTRICAL LINE
W	W	PROPOSED DOMESTIC WATER
G	G	PROPOSED GAS SERVICE
FP	FP	PROPOSED FIRE PROTECTION
		UNDERSLAB HEATING (REF. OTHERS (MANUFACTURER))

NOTES:

1. DOWNSPOUTS SHALL NOT BE CONNECTED TO SANITARY SEWER. DOWNSPOUTS CONNECT TO STORM SEWER AND SHALL NOT DISCHARGE TO SANITARY SEWER.
2. TEN FEET OF HORIZONTAL SEPARATION AND TWO FEET OF VERTICAL SEPARATION SHALL BE PROVIDED BETWEEN WATER LINES AND THE SANITARY SERVICE LINE.
3. ALL FOUNDATION DRAINS SHALL BE DISCHARGED INTO STORM SEWER SYSTEM.
4. CONTRACTOR TO VERIFY INVERT ELEVATION AT THE MAIN BEFORE ANY SANITARY SEWER IS INSTALLED OR ANY STRUCTURES ARE CONSTRUCTED. CONTRACTOR TO NOTIFY THE ENGINEER OF IN DISCREPANCIES.

SANITARY KEYNOTES:

1. SANITARY SERVICE LINE CONNECTION

- a. EXISTING MANHOLE TO PROPOSED MANHOLE. INSTALL 7.02± LF OF 8" PVC (SDR-26) PIPE @ 2% THEN INSTALL MANHOLE. CONTRACTOR TO VERIFY EXISTING SANITARY INFRASTRUCTURE LOCATED WITHIN THE SANITARY EASEMENT.
EXISTING F/L OUT @ 8" PVC (SDR-26) SANITARY MAIN = 984.67
EXISTING F/L IN @ 8" PVC (SDR-26) SANITARY MAIN = 984.77
EXISTING F/L IN @ 8" PVC (SDR-26) SANITARY SERVICE LINE STUB = 984.77
ASSUMED F/L @ END OF EXISTING STUB = 986.20 (2% UP FROM THE DOWNSTREAM MANHOLE.)
PROPOSED F/L @ PROPOSED MANHOLE 7.02± LF UPSTREAM OF EXISTING STUB = 986.34
- b. INSTALL WYE CONNECTION ON PROPOSED 8" PVC (SDR-26) SANITARY MAIN EXTENSION. CONNECT TO WYE CONNECTION AND INSTALL 29.39± LF OF 6" PVC (SDR-26) PIPE @ 2.28% THEN INSTALL CLEANOUT.
F/L @ WYE = 986.24
F/L @ 45 DEGREE BEND = 986.28
F/L @ CLEANOUT = 986.91
- c. CONNECT TO CLEANOUT AND INSTALL 36.74± LF OF 6" PVC (SDR-26) PIPE @ 2.28% THEN INSTALL WYE CONNECTION.
F/L @ CLEANOUT = 986.91
F/L @ 45 DEGREE BEND = 987.57
F/L @ WYE = 987.75
- d. CONNECT TO WYE CONNECTION AND INSTALL 62.22± LF OF 6" PVC (SDR-26) PIPE @ 2.41% THEN INSTALL CLEANOUT. CONNECT TO CLEANOUT AND INSTALL 53.88± LF OF 6" PVC (SDR-26) PIPE @ 2.41% THEN INSTALL WYE CONNECTION.
F/L @ WYE = 987.75
F/L @ CLEANOUT = 989.24
F/L @ WYE = 990.54
- e. CONNECT TO WYE CONNECTION AND INSTALL 43.63± LF OF 6" PVC (SDR-26) PIPE @ 2.00% THEN INSTALL CLEANOUT.
F/L @ WYE = 990.54
F/L @ CLEANOUT = 991.41

- f. CONNECT TO CLEANOUT AND INSTALL 50.74± LF OF 6" PVC (SDR-26) PIPE @ 2.00% THEN INSTALL CLEANOUT.
F/L @ CLEANOUT = 991.41
F/L @ 45 DEGREE BEND = 991.59
F/L @ 45 DEGREE BEND = 992.11
F/L @ CLEANOUT = 992.43
- g. CONNECT TO SAMPLING PORT AND INSTALL 1.98± LF OF 6" PVC (SDR-26) PIPE @ 2.00% THEN CONNECT INTO THE OIL/SEDIMENT INTERCEPTOR (REFER TO DETAILS ON SHEET C601).
F/L @ CLEANOUT = 992.43
F/L @ OIL/SEDIMENT INTERCEPTOR = 992.47
- h. CONNECT TO OIL/SEDIMENT INTERCEPTOR (REFER TO DETAILS ON SHEET C601) AND INSTALL 51.24± LF OF 6" PVC (SDR-26) PIPE @ 2.00% THEN CONNECT TO RECLAIM TANK #4 (REF MEP PLANS).
F/L @ OIL/SEDIMENT INTERCEPTOR = 992.47
F/L @ 45 DEGREE BEND = 992.79
F/L @ 45 DEGREE BEND = 992.91
F/L @ RECLAIM TANK #4 = 993.49
- i. CONNECT TO RECLAIM TANK #1 (REF MEP PLANS) AND INSTALL 9.77± LF OF 6" PVC (SDR-26) PIPE @ 2.00% THEN INSTALL CLEANOUT.
F/L @ RECLAIM TANK #1 = 992.49
F/L @ CLEANOUT = 993.69
- j. CONNECT TO CLEANOUT AND INSTALL 3.04± LF OF 6" PVC (SDR-26) PIPE @ 2.00% THEN CONNECT TO THE BUILDING WITH FERNCO STRONGBACK RC COUPLINGS FOR DISSIMILAR PIPE CONNECTIONS.
F/L @ CLEANOUT = 993.49
F/L @ BUILDING = 993.75
FFE @ BUILDING = 997.75
- k. CONTRACTOR TO REFER TO MEP/EQUIPMENT PROVIDER'S DETAIL FOR THE MISCELLANEOUS PIPES BETWEEN THIS POINT AND THE RECLAIM TANKS.

2. SANITARY SERVICE LINE CONNECTION

- a. CONNECT TO RECLAIM TANK #1 AND INSTALL 9.77± LF OF 6" PVC (SDR-26) PIPE @ 2.00% THEN INSTALL CLEANOUT.
F/L @ RECLAIM TANK #1 = 992.49
F/L @ CLEANOUT = 993.69
- b. CONNECT TO CLEANOUT AND INSTALL 3.04± LF OF 6" PVC (SDR-26) PIPE @ 2.00% THEN CONNECT TO THE BUILDING WITH FERNCO STRONGBACK RC COUPLINGS FOR DISSIMILAR PIPE CONNECTIONS.
F/L @ CLEANOUT = 993.49
F/L @ BUILDING = 993.75
FFE @ BUILDING = 997.75

3. SANITARY SERVICE LINE CONNECTION

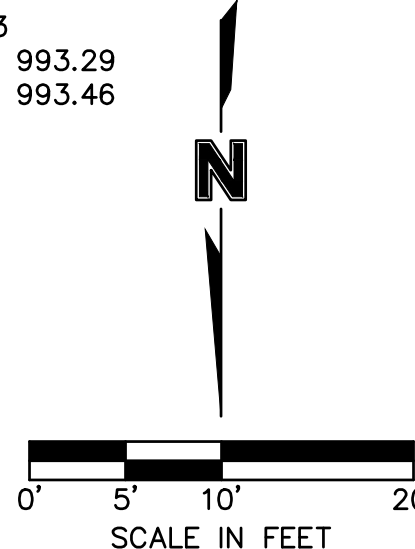
- a. CONNECT TO OIL/SEDIMENT INTERCEPTOR (REFER TO DETAILS ON SHEET C601) AND INSTALL 15± LF OF 4" PVC (SDR-26) PIPE @ 8.53% THEN CONNECT TO THE BUILDING WITH FERNCO STRONGBACK RC COUPLINGS FOR DISSIMILAR PIPE CONNECTIONS.
F/L @ OIL/SEDIMENT INTERCEPTOR = 992.47
F/L @ BUILDING = 993.75
FFE @ BUILDING = 997.75
- b. CONNECT TO SAMPLING PORT AND INSTALL 17.3± LF OF 4" PVC (SDR-26) PIPE @ 7.63% THEN CONNECT TO THE BUILDING WITH FERNCO STRONGBACK RC COUPLINGS FOR DISSIMILAR PIPE CONNECTIONS.
F/L @ CLEANOUT = 992.43
F/L @ BUILDING = 993.75
FFE @ BUILDING = 997.75

4. SANITARY SERVICE LINE CONNECTION

- a. CONNECT TO WYE CONNECTION AND INSTALL 21.72± LF OF 4" ABS SCHEDULE 40 WITH SOLVENT WELDED JOINTS @ 2.00% THEN CONNECT TO THE CLEANOUT.
F/L @ WYE = 990.54
F/L @ 45 DEGREE BEND = 992.00
F/L @ CLEANOUT = 993.15
- b. CONNECT TO CLEANOUT AND INSTALL 5.00± LF OF 4" ABS SCHEDULE 40 WITH SOLVENT WELDED JOINTS @ 12.01% THEN CONNECT TO THE BUILDING WITH FERNCO STRONGBACK RC COUPLINGS FOR DISSIMILAR PIPE CONNECTIONS.
F/L @ CLEANOUT = 993.15
F/L @ BUILDING = 993.75
FFE @ BUILDING = 997.75

5. SANITARY SERVICE LINE CONNECTION

- a. CONNECT TO WYE CONNECTION AND INSTALL 24± LF OF 4" ABS SCHEDULE 40 WITH SOLVENT WELDED JOINTS @ 2.00% THEN CONNECT TO THE 45 DEGREE BEND.
F/L @ WYE = 989.63
F/L @ START OF RISER = 988.23
F/L @ 45 DEGREE BEND = 991.23
F/L @ 45 DEGREE BEND = 992.21
- b. CONNECT TO BEND AND INSTALL 5.55± LF OF 4" ABS SCHEDULE 40 WITH SOLVENT WELDED JOINTS @ 5.76% THEN CONNECT TO THE CLEANOUT.
F/L @ 45 DEGREE BEND = 992.21
F/L @ CLEANOUT = 992.53
- c. CONNECT TO CLEANOUT AND INSTALL 21.21± LF OF 4" ABS SCHEDULE 40 WITH SOLVENT WELDED JOINTS @ 5.76% THEN CONNECT TO THE BUILDING WITH FERNCO STRONGBACK RC COUPLINGS FOR DISSIMILAR PIPE CONNECTIONS.
F/L @ CLEANOUT = 993.53
F/L @ 45 DEGREE BEND = 993.29
F/L @ 45 DEGREE BEND = 993.46
F/L @ BUILDING = 993.75
FFE @ BUILDING = 997.75



SANITARY SEWER PLAN
FINAL DEVELOPMENT PLAN

MIDWEST WASH
HWY 291 & THOMPSON DRIVE
LEE'S SUMMIT, MISSOURI

drawn by: BP
checked by: MP
approved by: LM
QA/QC by: BE
project no.: 022-4040
drawing no.:
date: 05.13.23

SHEET
C600

REV. NO.	DATE	REVISIONS DESCRIPTION
1	06/13/2023	CITY COMMENTS

BY



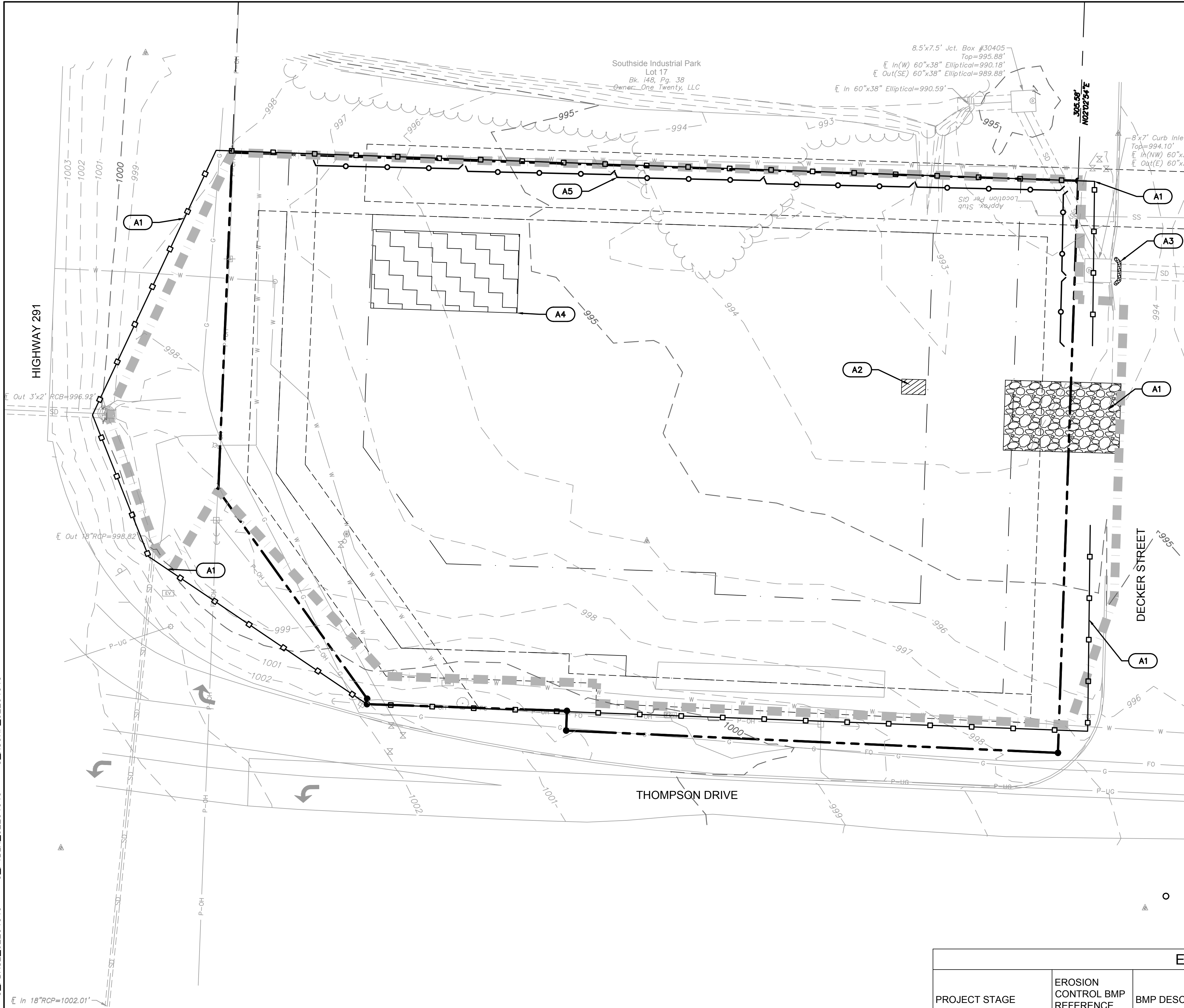
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7301 West 133rd Street, Suite 200
Overland Park, KS 66213-4750
TEL 913.381.1170 www.olsson.com

REVISIONS

2023

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USER: brayne2
C_XSURF_02204040



LEGEND

PROPERTY LINE

LOT LINE

PROPOSED CONTOUR

EXISTING CONTOUR

SEDIMENT FENCE

LIMITS OF DISTURBANCE (1.35 ACRES)

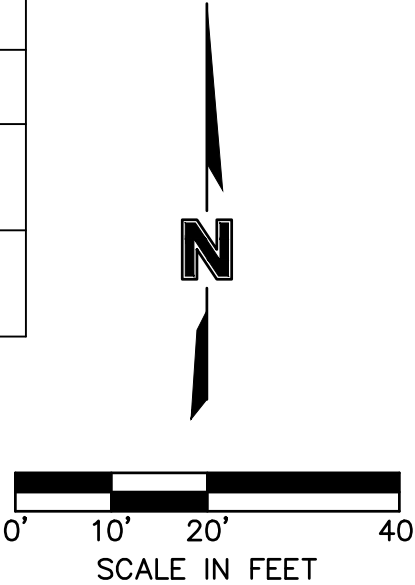
TEMPORARY CONCRETE WASHOUT

TEMPORARY CONSTRUCTION ENTRANCE

STAGING/STOCKPILE AREA

EROSION CONTROL REFERENCE NUMBER

EROSION CONTROL STAGING CHART				
PROJECT STAGE	EROSION CONTROL BMP REFERENCE NO.	BMP DESCRIPTION	REMOVE AFTER STAGE	NOTES:
	A1	TEMPORARY CONSTRUCTION ENTRANCE	C	INSTALL AS INDICATED ON PLANS
	A2	CONCRETE WASHOUT	C	INSTALL AS INDICATED ON PLANS
	A3	EXISTING CURB INLET PROTECTION (CONDITION B)	D	INSTALL AS INDICATED ON PLANS
	A4	STAGING/STOCKPILE AREAS	D	INSTALL AS SHOWN - SEE DETAIL SHEET C700 - C701FOR SPECIFICS
	A5	SILT FENCE	D	INSTALL AS SHOWN - SEE DETAIL SHEET C700 - C701 FOR SPECIFICS
B - CONSTRUCTION	B1	TEMPORARY EROSION CONTROL BLANKET	N/A	INSTALL AS SHOWN-SLOPES TO BE STABILIZED ONCE FINAL GRADES HAVE BEEN OBTAINED
	B2	CURB INLET PROTECTION (CONDITION A)	D	INSTALL AS INDICATED ON PLANS
	C1	CURB INLET PROTECTION (CONDITION B)	D	INSTALL AS INDICATED ON PLANS
D - FINAL STABILIZATION	D1	SEED, AND STABILIZE ALL DISTURBED AREAS	N/A	FINAL STABILIZATION REQUIRES A UNIFORM PERENNIAL VEGETATIVE COVER WITH A DENSITY OF 70% OVER 100% OF DISTURBED AREA



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TEL 913.381.1170 www.olson.com

STATE OF MISSOURI
MITCHELL ALAN
PEAK
NUMBER
PE-2009016764
05/17/21
PROFESSIONAL ENGINEER

BY

REVISIONS DESCRIPTION
REV. NO. DATE CITY COMMENTS

1 06/13/2023

EROSION CONTROL PLAN - PRE CONSTRUCTION
FINAL DEVELOPMENT PLAN
MIDWEST WASH
HWY 291 & THOMPSON DRIVE
LEE'S SUMMIT, MISSOURI

2023

drawn by: BP
checked by: MP
approved by: LM
QA/QC by: BE
project no.: 022-4040
drawing no.:
date: 05.13.23

SHEET
C700



REMOVE AFTER STAGE	NOTES:
--------------------------	--------

NOTES:

CONTROL BMP
REFERENCE

BMP DESCRIPTION

BEFORE	NOTES:
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A1	
----	--

TEMPORARY CONSTRUCTION ENTRANCE

B	INSTALL AS INDICATED ON PLANS
---	-------------------------------

A3

EXISTING CORB INLET PROTECTION
(CONDITION B)

C	INSTALL AS INDICATED ON PLANS
---	-------------------------------

--	--

	INSTALL AS SHOWN - SEE DETAIL SHEET C700 - C701 FOR
--	---

81

TEMPORARY EROSION CONTROL BLANKET

N/A	GRADES HAVE BEEN OBTAINED
-----	---------------------------

03

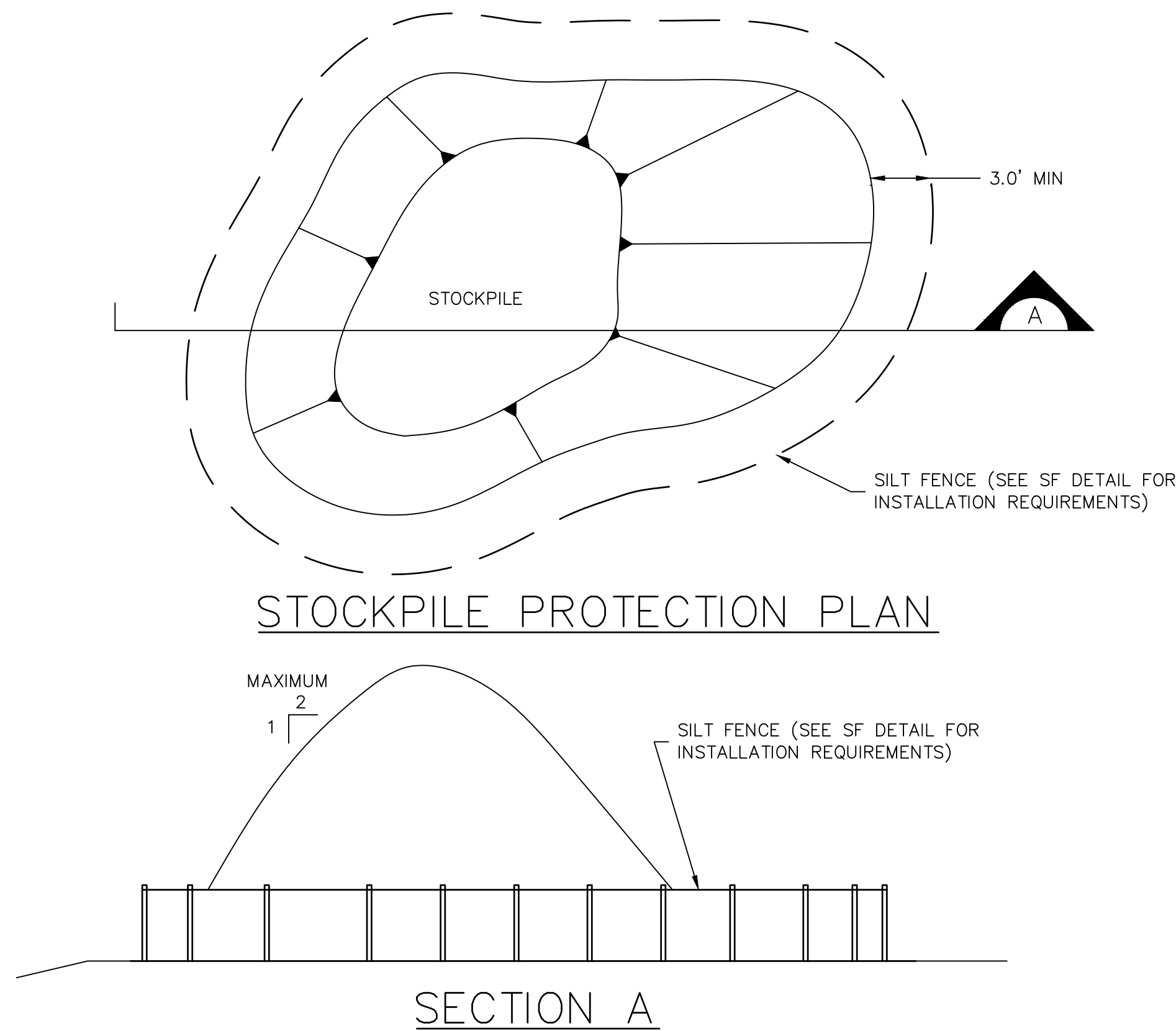
CURB INLET PROTECTION (CONDITION B)

