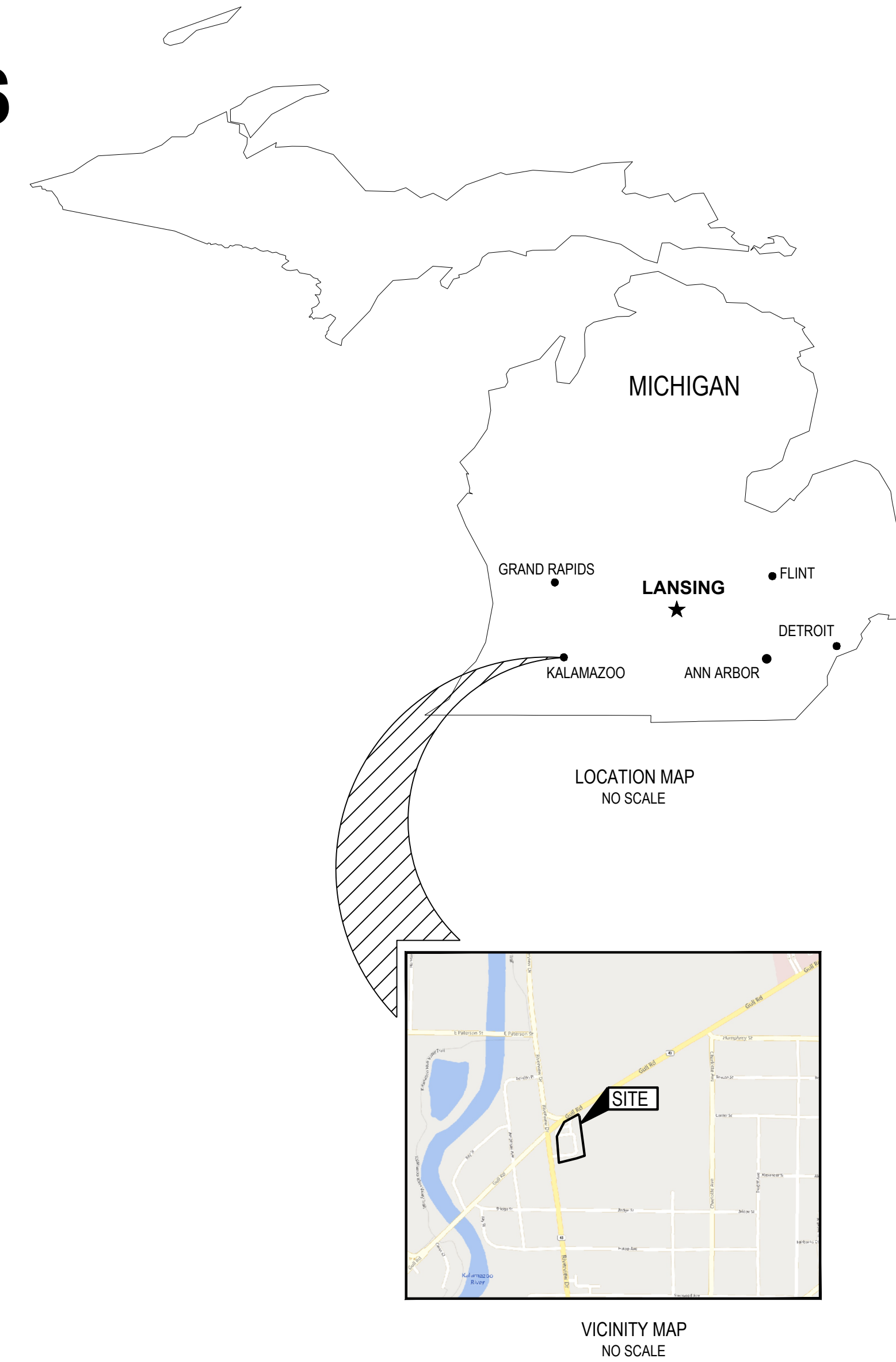


CITY OF KALAMAZOO, KALAMAZOO COUNTY, MI CONSTRUCTION DOCUMENTS

FOR SPEEDWAY

918 RIVERVIEW DRIVE
KALAMAZOO, MI
SITE # 1056959
STORE# 42768

Speedway®



OWNER/DEVELOPER:
ENCORE REAL ESTATE
1646 W. SNOW AVE., SUITE 63
TAMPA, FL 33606
PHONE: (813) 495-6536
CONTACT: PATRICK BUDRONIS

ARCHITECT:
CESO ARCHITECTS, INC.
2012 W. 25TH ST. SUITE 200
CLEVELAND, OH 44113
PHONE: (937) 240-4109
CONTACT: ADAM WALTER

ENGINEER:
CESO, INC.
13080 S. US HIGHWAY 27, SUITE D
DEWITT, MI 48820
PHONE: (517) 622-3000
CONTACT: MANDY GAUSS
EOR: BRYAN HALL, P.E.

GOVERNING AGENCIES AND UTILITY COMPANIES

SEWER:
CITY OF KALAMAZOO
415 E STOCKBRIDGE AVE
KALAMAZOO, MI 49001
PHONE: (269) 337-8000

GAS SERVICE:
CONSUMERS ENERGY GAS (CMS)
1 ENERGY PLAZA DR
JACKSON, MI 49201
PHONE: (517) 788-0550

WATER:
CITY OF KALAMAZOO
415 E STOCKBRIDGE AVE
KALAMAZOO, MI 49001
PHONE: (269) 337-8000

COMMUNICATIONS:
AT&T
342 N DRAKE RD
KALAMAZOO, MI 49007
PHONE: (269) 591-6269

STORMWATER:
CITY OF KALAMAZOO
1415 NORTH HARRISON STREET
KALAMAZOO, MI 49007
PHONE: (269) 337-8583

ELECTRIC:
CONSUMERS ENERGY ELECTRIC (CMS)
1 ENERGY PLAZA DR
JACKSON, MI 49201
PHONE: (517) 788-0550

ZONING:
CITY OF KALAMAZOO - PETE ELDRIDGE
241 W SOUTH STREET
KALAMAZOO, MI 49007
PHONE: (269) 337-8806

PROPERTY DATA:

PARCEL OWNER: MIDWEST STATES, LLC

PARCEL ID: 06-14-116-001

ADDRESS: 918 RIVERVIEW DRIVE
KALAMAZOO, MI 49048

PROPERTY AREA: 1.44 AC

ZONING: CC - COMMUNITY COMMERCIAL DISTRICT
NORTH: CC - COMMUNITY COMMERCIAL DISTRICT
SOUTH: CC - COMMUNITY COMMERCIAL DISTRICT
EAST: RM15 - RESIDENTIAL, MULTI-DWELLING
WEST: CC - COMMUNITY COMMERCIAL DISTRICT

PROPOSED USE: AUTO CONVENIENCE STORE

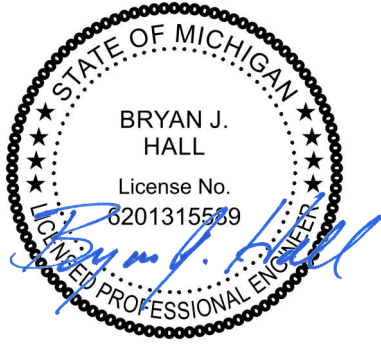
	REQUIRED	PROPOSED
BUILDING SETBACKS		
FRONTAGE ALONG STREET:	0' FROM ROW	125'
SIDE:	0' FROM PROPERTY LINE	76'
REAR:	25' PROPERTY LINE	35'
LANDSCAPE BUFFER		
REAR:	25' FROM PROPERTY LINE	25'
SIDE STREET:	5' FROM ROW	5'
MAXIMUM LOT COVERAGE:	MUST BE LESS THAN 80% IMPERVIOUS	1.07 / 1.447 = 0.74 74% IMPERVIOUS
PARKING:		
TOTAL PARKING SPACES:	(1 PER 330 SF GROSS FLOOR AREA +1 PER EMPLOYEE) (15+5) = 20	22
ADA PARKING SPACES:	2	2
EMPLOYEE PARKING:	1 PER 7 EMPLOYEES	1

FLOODPLAIN DESIGNATION: PARCEL IS LOCATED WITHIN ZONE X AS INDICATED BY THE FLOOD INSURANCE RATE MAP (FIRM) COMMUNITY PANEL 26077C0187E, EFFECTIVE DATE: 07/31/2024. PUBLISHED BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY

Sheet Number	Sheet Title
CV	COVER SHEET
GN	GENERAL NOTES
EX	EXISTING CONDITIONS
CD	DEMOLITION PLAN
CD1	DEMOLITION PLAN WITH OVERLAY
CS	SITE PLAN
CS1	DIMENSION PLAN
CR	CIRCULATION PLAN
CG	OVERALL GRADING PLAN
CG1	DETAILED GRADING PLAN
CG2	DETAILED BUILDING GRADING PLAN
CF	CUT & FILL PLAN
CU	UTILITY PLAN
CU1	STORM PROFILES
CE	SWPPP PHASE I
CE1	SWPPP PHASE II
CE2	SWPPP NOTES & DETAILS
CPC-1	PAVEMENT AND JOINTING DETAILS
CPC-2	CURB DETAILS
CUD-1	DRAINAGE AND UTILITY DETAILS
CUD-2	DRAINAGE AND UTILITY DETAILS
CYE-A	YARD EQUIPMENT INSTALLATION DETAILS
CYE-O	YARD EQUIPMENT INSTALLATION DETAILS
SCB-1	STANDARD CANOPY DETAILS
DET-1	CONSTRUCTION DETAILS
DET-2	MDOT DETAILS 1
DET-3	STORM DETAILS
DET-4	STORMTRAP DETAILS
DET-5	STORMTRAP DETAILS
DET-6	KSI DETAILS
DET-7	KSI DETAILS 2
L1.0	LANDSCAPE PLAN
L2.0	PLANTING DETAILS
1 OF 1	PHOTOMETRIC PLAN



3601 Rgby Rd., Suite 300
Mansfield, OH 43042
Phone: 937.435.8584 Fax: 888.208.4826



03/13/2026

Speedway®

7-ELEVEN, INC.
SPEEDWAY -
KALAMAZOO
918 RIVERVIEW DRIVE
KALAMAZOO, MI 49048

ID	Description	Date
1	City Comments	2026/02/27

Project Number: 765319
Scale: NA
Drawn By: MB
Checked By: JS
Date: 09/23/2025
Issue: PERMIT SET

Drawing Title:
COVER SHEET

CV

	Vertical Datum: NAVD88 derived from GPS Observations
BM "A":	On south boundary line of McDonald's, 150' east of Riverview Drive right-of-way Elevation = 763.39'
BM "B":	"X" cut in sidewalk along south side of Gull Road, 13' west of a power pole near the surveyed property's east boundary line Elevation = 770.95'
BM "C":	"X" cut in sidewalk near east right-of-way line of Riverview Drive, 55' south of surveyed property Elevation = 760.68'



