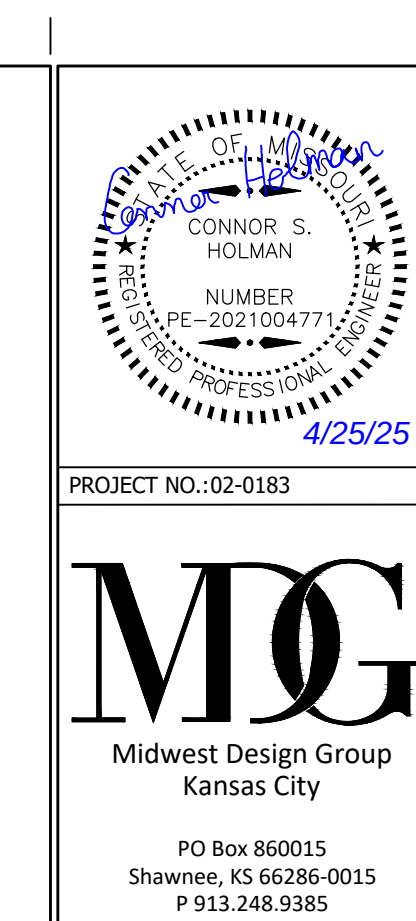
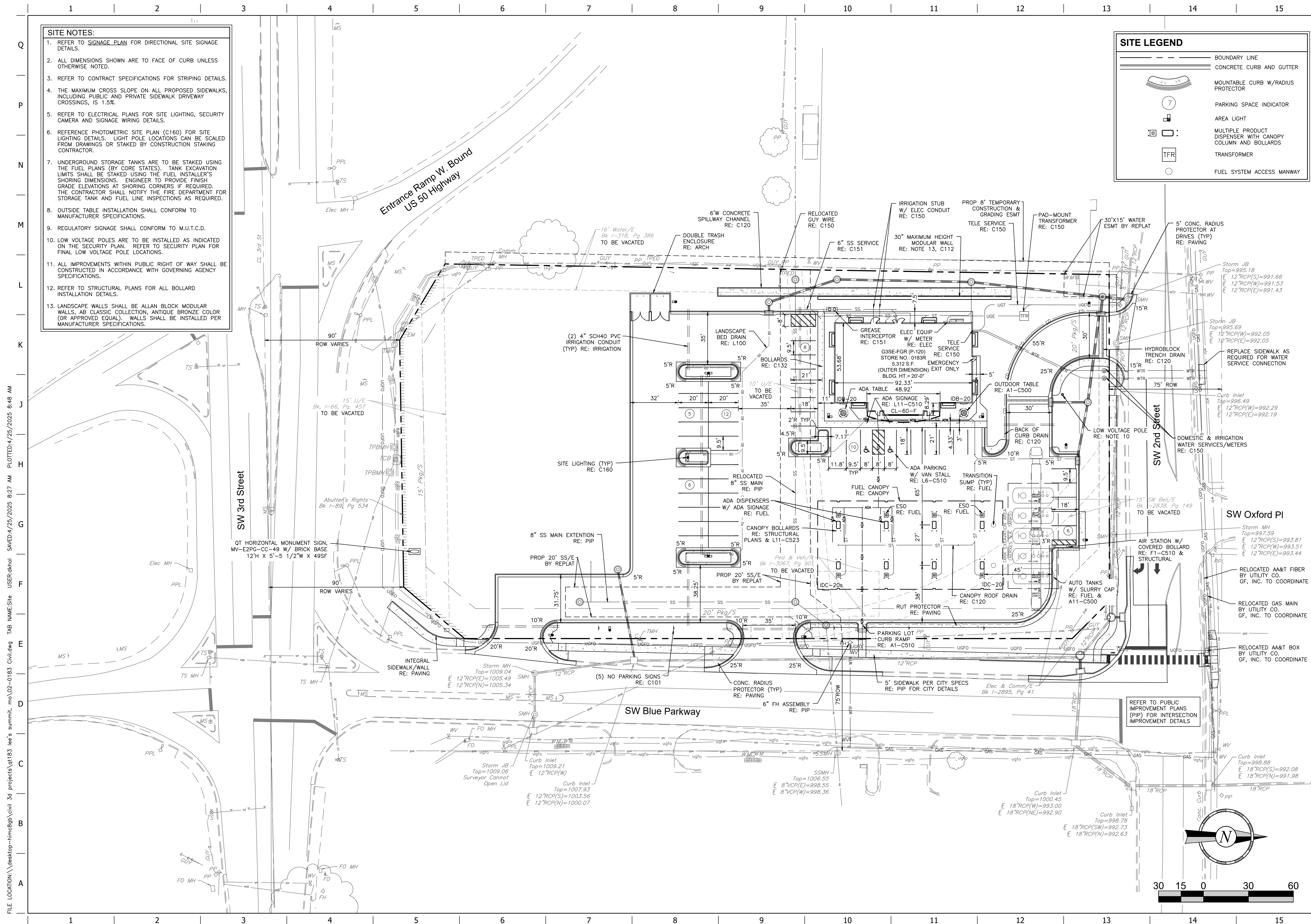
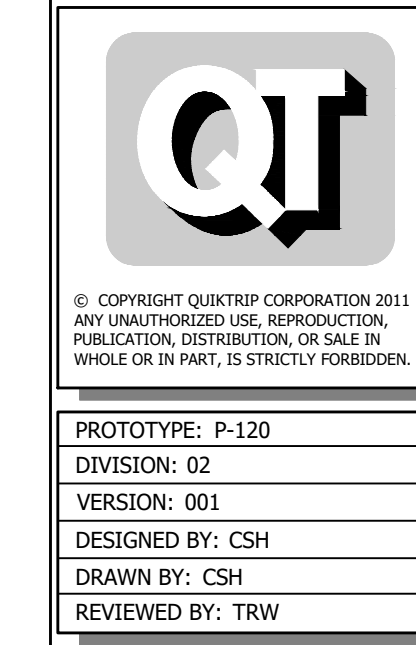


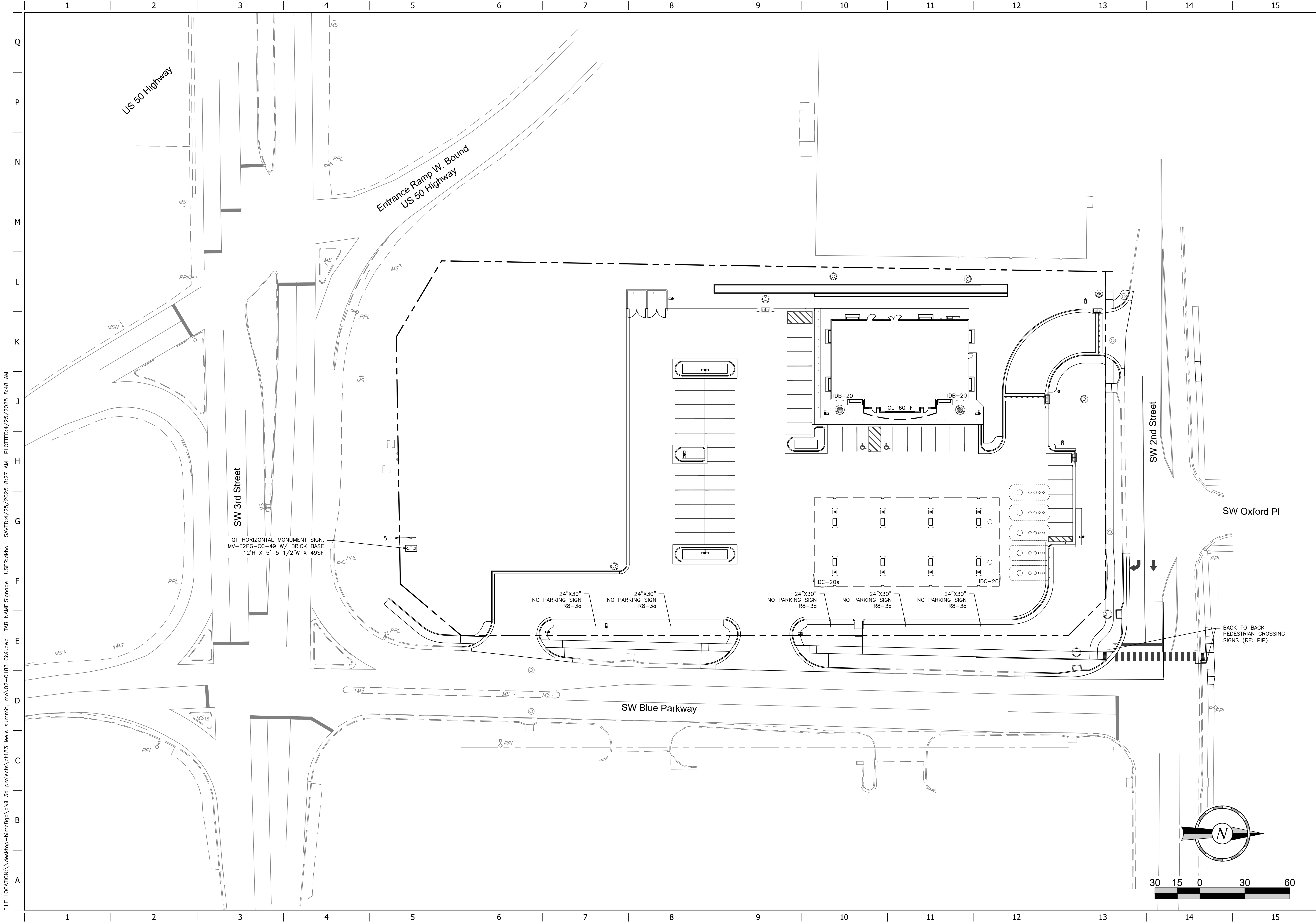
Q — P — N — M — L — K — J — H — G — F — E — D — C — B — A —



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[illegible]

SHEET TITLE:									
SITE PLAN									
SHEET NUMBER:									
C100									



PROJECT NO.:02-0183

Midwest Design Group
Kansas City

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P 913.246.9385

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PROTOTYPE:	P-120
DIVISION:	02
VERSION:	001
DESIGNED BY:	CSH
DRAWN BY:	CSH
REVIEWED BY:	TRW

REV	DATE	DESCRIPTION

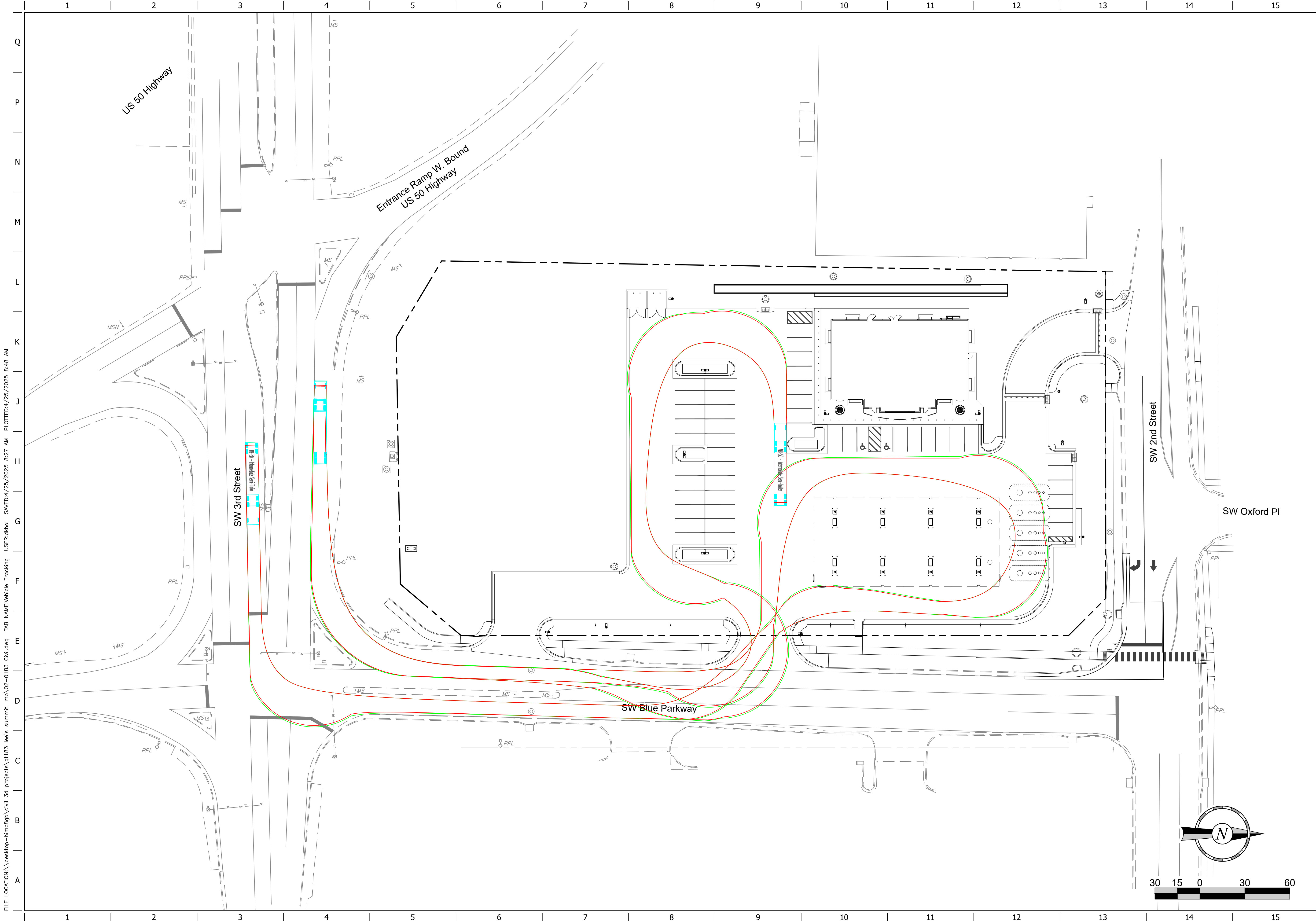
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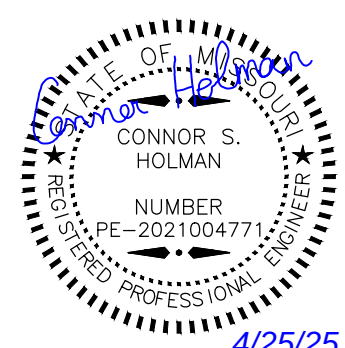
SIGNAGE PLAN

SHEET NUMBER:

C101



FILE LOCATION: \\desktop-hmc2g9a\civil_3d_projects\qt183R_lee's summit_mo\02-0183_Civil.dwg TAB NAME: Vehicle Tracking USER: cdhwal SAVED: 4/25/2025 8:27 AM PLOTTED: 4/25/2025 8:48 AM



PROJECT NO.: 02-0183



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DIVISION:	02
VERSION:	001
DESIGNED BY:	CSH
DRAWN BY:	CSH
REVIEWED BY:	TRW

REV	DATE	DESCRIPTION

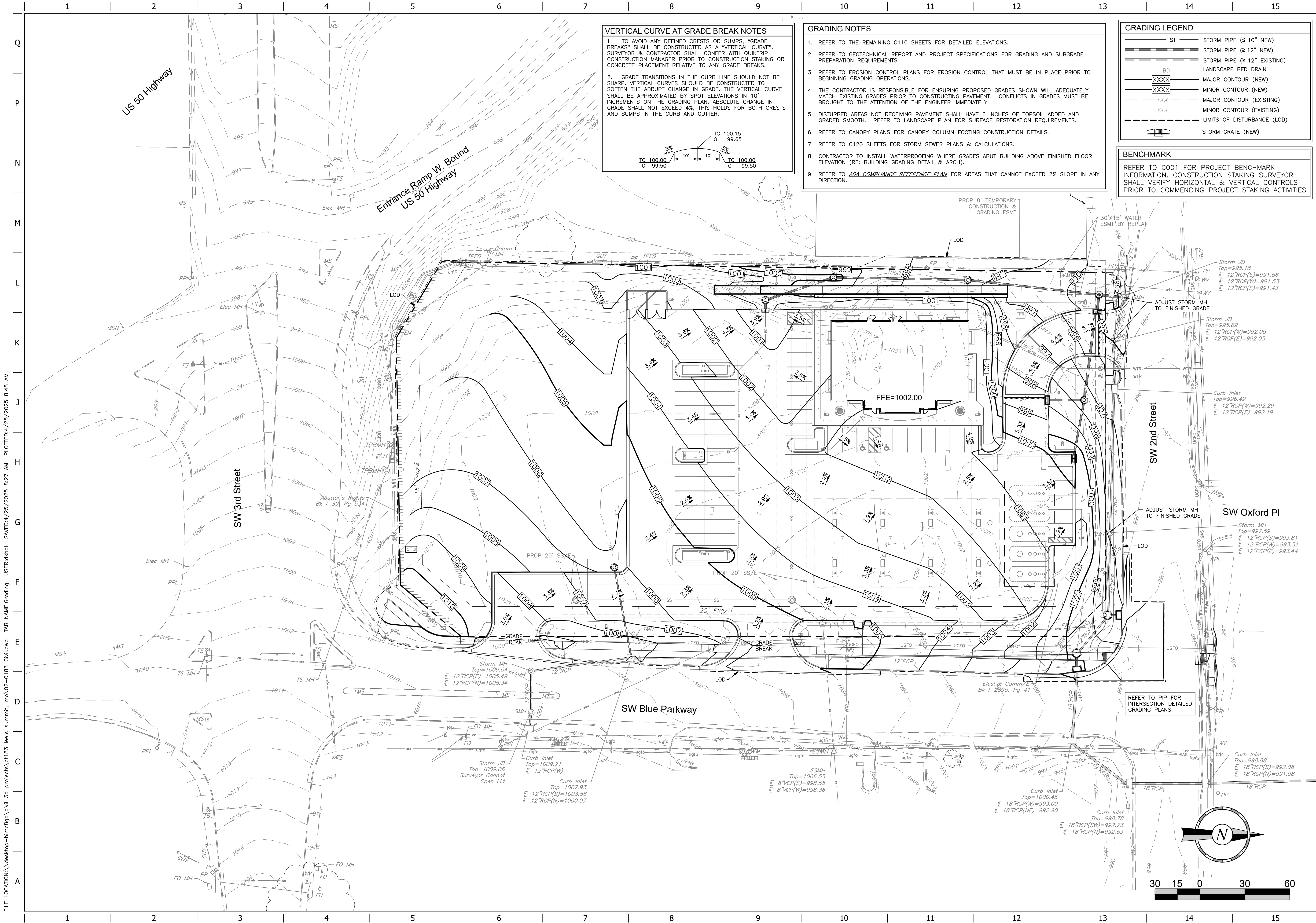
ORIGINAL ISSUE DATE: 04/25/2025

SHEET TITLE:

VEHICLE TRACKING (WB-50)

SHEET NUMBER:

C102



VERTICAL CURVE AT GRADE BREAK NOTES

1. TO AVOID ANY DEFINED CRESTS OR SUMPS, "GRADE BREAKS" SHALL BE CONSTRUCTED AS A "VERTICAL CURVE". SURVEYOR & CONTRACTOR SHALL CONFER WITH QUIKTRIP CONSTRUCTION MANAGER PRIOR TO CONSTRUCTION STAKING OR CONCRETE PLACEMENT RELATIVE TO ANY GRADE BREAKS.

2. GRADE TRANSITIONS IN THE CURB LINE SHOULD NOT BE SHARP. VERTICAL CURVES SHOULD BE CONSTRUCTED TO SOFTEN THE ABRUPT CHANGE IN GRADE. THE VERTICAL CURVE SHALL BE APPROXIMATED BY SPOT ELEVATIONS IN 10' INCREMENTS ON THE GRADING PLAN. ABSOLUTE CHANGE IN GRADE SHALL NOT EXCEED 4%. THIS HOLDS FOR BOTH CRESTS AND SUMPS IN THE CURB AND GUTTER.

- GRADING NOTES**
1. REFER TO THE REMAINING C110 SHEETS FOR DETAILED ELEVATIONS.
 2. REFER TO GEOTECHNICAL REPORT AND PROJECT SPECIFICATIONS FOR GRADING AND SUBGRADE PREPARATION REQUIREMENTS.
 3. REFER TO EROSION CONTROL PLANS FOR EROSION CONTROL THAT MUST BE IN PLACE PRIOR TO BEGINNING GRADING OPERATIONS.
 4. THE CONTRACTOR IS RESPONSIBLE FOR ENSURING PROPOSED GRADES SHOWN WILL ADEQUATELY MATCH EXISTING GRADES PRIOR TO CONSTRUCTING PAVEMENT. CONFLICTS IN GRADES MUST BE BROUGHT TO THE ATTENTION OF THE ENGINEER IMMEDIATELY.
 5. DISTURBED AREAS NOT RECEIVING PAVEMENT SHALL HAVE 6 INCHES OF TOPSOIL ADDED AND GRADED SMOOTH. REFER TO LANDSCAPE PLAN FOR SURFACE RESTORATION REQUIREMENTS.
 6. REFER TO CANOPY PLANS FOR CANOPY COLUMN FOOTING CONSTRUCTION DETAILS.
 7. REFER TO C120 SHEETS FOR STORM SEWER PLANS & CALCULATIONS.
 8. CONTRACTOR TO INSTALL WATERPROOFING WHERE GRADES ABUT BUILDING ABOVE FINISHED FLOOR ELEVATION (RE: BUILDING GRADING DETAIL & ARCH).
 9. REFER TO *ADA COMPLIANCE REFERENCE PLAN* FOR AREAS THAT CANNOT EXCEED 2% SLOPE IN ANY DIRECTION.

GRADING LEGEND

- ST STORM PIPE (≤ 10" NEW)
- STORM PIPE (≥ 12" NEW)
- STORM PIPE (≥ 12" EXISTING)
- BD LANDSCAPE BED DRAIN
- XXXX MAJOR CONTOUR (NEW)
- XXXX MAJOR CONTOUR (EXISTING)
- XXX MINOR CONTOUR (EXISTING)
- XXX LIMITS OF DISTURBANCE (LOD)
- STORM GRATE (NEW)

BENCHMARK

REFER TO C001 FOR PROJECT BENCHMARK INFORMATION. CONSTRUCTION STAKING SURVEYOR SHALL VERIFY HORIZONTAL & VERTICAL CONTROLS PRIOR TO COMMENCING PROJECT STAKING ACTIVITIES.

PROJECT NO.: 02-0183

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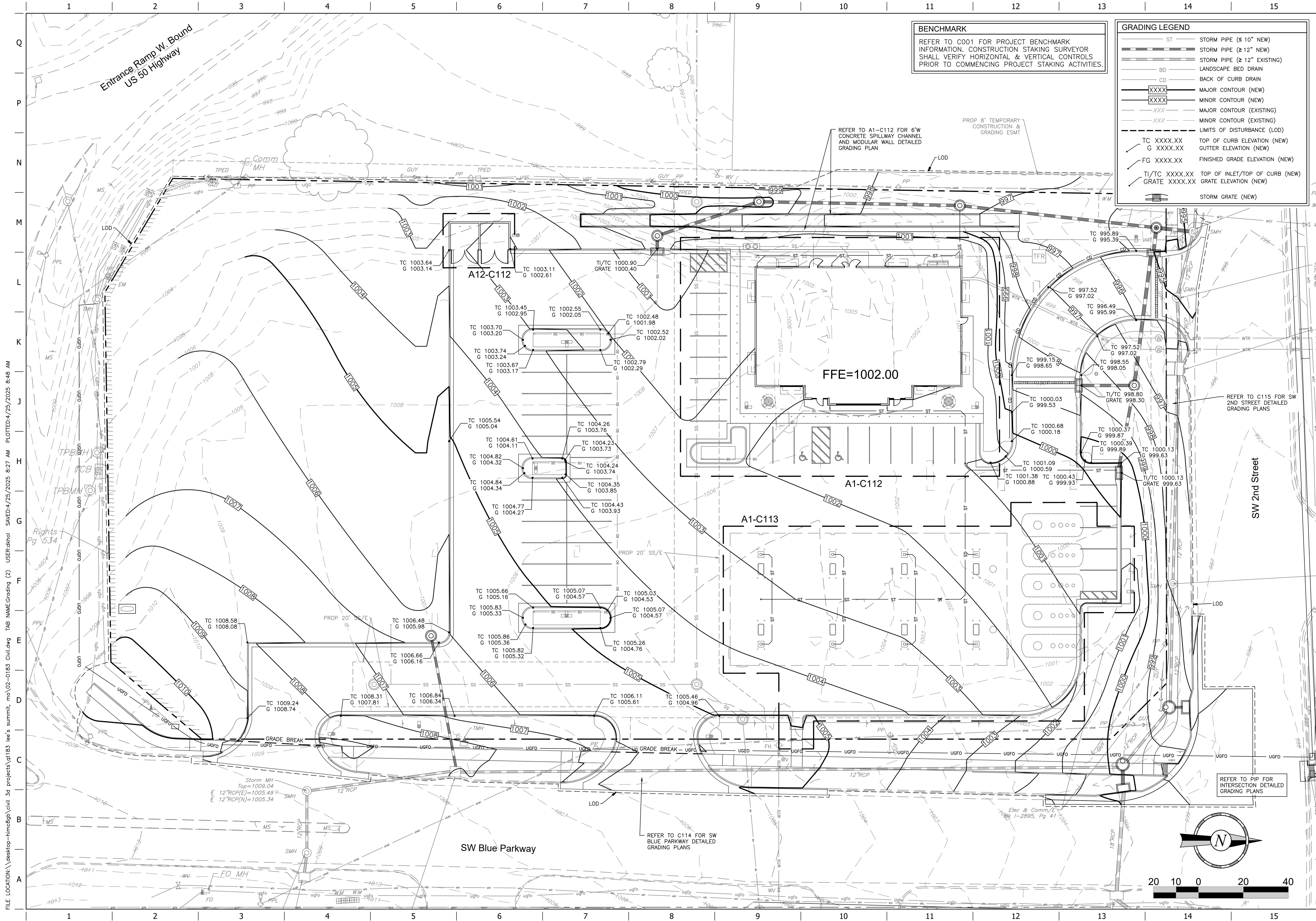
PROTOTYPE: P-120
DIVISION: 02
VERSION: 001
DESIGNED BY: CSH
DRAWN BY: CSH
REVIEWED BY: TRW

REV	DATE	DESCRIPTION

ORIGINAL ISSUE DATE: 04/25/2025

SHEET TITLE:
OVERALL GRADING PLAN

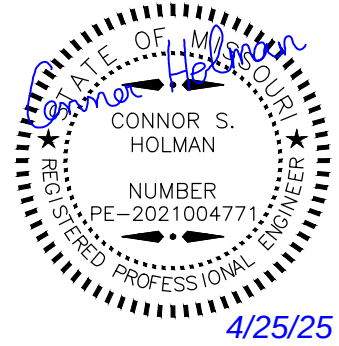
SHEET NUMBER:
C110



FILE LOCATION: \\desktop-hmc2gpc\civil 3d projects\qt183r lee's summit, mo\02-0183 Civil.dwg TAB NAME:Grading (2) USER:rknel SAVED:4/25/2025 8:48 AM PLOTTED:4/25/2025 8:48 AM

BENCHMARK
REFER TO C001 FOR PROJECT BENCHMARK INFORMATION. CONSTRUCTION STAKING SURVEYOR SHALL VERIFY HORIZONTAL & VERTICAL CONTROLS PRIOR TO COMMENCING PROJECT STAKING ACTIVITIES.

GRADING LEGEND	
ST	STORM PIPE (≤ 10" NEW)
ST	STORM PIPE (≥ 12" NEW)
ST	STORM PIPE (≥ 12" EXISTING)
BD	LANDSCAPE BED DRAIN
CD	BACK OF CURB DRAIN
XXXX	MAJOR CONTOUR (NEW)
XXXX	MINOR CONTOUR (NEW)
XXX	MAJOR CONTOUR (EXISTING)
XXX	MINOR CONTOUR (EXISTING)
---	LIMITS OF DISTURBANCE (LOD)
TC XXXX.XX G XXXX.XX	TOP OF CURB ELEVATION (NEW) GUTTER ELEVATION (NEW)
FG XXXX.XX	FINISHED GRADE ELEVATION (NEW)
Ti/TC XXXX.XX GRATE XXXX.XX	TOP OF INLET/TOP OF CURB (NEW) GRATE ELEVATION (NEW)
	STORM GRATE (NEW)



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DIVISION: 02
VERSION: 001
DESIGNED BY: CSH
DRAWN BY: CSH
REVIEWED BY: TRW

REV	DATE	DESCRIPTION

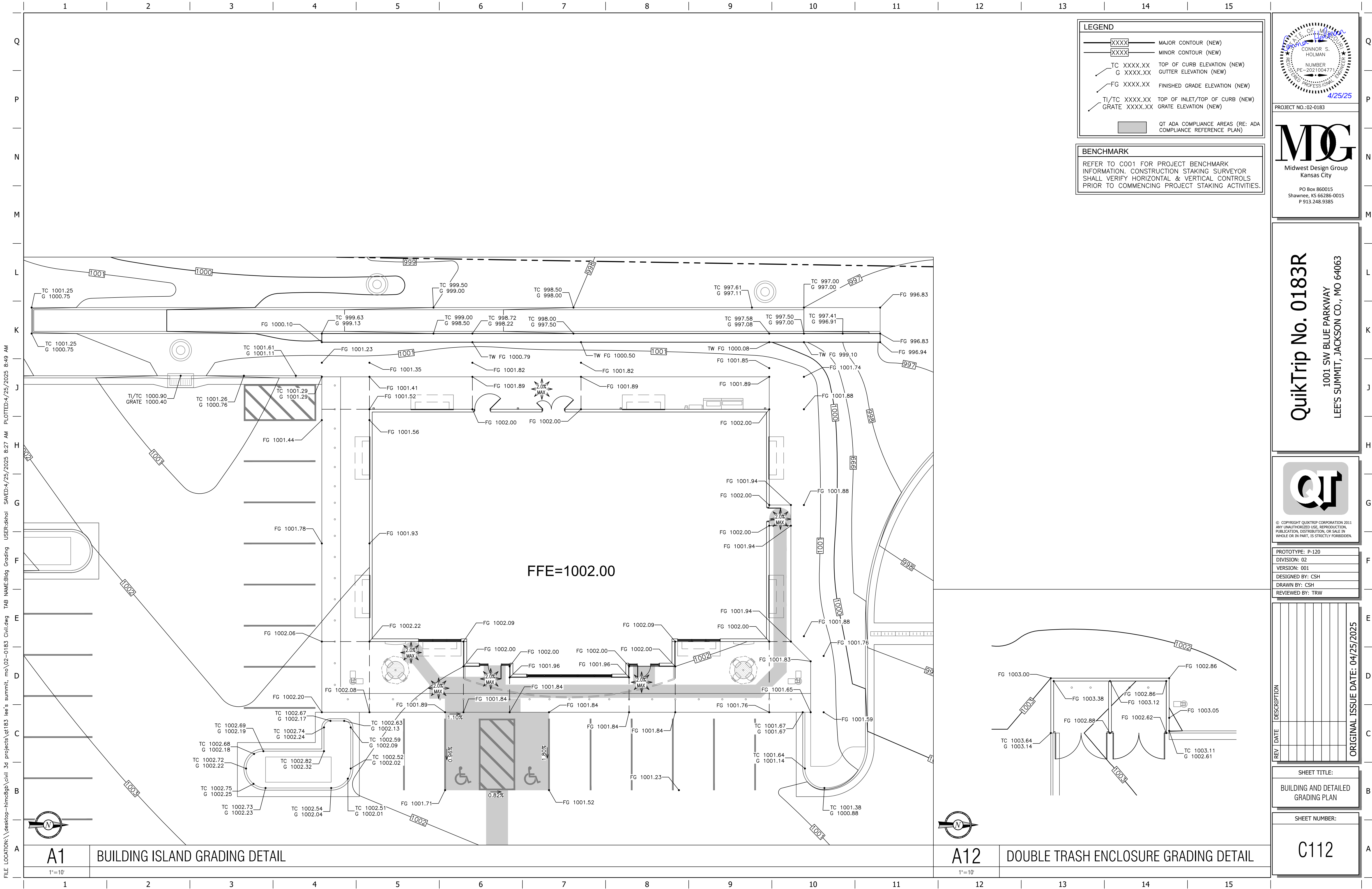
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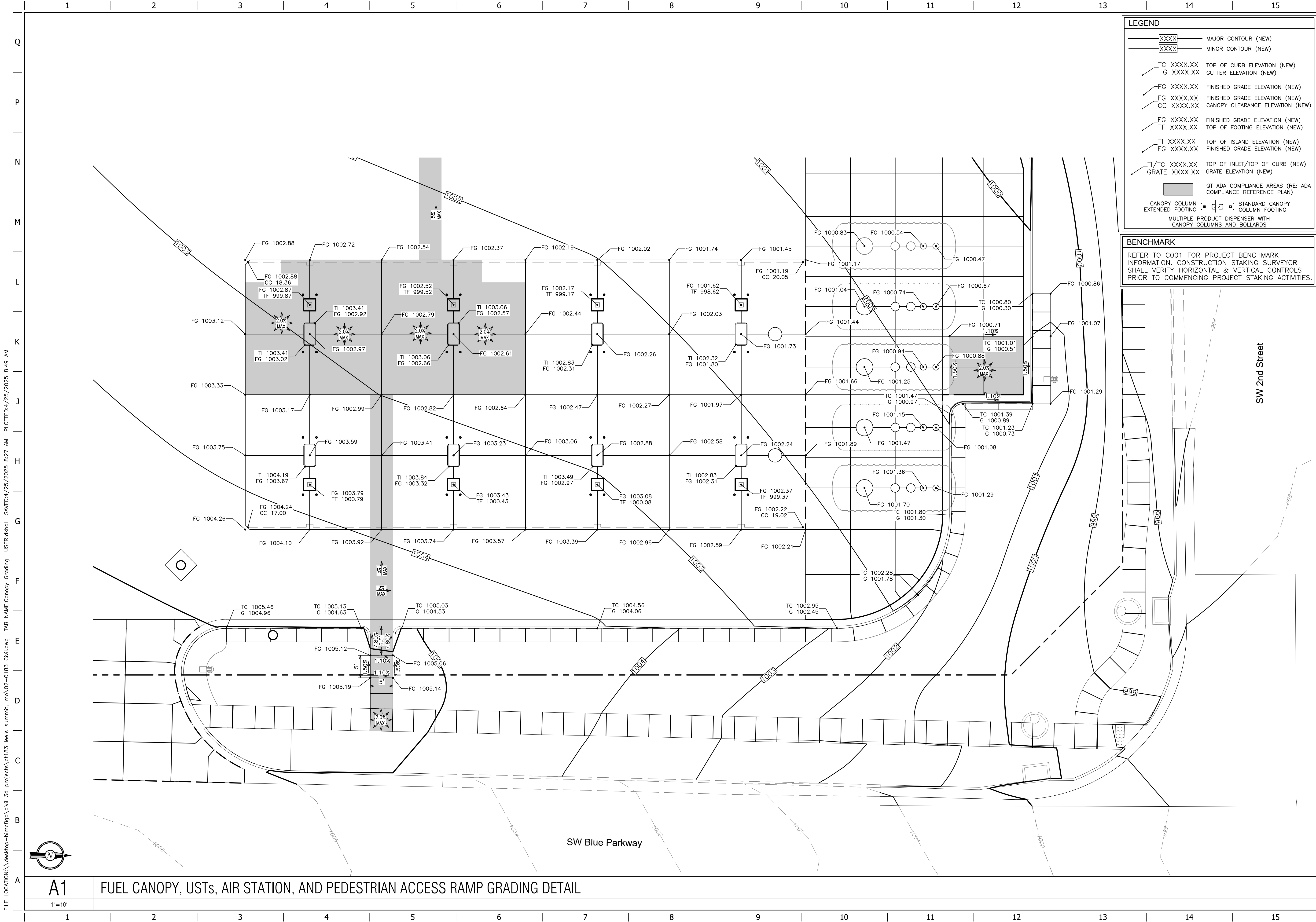
GRADING PLAN

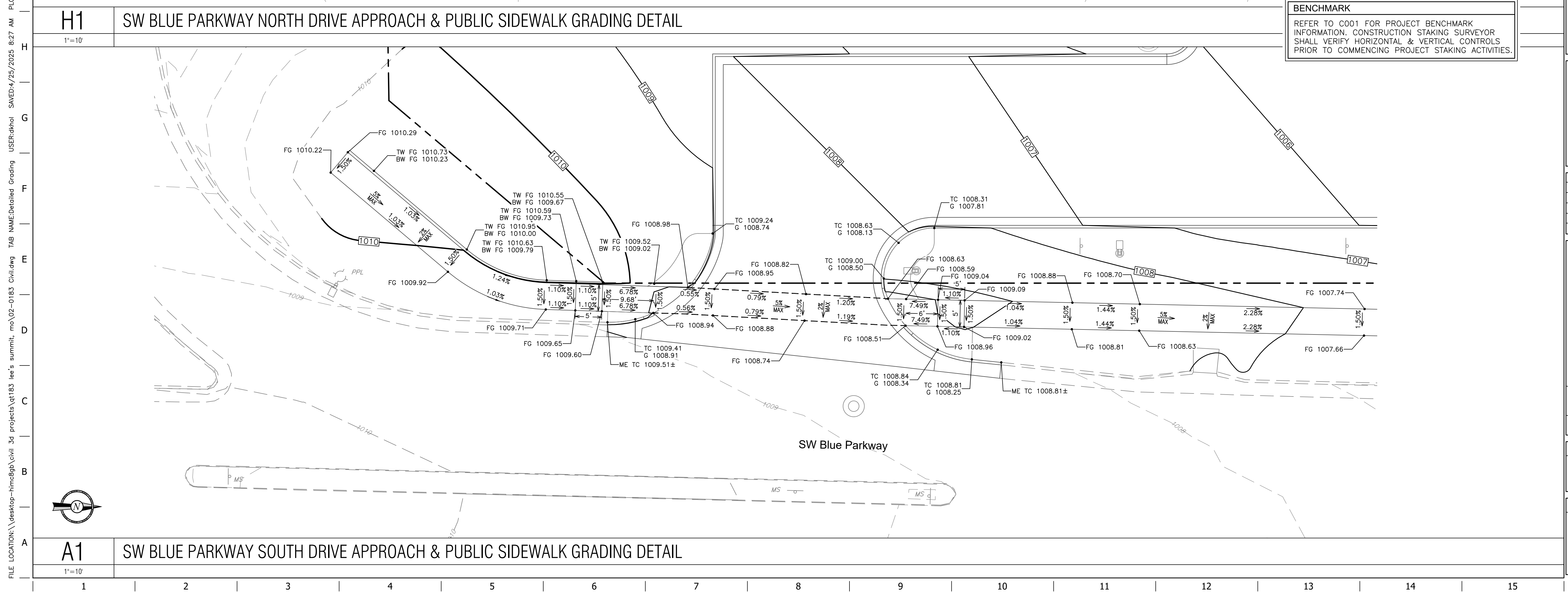
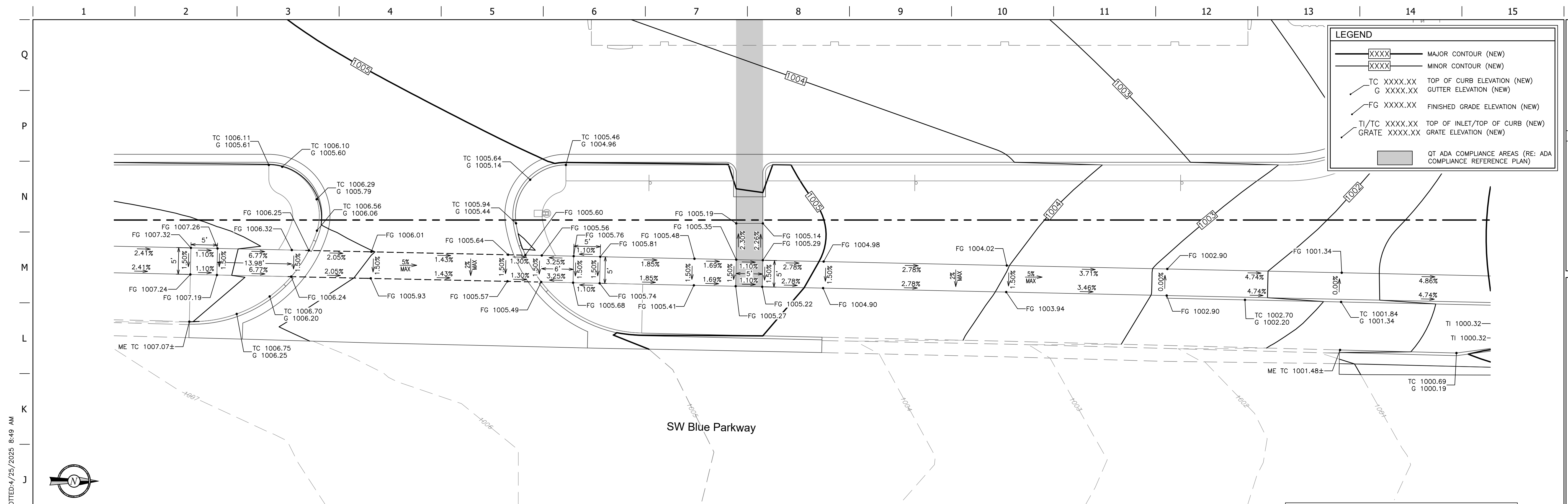
SHEET NUMBER:

C111

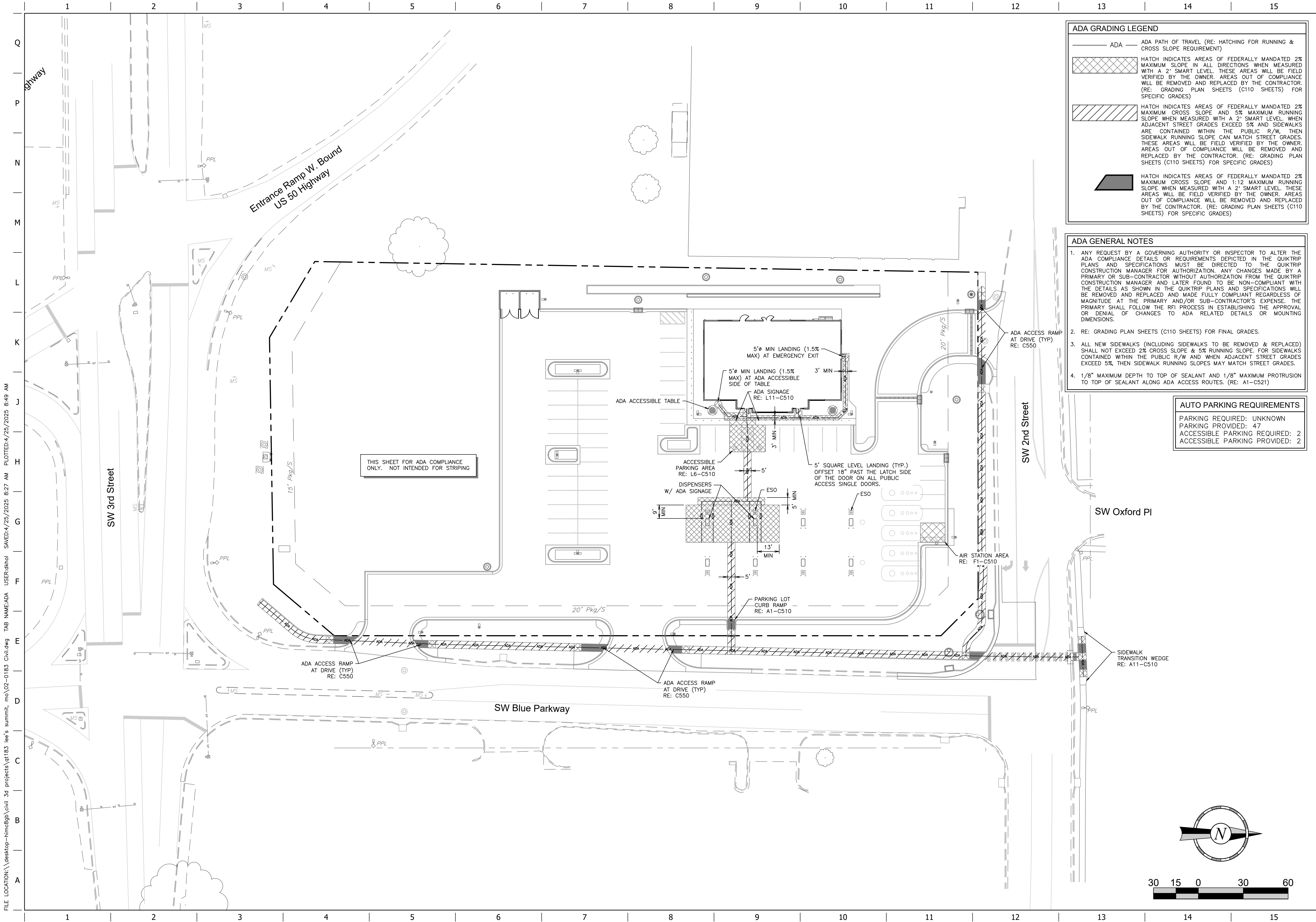
ORIGINAL ISSUE DATE: 04/25/2025







FILE LOCATION: \\desktop-hmc8gb\\civil 3d projects\\qt183 lee's summit, mo\\02-0183 Civil.dwg TAB NAME: Detailed Grading USER: dkhol SAVED: 4/25/2025 8:27 AM PLOTTED: 4/25/2025 8:49 AM