C	INSTALL AS INDICATED ON PLANS
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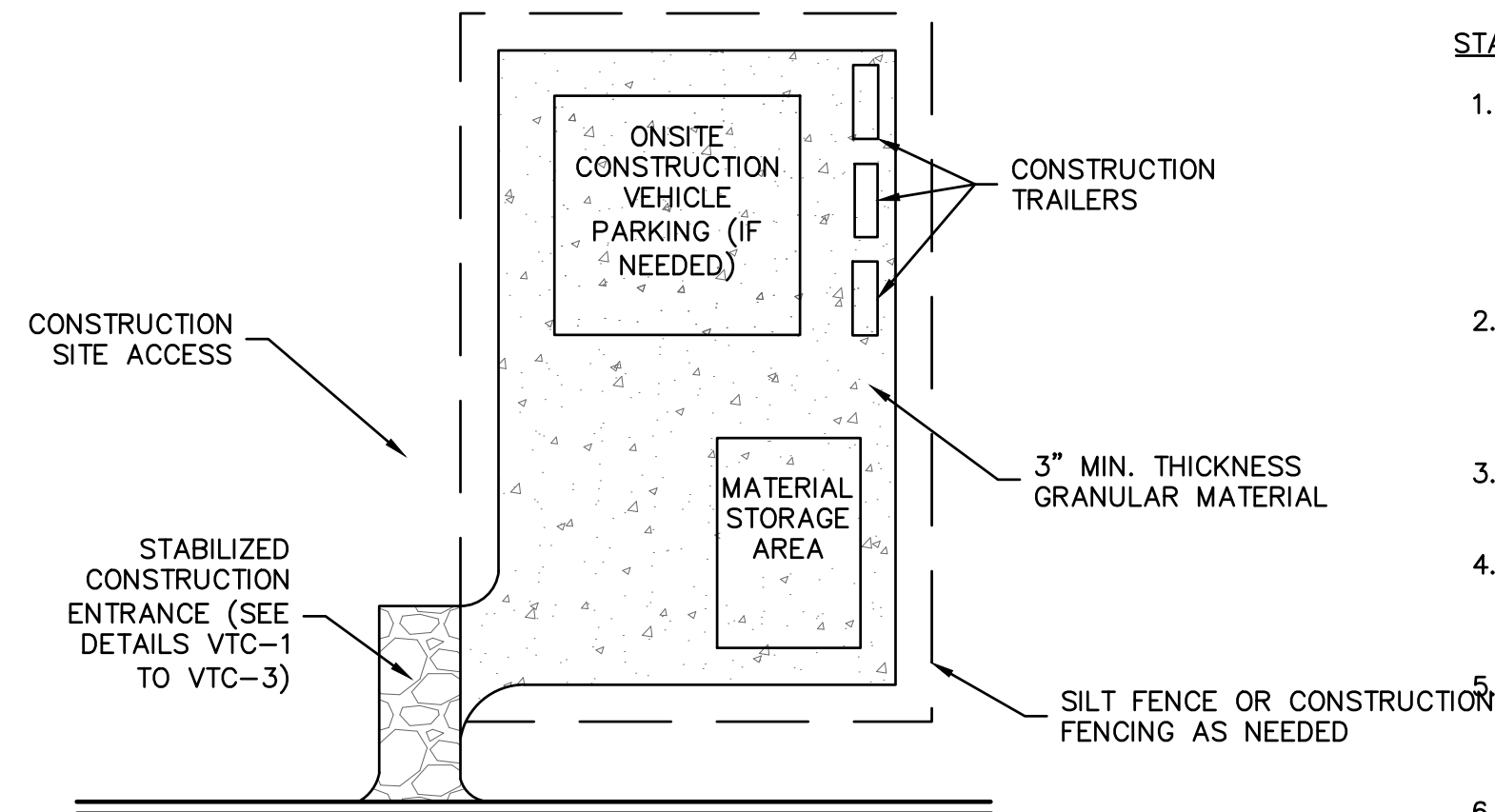
C1	SEED, AND STABILIZE ALL DISTURBED AREAS
----	---

SEED, AND STABILIZE ALL DISTURBED AREAS	N/A	FINAL STABILIZATION REQUIRES A MINIMUM PERCENTAGE VEGETATIVE COVER WITH A DENSITY OF 70% OVER 100% OF
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URBAN DRAINAGE AND FLOOD CONTROL DISTRICT
URBAN STORM DRAINAGE CRITERIA MANUAL VOLUME 3



SSA-1. STABILIZED STAGING AREA

STABILIZED STAGING AREA INSTALLATION NOTES

1. SEE PLAN VIEW FOR
-LOCATION OF STAGING AREA(S)
-CONTRACTOR MAY ADJUST LOCATION AND SIZE OF STAGING AREA WITH APPROVAL FROM LOCAL JURISDICTION
2. STABILIZED STAGING AREA SHOULD BE APPROPRIATE FOR THE NEEDS OF THE SITE. OVERSIZING RESULTS IN A LARGER AREA TO STABILIZE FOLLOWING CONSTRUCTION.
3. STAGING AREA SHALL BE STABILIZED PRIOR TO OTHER OPERATIONS ON THE SITE.
4. THE STABILIZED STAGING AREA SHALL CONSIST OF A MINIMUM 3" THICK GRANULAR MATERIAL.
5. UNLESS OTHERWISE SPECIFIED BY LOCAL JURISDICTION, ROCK SHALL CONSIST OF DOT SECT. #703. AASHTO #3 COARSE AGGREGATE OR 6" (MINUS) ROCK.
6. ADDITIONAL PERIMETER BMPs MAY BE REQUIRED INCLUDING BUT NOT LIMITED TO SILT FENCE AND CONSTRUCTION FENCING.

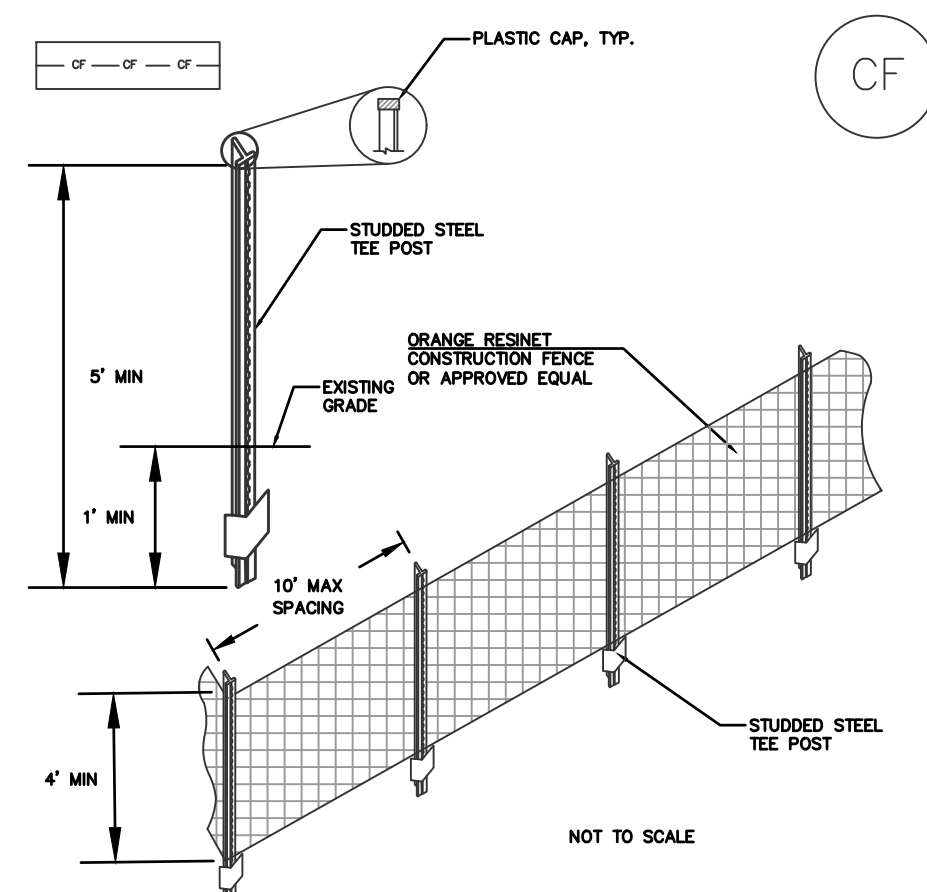
STABILIZED STAGING AREA MAINTENANCE NOTES

1. INSPECT BMPs EACH WORKDAY, AND MAINTAIN THEM IN EFFECTIVE OPERATING CONDITION. MAINTENANCE OF BMPs SHOULD BE PROACTIVE, NOT REACTIVE. INSPECT BMPs AS SOON AS POSSIBLE (AND ALWAYS WITH 24 HOURS) FOLLOWING A STORM THAT CAUSES SURFACE EROSION, AND PERFORM NECESSARY MAINTENANCE.
2. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BMPs IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
3. WHERE BMPs HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE.
4. ROCK SHALL BE REAPPLIED OR REGRADED AS NECESSARY IF RUTTING OCCURS OR UNDERLYING SUBGRADE BECOMES EXPOSED.
5. STABILIZED STAGING AREA SHALL BE ENLARGED IF NECESSARY TO CONTAIN PARKING, STORAGE AND UNLOADING/LOADING OPERATIONS.
6. THE STABILIZED STAGING AREA SHALL BE REMOVED AT THE END OF CONSTRUCTION. THE GRANULAR MATERIAL SHALL BE REMOVED OR, IF APPROVED BY THE LOCAL JURISDICTION, USED ON SITE. THE AREA COVERED WITH TOPSOIL, SEEDED AND MULCHED OR OTHERWISE STABILIZED IN A MANNER APPROVED BY LOCAL JURISDICTION.

NOTE: MANY MUNICIPALITIES PROHIBIT THE USE OF RECYCLED CONCRETE AS GRANULAR MATERIAL FOR STABILIZED STAGING AREAS DUE TO DIFFICULTIES WITH RE-ESTABLISHMENT OF VEGETATION IN AREAS WHERE RECYCLED CONCRETE WAS PLACED.

NOTE: MANY JURISDICTIONS HAVE BMP DETAILS THAT VARY FROM UDFCD STANDARD DETAILS. CONSULT WITH LOCAL JURISDICTIONS AS TO WHICH DETAIL SHOULD BE USED WHEN DIFFERENCES ARE NOTED.

(DETAILS ADAPTED FROM DOUGLAS COUNTY, COLORADO)



CF-1. PLASTIC MESH CONSTRUCTION FENCE

CONSTRUCTION FENCE INSTALLATION NOTES

1. SEE PLAN VIEW FOR:
 - LOCATION OF CONSTRUCTION FENCE.
2. CONSTRUCTION FENCE SHOWN SHALL BE INSTALLED PRIOR TO ANY LAND DISTURBING ACTIVITIES.
3. CONSTRUCTION FENCE SHALL BE COMPOSED OF ORANGE, CONTRACTOR-GRADE MATERIAL THAT IS AT LEAST 4' HIGH. METAL POSTS SHOULD HAVE A PLASTIC CAP FOR SAFETY.
4. STUDDED STEEL TEE POSTS SHALL BE UTILIZED TO SUPPORT THE CONSTRUCTION FENCE. MAXIMUM SPACING FOR STEEL TEE POSTS SHALL BE 10'.
5. CONSTRUCTION FENCE SHALL BE SECURELY FASTENED TO THE TOP, MIDDLE AND

NOVEMBER 2010 URBAN DRAINAGE FLOOD CONTROL DISTRICT
URBAN STORM DRAINAGE CRITERIA MANUAL VOLUME 3

STOCKPILE PROTECTION INSTALLATION NOTES

1. SEE PLAN FOR:
 - LOCATION OF STOCKPILES
 - TYPE OF STOCKPILE PROTECTION
2. INSTALL PERIMETER CONTROLS IN ACCORDANCE WITH THEIR RESPECTIVE DESIGN DETAILS. SILENT FENCE IS SHOWN IN THE STOCKPILE PROTECTION DETAILS; HOWEVER, OTHER TYPES OF PERIMETER CONTROLS INCLUDING SEDIMENTS CONTROL LOGS OR ROCK SOCKS MAY BE SUITABLE IN SOME CIRCUMSTANCES. CONSIDERATIONS FOR DETERMINING THE APPROPRIATE TYPE OF PERIMETER CONTROL FOR A STOCKPILE INCLUDE WHETHER THE STOCKPILE IS LOCATED ON A PEROUS OR IMPEROUS SURFACE, THE RELATIVE HEIGHTS OF THE PERIMETER CONTROL AND STOCKPILE, THE ABILITY OF THE PERIMETER CONTROL TO CONTAIN THE STOCKPILE WITHOUT FAILING IN THE EVENT THAT MATERIAL FROM THE STOCKPILE SHIFTS OR SLUMPS AGAINST THE PERIMETER, AND OTHER FACTORS.
3. STABILIZE THE STOCKPILE SURFACE WITH SURFACE ROUGHENING, TEMPORARY SEEDING AND MULCHING, EROSION CONTROL BLANKETS, OR SOIL BINDERS. SOILS STOCKPILED FOR AN EXTENDED PERIOD (TYPICALLY FOR MORE THAN 60 DAYS) SHOULD BE SEEDED AND MULCHED WITH A TEMPORARY GRASS COVER ONCE THE STOCKPILE IS PLACED (TYPICALLY WITHIN 14 DAYS). USE OF MULCH ONLY OR A SOIL BINDER IS ACCEPTABLE IF THE STOCKPILE WILL BE IN PLACE FOR A MORE LIMITED TIME PERIOD (TYPICALLY 30-60 DAYS).

STOCKPILE PROTECTION MAINTENANCE NOTES

1. INSPECT BMPs EACH WORKDAY, AND MAINTAIN THEM IN EFFECTIVE OPERATING CONDITION. MAINTENANCE OF BMPs SHOULD BE PROACTIVE, NOT REACTIVE. INSPECT BMPs AS SOON AS POSSIBLE (AND ALWAYS WITHIN 24 HOURS) FOLLOWING A STORM THAT CAUSES SURFACE EROSION, AND PERFORM NECESSARY MAINTENANCE.
 2. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BMPs IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
 3. WHERE BMPs HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE.
- STOCKPILE PROTECTION MAINTENANCE NOTES
4. IF PERIMETER PROTECTION MUST BE MOVED TO ACCESS SOIL STOCKPILE, REPLACE PERIMETER CONTROL BY THE END OF THE WORKDAY.
 5. STOCKPILE PERIMETER CONTROLS CAN BE REMOVED ONCE ALL THE MATERIAL FROM THE STOCKPILE HAS BEEN USED.

(DETAILS ADAPTED FROM PARKER, COLORADO)

NOTE: MANY JURISDICTIONS HAVE BMP DETAILS THAT VARY FROM UDFCD STANDARD DETAILS. CONSULT WITH LOCAL JURISDICTIONS AS TO WHICH DETAIL SHOULD BE USED WHEN DIFFERENCES ARE NOTED.

DESIGN AND INSTALLATION

1. CONSTRUCTION FENCING MUST BE PLASTIC MESH AND SHOULD BE INSTALLED FOLLOWING MANUFACTURE'S RECOMMENDATIONS. SEE DETAIL CF-1 FOR TYPICAL INSTALLATIONS.
2. DO NOT PLACE CONSTRUCTION FENCING IN AREAS WITHIN WORK LIMITS OF MACHINERY.

MAINTENANCE AND REMOVAL

1. INSPECT FENCES FOR DAMAGE; REPAIR OR REPLACE AS NECESSARY.
 2. FENCING SHOULD BE TIGHT AND ANY AREAS WITH SLUMPING OR FALLEN POSTS SHOULD BE REINSTALLED.
 3. FENCING SHOULD BE REMOVED ONCE CONSTRUCTION IS COMPLETE.
 4. CONSTRUCTION FENCE SHALL BE REPAIRED OR REPLACED IF THERE ARE SIGNS OF DAMAGE SUCH AS RIPS OR SAGS. CONSTRUCTION FENCE IS TO REMAIN IN PLACE UNTIL THE UPSTREAM DISTURBED AREA IS STABILIZED AND APPROVED BY THE LOCAL JURISDICTION.
 5. WHEN CONSTRUCTION FENCES ARE REMOVED, ALL DISTURBED AREAS ASSOCIATED WITH THE INSTALLATION, MAINTENANCE, AND/OR REMOVAL OF FENCING SHALL BE COVERED WITH TOPSOIL, SEED, AND MULCHED, OR OTHERWISE STABILIZED AS APPROVED BY LOCAL JURISDICTION.
- NOTE: MANY JURISDICTIONS HAVE BMP DETAILS THAT VARY FROM USFOD STANDARD DETAILS. CONSULT WITH LOCAL JURISDICTIONS AS TO WHICH DETAILS ARE TO BE USED WHEN DIFFERENCES ARE NOTED.

STATE OF MISSOURI
 MITCHELL ALAN
 PLEAK
Mitch A. Pleak
 NUMBER
 PE-2009018764
 06-19-23
 PROFESSIONAL ENGINEER

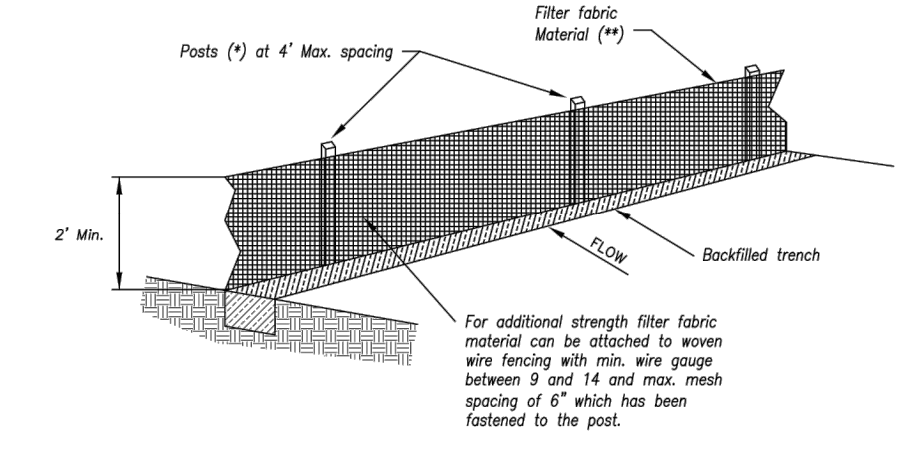
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EROSION CONTROL DETAILS
FINAL DEVELOPMENT PLAN

MIDWEST WASH
HWY 291 & THOMPSON DRIVE
MISSOURI

drawn by:	BP
checked by:	MP
approved by:	LM
QA/QC by:	BE
project no.:	022-4040
drawing no.:	
date:	05.13.23

SHEET
C702



- (*) POSTS
- MIN. LENGTH 4'
 - HARDWOOD 1 3/4" x 1 3/4"
 - NO.2 SOUTHERN PINE 2 3/8" x 2 3/8"
 - STEEL 1.33 LB/FT

(**) - Geotextile Fabric shall meet the requirements of AASHTO M288

SILT FENCE DETAILS
Not to Scale

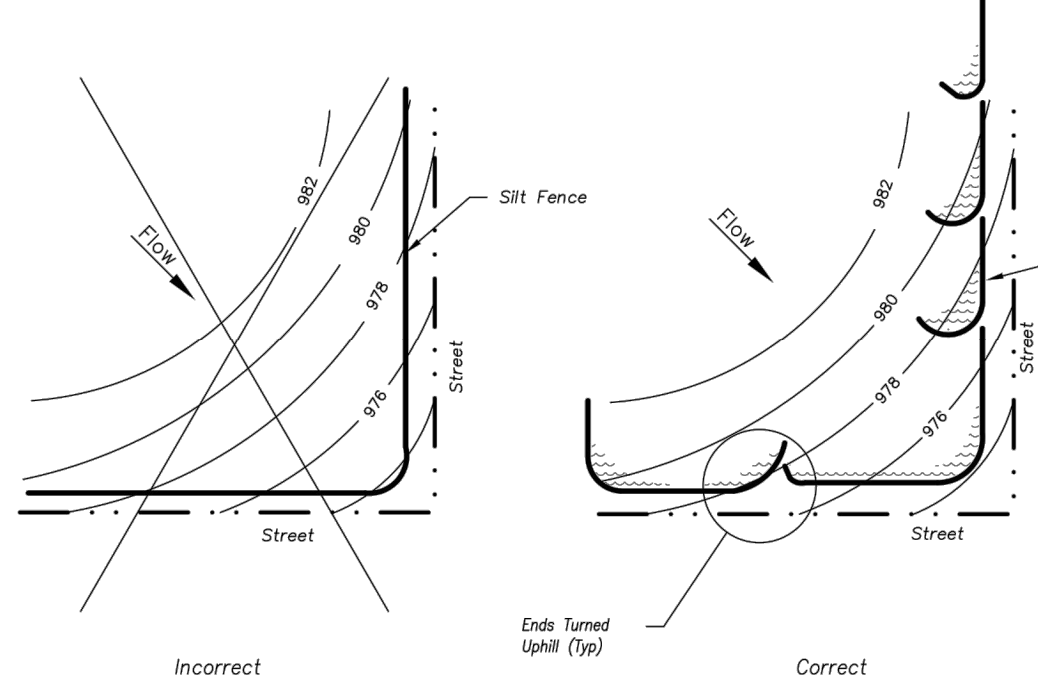
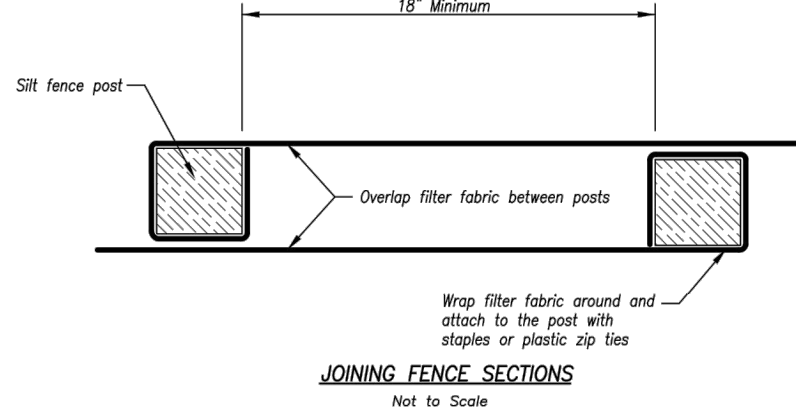
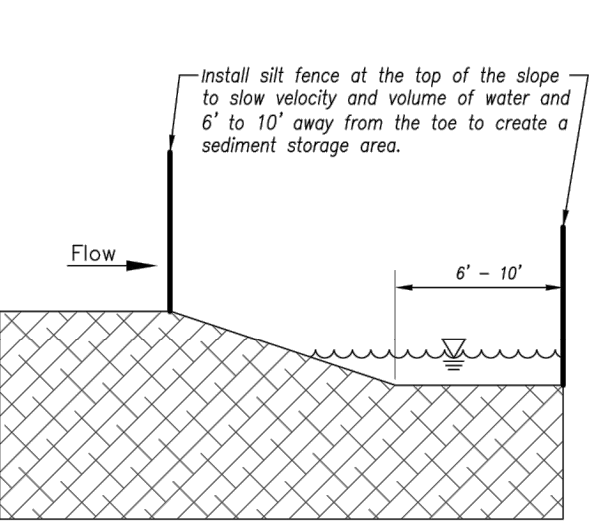