SEVENTY-TWO (72) HOURS BEFORE DIGGING IS TO COMMENCE, THE CONTRACTORS SHALL NOTIFY THE FOLLOWING AGENCIES: MICHIGAN UTILITIES PROTECTION SERVICE AT 811 OR 800-492-7171 AND ALL OTHER AGENCIES WHICH MIGHT HAVE UNDERGROUND UTILITIES INVOLVING THIS PROJECT AND ARE NONMEMBERS OF STATE UTILITIES PROTECTION SERVICE

GENERAL NOTES

DEMOLITION NOTES

- THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL PERMITS REQUIRED FOR DEMOLITION AND DISPOSAL. THE DEMOLITION, REMOVAL, AND DISPOSAL IS TO BE APPROVED BY ALL GOVERNING AUTHORITIES, OF ALL FACILITIES SUCH AS: STRUCTURES, PADS, WALLS, FLUMES, FOUNDATIONS, PARKING, DRIVES, DRAINAGE, STRUCTURES, UTILITIES, WELLS, ETC., SUCH THAT THE IMPROVEMENTS SHOWN ON THE REMAINING PLANS CAN BE CONSTRUCTED. ALL FACILITIES TO BE REMOVED SHALL BE UNDERCUT TO SUITABLE MATERIAL AND BROUGHT TO GRADE WITH SUITABLE COMPACTED FILL MATERIAL AS SPECIFIED BY A QUALIFIED PROFESSIONAL GEOTECHNICAL ENGINEER. IF UNDOCUMENTED FACILITIES ARE FOUND ON SITE, CONTRACTOR SHALL CONTACT THE OWNER AND UTILITY COMPANY PRIOR TO REMOVAL. ALL FACILITIES SHALL BE PLUGGED, ABANDONED, OR REMOVED PER STATE AND LOCAL REQUIREMENTS.
- FEDERAL, STATE AND LOCAL CODE REQUIREMENTS SHALL GOVERN THE DISPOSAL OF DEBRIS INCLUDING ANY POTENTIALLY HAZARDOUS AND TOXIC MATERIALS. ALL MATERIALS AND STRUCTURES DESIGNATED AS "TO BE REMOVED" SHALL BE DISPOSED OF OFF SITE AND AT THE COST OF THE CONTRACTOR.
- THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING JOB SITE SAFETY PER OSHA REQUIREMENTS AT ALL TIMES.
- PRIOR TO DEMOLITION, IT IS THE CONTRACTOR'S RESPONSIBILITY TO CALL THE STATE 811 AND NOTIFY ALL UTILITY COMPANIES TO SCHEDULE UTILITY SERVICE REMOVAL AND/OR ABANDONMENT. ALL UTILITIES SHALL BE REMOVED/RELOCATED PER THE SPECIFICATIONS OF THE UTILITY COMPANIES. THE CONTRACTOR IS RESPONSIBLE TO PAY ALL FEES AND CHARGES ASSOCIATED WITH THIS WORK.
- CONTRACTOR SHALL MAINTAIN ALL UTILITY SERVICES TO INHABITED BUILDINGS ON SITE AND ADJACENT PROPERTIES AT ALL TIMES. INTERRUPTIONS SHALL BE APPROVED BY THE OWNERS OF THE BUILDINGS/PROPERTIES.
- THE LOCATIONS OF ALL EXISTING UTILITIES SHOWN ON THIS PLAN HAVE BEEN DETERMINED FROM THE BEST INFORMATION AVAILABLE AND ARE GIVEN FOR THE CONVENIENCE OF THE CONTRACTOR. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR THEIR ACCURACY. PRIOR TO THE START OF ANY DEMOLITION ACTIVITY, THE CONTRACTOR SHALL NOTIFY THE UTILITY COMPANIES FOR ONSITE LOCATIONS OF EXISTING UTILITIES. IF THE LOCATION OR ELEVATION OF THE EXISTING UTILITIES ARE FOUND TO BE DIFFERENT FROM THE PLANS, CONTRACTOR SHALL CONTACT THE ENGINEER IMMEDIATELY.
- CONTRACTOR SHALL PROTECT EXISTING SITE FEATURES TO REMAIN INSIDE AND OUTSIDE CONSTRUCTION LIMITS. CONTRACTOR IS RESPONSIBLE TO DOCUMENT ALL EXISTING DAMAGES AND NOTIFY THE CITY/COUNTY PRIOR TO CONSTRUCTION START. ANY EXISTING SITE FEATURE TO REMAIN THAT IS DAMAGED DURING CONSTRUCTION, SUCH AS, BUT NOT LIMITED TO, DRAINAGE, UTILITIES, PAVEMENT, CURB, ETC. SHALL BE REPAIRED TO A CONDITION THAT IS EQUAL TO, OR BETTER THAN, THE EXISTING CONDITIONS. PRIOR TO BEING DAMAGED, THE CONTRACTOR IS RESPONSIBLE FOR REPAIRING ANY DAMAGE TO THE SATISFACTION OF THE OWNER AT NO ADDITIONAL COST.
- CONTINUOUS ACCESS SHALL BE MAINTAINED TO THE SURROUNDING PROPERTIES AT ALL TIMES DURING DEMOLITION OF THE EXISTING FACILITIES.
- THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING TRAFFIC CONTROL. ALL TRAFFIC CONTROL MEASURES SHALL BE IN ACCORDANCE WITH STATE DEPARTMENT OF TRANSPORTATION REGULATIONS AND LOCAL REGULATIONS.
- THE CONTRACTOR IS RESPONSIBLE FOR PLACING AND MAINTAINING CONSTRUCTION FENCE, SIGNS, ETC. TO WARN AND KEEP UNAUTHORIZED PEOPLE OFF SITE FOR THE DURATION OF THE PROJECT.
- PRIOR TO DEMOLITION, ALL EROSION CONTROL DEVICES ARE TO BE INSTALLED PER THE GOVERNING AGENCIES GUIDELINES AND STANDARDS. DUST CONTROL SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
- SAWCUT LINE PROVIDED IS FOR REFERENCE ONLY. CONTRACTOR WILL BE RESPONSIBLE FOR DETERMINING THE EXTENT OF THE SAWCUT THAT WILL BE REQUIRED AS WELL AS PAVEMENT REPAIRS TO INSTALL UTILITY TRENCHING. IF ANY DAMAGE OCCURS ON ANY OF THE SURROUNDING PAVEMENT, ETC. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ITS REMOVAL AND REPAIR. THE CONTRACTOR IS RESPONSIBLE FOR REMOVING THAT WHICH IS NECESSARY TO COMPLETE THE INTENT OF THE PROPOSED IMPROVEMENTS. SAWCUT EXISTING PAVEMENT TO FULL DEPTH, USING CARE TO CUT NEAT, STRAIGHT LINES. CUT AT EXISTING JOINTS WHERE POSSIBLE.
- THE CONTRACTOR SHALL MAINTAIN A WELL-DRAINED SITE, FREE OF STANDING WATER DURING CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR TEMPORARY DRAINAGE MEASURES DURING CONSTRUCTION.
- IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO STUDY THE PLANS AND VISIT THE SITE TO DETERMINE THE ITEMS THAT MUST BE REMOVED TO COMPLY WITH THE SITE DEVELOPMENT PLANS. NO EXTRA FEE WILL BE PAID FOR THE REMOVAL OF ANY ITEM NOT LISTED THAT IS VISIBLE UPON A SITE VISIT. THE DEMOLITION PLAN IS INTENDED TO PRESENT THE SCOPE OF THE DEMOLITION, AND DOES NOT GUARANTEE THAT ALL ITEMS ARE ADDRESSED.
- THE CONTRACTOR SHALL OBTAIN ALL PERMITS FOR ALL SITE DEVELOPMENT WORK, PAY ALL FEES FOR PERMITS AND CHECK ALL GOVERNING AUTHORITIES' SPECIFICATIONS FOR BUT NOT LIMITED TO, GUTTERS, SIDEWALKS, POLES, AND OTHER STRUCTURES, INCLUDING THE REMOVAL OR RELOCATION OF EXISTING UTILITIES OR OTHER PHYSICAL OBJECTS SHOWN ON PLANS OR NOTED OTHERWISE.
- THE CONTRACTOR SHALL CREATE AND IMPLEMENT AN EROSION AND SEDIMENTATION CONTROL PLAN FOR ALL SITE CONSTRUCTION ACTIVITIES ASSOCIATED WITH THE PROJECT. THE PLAN MUST CONFORM TO THE EROSION AND SEDIMENTATION REQUIREMENTS OF THE CONSTRUCTION GENERAL PERMIT OR LOCAL STANDARDS AND CODES, WHICHEVER IS MORE STRINGENT.
- ALL COSTS FOR INSPECTIONS AND/OR TESTS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR UNLESS NOTED OTHERWISE.

SITE NOTES

- ALL WORK AND MATERIALS SHALL COMPLY WITH ALL CITY/COUNTY REGULATIONS AND CODES AND O.S.H.A. STANDARDS.
- ALL MATERIAL NOTED ON DRAWINGS WILL BE SUPPLIED BY THE CONTRACTOR UNLESS OTHERWISE NOTED.
- CONTRACTOR SHALL REFER TO THE ARCHITECTURAL PLANS TO COORDINATE ACCESS POINTS AND ELEVATIONS. REFER TO ARCHITECTURAL PLANS. FOR EXACT LOCATIONS AND DIMENSIONS OF DOORS, ENTRY RAMP, AND CANOPY.
- THE CONTRACTOR SHALL OBTAIN ALL PERMITS FOR ALL SITE DEVELOPMENT WORK, PAY ALL FEES FOR PERMITS AND CHECK ALL GOVERNING AUTHORITIES' SPECIFICATIONS FOR BUT NOT LIMITED TO, GUTTERS, SIDEWALKS, POLES, AND OTHER STRUCTURES, INCLUDING THE REMOVAL OR RELOCATION OF EXISTING UTILITIES OR OTHER PHYSICAL OBJECTS SHOWN ON PLANS OR NOTED OTHERWISE.
- THE CONTRACTOR SHALL CREATE AND IMPLEMENT AN EROSION AND SEDIMENTATION CONTROL PLAN FOR ALL SITE CONSTRUCTION ACTIVITIES ASSOCIATED WITH THE PROJECT. THE PLAN MUST CONFORM TO THE EROSION AND SEDIMENTATION REQUIREMENTS OF THE CONSTRUCTION GENERAL PERMIT OR LOCAL STANDARDS AND CODES, WHICHEVER IS MORE STRINGENT.
- ALL COSTS FOR INSPECTIONS AND/OR TESTS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR UNLESS NOTED OTHERWISE.
- ACCESSIBILITY STANDARDS SHALL BE IN ACCORDANCE WITH FEDERAL AND LOCAL REQUIREMENTS FOR HANDICAP ACCESSIBILITY, INCLUDING BUT NOT LIMITED TO THE AMERICANS WITH DISABILITIES ACT ACCESSIBILITY GUIDELINES. ADA PARKING STALLS SHALL MEET ADA GRADE GUIDELINES. CONTRACTOR SHALL FIELD VERIFY EXISTING GRADES AT ACCESS POINTS, ACCESSIBLE ROUTES, AND EXISTING PARKING TO REMAIN TO DETERMINE COMPLIANCE WITH STANDARDS.
- ALL DISTURBED AREAS ARE TO RECEIVE 6" OF TOPSOIL, SEED, MULCH AND WATER UNTIL A HEALTHY STAND OF GRASS IS ESTABLISHED.
- ALL DIMENSIONS AND RADII ARE TO THE FACE OF THE CURB OR EDGE OF PAVEMENT, AS APPLICABLE, UNLESS OTHERWISE NOTED.
- ALL CURB RADII ARE 5 FEET UNLESS OTHERWISE NOTED.
- PROVIDE SIGNAGE AND STRIPING AS SHOWN. ALL SIGNAGE AND PAVEMENT MARKINGS SHALL COMPLY WITH THE GOVERNING MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (M.U.T.C.D.). PAVEMENT MARKINGS ON ASPHALT SHALL BE WHITE. PAVEMENT MARKINGS ON CONCRETE SHALL BE YELLOW.
- REFER TO ARCHITECTURAL PLANS FOR PROPOSED BUILDING SIGNAGE.
- REFER TO MECHANICAL PLANS FOR EQUIPMENT LAYOUT.
- REFER TO ELECTRICAL PLANS FOR ELECTRICAL WORK.
- REFER TO GEOTECHNICAL ENGINEERING REPORT FOR SITE WORK PREPARATION/RECOMMENDATIONS AND PAVEMENT SECTIONS.
- REFER TO ORIGINAL SURVEY PROVIDED BY CESO, DATED 06/20/2025.
- ALL LIGHT POLES TO BE LOCATED 3' FROM THE BACK OF CURB, AS MEASURED FROM THE FACE OF POLE FOUNDATION, UNLESS OTHERWISE DENOTED ON PLANS.