ADA GRADING LEGEND

— ADA — ADA PATH OF TRAVEL (RE: HATCHING FOR RUNNING & CROSS SLOPE REQUIREMENT)

[Hatch pattern] HATCH INDICATES AREAS OF FEDERALLY MANDATED 2% MAXIMUM SLOPE IN ALL DIRECTIONS WHEN MEASURED WITH A 2" SMART LEVEL. THESE AREAS WILL BE FIELD VERIFIED BY THE OWNER. AREAS OUT OF COMPLIANCE WILL BE REMOVED AND REPLACED BY THE CONTRACTOR. (RE: GRADING PLAN SHEETS (C110 SHEETS) FOR SPECIFIC GRADES)

[Hatch pattern] HATCH INDICATES AREAS OF FEDERALLY MANDATED 2% MAXIMUM CROSS SLOPE AND 5% MAXIMUM RUNNING SLOPE WHEN MEASURED WITH A 2" SMART LEVEL. WHEN ADJACENT STREET GRADES EXCEED 5% AND SIDEWALKS ARE CONTAINED WITHIN THE PUBLIC R/W, THEN SIDEWALK RUNNING SLOPE CAN MATCH STREET GRADES. THESE AREAS WILL BE FIELD VERIFIED BY THE OWNER. AREAS OUT OF COMPLIANCE WILL BE REMOVED AND REPLACED BY THE CONTRACTOR. (RE: GRADING PLAN SHEETS (C110 SHEETS) FOR SPECIFIC GRADES)

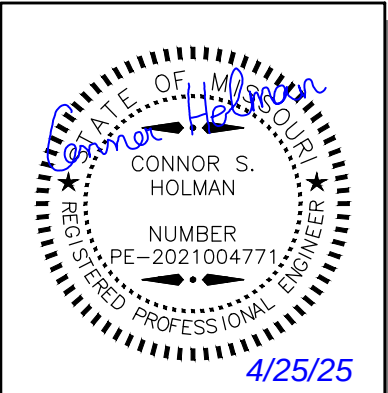
[Hatch pattern] HATCH INDICATES AREAS OF FEDERALLY MANDATED 2% MAXIMUM CROSS SLOPE AND 1:12 MAXIMUM RUNNING SLOPE WHEN MEASURED WITH A 2" SMART LEVEL. THESE AREAS WILL BE FIELD VERIFIED BY THE OWNER. AREAS OUT OF COMPLIANCE WILL BE REMOVED AND REPLACED BY THE CONTRACTOR. (RE: GRADING PLAN SHEETS (C110 SHEETS) FOR SPECIFIC GRADES)

ADA GENERAL NOTES

1. ANY REQUEST BY A GOVERNING AUTHORITY OR INSPECTOR TO ALTER THE ADA COMPLIANCE DETAILS OR REQUIREMENTS DEPICTED IN THE QUIKTRIP PLANS AND SPECIFICATIONS MUST BE DIRECTED TO THE QUIKTRIP CONSTRUCTION MANAGER FOR AUTHORIZATION. ANY CHANGES MADE BY A PRIMARY OR SUB-CONTRACTOR WITHOUT AUTHORIZATION FROM THE QUIKTRIP CONSTRUCTION MANAGER AND LATER FOUND TO BE NON-COMPLIANT WITH THE DETAILS AS SHOWN IN THE QUIKTRIP PLANS AND SPECIFICATIONS WILL BE REMOVED AND REPLACED AND MADE FULLY COMPLIANT REGARDLESS OF MAGNITUDE. AT THE PRIMARY AND/OR SUB-CONTRACTOR'S EXPENSE. THE PRIMARY SHALL FOLLOW THE RFI PROCESS IN ESTABLISHING THE APPROVAL OR DENIAL OF CHANGES TO ADA RELATED DETAILS OR MOUNTING DIMENSIONS.
2. RE: GRADING PLAN SHEETS (C110 SHEETS) FOR FINAL GRADES.
3. ALL NEW SIDEWALKS (INCLUDING SIDEWALKS TO BE REMOVED & REPLACED) SHALL NOT EXCEED 2% CROSS SLOPE & 5% RUNNING SLOPE FOR SIDEWALKS CONTAINED WITHIN THE PUBLIC R/W AND WHEN ADJACENT STREET GRADES EXCEED 5%, THEN SIDEWALK RUNNING SLOPES MAY MATCH STREET GRADES.
4. 1/8" MAXIMUM DEPTH TO TOP OF SEALANT AND 1/8" MAXIMUM PROTRUSION TO TOP OF SEALANT ALONG ADA ACCESS ROUTES. (RE: A1-C521)

AUTO PARKING REQUIREMENTS

PARKING REQUIRED: UNKNOWN
PARKING PROVIDED: 47
ACCESSIBLE PARKING REQUIRED: 2
ACCESSIBLE PARKING PROVIDED: 2



PROJECT NO.: 02-0183

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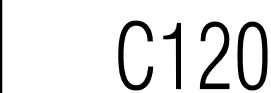
PROTOTYPE:	P-120
DIVISION:	02
VERSION:	001
DESIGNED BY:	CSH
DRAWN BY:	CSH
REVIEWED BY:	TRW

REV	DATE	DESCRIPTION

ORIGINAL ISSUE DATE: 04/25/2025

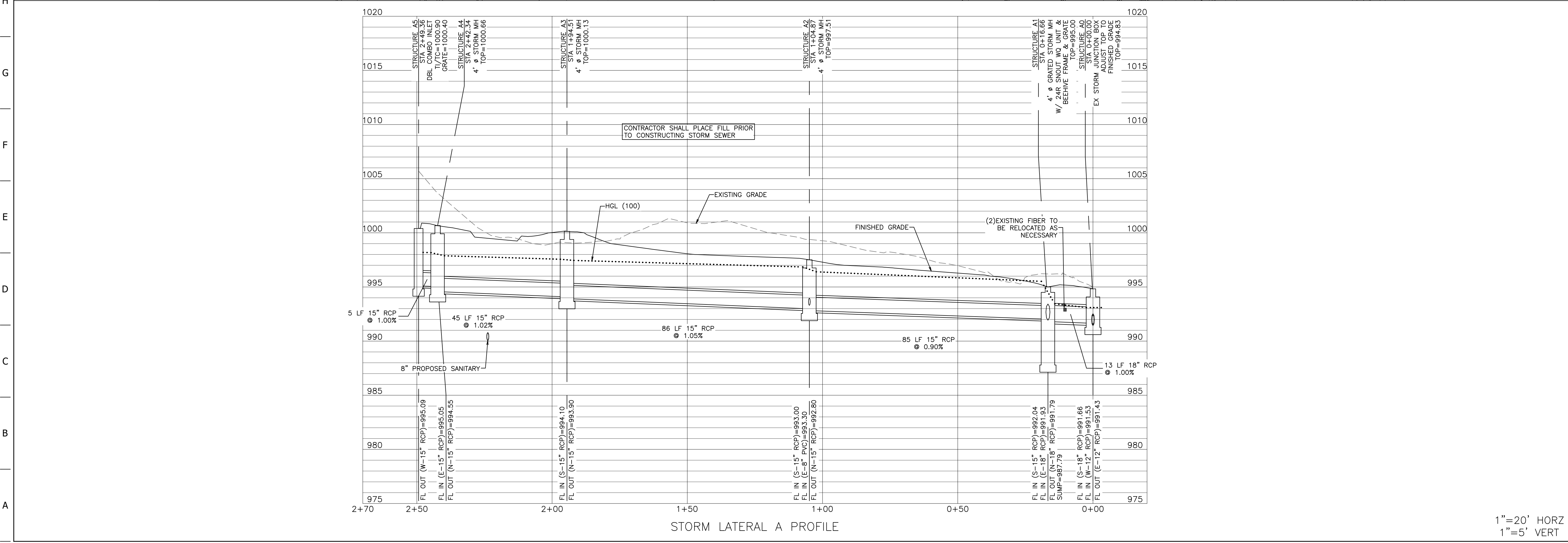
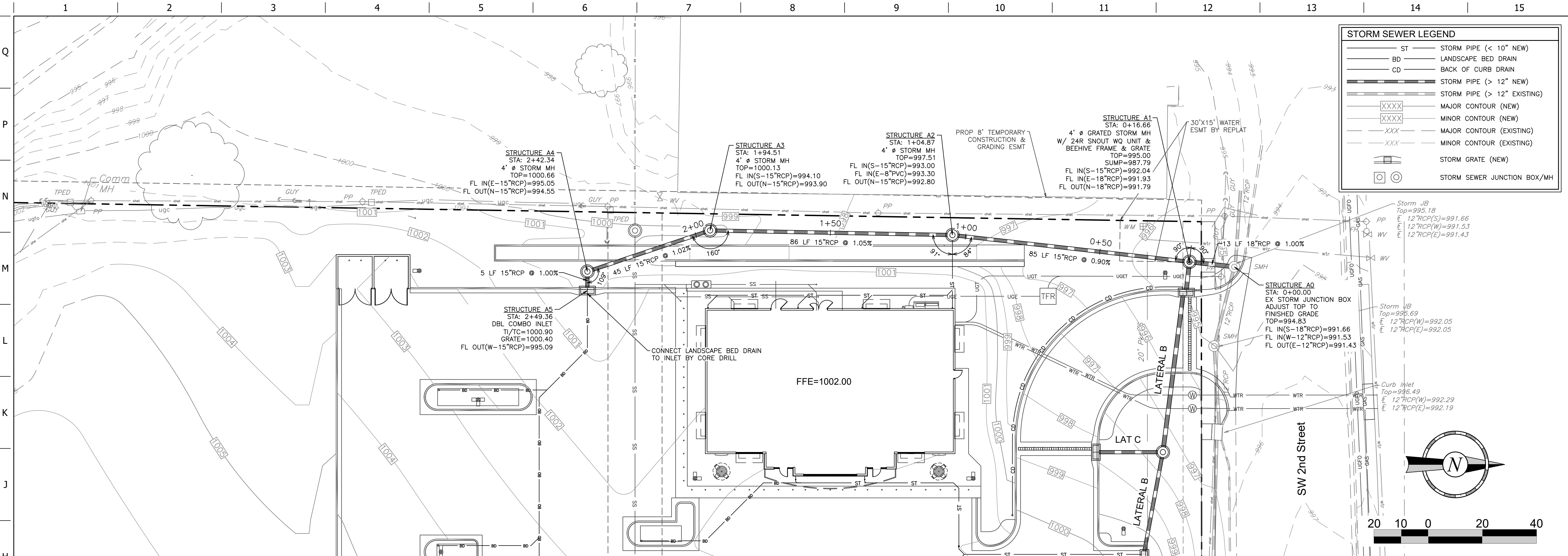
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ADA COMPLIANCE
REFERENCE PLAN

SHEET NUMBER:
C116



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FILE LOCATION: \\desktop-hmc29p\civil_3d_projects\qt183r lee's summit, mo\02-0183 Civil.dwg TAB NAME: Storm (2) USER: dkhall SAVED: 4/25/2025 8:27 AM PLOTTED: 4/25/2025 8:50 AM



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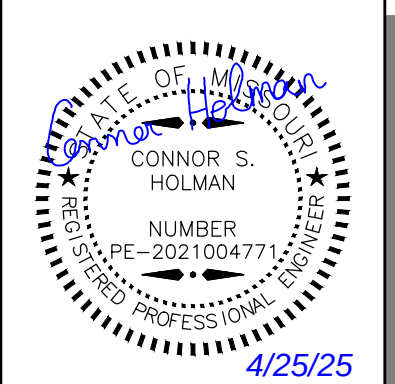
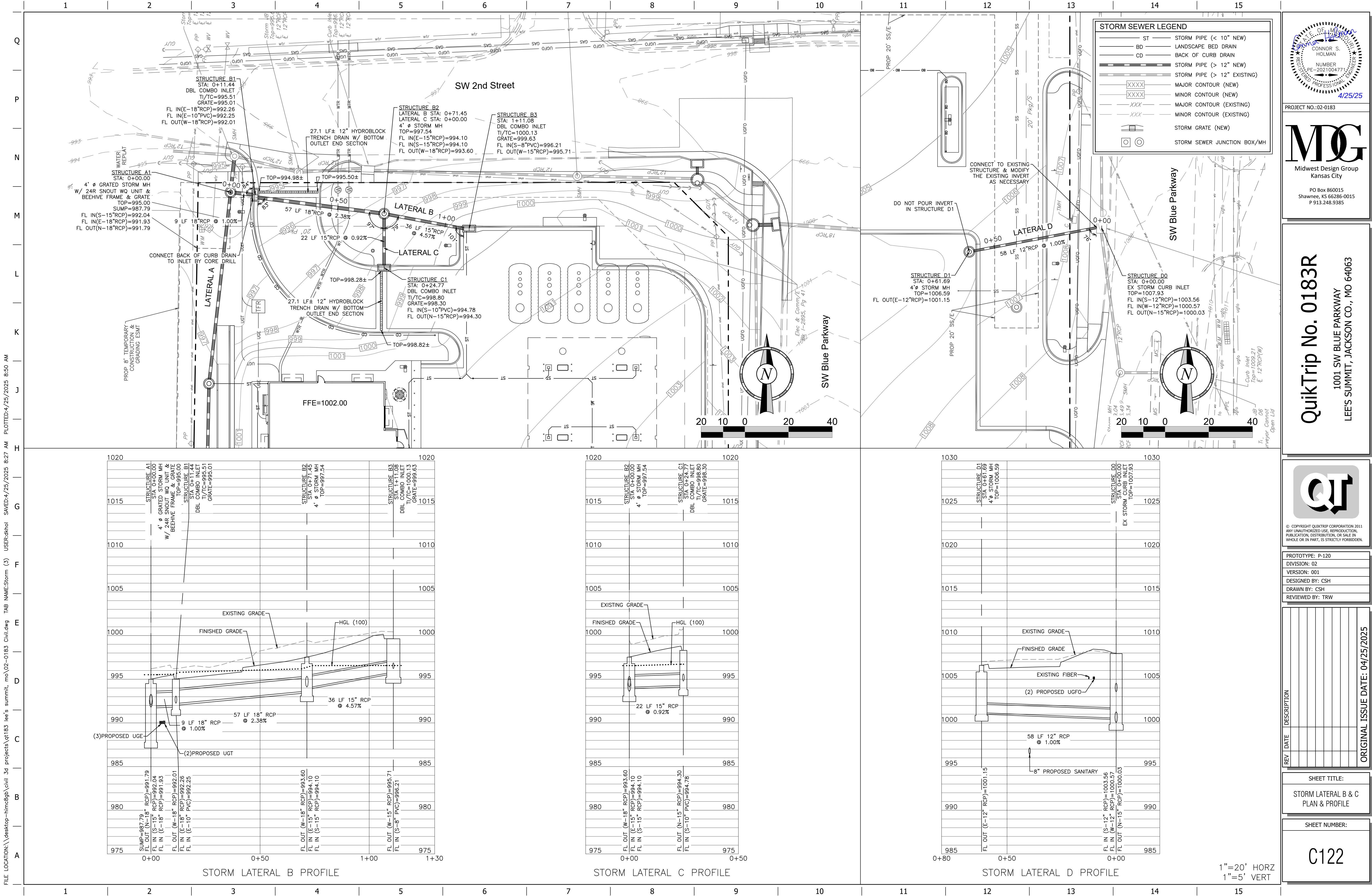
PROTOTYPE: P-120
DIVISION: 02
VERSION: 001
DESIGNED BY: CSH
DRAWN BY: CSH
REVIEWED BY: TRW

REV	DATE	DESCRIPTION

ORIGINAL ISSUE DATE: 04/25/2025

SHEET TITLE:
**STORM LATERAL A
PLAN & PROFILE**

SHEET NUMBER:
C121



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PROTOTYPE: P-120
DIVISION: 02
VERSION: 001
DESIGNED BY: CSH
DRAWN BY: CSH
REVIEWED BY: TRW

REV	DATE	DESCRIPTION

SHEET TITLE:
**STORM LATERAL B & C
PLAN & PROFILE**

SHEET NUMBER:
C122

ORIGINAL ISSUE DATE: 04/25/2025

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Q
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N
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A

STORM SEWER PIPE CALCULATIONS

HYDRAULIC GRADE LINE COMPUTATIONS - 100-YEAR STORM (Tc = 5 MIN)																												
Line	Size	Type of Pipe	Q	Upstream										Len	Downstream										Line Slope	Full Pipe Capacity	JL Coeff	Minor Loss
				Invert Elev	HGL Elev	Upstream Structure Top Elev	Pipe Cover	Depth	Area	Vel	Vel Head	EGL Elev	Sf		Invert Elev	HGL Elev	Downstream Structure Top Elev	Pipe Cover	Depth	Area	Vel	Vel Head	EGL Elev	Sf				
	(in)		(cfs)	(ft)	(ft)		(ft)	(sqft)	(ft/s)	(ft)		(ft)	(%)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(%)	(cfs)	(K)	(ft)
A1-A0	18	RCP	16.72	991.79	993.44	995.00	1.71	1.50	1.77	9.46	1.39	994.84	2.535	12.88	991.66	993.10	994.86	1.70	1.44	1.74	9.59	1.43	994.53	2.208	1.01	10.55	1.49	2.07
A2-A1	15	RCP	6.60	992.80	996.40	997.64	3.59	1.25	1.23	5.38	0.45	996.85	1.044	84.38	992.04	995.52	995.00	1.71	1.25	1.23	5.38	0.45	995.97	1.045	0.90	6.13	1.00	0.45
A3-A2	15	RCP	5.39	993.90	997.45	1000.13	4.98	1.25	1.23	4.40	0.30	997.75	0.698	85.97	993.00	996.85	997.64	3.39	1.25	1.23	4.40	0.30	997.15	0.698	1.05	6.61	0.38	0.11
A4-A3	15	RCP	5.46	994.55	997.88	1000.66	4.86	1.25	1.23	4.45	0.31	998.19	0.715	44.22	994.10	997.56	1000.13	4.78	1.25	1.23	4.45	0.31	997.87	0.716	1.02	6.51	0.95	0.29
A5-A4	15	RCP	5.47	995.09	998.20	1000.40	4.06	1.25	1.23	4.46	0.31	998.51	0.717	4.00	995.05	998.17	1000.66	4.36	1.25	1.23	4.46	0.31	998.48	0.717	1.00	6.46	1.00	0.31
B1-A1	18	RCP	9.34	992.01	995.58	995.01	1.50	1.50	1.77	5.28	0.43	996.02	0.791	8.35	991.93	995.52	995.00	1.57	1.50	1.77	5.29	0.43	995.95	0.791	0.96	10.28	0.50	0.22
B2-B1	18	RCP	8.69	993.60	996.19	997.54	2.44	1.50	1.77	4.92	0.38	996.56	0.684	56.39	992.26	995.80	995.01	1.25	1.50	1.77	4.92	0.38	996.18	0.685	2.38	16.19	0.99	0.37
B3-B2	15	RCP	3.31	995.71	996.57	999.71	2.75	0.86	0.91	3.66	0.21	996.78	0.387	34.00	994.10	996.56	997.54	2.19	1.25	1.23	2.70	0.11	996.67	0.263	4.74	14.05	1.47	0.31
C1-B2	15	RCP	5.60	994.30	996.72	998.30	2.75	1.25	1.23	4.56	0.32	997.05	0.751	21.73	994.10	996.56	997.54	2.19	1.25	1.23	4.56	0.32	996.88	0.751	0.92	6.20	1.00	0.32

HYDRAULIC GRADE LINE COMPUTATIONS - 10-YEAR STORM (Tc = 5 MIN)																												
Line	Size	Type of Pipe	Q	Upstream										Len	Downstream										Line Slope	Full Pipe Capacity	JL Coeff	Minor Loss
				Invert Elev	HGL Elev	Upstream Structure Top Elev	Pipe Cover	Depth	Area	Vel	Vel Head	EGL Elev	Sf		Invert Elev	HGL Elev	Downstream Structure Top Elev	Pipe Cover	Depth	Area	Vel	Vel Head	EGL Elev	Sf				
	(in)		(cfs)	(ft)	(ft)		(ft)	(sqft)	(ft/s)	(ft)		(ft)	(%)	(ft)	(ft)	(ft)	(ft)	(ft)	(sqft)	(ft/s)	(ft)	(ft)	(ft)	(%)	(%)	(cfs)	(K)	(ft)
A1-A0	18	RCP	10.85	991.79	993.07	995.00	1.71	1.28	1.60	6.76	0.71	993.78	1.002	12.88	991.66	992.92	994.86	1.70	1.26	1.59	6.84	0.73	993.65	1.021	1.01	10.55	1.49	1.06
A2-A1	15	RCP	4.31	992.80	994.50	997.64	3.59	1.25	1.23	3.51	0.19	994.70	0.446	84.38	992.04	994.13	995.00	1.71	1.25	1.23	3.52	0.19	994.32	0.446	0.90	6.13	1.00	0.19
A3-A2	15	RCP	3.56	993.90	994.92	1000.13	4.98	1.02	1.07	3.33	0.17	995.09	0.308	85.97	993.00	994.70	997.64	3.39	1.25	1.23	2.90	0.13	994.83	0.304	1.05	6.61	0.38	0.07
A4-A3	15	RCP	3.62	994.55	995.32	1000.66	4.86	0.77	0.79	4.58	0.33	995.64	0.000	44.22	994.10	994.98	1000.13	4.78	0.88	0.79	3.91	0.33	995.31	0.000	1.02	6.51	0.95	0.00
A5-A4	15	RCP	3.63	995.09	995.86	1000.40	4.06	0.77	0.79	4.58	0.33	996.19	0.000	4.00	995.05	995.72	1000.66	4.36	0.67	0.67	5.42	0.33	996.05	0.000	1.00	6.46	1.00	0.00
B1-A1	18	RCP	6.09	992.01	994.16	995.01	1.50	1.50	1.77	3.44	0.18	994.34	0.336	8.35	991.93	994.13	995.00	1.57	1.50	1.77	3.45	0.18	994.31	0.336	0.96	10.28	0.50	0.09
B2-B1	18	RCP	5.69	993.60	994.52	997.54	2.44	0.92	1.14	5.01	0.39	994.91	0.609	56.39	992.26	994.25	995.01	1.25	1.50	1.14	3.22	0.16	994.41	0.294	2.38	16.19	0.99	0.00
B3-B2	15	RCP	2.18	995.71	996.30	999.71	2.75	0.59	0.57	3.84	0.23	996.53	0.000	34.00	994.10	994.52	997.54	2.19	0.42	0.36	6.03	0.23	994.75	0.000	4.74	14.05	1.47	0.00
C1-B2	15	RCP	3.72	994.30	995.08	998.30	2.75	0.78	0.80	4.63	0.33	995.41	0.000	21.73	994.10	994.80	997.54	2.19	0.70	0.70	5.27	0.33	995.13	0.000	0.92	6.20	1.00	0.00

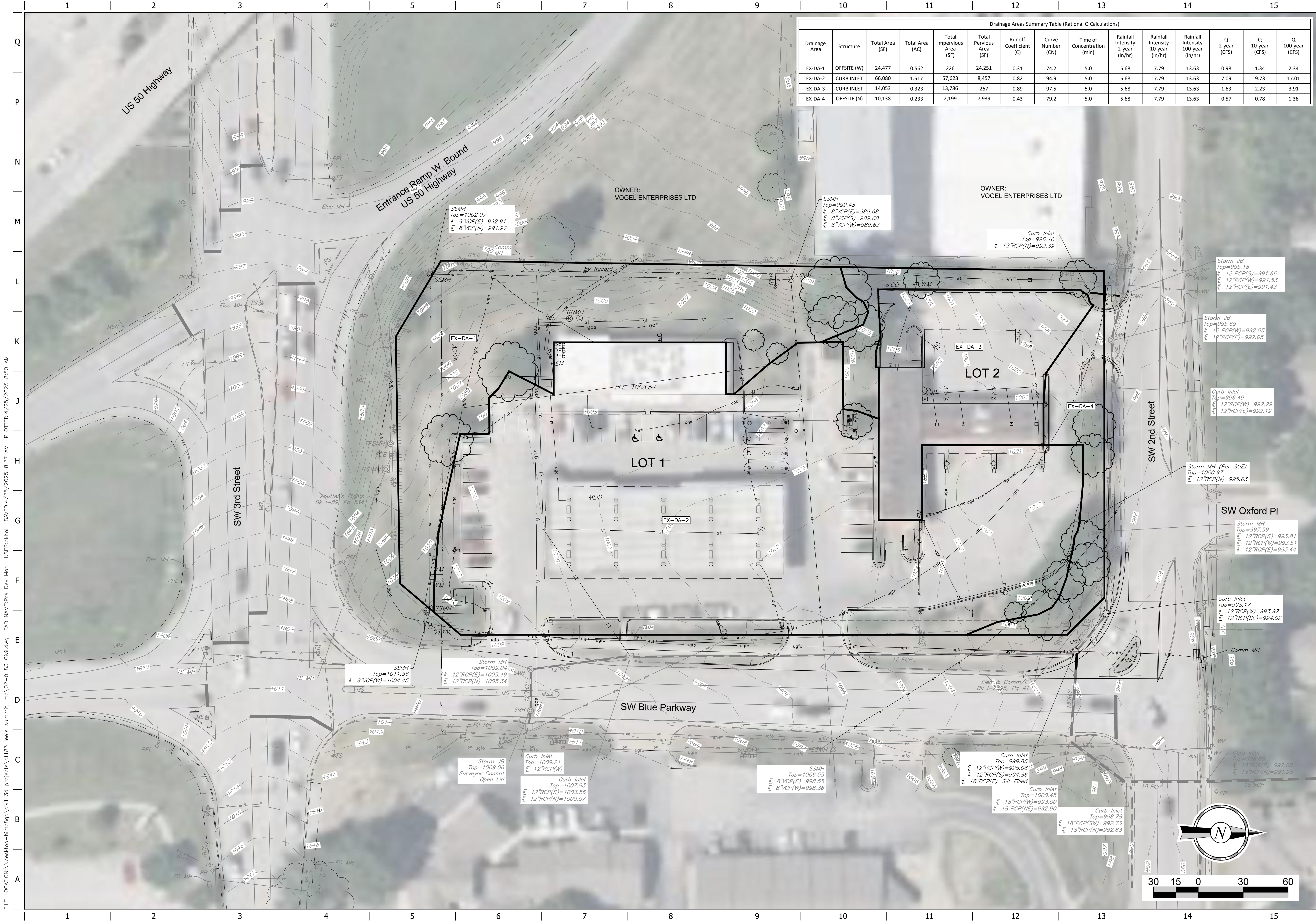
HYDRAULIC GRADE LINE COMPUTATIONS - 2-YEAR STORM (Tc = 5 MIN)																												
Line	Size	Type of Pipe	Q	Upstream										Len	Downstream										Line Slope	Full Pipe Capacity	JL Coeff	Minor Loss
				Invert Elev (ft)	HGL Elev (ft)	Upstream Structure Top Elev	Pipe Cover (ft)	Depth (ft)	Area (sqft)	Vel (ft/s)	Vel Head (ft)	EGL Elev (ft)	Sf (%)		Invert Elev (ft)	HGL Elev (ft)	Downstream Structure Top Elev	Pipe Cover (ft)	Depth (ft)	Area (sqft)	Vel (ft/s)	Vel Head (ft)	EGL Elev (ft)	Sf (%)				
A1-A0	18	RCP	7.28	991.79	992.83	995.00	1.71	1.04	1.31	5.55	0.48	993.31	0.000	12.88	991.66	992.58	994.86	1.70	0.92	1.13	6.44	0.48	993.06	0.000	1.01	10.55	1.49	0.71
A2-A1	15	RCP	2.93	992.80	993.49	997.64	3.59	0.69	0.69	4.24	0.28	993.77	0.000	84.38	992.04	992.83	995.00	1.71	0.79	0.69	3.56	0.28	993.11	0.000	0.90	6.13	1.00	0.00
A3-A2	15	RCP	2.45	993.90	994.53	1000.13	4.98	0.63	0.61	3.99	0.25	994.77	0.000	85.97	993.00	993.53	997.64	3.39	0.53	0.49	4.98	0.25	993.77	0.000	1.05	6.61	0.38	0.00
A4-A3	15	RCP	2.51	994.55	995.18	1000.66	4.86	0.63	0.63	4.02	0.25	995.44	0.000	44.22	994.10	994.64	1000.13	4.78	0.54	0.51	4.96	0.25	994.89	0.000	1.02	6.51	0.95	0.00
A5-A4	15	RCP	2.52	995.09	995.73	1000.40	4.06	0.64	0.63	4.02	0.25	995.98	0.000	4.00	995.05	995.59	1000.66	4.36	0.54	0.51	4.94	0.25	995.84	0.000	1.00	6.46	1.00	0.25
B1-A1	18	RCP	4.11	992.01	992.79	995.01	1.50	0.78	0.92	4.46	0.31	993.10	0.000	8.35	991.93	992.83	995.00	1.57	0.90	0.92	3.70	0.31	993.14	0.000	0.96	10.28	0.50	0.00
B2-B1	18	RCP	3.88	993.60	994.35	997.54	2.44	0.75	0.89	4.37	0.30	994.65	0.000	56.39	992.26	992.79	995.01	1.25	0.53	0.55	7.02	0.30	993.08	0.000	2.38	16.19	0.99	0.00
B3-B2	15	RCP	1.50	995.71	996.19	999.71	2.75	0.48	0.44	3.41	0.18	996.38	0.000	34.00	994.10	994.38	997.54	2.19	0.28	0.20	7.46	0.18	994.56	0.000	4.74	14.05	1.47	0.00
C1-B2	15	RCP	2.58	994.30	994.94	998.30	2.75	0.64	0.64	4.05	0.26	995.20	0.000	21.73	994.10	994.66	997.54	2.19	0.56	0.54	4.82	0.26	994.92	0.000	0.92	6.20	1.00	0.26

STORM SEWER INLET CALCULATIONS

Storm Sewer Inlet Calculations (100-Yr Storm Event)										
Label	Inlet Drainage Area (acres)	Inlet C	Total Inlet Intensity (in/h)	Elevation (Ground) (ft)	Elevation (Invert) (ft)	Total Rational Flow to Inlet (cfs)	Capture Efficiency (Calculated) (%)	Flow (Captured) (cfs)	Flow (Total Bypassed) (cfs)	Spread / Top Width (ft)
A1	0.19	0.45	12.57	995.00	991.79	1.07	100	1.07	0.00	8.60
A5	0.50	0.87	12.57	1000.40	995.09	5.47	100	5.47	0.00	18.06
B1	0.09	0.71	12.57	995.01	992.01	0.80	55	2.02	1.65	8.22
B3	0.13	0.90	12.57	999.71	995.71	1.47	100	1.47	0.00	7.18
C1	0.53	0.84	12.57	998.30	994.30	5.60	49	2.72	2.87	9.23

Storm Sewer Inlet Calculations (10-Yr Storm Event)										
Label	Inlet Drainage Area (acres)	Inlet C	Total Inlet Intensity (in/h)	Elevation (Ground) (ft)	Elevation (Invert) (ft)	Total Rational Flow to Inlet (cfs)	Capture Efficiency (Calculated) (%)	Flow (Captured) (cfs)	Flow (Total Bypassed) (cfs)	Spread / Top Width (ft)
A1	0.19	0.45	8.34	995.00	991.79	0.71	100	0.71	0.00	6.79
A5	0.50	0.87	8.34	1000.40	995.09	3.63	100	3.63	0.00	13.60
B1	0.09	0.71	8.34	995.01	992.01	0.53	63	1.39	0.82	6.76
B3	0.13	0.90	8.34	999.71	995.71	0.98	100	0.98	0.00	5.32
C1	0.53	0.84	8.34	998.30	994.30	3.72	55	2.04	1.68	7.89

Storm Sewer Inlet Calculations (2-Yr Storm Event)												
Label	Inlet Drainage Area (acres)	Inlet C	Total Inlet Intensity (in/h)	Elevation (Ground) (ft)	Elevation (Invert) (ft)	Total Rational Flow to Inlet (cfs)	Capture Efficiency (Calculated) (%)	Flow (Captured) (cfs)	Flow (Total Bypassed) (cfs)	Spread / Top Width (ft)	Gutter Depth (ft)	Hydraulic Grade Line (ft)
A1	0.19	0.45	5.79	995.00	991.79	0.49	100	0.49	0.00	5.54	0.11	992.83
A5	0.50	0.87	5.79	1000.40	995.09	2.52	100	2.52	0.00	10.54	0.22	995.73
B1	0.09	0.71	5.79	995.01	992.01	0.37	71	0.98	0.41	5.64	0.12	992.79
B3	0.13	0.90	5.79	999.71	995.71	0.68	100	0.68	0.00	4.05	0.09	996.19
C1	0.53	0.84	5.79	998.30	994.30	2.58	61	1.56	1.02	6.86	0.15	994.94



Drainage Areas Summary Table (Rational Q Calculations)												
Drainage Area	Structure	Total Area (SF)	Total Area (AC)	Total Impervious Area (SF)	Total Pervious Area (SF)	Runoff Coefficient (C)	Curve Number (CN)	Time of Concentration (min)	Rainfall Intensity 2-year (in/hr)	Rainfall Intensity 10-year (in/hr)	Rainfall Intensity 100-year (in/hr)	Q 2-year (CFS)
EX-DA-1	OFFSITE (W)	24,477	0.562	226	24,251	0.31	74.2	5.0	5.68	7.79	13.63	0.98
EX-DA-2	CURB INLET	66,080	1.517	57,623	8,457	0.82	94.9	5.0	5.68	7.79	13.63	7.09
EX-DA-3	CURB INLET	14,053	0.323	13,786	267	0.89	97.5	5.0	5.68	7.79	13.63	1.63
EX-DA-4	OFFSITE (N)	10,138	0.233	2,199	7,939	0.43	79.2	5.0	5.68	7.79	13.63	0.57
												Q 10-year (CFS)
												1.34
												Q 100-year (CFS)
												2.34

PROJECT NO.: 02-0183

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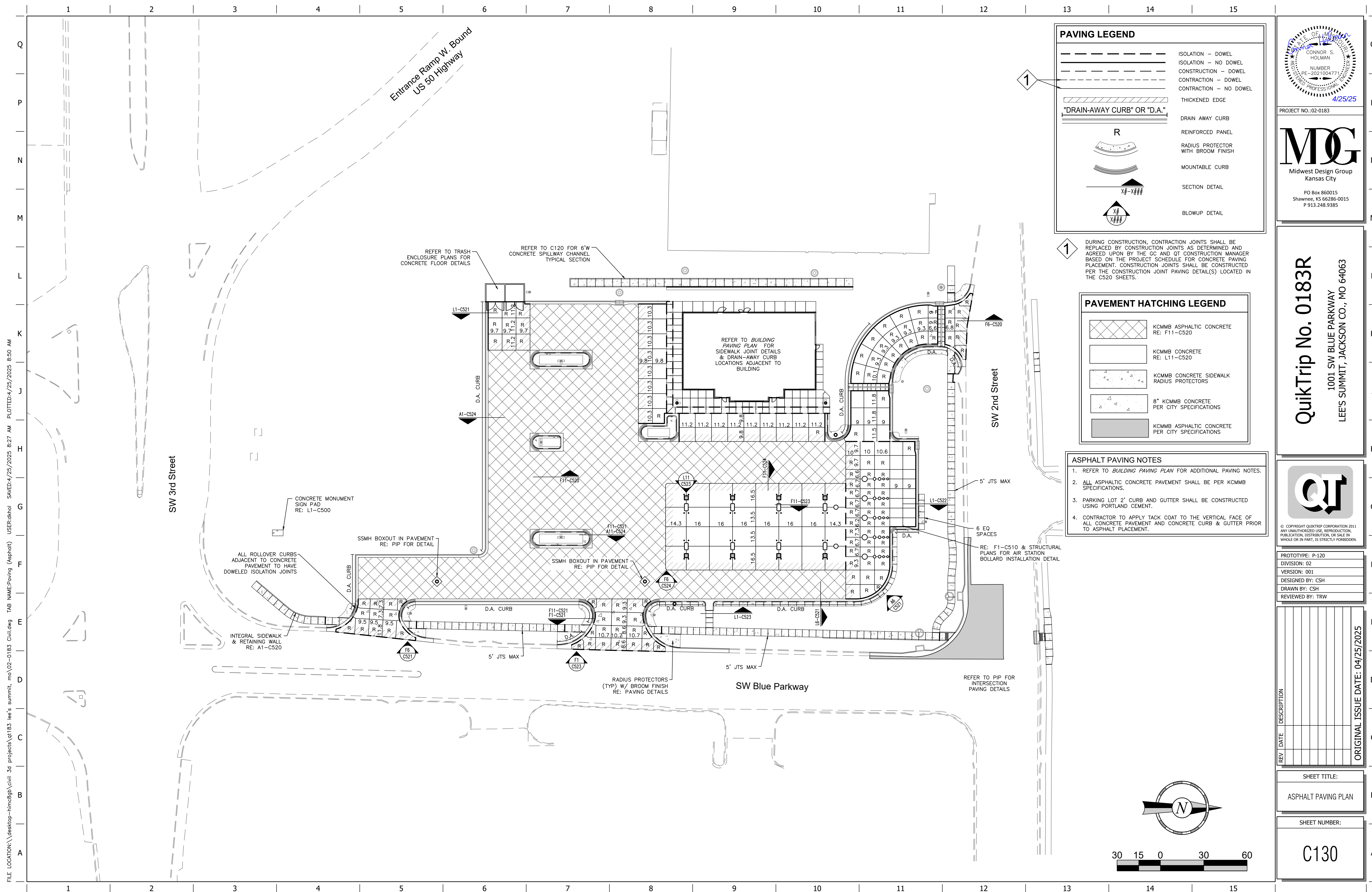
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VERSION:	001
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DRAWN BY:	CSH
REVIEWED BY:	TRW