Figure A

SILT FENCE LAYOUT
Not to Scale



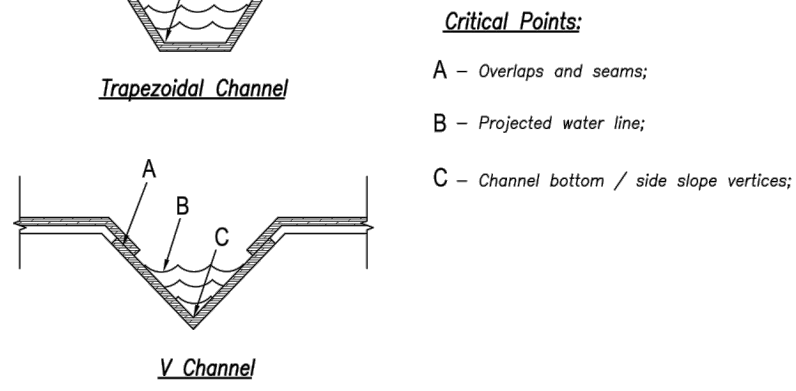
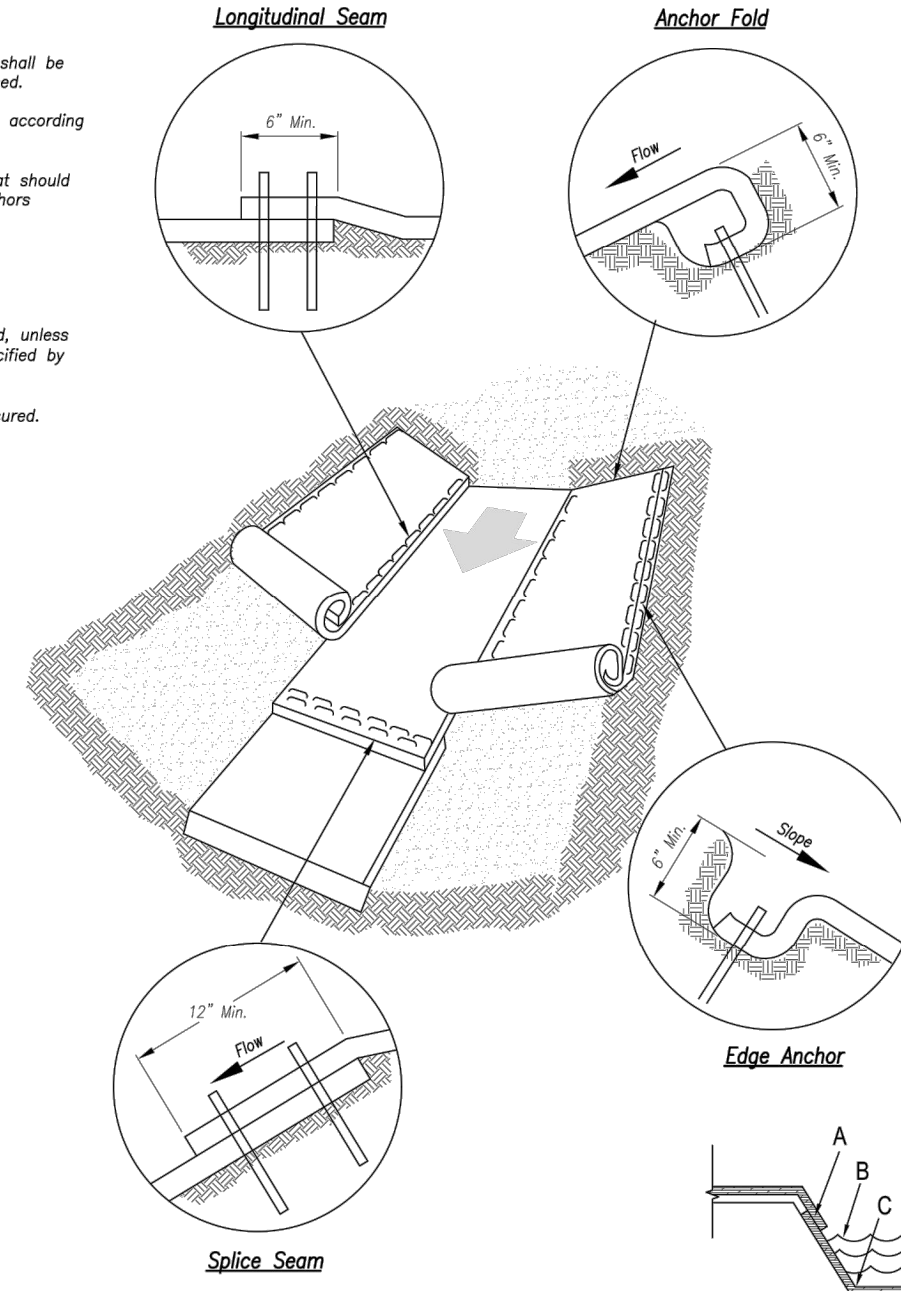
AMERICAN PUBLIC WORKS ASSOCIATION
KANSAS CITY METRO CHAPTER
STANDARD DRAWING
NUMBER ESC-03
ADOPTED: 10/24/2016

SILT FENCE

Modified from 2015 Overland Park Standard Details for Erosion and Sediment Control.

Notes for Installation in Channels:

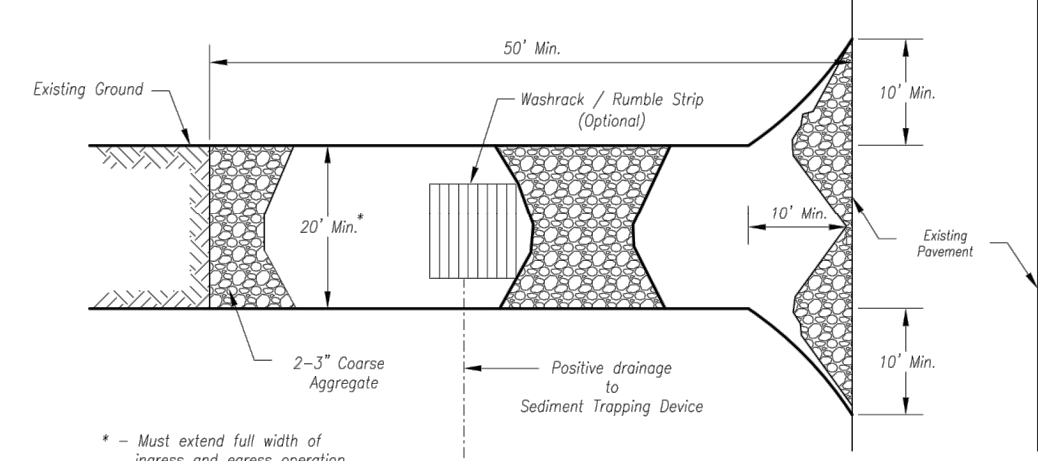
1. Erosion Control Blankets and TRMs shall be laid in the direction of the flow, with the first course at the centerline of channel, where applicable, in order for the mat to be in contact with the soil, lay the mat loosely, avoiding stretching.
2. ANCHOR FOLDS: The top of the mat should be folded under, buried and secured with wood or other approved anchors placed 6 inches apart. The top edge of the mat should be buried in a slot 6 inches wide x 6 inches deep, anchored in the bottom of the slot, backfilled, and the mat folded over the top as shown in detail.
3. SPLICE SEAM: When splices are necessary, overlap and a minimum of 12 inches in direction of water flow. Stagger splice seams.
4. CHECK SLOTS: Establish check slots transverse to slope every 30 feet. The slots should be 6 inches wide x 6 inches deep. The mat shall be cut to a length 12 inches beyond the slot. The top of the downstream mat shall be slotted in, secured and buried similar to the edge anchor fold. The upstream mat shall then cover the slot and be anchored as shown.
5. EDGE ANCHORS: Lay outside edge of mat into trench at top of the slope and anchor.
6. TERMINUS: The bottom edge of the mat shall be anchored.



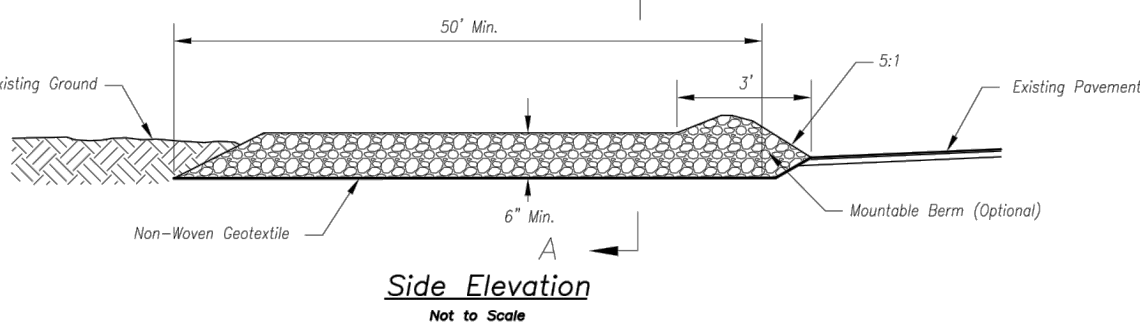
- Critical Points:
- A - Overlaps and seams;
 - B - Projected water line;
 - C - Channel bottom / side slope vertices;

AMERICAN PUBLIC WORKS ASSOCIATION
KANSAS CITY METRO CHAPTER
EROSION CONTROL BLANKETS AND TURF REINFORCEMENT MATS
STANDARD DRAWING
NUMBER ESC-02
ADOPTED: 10/24/2016

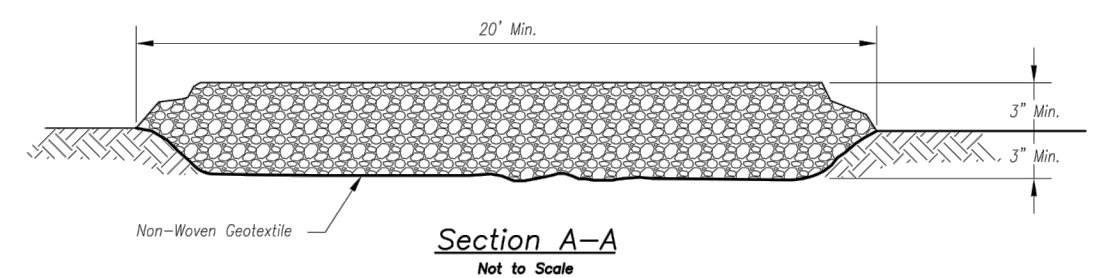
Modified from 2015 Overland Park Standard Details for Erosion and Sediment Control.



Plan View
Not to Scale



Side Elevation
Not to Scale



Section A-A
Not to Scale

- Notes for Construction Entrance:
1. Avoid loading on steep slopes, at curves on public roads, or downhill of disturbed area.
 2. Remove all vegetation and other unsuitable material from the foundation area, grade, and crown for positive drainage.
 3. If slope towards the public road exceeds 2%, construct a 6'- to 8'-inch high ridge with 3:1 side slopes across the foundation approximately 15 feet from the edge of the public road to divert runoff from it.
 4. Install pipe under the entrance if needed to maintain drainage ditches along public roads.
 5. Place stone to dimensions and grade as shown on plans. Leave surface sloped for drainage.
 6. Divert all surface runoff and drainage from the entrance to a sediment control device.
 7. If conditions warrant, place geotextile fabric on the graded foundation to improve stability.

- Maintenance for Construction Entrance:
1. Reshape entrance as needed to maintain function and integrity of installation. Top dress with clean aggregate as needed.

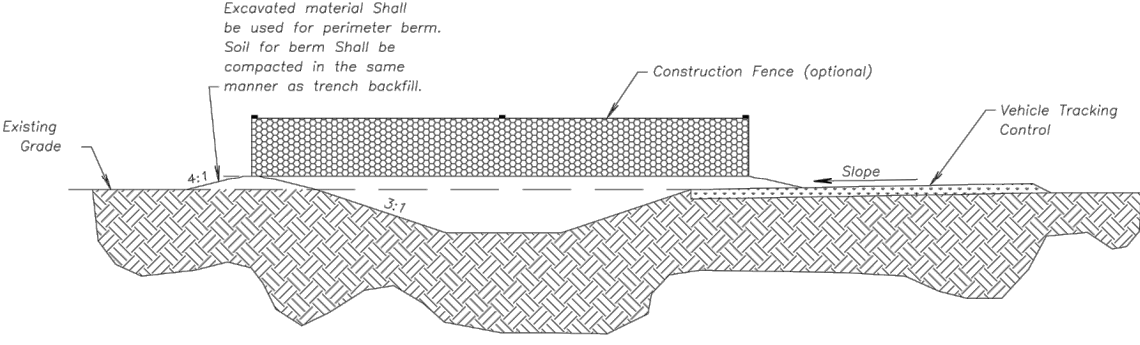
CONSTRUCTION ENTRANCE

Notes for Concrete Washout:

1. Concrete washout areas shall be installed prior to any concrete placement on site.
2. Concrete washout area shall include a first subsurface pit sloped relative to the amount of concrete to be placed on site. The slopes leading out of the subsurface pit shall be 3:1. The vehicle tracking pad shall be sloped towards the concrete washout area.
3. Vehicle tracking control is required at the access point to all concrete washout areas.
4. Signs shall be placed at the construction site entrance, washout area and elsewhere as necessary to clearly indicate the location(s) of the concrete washout area(s) to operators of concrete truck and pump rigs.
5. A one-piece impervious liner may be required along the bottom and sides of the subsurface pit in sandy or gravelly soils.

Maintenance for Concrete Washout:

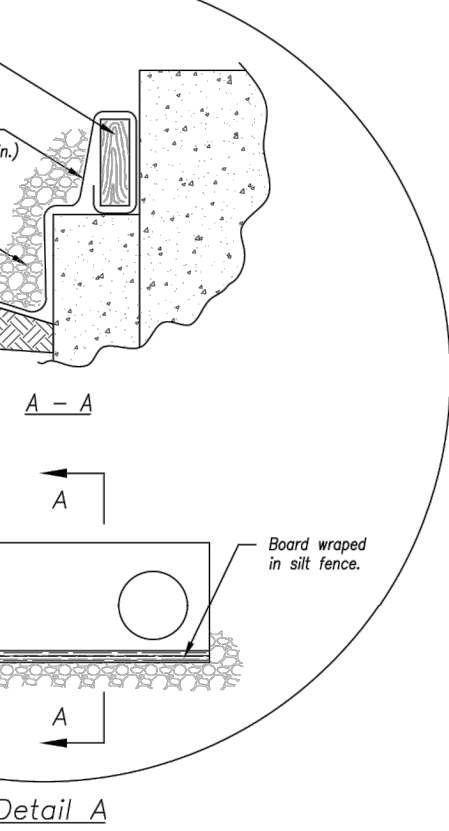
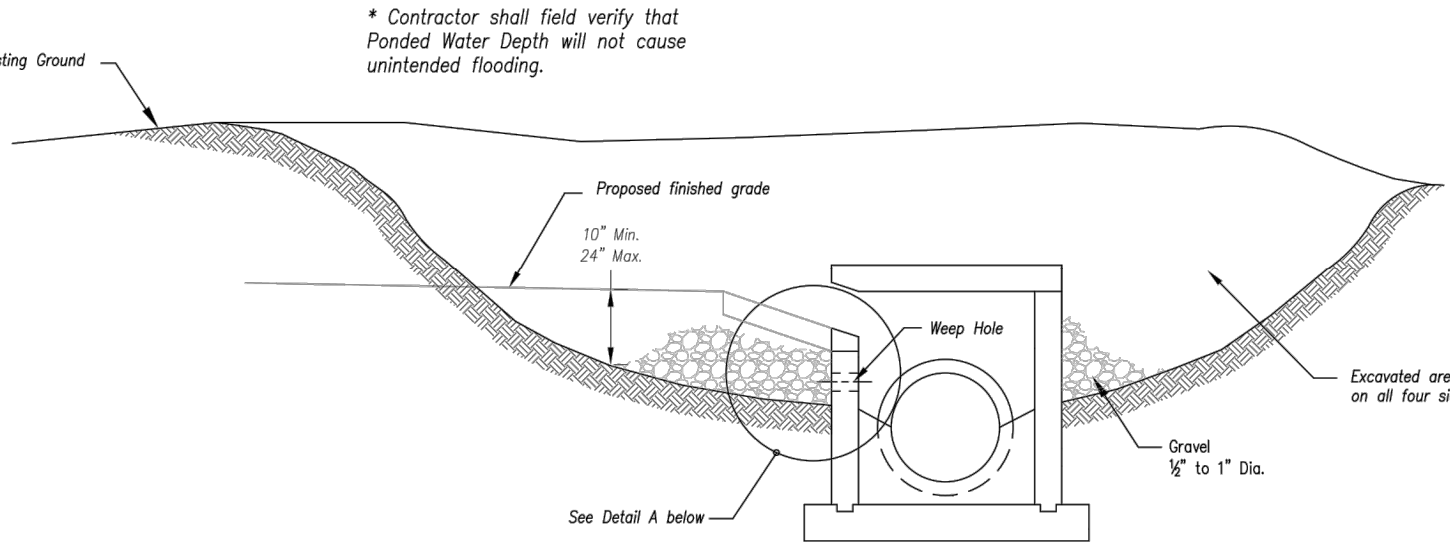
1. Concrete washout materials shall be removed once the materials have filled the washout to approximately 75% full.
2. Concrete washout areas shall be enlarged as necessary to maintain capacity for washed concrete.
3. Concrete washout water, washed pieces of concrete and all other debris in the subsurface pit shall be transported from the job site in a suitable container and disposed of properly.
4. Concrete washout areas shall remain in place until all concrete for the project is placed.
5. When concrete washout areas are removed, excavations shall be filled with suitable compacted backfill and topped, any disturbed areas associated with the installation, maintenance, and/or removal of the concrete washout areas shall be stabilized.



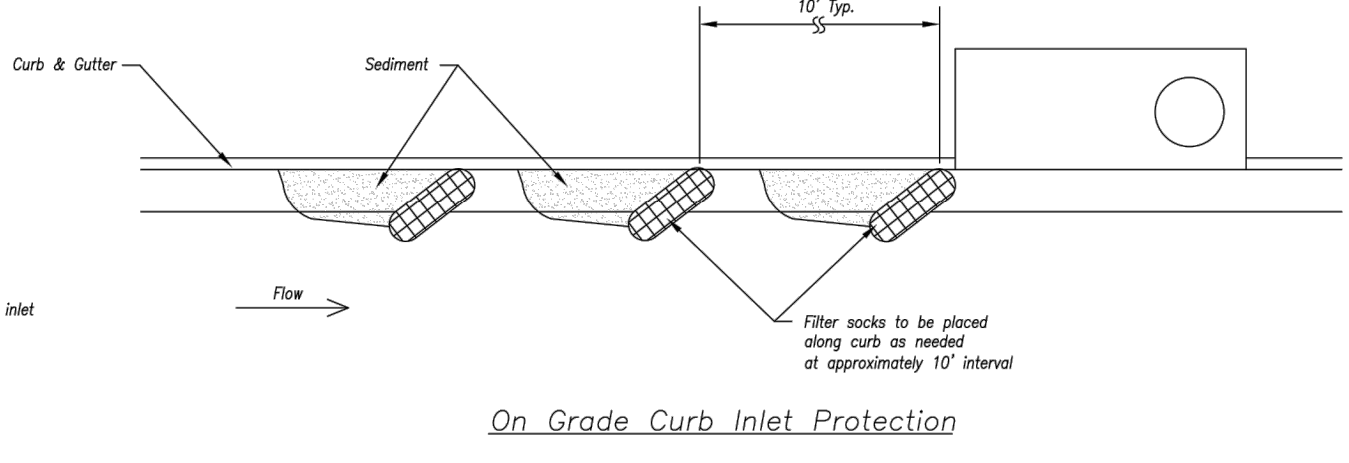
CONCRETE WASHOUT

AMERICAN PUBLIC WORKS ASSOCIATION
KANSAS CITY METRO CHAPTER
CONSTRUCTION ENTRANCE AND CONCRETE WASHOUT
STANDARD DRAWING
NUMBER ESC-01
ADOPTED: 10/24/2016

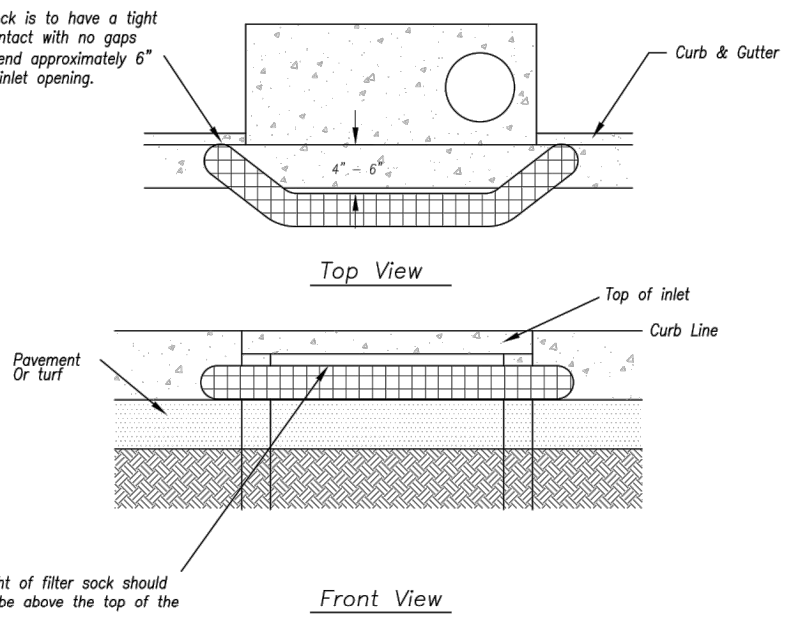
Construction Entrance modified from 2015 Overland Park Standard Details for Erosion and Sediment Control. Concrete Washout modified from 2009 City of Great Bend Standard Drawings.