GRADING NOTES

- THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AS SHOWN ON THESE PLANS IS 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 MUST CALL THE APPROPRIATE UTILITY COMPANIES AT LEAST 72 HOURS BEFORE ANY EXCAVATION TO REQUEST EXACT FIELD LOCATION OF UTILITIES. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS.
- THE TOPOGRAPHIC SURVEY WAS PERFORMED BY A REGISTERED LAND SURVEYOR. IF CONTRACTOR DOES NOT ACCEPT EXISTING TOPOGRAPHY AS SHOWN ON THE PLANS, WITHOUT EXCEPTION, HE SHALL HAVE MADE, AT HIS EXPENSE, A TOPOGRAPHIC SURVEY BY A REGISTERED LAND SURVEYOR AND SUBMIT IT TO THE OWNER FOR REVIEW.
- CONSTRUCTION SHALL COMPLY WITH ALL APPLICABLE GOVERNING CODES AND BE CONSTRUCTED TO SAME.
- THE CONTRACTOR SHALL ADHERE TO ALL TERMS & CONDITIONS AS OUTLINED IN THE EPA OR APPLICABLE STATE GENERAL N.P.D.E.S. PERMIT FOR STORM WATER DISCHARGE ASSOCIATED WITH CONSTRUCTION ACTIVITIES.
- EXISTING AND PROPOSED GRADE CONTOUR INTERVALS ARE SHOWN AT 1 FOOT INTERVALS.
- ALL SPOT ELEVATIONS REFER TO FINISHED PAVEMENT ELEVATIONS UNLESS OTHERWISE NOTED.
- ALL ADA ACCESSIBLE PARKING SPACES AND LOADING AREAS SHALL BE GRADED WITH A 2.0% MAXIMUM SLOPE IN ALL DIRECTIONS. ALL ADA ACCESSIBLE ROUTES SHALL BE GRADED WITH A 2.0% MAXIMUM CROSS SLOPE AND 5.0% MAXIMUM RUNNING SLOPE.
- MAINTAIN EXISTING DRAINAGE PATTERN THROUGHOUT THE SITE, EXCEPT WITHIN THE LIMITS OF DISTURBANCE (LOD).
- COORDINATE GRADES AT BUILDING ENTRIES WITH ARCHITECTURAL PLANS.
- EXISTING DRAINAGE STRUCTURES SHALL BE INSPECTED AND REPAIRED AS NEEDED, AND EXISTING PIPES ARE TO BE CLEANED TO REMOVE ALL SILT AND DEBRIS AFTER CONSTRUCTION IS COMPLETE.
- IF ANY EXISTING STRUCTURES TO REMAIN ARE DAMAGED DURING CONSTRUCTION IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO REPAIR AND/OR REPLACE THE EXISTING STRUCTURE AS NECESSARY TO RETURN IT TO A CONDITION EQUAL TO OR BETTER THAN ITS CONDITION PRIOR TO DAMAGE.
- CONTRACTOR SHALL ASSURE POSITIVE DRAINAGE AWAY FROM BUILDING AND WITHIN PAVED AREAS.
- ALL TOPSOIL MUST BE REMOVED BEFORE FILL MATERIAL IS PLACED.
- ALL WET, OR OTHERWISE UNSUITABLE SOILS MUST BE STABILIZED. THIS MAY BE ACCOMPLISHED BY DRYING, REMOVAL & REPLACEMENT, REMOVAL & DRYING & RECOMPACTION, OR SOIL TREATMENT (LIME/CEMENT) UNDER THE SUPERVISION OF A QUALIFIED PROFESSIONAL GEOTECHNICAL ENGINEER.
- ALL UNSURFACED AREAS, DISTURBED BY GRADING, OPERATION SHALL RECEIVE 6" OF TOPSOIL. CONTRACTOR SHALL APPLY STABILIZATION FABRIC TO ALL SLOPES 3H:1V OR STEEPER AND SEED WITH LOW MAINTENANCE GRASS SEED MIX. CONTRACTOR SHALL SEED DISTURBED AREAS IN ACCORDANCE WITH SPECIFICATIONS UNTIL A HEALTHY STAND OF GRASS IS OBTAINED. ALL EXPOSED SURFACE AREAS SHALL BE STABILIZED PER THE SWPPP AND LANDSCAPE REQUIREMENTS AS PART OF THIS PLAN SET.
- ALL STORM PIPE ENTERING STRUCTURES SHALL BE GROUTED TO ASSURE CONNECTION AT STRUCTURE IS SOIL TIGHT.
- ALL STORM STRUCTURES SHALL HAVE A SMOOTH UNIFORM POURED MORTAR INVERT FROM INVERT IN TO INVERT OUT.
- STORM PIPE SHALL BE AS FOLLOWS UNLESS OTHERWISE NOTED:

MATERIAL	TYPE	PIPE SPEC	JOINT SPEC	INSTALLATION	ACCEPTABLE AREAS OF USE
REINFORCED CONCRETE PIPE (RCP)	CLASS III, IV, V	ASTM C-76	ASTM C443	ASTM C1479	WITHIN RW, COVER VARIES WITH PIPE CLASS
HIGH DENSITY POLY-ETHYLENE (HDPE)	SMOOTH-WALLED CORRUGATED ADS-N12 OR EQUAL	AASHTO M294 (TYPE S)	ASTM F477	ASTM D2321	ON SITE, 12" TO 60" DIA.
POLY VINYL CHLORIDE (PVC)	SDR 35	ASTM D3034	ASTM D3212	ASTM D2321	ON SITE, 4" TO 10"

- ALL STORM SEWER STRUCTURE GRATES AND FRAMES WITHIN PAVEMENT SHALL BE HEAVY DUTY.
- ALL STORM DRAINAGE SHALL BE PERFORMED IN ACCORDANCE WITH ALL LOCAL COUNTY AND MDOT STANDARDS.
- ALL DOWNSPOUT DRAIN LINES OR ROOF LEADERS SHALL HAVE A 1.0% MINIMUM SLOPE, UNLESS OTHERWISE NOTED. CONNECT ALL DOWNSPOUTS AND ROOF LEADERS TO THE STORM SEWER SYSTEM. REFER TO ARCHITECTURAL PLANS FOR DOWNSPOUT AND ROOF LEADER LOCATIONS. PROVIDE POSITIVE DRAINAGE AND PAVEMENT REPAIR AS NEEDED.
- ROOF DRAINS, FOUNDATION DRAINS, AND OTHER CLEAN WATER CONNECTIONS TO THE SANITARY SEWER SYSTEM ARE PROHIBITED.
- THE STORM SEWER GRADE WILL BE SUCH THAT A MINIMUM COVER IS MAINTAINED TO WITHSTAND AASHTO HS-25 LOADING ON THE PIPE. PROVIDE MINIMUM 2.0 FEET OF COVER FOR ALL STORM SEWERS UNLESS OTHERWISE NOTED.
- WHEN A SANITARY SEWER MAIN LIES ABOVE A STORM SEWER, OR WITHIN 18 INCHES BELOW, THE SANITARY SEWER WILL HAVE AN IMPERVIOUS ENCASEMENT OR BE CONSTRUCTED OF STRUCTURAL SEWER PIPE FOR A MINIMUM OF 10 FEET ON EACH SIDE OF WHERE THE STORM SEWER CROSSES.
- IF EXISTING FIELD TILES ARE ENCOUNTERED DURING CONSTRUCTION THEY SHALL BE REPAIRED AND/OR TIED INTO A STORM SEWER SYSTEM AS NEEDED TO MAINTAIN POSITIVE DRAINAGE.

CITY NOTES - ADDRESSING:

- BUILDING IDENTIFICATION SHALL BE PLACED IN A POSITION THAT IS PLAINLY LEGIBLE AND VISIBLE FROM ANY STREET OR ROAD FRONTING THE PROPERTY. BLACK OR WHITE NUMBERS REQUIRED.
- THOSE PROPERTIES FRONTING MORE THAN ONE STREET OR ROAD SHALL IDENTIFY THE ADDRESS BY BOTH NUMBER AND STREET NAME ON EACH SIDE OF ROAD FRONTAGE.
- THE ADDRESS NUMBERS AND STREET NAME SHALL CONTRAST WITH THEIR BACKGROUND.
- COMMERCIAL STRUCTURES SHALL HAVE ADDRESS NUMBERS 12" AS DETERMINED BY THE FIRE MARSHAL
- ADDRESS LETTERS INDICATING STREET NAMES SHALL BE 12" HEIGHT TO BE APPROVED BY THE FIRE MARSHAL.