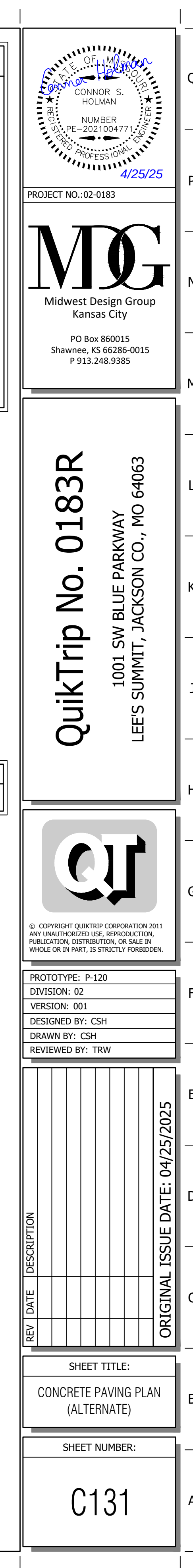
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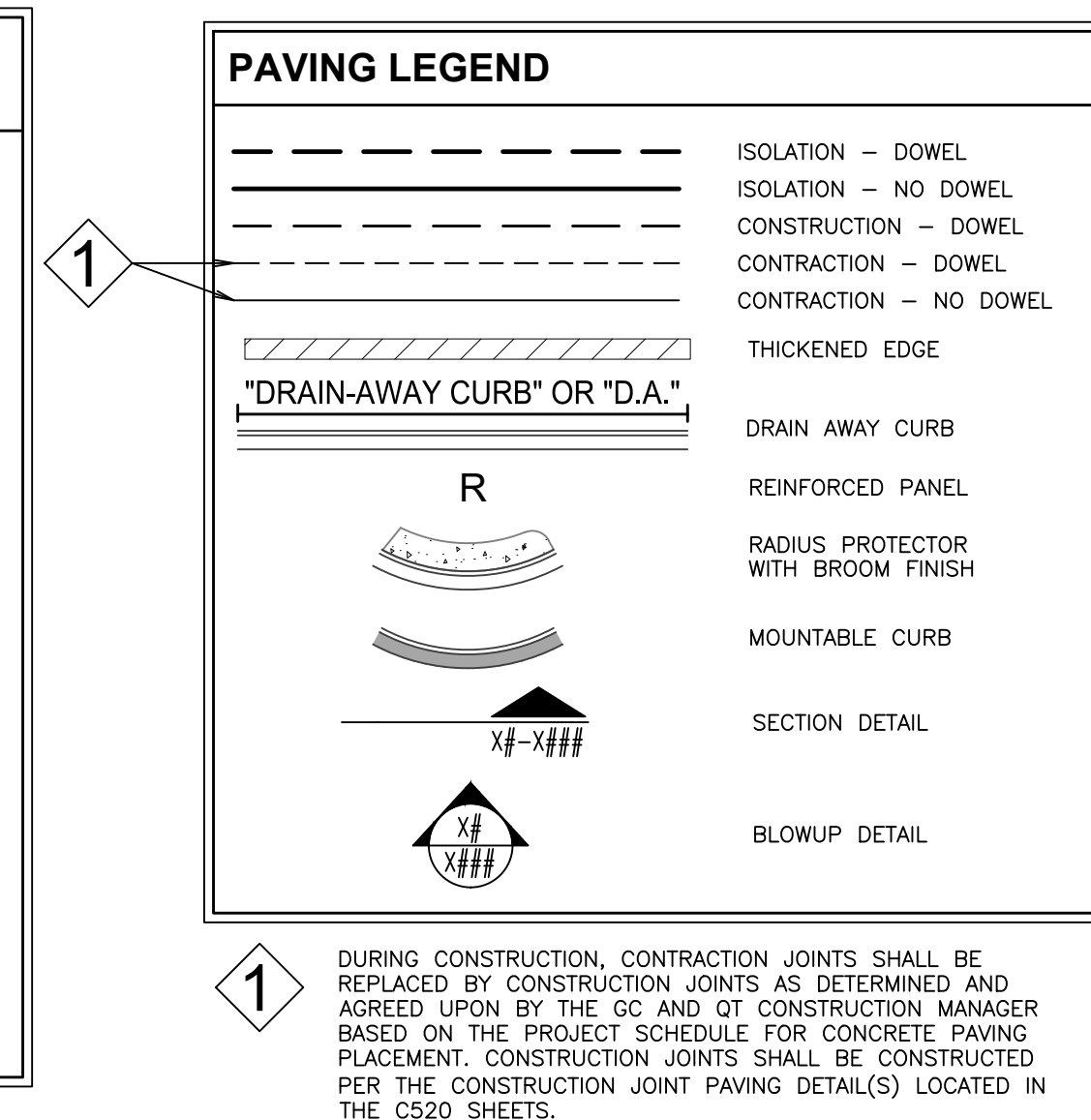
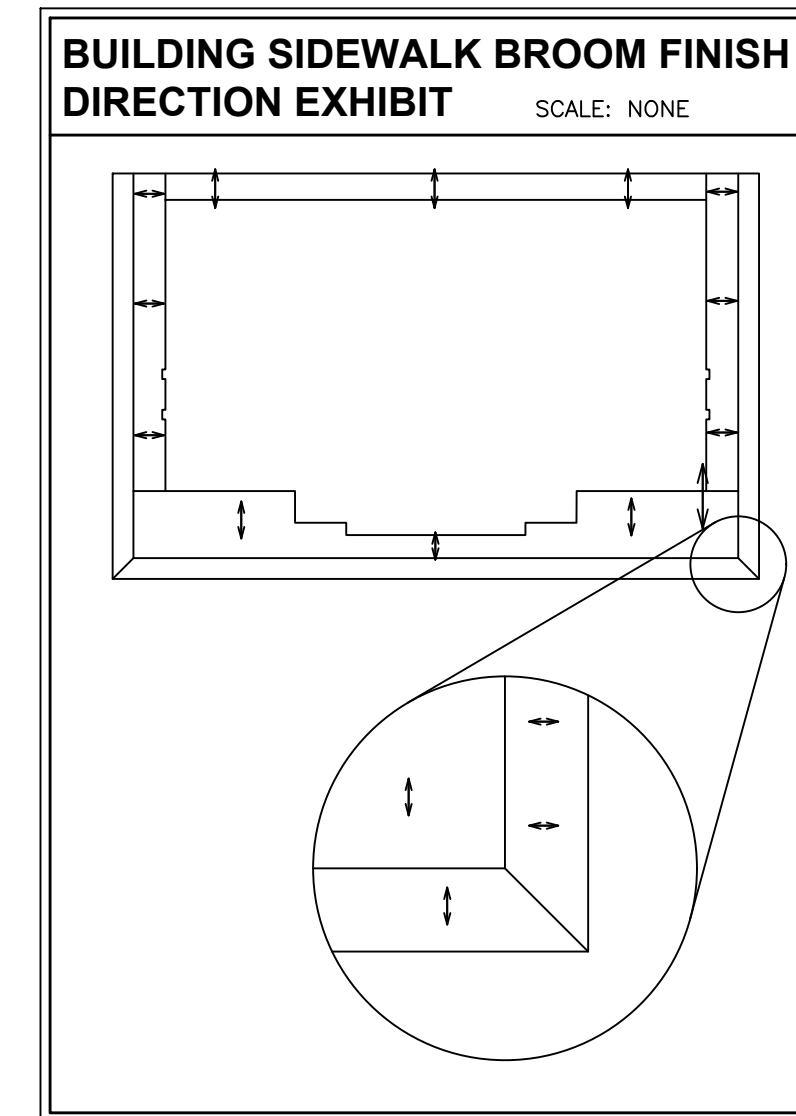
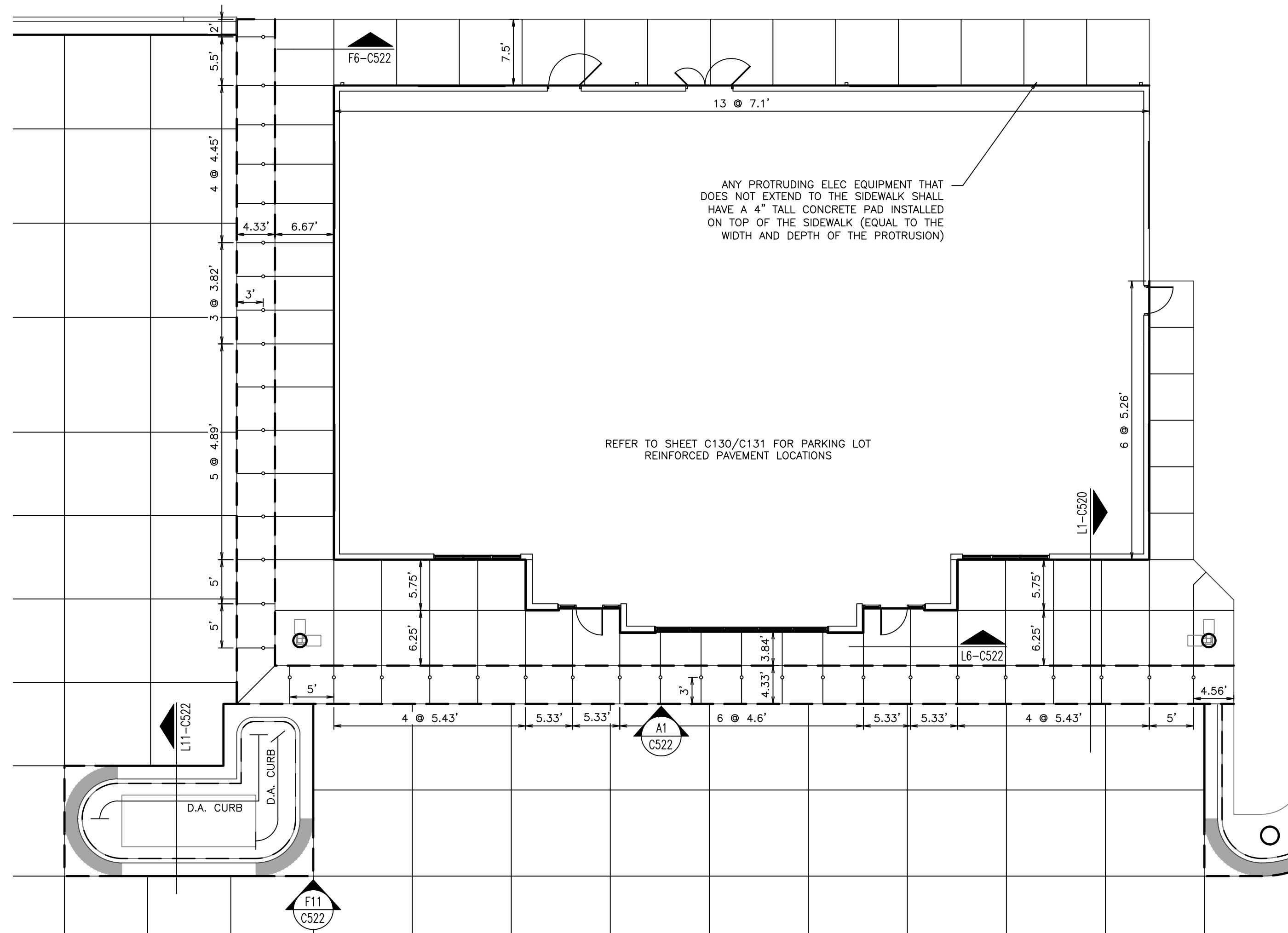
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SHEET TITLE:
PRE-DEVELOPED
DRAINAGE AREA MAP

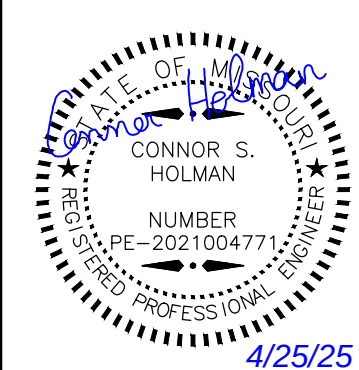
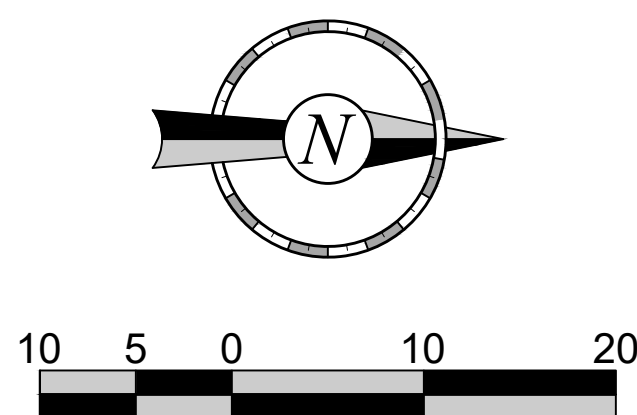
SHEET NUMBER:
C124







- ### MISCELLANEOUS PAVING NOTES:
1. REFER TO CS20 SHEETS FOR PAVING DETAILS.
 2. DURING CONSTRUCTION, CONTRACTION JOINTS SHALL BE REPLACED WITH CONSTRUCTION JOINTS AS DETERMINED AND AGREED UPON BY THE GC AND QT CONSTRUCTION MANAGER PRIOR TO THE PROJECT SCHEDULE FOR CONCRETE PAVING PLACEMENT. CONSTRUCTION JOINTS SHALL BE CONSTRUCTED PER CONSTRUCTION JOINT DETAILS. (RE: CS20 SHEETS).
 3. REFERENCE ADA COMPLIANCE REFERENCE PLAN FOR JOINT LOCATIONS WITHIN ADA LOCATIONS THAT MUST COMPLY WITH JOINT SEALANT PLACEMENT TOLERANCES DETAILED IN PAVING JOINT – SEALANT TOLERANCE DETAIL.
 4. REFER TO CONSTRUCTION DOCUMENTS FOR PAVING SPECIFICATIONS. ALL PAVEMENT SHALL BE KCMXB MIX DESIGN PER CITY SPECIFICATIONS. CONTRACTOR TO PROVIDE CERTIFICATIONS FOR ALL MIX DESIGNS.
 5. PUBLIC SIDEWALK IMMEDIATELY ADJACENT TO (WITHIN 8' MIN.) QUIKTRIP ENTRANCES SHALL BE CONSTRUCTED USING 8" CONCRETE.
 6. TRANSITION STRIPS: THE CONTRACTOR IS RESPONSIBLE FOR CONSTRUCTING A STRAIGHT EDGE WHERE NEW APPROACHES AND NEW CURB & GUTTER MEET EXISTING STREETS. IF A STRAIGHT EDGE CAN NOT BE ACHIEVED ALONG ASPHALT STREETS TO THE SATISFACTION OF THE OWNER, THE CONTRACTOR SHALL MILL A MINIMUM OF 2" DEPTH OF EXISTING ASPHALT STREET FOR CONCRETE PAVING PLACEMENT. THE MILLED ASPHALT AREA SHALL THEN BE REPLACED WITH ASPHALTIC SURFACE MATERIAL IN ACCORDANCE WITH GOVERNING AGENCY SPECIFICATIONS, WHERE NEW CONCRETE IS TO BE PLACED ADJACENT TO EXISTING CONCRETE PAVEMENT. THE CONTRACTOR SHALL SAWCUT (FULL DEPTH) ALONG THE CONSTRUCTION EDGE.
 7. REFER TO PROJECT SPECIFICATIONS FOR CONCRETE FINISHING DETAILS.
 8. REFER TO THE ELECTRICAL, IRRIGATION AND SECURITY PLANS FOR ALL CONDUIT LOCATIONS THAT MUST BE IN PLACE PRIOR TO PLACING PAVEMENT.
 9. TO AVOID ANY DEFINED CRESTS OR SUMPS, "GRADE BREAKS" SHALL BE CONSTRUCTED AS A "VERTICAL CURVE". SURVEYOR AND CONTRACTOR SHALL CONFER WITH QUIKTRIP CONSTRUCTION MANAGER PRIOR TO CONSTRUCTION STAKING OR CONCRETE PLACEMENT RELATIVE TO ANY GRADE BREAKS.
 10. THE MAXIMUM CROSS SLOPE ON ALL PROPOSED SIDEWALKS, INCLUDING SIDEWALK DRIVEWAY CROSSINGS, IS 2%.
 11. OUTSIDE TABLE STAINLESS STEEL ANCHORING SYSTEMS ARE TO BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS PRIOR TO FRONT SIDEWALK PLACEMENT.
 12. WHEN PLAN GRADES DEPICT RUNOFF TO BE DIRECTED AWAY FROM THE CURB, USE DRAIN AWAY CURB ALTERNATE. (RE: PAVING DETAILS)
 13. REFER TO CANOPY PLANS FOR CANOPY COLUMN FOOTING CONSTRUCTION DETAILS.
 14. CONTRACTOR TO PROVIDE CONCRETE PAVING SEQUENCE PLAN TO QUIKTRIP CONSTRUCTION MANAGER PRIOR TO CONCRETE PAVEMENT PLACEMENT. CONCRETE SHALL BE SEQUENCED TO PREVENT TRANSVERSE GROOM FINISHES FROM FORMING A PATCHWORK APPEARANCE.



PROJECT NO.:02-0183



PO Box 860015
Shawnee, KS 66286-0015
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QuikTrip No. 0183R
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VERSION: 001
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DRAWN BY: CSH
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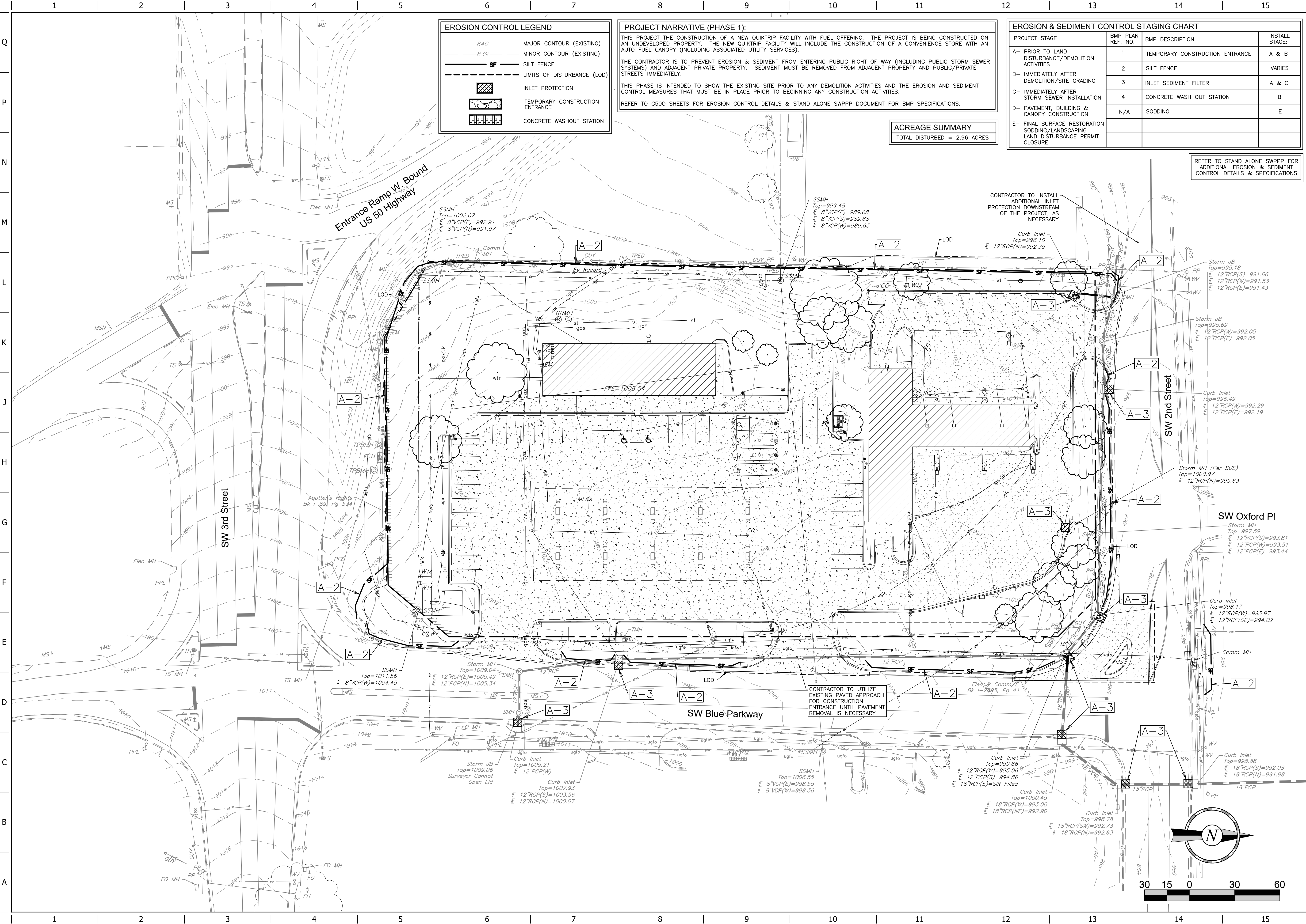
SHEET TITLE:

BUILDING PAVING PLAN

SHEET NUMBER

C132

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EROSION CONTROL LEGEND

- 84.0 MAJOR CONTOUR (EXISTING)
- 83.9 MINOR CONTOUR (EXISTING)
- SF SILT FENCE
- LIMITS OF DISTURBANCE (LOD)
- [Symbol] INLET PROTECTION
- [Symbol] TEMPORARY CONSTRUCTION ENTRANCE
- [Symbol] CONCRETE WASHOUT STATION

PROJECT NARRATIVE (PHASE 1):

THIS PROJECT THE CONSTRUCTION OF A NEW QUIKTRIP FACILITY WITH FUEL OFFERING. THE PROJECT IS BEING CONSTRUCTED ON AN UNDEVELOPED PROPERTY. THE NEW QUIKTRIP FACILITY WILL INCLUDE THE CONSTRUCTION OF A CONVENIENCE STORE WITH AN AUTO FUEL CANOPY (INCLUDING ASSOCIATED UTILITY SERVICES).

THE CONTRACTOR IS TO PREVENT EROSION & SEDIMENT FROM ENTERING PUBLIC RIGHT OF WAY (INCLUDING PUBLIC STORM SEWER SYSTEMS) AND ADJACENT PRIVATE PROPERTY. SEDIMENT MUST BE REMOVED FROM ADJACENT PROPERTY AND PUBLIC/PRIVATE STREETS IMMEDIATELY.

THIS PHASE IS INTENDED TO SHOW THE EXISTING SITE PRIOR TO ANY DEMOLITION ACTIVITIES AND THE EROSION AND SEDIMENT CONTROL MEASURES THAT MUST BE IN PLACE PRIOR TO BEGINNING ANY CONSTRUCTION ACTIVITIES.

REFER TO C500 SHEETS FOR EROSION CONTROL DETAILS & STAND ALONE SWPPP DOCUMENT FOR BMP SPECIFICATIONS.

ACREAGE SUMMARY

TOTAL DISTURBED = 2.96 ACRES

EROSION & SEDIMENT CONTROL STAGING CHART			
PROJECT STAGE	BMP PLAN REF. NO.	BMP DESCRIPTION	INSTALL STAGE:
A- PRIOR TO LAND DISTURBANCE/DEMOLITION ACTIVITIES	1	TEMPORARY CONSTRUCTION ENTRANCE	A & B
B- IMMEDIATELY AFTER DEMOLITION/SITE GRADING	2	SILT FENCE	VARIES
C- IMMEDIATELY AFTER STORM SEWER INSTALLATION	3	INLET SEDIMENT FILTER	A & C
D- PAVEMENT, BUILDING & CANOPY CONSTRUCTION	4	CONCRETE WASH OUT STATION	B
E- FINAL SURFACE RESTORATION SODDING/LANDSCAPING LAND DISTURBANCE PERMIT CLOSURE	N/A	SODDING	E

REFER TO STAND ALONE SWPPP FOR ADDITIONAL EROSION & SEDIMENT CONTROL DETAILS & SPECIFICATIONS

CONNOR S. HOLMAN
NUMBER
PE-2021004771
4/25/25

PROJECT NO.:02-0183

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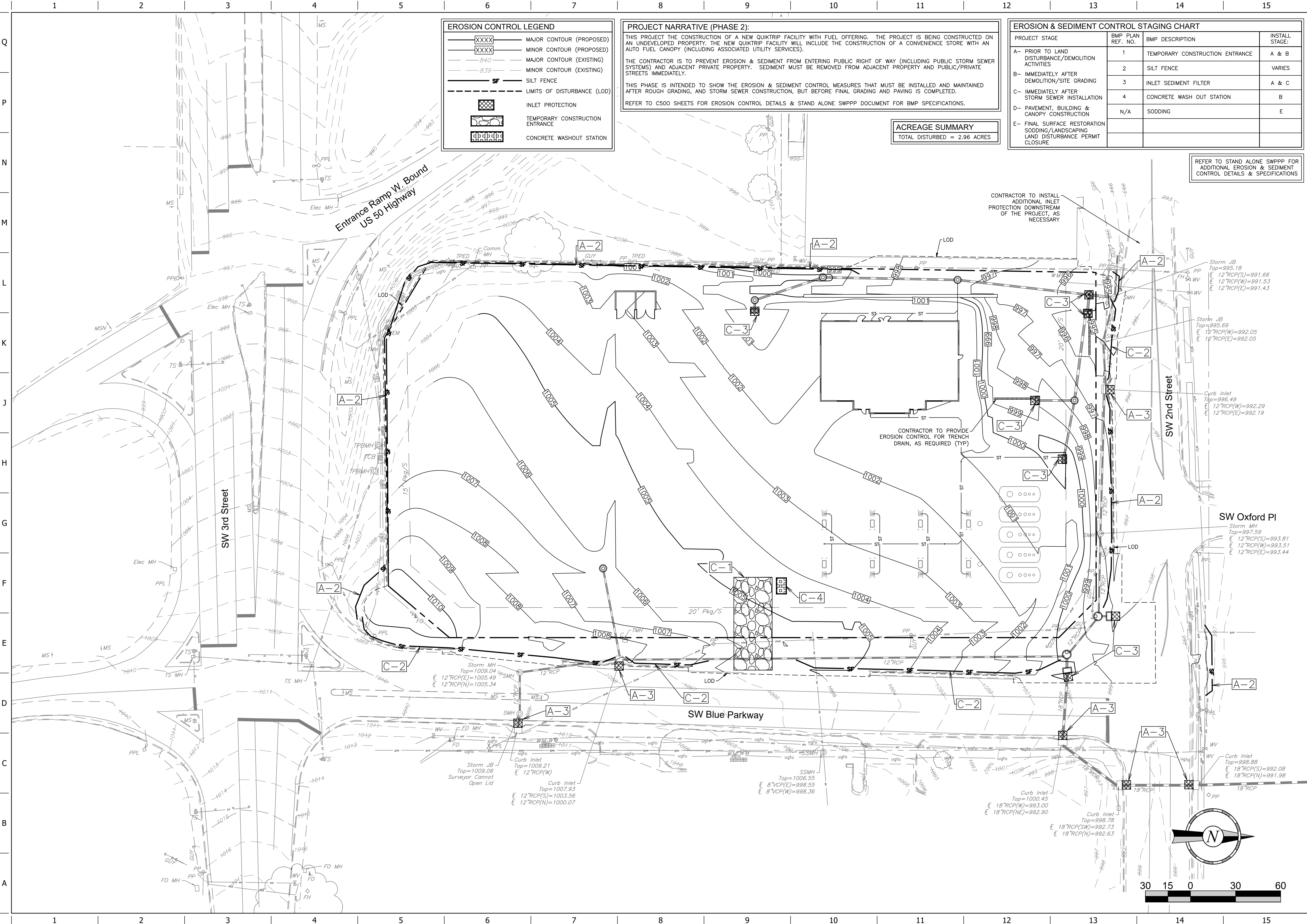
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SHEET TITLE:
**EROSION CONTROL PLAN
PHASE 1**

SHEET NUMBER:
C140

ORIGINAL ISSUE DATE: 04/25/2025

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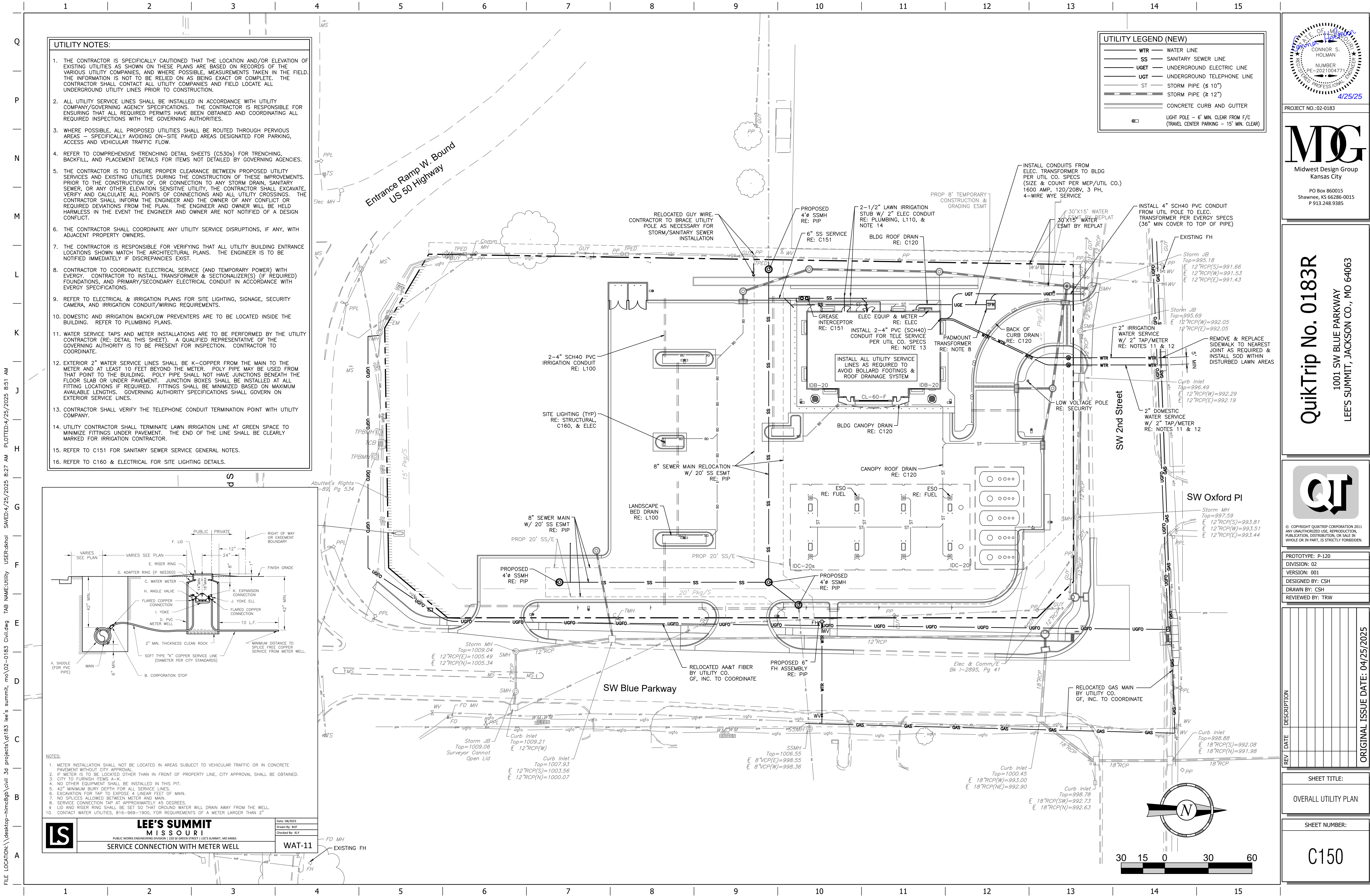
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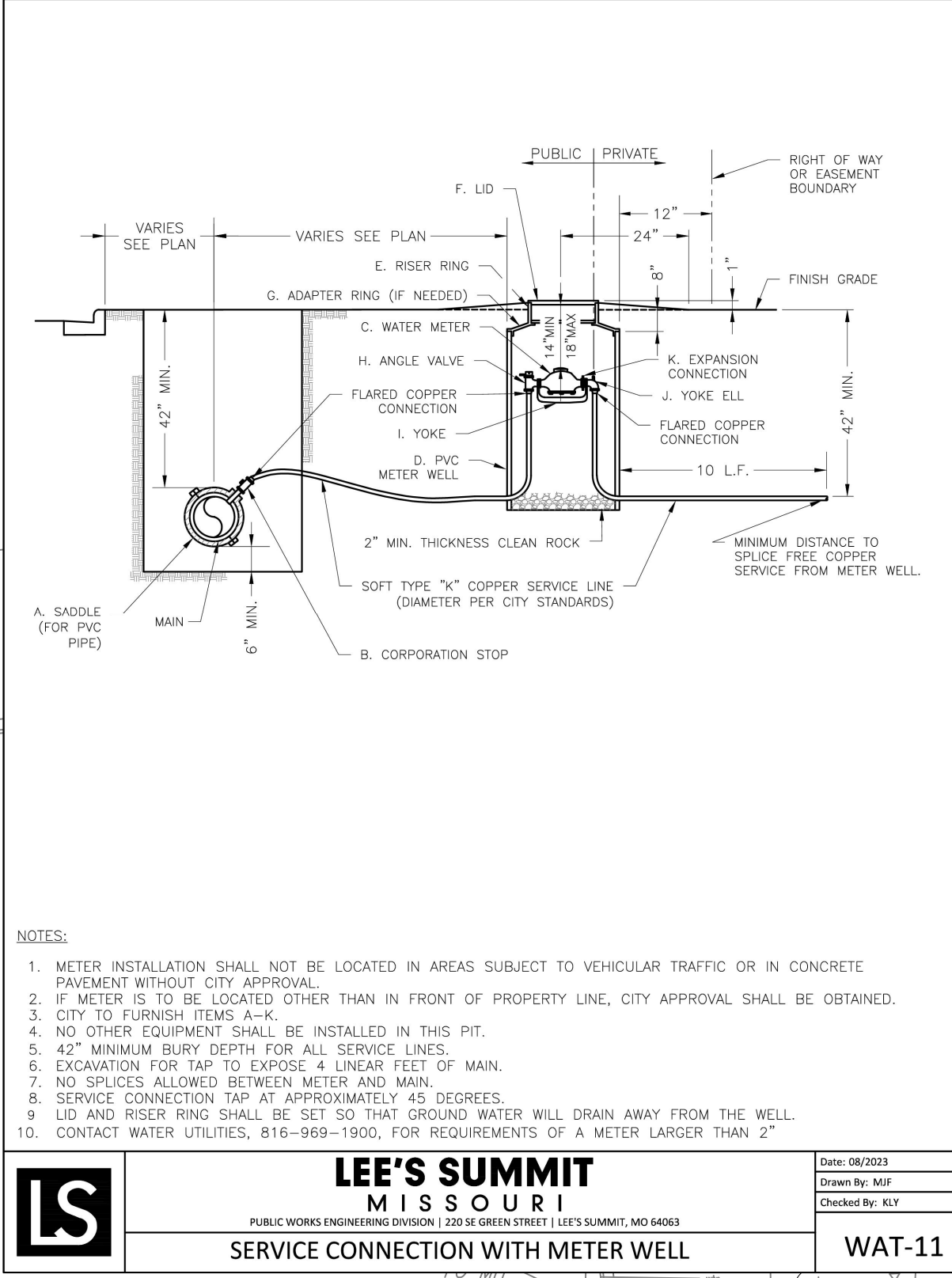
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**EROSION CONTROL PLAN
PHASE 2**

SHEET NUMBER:
C141



- UTILITY NOTES:**
- THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AS SHOWN ON THESE PLANS ARE BASED ON RECORDS OF THE VARIOUS UTILITY COMPANIES, AND WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THE INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR SHALL CONTACT ALL UTILITY COMPANIES AND FIELD LOCATE ALL UNDERGROUND UTILITY LINES PRIOR TO CONSTRUCTION.
 - ALL UTILITY SERVICE LINES SHALL BE INSTALLED IN ACCORDANCE WITH UTILITY COMPANY/GOVERNING AGENCY SPECIFICATIONS. THE CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT ALL REQUIRED PERMITS HAVE BEEN OBTAINED AND COORDINATING ALL REQUIRED INSPECTIONS WITH THE GOVERNING AUTHORITIES.
 - WHERE POSSIBLE, ALL PROPOSED UTILITIES SHALL BE ROUTED THROUGH PERVIOUS AREAS - SPECIFICALLY AVOIDING ON-SITE PAVED AREAS DESIGNATED FOR PARKING, ACCESS AND VEHICULAR TRAFFIC FLOW.
 - REFER TO COMPREHENSIVE TRENCHING DETAIL SHEETS (C530s) FOR TRENCHING, BACKFILL, AND PLACEMENT DETAILS FOR ITEMS NOT DETAILED BY GOVERNING AGENCIES.
 - THE CONTRACTOR IS TO ENSURE PROPER CLEARANCE BETWEEN PROPOSED UTILITY SERVICES AND EXISTING UTILITIES DURING THE CONSTRUCTION OF THESE IMPROVEMENTS. PRIOR TO THE CONSTRUCTION OF, OR CONNECTION TO ANY STORM DRAIN, SANITARY SEWER, OR ANY OTHER ELEVATION SENSITIVE UTILITY, THE CONTRACTOR SHALL EXCAVATE, VERIFY AND CALCULATE ALL POINTS OF CONNECTIONS AND ALL UTILITY CROSSINGS. THE CONTRACTOR SHALL INFORM THE ENGINEER AND THE OWNER OF ANY CONFLICT OR REQUIRED DEVIATIONS FROM THE PLAN. THE ENGINEER AND OWNER WILL BE HELD HARMLESS IN THE EVENT THE ENGINEER AND OWNER ARE NOT NOTIFIED OF A DESIGN CONFLICT.
 - THE CONTRACTOR SHALL COORDINATE ANY UTILITY SERVICE DISRUPTIONS, IF ANY, WITH ADJACENT PROPERTY OWNERS.
 - THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING THAT ALL UTILITY BUILDING ENTRANCE LOCATIONS SHOWN MATCH THE ARCHITECTURAL PLANS. THE ENGINEER IS TO BE NOTIFIED IMMEDIATELY IF DISCREPANCIES EXIST.
 - CONTRACTOR TO COORDINATE ELECTRICAL SERVICE (AND TEMPORARY POWER) WITH EVERY. CONTRACTOR TO INSTALL TRANSFORMER & SECTIONALIZER(S) (IF REQUIRED) FOUNDATIONS, AND PRIMARY/SECONDARY ELECTRICAL CONDUIT IN ACCORDANCE WITH EVERY SPECIFICATIONS.
 - REFER TO ELECTRICAL & IRRIGATION PLANS FOR SITE LIGHTING, SIGNAGE, SECURITY CAMERA, AND IRRIGATION CONDUIT/WIRING REQUIREMENTS.
 - DOMESTIC AND IRRIGATION BACKFLOW PREVENTERS ARE TO BE LOCATED INSIDE THE BUILDING. REFER TO PLUMBING PLANS.
 - WATER SERVICE TAPS AND METER INSTALLATIONS ARE TO BE PERFORMED BY THE UTILITY CONTRACTOR (RE: DETAIL THIS SHEET). A QUALIFIED REPRESENTATIVE OF THE GOVERNING AUTHORITY IS TO BE PRESENT FOR INSPECTION. CONTRACTOR TO COORDINATE.
 - EXTERIOR 2" WATER SERVICE LINES SHALL BE K-COPPER FROM THE MAIN TO THE METER AND AT LEAST 10 FEET BEYOND THE METER. POLY PIPE MAY BE USED FROM THAT POINT TO THE BUILDING. POLY PIPE SHALL NOT HAVE JUNCTIONS BENEATH THE FLOOR SLAB OR UNDER PAVEMENT. JUNCTION BOXES SHALL BE INSTALLED AT ALL FITTING LOCATIONS IF REQUIRED. FITTINGS SHALL BE MINIMIZED BASED ON MAXIMUM AVAILABLE LENGTHS. GOVERNING AUTHORITY SPECIFICATIONS SHALL GOVERN ON EXTERIOR SERVICE LINES.
 - CONTRACTOR SHALL VERIFY THE TELEPHONE CONDUIT TERMINATION POINT WITH UTILITY COMPANY.
 - UTILITY CONTRACTOR SHALL TERMINATE LAWN IRRIGATION LINE AT GREEN SPACE TO MINIMIZE FITTINGS UNDER PAVEMENT. THE END OF THE LINE SHALL BE CLEARLY MARKED FOR IRRIGATION CONTRACTOR.
 - REFER TO C151 FOR SANITARY SEWER SERVICE GENERAL NOTES.
 - REFER TO C160 & ELECTRICAL FOR SITE LIGHTING DETAILS.



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

LEE'S SUMMIT
MISSOURI
PUBLIC WORKS ENGINEERING DIVISION 1205 S. GREEN STREET | LEE'S SUMMIT, MO 64069

DATE: 06/07/23
DRAWN BY: MGF
CHECKED BY: KLF

WAT-11
SERVICE CONNECTION WITH METER WELL

UTILITY LEGEND (NEW)

WTR	WATER LINE
SS	SANITARY SEWER LINE
UGT	UNDERGROUND ELECTRIC LINE
UGT	UNDERGROUND TELEPHONE LINE
ST	STORM PIPE (≤ 10")
ST	STORM PIPE (≥ 12")
	CONCRETE CURB AND GUTTER
	LIGHT POLE - 6' MIN. CLEAR FROM F/C (TRAVEL CENTER PARKING - 15' MIN. CLEAR)

QUICKTRIP
CONOR S. HOUHAN
NUMBER
PE-2321004771
4/25/25

PROJECT NO.: 02-0183

MDG
Midwest Design Group
Kansas City
PO Box 860015
Shawnee, KS 66286-0015
P 913.248.9385

QuikTrip No. 0183R
1001 SW BLUE PARKWAY
LEE'S SUMMIT, JACKSON CO., MO 64063

QT

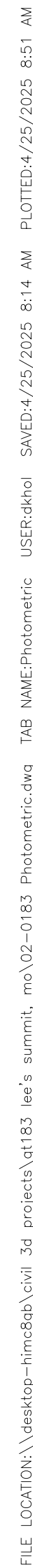
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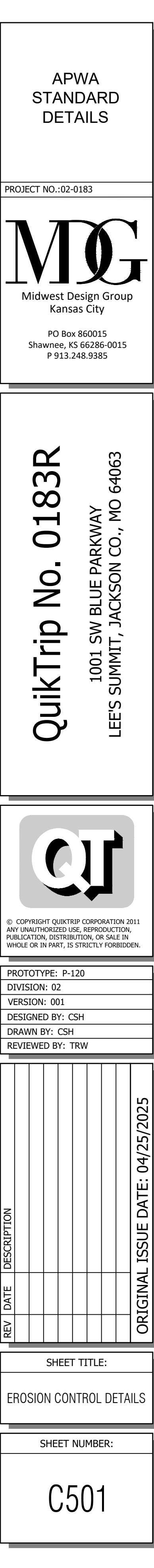
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DIVISION: 02
VERSION: 001
DESIGNED BY: CSH
DRAWN BY: CSH
REVIEWED BY: TRW

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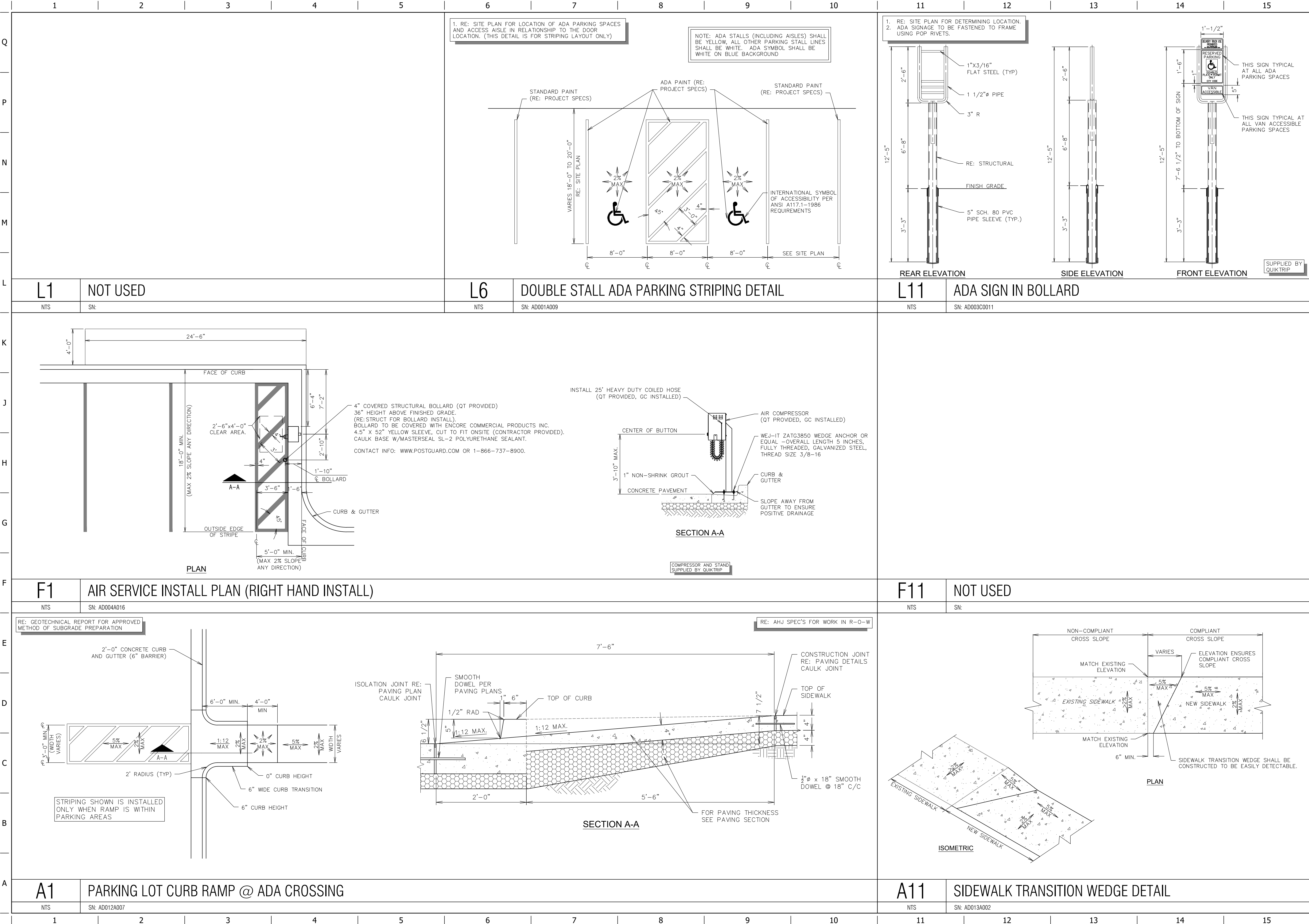
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OVERALL UTILITY PLAN

SHEET NUMBER:
C150





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PROJECT NO.:02-0183


Midwest Design Group
Kansas City
PO Box 860015
Shawnee, KS 66286-0015
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VERSION: 001
DESIGNED BY: CSH
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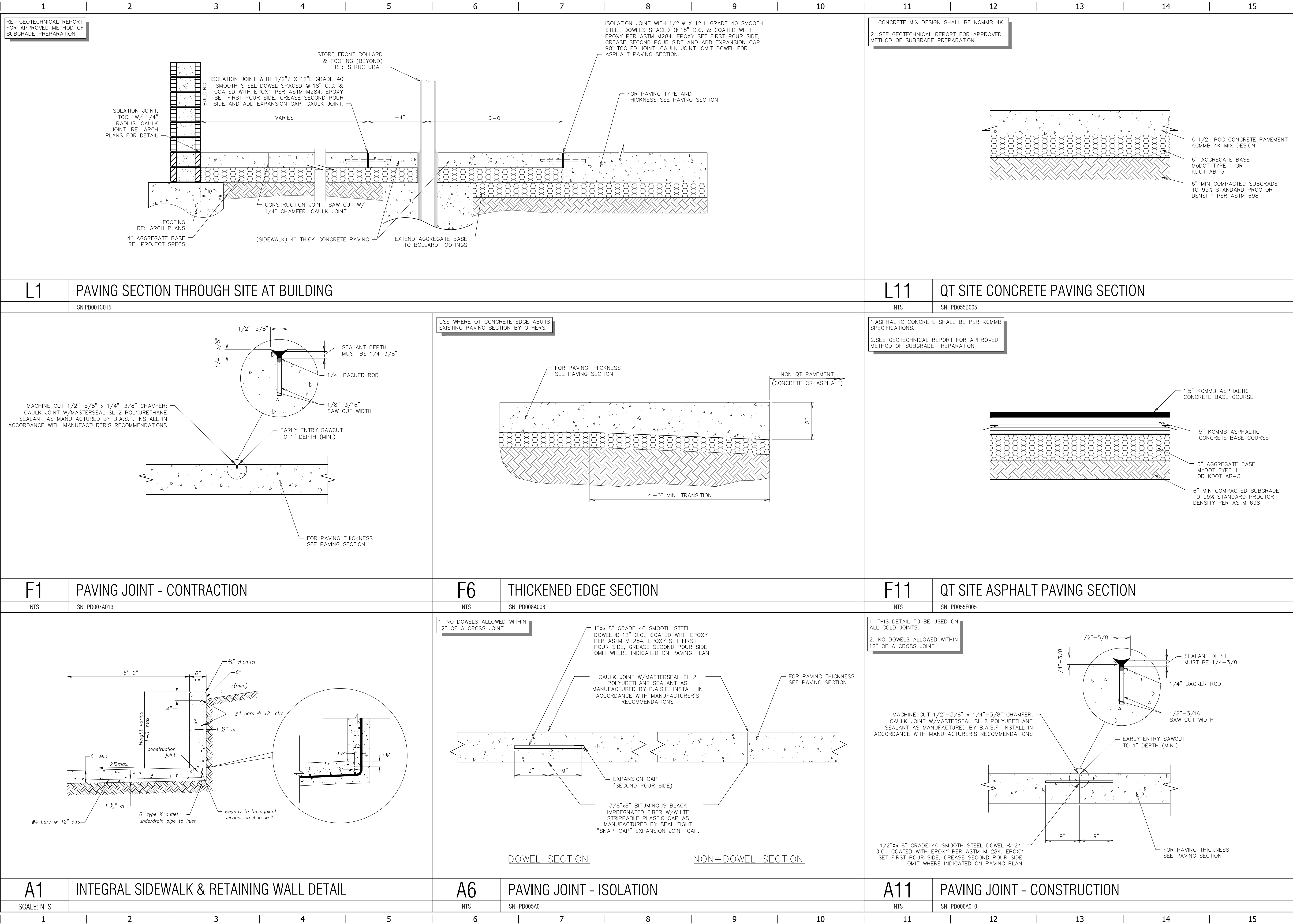
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SHEET NUMBER:

C510

ORIGINAL ISSUE DATE: 04/25/2025

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PROJECT NO.: 02-0183

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DIVISION: 02
VERSION: 001
DESIGNED BY: CSH
DRAWN BY: CSH
REVIEWED BY: TRW

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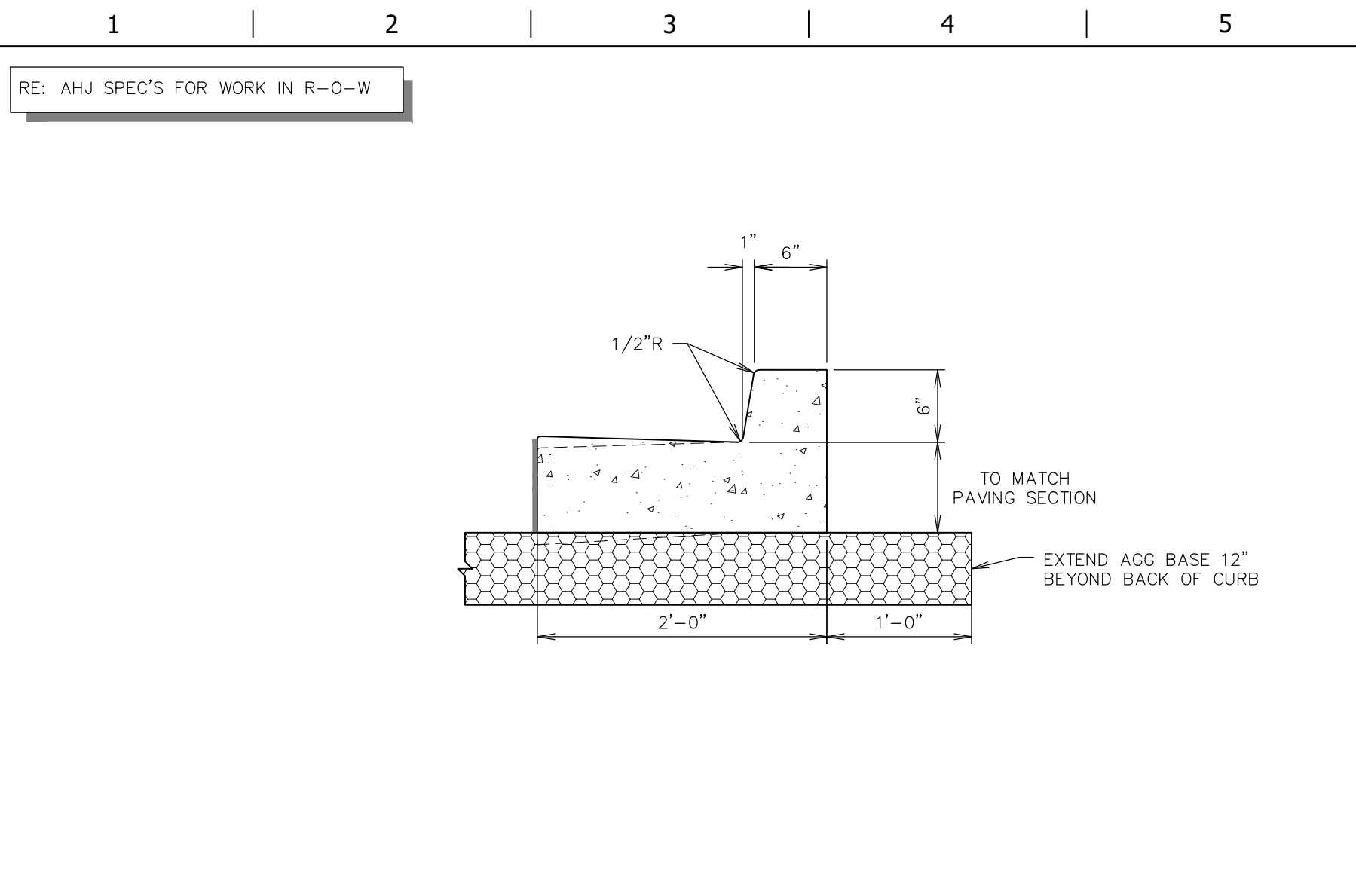
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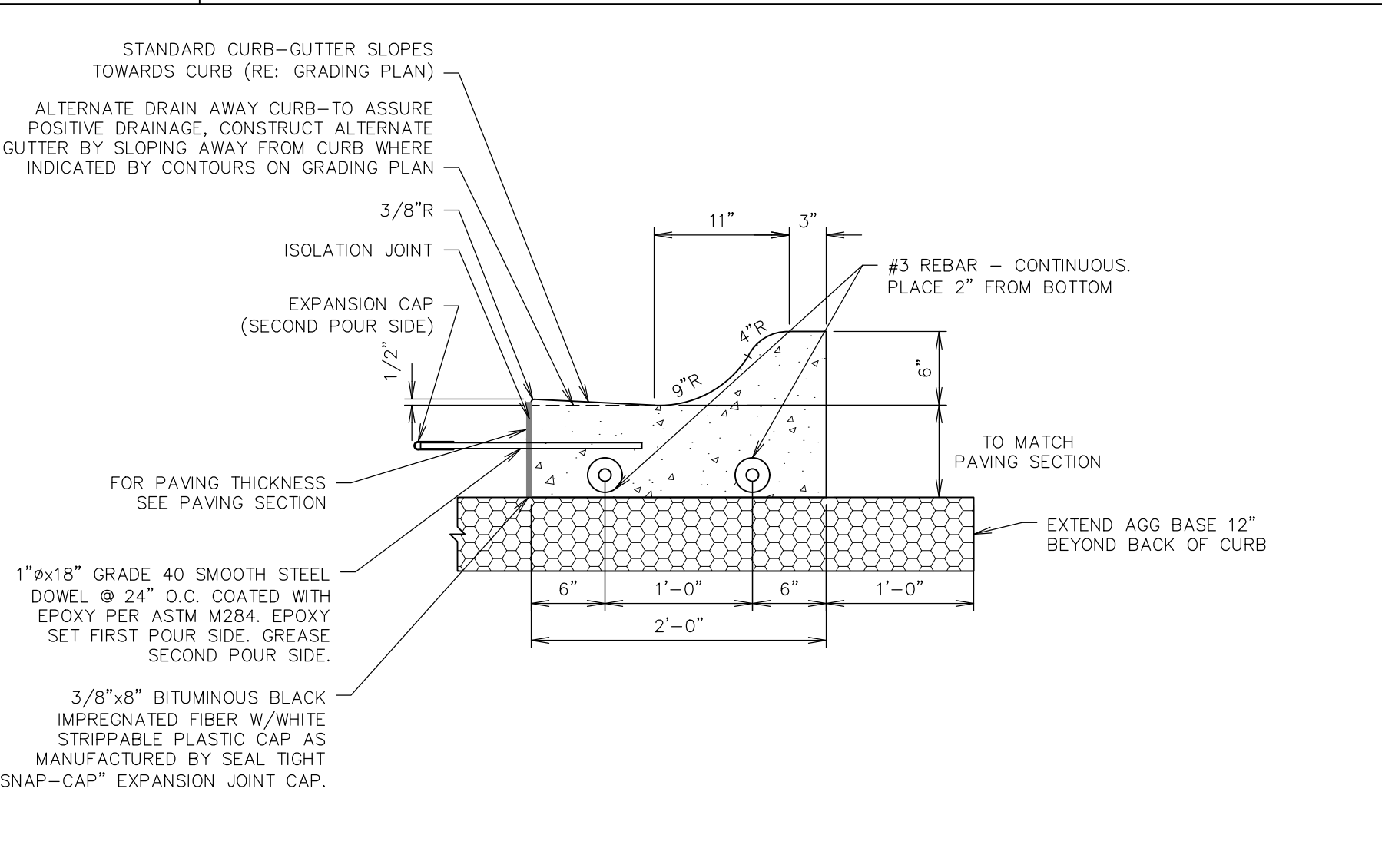
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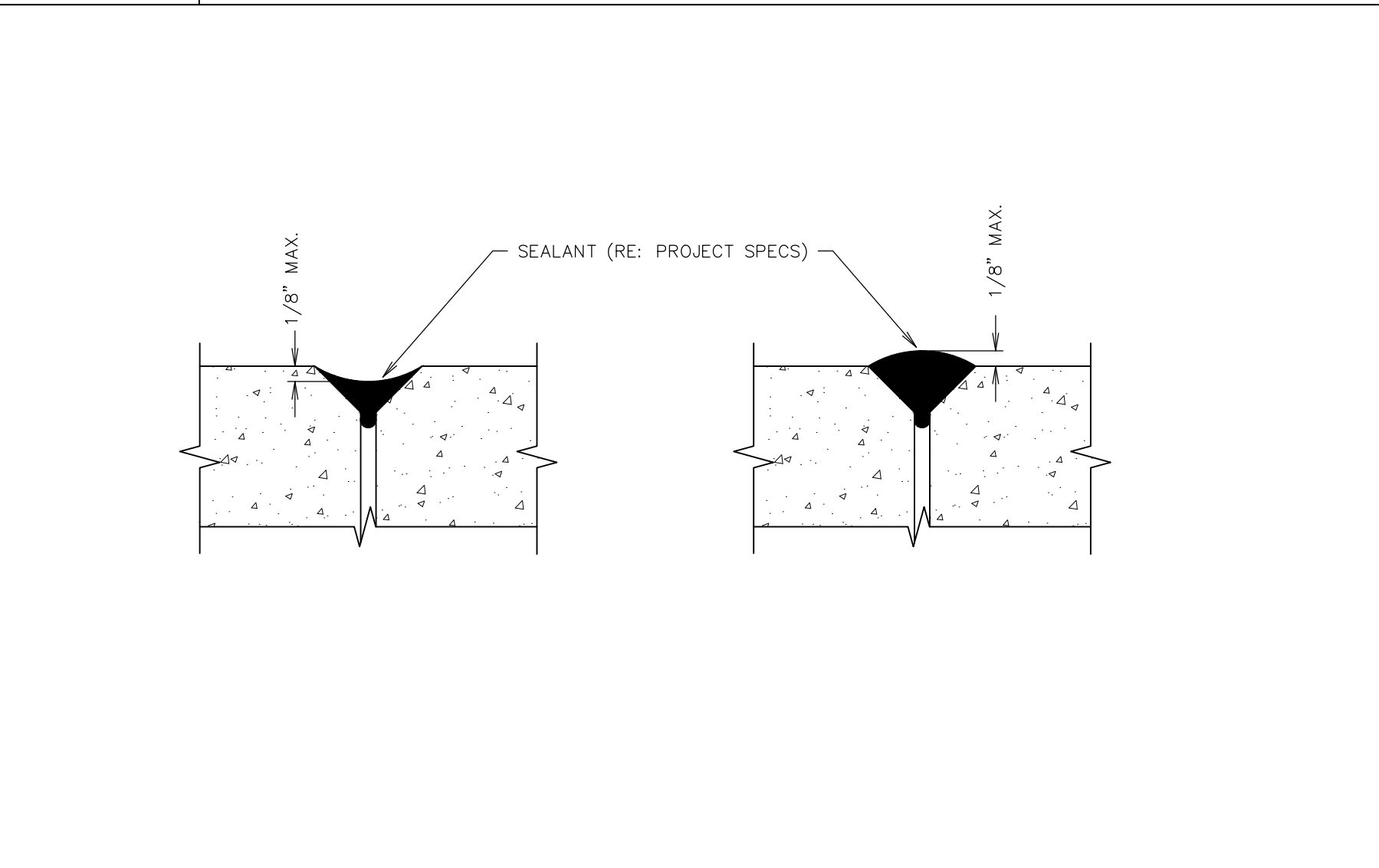
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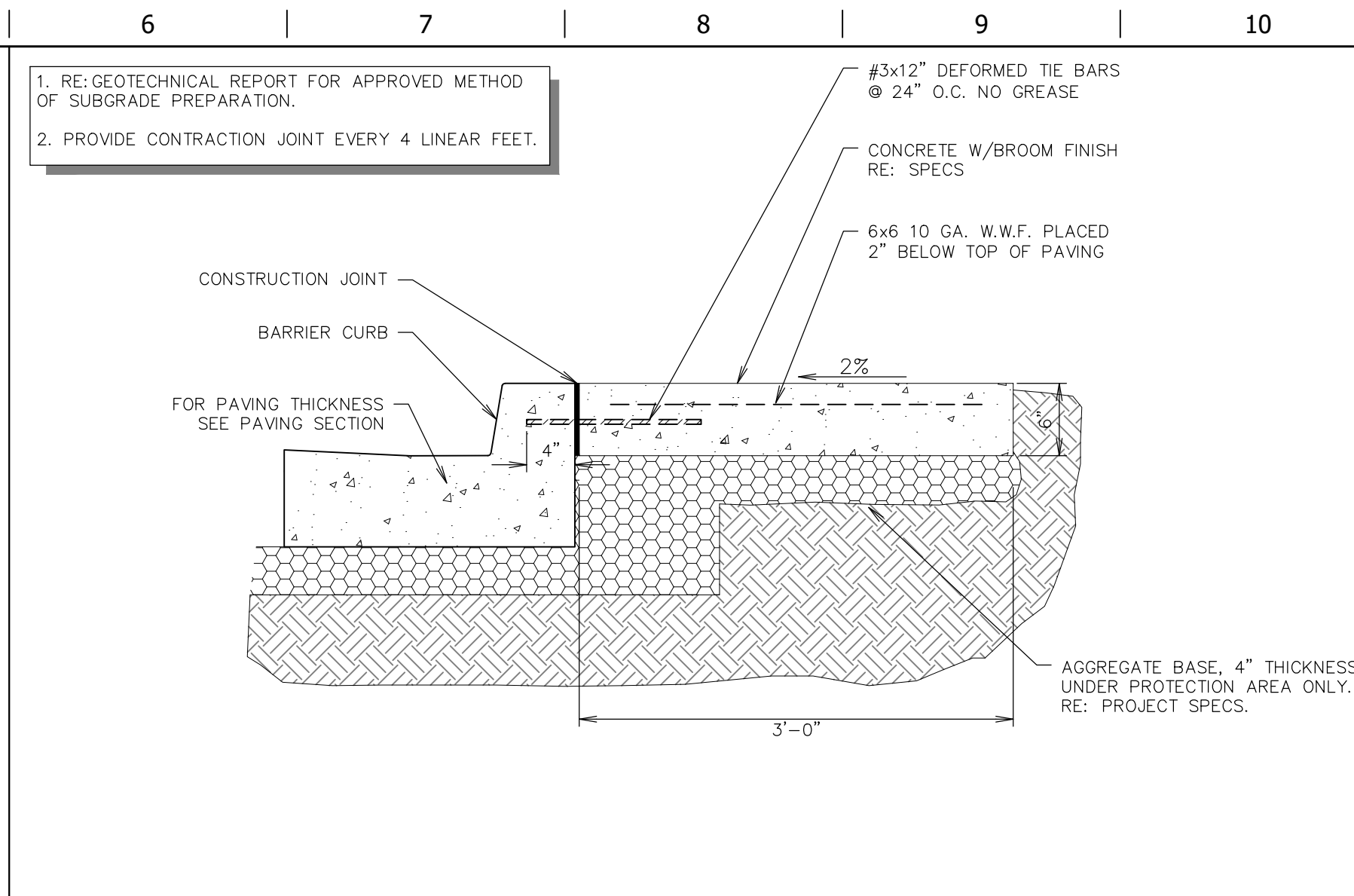
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NTS	SN: PD009A016



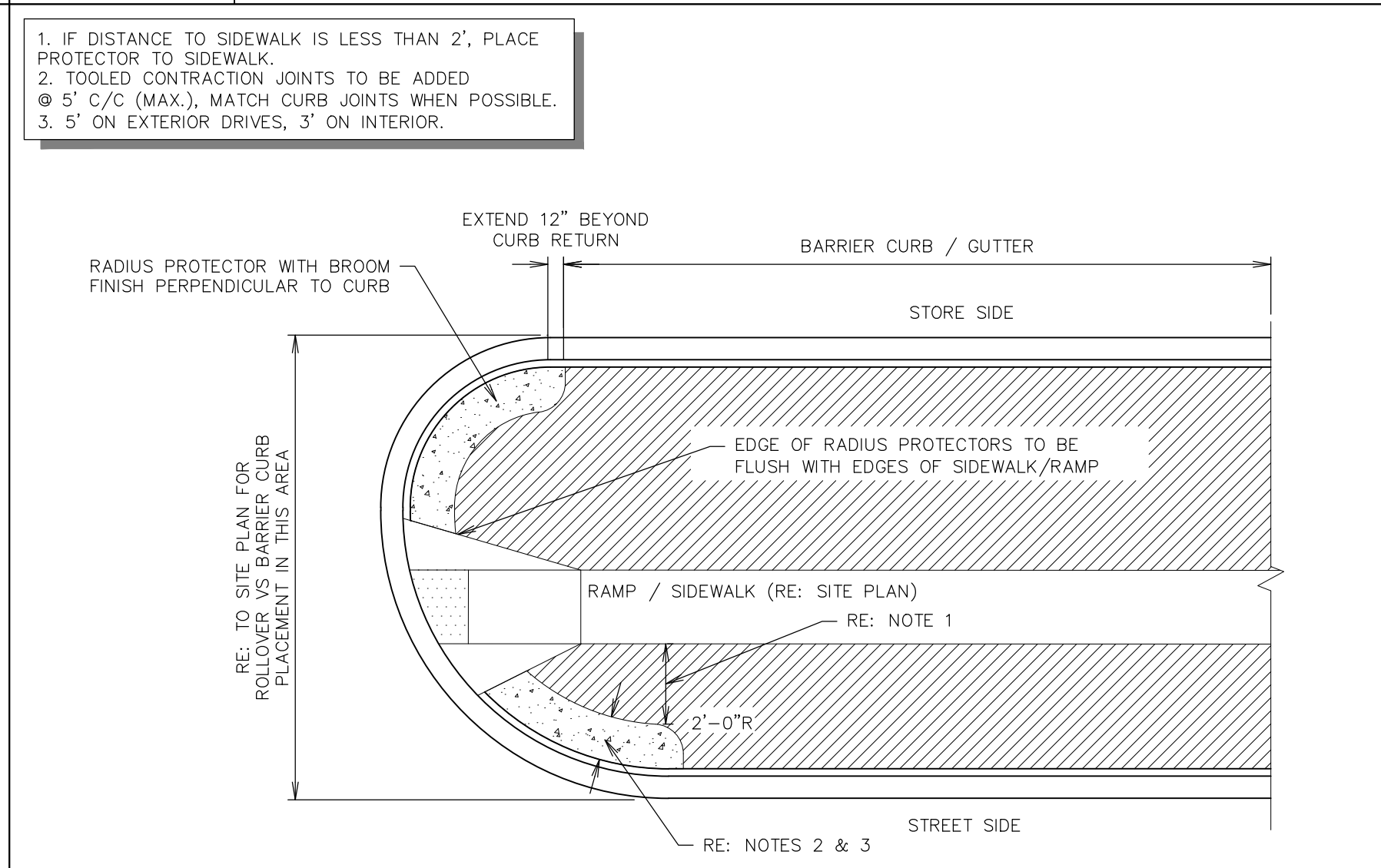
F1	CURB DETAIL - ROLLOVER / MOUNTABLE
NTS	SN: PD010A014



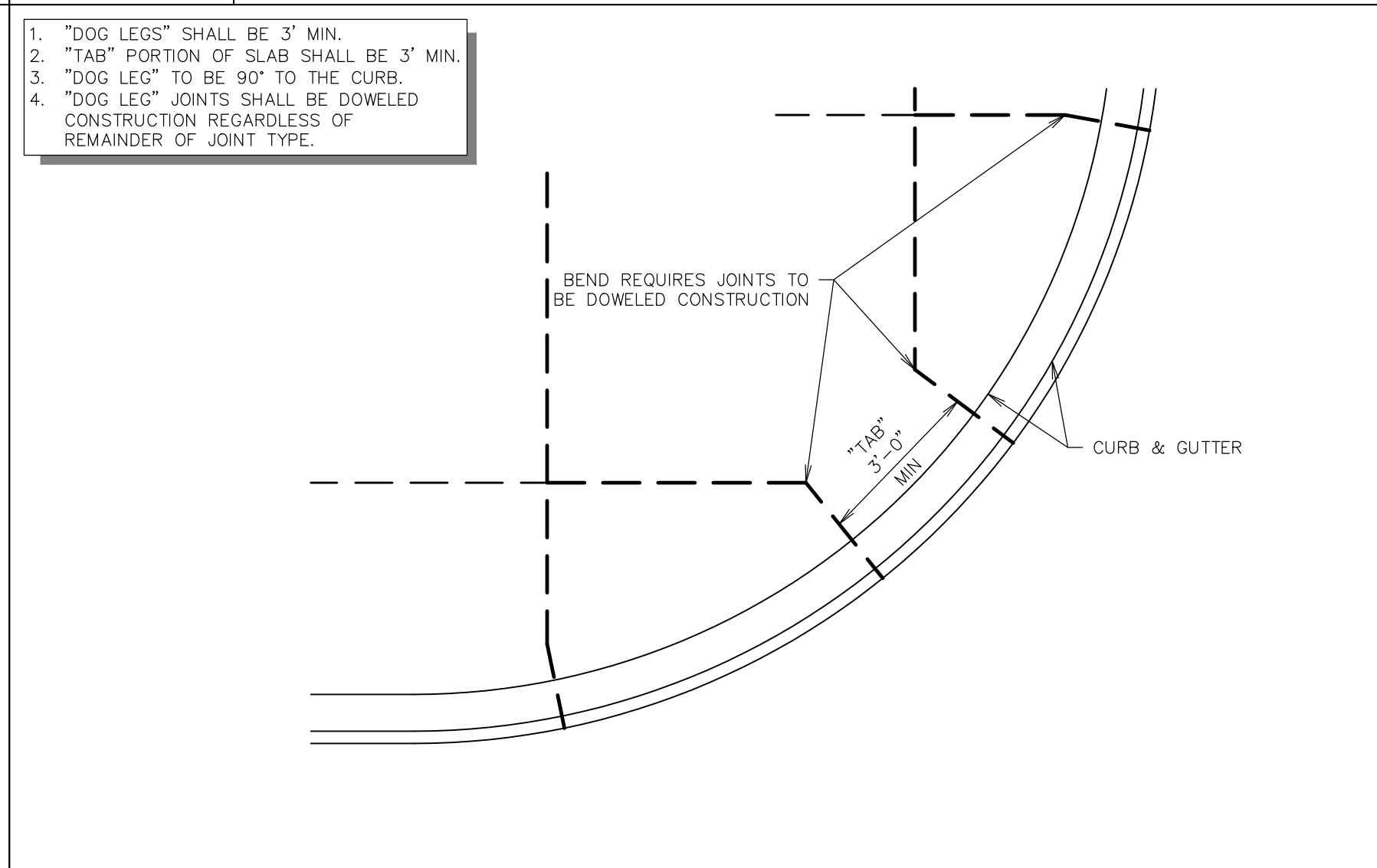
A1	PAVING JOINT - SEALANT TOLERANCE DETAIL
NTS	SN: PD042A003



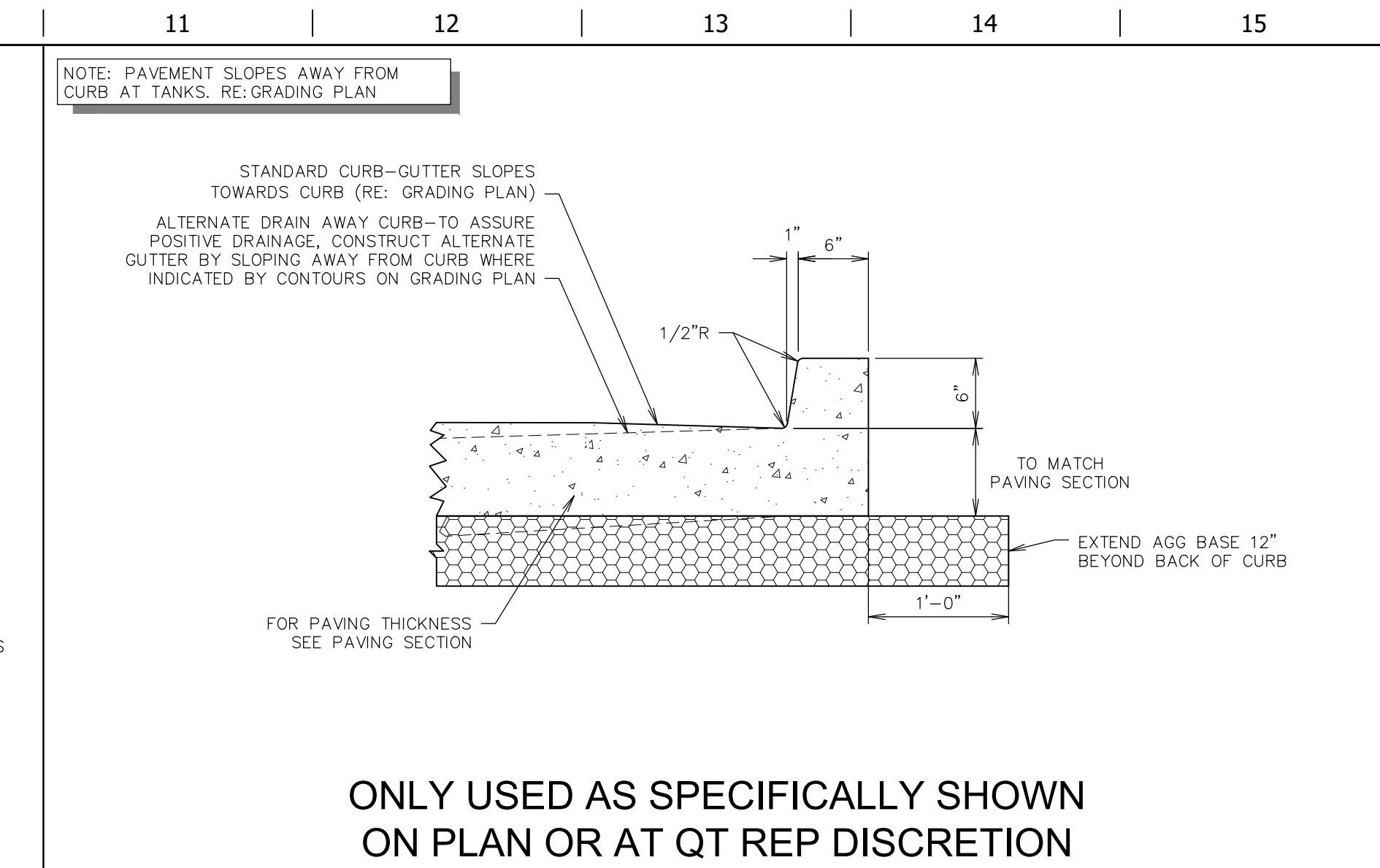
L6	RUT PROTECTOR SECTION
NTS	SN: PD060A005



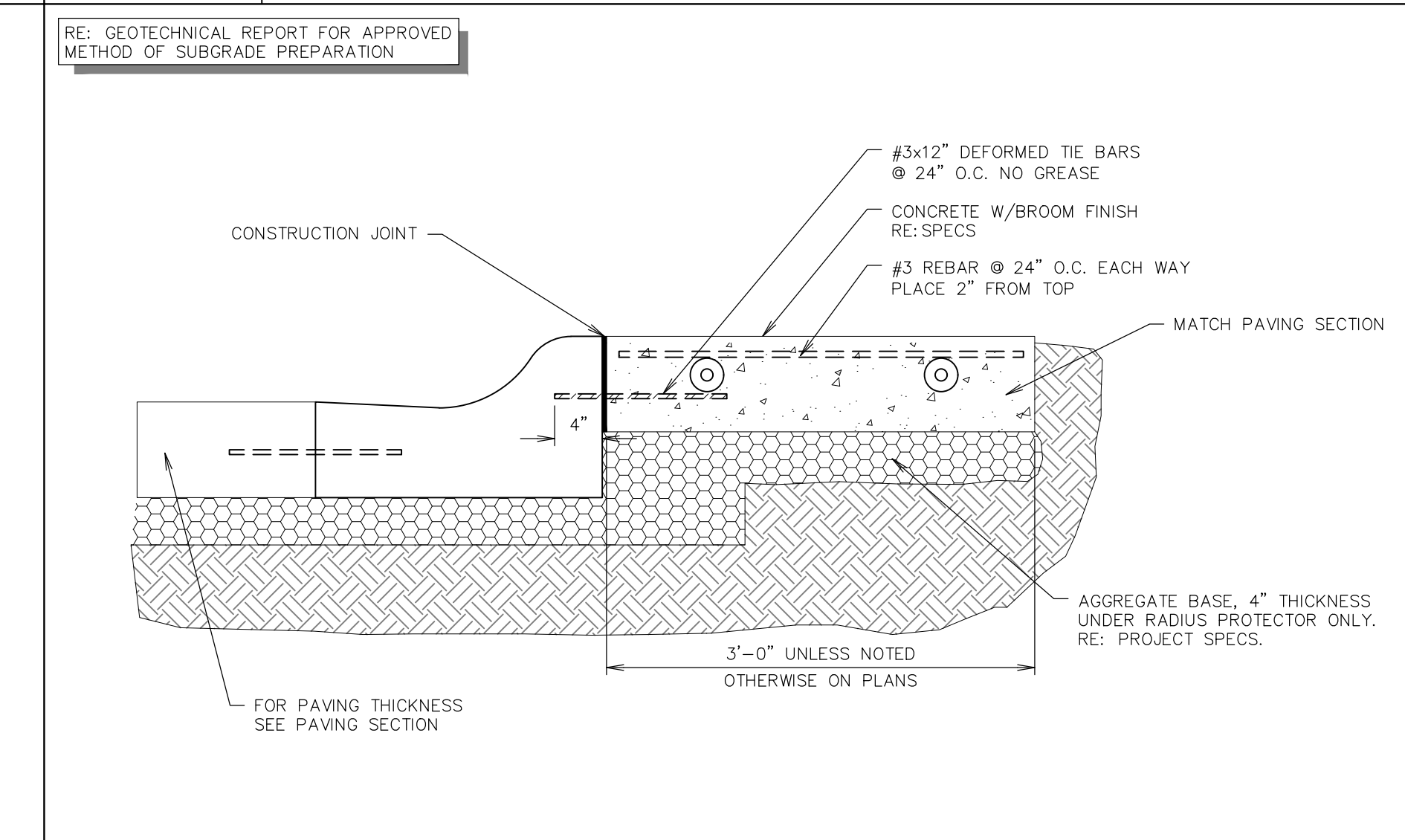
F6	RADIUS PROTECTOR PLAN
NTS	SN: PD016A006



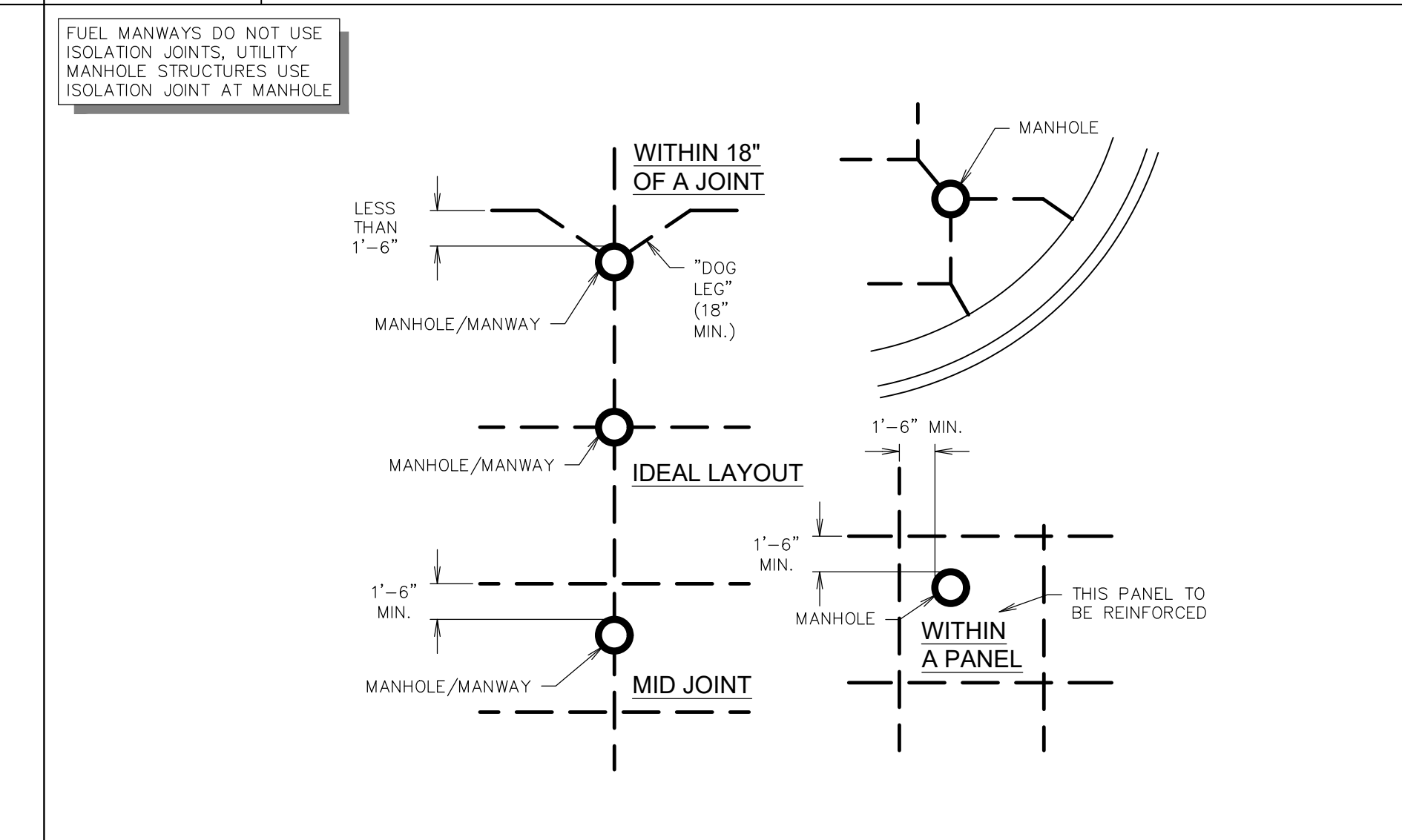
A6	TYPICAL JOINT LAYOUT - AT RADIUS AND ANGLES
NTS	SN: PD019A007



L11	MONOLITHIC CURB DETAIL - BARRIER
NTS	SN: PD009B016



F11	STANDARD RADIUS PROTECTOR SECTION
NTS	SN: PD017A013



A11	TYPICAL MANHOLE / FUEL MANWAY JOINT LAYOUTS
NTS	SN: PD021A003

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DIVISION: 02

VERSION: 001

DESIGNED BY:

DRAWN BY: CSH

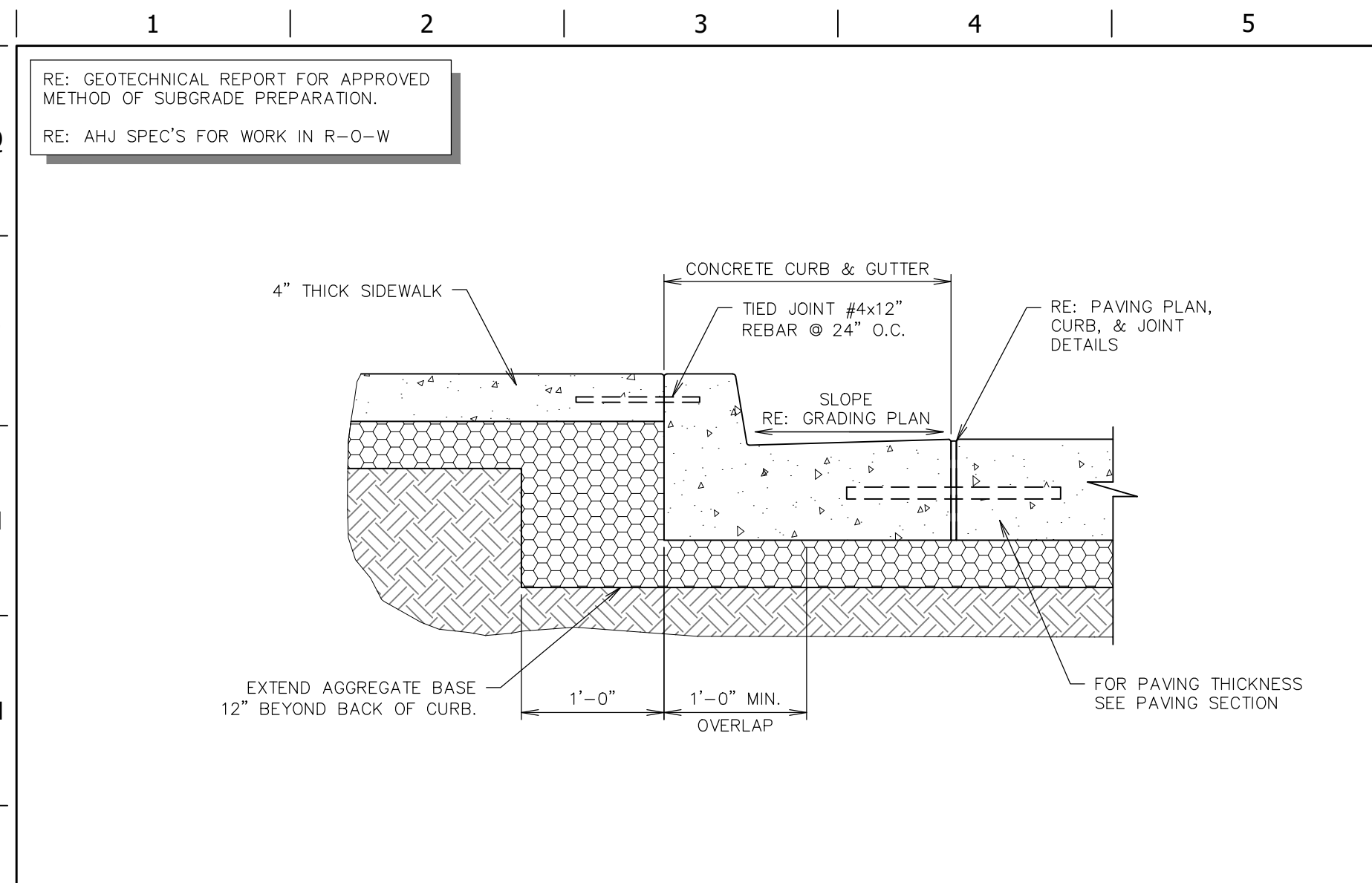
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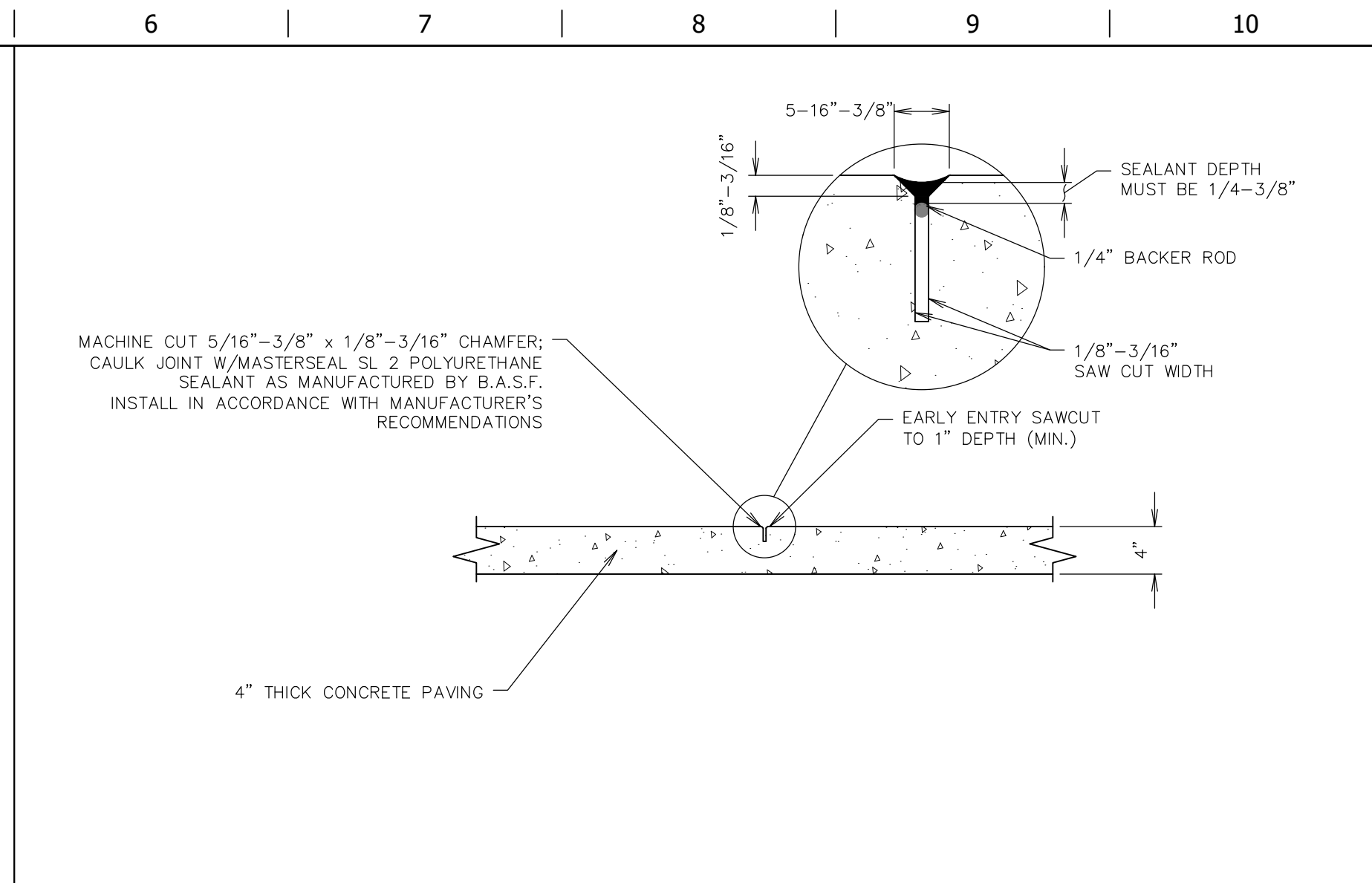
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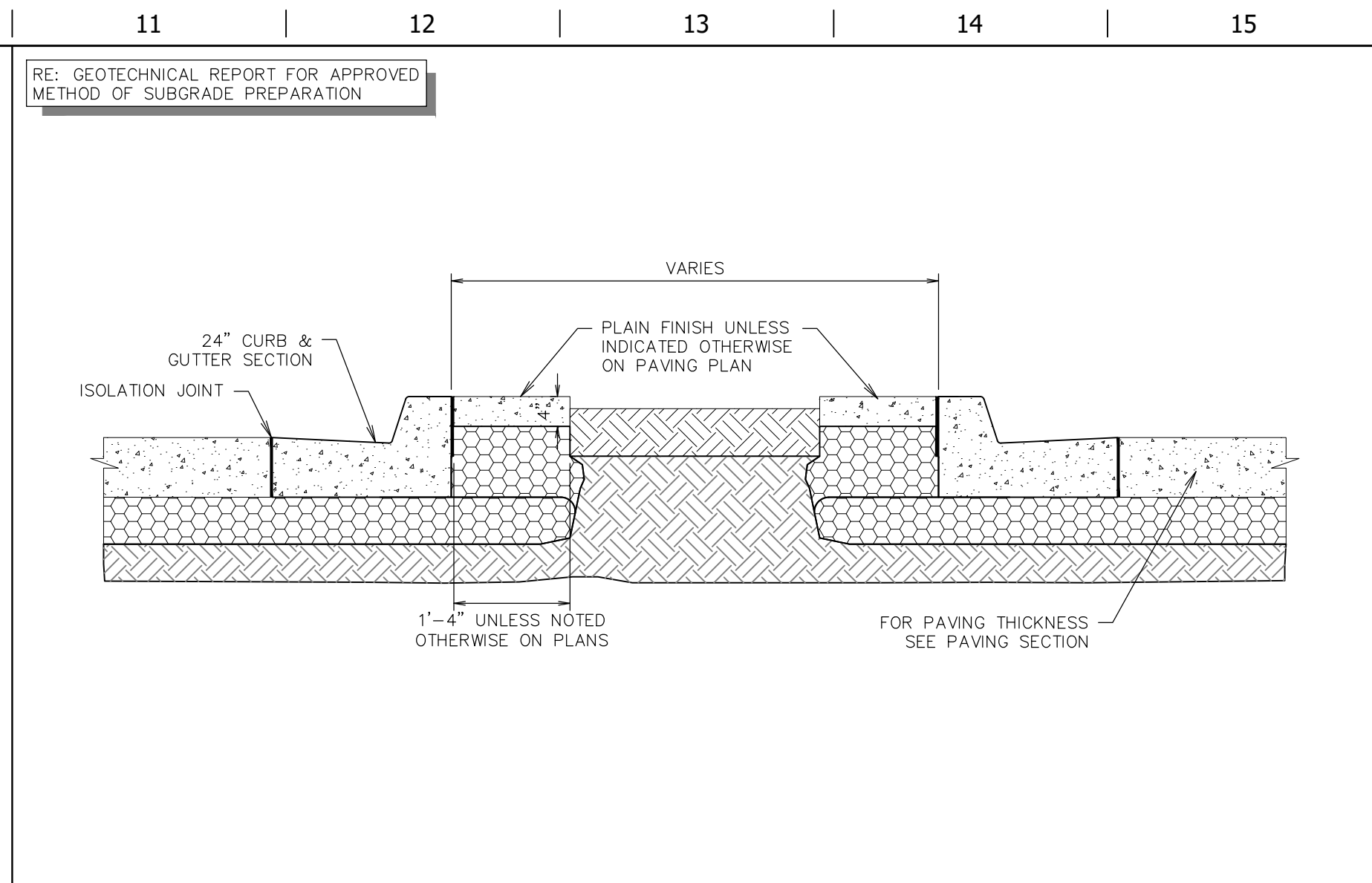
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L1	SIDEWALK SECTION ABUTTING CURB & GUTTER
NTS	SN: PD002E010