EARLY STAGE CURB INLET
(Open Box and Prior to Pouring Curb and Inlet Throat)



On Grade Curb Inlet Protection



Sump Inlet Sediment Filter

Notes:

1. Immediately following inlet construction and prior to construction of curb and inlet throat, protect inlet opening by installing 2' x 10' (min.) board wrapped in silt fence. Structures shall have excavated storage area on all four sides to allow settling of sediment (Early Stage Curb Inlet).
2. When inlet is completed and curb poured, filter socks or approved equal should be used (Late Stage Curb Inlet). Show widths are not approved for curb inlet use.
3. Contractor to field verify ponding water shall not create a traffic hazard.

Maintenance:

1. Remove deposited sediment from excavated storage areas when available storage has been reduced by 20%.
2. Remove deposited sediment from filter socks or similar when any accumulation of sediment is visible.
3. Repair or replace as necessary to maintain function and integrity of installation.

LATE STAGE CURB INLET
(After Pouring Curb and Inlet Throat)

AMERICAN PUBLIC WORKS ASSOCIATION
KANSAS CITY METRO CHAPTER
CURB INLET PROTECTION
STANDARD DRAWING
NUMBER ESC-06
ADOPTED: 10/24/2016

Modified from 2015 Overland Park Standard Details for Erosion and Sediment Control.

EROSION CONTROL DETAILS
FINAL DEVELOPMENT PLAN

MIDWEST WASH
HWY 291 & THOMPSON DRIVE

LEE'S SUMMIT, MISSOURI

drawn by: BP
checked by: MP
approved by: LM
QA/QC by: BE
project no.: 022-04040
drawing no.:
date: 05.13.23

REV.	NO.	DATE	DESCRIPTION
1	06/13/2023		CITY COMMENTS

BY

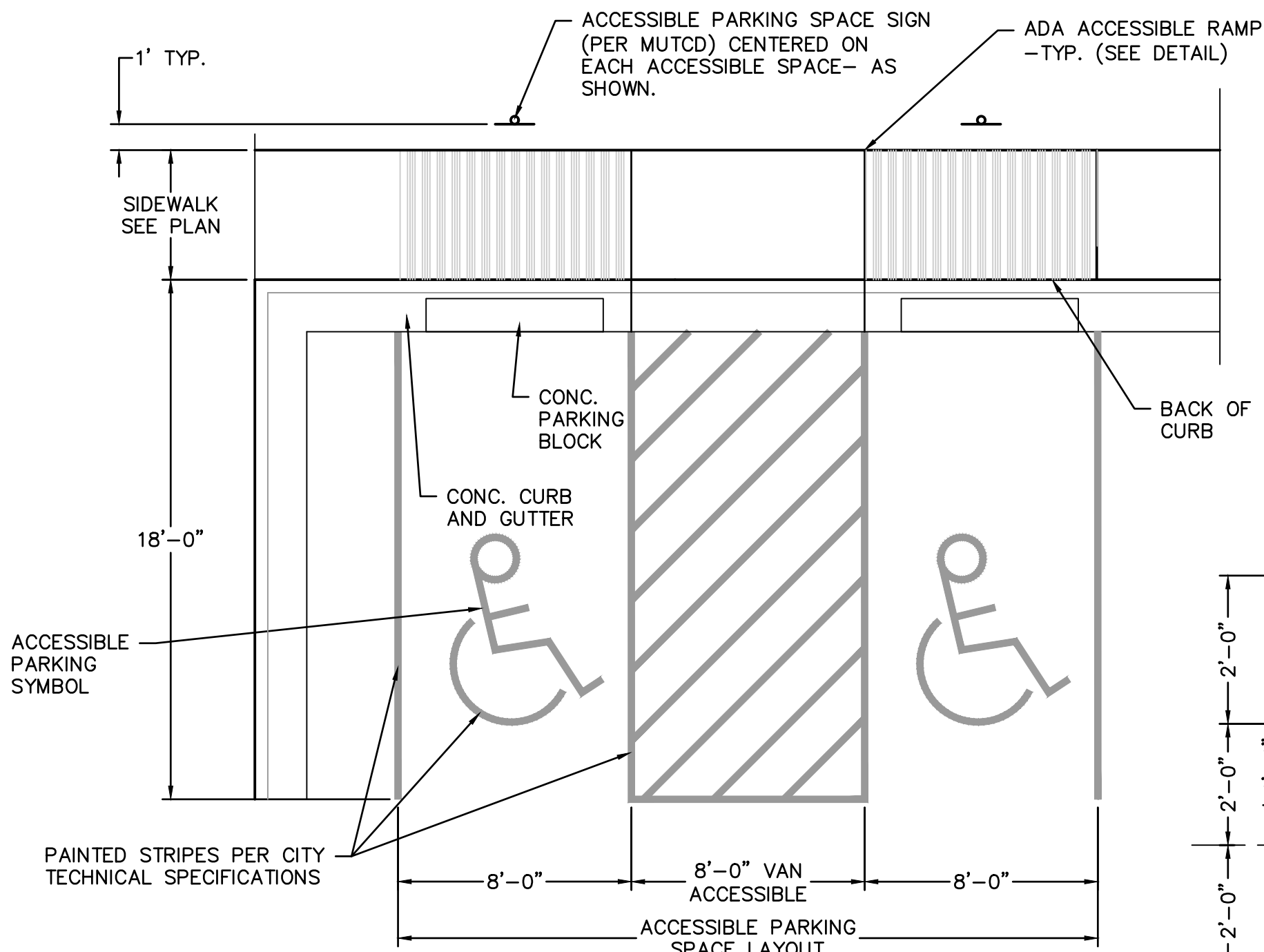


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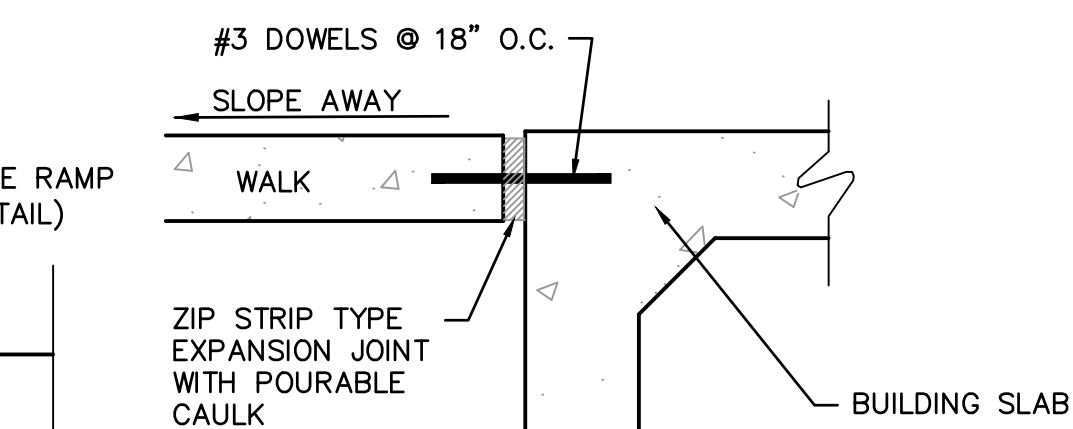
7301 West 133rd Street, Suite 200
Overland Park, KS 66213-4750
TEL 913.831.1170 www.olson.com

REVISIONS

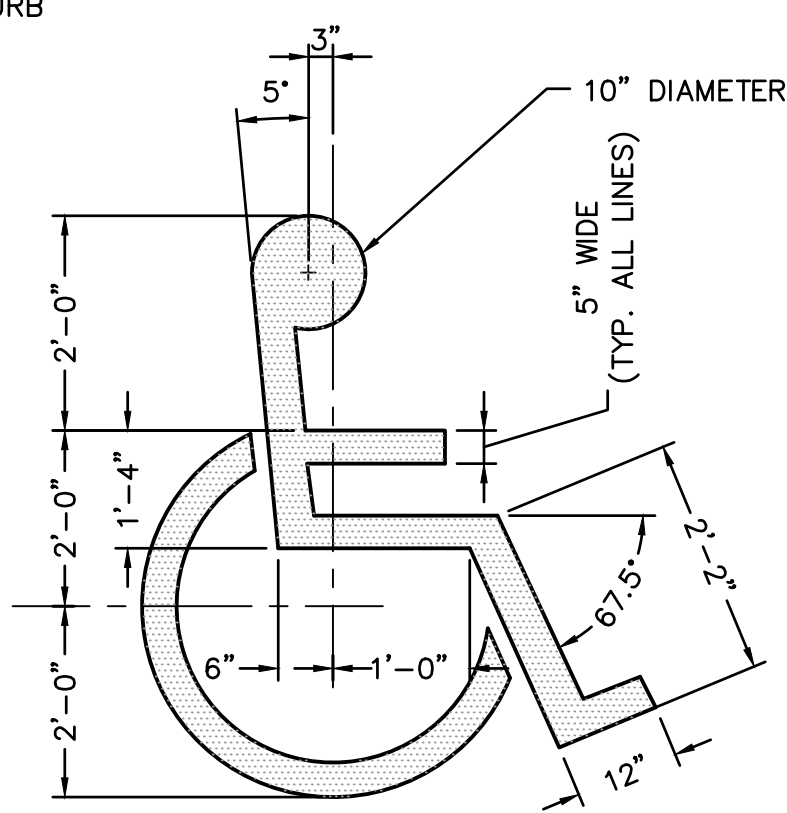
NOTE
ACCESSIBLE PARKING SYMBOL AND SIGNAGE SHALL COMPLY WITH THE APPLICABLE RECOMMENDATIONS OF THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).



ACCESSIBLE PARKING SPACE LAYOUT DETAIL
NOT TO SCALE

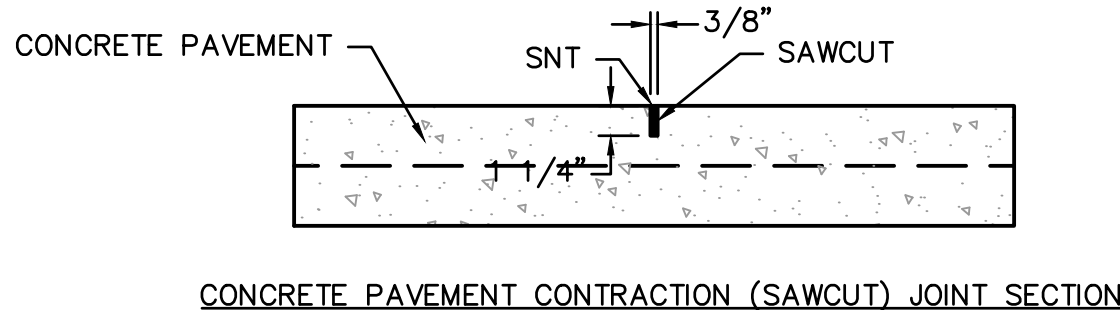


SIDEWALK TO BUILDING SLAB CONNECTION DETAIL
NOT TO SCALE



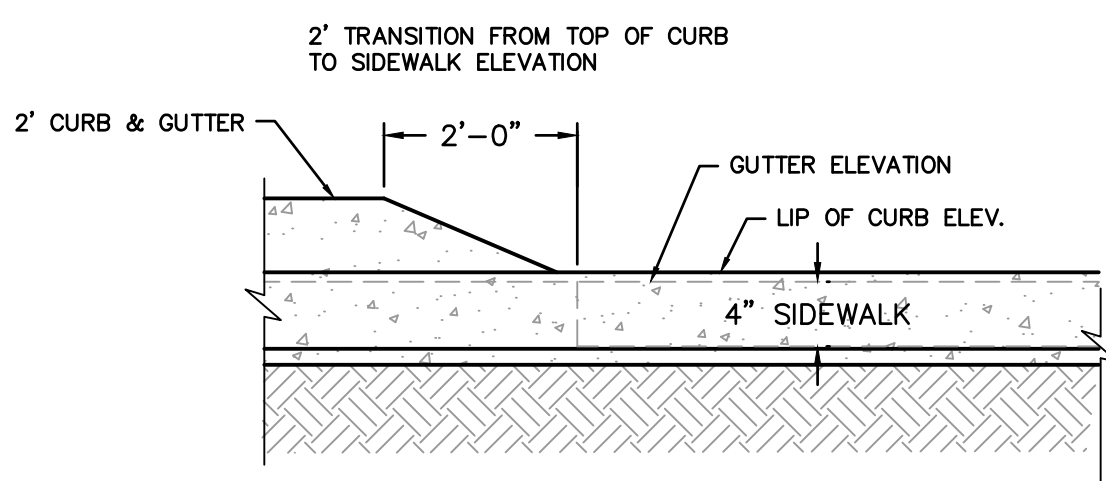
PROVIDE PAINTED SYMBOL AT EACH DESIGNATED ACCESSIBLE PARKING STALL. CENTER SYMBOL IN EACH STALL.

ACCESSIBLE PARKING SYMBOL
NOT TO SCALE



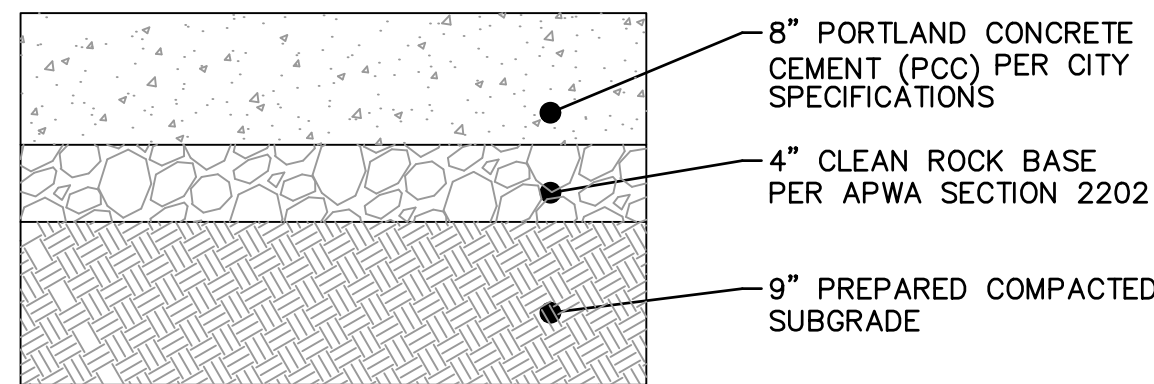
CONCRETE PAVEMENT CONTRACTION (SAWCUT) JOINT SECTION

SAWCUT JOINT



SECTION B-B
NOT TO SCALE

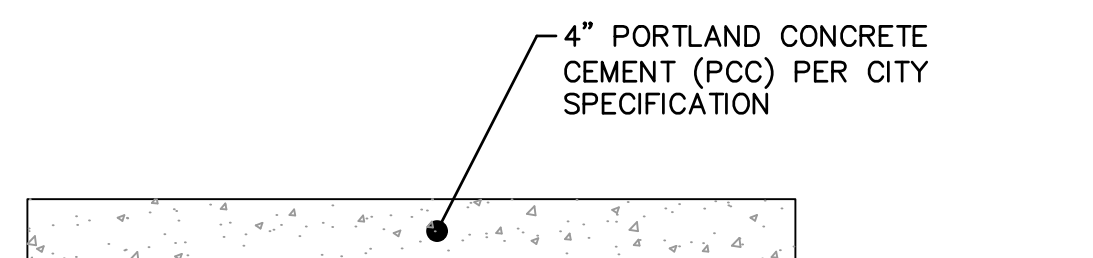
CURB TRANSITION DETAIL



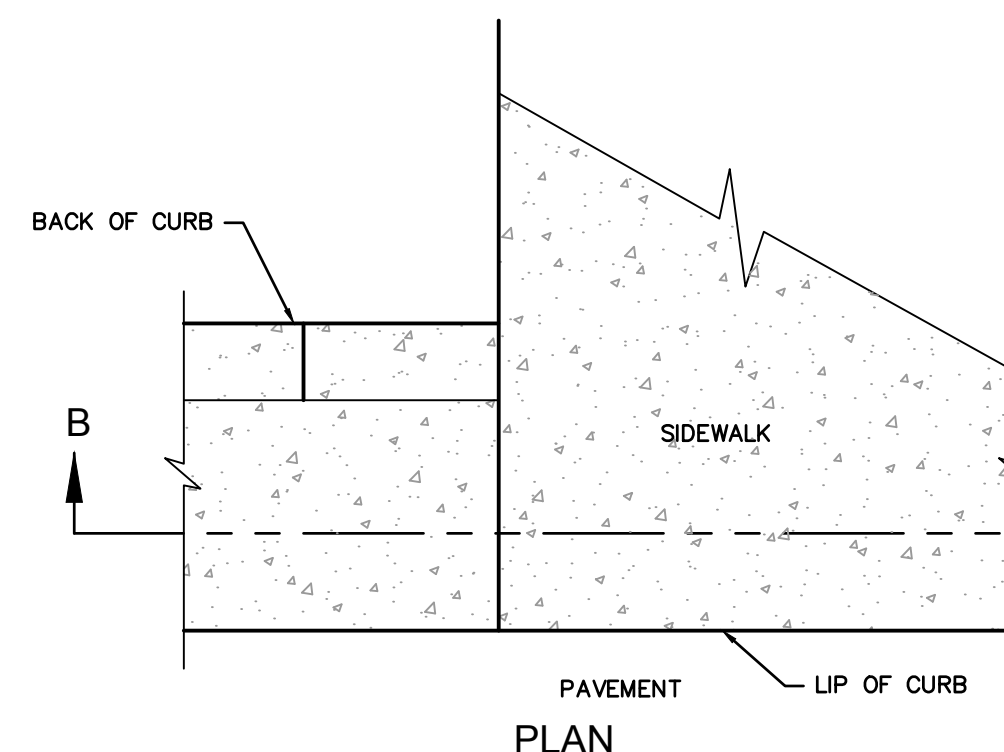
HEAVY CONCRETE SECTION
NOT TO SCALE

PAVEMENT SECTIONS

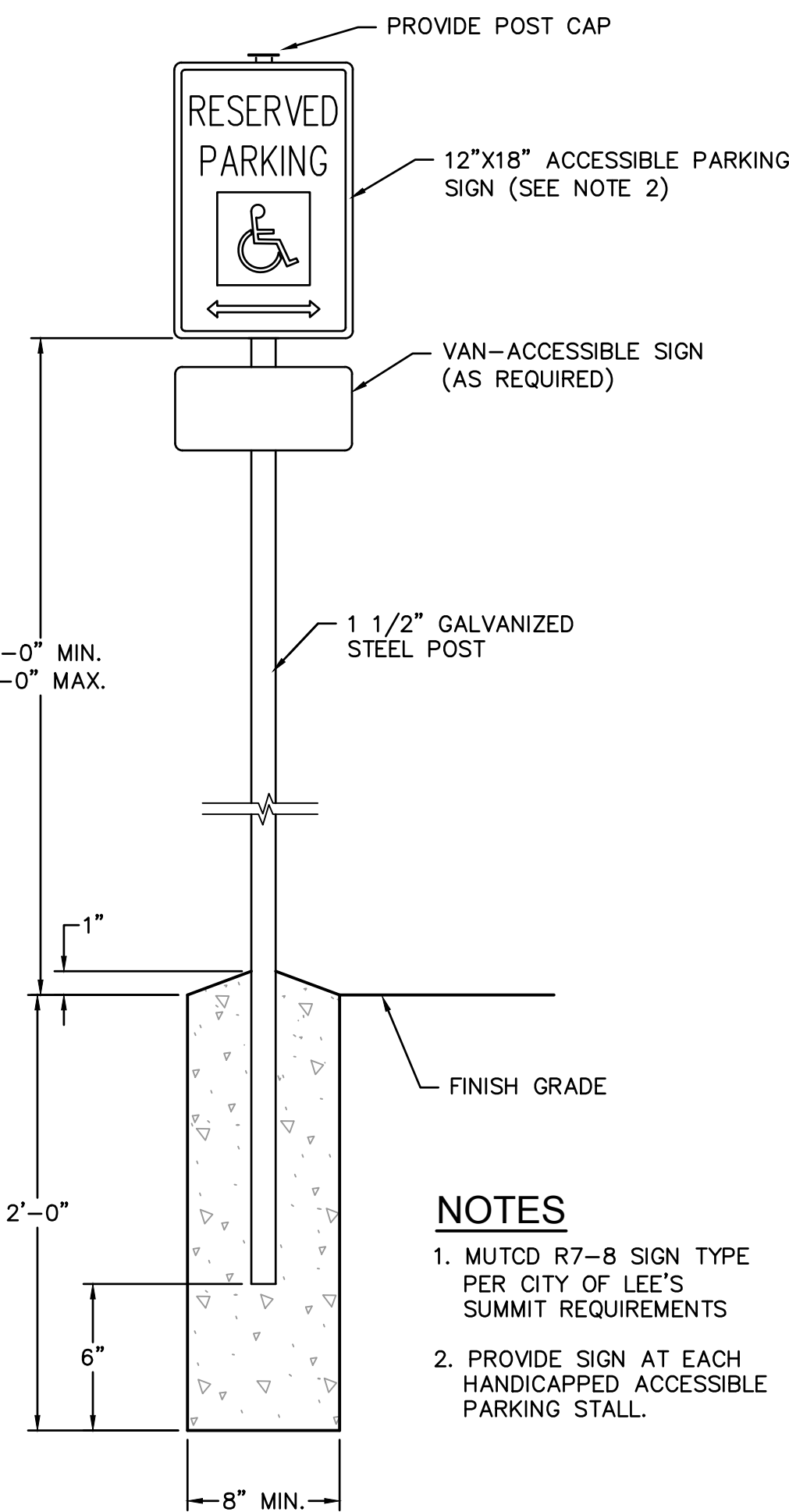
NOTE: CONTRACTOR TO REFERENCE SITE GEOTECHNICAL REPORT (OLSSON DATED AUGUST 15TH, 2022) AND ALL ADDENDUM FOR SUBSURFACE PREPARATIONS RECOMMENDATIONS AND FURTHER INFORMATION.