UTILITY NOTES

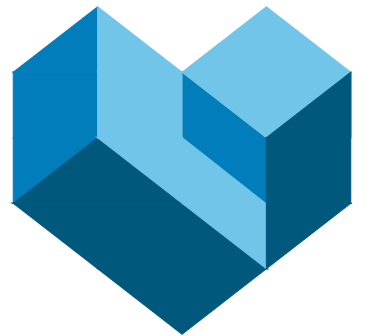
- THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF THE VARIOUS UTILITY COMPANIES, AND WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THE INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE.
- THE CONTRACTOR MUST CALL THE APPROPRIATE UTILITY COMPANIES AT LEAST 72 HOURS BEFORE ANY EXCAVATION TO REQUEST EXACT FIELD LOCATION OF UTILITIES. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS.
- CONTRACTOR SHALL COMPLY TO THE FULLEST EXTENT WITH THE LATEST STANDARDS OF O.S.H.A. DIRECTIVES OR ANY OTHER AGENCY HAVING JURISDICTION FOR EXCAVATION AND TRENCHING PROCEDURES. THE CONTRACTOR SHALL USE SUPPORT SYSTEMS, SLOPING, BENCHING, AND OTHER MEANS OF PROTECTION. THIS TO INCLUDE BUT NOT LIMITED FOR ACCESS AND EGRESS FROM ALL EXCAVATION AND TRENCHING. CONTRACTOR IS RESPONSIBLE TO COMPLY WITH PERFORMANCE CRITERIA FOR O.S.H.A.
- CONTRACTOR IS RESPONSIBLE FOR REPAIRS OF DAMAGE TO ANY EXISTING UTILITY DURING CONSTRUCTION AT NO COST TO THE OWNER.
- ALL FILL MATERIAL IS TO BE IN PLACE AND COMPACTED BEFORE INSTALLATION OF PROPOSED UTILITIES.
- CONTRACTOR SHALL COORDINATE WITH ALL UTILITY COMPANIES FOR INSTALLATION REQUIREMENTS AND SPECIFICATIONS. THE CONTRACTOR SHALL CONDUCT ALL REQUIRED TESTS TO THE SATISFACTION OF THE RESPECTIVE UTILITY REGULATIONS AND THE OWNER'S INSPECTION AUTHORITIES.
- CONTRACTOR SHALL NOTIFY THE UTILITY AUTHORITY'S INSPECTORS 72 HOURS BEFORE CONNECTING TO ANY EXISTING LINE.
- WATER AND SANITARY UTILITIES SHALL HAVE TEN (10') FEET OF HORIZONTAL CLEARANCE WHEN PARALLEL OR 18" VERTICAL CLEARANCE WHEN CROSSING. ALL CLEARANCE DISTANCES SHALL BE MEASURED FROM OUTSIDE EDGE OF PIPE TO OUTSIDE EDGE OF PIPE. THE CROSSING SHALL BE ARRANGED SO THAT THE SANITARY SEWER JOINTS WILL BE EQUIDISTANT AND AS FAR AS POSSIBLE FROM THE WATER LINE JOINTS.
- IF A WATER LINE PASSES UNDER THE SANITARY SEWER LINE, THE SEWER LINE SHOULD BE CONSTRUCTED OF A WATERTIGHT MATERIAL APPROVED BY THE REGULATORY AGENCY FOR USE IN WATER MAIN CONSTRUCTION AND SHALL EXTEND TEN (10') FEET ON BOTH SIDES OF THE CROSSING, AS MEASURED PERPENDICULAR TO THE WATER LINES. ADEQUATE STRUCTURAL SUPPORT SHALL BE PROVIDED FOR THE SEWER TO MAINTAIN LINE AND GRADE.
- UNDERGROUND LINES SHALL BE INSTALLED, INSPECTED AND APPROVED BEFORE BACKFILLING.
- CONTRACTOR SHALL COORDINATE WITH ALL UTILITY COMPANIES FOR INSTALLATION REQUIREMENTS AND SPECIFICATIONS. THE CONTRACTOR SHALL CONDUCT ALL REQUIRED TESTS TO THE SATISFACTION OF THE RESPECTIVE UTILITY REGULATIONS AND THE OWNER'S INSPECTION AUTHORITIES.
- UTILITY TRENCHES WITHIN PAVED AREAS TO BE BACKFILLED PER UTILITY TRENCH DETAIL PROVIDED WITHIN THE CONSTRUCTION DETAILS SHEET.
- ALL WATER LINE WORK SHALL BE PERFORMED IN ACCORDANCE WITH CITY OF KALAMAZOO CONSTRUCTION STANDARDS AND STATE REGULATIONS.
- INSTALL ALL WATER LINES WITH A MINIMUM COVER OF 5'-0".
- ON-SITE WATER LINE MATERIAL SHALL BE AS FOLLOWS:

MATERIAL	PRESSURE RATING	PIPE SPEC	FITTINGS	INSTALLATION	ACCEPTABLE AREAS OF USE
HIGH-DENSITY POLY-ETHYLENE (HPDE TUBING)	SDR 9 P.C. = 250 PSI	ASTM D2239 AWWA C901 ASTM F714	ASTM D3350 ASTM D3261	ASTM D2774	ON SITE, < 3" DIA.
COPPER 1"-3"	TYPE "K"	ASTM B88	AWWA C800	AWWA C800	DOMESTIC WATERLINES 1"-3"
PE 4710 POLY-ETHYLENE PLASTIC (IPE)	SDR 11 P.C. = 200 PSI	ASTM D3035 AWWA C901	ASTM D3350 ASTM D3261	ASTM D2774	ON SITE, 2" TO 3" DIA.
P.V.C. POLY VINYL CHLORIDE 4"- 8" C900	C900	AWWA C901 (RATED DR 14)	ASTM F-477 ASTM D3139	AWWA C900 C651	ON SITE, 4"-8" WATER LINES & FIRE LINES INSTALL W/ TRACER & TAPE #12 COPPER
DUCTILE IRON PIPE 4"-12"	CLASS 52 P.C. = 350PSI	AWWA C104, C110, C151, C500	AWWA C111	AWWA C600, C651	6" FIRE HYDRANT LEADS
PE 4710 POLY-ETHYLENE PLASTIC (DIPS)	SDR 9 P.C. = 250 PSI	ASTM D2239 ASTM F714 AWWA C906	ASTM D3350 ASTM D3261	ASTM D2774	ON SITE, 4" DIA. AND LARGER

- ON-SITE SANITARY SEWER LINE MATERIAL SHALL BE AS FOLLOWS:

MATERIAL	PRESSURE RATING	PIPE SPEC	FITTINGS	INSTALLATION	ACCEPTABLE AREAS OF USE
POLY VINYL CHLORIDE (PVC)	SDR 35	ASTM D3034	ASTM D3212	ASTM D2321 WITH TYPE 1 BEDDING	ON SITE, 6" TO 8" DIA. LESS THAN 8.5' OF COVER
POLY VINYL CHLORIDE (PVC)	SDR 26	ASTM 3034	ASTM D3212	ASTM 2321 WITH TYPE 1 BEDDING	ON SITE, 6" TO 8" DIA. GREATER THAN OR EQUAL TO 8.5' OF COVER

- REFER TO ARCHITECTURAL DRAWINGS FOR EXACT BUILDING UTILITY CONNECTION LOCATIONS. SERVICE SIZES TO BE DETERMINED BY ARCHITECT.
- CLEAN OUTS AND CURB BOXES WITHIN THE PAVED AREAS MUST HAVE TRAFFIC LOADING FRAMES AND COVERS.



CESO
WWW.CESONINC.COM

3601 Regby Rd., Suite 300
Muskegon, OH 43442
Phone: 937.435.8584 Fax: 888.208.4826



03/13/2026



7-ELEVEN, INC.

SPEEDWAY - KALAMAZOO

918 RIVERVIEW DRIVE
KALAMAZOO, MI 49048

Revisions / Submissions

ID	Description	Date
1	City Comments	2026/02/27

Project Number: 765319
Scale: NA
Drawn By: MB
Checked By: JS
Date: 09/23/2025
Issue: PERMIT SET

Drawing Title:
GENERAL NOTES

GN

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Sanitary Structures

- 8512 - SANITARY MANHOLE
RIM = 765.87
FL 8" clay s = 759.0'
FL 12" clay ne = 758.7'
FL 30" rcp w = 758.2'
- 8513 - SANITARY MANHOLE
RIM = 767.62
FL 12" metal w = 763.4'
FL 8" clay e+sw = 759.7'
- 8514 - SANITARY MANHOLE
RIM = 767.45
FL 12" metal e = 763.3'
FL 8" clay e+w = 759.2'
- 8515 - SANITARY MANHOLE
RIM = 769.58
FL 6" clay n+s = 762.0'
FL 8" clay e+w = 761.6'

Storm Structures

- 6100 - CURB INLET
RIM = 765.99
FL 12" rcp nw = 763.9'
- 6833 - DRAINAGE MANHOLE
RIM = 760.93
FL 12" metal se = 757.0'
FL 12" metal ne = 756.9'
FL 6" pvc w = 756.9'
- 8061 - CATCH BASIN ROUND
RIM = 762.83
FL 24" hdpe e = 756.9'
FL 24" hdpe w = 756.8'
FL 12" metal ne = 756.4'
- 8062 - CATCH BASIN ROUND
RIM = 763.05
FL 24" hdpe ne = 756.9'
FL 24" hdpe w = 756.9'
- 8066 - CATCH BASIN ROUND
RIM = 763.53
FL 24" hdpe sw = 757.3'
- 8074 - CATCH BASIN ROUND
RIM = 766.50
FL 24" hdpe w = 757.0'
FL 30" pvc sw = 756.7'
- 8082 - CATCH BASIN ROUND
RIM = 765.00
FL 12" pvc s = 757.7'
FL 24" hdpe e = 756.9'
FL 24" hdpe w = 756.9'
- 8150 - CATCH BASIN ROUND
RIM = 764.98
FL 12" pvc s = 757.5'
FL 24" hdpe e = 757.0'
- 8260 - CATCH BASIN ROUND
RIM = 761.95
FL 12" metal w = 757.5'
FL 6" pvc e = 757.5'
- 8318 - CATCH BASIN ROUND
RIM = 761.01
FL 12" metal e = 757.1'
FL 12" metal sw = 757.1'
- 8340 - CATCH BASIN ROUND
RIM = 761.03
FL 12" metal w = 757.5'
- 8474 - CATCH BASIN SQUARE
RIM = 760.10
FL 12" pvc e = 757.9'
FL 8" pvc ne = 756.3'
FL 12" rcp w = 756.2'
- 8475 - CATCH BASIN ROUND
RIM = 760.72
FL 12" metal e = 757.2'
FL 12" metal nw = 757.1'
- 8477 - CURB INLET
RIM = 773.21
FL 12" pvc ne = 769.9'
- 8478 - CURB INLET
RIM = 773.21
FL 12" rcp s = 769.0'
- 8479 - CURB INLET
RIM = 771.56
FL 12" rcp s = 767.7'
- 8491 - DRAINAGE MANHOLE
RIM = 760.77
FL 12" rcp e+w = 756.4'
FL 15" rcp s = 756.1'
- 8492 - CURB INLET
RIM = 759.93
FL 12" rcp e = 756.9'
- 8493 - DRAINAGE MANHOLE
RIM = 762.66
FL 24" clay e+w = 757.8'
- 8511 - DRAINAGE MANHOLE
RIM = 765.98
FL 24" rcp nw = 763.4'
- 8518 - DRAINAGE MANHOLE
RIM = 772.05
FL 12" rcp n = 766.5'
- 8532 - DRAINAGE MANHOLE
RIM = 765.96
FL 18" n = 760.0'
FL 18" sw = 759.5'