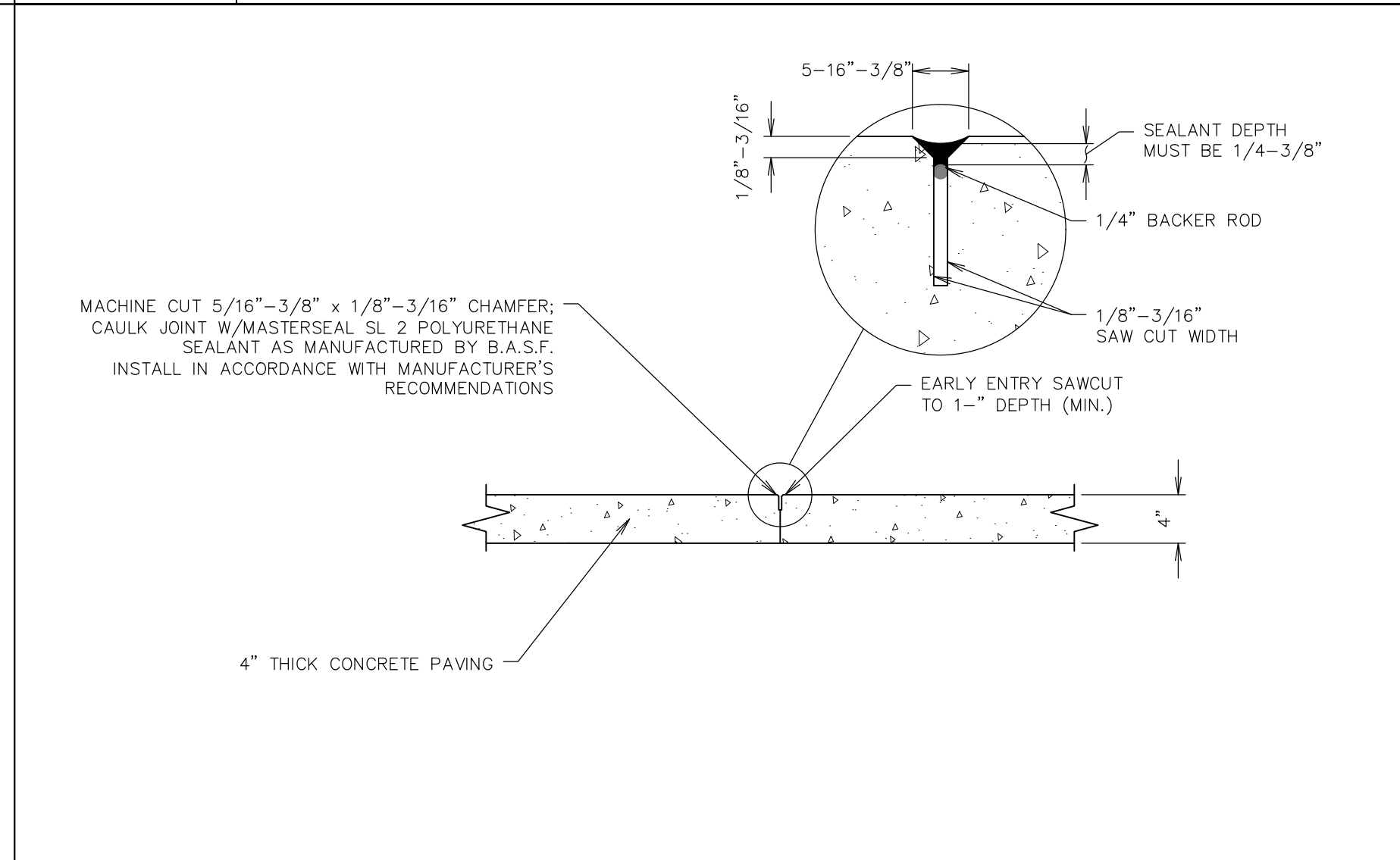


L6	BUILDING SIDEWALK JOINT - CONTRACTION
NTS	SN: PD061A004

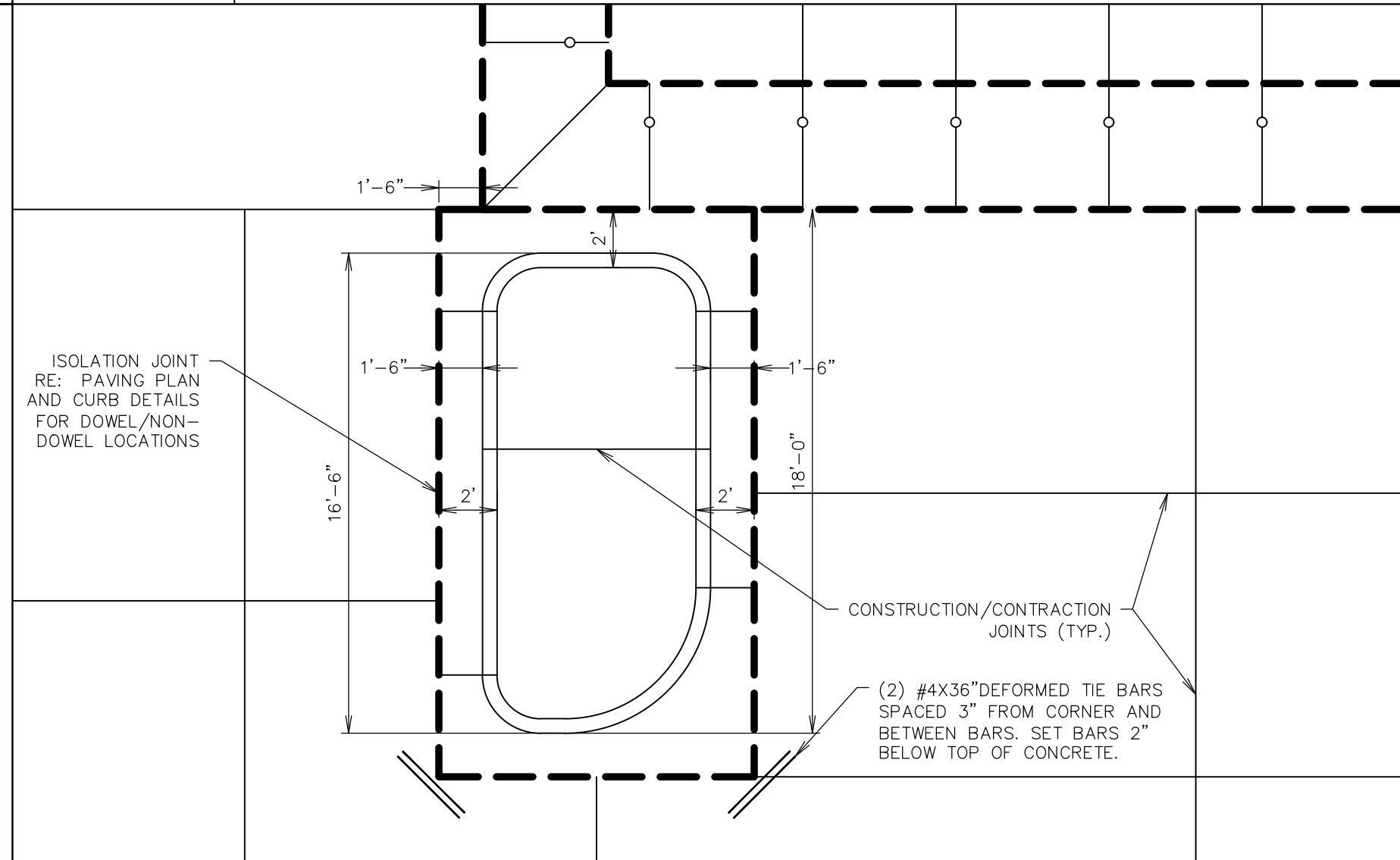


L11	ISLAND SECTION A-A-LANDSCAPED ISLAND
NTS	SN: PD024B009

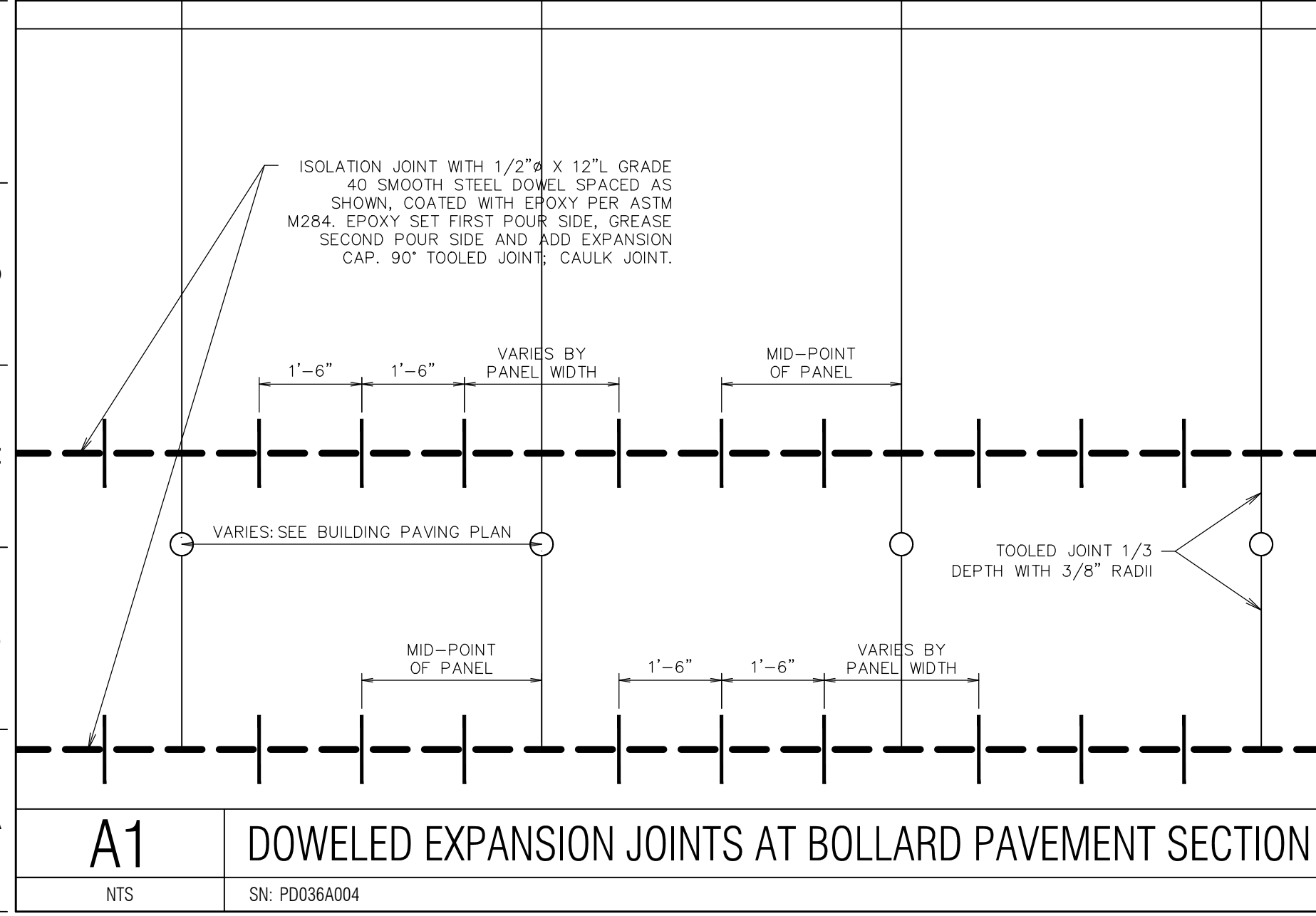
F1	NOT USED
NTS	SN:



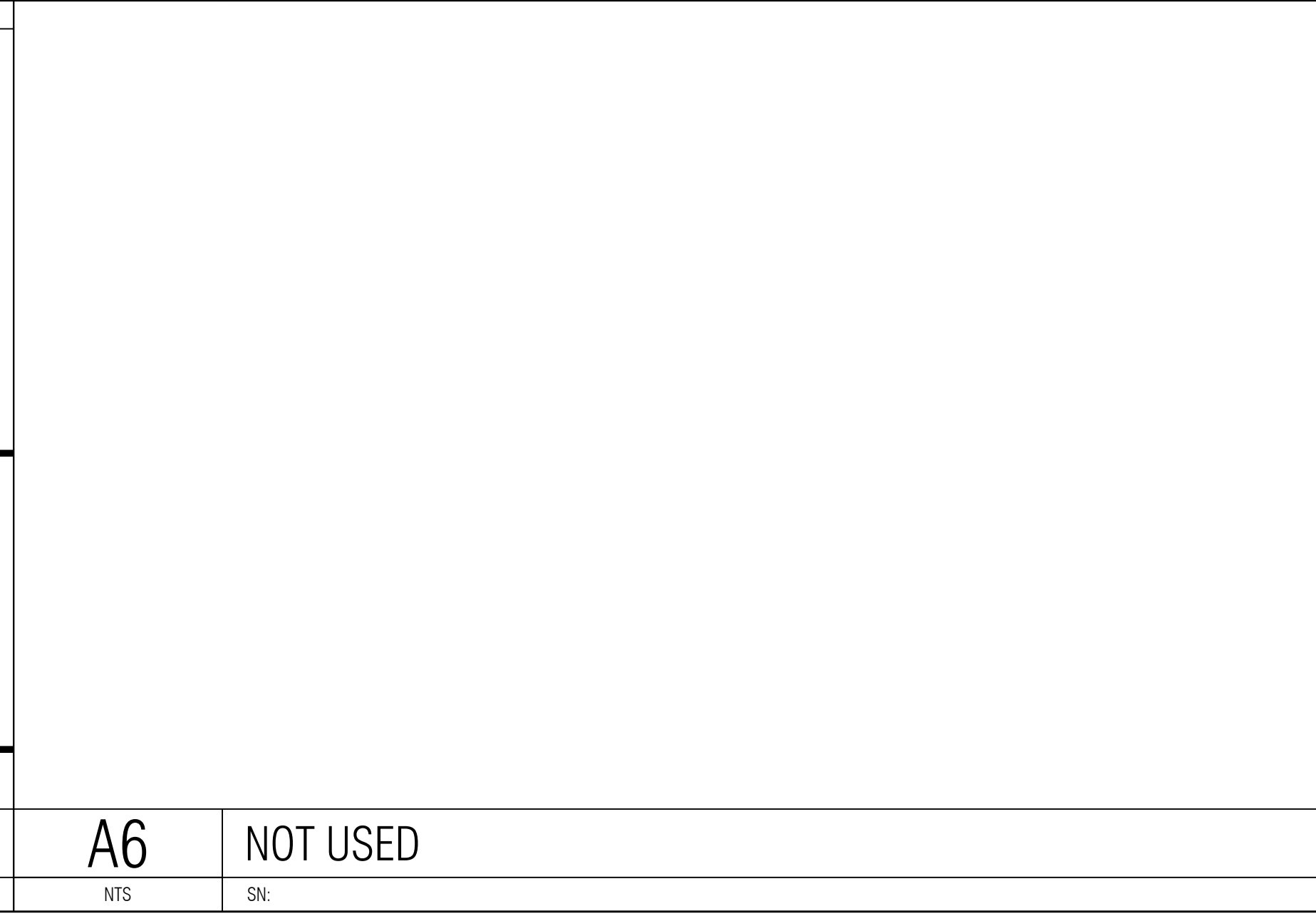
F6	BUILDING SIDEWALK JOINT - CONSTRUCTION
NTS	SN: PD061B004



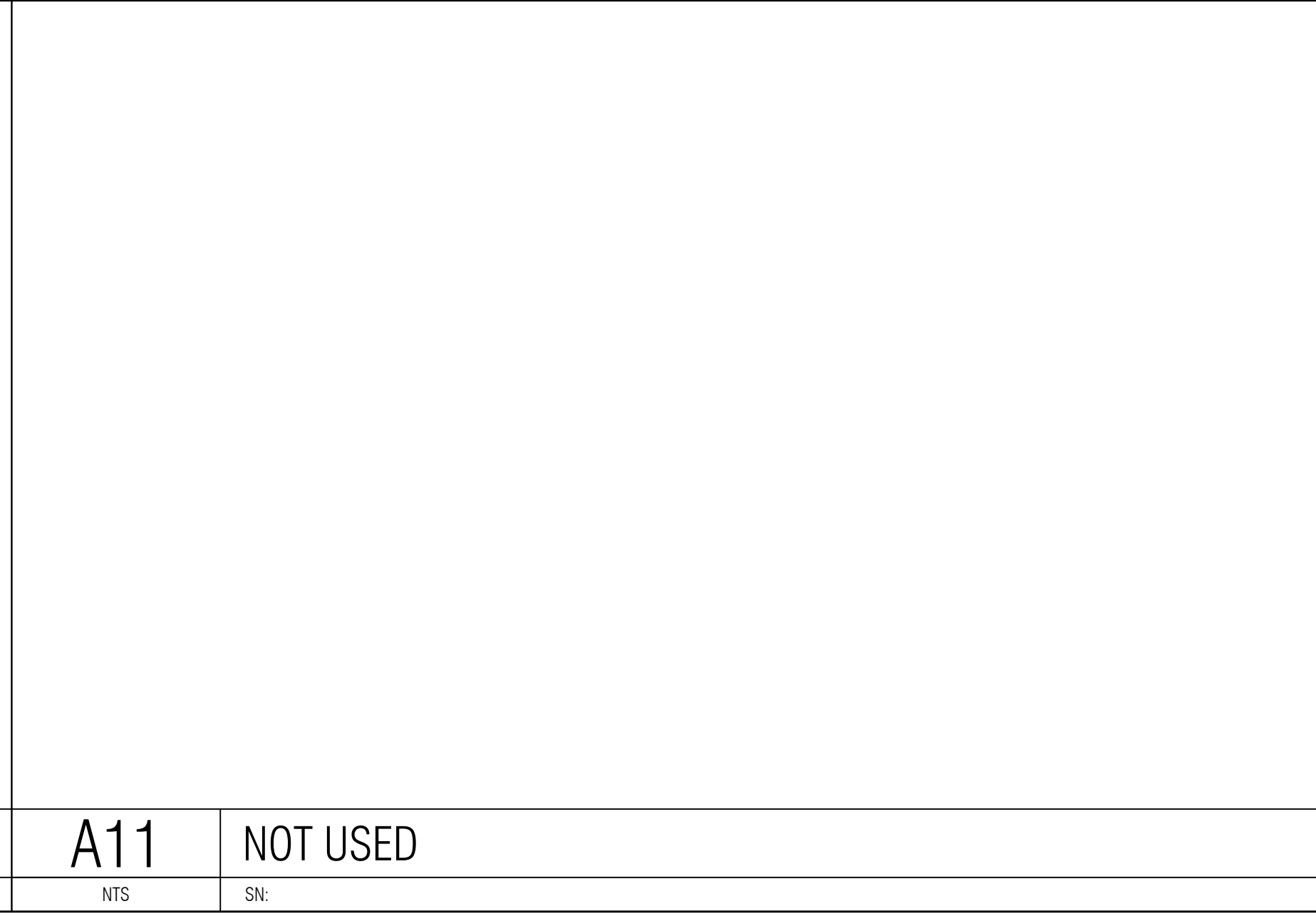
F11	TYPE A ISLAND JOINT DETAIL
NTS	SN: PD035A014



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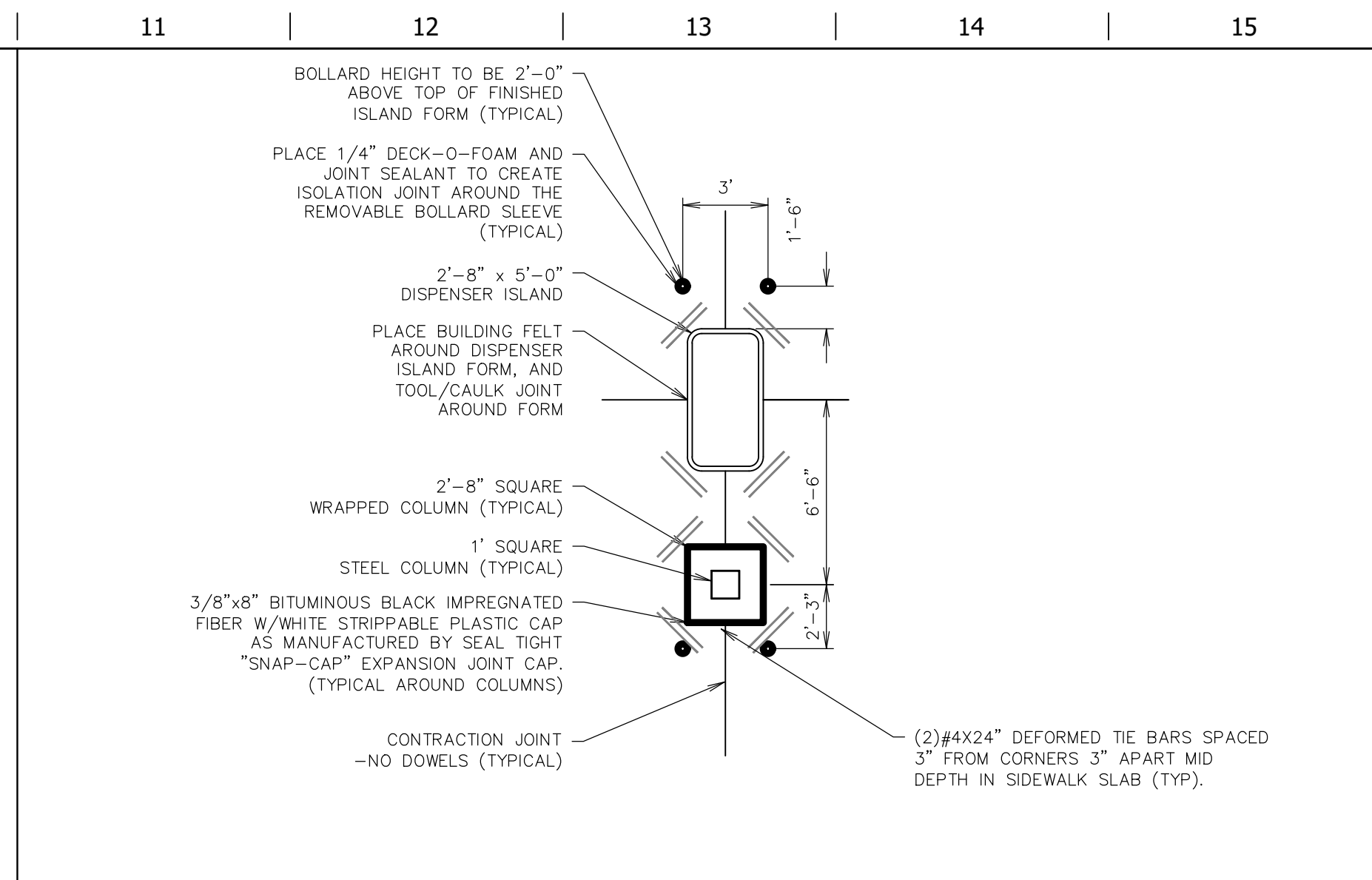
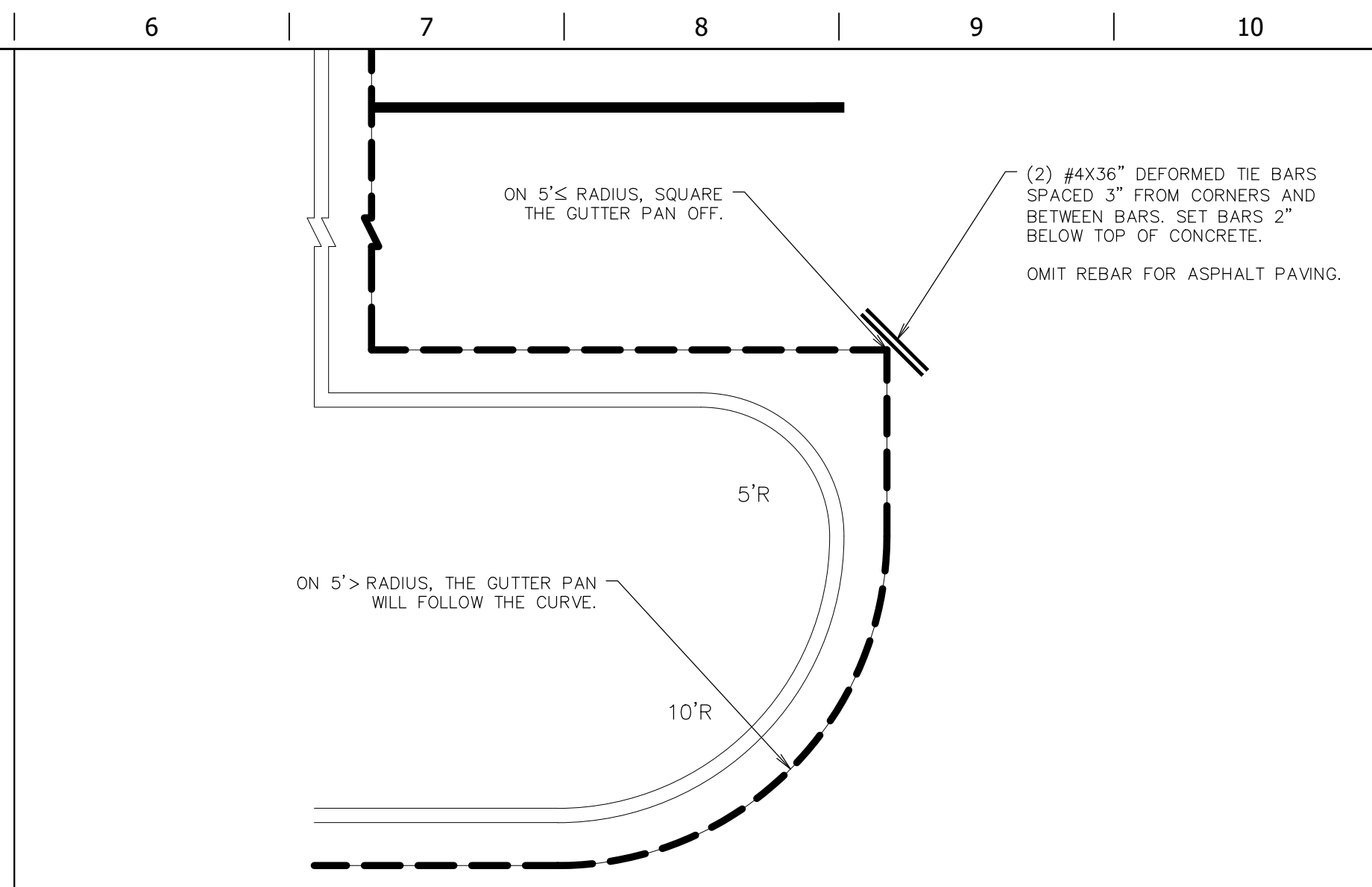
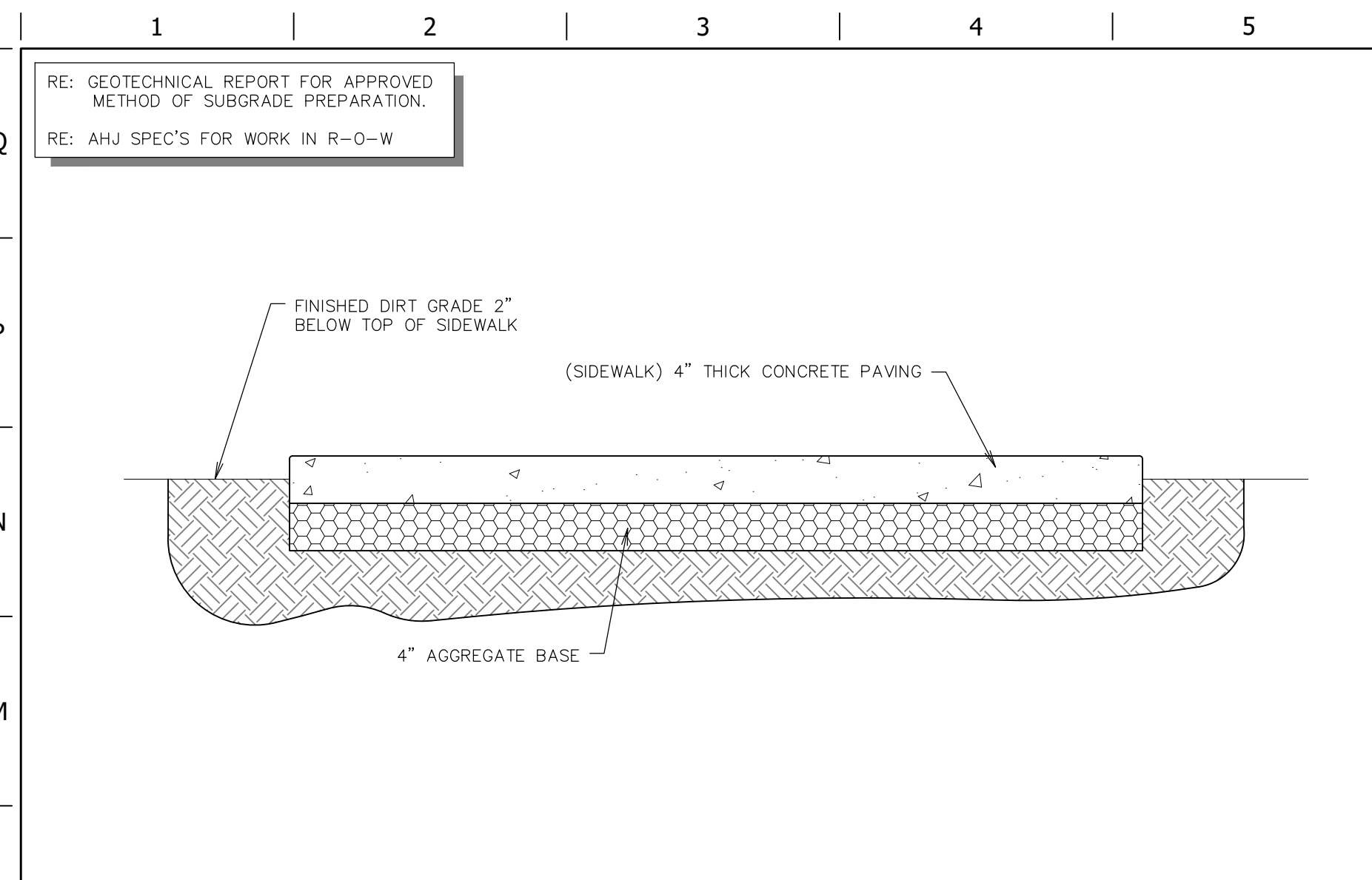


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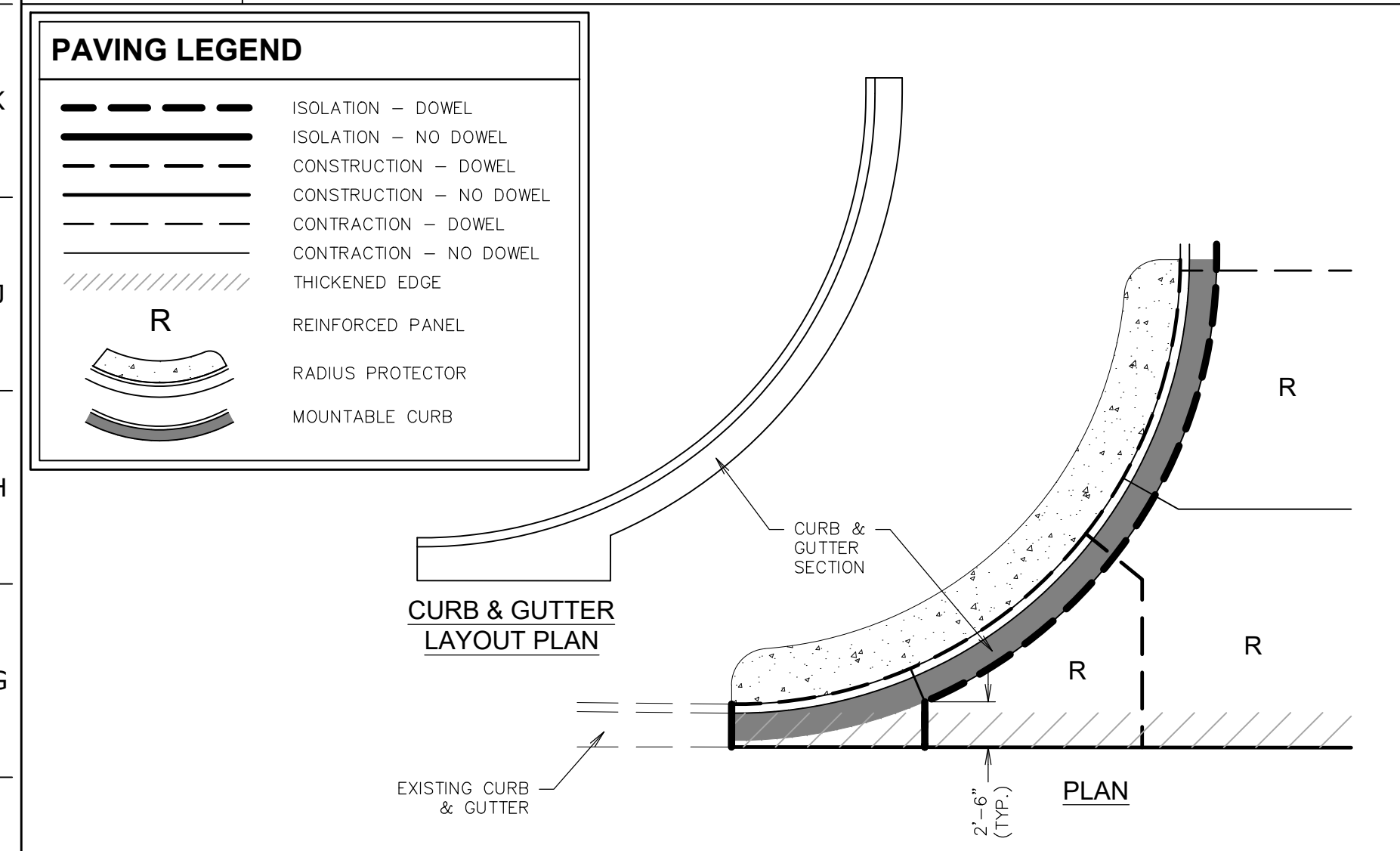


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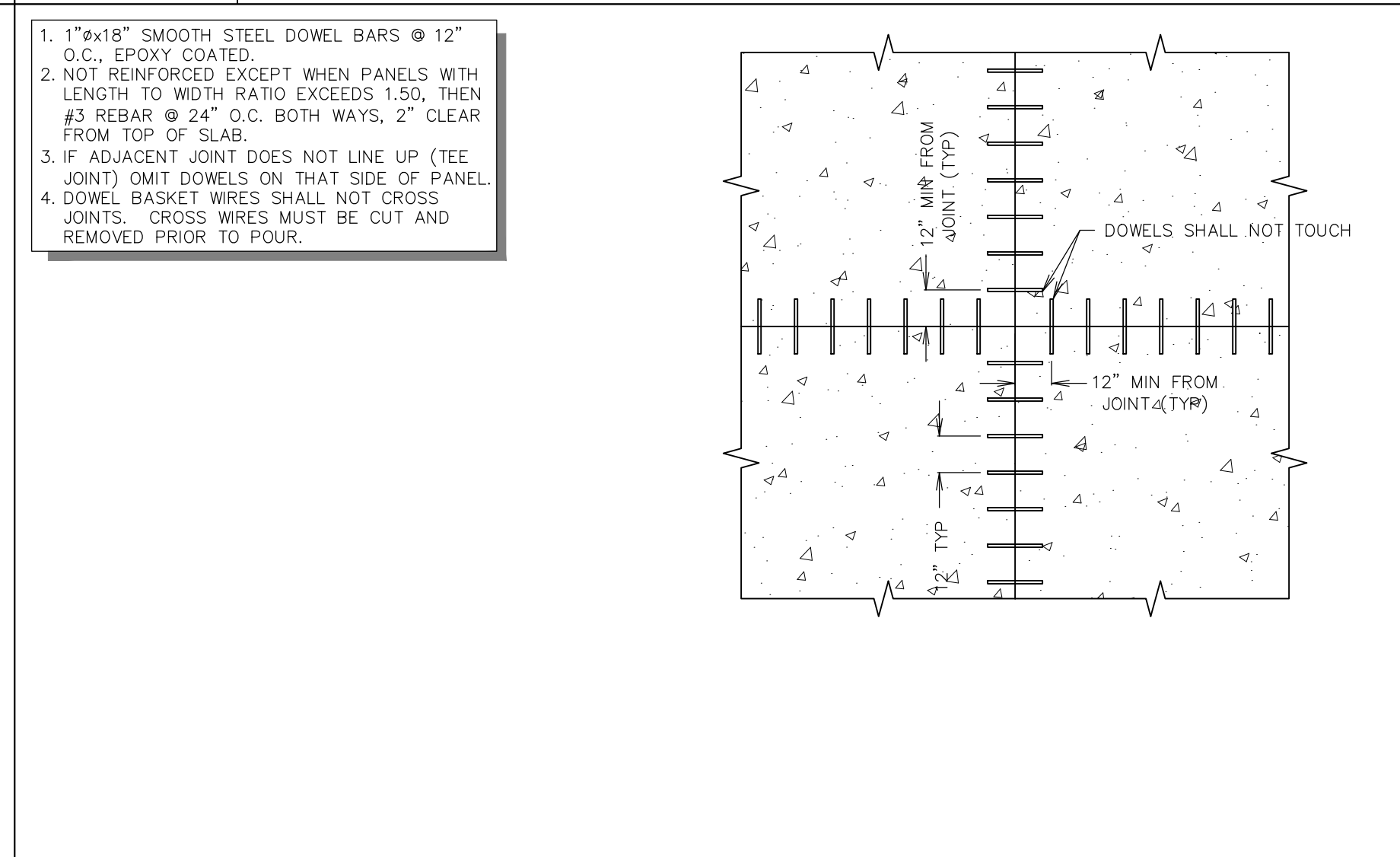
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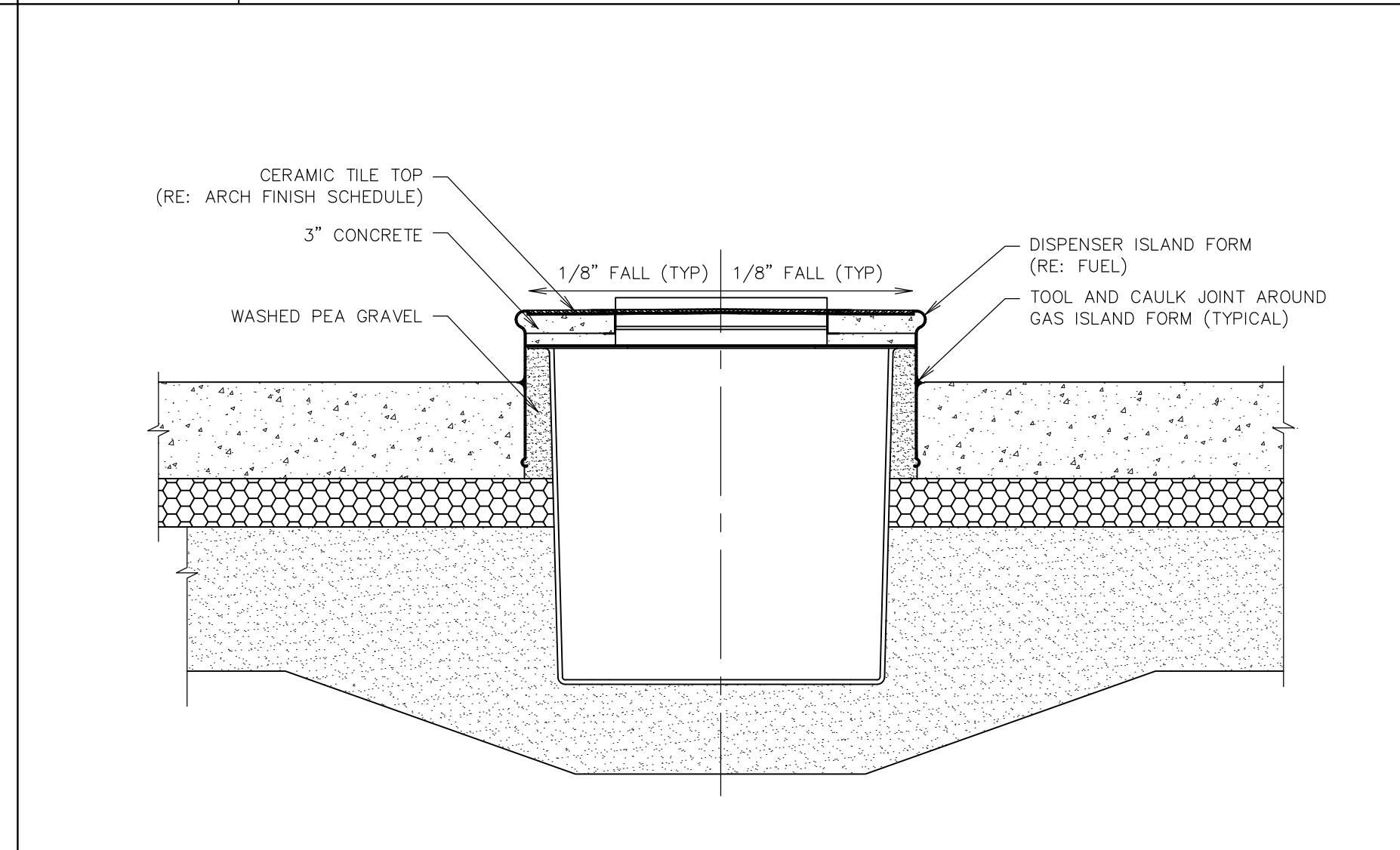
L1	SIDEWALK SECTION
NTS	SN: PD057A003