PCC SIDEWALK SECTION
NOT TO SCALE



PLAN



ACCESSIBLE PARKING SPACE SIGNAGE
NOT TO SCALE

NOTES

- MUTCD R7-8 SIGN TYPE PER CITY OF LEE'S SUMMIT REQUIREMENTS
- PROVIDE SIGN AT EACH HANDICAPPED ACCESSIBLE PARKING STALL.

drawn by: BP
checked by: MP
approved by: LM
QA/QC by: BE
project no.: 022-4040
drawing no.:
date: 05.13.23

SHEET
C800

STANDARD DETAILS
FINAL DEVELOPMENT PLAN
MIDWEST WASH
HWY 291 & THOMPSON DRIVE
LEE'S SUMMIT, MISSOURI

2023

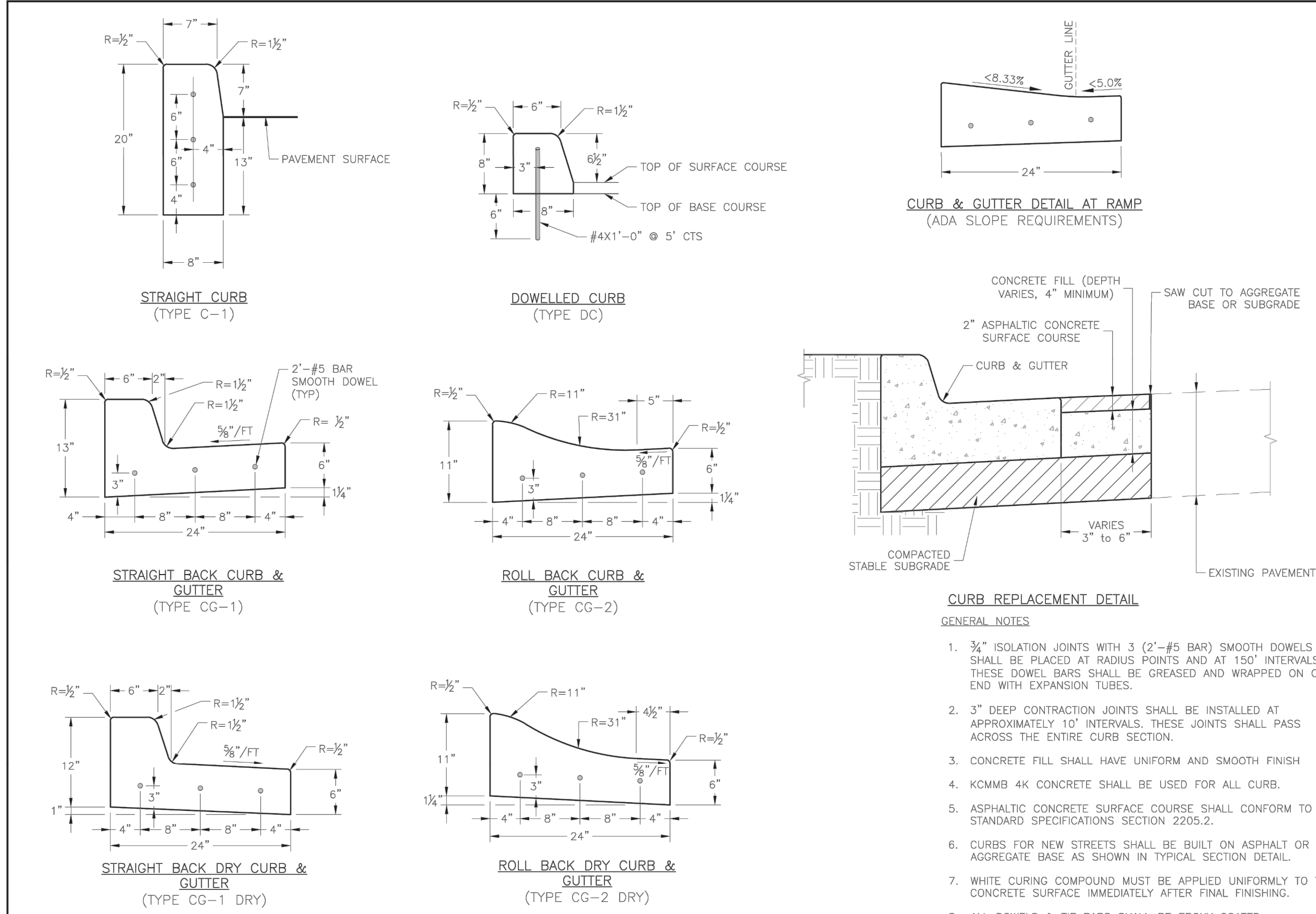
REV.	NO.	DATE	REVISIONS DESCRIPTION
1		06/13/2023	CITY COMMENTS

BY	
DATE	
REVISIONS	



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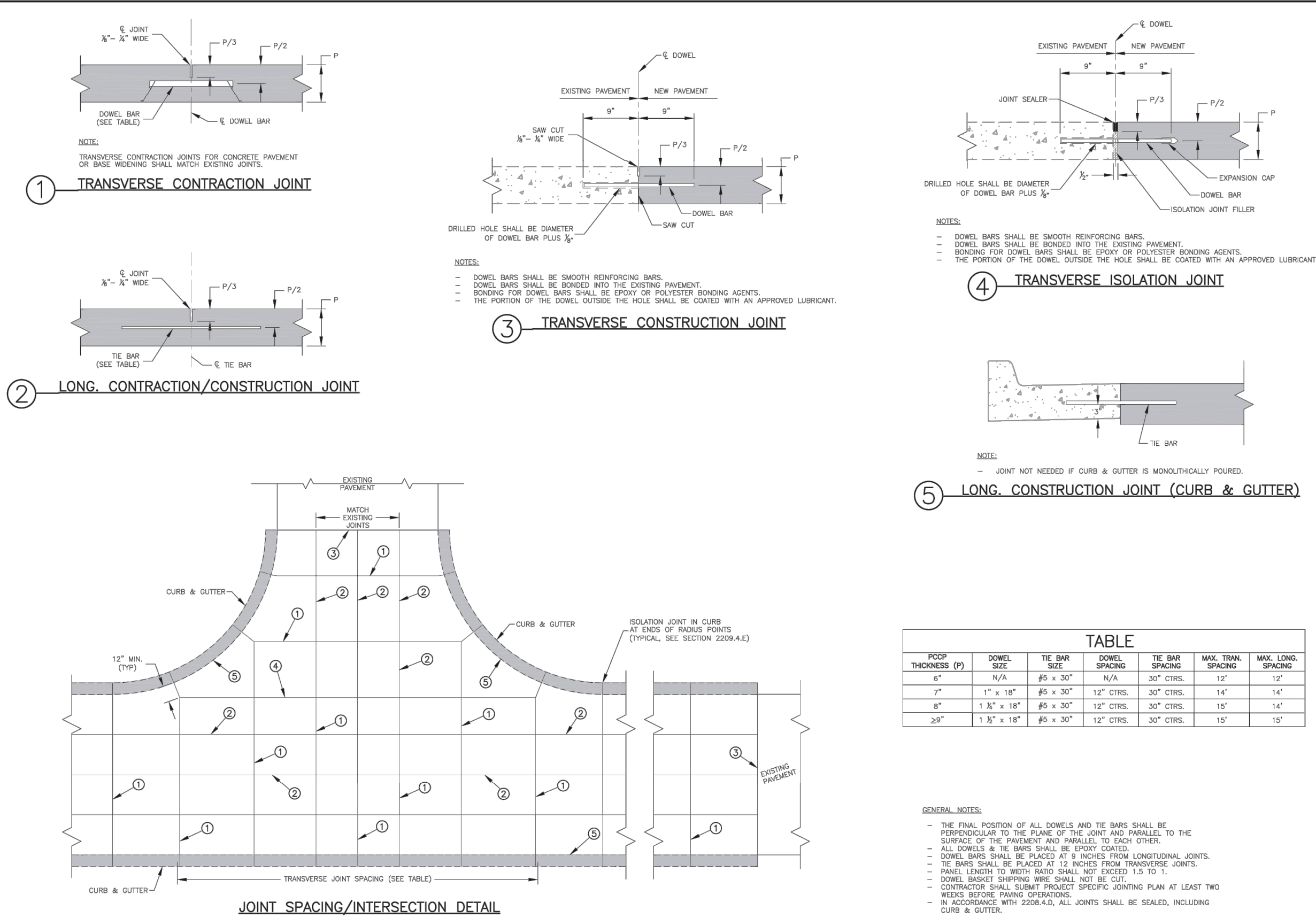
7301 West 133rd Street, Suite 200
Overland Park, KS 66213-4750
TEL 913.381.1170 www.olson.com



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

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

GEN-4

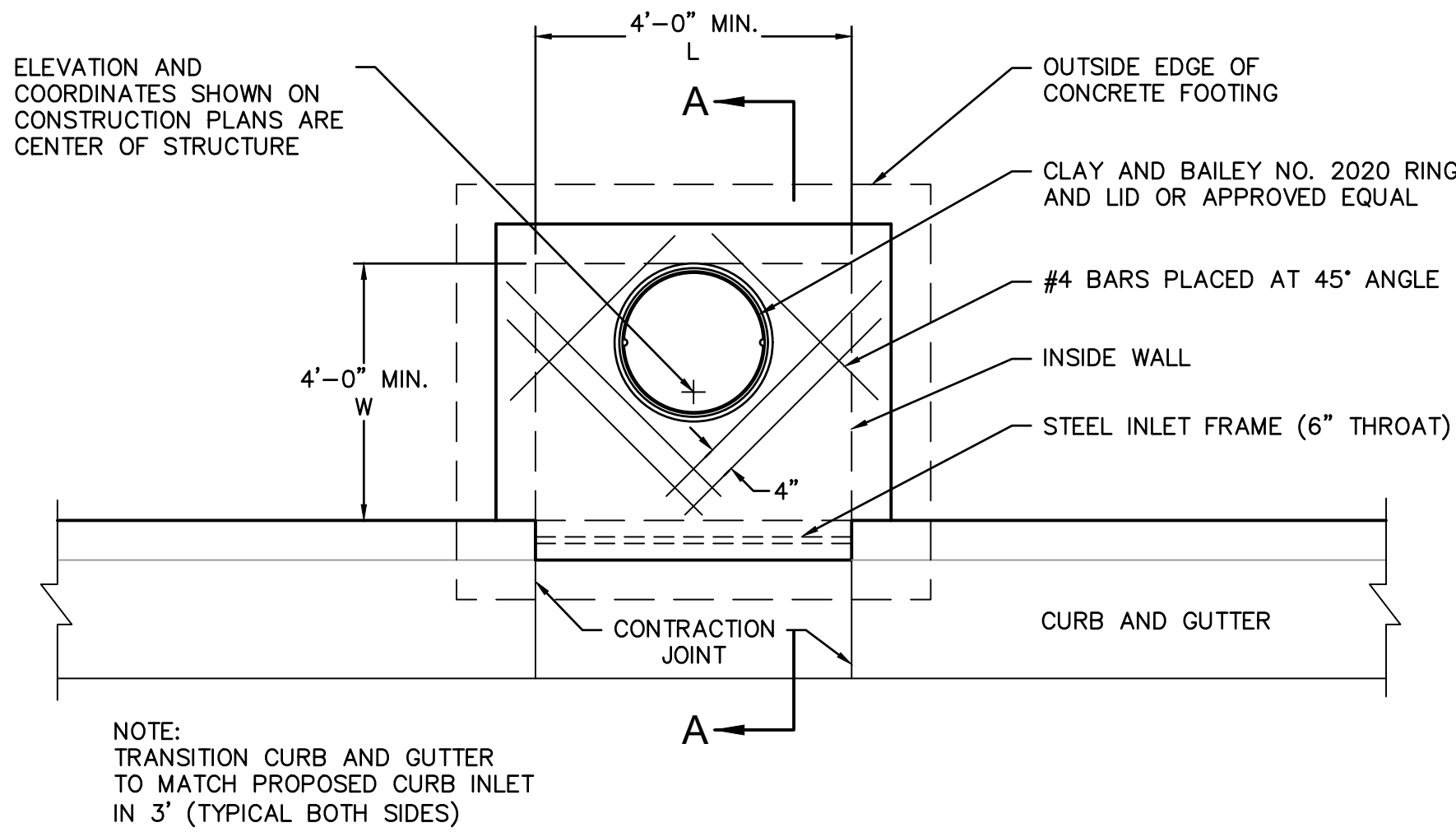


LEE'S SUMMIT
MISSOURI
PUBLIC WORKS ENGINEERING DIVISION | 220 DE GREEN STREET | LEE'S SUMMIT, MO 64083

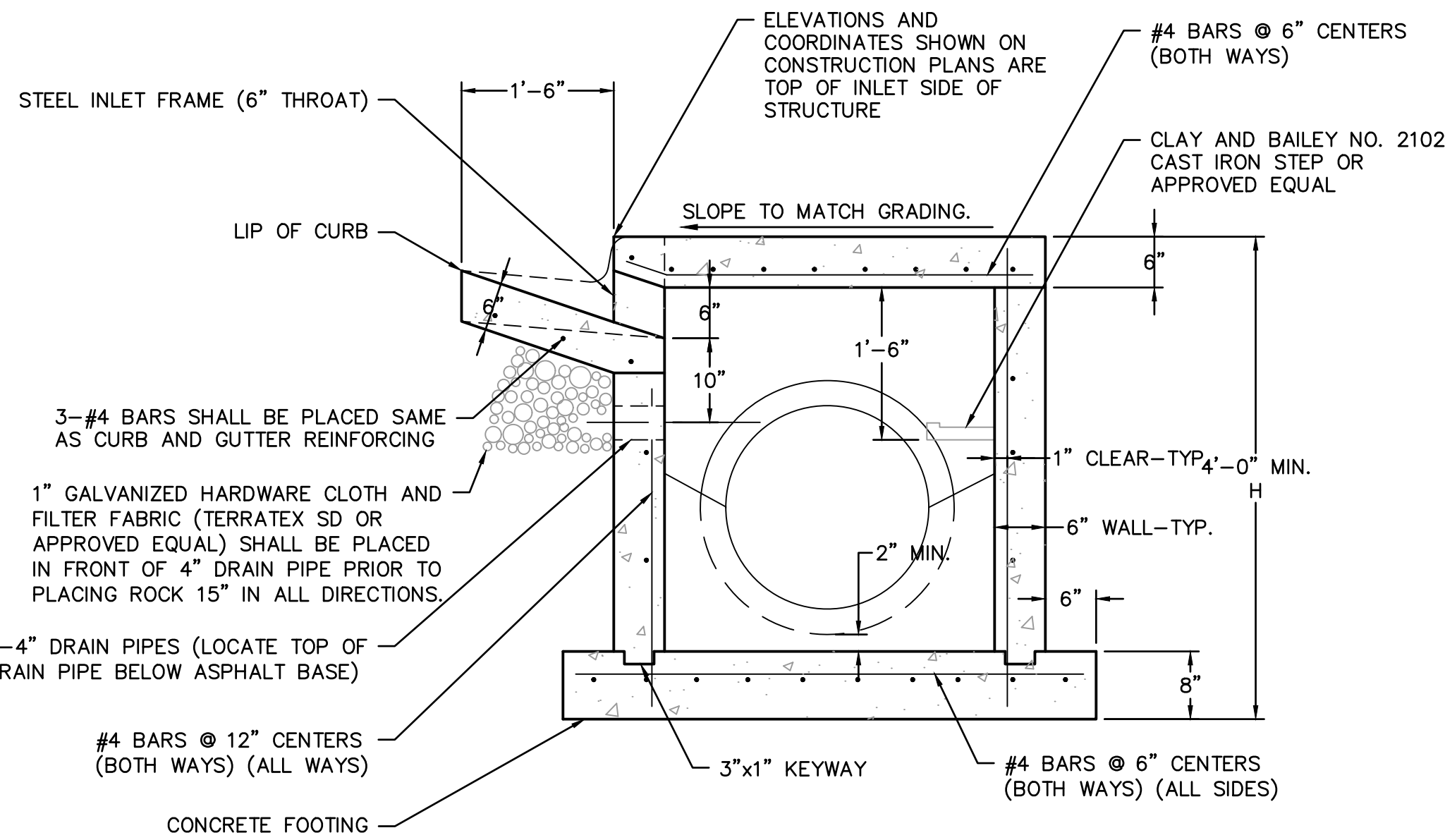
STANDARD DETAILS
CITY OF LEE'S SUMMIT, MO
LEE'S SUMMIT, JACKSON COUNTY, MO
TYPICAL PAVEMENT JOINT DETAILS