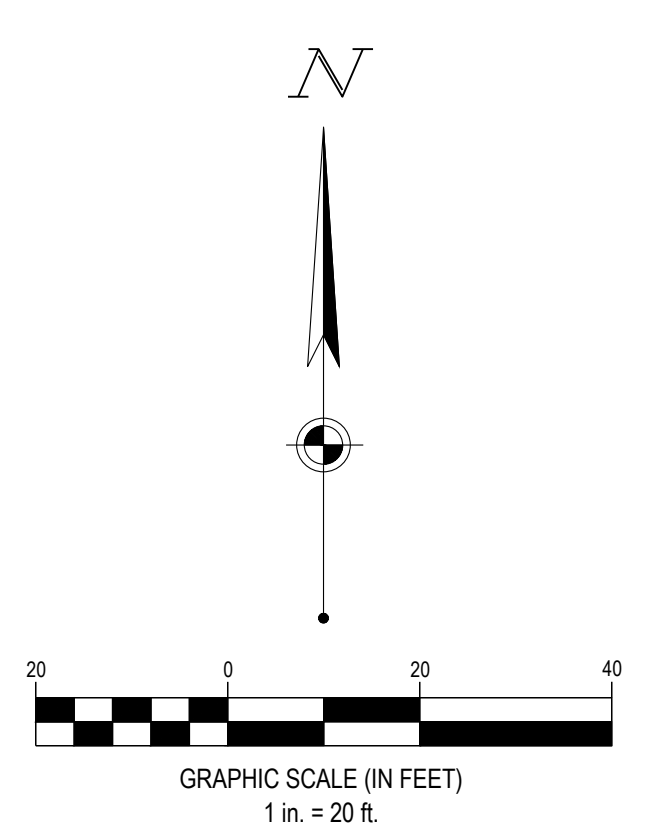
Line #	Direction	Length
L1	S07° 47' 14"E	12.80'
L2	N03° 00' 24"W	19.51'

TOPOGRAPHIC LEGEND

- Power / Telephone Pole
- Light Pole
- Power Pole
- Electric Box (Access)
- Air Conditioner
- Gas Meter
- Gas Valve
- Monitoring Well
- Bollard
- Post
- Signal Pole
- Guy Wire
- Electric Meter
- Gas Line Marker
- Fire Hydrant
- Water Valve
- Water Meter
- Cable Box
- Telephone Box
- Sign
- Cleanout
- Sanitary Manhole
- Storm Manhole
- Curb Inlet
- Catch Basin
- Catch Basin (Round)
- Yard Drain
- End Storm Drain
- Structure Number
- Downspout
- Gas Line
- Water Line
- Underground Electric
- Underground Communications
- Overhead Utility Line
- Storm Sewer
- Sanitary Sewer
- Fence Line
- Approximate FEMA Flood Line

SURVEY MONUMENT LEGEND

- 5/8" Iron Pin Set w/cap CESO, Inc
- Monument Found as Described
- Mag Nail Set
- Benchmark Set
- Fnd. (F) - Found
- (R) - Record
- (M) - Measured



7-ELEVEN, INC.
SPEEDWAY - KALAMAZOO
 918 RIVERVIEW DRIVE
 KALAMAZOO, MI 49048

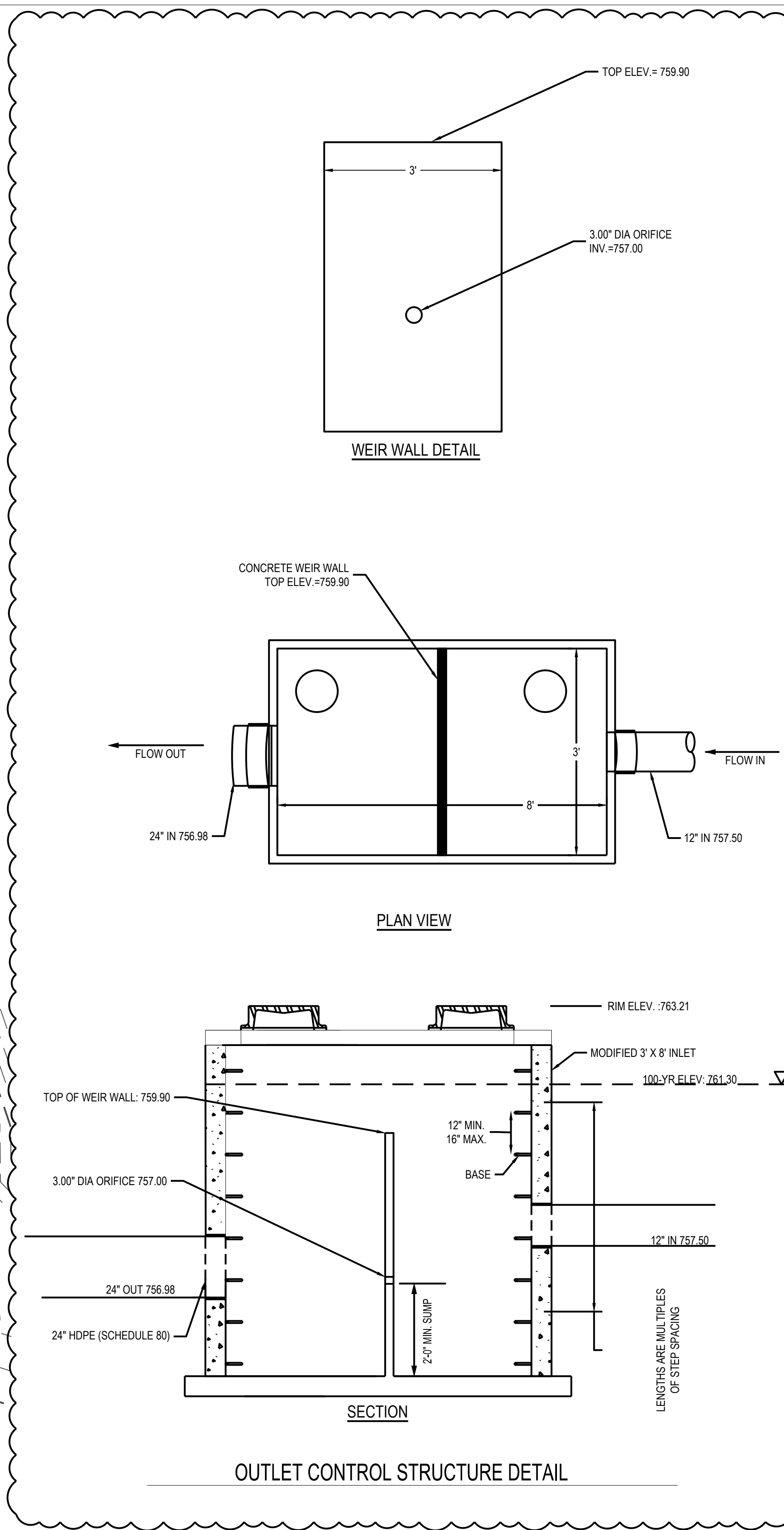
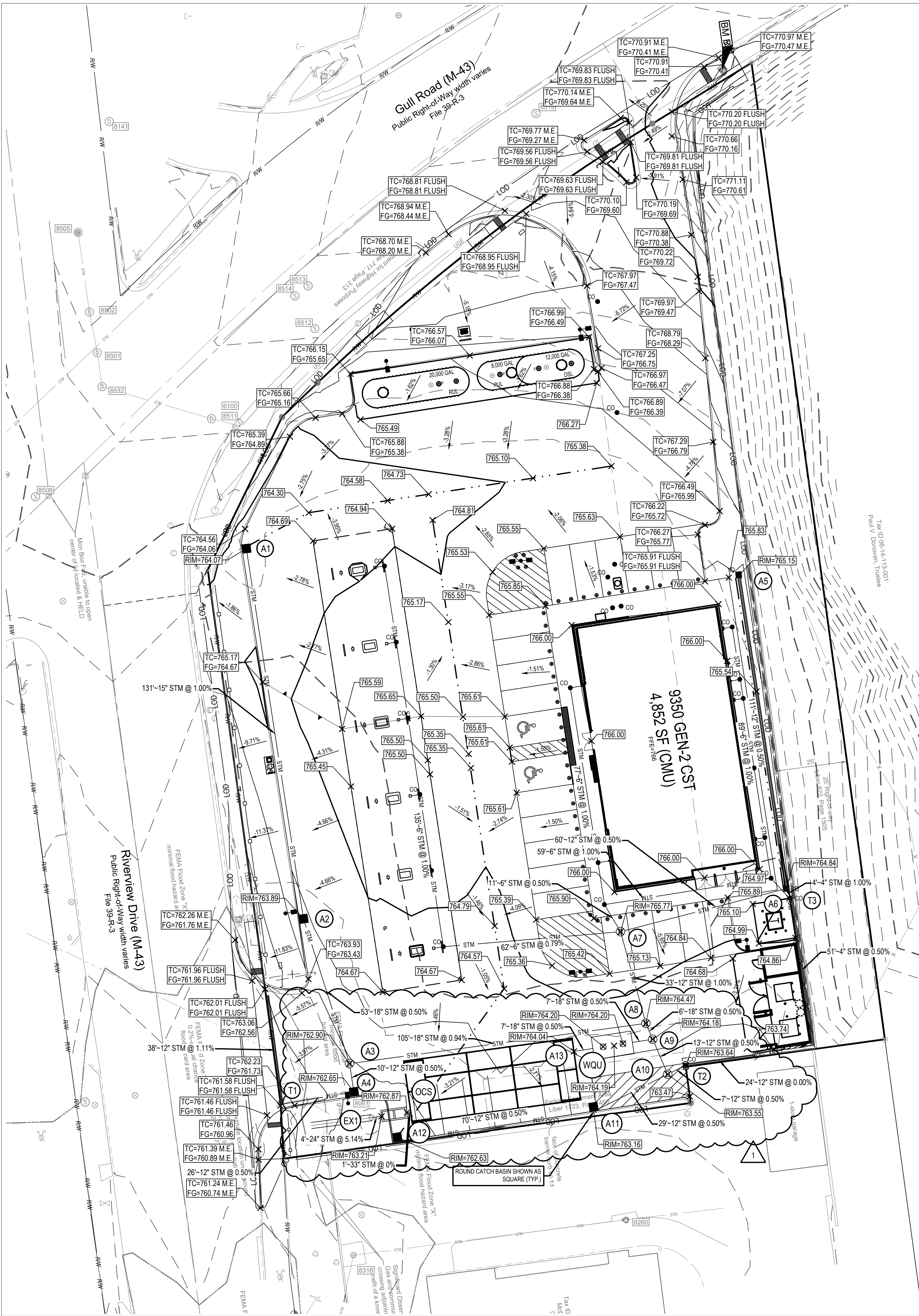
Revisions / Submissions		
ID	Description	Date