F1	CURB DETAIL - DRIVE ENTRANCE
NTS	SN: PD043A004

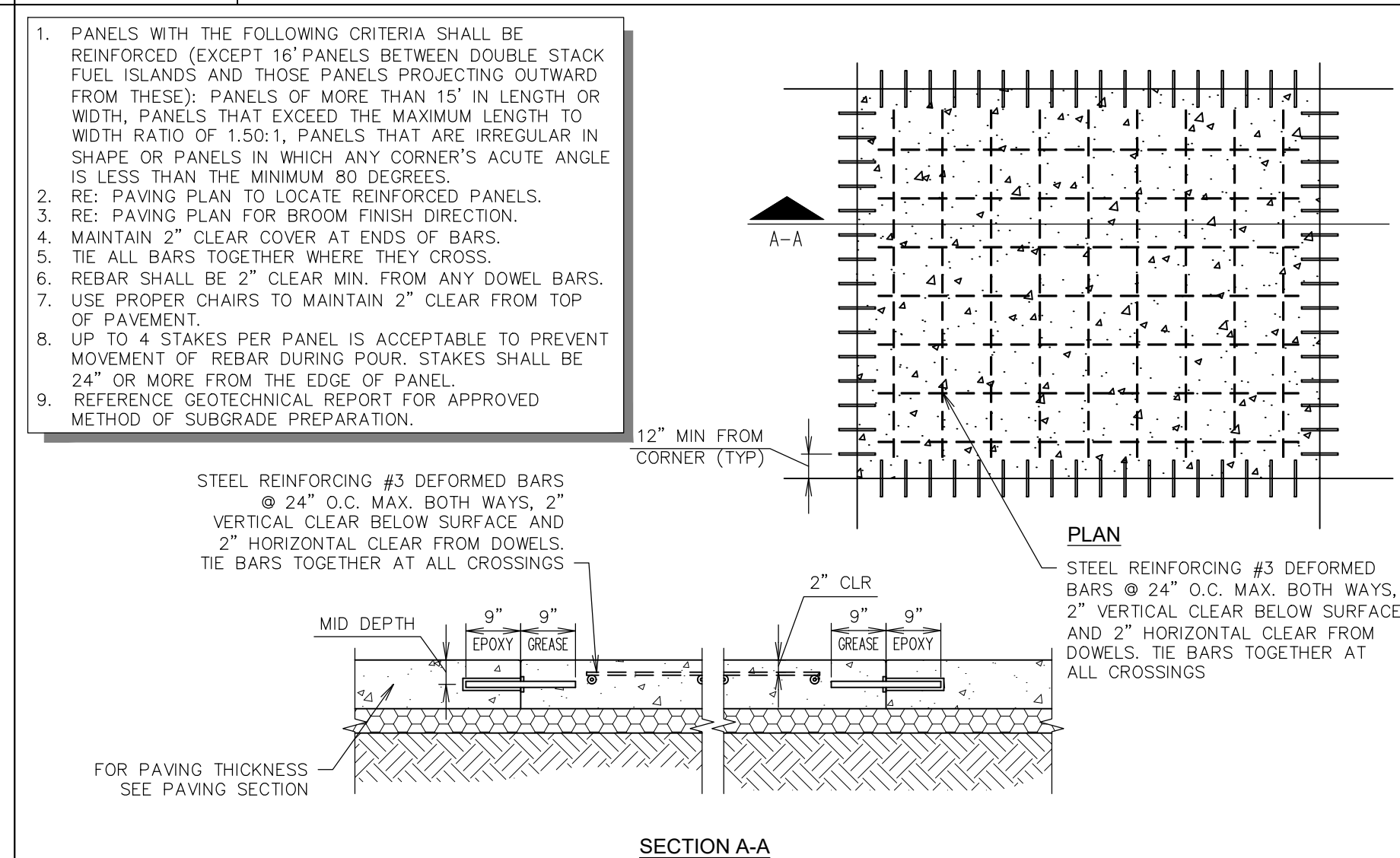


F6	DOWEL - JOINT SEPARATION DETAIL
NTS	SN: PD046A002

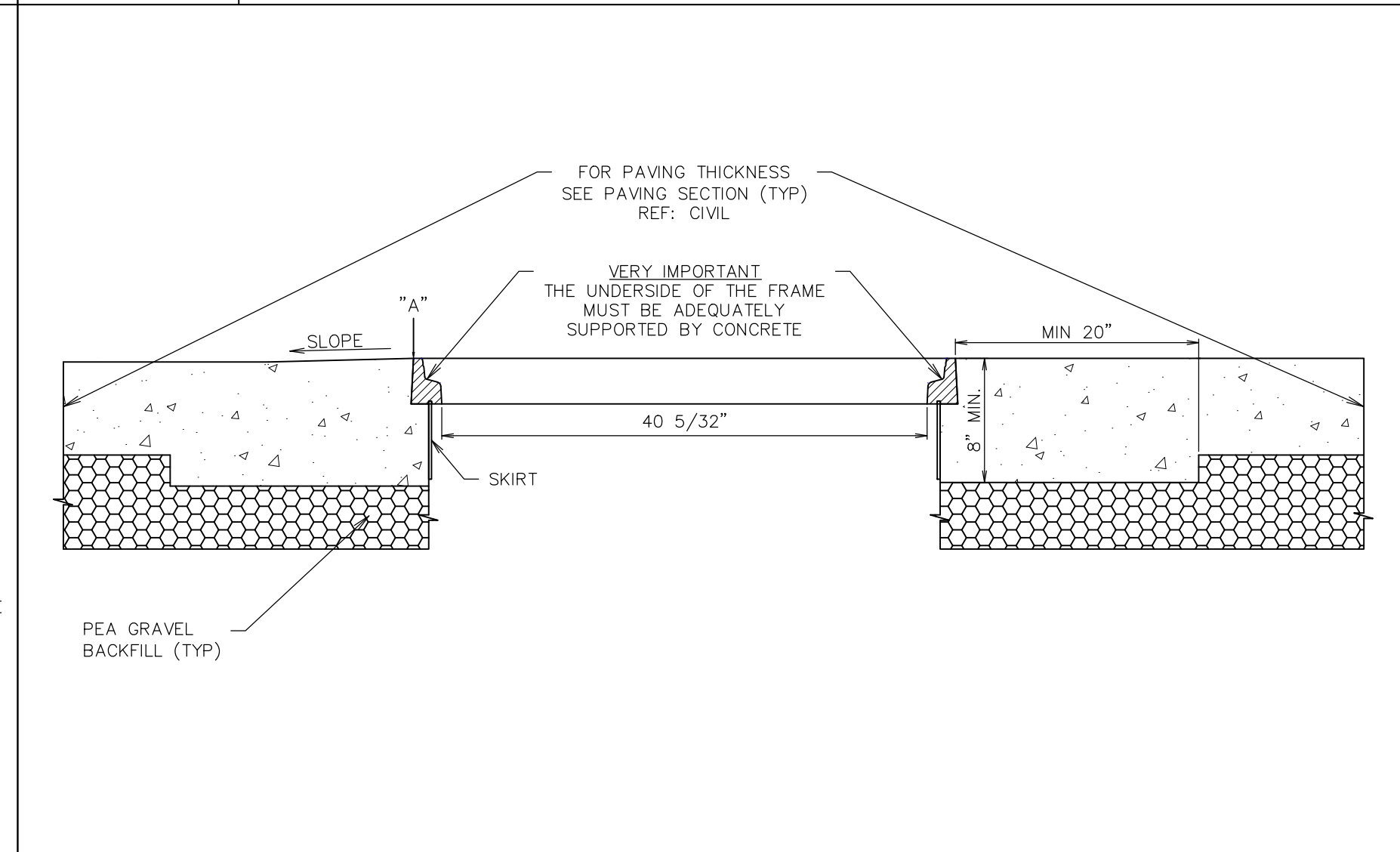


F11	DISPENSER ISLAND FORM - CONCRETE FILL & JOINTING DETAIL
NTS	SN: PD047A003

A1	NOT USED
NTS	SN:



A6	PAVEMENT REINFORCING DETAIL (DOWELED)
NTS	SN: PD003A013



A11	FIBERLITE LID DETAIL
NTS	SN: PD071A003

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MDG Midwest Design Group Kansas City PO Box 860015 Shawnee, KS 66286-0015 P 913.248.9385	

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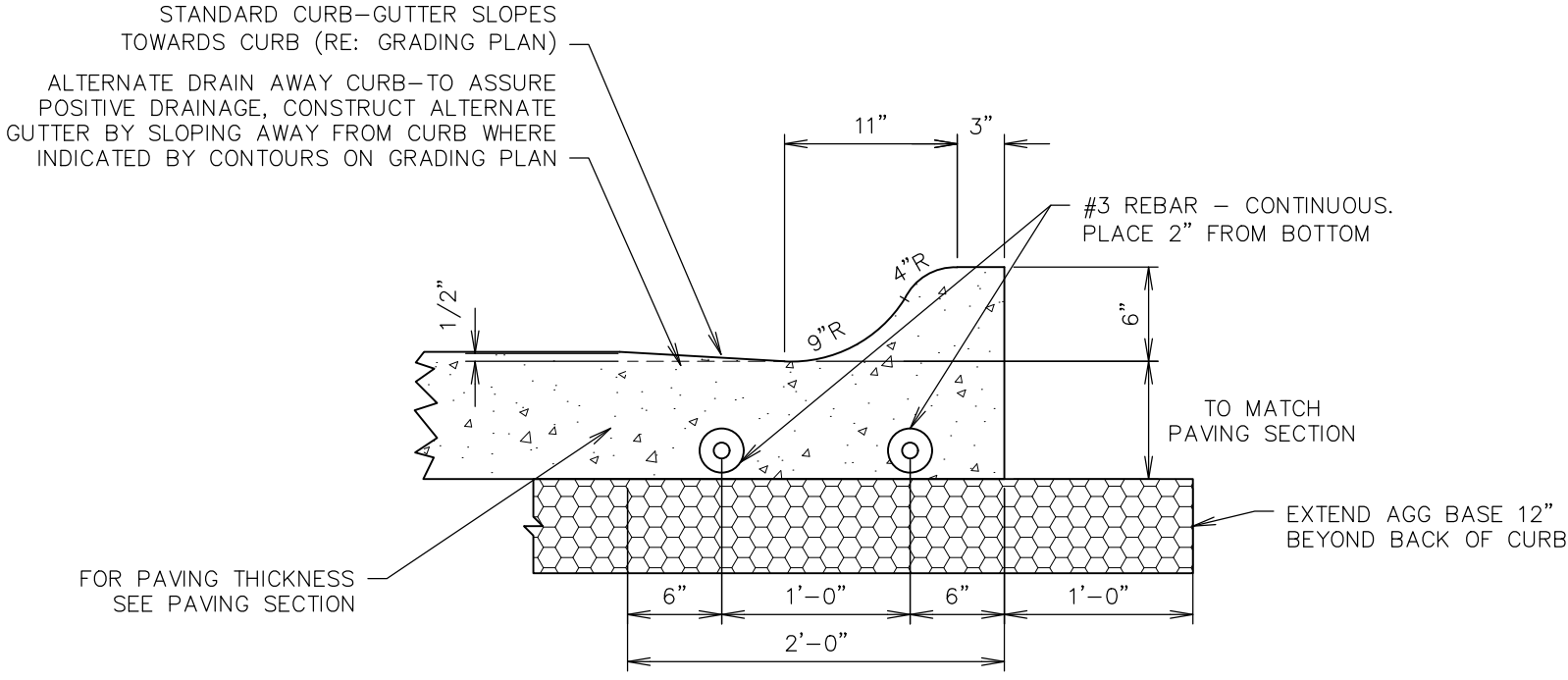
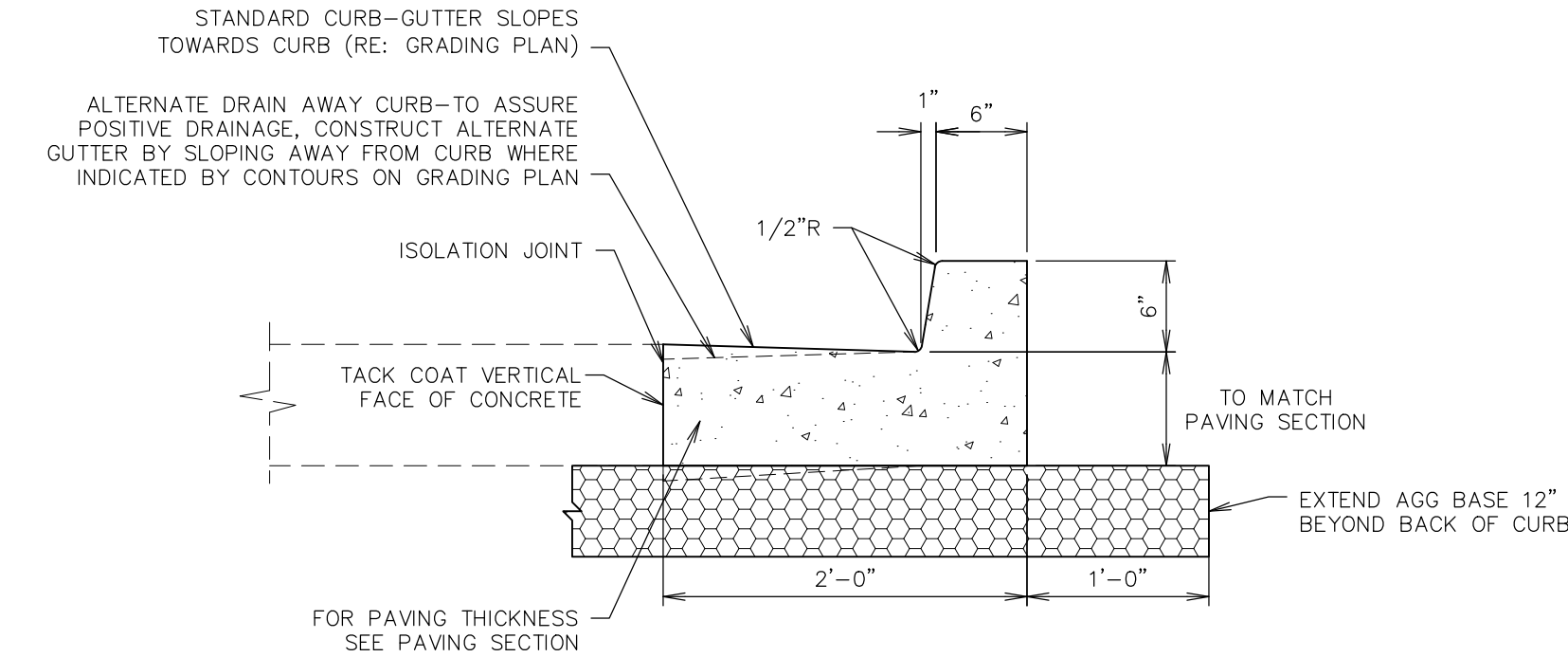
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PAVING DETAILS
SHEET NUMBER:
C523

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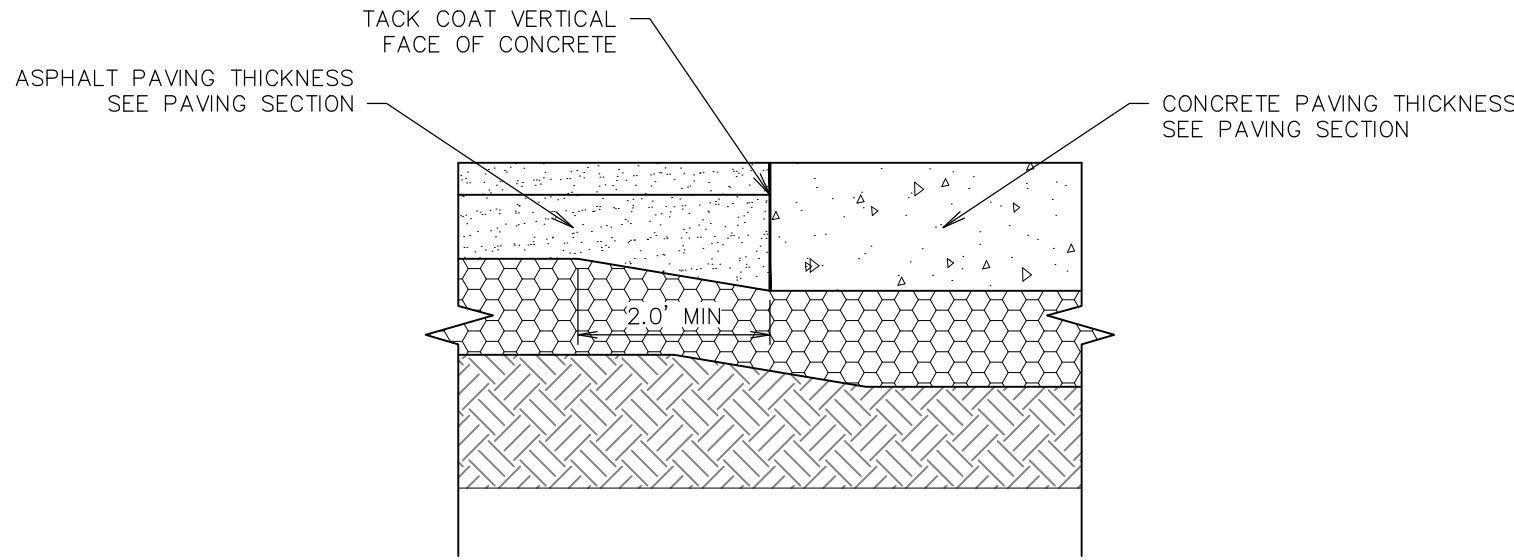
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P															
N															
M															
L	L1	NOT USED				L6	NOT USED				L11	NOT USED			
	NTS	SN:				NTS	SN:				NTS	SN:			
K															
J															
H															
G															
F	F1	NOT USED				F6	CONCRETE APRON CORNER DETAIL (ASPHALT PAVING ONLY)				F11	ASPHALT TO CONCRETE TRANSITION PAVING SECTION			
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E															
D															
C															
B															
A	A1	CURB DETAIL - BARRIER ASPHALT				A6	MONOLITHIC CURB DETAIL - ROLLOVER / MOUNTABLE				A11	CURB DETAIL - ROLLOVER / MOUNTABLE ASPHALT			
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RE: AHJ SPEC'S FOR WORK IN R-O-W

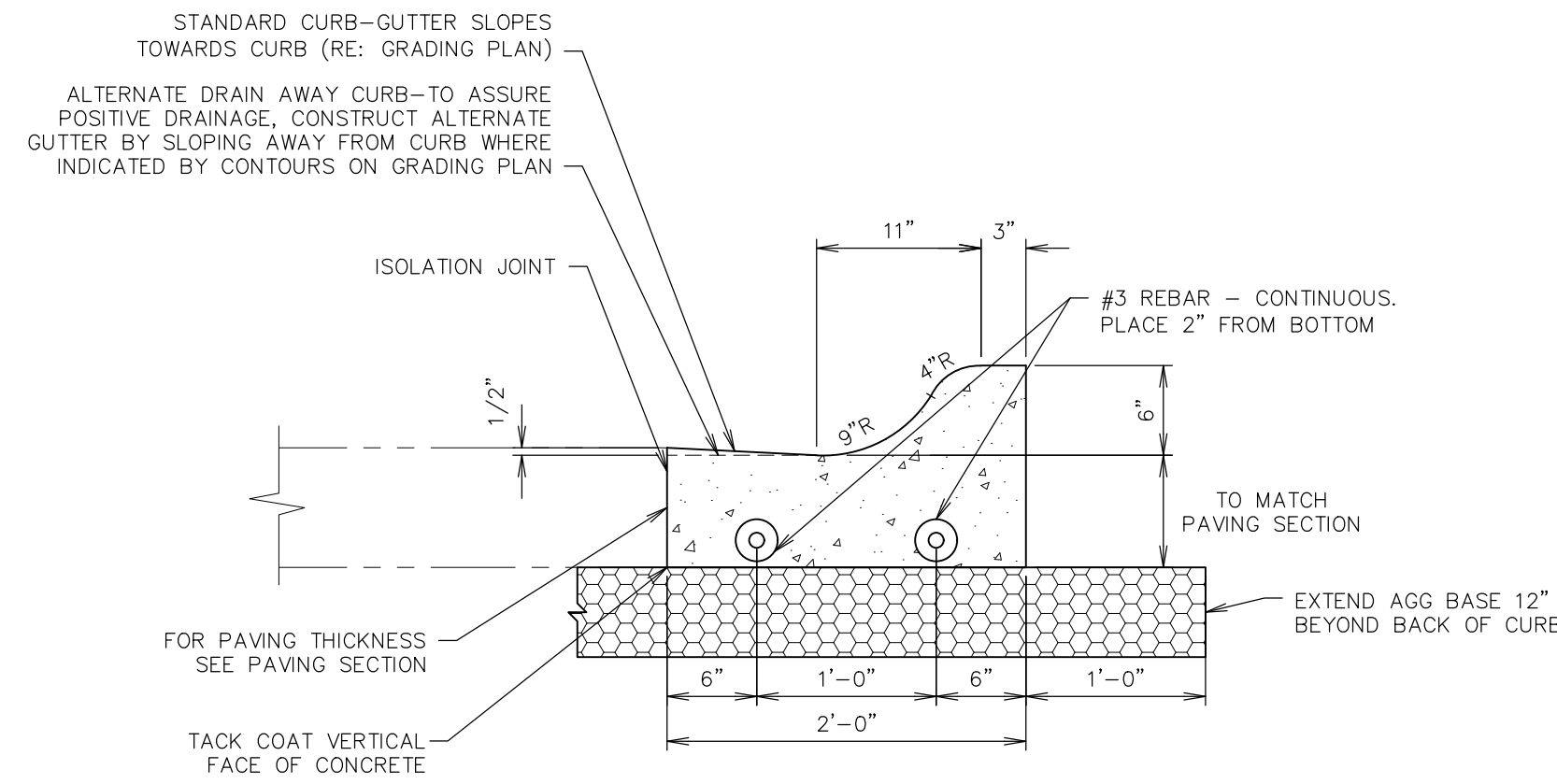


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ON PLAN OR AT QT REP DISCRETION

RE: GEOTECHNICAL REPORT FOR APPROVED
METHOD OF SUBGRADE PREPARATION



NOTE: BASE & SURFACE COURSE SPECIFICATION ARE MARKET SPECIFIC
REFER TO ASPHALT PAVING SPECIFICATION



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REV	DATE	DESCRIPTION

ORIGINAL ISSUE DATE: 04/25/2025

SHEET TITLE:

PAVING DETAILS

SHEET NUMBER:

C524

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
										EXTEND 18" BEYOND BACK OF CURB (OUTSIDE OF ALL PAVED AREAS) BEFORE TRANSITIONING TO NON-PAVED TRENCH DETAIL. MIN. DRAIN PIPE CLEARANCE MAY BEGIN @ 1'-0" FROM T.O.P. TO FINISH GRADE IF CONDITIONS WARRANT DUE TO GRADES, ROCK, ETC. RE. PROJECT SPECS FOR GRADATION TABLE. FINISH GRADE ~CONCRETE~ FOR PAVING THICKNESS SEE PAVING SECTION BACKFILL WITH SCREENED NATIVE* (NOTHING OVER 3") OR CLEAN FILL IN 8" LIFTS (4" IF USING HAND HELD EQUIPMENT) VIBRATING TAMPER COMPACT TO 95% SPD 4" SAND EMBEDMENT ON BOTTOM, FILL HAUNCHES TO SPRINGLINE ONCE PIPE IS SET 4" MIN 4" MIN 1'-4" MIN. 2'-0" MIN. 4" MIN 4" TO 6" LATERAL SANITARY SEWER LINE OR 4" TO 12" BLDG OR CANOPY STORM SEWER LINE * SCREENED NATIVE MATERIAL MUST BE APPROVED FOR USE PER THE PROJECT SPECIFICATIONS BY THE ONSITE CMT PRIOR TO PLACEMENT.				
L1NOT USED NTS SN:					L6NOT USED NTS SN:					L11BUILDING OR CANOPY DRAINAGE TRENCH SECTION (PAVED) NTS SN: TD06A006				
TRENCH MATERIAL SHALL CONSIST OF DRY, ROCK-FREE DIRT. MIN. DRAIN PIPE CLEARANCE MAY BEGIN @ 1'-0" FROM T.O.P. TO FINISH GRADE IF CONDITIONS WARRANT DUE TO GRADES, ROCK, ETC. UNDER PAVEMENT, CURB, & FRENCH DRAIN PIPE MUST BE TAKEN TO STORM STRUCTURE, OR TO SURFACE DRAINAGE SWALE. SEE GRADING PLAN FOR LOCATION BEFORE TRANSITION TO NON PAVED TRENCH SECTION. * SCREENED NATIVE MATERIAL MUST BE APPROVED FOR USE PER THE PROJECT SPECIFICATIONS BY THE ONSITE CMT PRIOR TO PLACEMENT. FINISH GRADE ~CONCRETE~ FOR PAVING THICKNESS SEE PAVING SECTION BACKFILL WITH SCREENED NATIVE* (NOTHING OVER 3") OR CLEAN FILL IN 8" LIFTS (4" IF USING HAND HELD EQUIPMENT) VIBRATING TAMPER COMPACT TO 95% SPD 4" SAND EMBEDMENT ON BOTTOM, FILL HAUNCHES TO SPRINGLINE ONCE PIPE IS SET 4" MIN 4" MIN 1'-4" MIN. 2'-0" MIN. 4" MIN 4" TO 6" LATERAL SANITARY SEWER LINE OR 4" TO 12" BLDG OR CANOPY STORM SEWER LINE										EXTEND 18" BEYOND BACK OF CURB (OUTSIDE OF ALL PAVED AREAS) BEFORE TRANSITIONING TO NON-PAVED TRENCH DETAIL. ALWAYS ATTEMPT TO RUN UTILITY TRENCH OUTSIDE OF PAVED AREA WHEN AVAILABLE – RE: PLAN SHEETS RE. PROJECT SPECS FOR GRADATION TABLE. IF CONDUITS ARE TO BE STACKED, UPPERMOST CONDUIT TO REMAIN MIN. OF 4'-0" BELOW GRADE WITH MIN. 12" VERTICAL CLEARANCE BETWEEN CONDUITS FINISH GRADE ~CONCRETE~ FOR PAVING THICKNESS SEE PAVING SECTION BACKFILL WITH SCREENED NATIVE* (NOTHING OVER 3") OR CLEAN FILL IN 8" LIFTS (4" IF USING HAND HELD EQUIPMENT) VIBRATING TAMPER COMPACT TO 95% SPD NOTE: GOVERNING AGENCY SPECIFICATIONS REGARDING UTILITY TRENCH SECTIONS SHALL GOVERN. 1'-4" MIN. 4'-0" MIN. * SCREENED NATIVE MATERIAL MUST BE APPROVED FOR USE PER THE PROJECT SPECIFICATIONS BY THE ONSITE CMT PRIOR TO PLACEMENT.				
F1BUILDING OR CANOPY DRAINAGE TRENCH SECTION (NON PAVED) NTS SN: TD007A003					F6NOT USED NTS SN:					F11PRIMARY ELECTRICAL & TELEPHONE CONDUIT TRENCH SECTION (PAVED) NTS SN: TD010A006				
TRENCH MATERIAL SHALL CONSIST OF DRY, ROCK-FREE DIRT. ALWAYS ATTEMPT TO RUN UTILITY TRENCH OUTSIDE OF PAVED AREA WHEN AVAILABLE – RE: PLAN SHEETS IF CONDUITS ARE TO BE STACKED, UPPERMOST CONDUIT TO REMAIN MIN. OF 4'-0" BELOW GRADE WITH MIN. 12" VERTICAL CLEARANCE BETWEEN CONDUITS * SCREENED NATIVE MATERIAL MUST BE APPROVED FOR USE PER THE PROJECT SPECIFICATIONS BY THE ONSITE CMT PRIOR TO PLACEMENT. FINISH GRADE ~CONCRETE~ FOR PAVING THICKNESS SEE PAVING SECTION BACKFILL WITH SCREENED NATIVE* (NOTHING OVER 3") OR CLEAN FILL IN 8" LIFTS (4" IF USING HAND HELD EQUIPMENT) VIBRATING TAMPER COMPACT TO 95% SPD 4" SAND EMBEDMENT ON BOTTOM, FILL HAUNCHES TO SPRINGLINE ONCE PIPE IS SET 4" MIN 4" MIN 1'-4" MIN. 2'-0" MIN. 4" MIN 4" TO 6" LATERAL SANITARY SEWER LINE OR 4" TO 12" BLDG OR CANOPY STORM SEWER LINE NOTE: GOVERNING AGENCY SPECIFICATIONS REGARDING UTILITY TRENCH SECTIONS SHALL GOVERN.					EXTEND 18" BEYOND BACK OF CURB (OUTSIDE OF ALL PAVED AREAS) BEFORE TRANSITIONING TO NON-PAVED TRENCH DETAIL. ALWAYS ATTEMPT TO RUN UTILITY TRENCH OUTSIDE OF PAVED AREA WHEN AVAILABLE – RE: PLAN SHEETS RE. PROJECT SPECS FOR GRADATION TABLE. * SCREENED NATIVE MATERIAL MUST BE APPROVED FOR USE PER THE PROJECT SPECIFICATIONS BY THE ONSITE CMT PRIOR TO PLACEMENT. FINISH GRADE ~CONCRETE~ FOR PAVING THICKNESS SEE PAVING SECTION BACKFILL WITH SCREENED NATIVE* (NOTHING OVER 3") OR CLEAN FILL IN 8" LIFTS (4" IF USING HAND HELD EQUIPMENT) VIBRATING TAMPER COMPACT TO 95% SPD 4" SAND EMBEDMENT ON BOTTOM, FILL HAUNCHES TO SPRINGLINE ONCE PIPE IS SET 4" MIN 4" MIN 1'-4" MIN. 2'-0" MIN. 4" MIN 4" TO 6" LATERAL SANITARY SEWER LINE OR 4" TO 12" BLDG OR CANOPY STORM SEWER LINE NOTE: GOVERNING AGENCY SPECIFICATIONS REGARDING UTILITY TRENCH SECTIONS SHALL GOVERN.					TRENCH MATERIAL SHALL CONSIST OF DRY, ROCK-FREE DIRT. ALWAYS ATTEMPT TO RUN UTILITY TRENCH OUTSIDE OF PAVED AREA WHEN AVAILABLE – RE: PLAN SHEETS * SCREENED NATIVE MATERIAL MUST BE APPROVED FOR USE PER THE PROJECT SPECIFICATIONS BY THE ONSITE CMT PRIOR TO PLACEMENT. FINISH GRADE ~CONCRETE~ FOR PAVING THICKNESS SEE PAVING SECTION BACKFILL WITH SCREENED NATIVE* (NOTHING OVER 3") OR CLEAN FILL IN 8" LIFTS (4" IF USING HAND HELD EQUIPMENT) VIBRATING TAMPER COMPACT TO 95% SPD 4" SAND EMBEDMENT ON BOTTOM, FILL HAUNCHES TO SPRINGLINE ONCE PIPE IS SET 4" MIN 4" MIN 1'-4" MIN. 2'-0" MIN. 4" MIN 4" TO 6" LATERAL SANITARY SEWER LINE OR 4" TO 12" BLDG OR CANOPY STORM SEWER LINE NOTE: GOVERNING AGENCY SPECIFICATIONS REGARDING UTILITY TRENCH SECTIONS SHALL GOVERN.				
A1PRIMARY ELECTRICAL & TELEPHONE CONDUIT TRENCH SECTION (NON PAVED) NTS SN: TD011A004					A61" Ø OR SMALLER ELECTRICAL CONDUIT TRENCH SECTION (PAVED) NTS SN: TD012A006					A111" Ø OR SMALLER ELECTRICAL CONDUIT TRENCH SECTION (UNPAVED) NTS SN: TD013A004				
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15

QUIKTRIP STANDARD DETAILS

PROJECT NO.:02-0183



PO Box 860015
Shawnee, KS 66286-0015
P 913.248.9385

QuikTrip No. 0183R
1001 SW BLUE PARKWAY
LEE'S SUMMIT, JACKSON CO., MO 64063



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PROTOTYPE: P-120
DIVISION: 02
VERSION: 001
DESIGNED BY: CSH
DRAWN BY: CSH
REVIEWED BY: TRW

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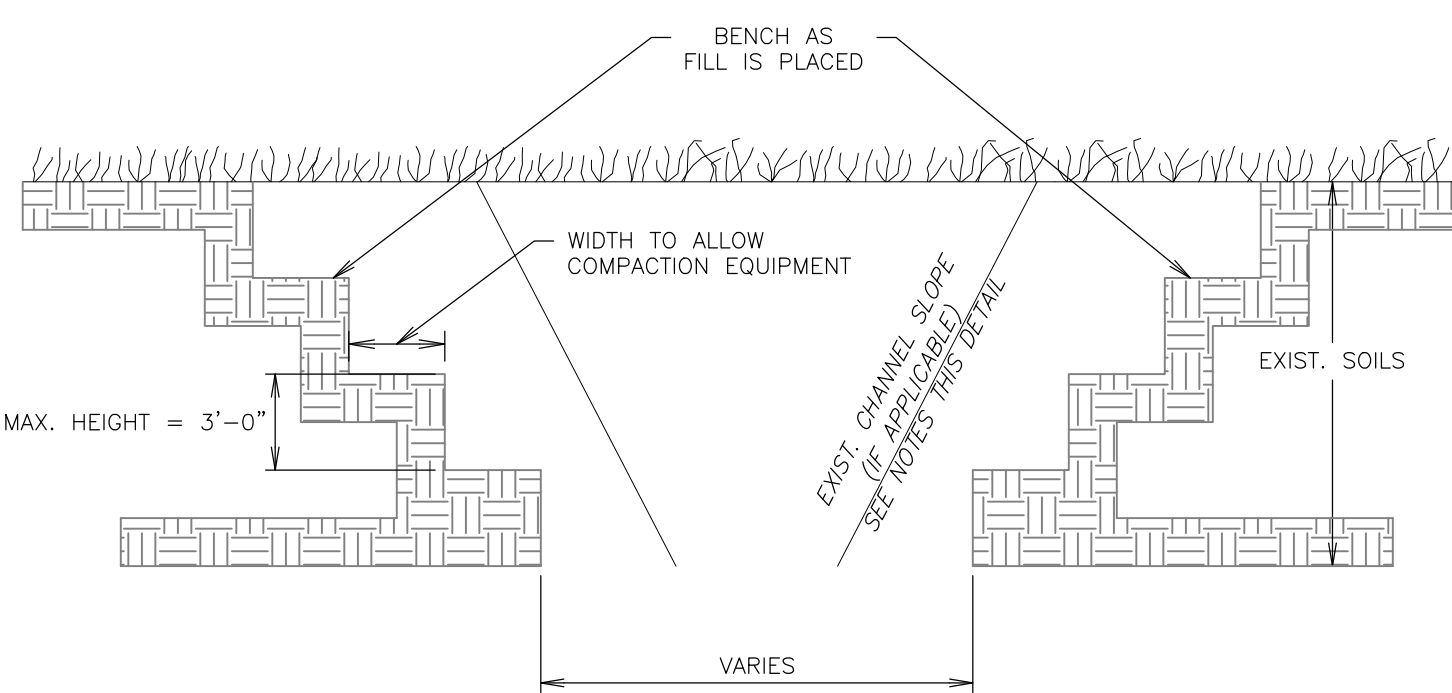
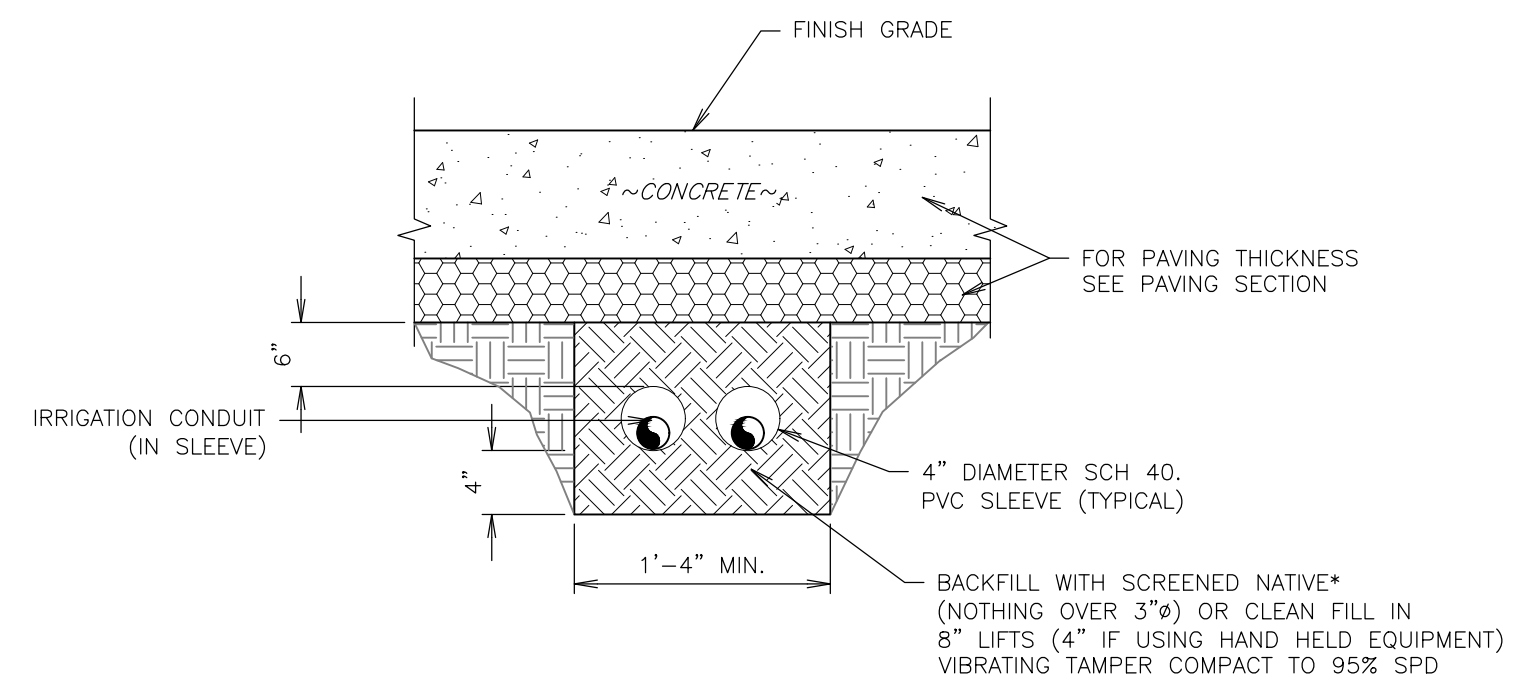
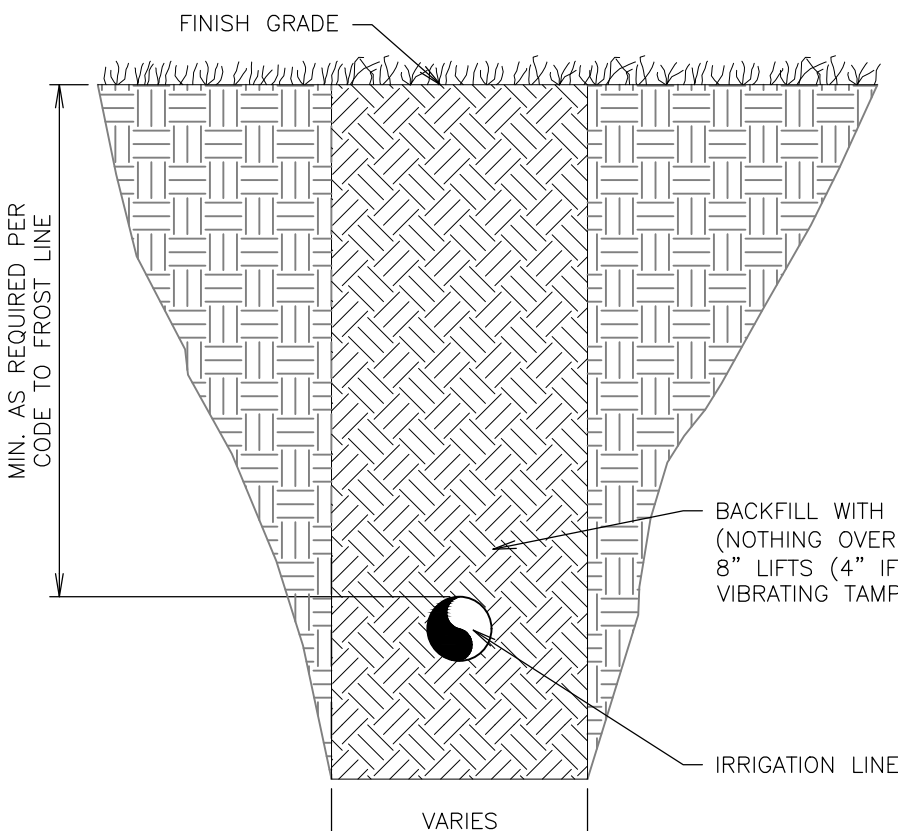
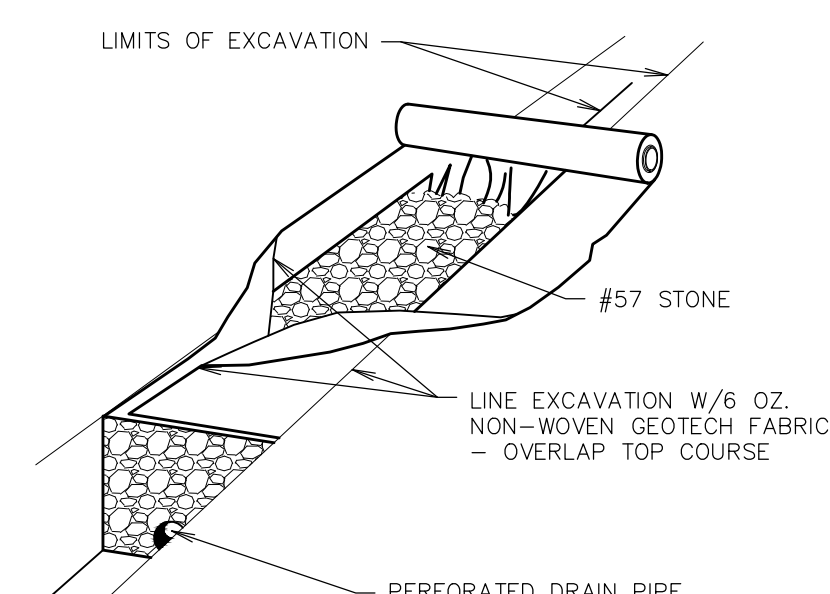
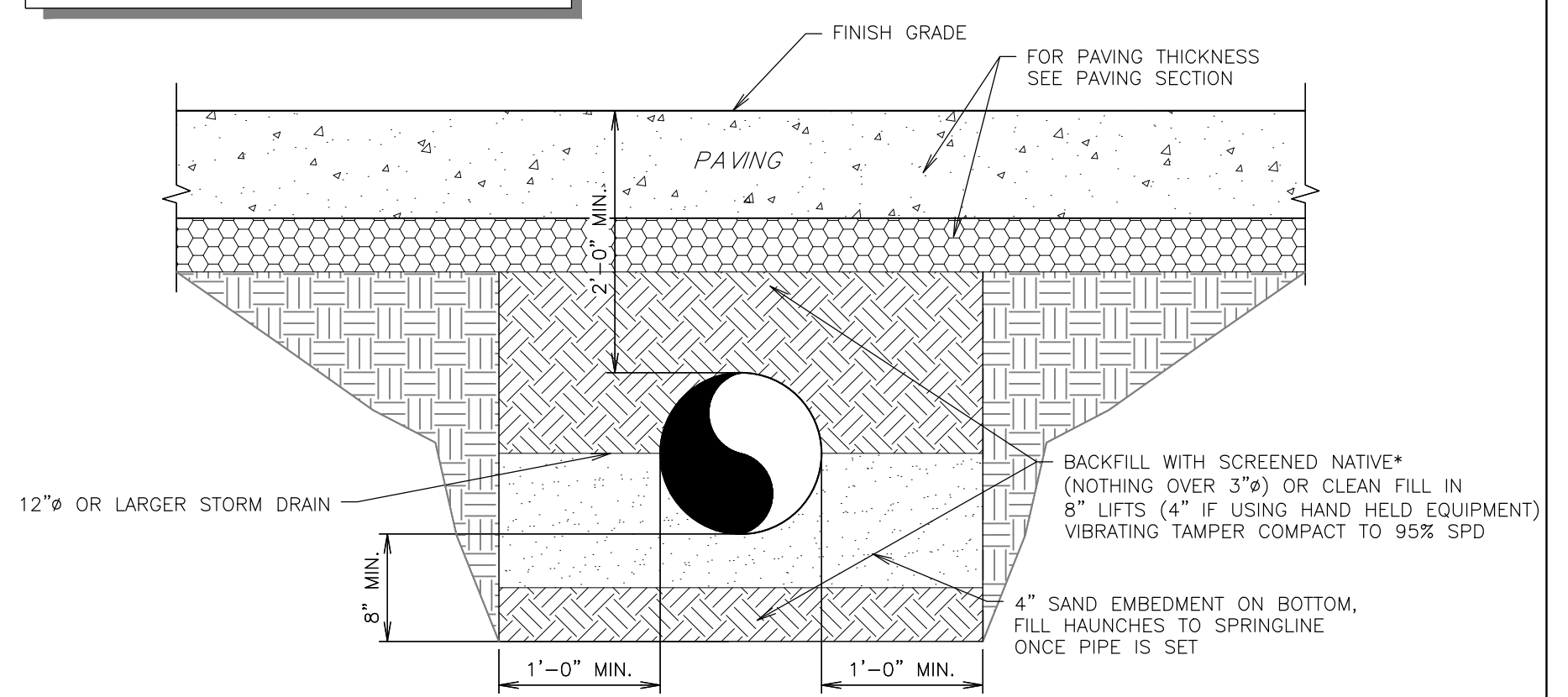
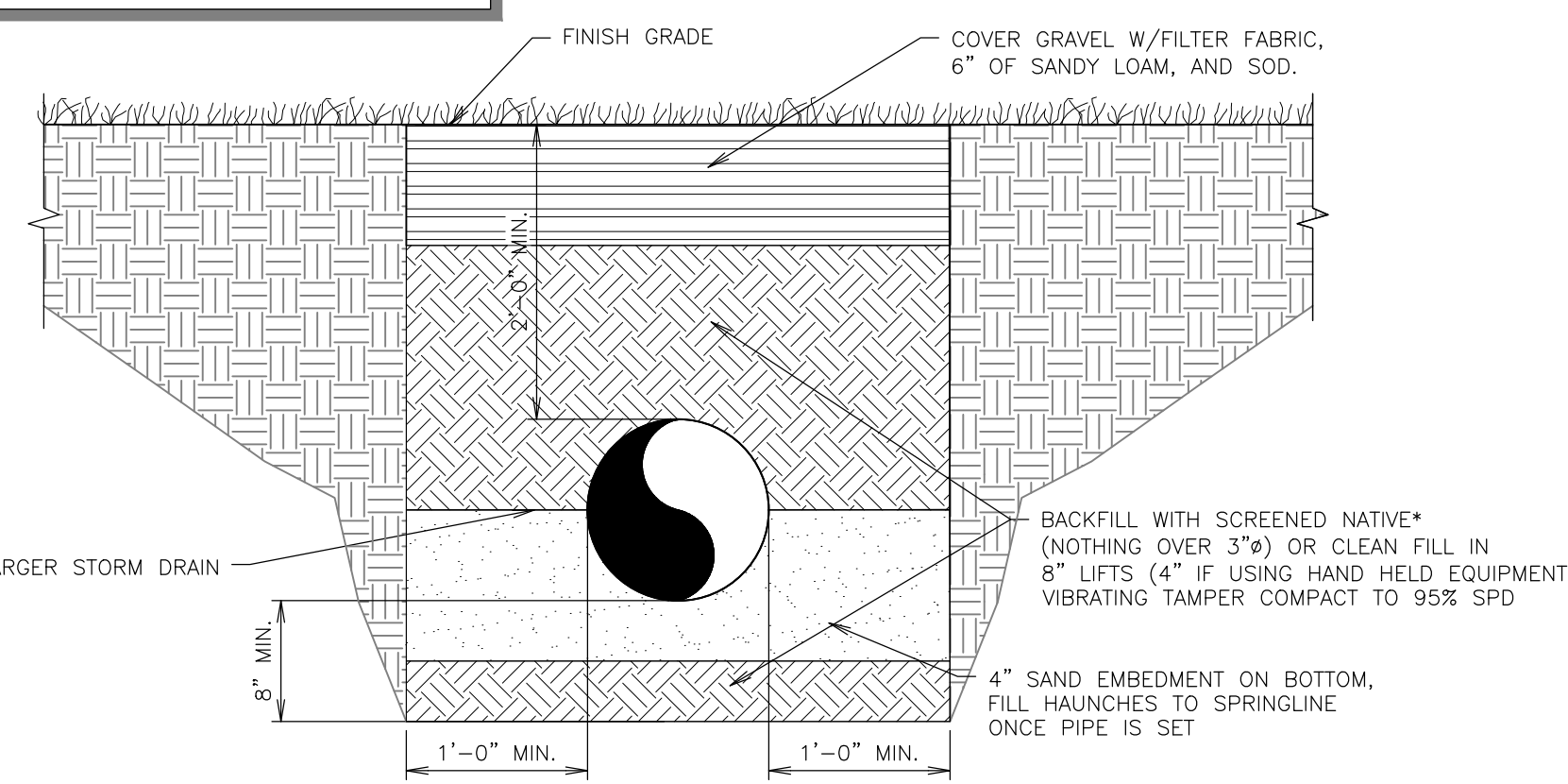
SHEET TITLE:

COMPREHENSIVE
TRENCHING DETAIL

SHEET NUMBER:

C530

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Q	EXISTING CHANNEL EXCAVATION NOTES: 1. MUCK TO SUITABLE SOIL OR BEDROCK (SEE QT REP). 2. #57 STONE WITH FILTER FABRIC AT BOTTOM OF FINISHED CHANNEL — TO BE PLACED IF BEDROCK IS ENCOUNTERED.					EXTEND THIS SECTION 5' BEYOND BACK OF CURB (OUTSIDE EDGE OF DRIVE) RE. PROJECT SPECS FOR GRADATION TABLE.					* SCREENED NATIVE MATERIAL MUST BE APPROVED FOR USE PER THE PROJECT SPECIFICATIONS BY THE ONSITE CMT PRIOR TO PLACEMENT.														
																									
L	L1				EXCAVATION BENCHING DETAIL				L6	TYPICAL IRRIGATION PIPING TRENCH SECTION (PAVED)				L11	TYPICAL IRRIGATION PIPING TRENCH SECTION (NON PAVED)										
NTS					NTS					NTS					NTS										
SN: TD014A003					SN: TD015A007					SN: TD016A003					SN: TD016A003										
K	GEOTECH FABRIC LINED TRENCH SHALL BE UTILIZED WITH A "PERFORATED" DRAIN DETAIL, SUCH AS A FRENCH DRAIN OR BACK OF CURB DRAIN.					EXTEND 18" BEYOND BACK OF CURB (OUTSIDE OF ALL PAVED AREAS) BEFORE TRANSITIONING TO NON-PAVED TRENCH DETAIL. MIN. DRAIN PIPE CLEARANCE MAY BEGIN @ 1'-0" FROM T.O.P. TO FINISH GRADE IF CONDITIONS WARRANT DUE TO GRADES, ROCK, ETC. RE. PROJECT SPECS FOR GRADATION TABLE.					* SCREENED NATIVE MATERIAL MUST BE APPROVED FOR USE PER THE PROJECT SPECIFICATIONS BY THE ONSITE CMT PRIOR TO PLACEMENT. NOTE: GOVERNING AGENCY SPECIFICATIONS REGARDING UTILITY TRENCH SECTIONS SHALL GOVERN.					EXTEND 18" BEYOND BACK OF CURB (OUTSIDE OF ALL PAVED AREAS) BEFORE TRANSITIONING TO NON-PAVED TRENCH DETAIL. MIN. DRAIN PIPE CLEARANCE MAY BEGIN @ 1'-0" FROM T.O.P. TO FINISH GRADE IF CONDITIONS WARRANT DUE TO GRADES, ROCK, ETC. RE. PROJECT SPECS FOR GRADATION TABLE.					* SCREENED NATIVE MATERIAL MUST BE APPROVED FOR USE PER THE PROJECT SPECIFICATIONS BY THE ONSITE CMT PRIOR TO PLACEMENT. NOTE: GOVERNING AGENCY SPECIFICATIONS REGARDING UTILITY TRENCH SECTIONS SHALL GOVERN.				
																									
F	F1				GEOTECH FABRIC IN SUB-SURFACE DRAIN				F6	12" DIAMETER OR LARGER STORM DRAIN (PAVED)				F11	12" DIAMETER OR LARGER STORM DRAIN (NON PAVED)										
NTS					NTS					NTS					NTS										
SN: TD017A003					SN: TD018A002					SN: TD018B002					SN: TD018B002										
E																									
D																									
C																									
B																									
A	A1				NOT USED				A6	NOT USED				A11	NOT USED										
NTS					NTS					NTS					NTS										
SN:					SN:					SN:					SN:										

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QUIKTRIP
STANDARD
DETAILS

PROJECT NO.:02-0183

MDG
Midwest Design Group
Kansas City

PO Box 860015
Shawnee, KS 66286-0015
P 913.248.9385

QuikTrip No. 0183R
1001 SW BLUE PARKWAY
LEE'S SUMMIT, JACKSON CO., MO 64063



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PROTOTYPE: P-120
DIVISION: 02
VERSION: 001
DESIGNED BY: CSH
DRAWN BY: CSH
REVIEWED BY: TRW

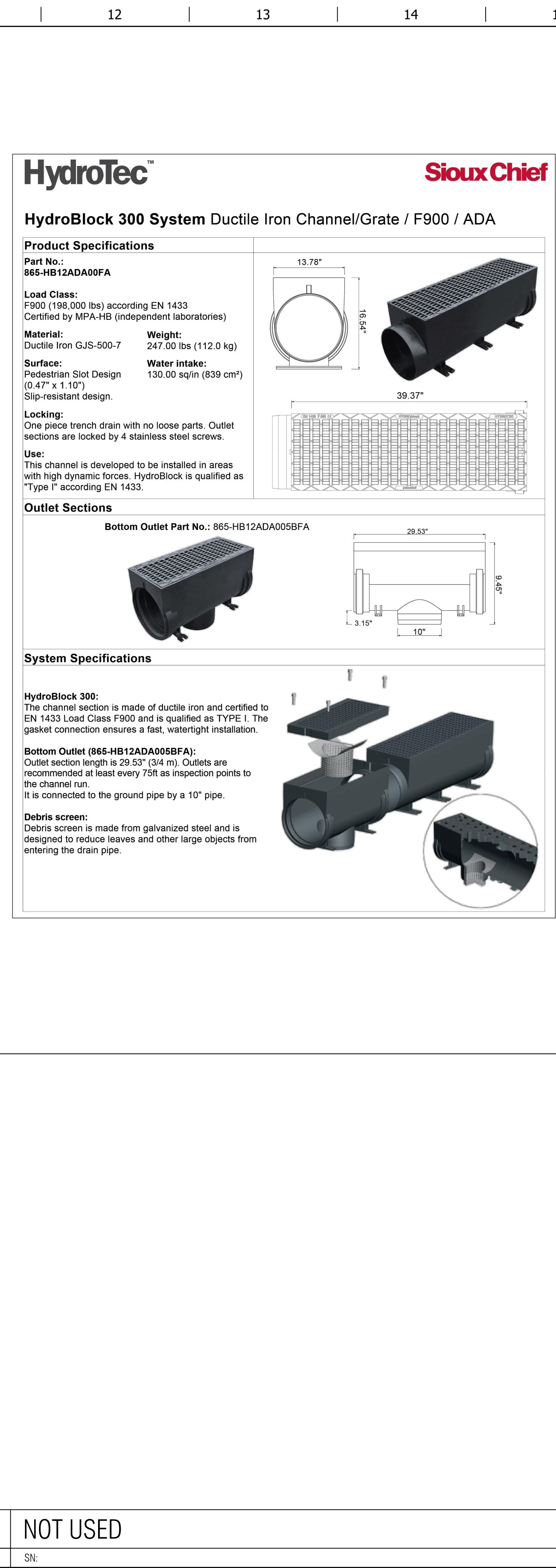
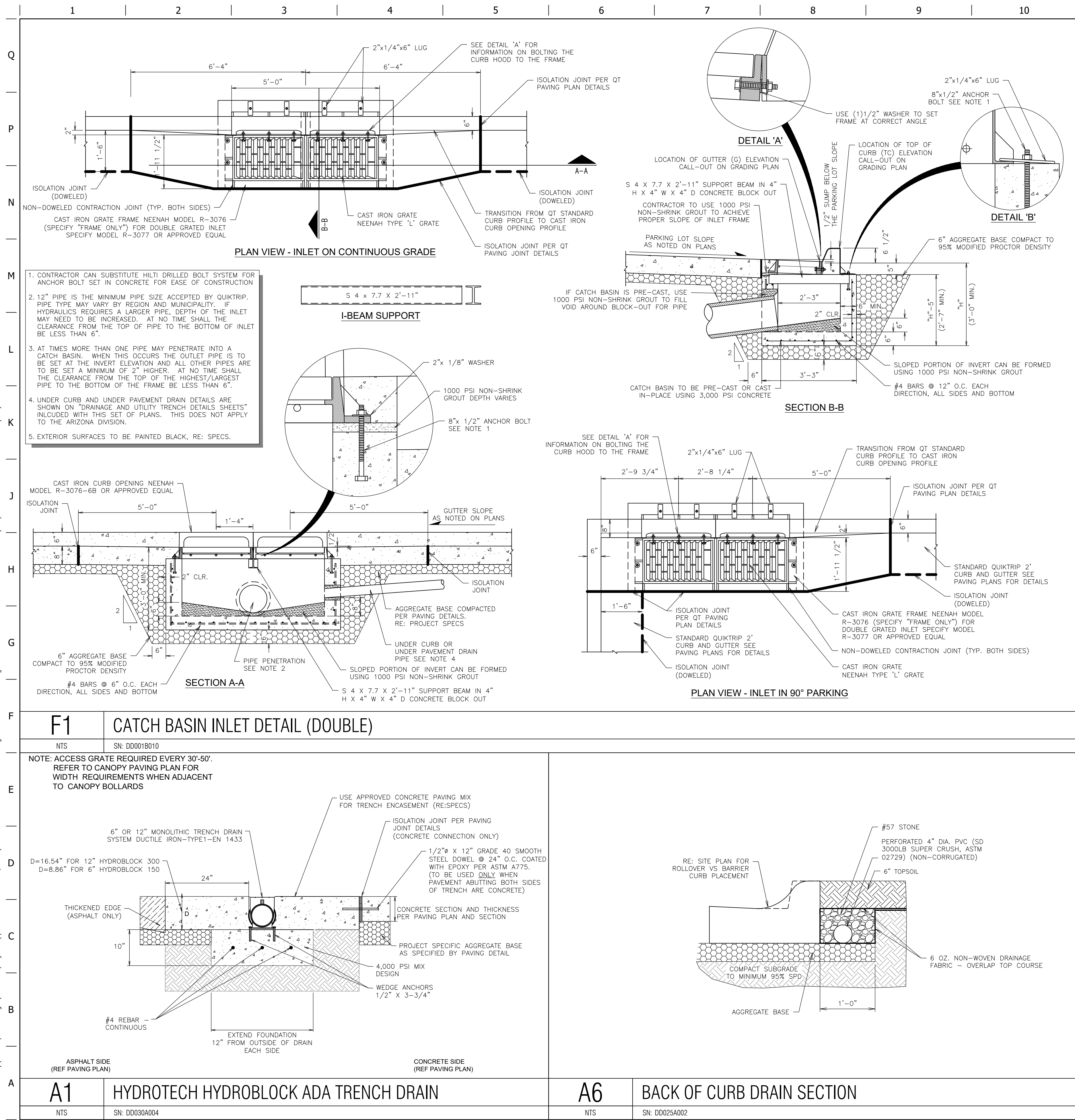
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ORIGINAL ISSUE DATE: 04/25/2025

SHEET TITLE:
COMPREHENSIVE
TRENCHING DETAILS

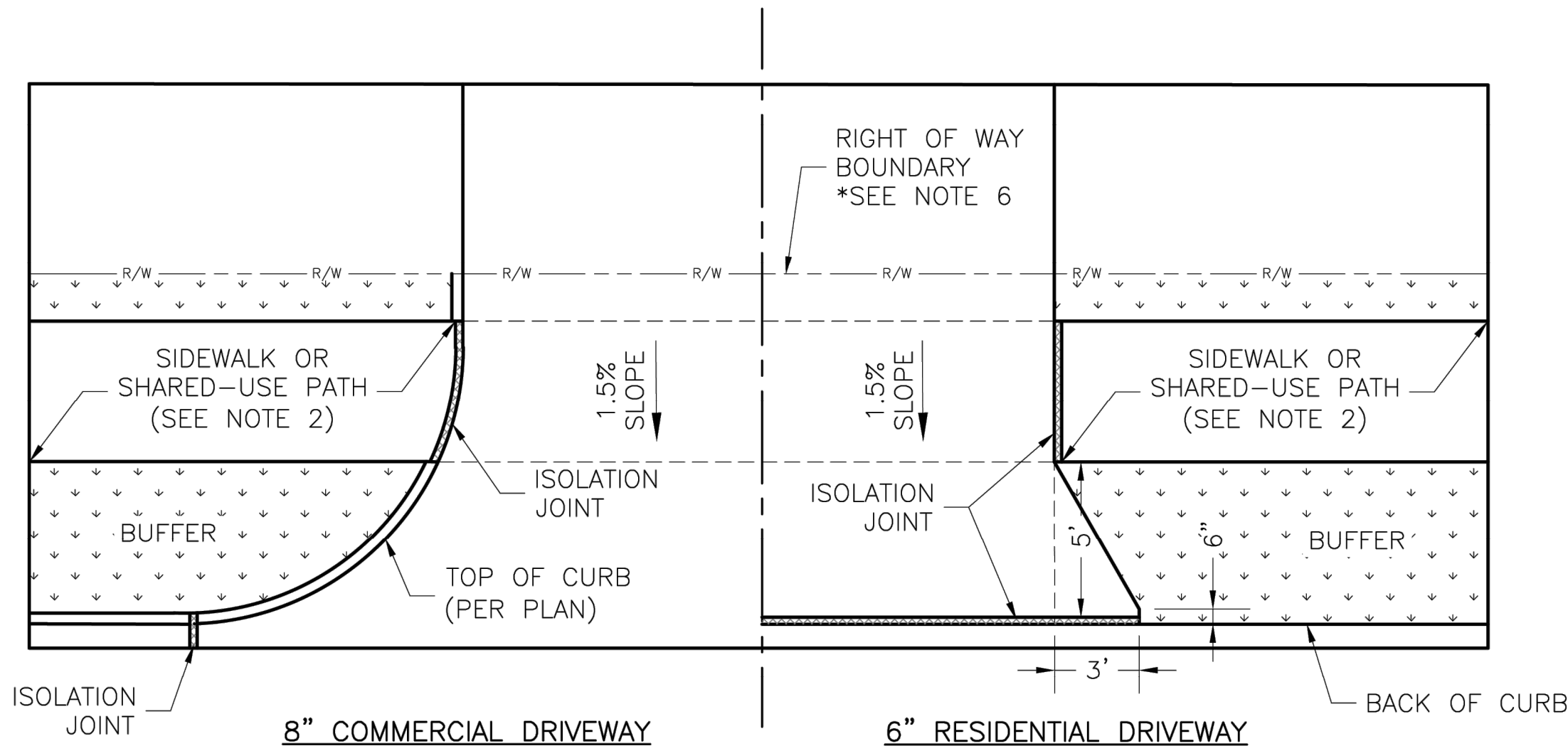
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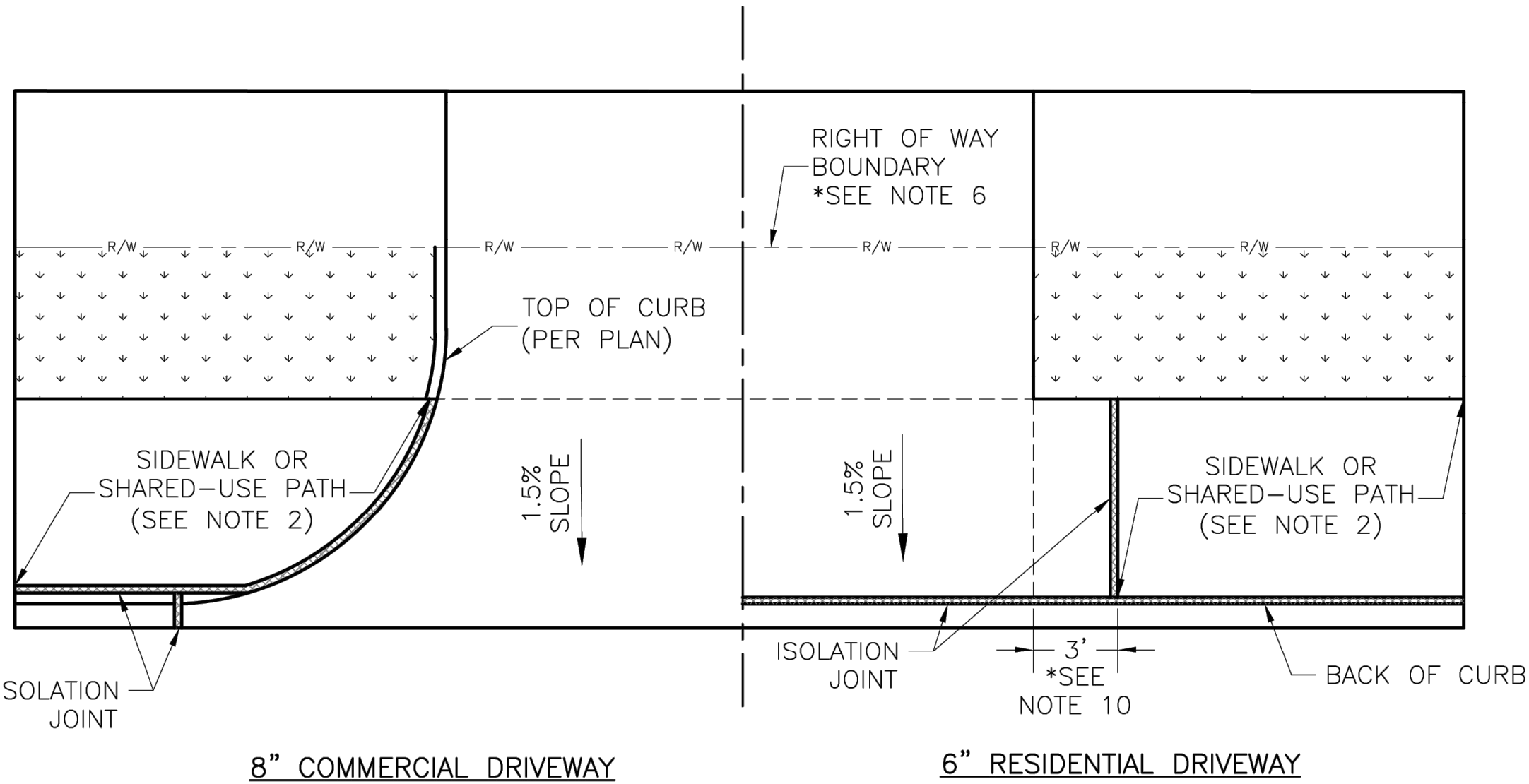


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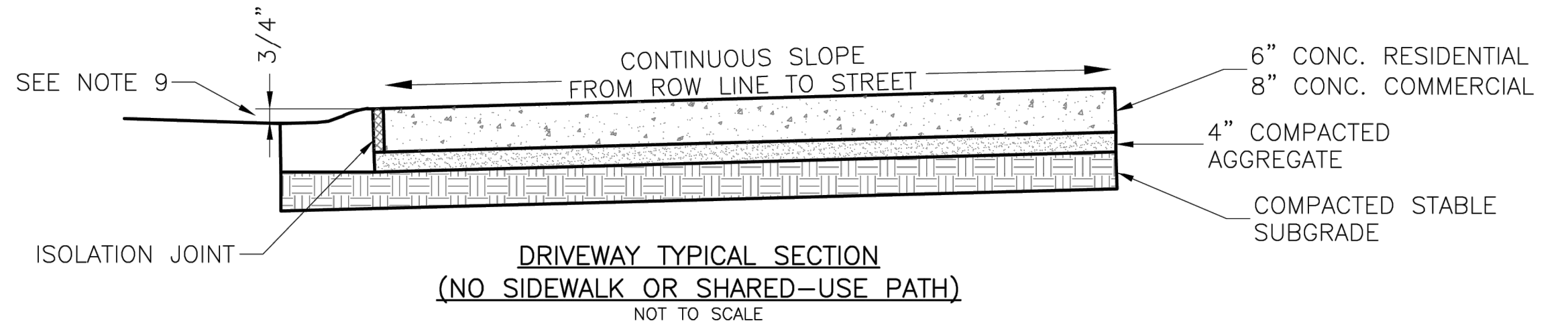
DRIVEWAY WITH BUFFER
NOT TO SCALE



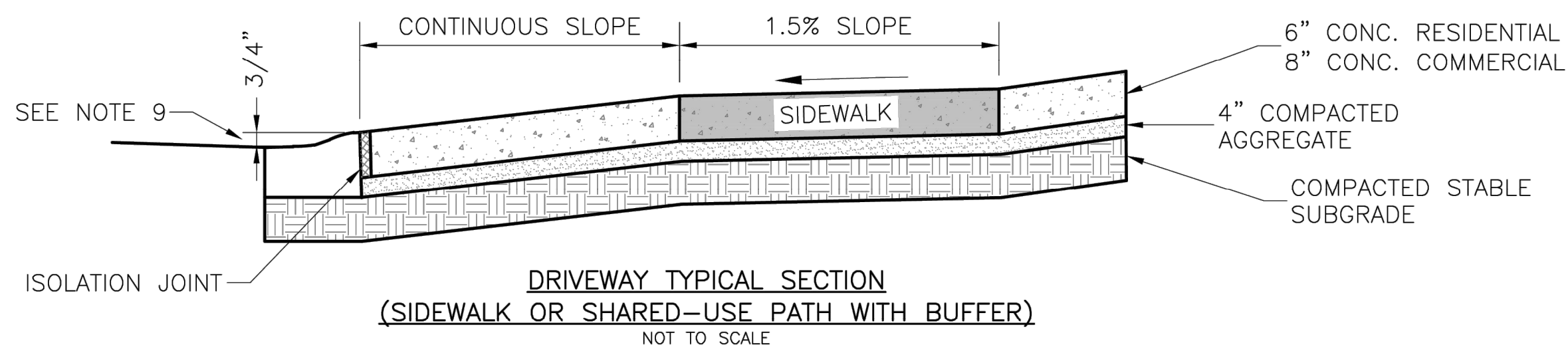
DRIVEWAY WITHOUT BUFFER
NOT TO SCALE

GENERAL NOTES

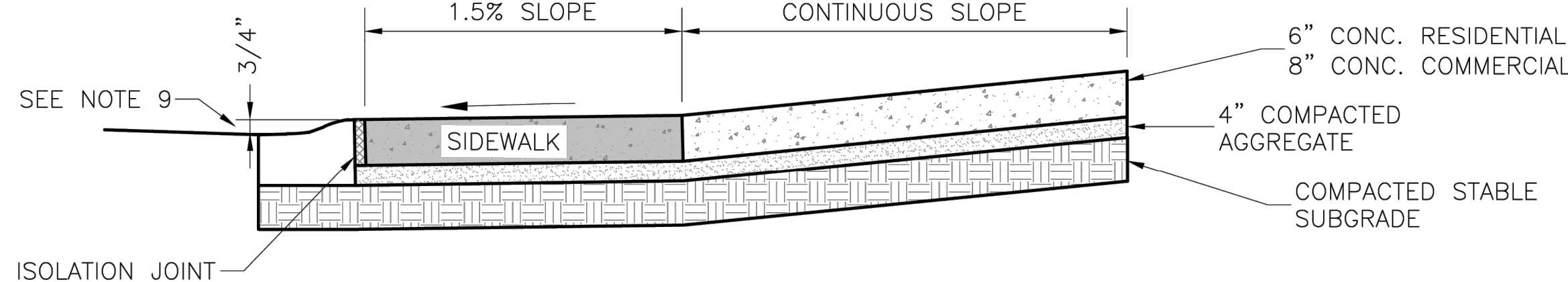
- SUBGRADE SHALL BE STABLE, COMPACTED EARTH AND SHALL BE OVERLAYED WITH 4" COMPACTED DENSE GRADED AGGREGATE BASE.
- ALL DRIVE APPROACHES SHALL MEET CURRENT PUBLIC RIGHT OF WAY ACCESSIBILITY GUIDELINES (PROWAG) FOR SLOPE REQUIREMENTS WHEN SIDEWALK IS REQUIRED (SEE ADA RAMP RETROFIT DETAIL GEN-3B, SIDEWALK/SHARED USE PATH RAMP AT DRIVEWAY DETAIL).
- JOINT AT BACK OF CURB LINE SHALL BE AN ISOLATION JOINT FOR RESIDENTIAL DRIVEWAYS.
- KCMMB 4K CONCRETE MIX IS REQUIRED FOR ALL CURBS.
- COMMERCIAL DRIVEWAYS, IN THE PUBLIC RIGHT OF WAY, SHALL BE KCMMB 4K CONCRETE MIX.
- RESIDENTIAL DRIVEWAYS, IN THE PUBLIC RIGHT OF WAY, KCMMB 4K CONCRETE MIX IS RECOMMENDED. OTHER CONCRETE MIXES NEED TO BE APPROVED BY CITY INSPECTOR.
- A JOINT MUST BE INSTALLED AT THE RIGHT OF WAY BOUNDARY FOR PROPERTY DELINEATION.
- WHITE CURING COMPOUND MUST BE APPLIED UNIFORMLY TO THE CONCRETE SURFACE IMMEDIATELY AFTER FINAL FINISHING.
- 3/4" FROM TOP OF CURB TO FLOWLINE AT DRIVEWAY (TYPE CG-1 CURB ONLY). MUST MAINTAIN ORIGINAL FLOWLINE OF CURB.
- SIDEWALK ADJOINING CURB SHALL BE 6" THICK, EXTENDING 3' FROM THE DRIVEWAY.
- THE MAXIMUM WIDTH OF A RESIDENTIAL DRIVEWAY IS 36 FEET WITHIN THE RIGHT OF WAY.



DRIVEWAY TYPICAL SECTION
(NO SIDEWALK OR SHARED-USE PATH)
NOT TO SCALE



DRIVEWAY TYPICAL SECTION
(SIDEWALK OR SHARED-USE PATH WITH BUFFER)
NOT TO SCALE



DRIVEWAY TYPICAL SECTION
(SIDEWALK OR SHARED-USE PATH WITHOUT BUFFER)
NOT TO SCALE

LEE'S SUMMIT
MISSOURI

Project: STANDARD DETAILS
CITY OF LEE'S SUMMIT, MO
LEE'S SUMMIT, JACKSON COUNTY, MO

Sheet Name: DRIVEWAY DETAIL

Drawn By: MIF
Checked By: DL
Date: 08/2023
Proj. #:

GEN-1

CITY
STANDARD
DETAILS

PROJECT NO.:02-0183

MDG
Midwest Design Group
Kansas City
PO Box 860015
Shawnee, KS 66286-0015
P 913.248.9385

QuikTrip No. 0183R
1001 SW BLUE PARKWAY
LEE'S SUMMIT, JACKSON CO., MO 64063



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DIVISION: 02
VERSION: 001
DESIGNED BY: CSH
DRAWN BY: CSH
REVIEWED BY: TRW

REV	DATE	DESCRIPTION

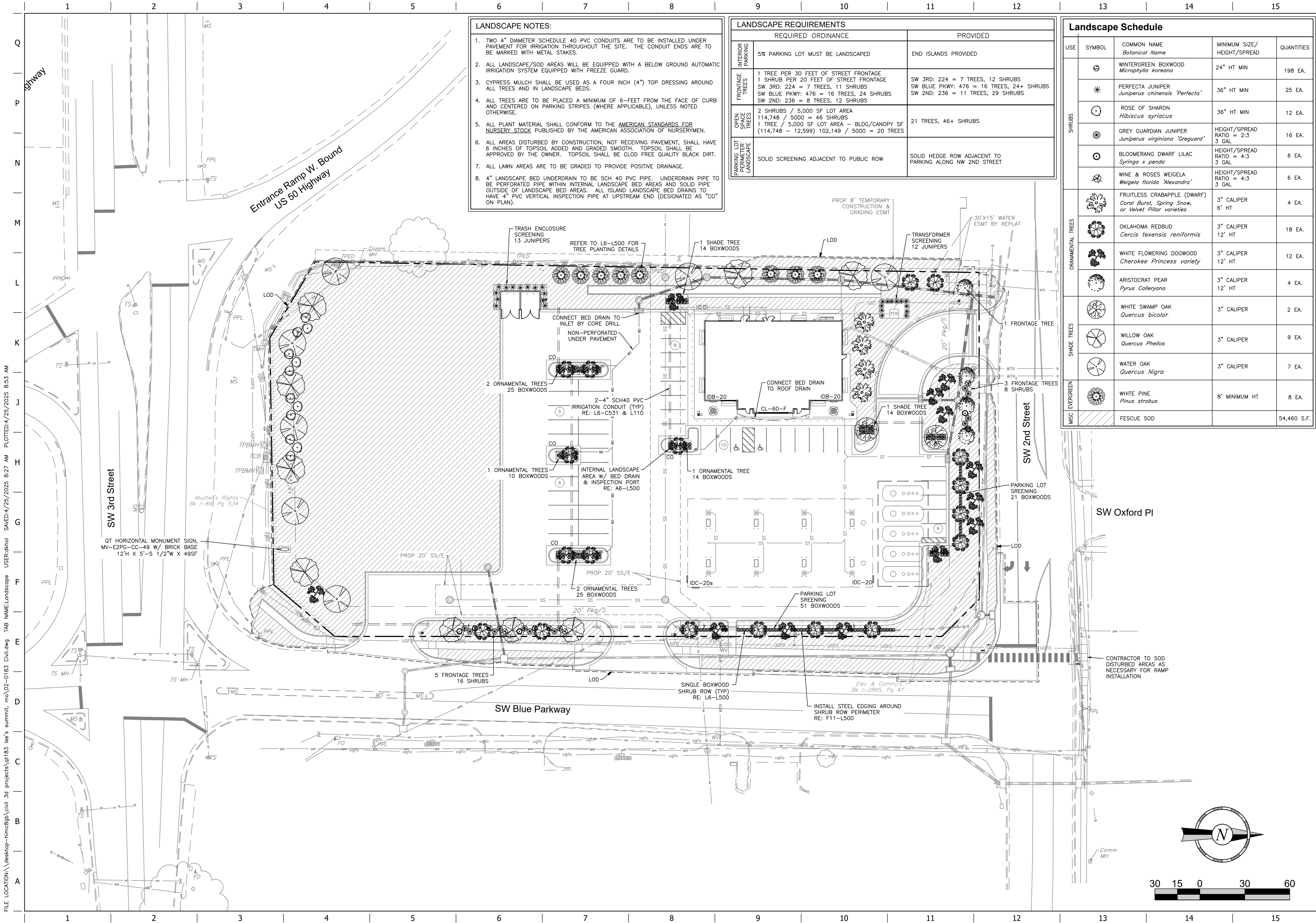
ORIGINAL ISSUE DATE: 04/25/2025

SHEET TITLE:

CITY DRIVEWAY DETAILS
(GEN-1)

SHEET NUMBER:

C550



- LANDSCAPE NOTES:**
1. TWO 4" DIAMETER SCHEDULE 40 PVC CONDUITS ARE TO BE INSTALLED UNDER PAVEMENT FOR IRRIGATION THROUGHOUT THE SITE. THE CONDUIT ENDS ARE TO BE MARKED WITH METAL STAKES.
 2. ALL LANDSCAPE/SOD AREAS WILL BE EQUIPPED WITH A BELOW GROUND AUTOMATIC IRRIGATION SYSTEM EQUIPPED WITH FREEZE GUARD.
 3. CYPRESS MULCH SHALL BE USED AS A FOUR INCH (4") TOP DRESSING AROUND ALL TREES AND IN LANDSCAPE BEDS.
 4. ALL TREES ARE TO BE PLACED A MINIMUM OF 6'-FEET FROM THE FACE OF CURB AND CENTERED ON PARKING STRIPES (WHERE APPLICABLE), UNLESS NOTED OTHERWISE.
 5. ALL PLANT MATERIAL SHALL CONFORM TO THE AMERICAN STANDARDS FOR NURSERY STOCK PUBLISHED BY THE AMERICAN ASSOCIATION OF NURSERYMEN.
 6. ALL AREAS DISTURBED BY CONSTRUCTION, NOT RECEIVING PAVEMENT, SHALL HAVE 6 INCHES OF TOPSOIL ADDED AND GRADED SMOOTH. TOPSOIL SHALL BE APPROVED BY THE OWNER. TOPSOIL SHALL BE CLOD FREE QUALITY BLACK DIRT.
 7. ALL LAWN AREAS ARE TO BE GRADED TO PROVIDE POSITIVE DRAINAGE.
 8. 4" LANDSCAPE BED UNDERDRAIN TO BE SCH 40 PVC PIPE. UNDERDRAIN PIPE TO BE PERFORATED PIPE WITHIN INTERNAL LANDSCAPE BED AREAS AND SOLID PIPE OUTSIDE OF LANDSCAPE BED AREAS. ALL ISLAND LANDSCAPE BED DRAINS TO HAVE 4" PVC VERTICAL INSPECTION PIPE AT UPSTREAM END (DESIGNATED AS "CO" ON PLAN).

LANDSCAPE REQUIREMENTS	
REQUIRED ORDINANCE	
INTERIOR PARKING	5% PARKING LOT MUST BE LANDSCAPED
FRONTAGE TREES	1 TREE PER 30 FEET OF STREET FRONTAGE 1 SHRUB PER 20 FEET OF STREET FRONTAGE SW 3RD: 224 = 7 TREES, 11 SHRUBS SW BLUE PKWY: 476 = 16 TREES, 24 SHRUBS SW 2ND: 236 = 8 TREES, 12 SHRUBS
OPEN SPACE TREES	2 SHRUBS / 5,000 SF LOT AREA 114,748 / 5000 = 46 SHRUBS 1 TREE / 5,000 SF LOT AREA - BLDG/CANOPY SF (114,748 - 12,599) 102,149 / 5000 = 20 TREES
PARKING LOT PERIMETER LANDSCAPE	SOLID SCREENING ADJACENT TO PUBLIC ROW
PROVIDED	
END ISLANDS PROVIDED	
SW 3RD: 224 = 7 TREES, 12 SHRUBS SW BLUE PKWY: 476 = 16 TREES, 24+ SHRUBS SW 2ND: 236 = 11 TREES, 29 SHRUBS	
21 TREES, 46+ SHRUBS	
SOLID HEDGE ROW ADJACENT TO PARKING ALONG NW 2ND STREET	

Landscape Schedule				
USE	SYMBOL	COMMON NAME <i>Botanical Name</i>	MINIMUM SIZE/ HEIGHT/SPREAD	QUANTITIES
SHRUBS	☼	WINTERGREEN BOXWOOD <i>Microphylla korera</i>	24" HT MIN	198 EA.
	✱	PERFECTA JUNIPER <i>Juniperus chinensis 'Perfecta'</i>	36" HT MIN	25 EA.
	⊙	ROSE OF SHARON <i>Hibiscus syriacus</i>	36" HT MIN	12 EA.
	⊗	GREY GUARDIAN JUNIPER <i>Juniperus virginiana 'Greguard'</i>	HEIGHT/SPREAD RATIO = 2:3	16 EA.
	⊙	BLOOMERANG DWARF LILAC <i>Syringa x penda</i>	HEIGHT/SPREAD RATIO = 4:3	6 EA.
ORNAMENTAL TREES	✿	WINE & ROSES WEIGELA <i>Weigela florida 'Alexandra'</i>	HEIGHT/SPREAD RATIO = 4:3	6 EA.
	✿	FRUITLESS CRABAPPLE (DWARF) <i>Coral Burst, Spring Snow, or Velvet Pillar varieties</i>	3" CALIPER 6' HT	4 EA.
	✿	OKLAHOMA REDBUD <i>Cercis texensis reniformis</i>	3" CALIPER 12' HT	18 EA.
	✿	WHITE FLOWERING DOGWOOD <i>Cherokee Princess variety</i>	3" CALIPER 12' HT	12 EA.
	✿	ARISTOCRAT PEAR <i>Pyrus Calleryana</i>	3" CALIPER 12' HT	4 EA.
SHADE TREES	✿	WHITE SWAMP OAK <i>Quercus bicolor</i>	3" CALIPER	2 EA.
	✿	WILLOW OAK <i>Quercus Phellos</i>	3" CALIPER	9 EA.
	✿	WATER OAK <i>Quercus Nigra</i>	3" CALIPER	7 EA.
MISC EVERGREEN	✿	WHITE PINE <i>Pinus strobus</i>	8' MINIMUM HT	8 EA.
	✿	FESCUE SOD		54,460 S.F.