GEN-9

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USER: bpayne2



PLAN



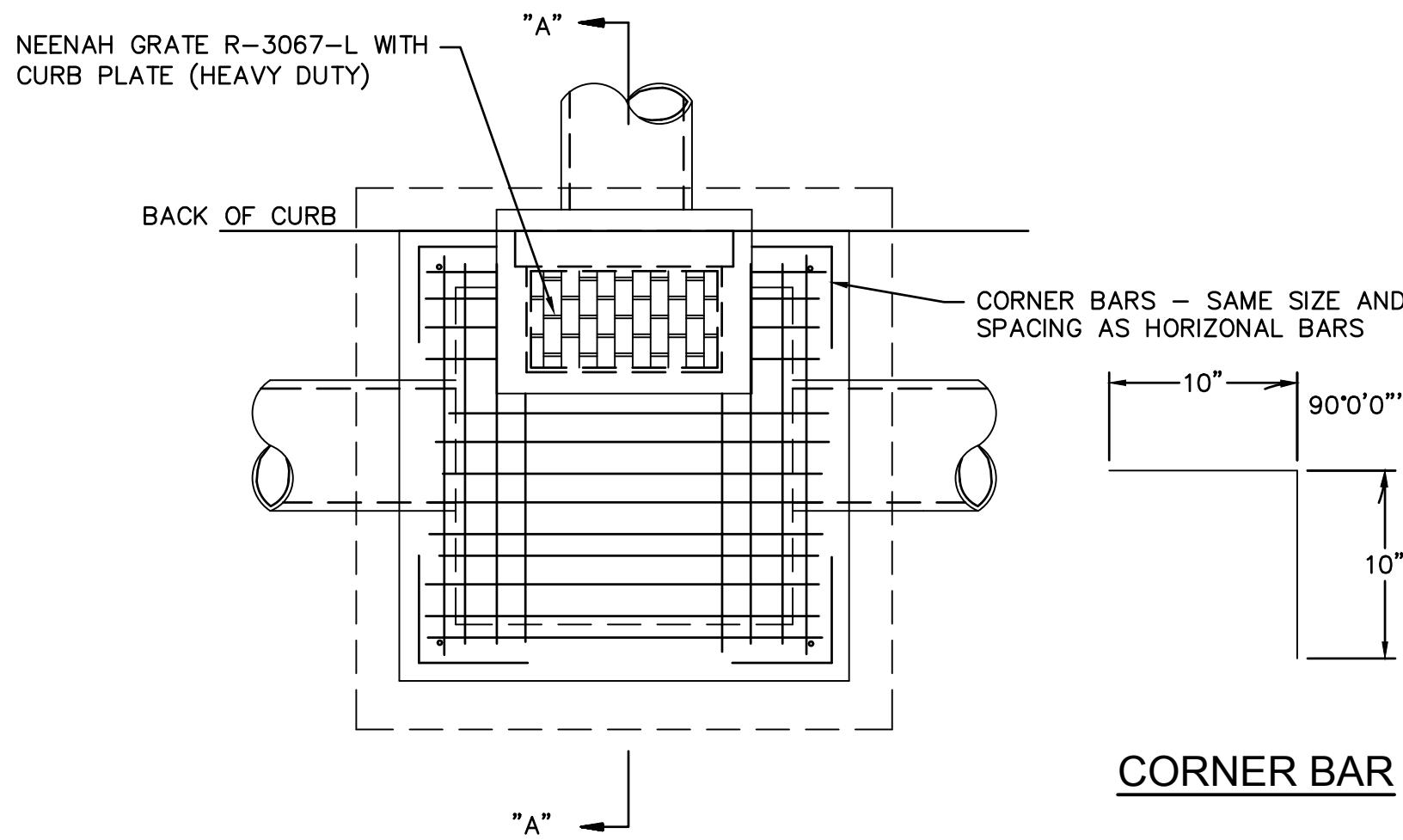
SECTION A-A

NON-SETBACK CURB INLET

NOT TO SCALE

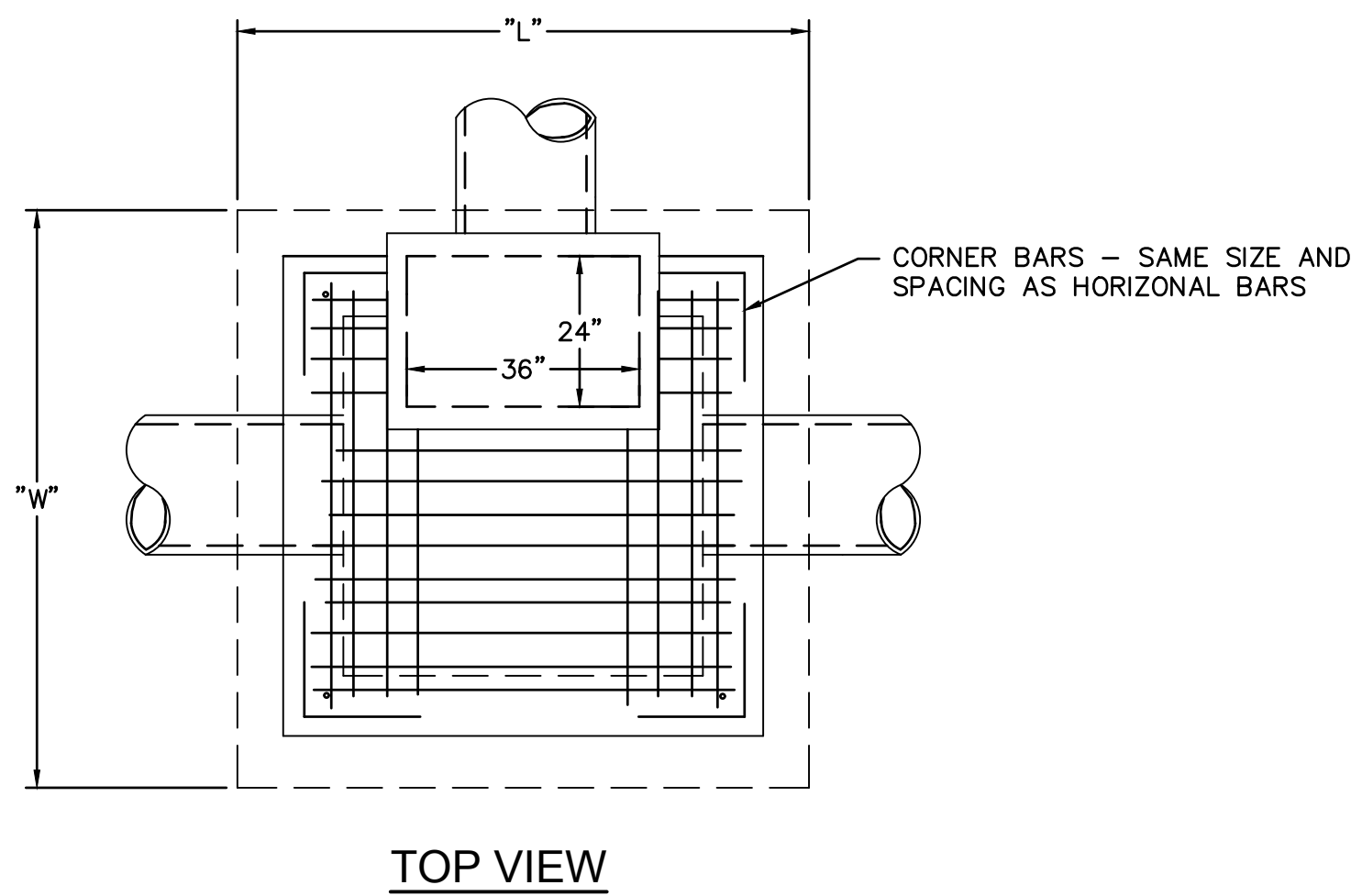
NON-SETBACK CURB INLET NOTES

1. USE CITY APPROVED CONCRETE THROUGHOUT.
2. THE FIRST DIMENSION LISTED IN THE CONSTRUCTION NOTES IS THE "L" DIMENSION.THE SECOND DIMENSION IS THE "W" DIMENSION.
3. FLOOR OF INLET SHALL BE SHAPED TO PROVIDE SMOOTH FLOW.
4. EXPANSION JOINTS SHALL BE EITHER HOT OR COLD POURED JOINT SEALING COMPOUND, OR PREMOLDED EXPANSION JOINT FILLER.
5. STEEL INLET FRAME SPACERS SHALL BE PLACED AT EQUAL SPACINGS NOT TO EXCEED 4'-0".
6. CAST IRON STEPS TO BE CLAY & BAILEY 2102 OR APPROVED EQUAL. STEEL CORE, PLASTIC COATED STEPS MAY BE USED (M.A. IND.,INC. NO. PS1-PF, PS2-PF, OR APPROVED EQUAL). CAST IRON STEPS SHALL BE SPACED AT 1'-4" O.C. VERTICALLY.
7. BEVEL ALL EXPOSED EDGES WITH TRIANGULAR MOLDING.
8. ON-GRADE INLETS SHALL CONFORM TO THE STREET GRADE AND SUMP INLETS SHALL BE LEVEL.
9. ALL STORM SEWER STRUCTURES SHALL BE PRECAST. PRECAST SHOP DRAWINGS SHALL BE APPROVED BY THE DESIGN ENGINEER.
10. REINFORCING STEEL SHALL BE NEW BILLET, MINIMUM GRADE 40 AS PER ASTM A615, AND SHALL BE BENT COLD.
11. ALL DIMENSIONS RELATIVE TO REINFORCING STEEL ARE TO CENTERLINE OF BARS. 2" CLEARANCE SHALL BE PROVIDED THROUGHOUT UNLESS NOTED OTHERWISE. TOLERANCE OF $\pm 1/8$ " SHALL BE PERMITTED.
12. ALL LAP SPLICES NOT SHOWN SHALL BE A MINIMUM OF 40 BAR DIAMETERS IN LENGTH.
13. ALL DOWELS SHALL BE ACCURATELY PLACED AND SECURELY TIED IN PLACE PRIOR TO PLACEMENT OF BOTTOM SLAB CONCRETE. STICKING OF DOWELS INTO FRESH OR PARTIALLY HARDENED CONCRETE WILL NOT BE ACCEPTABLE.
14. ALL REINFORCING STEEL SHALL BE SUPPORTED ON FABRICATED STEEL BAR SUPPORTS @ 3'-0" MAXIMUM SPACING.
15. DO NOT SCALE THESE DRAWINGS FOR DIMENSIONS OR CLEARANCES. ANY QUESTIONS REGARDING DIMENSIONS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO CONSTRUCTION.
16. THE BOTTOM SLAB SHALL BE AT LEAST 24 HOURS OLD BEFORE PLACING SIDEWALL CONCRETE. ALL SIDEWALL FORMS SHALL REMAIN IN PLACE A MINIMUM OF 24 HOURS AFTER SIDEWALLS ARE POURED BEFORE REMOVAL, AND AFTER REMOVAL SHALL BE IMMEDIATELY TREATED WITH MEMBRANE CURING COMPOUND.
17. ALL CURB INLET TOPS ARE TO BE CONSTRUCTED AFTER FINAL CURB STRING LINE HAS BEEN APPROVED BY THE ENGINEER AND PRIOR TO CURB CONSTRUCTION, OR AS DIRECTED BY THE CITY ENGINEER.
18. RCP CONNECTIONS TO PRECAST STRUCTURE SHALL MEET ALL CITY STANDARDS.
19. BACKFILL AROUND STRUCTURES SHALL BE COMPACTED AND SHALL BE OF THE MATERIAL SPECIFIED PER CITY STANDARDS.
20. NON-SETBACK CURB INLET TO BE USED ONLY WITH THE APPROVAL OF THE CITY ENGINEER.

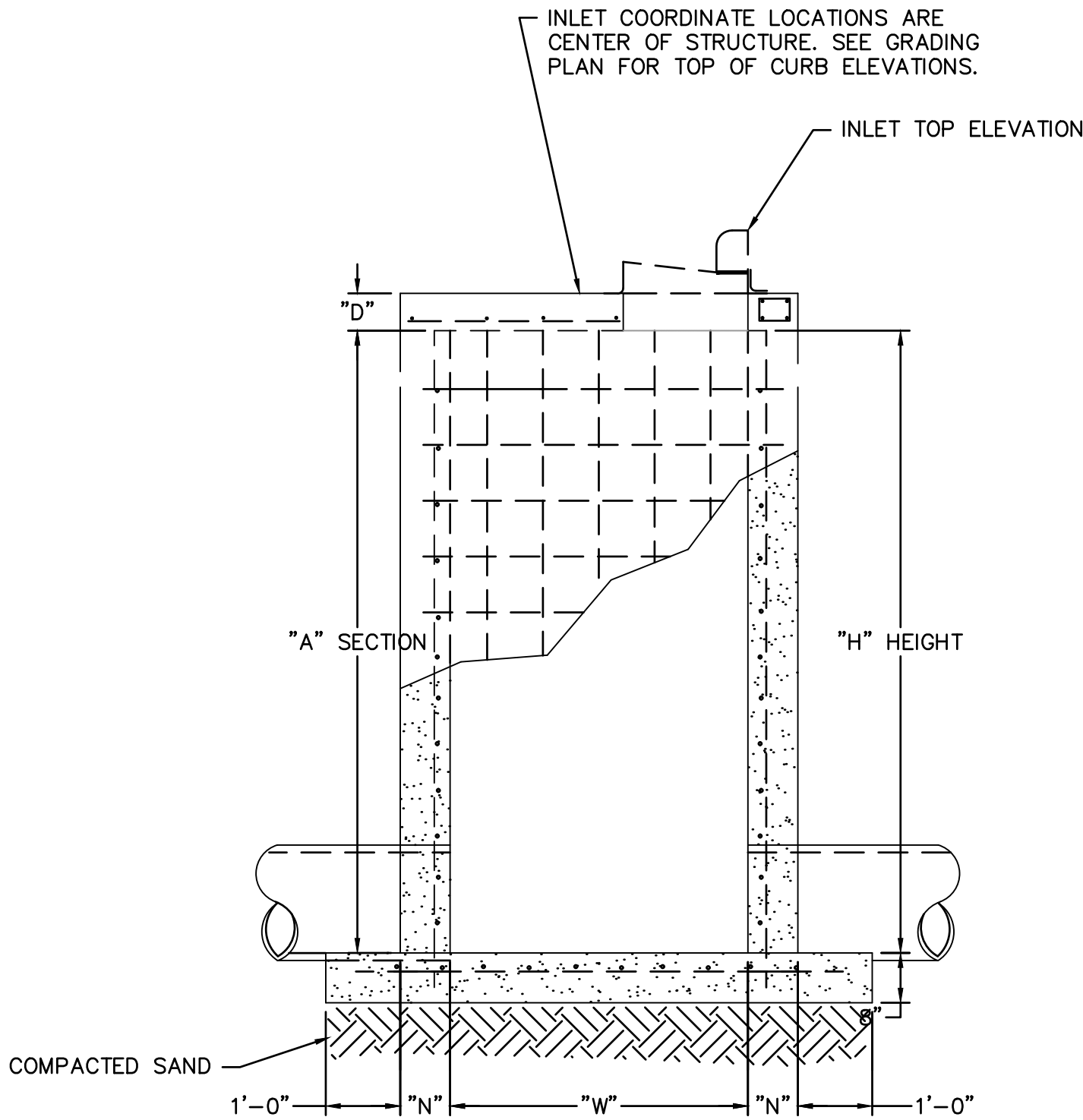


CORNER BAR

PLAN OF GRATE INLET TYPE 2



TOP VIEW



SECTION A-A

STANDARD STORM SEWER CURB/GRATE INLET

NOT TO SCALE

GENERAL NOTES:

1. ALL EXPOSED CORNERS TO HAVE 3/4" CHAMFER.
2. ALL #4 & #5 REINFORCING BARS TO HAVE 1 1/2" COVER, LARGER SIZES TO HAVE 2" COVER.
3. SEE GRADING AND DRAINAGE PLAN FOR PIPE SIZES, LOCATIONS, AND FLOW LINES.
4. PIPES SHALL CONNECT TO THE ENDS OR SIDES OF THE INLET. CONNECTION SHALL NOT BE MADE AT CORNERS OF BOX.
5. ALL REINFORCING BARS TO BE GRADE 40.
6. A 2' MINIMUM INTERIOR WALL WIDTH IS REQUIRED FOR SIDES WITHOUT PIPES AND A 4' MINIMUM IS REQUIRED FOR SIDES WITH PIPES.

REINFORCEMENT SCHEDULE, BASE			
SECTION	WIDTH ("W")	HOR.	VERT.
"A"	#4's @ 6" E.W.		

REINFORCEMENT SCHEDULE, WALLS			
SECTION	WIDTH ("W")	HOR.	VERT.
"A"	4'	#4's @ 9"	#4's @ 10"
	BETWEEN 4' & 7'	#6's @ 9"	#4's @ 10"
	GREATER THAN 7'	#5's @ 4 1/2"	#4's @ 10"

TABLE OF "T" & "N" DIMENSIONS			
SECTION	WIDTH ("W")	"T"	"N" "D"
"A"	BETWEEN 4' & 7'	6" + PIPE THICKNESS	8" 6"
	GREATER THAN 7'	6" + PIPE THICKNESS	8" 8"

REINFORCEMENT SCHEDULE, TOP		
DIMENSIONS	STEEL	SPECIAL PATTERN
L = 7' OR LESS	#4's @ 8" E.W.	DIAGONAL @ COVER
W = 7' OR LESS	#4's @ 8" E.W.	DIAGONAL @ COVER
L = 7' OR LESS	#4's @ 8" E.W.	DIAGONAL @ COVER
W = 7' OR GREATER	#4's @ 6" E.W.	DIAGONAL @ COVER
L = 7' OR GREATER	#4's @ 6" E.W.	DIAGONAL @ COVER
W = 7' OR GREATER	#4's @ 6" E.W.	DIAGONAL @ COVER

TABLE OF "W" DIMENSIONS					
PIPE SIZE	SKEW OF CROSS DRAIN	PIPE SIZE	SKEW OF CROSS DRAIN	PIPE SIZE	SKEW OF CROSS DRAIN
SINGLE	STRAIGHT 30' 45'	SINGLE	STRAIGHT 30' 45'	SINGLE	STRAIGHT 30' 45'
24"	4'-0" 4'-0" 4'-10"	DOUBLE	FOR "A" SECTION ONLY	24"	7'-0" 7'-10" 9'-5"
30"	4'-0" 4'-7" 5'-8"	30"	8'-2" 9'-2" 11'-0"	36"	9'-4" 10'-6" 12'-6"
36"	4'-0" 5'-3" 6'-5"	42"	10'-6" 11'-10" 14'-2"	48"	11'-8" 13'-2" 15'-10"
42"	5'-3" 5'-11" 7'-3"				
48"	5'-10" 6'-7" 8'-0"				
60"	7'-0" 7'-10" 9'-8"				

CURB/GRATE INLET NOTES:

1. CONCRETE USED IN THIS WORK SHALL BE APPROVED BY THE CITY.
2. THE FIRST DIMENSION LISTED IN THE CONSTRUCTION NOTES IS THE "L" DIMENSION. THE SECOND DIMENSION IS THE "W" DIMENSION.
3. EXPANSION JOINTS SHALL BE EITHER HOT OR COLD POURED JOINT SEALING COMPOUND, OR PREMOLDED EXPANSION JOINT FILLER.
4. INSTALL ANGLE IRON FACE ON ALL INLETS.
5. STEEL INLET FRAME SPACERS SHALL BE PLACED AT EQUAL SPACINGS NOT TO EXCEED 4'-0".
6. CAST IRON STEPS TO BE CLAY & BAILEY 2102 OR APPROVED EQUAL. STEEL CORE, PLASTIC COATED STEPS MAY BE USED (M.A. IND.,INC. NO. PS1-PF, PS2-PF, OR APPROVED EQUAL). CAST IRON STEPS SHALL BE SPACED AT 1'-4" O.C. VERTICALLY. THE DISTANCE FROM THE LAST STEP TO THE TOP OF CONCRETE INVERT SHOULD BE A MAXIMUM OF 24".
7. BEVEL ALL EXPOSED EDGES WITH 3/4" TRIANGULAR MOLDING.
8. ON-GRADE INLETS SHALL CONFORM TO THE STREET GRADE AND SUMP INLETS SHALL BE LEVEL.
9. ALL STORM SEWER STRUCTURES SHALL BE PRECAST. PRECAST SHOP DRAWINGS SHALL BE APPROVED BY THE DESIGN ENGINEER.
10. REINFORCING STEEL SHALL BE NEW BILLET, MINIMUM GRADE 40 AS PER ASTM A615, AND SHALL BE BENT COLD.
11. ALL DIMENSIONS RELATIVE TO REINFORCING STEEL ARE TO CENTERLINE OF BARS. 2" CLEARANCE SHALL BE PROVIDED THROUGHOUT UNLESS NOTED OTHERWISE. ALL LAP SPLICES NOT SHOWN SHALL BE A MINIMUM OF 40 BAR DIAMETERS IN LENGTH.
12. ALL DOWELS SHALL BE ACCURATELY PLACED AND SECURELY TIED IN PLACE PRIOR TO PLACEMENT OF BOTTOM SLAB CONCRETE. STICKING OF DOWELS INTO FRESH OR PARTIALLY HARDENED CONCRETE WILL NOT BE ACCEPTABLE. ALL REINFORCING STEEL SHALL BE SUPPORTED ON FABRICATED STEEL.
13. BAR SUPPORTS @ 3'-0" MAXIMUM SPACING. DO NOT SCALE THESE DRAWINGS FOR DIMENSIONS OR CLEARANCES.
14. ANY QUESTIONS REGARDING DIMENSIONS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO CONSTRUCTION. THE BOTTOM SLAB SHALL BE AT LEAST 24 HOURS OLD BEFORE PLACING SIDEWALL CONCRETE.
15. ALL SIDEWALL FORMS SHALL REMAIN IN PLACE A MINIMUM OF 24 HOURS AFTER SIDEWALLS ARE POURED BEFORE REMOVAL, AND AFTER REMOVAL SHALL BE IMMEDIATELY TREATED WITH MEMBRANE CURING COMPOUND.

olsson

7301 West 133rd Street, Suite 200
Overland Park, KS 66213-4750
TEL 913.381.1170 www.olson.com

MISSOURI PROFESSIONAL ENGINEER
MITCHELL ALAN BLEAK
NUMBER
PE-2009016764
05-17-21

BY
REVISIONS

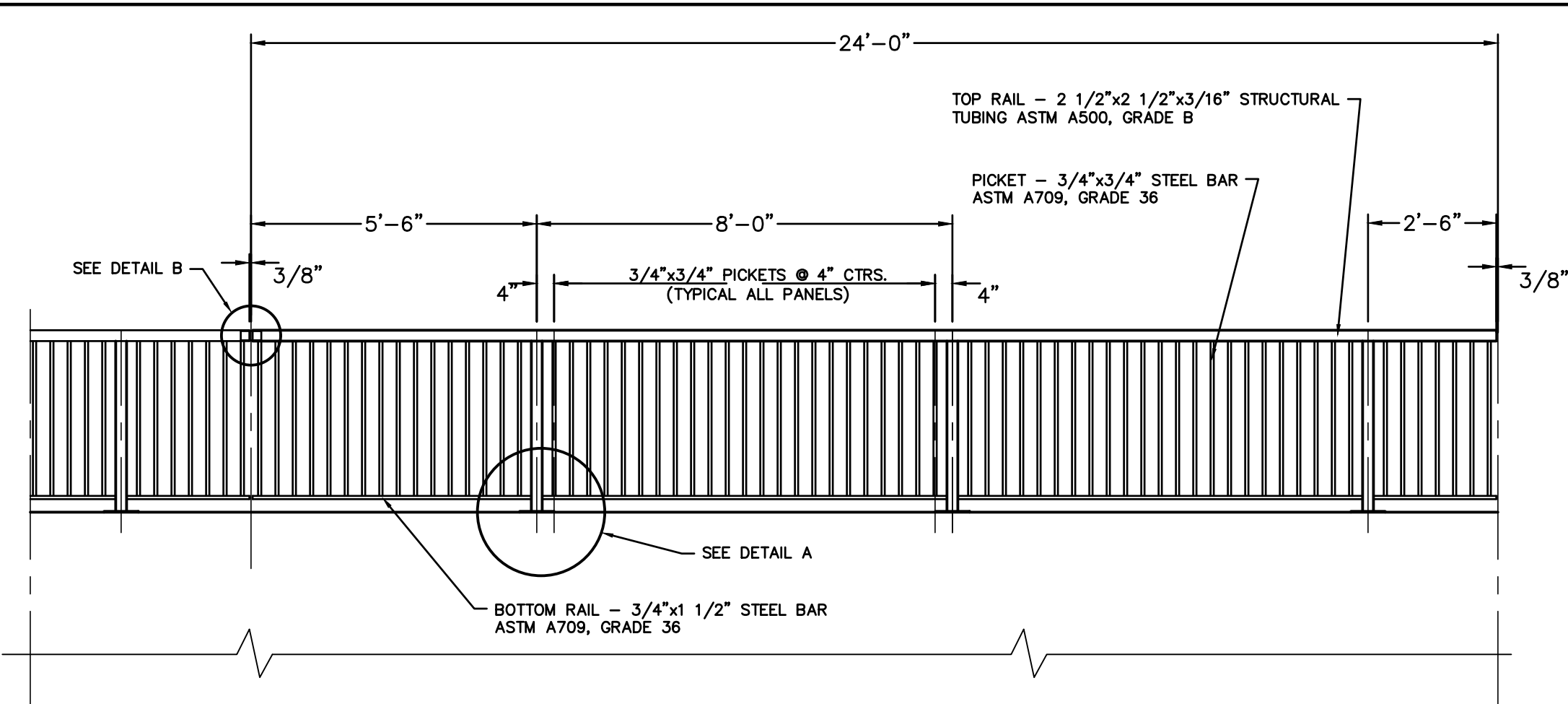
STANDARD DETAILS
FINAL DEVELOPMENT PLAN
MIDWEST WASH
HWY 291 & THOMPSON DRIVE
LEE'S SUMMIT, MISSOURI