Project Number: 765319
 Scale: 1"=20'
 Drawn By: MB
 Checked By: JS
 Date: 09/23/2025
 Issue: PERMIT SET

Drawing Title:
EXISTING CONDITIONS

EX

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N.T.S. BENCHMARK
Vertical Datum: NAVD88 derived from GPS Observations

BM "A": On south boundary line of McDonald's, 150' east of Riverview Drive right-of-way
Elevation = 763.39'

BM "B": "X" cut in sidewalk along south side of Gull Road, 13' west of a power pole near the surveyed property's east boundary line
Elevation = 770.95'

BM "C": "X" cut in sidewalk near east right-of-way line of Riverview Drive, 55' south of surveyed property
Elevation = 760.88'

SEVENTY-TWO (72) HOURS BEFORE DIGGING IS TO COMMENCE, THE CONTRACTORS SHALL NOTIFY THE FOLLOWING AGENCIES: MICHIGAN UTILITIES PROTECTION SERVICE AT 811 OR 800-492-7171 AND ALL OTHER AGENCIES WHICH MIGHT HAVE UNDERGROUND UTILITIES INVOLVING THIS PROJECT AND ARE NONMEMBERS OF STATE UTILITIES PROTECTION SERVICE



GRADING LEGEND

EXISTING
REFER TO EX FOR EXISTING FEATURES LEGEND

PROPOSED

- RW — RIGHT-OF-WAY
- — — PROPERTY LINE
- — — SETBACK
- — — EASEMENT
- ▨ BUILDING
- 860 — MAJOR CONTOUR
- 862 — MINOR CONTOUR
- — — GRADE BREAK
- — — SWALE
- — — FLOW LINE
- ① STRUCTURE NUMBER
- ⊙ ROUND CATCH BASIN
- ⊙ STORM MANHOLE
- ⊙ CURB INLET
- ⊙ CLEANOUT
- ⊙ YARD DRAIN
- ⊙ DOWNSPOUT
- XXX.XX FINISHED GRADE ELEVATION
- RIM=XXX.XX RIM ELEVATION
- TC=XXX.XX
FG=XXX.XX TOP OF CURB ELEVATION
FINISHED GRADE ELEVATION
- M.E. MATCH EXISTING ELEVATION
- XXX% SLOPE ARROW
- ➔ FLOOD ROUTE

STORM SEWER STRUCTURE SCHEDULE

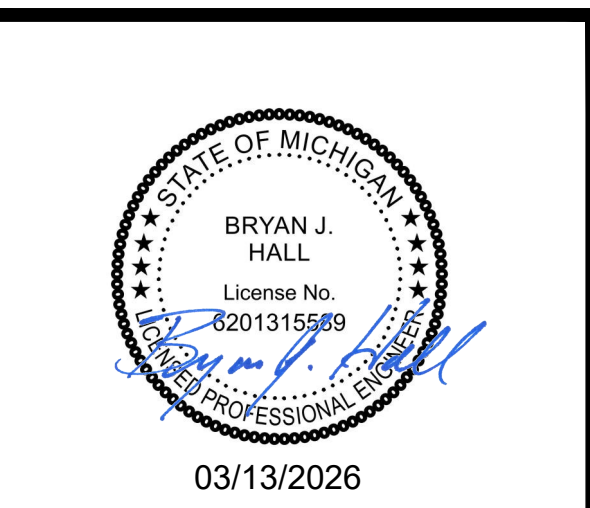
NO.	STRUCTURE	RIM	INVERT
A1	ROUND CATCH BASIN	764.07	760.42 (15") S
A2	ROUND CATCH BASIN	763.89	759.11 (15") N 759.11 (18") S
A3	48" MH	762.90	758.85 (18") N 758.85 (12") S 758.85 (18") E
A4	ROUND CATCH BASIN	762.65	758.90 (12") W 758.90 (12") S
A5	YARD DRAIN	765.15	759.39 (12") S
A6	YARD DRAIN	764.84	758.83 (12") N 759.50 (4") SE 758.83 (12") W
A7	48" MH	765.77	758.53 (12") E 759.03 (6") NW 759.03 (6") W 758.53 (12") S
A8	48" MH	764.47	758.20 (12") N 757.87 (18") W 757.87 (18") SE
A9	48" MH	764.18	757.84 (18") NW 758.34 (12") SE 757.84 (18") W
A10	48" MH	763.55	758.40 (12") SW 758.40 (12") NE 758.40 (12") NW
A11	ROUND CATCH BASIN	763.16	758.55 (12") W 758.55 (12") NE
A12	ROUND CATCH BASIN	762.63	758.89 (12") E
A13	STORMTRAP	764.04	757.76 (18") E
OCS	OCS	763.21	756.98 (24") W 757.50 (12") E
T1	ADS DURASLOT	761.58	759.02 (12") N 759.02 (12") E
T2	ADS DURASLOT	763.64	758.44 (12") SW 758.44 (12") E
T3	UNDERDRAIN	765.00	759.54 (4") S 759.54 (4") NW
WQ1	48" MH	764.19	757.80 (18") E

* SEE STANDARD MANHOLE DETAIL FOR REQUIRED CONSTRUCTION SPECIFICATIONS

Project Number: 765319
Scale: 1"=20'
Drawn By: MB
Checked By: JS
Date: 09/23/2025
Issue: PERMIT SET