QUICKTRIP
CONCOR S. HULMAN
NUMBER
PE-2021004771
4/25/25

PROJECT NO.: 02-0183

MDG
Midwest Design Group
Kansas City

PO Box 860015
Shawnee, KS 66286-0015
P 913.248.9385

QuikTrip No. 0183R
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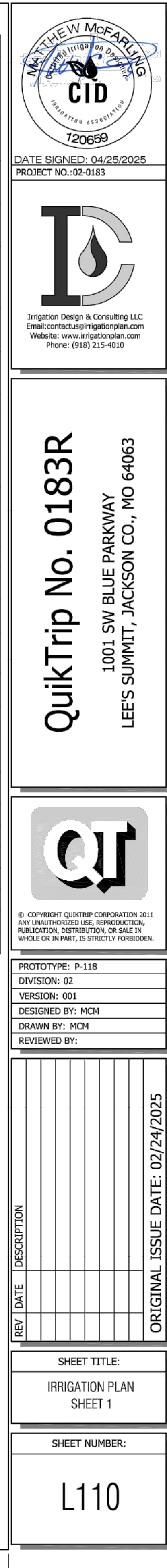
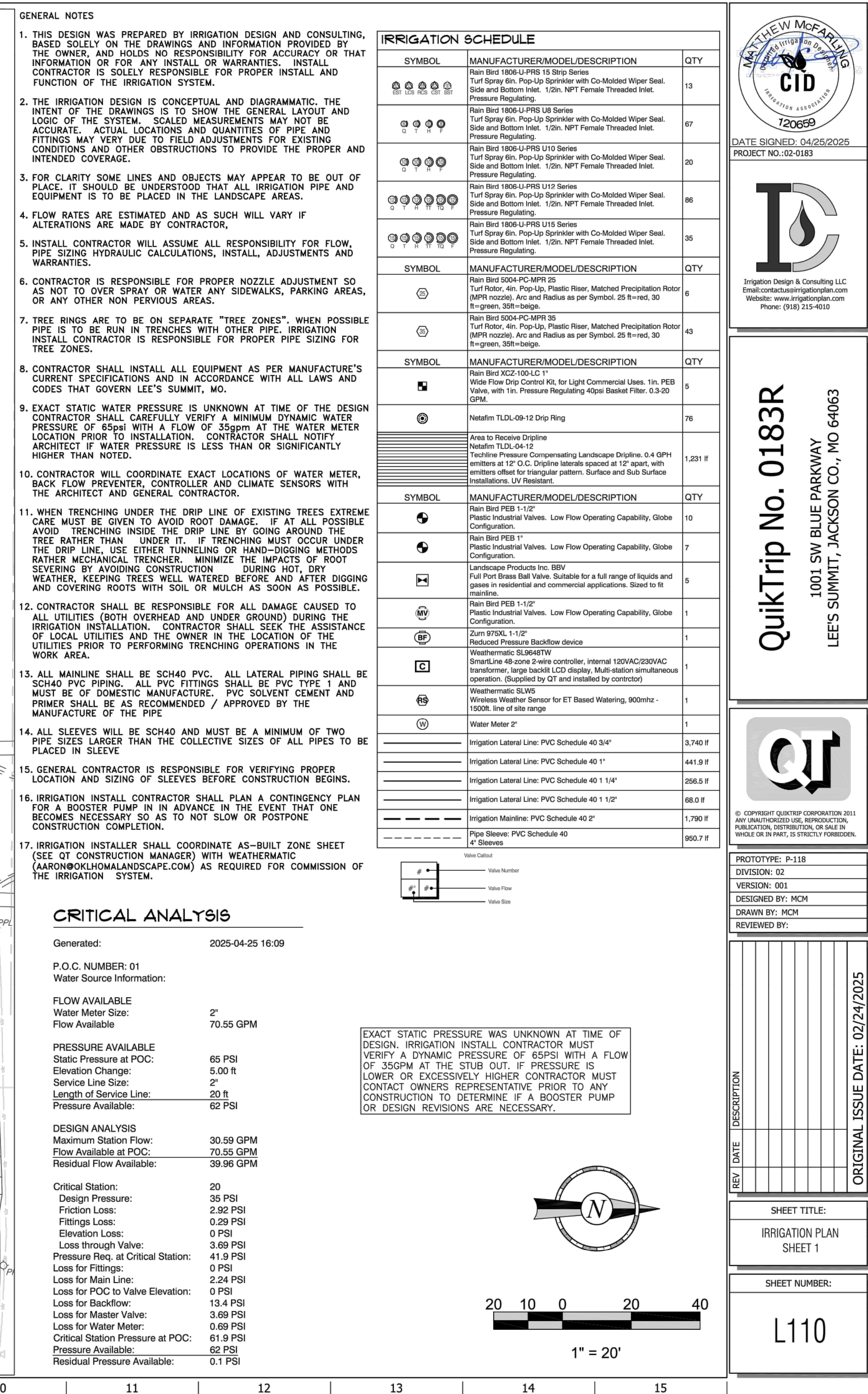
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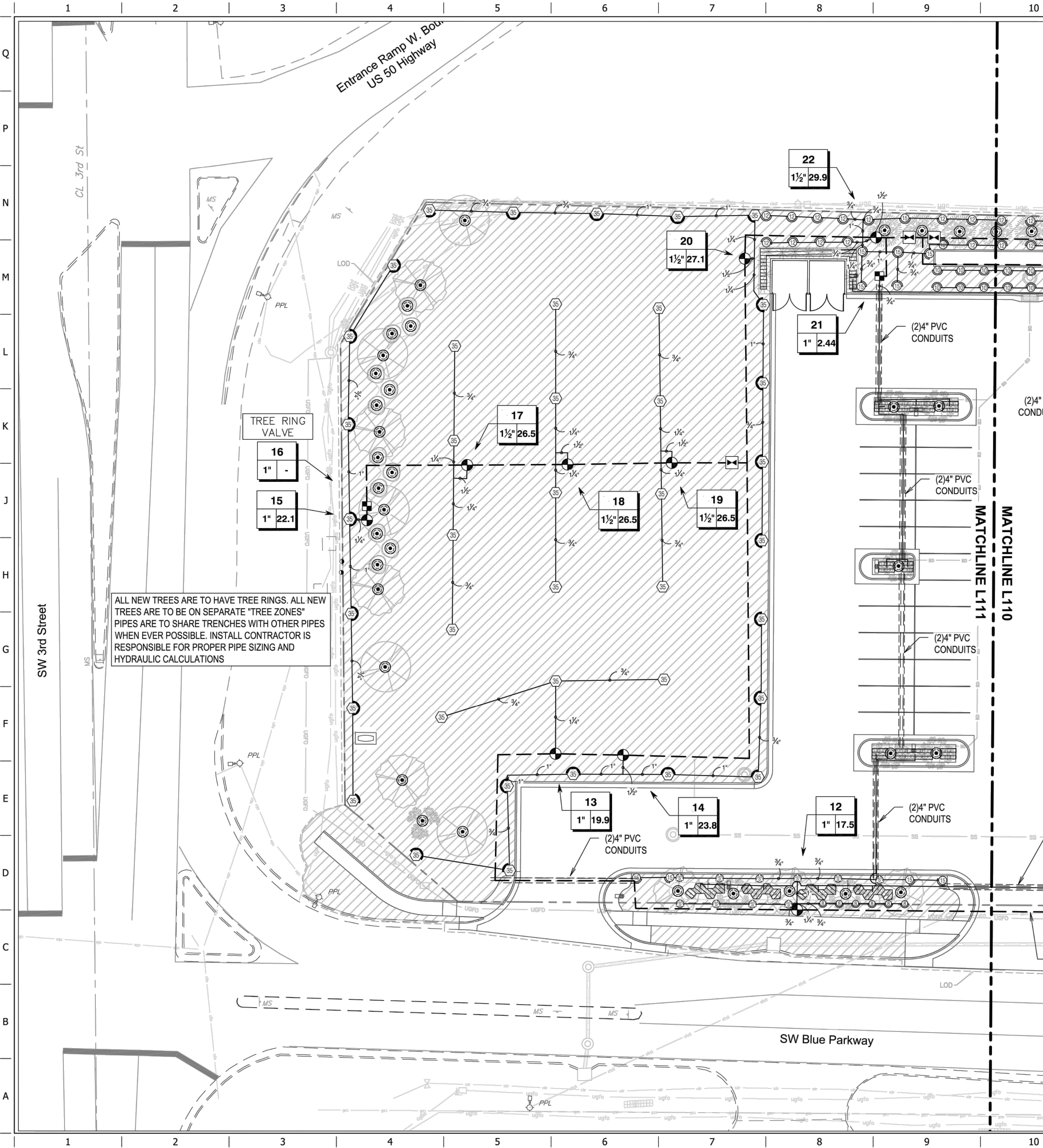
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DIVISION: 02
VERSION: 001
DESIGNED BY: CSH
DRAWN BY: CSH
REVIEWED BY: TRW

REV	DATE	DESCRIPTION

SHEET TITLE:
LANDSCAPE PLAN

SHEET NUMBER:
L100





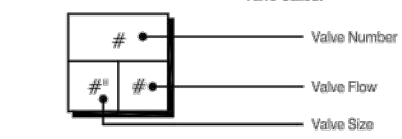
- GENERAL NOTES
- THIS DESIGN WAS PREPARED BY IRRIGATION DESIGN AND CONSULTING, BASED SOLELY ON THE DRAWINGS AND INFORMATION PROVIDED BY THE OWNER, AND HOLDS NO RESPONSIBILITY FOR ACCURACY OR THAT INFORMATION OR FOR ANY INSTALL OR WARRANTIES. INSTALL CONTRACTOR IS SOLELY RESPONSIBLE FOR PROPER INSTALL AND FUNCTION OF THE IRRIGATION SYSTEM.
 - THE IRRIGATION DESIGN IS CONCEPTUAL AND DIAGRAMMATIC. THE INTENT OF THE DRAWINGS IS TO SHOW THE GENERAL LAYOUT AND LOGIC OF THE SYSTEM. SCALED MEASUREMENTS MAY NOT BE ACCURATE. ACTUAL LOCATIONS AND QUANTITIES OF PIPE AND FITTINGS MAY VARY DUE TO FIELD ADJUSTMENTS FOR EXISTING CONDITIONS AND OTHER OBSTRUCTIONS TO PROVIDE THE PROPER AND INTENDED COVERAGE.
 - FOR CLARITY SOME LINES AND OBJECTS MAY APPEAR TO BE OUT OF PLACE. IT SHOULD BE UNDERSTOOD THAT ALL IRRIGATION PIPE AND EQUIPMENT IS TO BE PLACED IN THE LANDSCAPE AREAS.
 - FLOW RATES ARE ESTIMATED AND AS SUCH WILL VARY IF ALTERATIONS ARE MADE BY CONTRACTOR.
 - INSTALL CONTRACTOR WILL ASSUME ALL RESPONSIBILITY FOR FLOW, PIPE SIZING HYDRAULIC CALCULATIONS, INSTALL, ADJUSTMENTS AND WARRANTIES.
 - CONTRACTOR IS RESPONSIBLE FOR PROPER NOZZLE ADJUSTMENT SO AS NOT TO OVER SPRAY OR WATER ANY SIDEWALKS, PARKING AREAS, OR ANY OTHER NON PERVIOUS AREAS.
 - TREE RINGS ARE TO BE ON SEPARATE "TREE ZONES". WHEN POSSIBLE PIPE IS TO BE RUN IN TRENCHES WITH OTHER PIPE. IRRIGATION INSTALL CONTRACTOR IS RESPONSIBLE FOR PROPER PIPE SIZING FOR TREE ZONES.
 - CONTRACTOR SHALL INSTALL ALL EQUIPMENT AS PER MANUFACTURE'S CURRENT SPECIFICATIONS AND IN ACCORDANCE WITH ALL LAWS AND CODES THAT GOVERN LEE'S SUMMIT, MO.
 - EXACT STATIC WATER PRESSURE IS UNKNOWN AT TIME OF THE DESIGN CONTRACTOR SHALL CAREFULLY VERIFY A MINIMUM DYNAMIC WATER PRESSURE OF 65psi WITH A FLOW OF 35gpm AT THE WATER METER LOCATION PRIOR TO INSTALLATION. CONTRACTOR SHALL NOTIFY ARCHITECT IF WATER PRESSURE IS LESS THAN OR SIGNIFICANTLY HIGHER THAN NOTED.
 - CONTRACTOR WILL COORDINATE EXACT LOCATIONS OF WATER METER, BACK FLOW PREVENTER, CONTROLLER AND CLIMATE SENSORS WITH THE ARCHITECT AND GENERAL CONTRACTOR.
 - WHEN TRENCHING UNDER THE DRIP LINE OF EXISTING TREES EXTREME CARE MUST BE GIVEN TO AVOID ROOT DAMAGE. IF AT ALL POSSIBLE AVOID TRENCHING INSIDE THE DRIP LINE BY GOING AROUND THE TREE RATHER THAN UNDER IT. IF TRENCHING MUST OCCUR UNDER THE DRIP LINE, USE EITHER TUNNELING OR HAND-DIGGING METHODS RATHER MECHANICAL TRENCHER. MINIMIZE THE IMPACTS OF ROOT SEVERING BY AVOIDING CONSTRUCTION DURING HOT, DRY WEATHER, KEEPING TREES WELL WATERED BEFORE AND AFTER DIGGING AND COVERING ROOTS WITH SOIL OR MULCH AS SOON AS POSSIBLE.
 - CONTRACTOR SHALL BE RESPONSIBLE FOR ALL DAMAGE CAUSED TO ALL UTILITIES (BOTH OVERHEAD AND UNDER GROUND) DURING THE IRRIGATION INSTALLATION. CONTRACTOR SHALL SEEK THE ASSISTANCE OF LOCAL UTILITIES AND THE OWNER IN THE LOCATION OF THE UTILITIES PRIOR TO PERFORMING TRENCHING OPERATIONS IN THE WORK AREA.
 - ALL MAINLINE SHALL BE SCH40 PVC. ALL LATERAL PIPING SHALL BE SCH40 PVC PIPING. ALL PVC FITTINGS SHALL BE PVC TYPE 1 AND MUST BE OF DOMESTIC MANUFACTURE. PVC SOLVENT CEMENT AND PRIMER SHALL BE AS RECOMMENDED / APPROVED BY THE MANUFACTURE OF THE PIPE
 - ALL SLEEVES WILL BE SCH40 AND MUST BE A MINIMUM OF TWO PIPE SIZES LARGER THAN THE COLLECTIVE SIZES OF ALL PIPES TO BE PLACED IN SLEEVE
 - GENERAL CONTRACTOR IS RESPONSIBLE FOR VERIFYING PROPER LOCATION AND SIZING OF SLEEVES BEFORE CONSTRUCTION BEGINS.
 - IRRIGATION INSTALL CONTRACTOR SHALL PLAN A CONTINGENCY PLAN FOR A BOOSTER PUMP IN ADVANCE IN THE EVENT THAT ONE BECOMES NECESSARY SO AS TO NOT SLOW OR POSTPONE CONSTRUCTION COMPLETION.
 - IRRIGATION INSTALLER SHALL COORDINATE AS-BUILT ZONE SHEET (SEE QT CONSTRUCTION MANAGER) WITH WEATHERMATIC (AARON@OKLHOMALANDSCAPE.COM) AS REQUIRED FOR COMMISSION OF THE IRRIGATION SYSTEM.

CRITICAL ANALYSIS

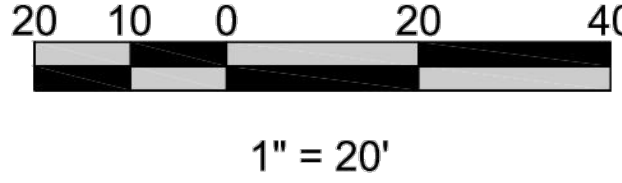
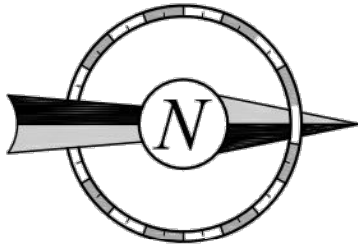
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P.O.C. NUMBER:	01
Water Source Information:	
FLOW AVAILABLE	
Water Meter Size:	2"
Flow Available	70.55 GPM
PRESSURE AVAILABLE	
Static Pressure at POC:	65 PSI
Elevation Change:	5.00 ft
Service Line Size:	2"
Length of Service Line:	20 ft
Pressure Available:	62 PSI
DESIGN ANALYSIS	
Maximum Station Flow:	30.59 GPM
Flow Available at POC:	70.55 GPM
Residual Flow Available:	39.96 GPM
Critical Station:	20
Design Pressure:	35 PSI
Friction Loss:	2.92 PSI
Fittings Loss:	0.29 PSI
Elevation Loss:	0 PSI
Loss through Valve:	3.69 PSI
Pressure Req. at Critical Station:	41.9 PSI
Loss for Fittings:	0 PSI
Loss for Main Line:	2.24 PSI
Loss for POC to Valve Elevation:	0 PSI
Loss for Backflow:	13.4 PSI
Loss for Master Valve:	3.69 PSI
Loss for Water Meter:	0.69 PSI
Critical Station Pressure at POC:	61.9 PSI
Pressure Available:	62 PSI
Residual Pressure Available:	0.1 PSI

IRRIGATION SCHEDULE

SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	QTY
	Rain Bird 1806-U-PRS 15 Strip Series	13
	Rain Bird 1806-U-PRS UB Series	67
	Rain Bird 1806-U-PRS U10 Series	20
	Rain Bird 1806-U-PRS U12 Series	86
	Rain Bird 1806-U-PRS U15 Series	35
SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	QTY
	Rain Bird 5004-PC-MPR 25	6
	Rain Bird 5004-PC-MPR 35	43
SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	QTY
	Rain Bird XC2-100-LC 1"	5
	Netafim TDL-09-12 Drip Ring	76
	Area to Receive Dripline	1,231 sf
SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	QTY
	Rain Bird PEB 1-1/2"	10
	Rain Bird PEB 1"	7
	Landscape Products Inc. BBV	5
	Rain Bird PEB 1-1/2"	1
	Zurn 875XL 1-1/2"	1
	Weathermatic SL8648TW	1
	Weathermatic SL8V5	1
	Water Meter 2"	1
	Irrigation Lateral Line: PVC Schedule 40 3/4"	3,740 lf
	Irrigation Lateral Line: PVC Schedule 40 1"	441.9 lf
	Irrigation Lateral Line: PVC Schedule 40 1 1/4"	256.5 lf
	Irrigation Lateral Line: PVC Schedule 40 1 1/2"	68.0 lf
	Irrigation Mainline: PVC Schedule 40 2"	1,790 lf
	Pipe Sleeve: PVC Schedule 40 4"	950.7 lf



EXACT STATIC PRESSURE WAS UNKNOWN AT TIME OF DESIGN. IRRIGATION INSTALL CONTRACTOR MUST VERIFY A DYNAMIC PRESSURE OF 65PSI WITH A FLOW OF 35GPM AT THE STUB OUT. IF PRESSURE IS LOWER OR EXCESSIVELY HIGHER CONTRACTOR MUST CONTACT OWNERS REPRESENTATIVE PRIOR TO ANY CONSTRUCTION TO DETERMINE IF A BOOSTER PUMP OR DESIGN REVISIONS ARE NECESSARY.



DATE SIGNED: 04/25/2025
PROJECT NO.: 02-0183

Irrigation Design & Consulting LLC
Email: contact@irrigationplan.com
Website: www.irrigationplan.com
Phone: (918) 215-4010

QuikTrip No. 0183R

1001 SW BLUE PARKWAY
LEE'S SUMMIT, JACKSON CO., MO 64063

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VERSION: 001
DESIGNED BY: MCM
DRAWN BY: MCM
REVIEWED BY:

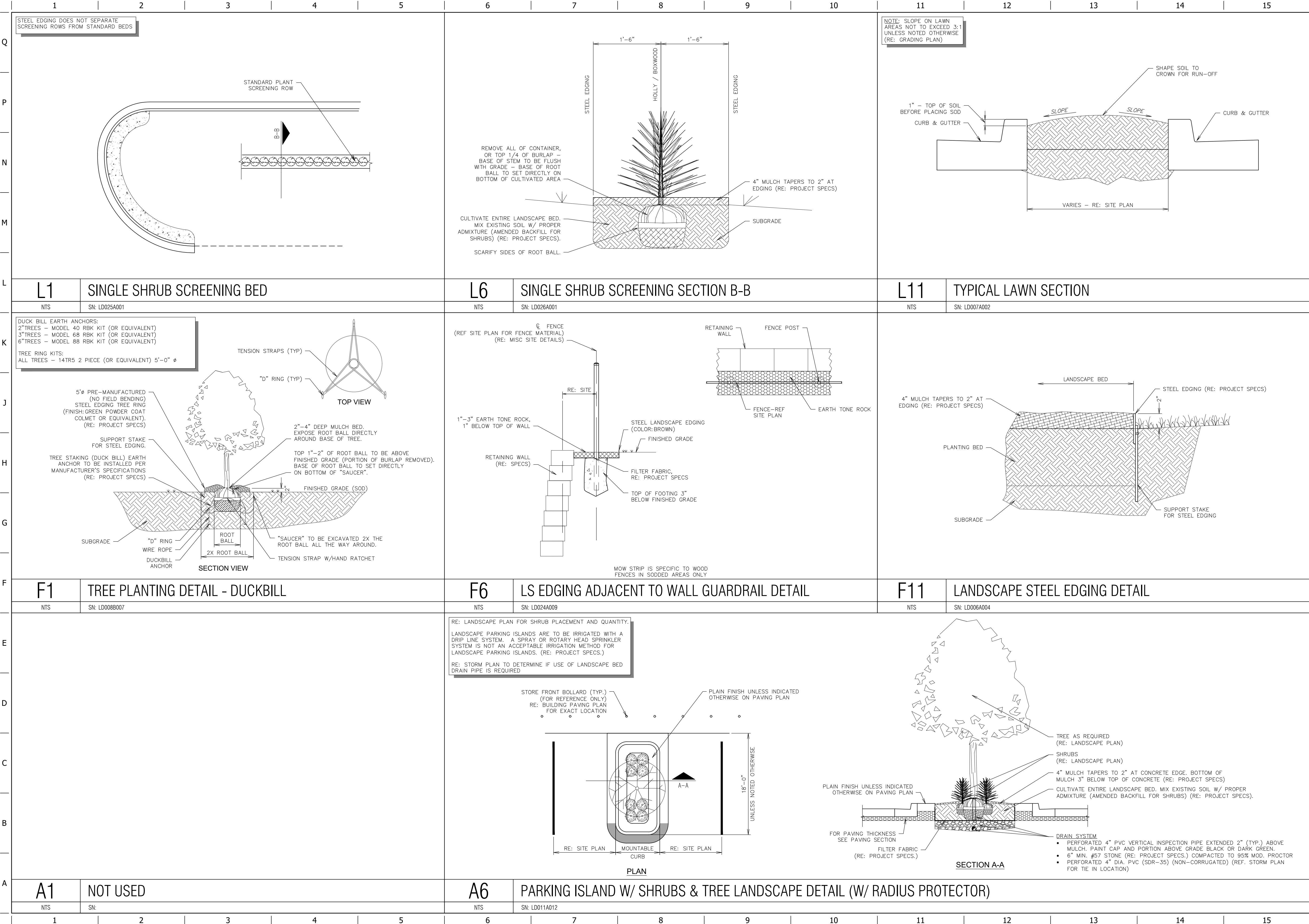
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ORIGINAL ISSUE DATE: 02/24/2025

SHEET TITLE:
IRRIGATION PLAN
SHEET 2

SHEET NUMBER:
L111

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SAVED:3/3/2025 8:58 AM PLOTTED:4/25/2025 8:54 AM



QUIKTRIP
STANDARD
DETAILS

PROJECT NO.:02-0183



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VERSION: 001
DESIGNED BY: CSH
DRAWN BY: CSH
REVIEWED BY: TRW

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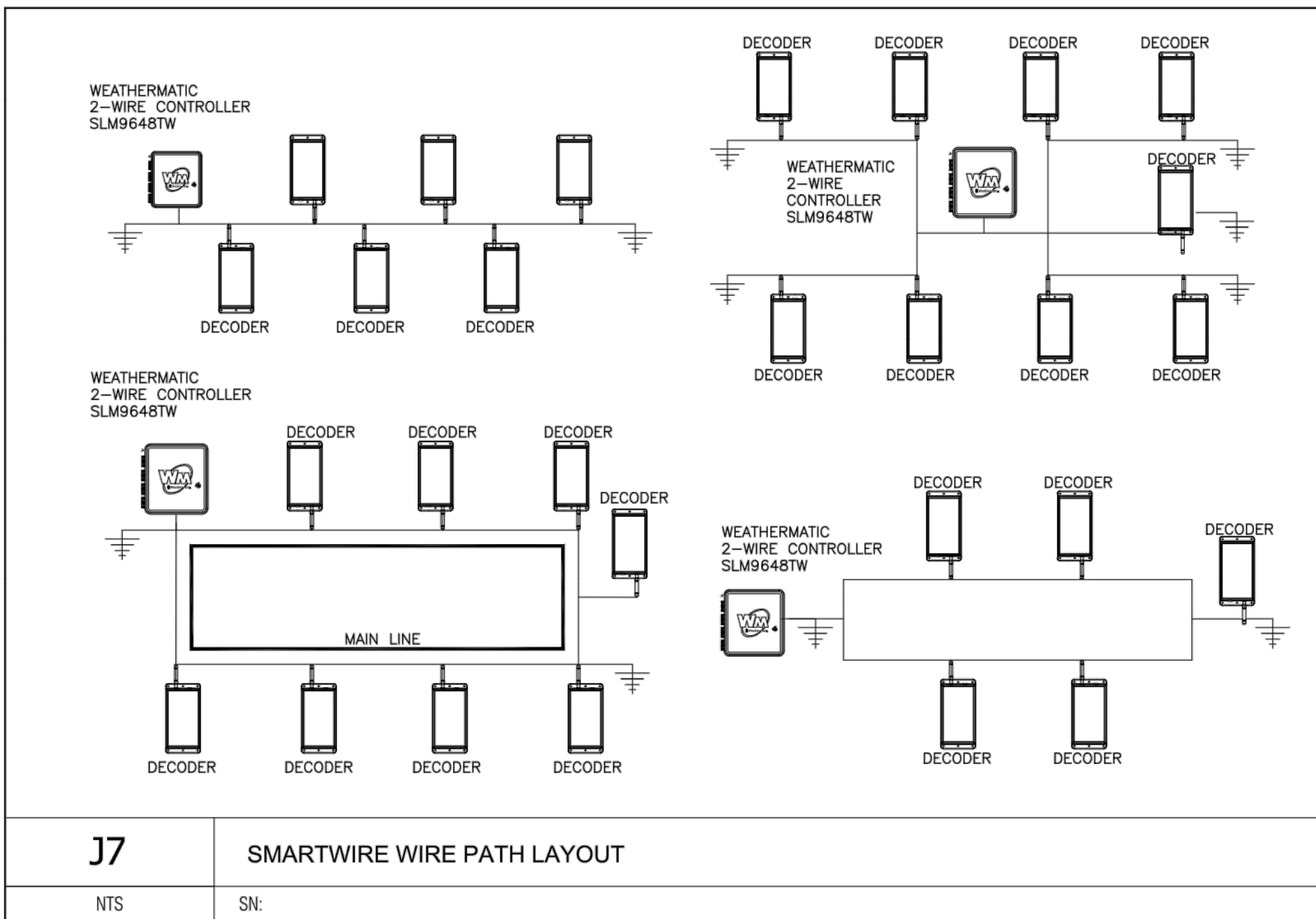
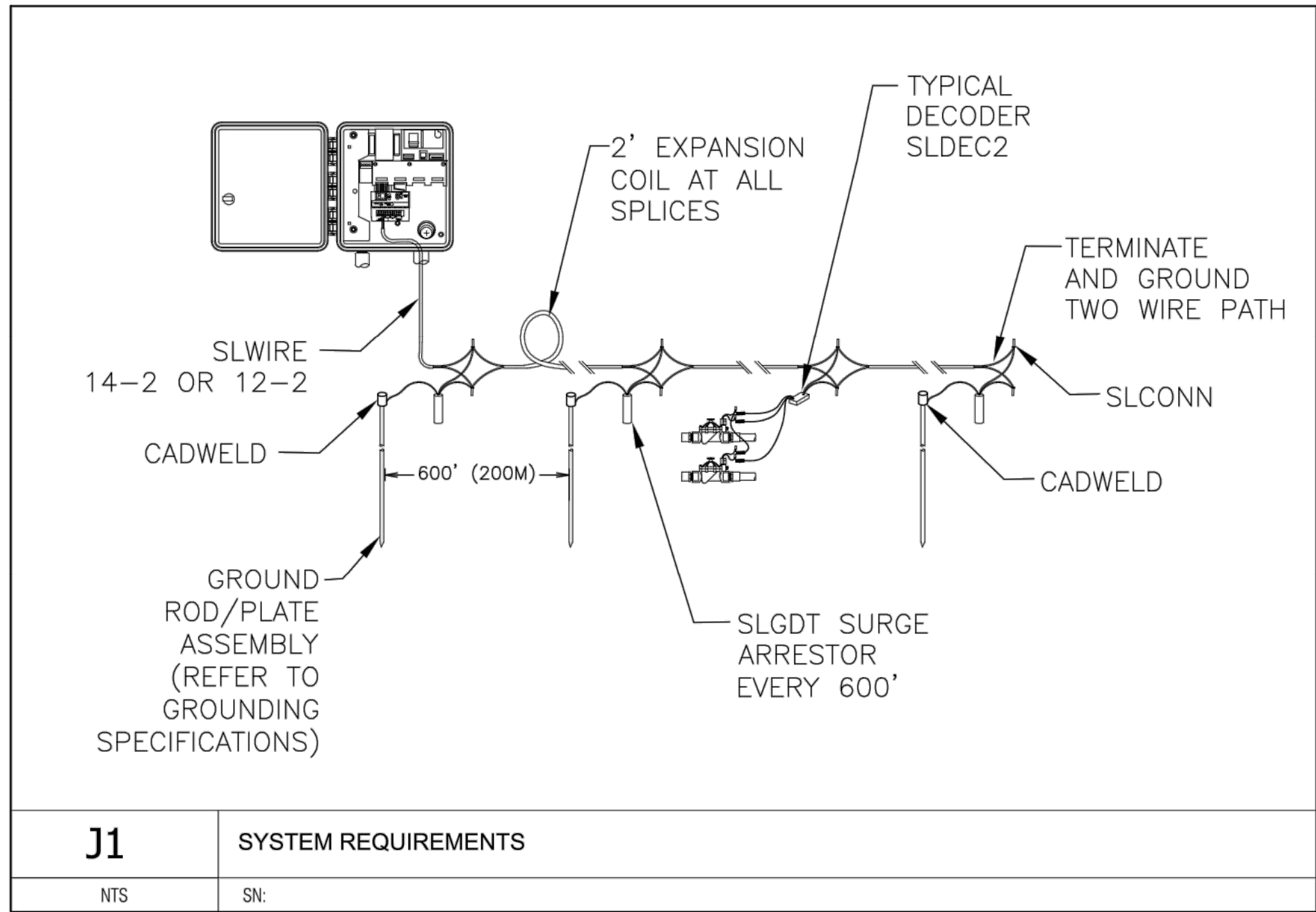
SHEET TITLE:

LANDSCAPE DETAILS

SHEET NUMBER:

L500

Two-wire irrigation details:



Two-wire notes:

- NOTES:
- Specific wire polarity is required. Maintain red and black wire polarity throughout installation.
 - Maintain independent wire path for each controller. No splicing or joining wire paths for multiple controls.
 - Up to three independent wire paths may be run for each SLM9648TW.
 - Maximum distance from SLDEC decoders to remote control valve not to exceed 100' (30.5m).
 - Each 2-wire run may be laid out in straight run, complete loop, star, or combination layouts as shown in details. Always terminate and ground each leg of the wire path using manufacturer's recommended grounding methods.
 - Use a continuous loop wire path whenever possible to provide the best communication and power path for the system. Looping provides a redundant path for the power and signal allowing the system to continue operation in the event the wire path is cut.
 - Mark each zone number on the SLDEC decoder. For multi-valve decoders record the zone in order of wire color code: orange, yellow, green, and blue.
 - Mark all zone numbers and decoder locations on the as-built plan for final submittal.
 - Secure all Red and Black 2-wire connections using only manufacturer's supplied SLCONN aluminum connectors and grease filled waterproof connectors.
 - All remote control valve wire splices shall be secured using an encapsulated, gel-filled waterproof wire connector suitable for direct burial and installed according to manufacturer's specifications.
 - Use SmartWire SLWIRE cable supplied by Weathermatic sprinkler division of Telsco Industries to comply with the following specifications:
 - Conductors must be soft drawn, annealed, solid copper conforming to ASTM 33.
 - Conductor insulation must be 4/64-inch thick polyvinyl chloride (PVC) conforming to UL #493.
 - The two insulated conductors laid in parallel and encased in a single outer jacket of 3/64-inch thick, high-density, sunlight resistant polyethylene conforming to ICEA S-61-402 and NEMA WC5, having a minimum wall thickness of .045-inch.
 - The two conductors must be color-coded: normally one conductor red and the other black. Both conductors shall be the same size.
 - The following brands meet the above specifications for direct burial cable: Weathermatic SLWIRE12; Weathermatic SLWIRE14.
 - Wire sizing and maximum distance shall not exceed manufacturer's recommendations to avoid voltage loss and insure proper operation of the system.
 - All 2-wire paths under hardscape surfaces shall be sleeved and include no splices of the 2-wire path within 5' of sleeves. Secure a 2' (0.6m) expansion loop in the two-wire path at each change of direction and entry and exit of sleeve locations during wire installation. Release the expansion loops prior to direct burial.
 - Install one SLGDT surge arrester at the following locations along the 2-wire path: within 25' (7.5m) of each controller, the farthest distance on the 2-wire path from the controller, every 600' along the wire path, at any independent branch termination greater than 50' (15m) from than main 2-wire path.
 - Connect each SLGDT to an 8' copper clad UL approved grounding round or other approved grounding method to obtain 12 ohms or less resistance. Use CADWELD TM permanent welded, low-resistance connection to assure best grounding performance. Consult ASIC specification 100-2002 for additional grounding specifications for appropriate for local soil conditions.
 - Use care in stripping all wire connections to avoid damage to the 2-wire shield and red and black wire path. Remove and discard any damaged 2-wire sections and repair using two SLCONN splice kits.
 - Use expansion coils on the red and black wires at each decoder installation. No expansion coils are necessary for the SLGDT.
 - Adhere to all local and national building and electrical codes.

Scale: Not to Scale

STRAIGHT LINE CONFIGURATION, I.E. WIRE DISTANCE TO FURTHEST DECODER, NO LOOP:

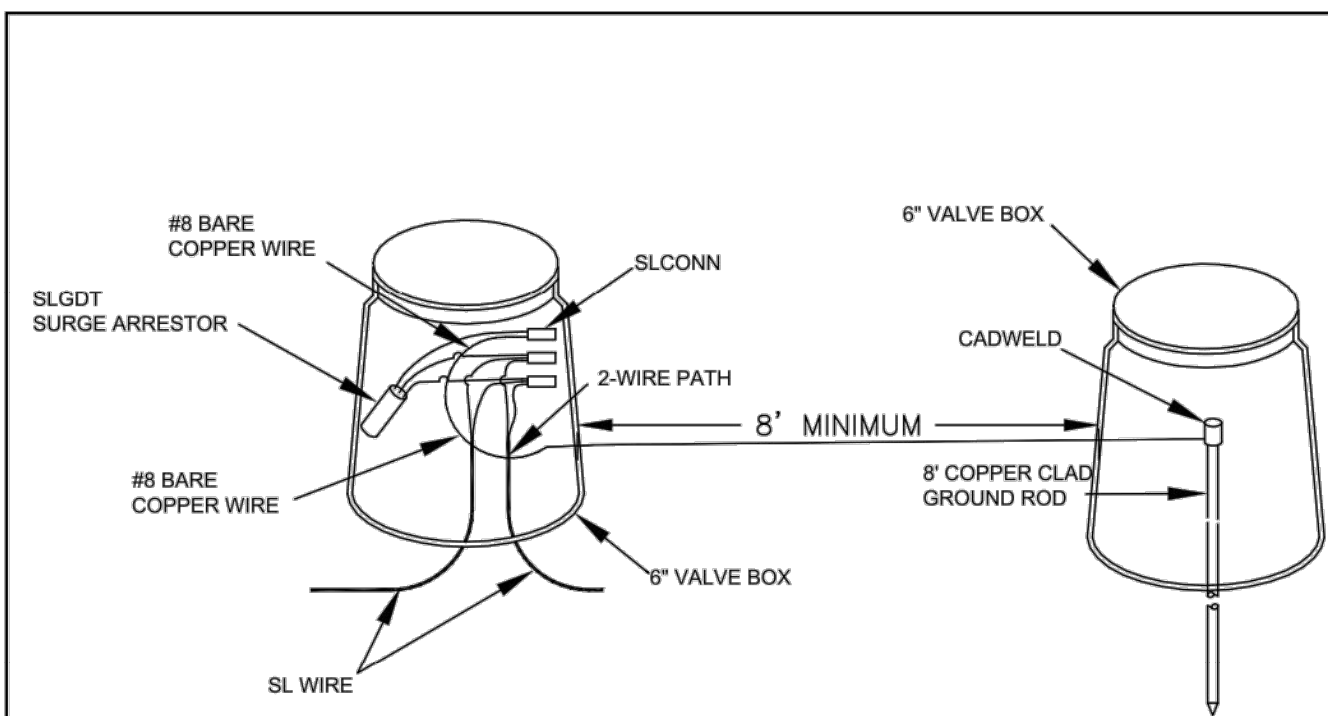
Wire Size (Guage)	#18	#16	#14	#12
Wire Length (ft)	1,000	2,000	4,000	6,000
Wire Length (m)	300	600	1,200	1,800

LOOP CONFIGURATION, I.E. WIRE DISTANCE TO THE FURTHEST DECODER IN THE LOOP:

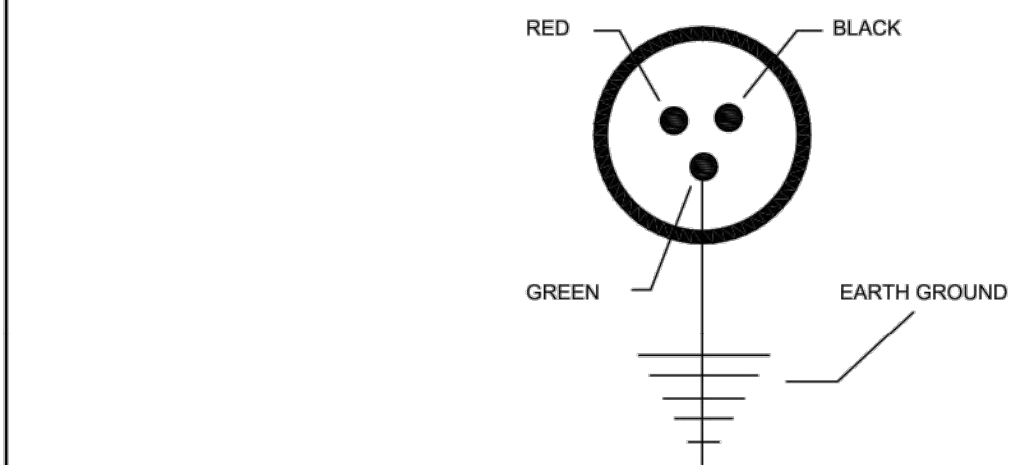
Wire Size (Guage)	#18	#16	#14	#12
Wire Length (ft)	2,000	4,000	10,000	10,000
Wire Length (m)	600	1,200	3,000	3,000

MAXIMUM TOTAL WIRE PATH LENGTH IS 10,000 FEET (3,000 M).

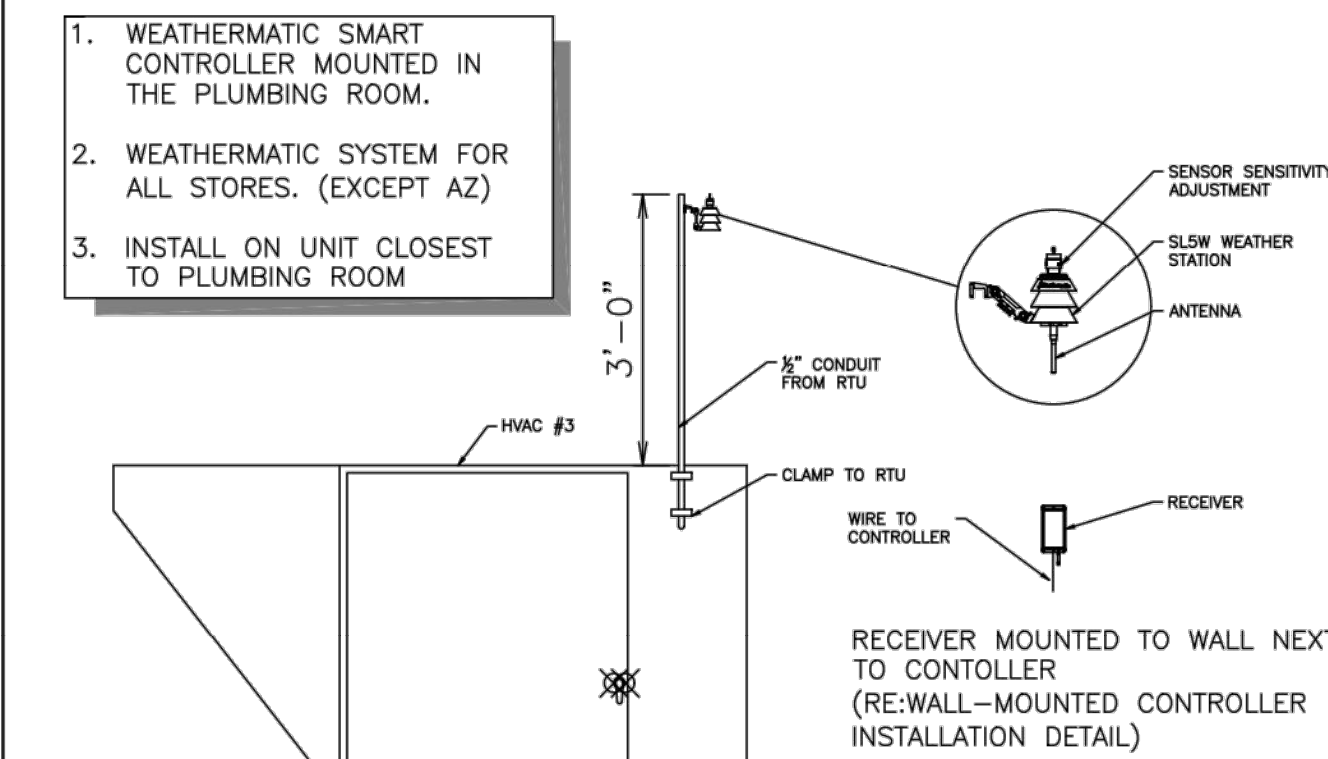
E1 Wire Sizing



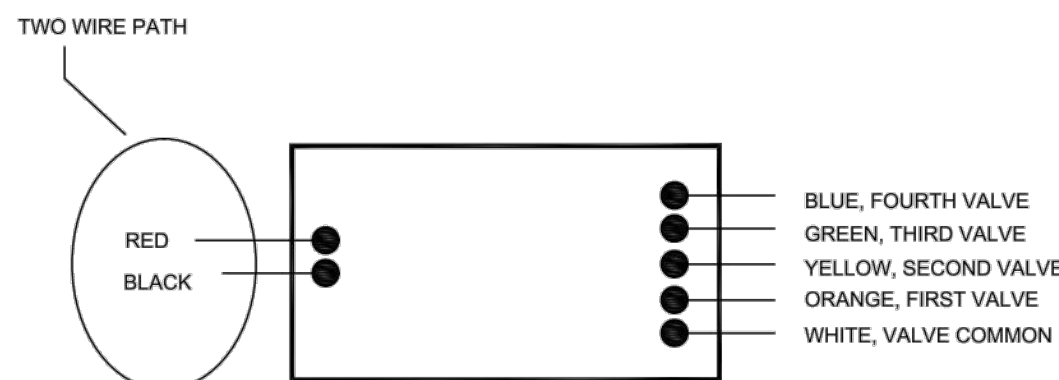
A1 GROUNDING DETAIL



E5 SLGDT SCHEMATIC

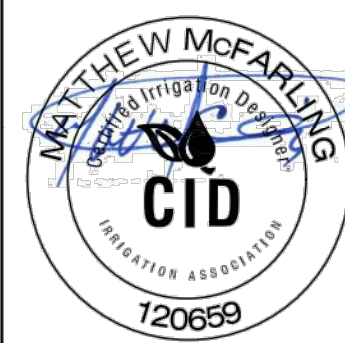


A5 HVAC #3 IRRIGATION SENSOR - ELEVATION



E9 DECODER SCHEMATIC

A9 NOT USED



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REV	DATE	DESCRIPTION

SHEET TITLE:

IRRIGATION DETAILS
SHEET 2

SHEET NUMBER:

L511

ORIGINAL ISSUE DATE: 02/24/2025