2023

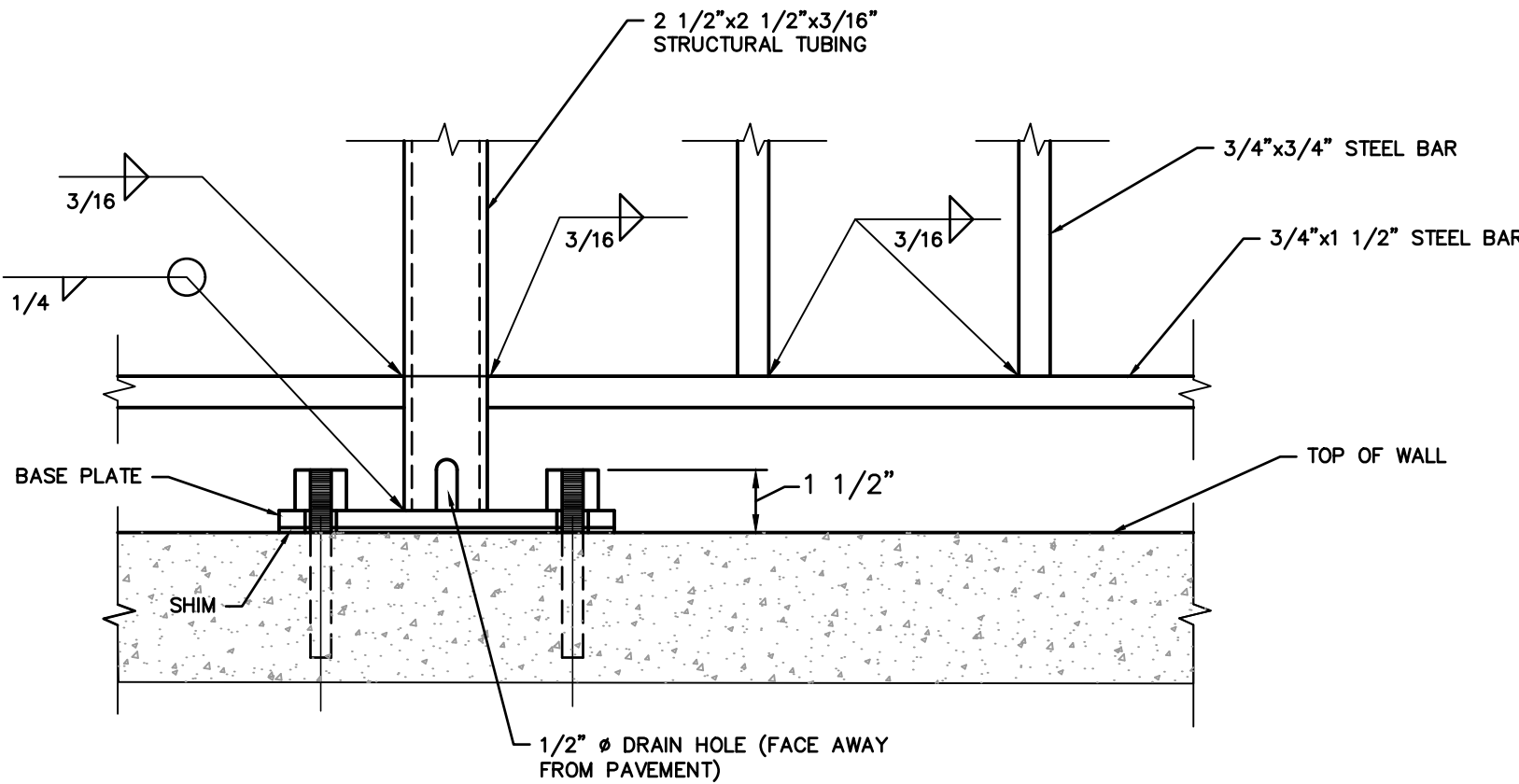
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drawing no.:
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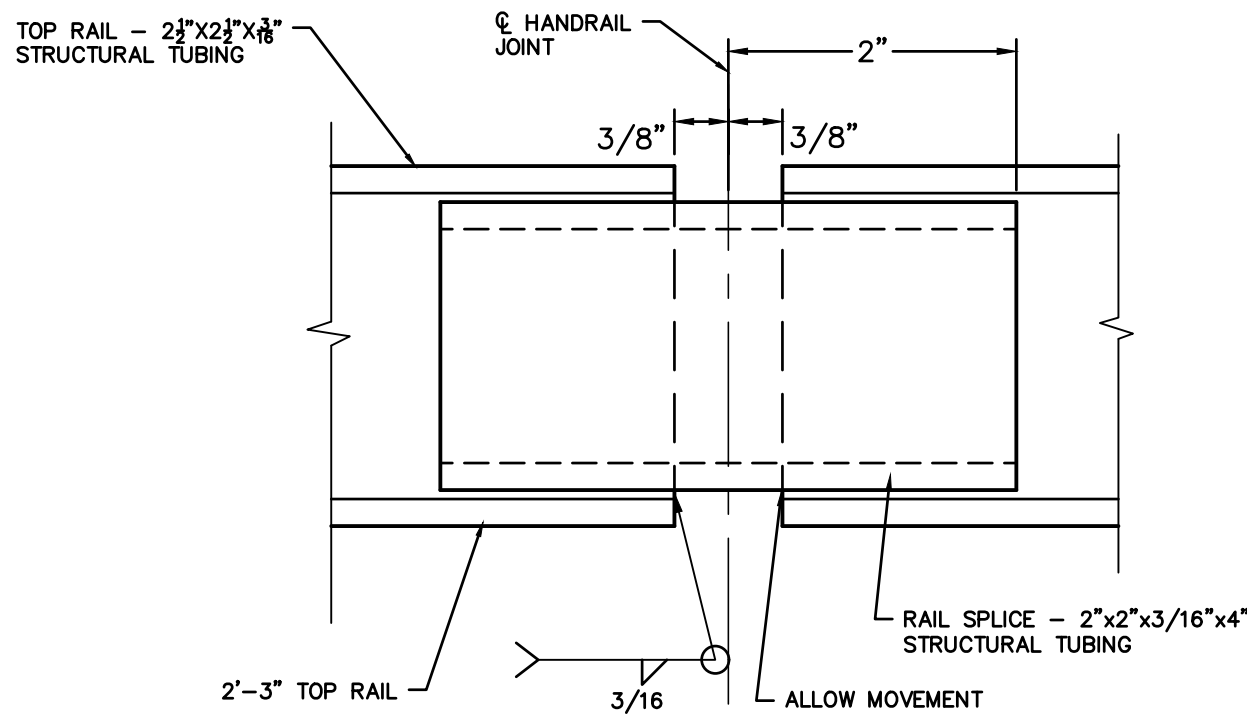
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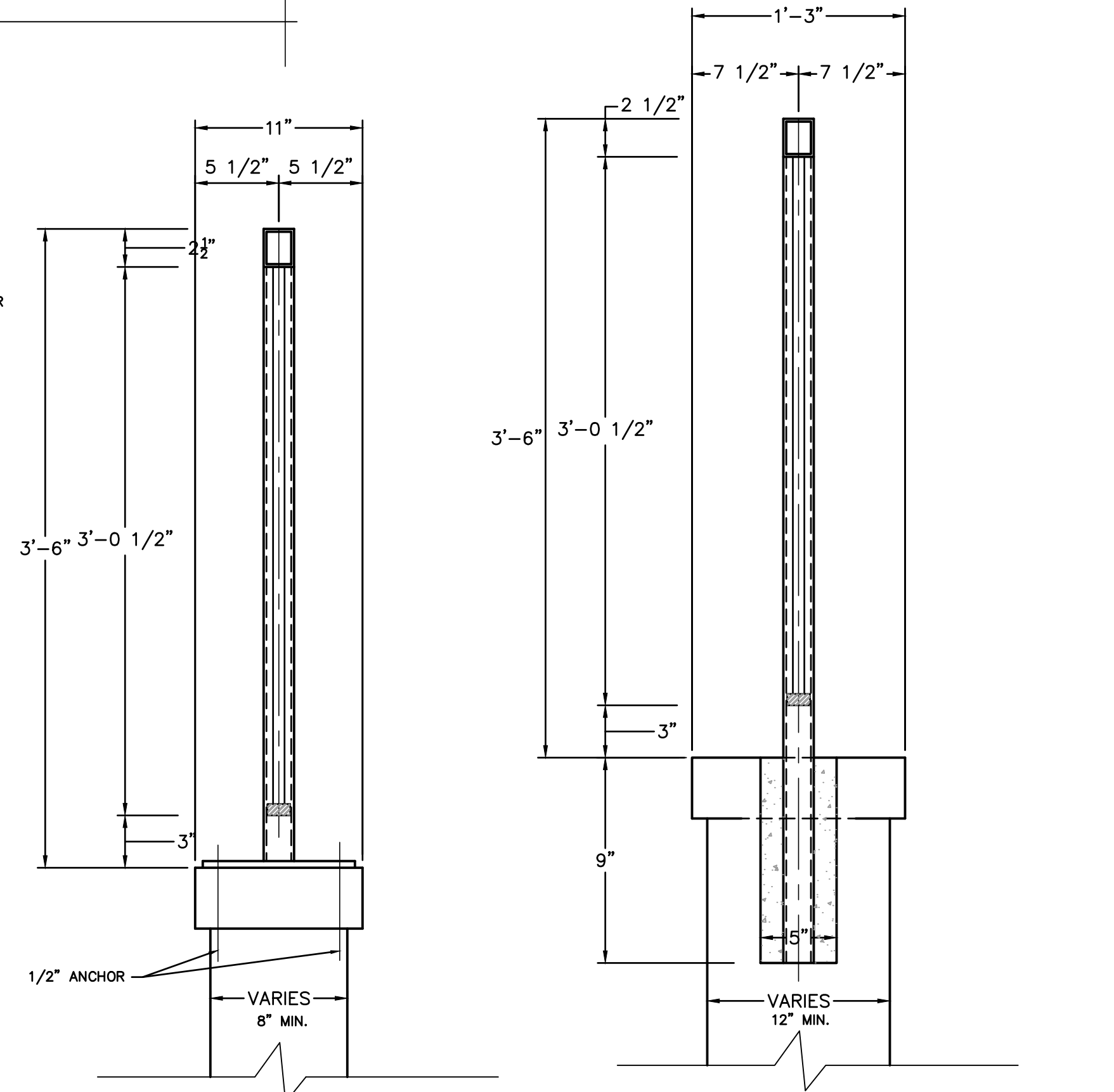
TYPICAL PANEL



DETAIL A



DETAIL B



MOUNTED TO WALL SECTION

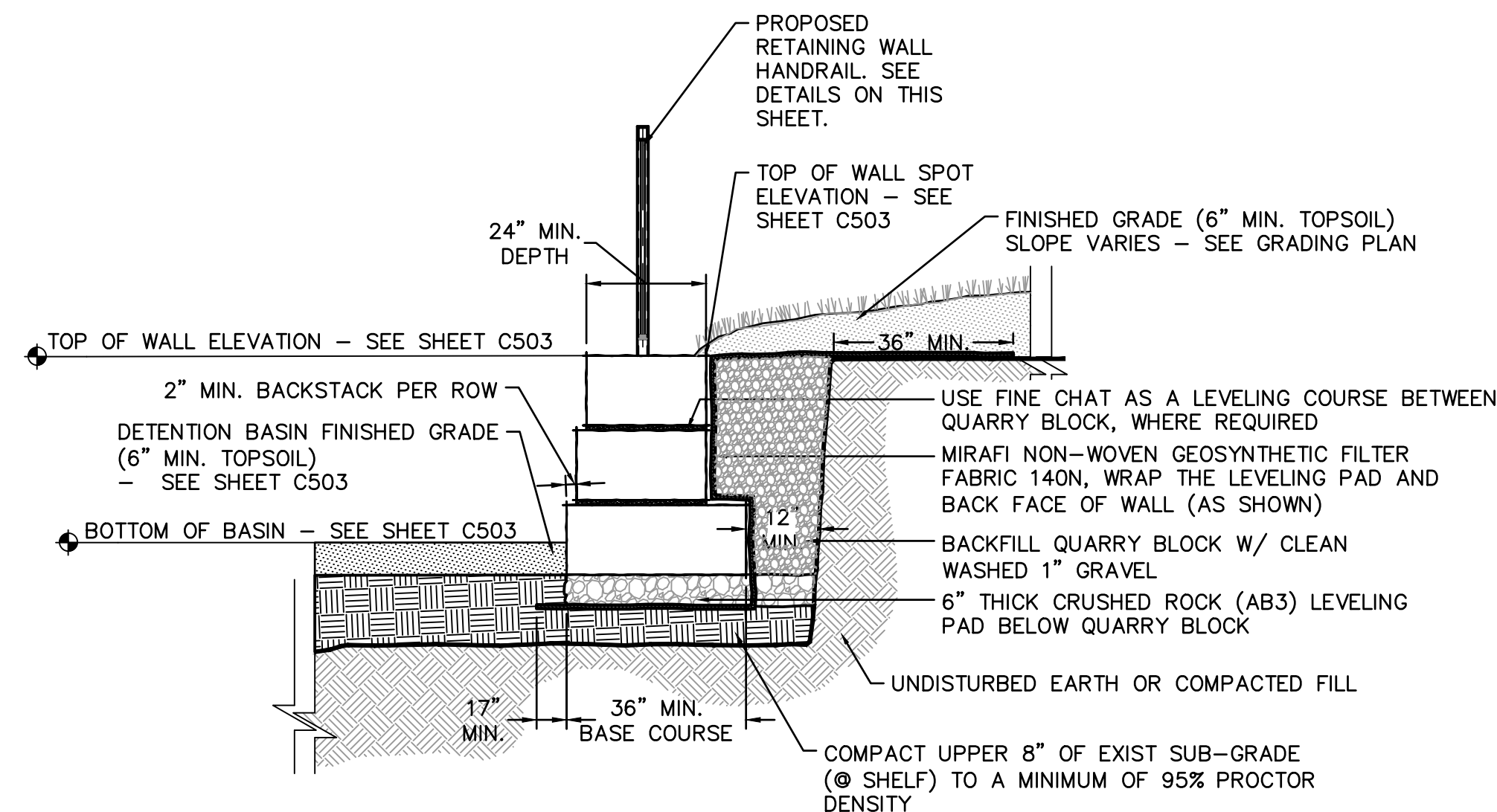
MOUNTED BEYOND WALL SECTION

RETAINING WALL HANDRAIL

NOT TO SCALE

RETAINING WALL NOTES

- 1) DRY STACK QUARRY BLOCK STONE**
QUARRY - KEITH SCOTT & COMPANY, INC.
(816-224-8850)
NATURAL LEDGE - 14" TH. AVG.
AVG. LENGTH - 4' TO 6'
MIN. COMPRESSIVE STRENGTH - 10,000 PSI
- 2) PLACEMENT**
-MINIMUM STONE OVERLAP IN WALL COURSE SHALL BE 12"
-WALL GAP BETWEEN VERTICAL JOINTS SHALL BE NO MORE THAN 1"
MAX., WHERE NECESSARY FILL MATERIAL (SMALL ROCK) SHALL BE USED TO FILL GAP. THESE AREAS SHALL BE KEPT TO A MINIMUM, FIELD VERIFY W/ LANDSCAPE ARCHITECT PRIOR TO FINAL ACCEPTANCE.
- 3) SURFACE FINISH**
EXPOSED WALL SURFACE SHALL HAVE A DRESSED STONE FINISH. A MOCKUP WALL SECTION WILL BE REQUIRED PRIOR TO COMMENCEMENT OF WORK.
- 4) SPECIFICATION**
CONTRACTOR SHALL REQUEST THE WRITTEN SPECIFICATION PRIOR TO BIDDING THE PROJECT.
- 5) CONSTRUCTION DOCUMENTS**
A DETAILED CONSTRUCTION DRAWING W/ DESIGN CALCULATIONS SHALL BE SUBMITTED FOR EACH RETAINING WALL APPLICATION ABOVE 4' IN HT. THE RETAINING WALL SYSTEM SHALL BE PREPARED AND STAMPED BY A PROFESSIONAL ENGINEER REGISTERED IN KANSAS.

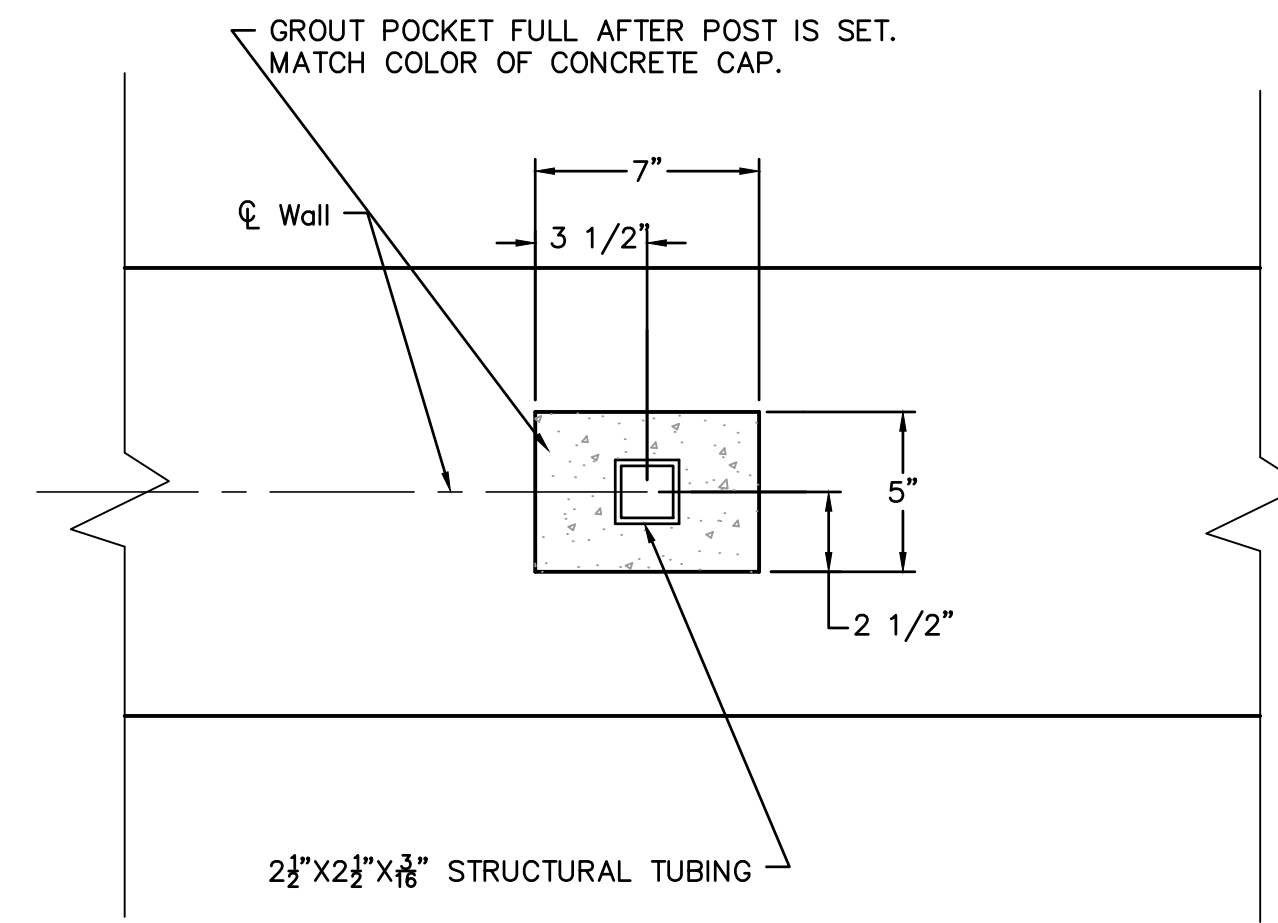


DRY-STACK STONE WALL DETAIL

NOT TO SCALE

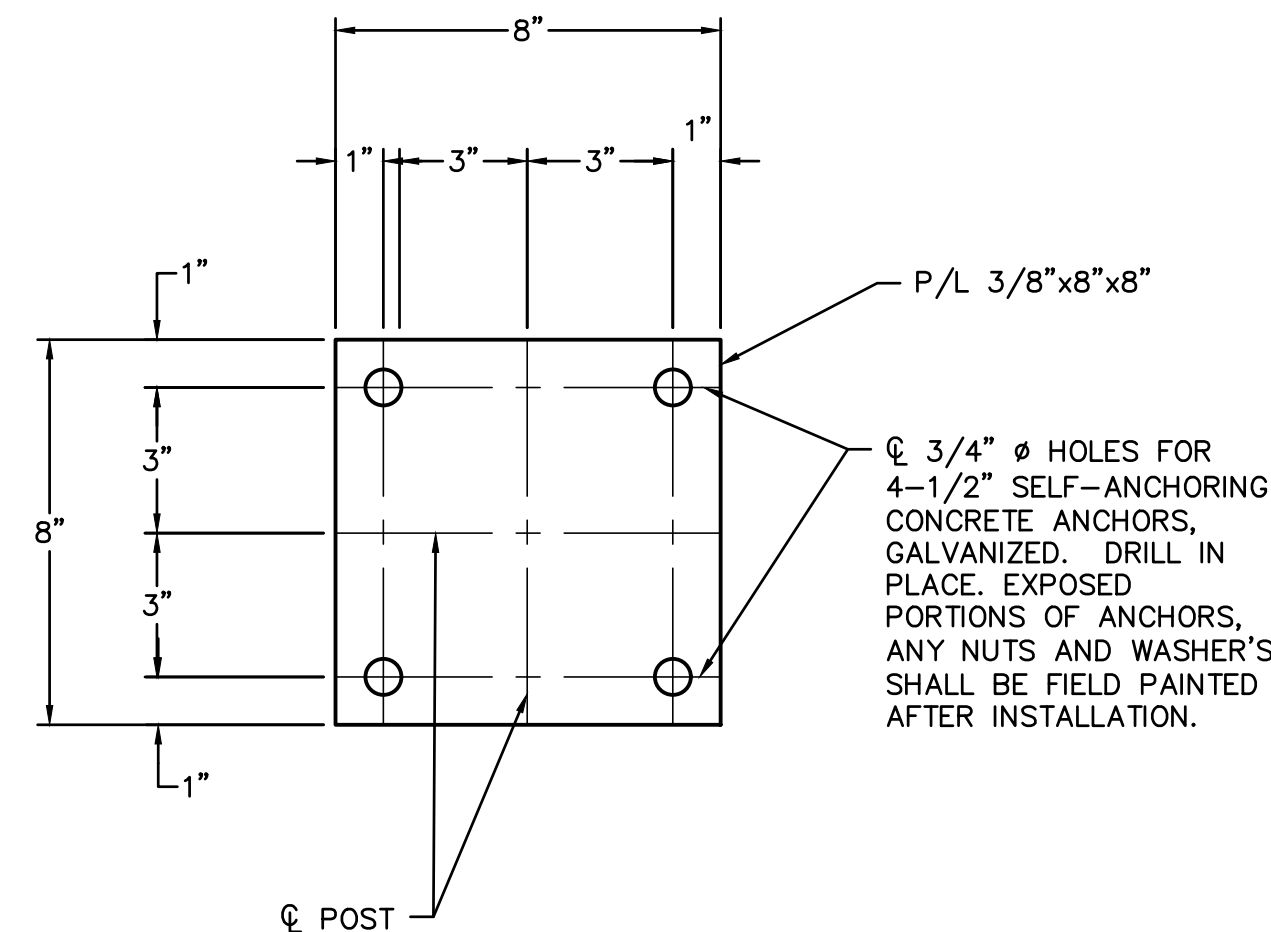
STEEL HANDRAIL NOTES

1. TOP RAILS SHALL BE 2 1/2"x2 1/2"x3/16" STRUCTURAL TUBING. POSTS SHALL BE 2-1/2"x2-1/2"x3/16" STRUCTURAL TUBING. TUBING FOR TOP RAIL AND POSTS SHALL CONFORM TO ASTM A500, GRADE B. BOTTOM RAIL, PICKETS AND BASE PLATES SHALL CONFORM TO ASTM A709, GRADE 36.
2. ALL RAILS, POST, PICKETS AND BASE PLATES SHALL BE ZINC GALVANIZED.
3. RAILS AND BASE PLATES SHALL BE SET PARALLEL TO THE TOP OF WALL. ALL POSTS AND PICKETS SHALL BE SET VERTICAL. SHIMS MAY BE USED BETWEEN CONCRETE AND BASE PLATE OF POST.
4. ALL TOP AND BOTTOM RAIL-TO-POST WELDED CONNECTIONS SHALL BE GROUND SMOOTH. NO FIELD WELDING WILL BE PERMITTED. THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS TO THE ENGINEER FOR APPROVAL PRIOR TO FABRICATION OF THE HANDRAIL.
5. THE CONCRETE ANCHORS SHALL BE GALVANIZED AND HAVE A MINIMUM ULTIMATE PULLOUT STRENGTH OF 5,000 POUNDS BASED ON 4,000 PSI CONCRETE. LENGTH OF EMBEDMENT INTO CONCRETE SHALL CONFORM TO MANUFACTURER'S RECOMMENDATIONS.
6. USE E70 XX ELECTRODES FOR ALL WELDING.