Drawing Title:
OVERALL GRADING PLAN

CG

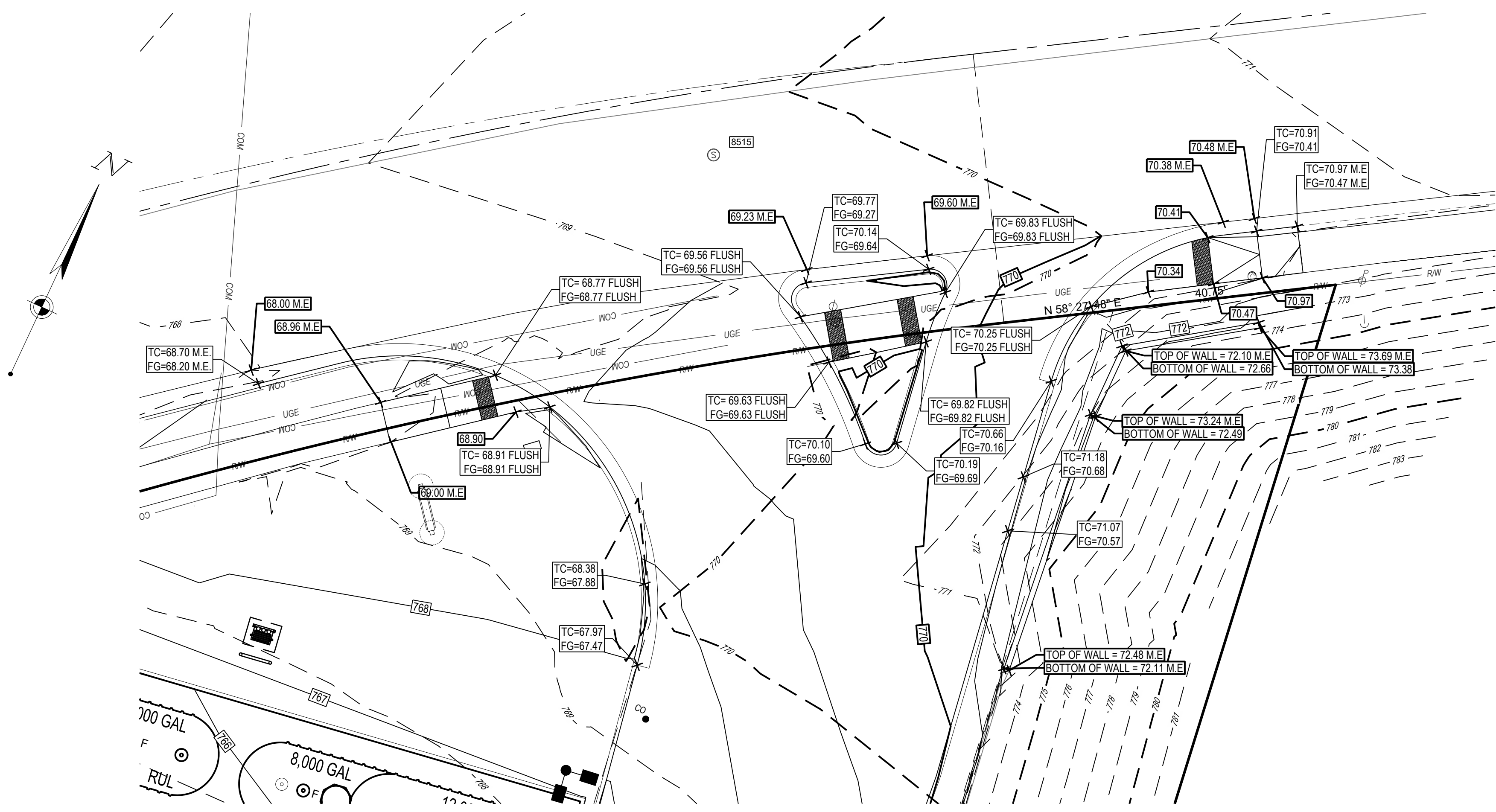


7-ELEVEN, INC.
SPEEDWAY - KALAMAZOO
918 RIVERVIEW DRIVE
KALAMAZOO, MI 49008

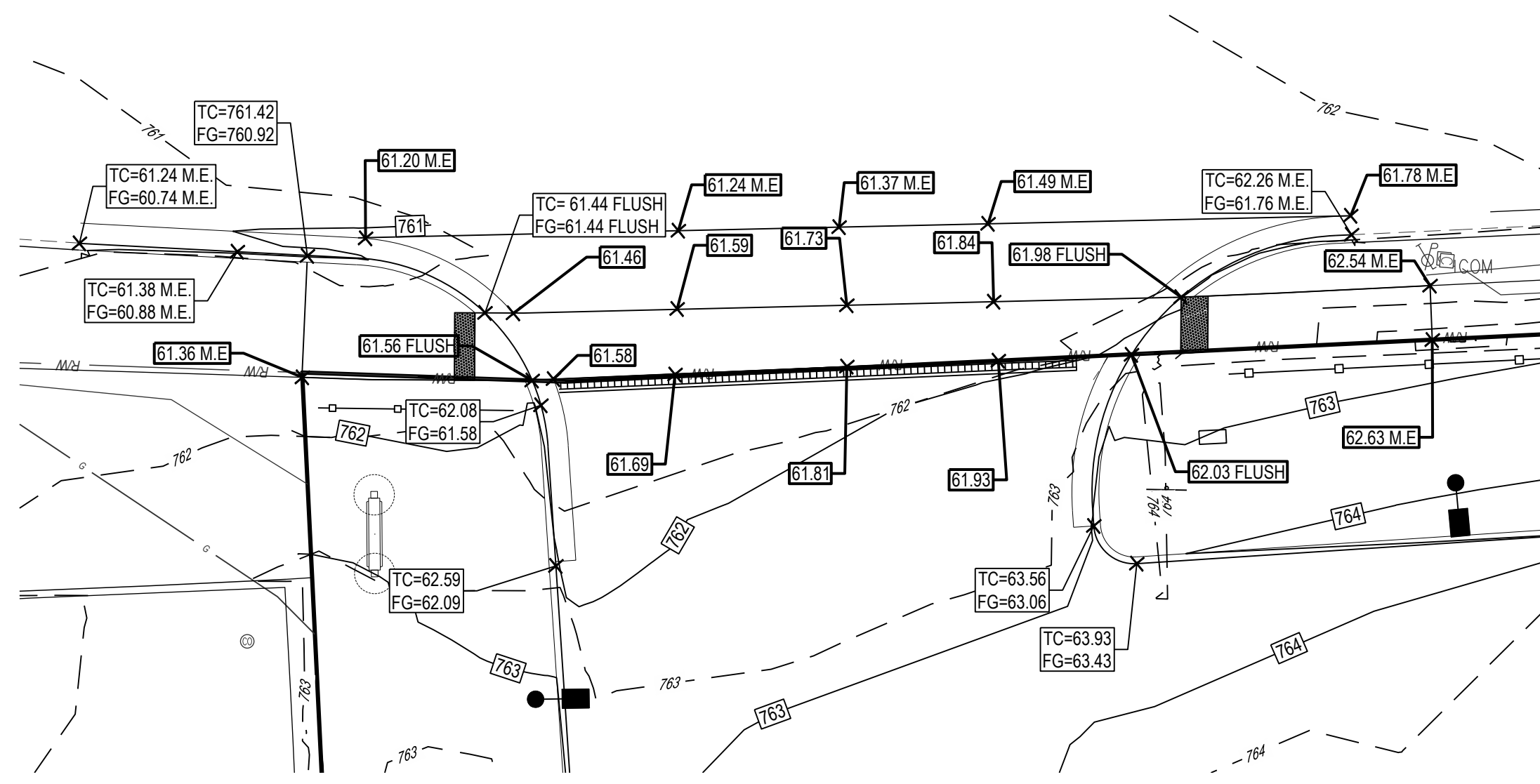
Revisions / Submissions

ID	Description	Date
1	City Comments	2026/02/27

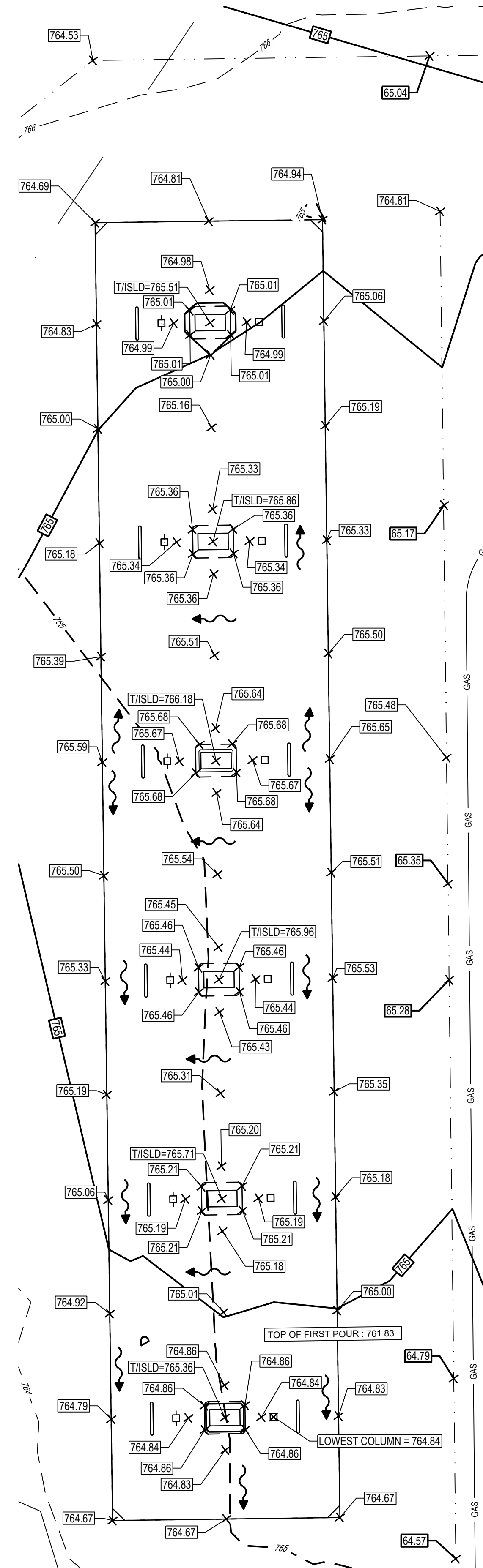
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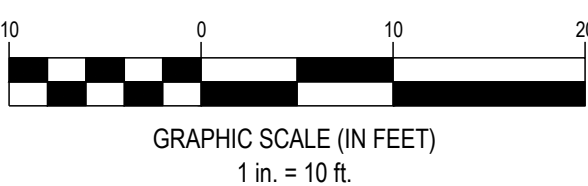
NORTH SIDEWALK AND DRIVE
1"=10'



NORTH SIDEWALK AND DRIVE
1"=10'



AUTO CANOPY
1"=10'



GRADING LEGEND

- REFER TO EX FOR EXISTING FEATURES LEGEND
- EXISTING**
- R/W — RIGHT-OF-WAY
 - PROPERTY LINE
 - SETBACK
 - EASEMENT
 - BUILDING
 - MAJOR CONTOUR
 - MINOR CONTOUR
 - GRADE BREAK
 - SWALE
 - FLOW LINE
 - STRUCTURE NUMBER
 - CATCH BASIN
 - STORM MANHOLE
 - CURB INLET
 - CLEANOUT
 - YARD DRAIN
 - DOWNSPOUT
- PROPOSED**
- FINISHED GRADE ELEVATION
 - RIM ELEVATION
 - BACK OF CURB ELEVATION
 - TOP OF CURB ELEVATION
 - FINISHED GRADE ELEVATION
 - TOP OF ISLAND
 - MATCH EXISTING ELEVATION
 - SLOPE ARROW

BENCHMARK
Vertical Datum: NAVD88
derived from GPS Observations

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BM "B": "X" cut in sidewalk along south side of Gull Road, 13' west of a power pole near the surveyed property's east boundary line
Elevation = 770.95'

BM "C": "X" cut in sidewalk near east right-of-way line of Riverview Drive, 55' south of surveyed property
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SEVENTY-TWO (72) HOURS BEFORE DIGGING IS TO COMMENCE, THE CONTRACTORS SHALL NOTIFY THE FOLLOWING AGENCIES: MICHIGAN UTILITIES PROTECTION SERVICE AT 811 OR 800-482-7171 AND ALL OTHER AGENCIES WHICH MIGHT HAVE UNDERGROUND UTILITIES INVOLVING THIS PROJECT AND ARE NONMEMBERS OF STATE UTILITIES PROTECTION SERVICE



Speedway

7-ELEVEN, INC.
SPEEDWAY - KALAMAZOO
918 RIVERVIEW DRIVE
KALAMAZOO, MI 49048

Revisions / Submissions		
ID	Description	Date

Project Number: 765319
Scale: 1"=10'
Drawn By: MB
Checked By: JS
Date: 09/23/2025
Issue: PERMIT SET

Drawing Title:
DETAILED GRADING PLAN

CG1

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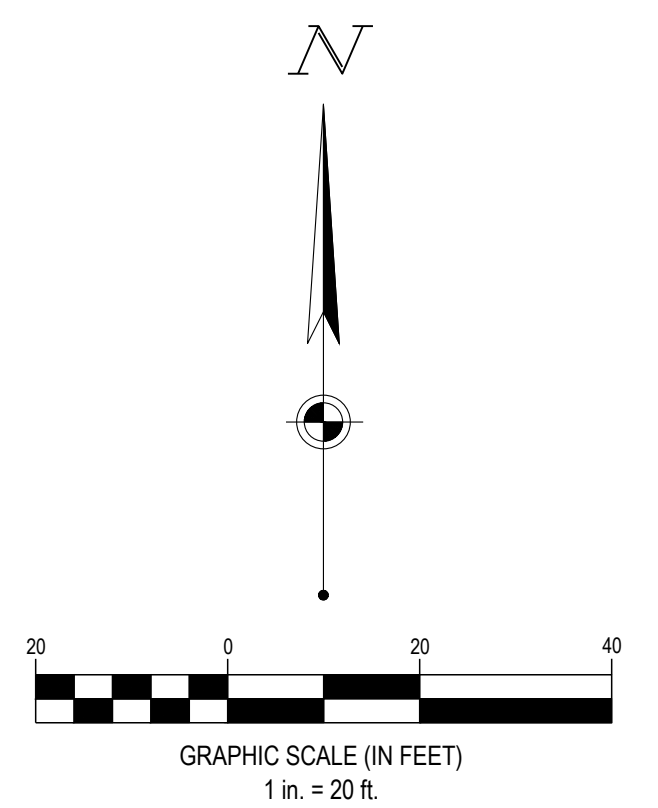
Elevations Table			
Number	Minimum Elevation	Maximum Elevation	Color
1	-5.000	-4.000	Dark Red
2	-4.000	-3.000	Red
3	-3.000	-2.000	Orange
4	-2.000	-1.000	Light Orange
5	-1.000	0.000	Yellow
6	0.000	1.000	Light Green
7	1.000	2.000	Green
8	2.000	3.000	Dark Green

NOTES:
 EARTHWORK QUANTITIES SHOWN ON THIS SHEET REPRESENT EXISTING GRADE TO PROPOSED FINISH GRADE COMPARISON. QUANTITIES ARE SHOWN FOR OWNER INFORMATION ONLY AND NOT FOR BIDDING PURPOSES. CONTRACTOR SHALL INDEPENDENTLY VERIFY EARTHWORK QUANTITIES WHEN PROVIDING BID.