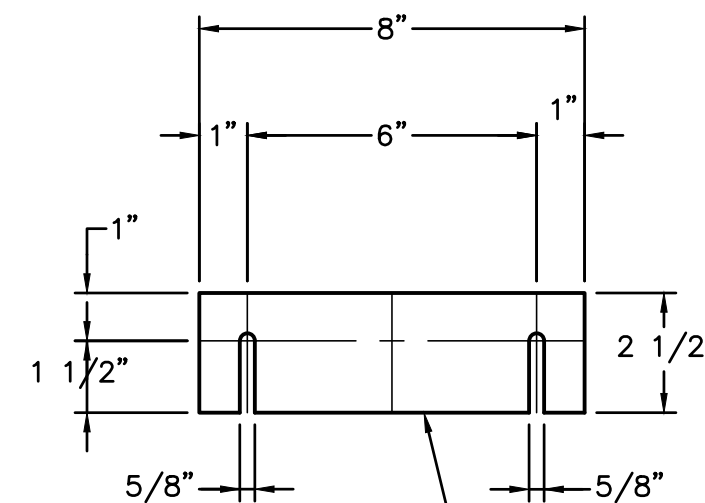


PLAN

NOTE:
AT THE CONTRACTOR'S OPTION, THE HANDRAIL POSTS MAY BE ANCHORED TO THE WALL USING ANCHORED BASE PLATES.

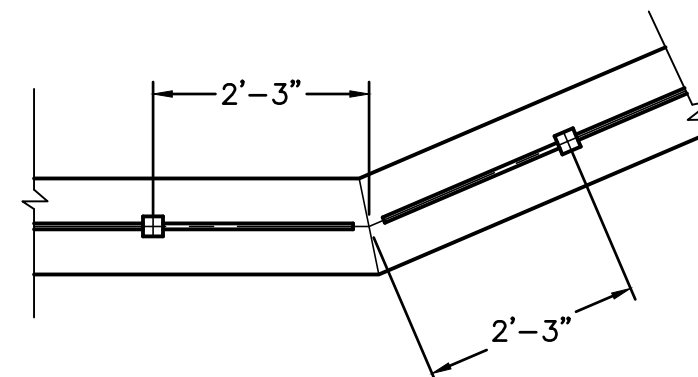


BASE PLATE DETAIL



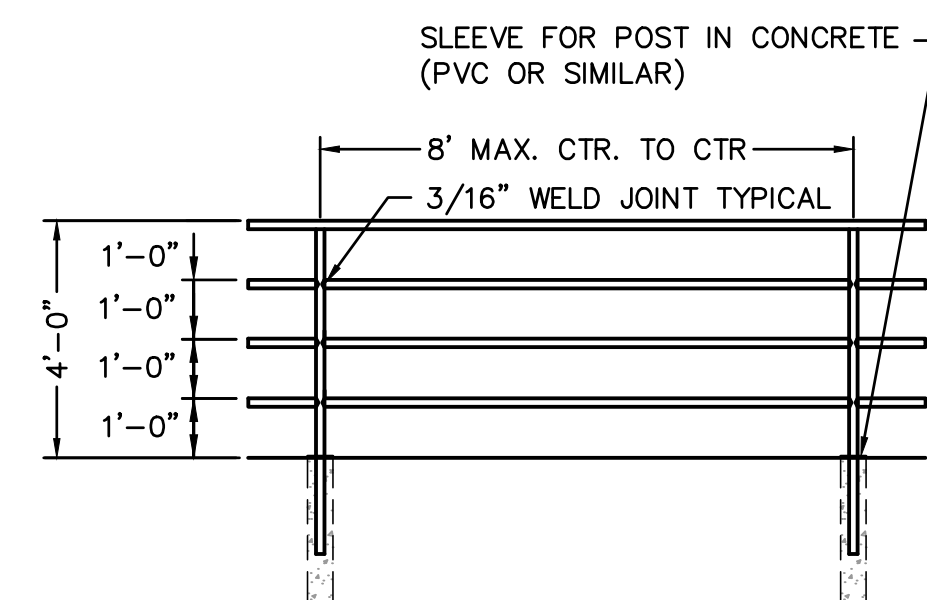
SHIM DETAIL

NOTE:
CONTRACTOR SHALL PROVIDE 2-1/16" GALVANIZED STEEL SHIMS FOR EACH POST, TO BE USED AS REQUIRED.



NOTE:
DO NOT USE RAIL SPLICE AT BENDS OF WALL.

POST LOCATION AT BENDS



- NOTES:
1. ALL RAILING SHALL BE 2" SQUARE STEEL PIPE.
 2. ALL EXPOSED STEEL SHALL BE PRIMED WITH ZINC OXIDE PAINT AND PAINTED WITH TWO COAT OF HIGH GLOSS EXTERIOR DARK BROWN PAINT. SUBMIT SAMPLE TO ARCHITECT PRIOR TO PAINTING FOR APPROVAL.
 3. SPACING AND LOCATION AS SHOWN ON DETAILS.
 4. SPACING OF VERTICAL POSTS SHALL BE EQUAL THROUGHOUT EACH SECTION OF THE HANDRAIL.

METAL PIPE HANDRAIL DETAIL

NOT TO SCALE

olsson

7301 West 133rd Street, Suite 200
Overland Park, KS 66213-4750
TEL 913.381.1170 www.olsson.com

STATE OF MISSOURI
PROFESSIONAL ENGINEER
MITCHELL ALAN
PEAK
NUMBER
PE-2009016764
05/17/23

REV.	NO.	DATE	REVISIONS DESCRIPTION	CITY COMMENTS
1		06/13/2023		

STANDARD DETAILS
FINAL DEVELOPMENT PLAN

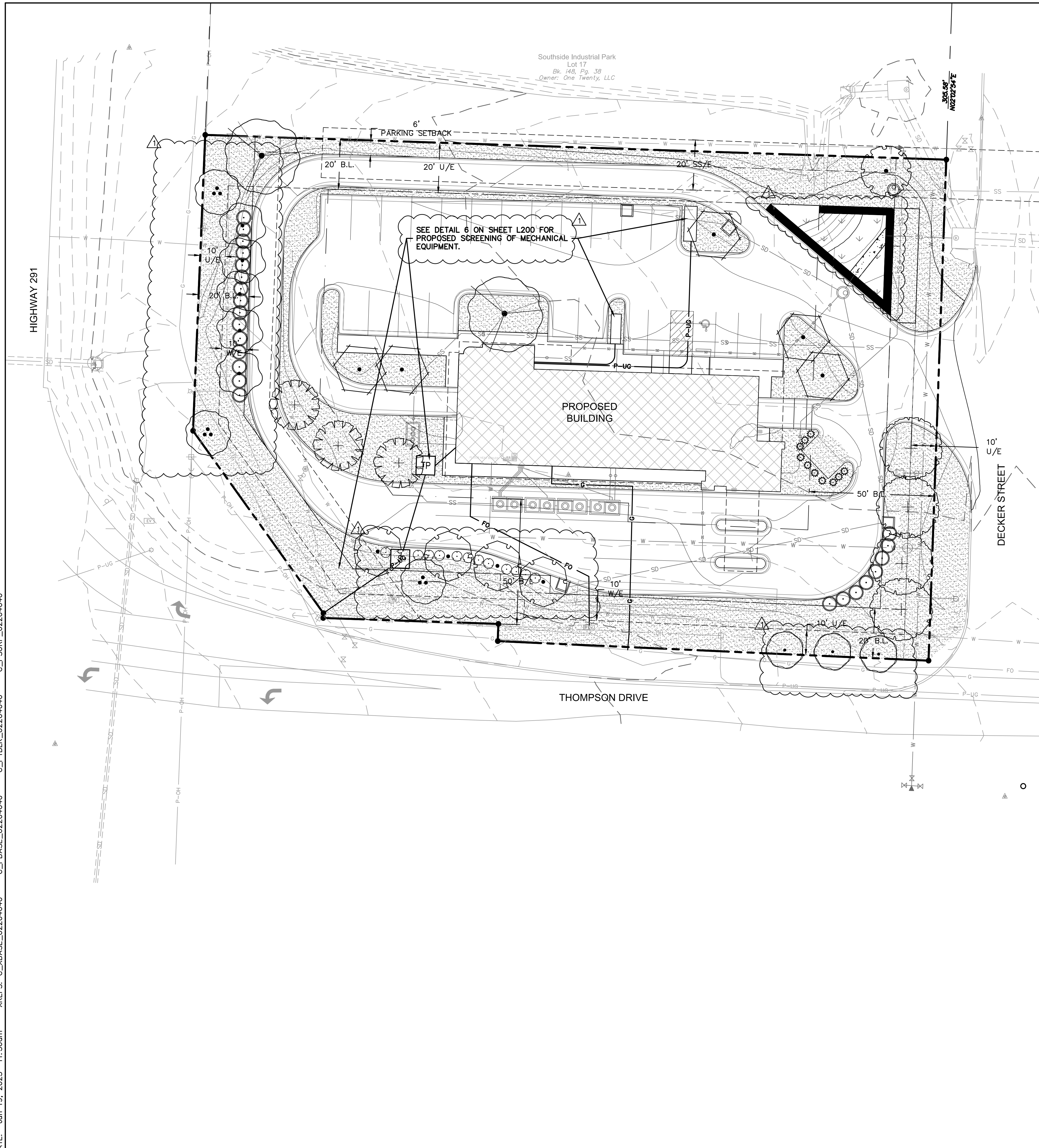
MIDWEST WASH
HWY 291 & THOMPSON DRIVE

LEE'S SUMMIT, MISSOURI

drawn by: BP
checked by: MP
approved by: LM
QA/QC by: BE
project no.: 022-4040
drawing no.:
date: 05.13.23

SHEET
C802

2023



LEGEND

_____- - - _____ PROPERTY LINE
_____- - - _____ RIGHT OF WAY LINE

LANDSCAPE CALCULATIONS

OPEN YARD AREAS

1 TREE AND 2 SHRUBS PER 5,000 SF OF TOTAL LOT AREA EXCLUDING BUILDING FOOTPRINT AREA.

56,045 SF - 6,930 SF = 49,115 SF/5,000 SF
9.82 TREES REQUIRED
10 TREES PROVIDED
19.64 SHRUBS REQUIRED
20 SHRUBS PROVIDED

PARKING LOT LANDSCAPING

5% OF PARKING LOT MUST BE LANDSCAPED (22,120 SF)
1,106 SF REQUIRED
1,440 SF PROVIDED

STREET FRONTAGE REQUIREMENT

THOMPSON DRIVE
242 LF
1 TREE / 30' OF STREET FRONTAGE
8 TREES REQUIRED
8 TREES PROVIDED
1 SHRUB PER 20' OF PARKING FRONTAGE)
12 SHRUBS REQUIRED
12 SHRUBS PROVIDED

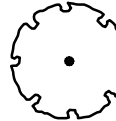
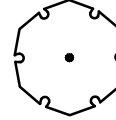
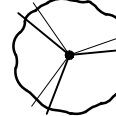
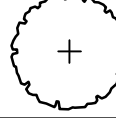
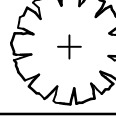
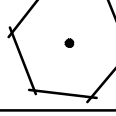
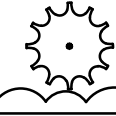
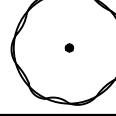
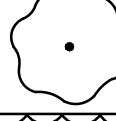
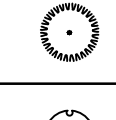
DECKER STREET
163 LF

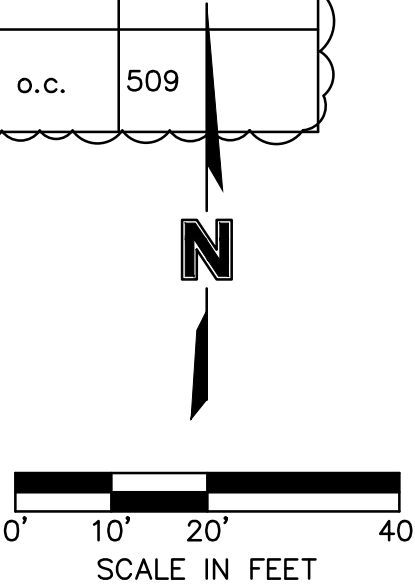
1 TREE / 30' OF STREET FRONTAGE
5 TREES REQUIRED
5 TREES PROVIDED
1 SHRUB PER 20' OF PARKING FRONTAGE
8 SHRUBS REQUIRED
8 SHRUBS PROVIDED

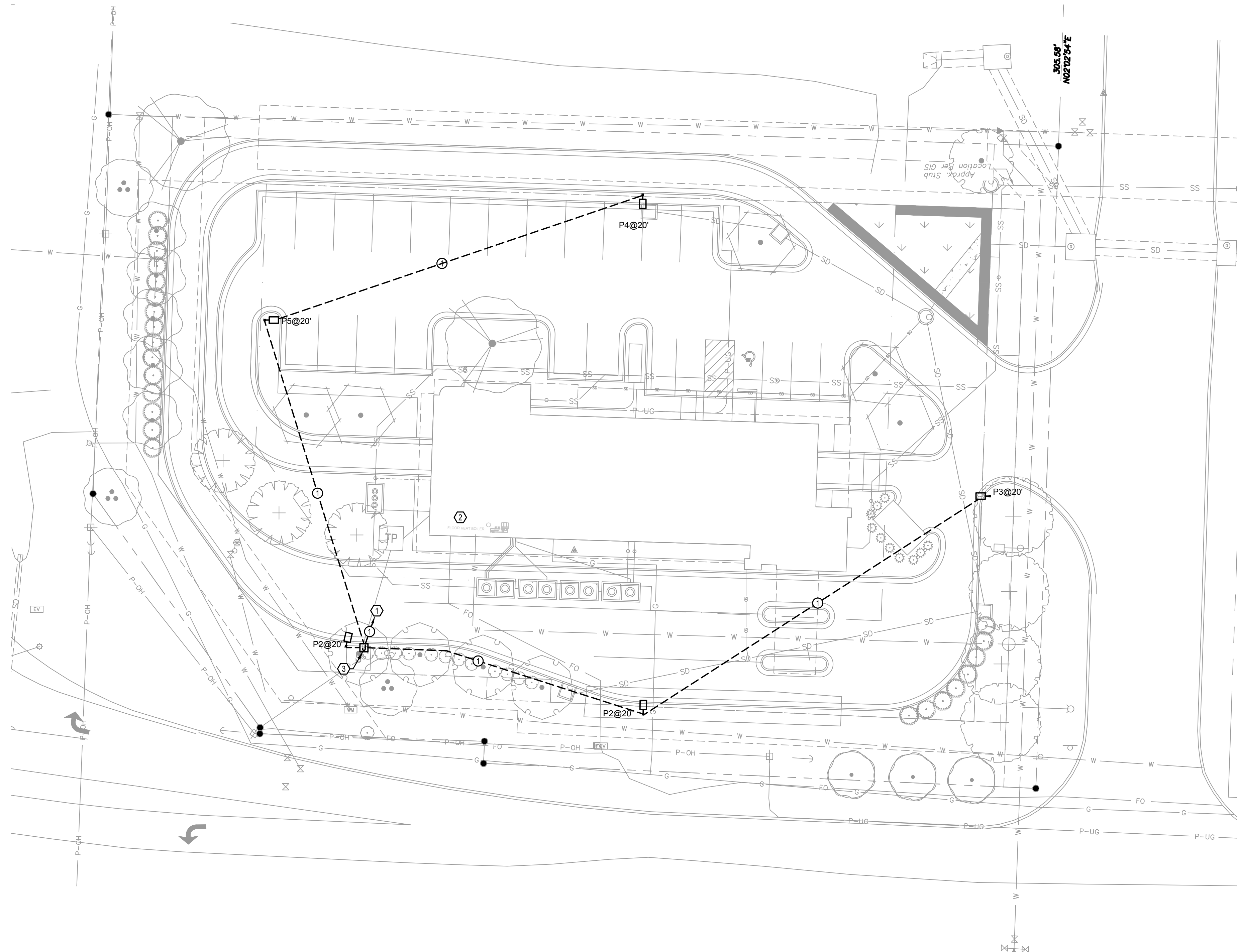
HWY 291

209 LF
1 TREE / 30' OF STREET FRONTAGE
7 TREES REQUIRED
7 TREES PROVIDED
1 SHRUB PER 20' OF PARKING FRONTAGE
10 SHRUBS REQUIRED
10 SHRUBS PROVIDED

PLANT SCHEDULE

DECIDUOUS TREES	BOTANICAL / COMMON NAME	SIZE	CALIPER	QTY
	ACER SACCHARUM CADD CADD SUGAR MAPLE	B & B	3"	1
	GINKGO BILOBA 'PRINCETON SENTRY' PRINCETON SENTRY GINKGO	B & B	3"	4
	GLEDTISIA TRIACANTHOS INERMIS 'SHADEMASTER' SHADEMASTER LOCUST	B & B	3"	2
	TILIA CORDATA 'GREENSPIRE' GREENSPIRE LITTLELEAF LINDEN	B & B	3"	4
	ULMUS PARVIFOLIA 'ALLEE' ALLEE LACEBARK ELM	B & B	3"	3
	ZELKOVA SERRATA 'MUSASHINO' SAWLEAF ZELKOVA	B & B	3"	5
EVERGREEN TREES	BOTANICAL / COMMON NAME	SIZE	CALIPER	QTY
	JUNIPERUS SCOPULORUM 'SKYROCKET' SKYROCKET JUNIPER	B&B, 8' HT.		10
ORNAMENTAL TREES	BOTANICAL / COMMON NAME	SIZE	CALIPER	QTY
	ACER TATARICUM 'HOT WINGS' HOT WINGS TATARIAN MAPLE	B & B	3"	3
	CERCIS CANADENSIS EASTERN REDBUD	B & B	3"	3
	SYRINGA RETICULATA 'IVORY SILK' IVORY SILK JAPANESE TREE LILAC	B & B	3"	5
SHRUBS	BOTANICAL / COMMON NAME	SIZE		
	JUNIPERUS CHINENSIS 'SEA GREEN' SEA GREEN JUNIPER	5 GAL		23
	VIBURNUM NUDUM 'WINTERTHUR' WINTERTHUR VIBURNUM	5 GAL		12
GROUND COVERS	BOTANICAL / COMMON NAME	CONT	SPACING	
	FESTUCA TURF TYPE TALL FESCUE BLEND	SOD		22,215 SF
NATIVE VEGETATION	BOTANICAL / COMMON NAME	CONT	SPACING	
	PANICUM VIRGATUM SWITCH GRASS	PLUG	18" o.c.	509





GENERAL NOTES

- A. TO FEDERAL, STATE, AND LOCAL STATUTES, NOTIFY MISSOURI ONE-CALL SYSTEM, INC. AT LEAST 48 HOURS PRIOR TO ANY DIGGING, TRENCHING, EXCAVATION, ETC.
- B. INFORMATION SHOWN ON THIS DRAWING CONCERNING TYPE AND LOCATION OF UNDERGROUND AND OTHER UTILITIES IS NOT GUARANTEED TO BE ACCURATE OR ALL INCLUSIVE. THE CONTRACTOR IS RESPONSIBLE FOR MAKING DETERMINATION OF TYPE AND LOCATION OF ALL UNDERGROUND UTILITIES AS MAY BE NECESSARY TO AVOID DAMAGE THERETO.
- C. FIELD VERIFY LOCATION OF ALL UTILITIES PRIOR TO BEGINNING WORK. ANY INTERFERENCE SHALL BE BROUGHT TO ATTENTION OF THE ARCHITECT AND ENGINEER FOR DIRECTION.
- D. PROVIDE EQUIPMENT GROUNDING CONDUCTOR THROUGHOUT EACH BRANCH CIRCUIT. CONDUCTOR MAY NOT BE INDICATED GRAPHICALLY.
- E. REFER TO LIGHTING FIXTURE SCHEDULE FOR ADDITIONAL INFORMATION.

SHEET KEYNOTES

1. ROUTE EXTERIOR LIGHTING CIRCUIT BELOW GRADE TO 20A/1P CIRCUIT BREAKER IN 277V PANELEBOARD IN BUILDING. LIGHTING CIRCUIT TO BE CONTROLLED BY PHOTOCELL/TIME CLOCK. REFER TO LIGHTING CONTROL SCHEMATIC FOR ADDITIONAL INFORMATION.
2. APPROXIMATE LOCATION OF PANELEBOARD FOR EXTERIOR LIGHTING CIRCUITS. REFER TO INTERIOR LIGHTING PLANS FOR EXACT LOCATION AND CONTROL. SCHEMATIC INDICATING CIRCUITS TO BE CONTROLLED BY PHOTOCELL OR TIME CLOCK.
3. IN GRADE JUNCTION BOX FOR ROUTING EXTERIOR LIGHTING CIRCUITS). DETERMINE EXACT LOCATION AND QUANTITY. REFER TO JUNCTION BOX DETAIL FOR ADDITIONAL INFORMATION.

- FEEDER SCHEDULE

1. (2)-#10 AND (1)-#10 GROUND IN 1" CONDUIT.