LEGEND

● APPROXIMATE BORE LOCATIONS

EARTHWORKS	
CUT (CY)	721.37
FILL (CY)	361.86
NET (CY)	359.50 (CUT)



Speedway

7-ELEVEN, INC.
SPEEDWAY -
KALAMAZOO
 918 RIVERVIEW DRIVE
 KALAMAZOO, MI 49048

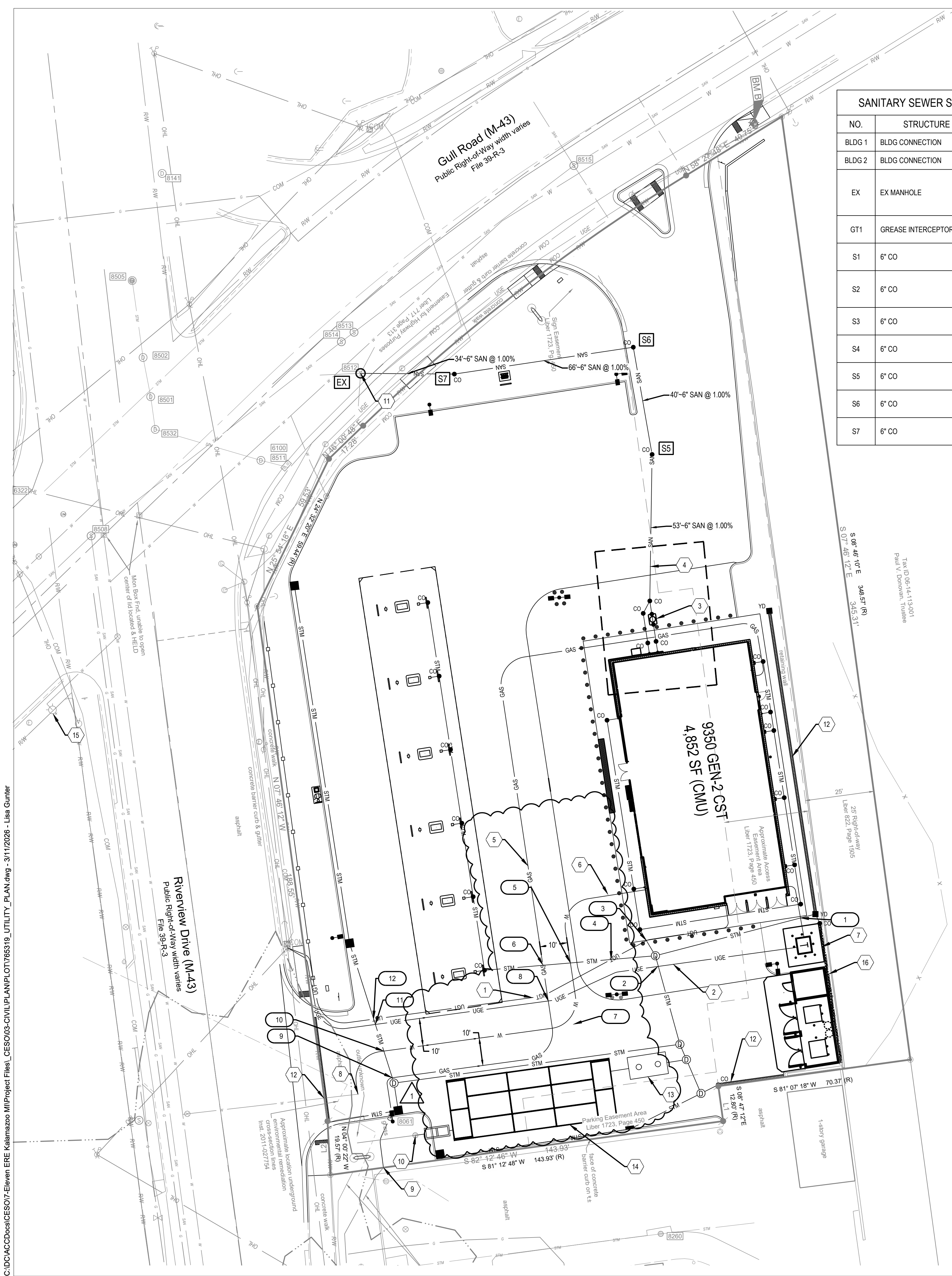
Revisions / Submissions		
ID	Description	Date

Project Number: 765319
 Scale: 1"=20'
 Drawn By: MB
 Checked By: JS
 Date: 09/23/2025
 Issue: PERMIT SET

Drawing Title:
CUT & FILL PLAN

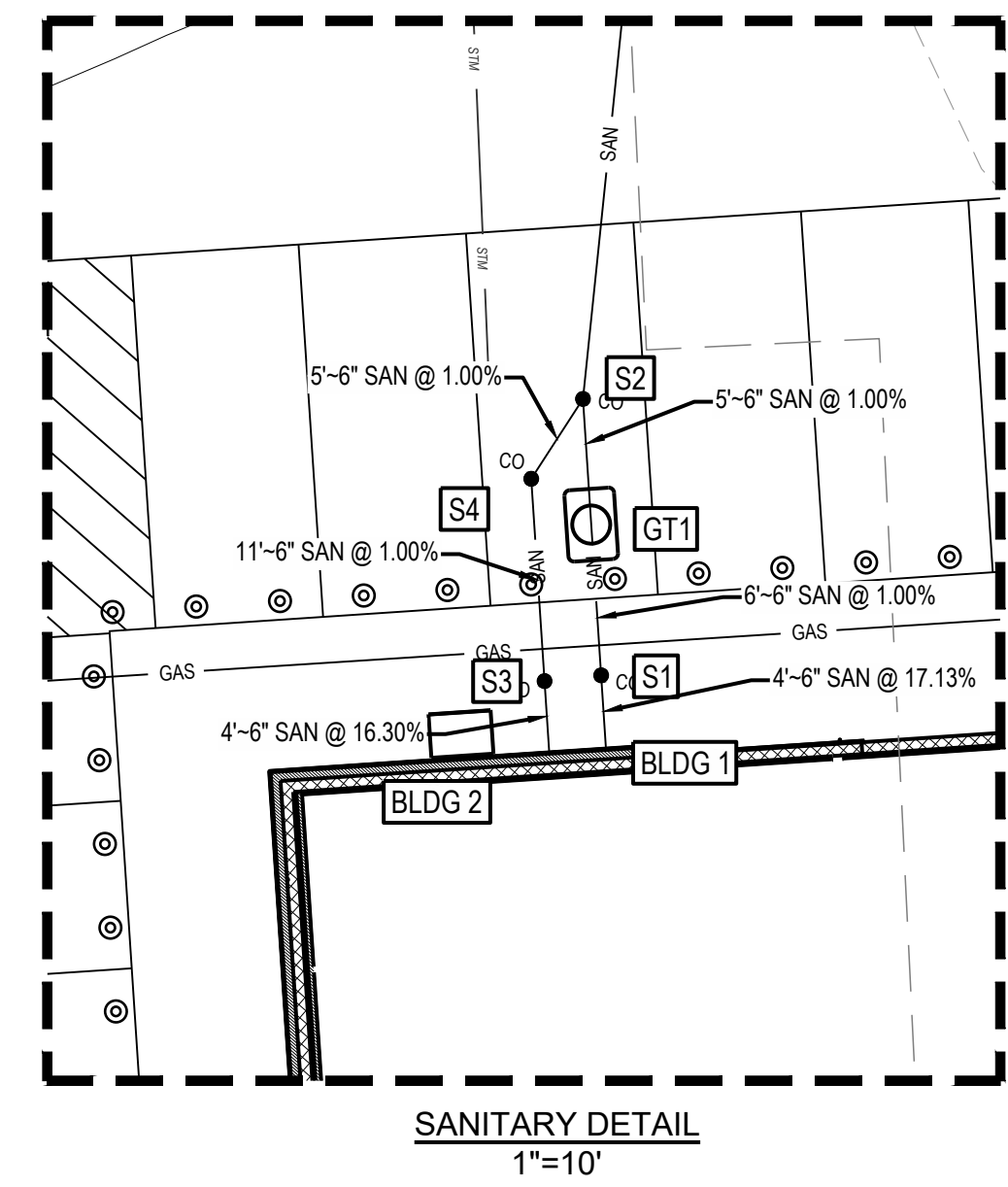
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SANITARY SEWER STRUCTURE SCHEDULE

NO.	STRUCTURE	RIM	INVERT
BLDG 1	BLDG CONNECTION		761.00 (6") N
BLDG 2	BLDG CONNECTION		761.00 (6") N
EX	EX MANHOLE	761.15	758.30 (6") E 758.70 (12") NE 759.00 (8") S 758.20 (30") W
GT1	GREASE INTERCEPTOR	765.87	760.27 (6") S 760.27 (6") N
S1	6" CO	765.94	760.34 (6") S 760.34 (6") N
S2	6" CO	765.76	760.22 (6") SW 760.22 (6") S 760.22 (6") N
S3	6" CO	765.94	760.38 (6") S 760.38 (6") N
S4	6" CO	765.81	760.28 (6") S 760.28 (6") NE
S5	6" CO	766.12	759.69 (6") S 759.69 (6") N
S6	6" CO	767.37	759.30 (6") S 759.30 (6") W
S7	6" CO	767.85	758.64 (6") E 758.64 (6") W



UTILITY LEGEND

REFER TO EX FOR EXISTING FEATURES LEGEND

EXISTING

PROPOSED

- BUILDING
- CONCRETE CURB
- PAVEMENT/WALK
- STORM SEWER LINE
- SANITARY SEWER LINE
- DOMESTIC WATER SERVICE LINE
- GAS SERVICE LINE
- OVERHEAD ELECTRIC LINE
- UNDERGROUND ELECTRIC LINE
- FORCE MAIN
- UNDERGROUND TELEPHONE LINE
- OVERHEAD TELEPHONE LINE
- CATCH BASIN
- STORM SEWER
- SANITARY SEWER
- CURB INLET
- CLEANOUT
- YARD DRAIN
- DOWNSPOUT
- ELECTRICAL TRANSFORMER PAD
- FIRE HYDRANT
- WATER VALVE

UTILITY CROSSING SCHEDULE

NO.	UTILITY	ELEVATIONS	DIFF. (FT)
1	BOTTOM OF UNDERGROUND ELECTRIC	760.75	1.50
	TOP OF 12" STORM	759.25	
2	BOTTOM OF UNDERGROUND ELECTRIC	760.45	1.50
	TOP OF 12" STORM	758.95	
3	BOTTOM OF PROPOSED 2" WATERLINE	760.53	1.50
	TOP OF 6" STORM	759.03	
4	BOTTOM OF 6" STORM	758.67	1.50
	TOP OF UNDERGROUND TELECOMMUNICATIONS LINE	757.17	
5	BOTTOM OF 6" STORM	758.85	1.50
	TOP OF PROPOSED 2" WATERLINE	757.35	
6	BOTTOM OF 12" STORM	758.97	1.50
	TOP OF PROPOSED GAS LINE	759.03	
7	BOTTOM OF PROPOSED 2" WATERLINE	759.75	1.50
	TOP OF PROPOSED GAS LINE	758.25	
8	BOTTOM OF UNDERGROUND ELECTRIC LINE	759.64	1.50
	TOP OF PROPOSED GAS LINE	758.14	
9	BOTTOM OF 18" STORM	758.84	1.50
	TOP OF PROPOSED GAS LINE	757.34	
10	BOTTOM OF 18" STORM	758.90	1.50
	TOP OF PROPOSED 2" WATERLINE	757.40	
11	BOTTOM OF 18" STORM	757.41	1.50
	TOP OF UNDERGROUND ELECTRIC LINE	755.41	
12	BOTTOM OF 18" STORM	758.91	1.50
	TOP OF UNDERGROUND TELECOMMUNICATIONS LINE	757.41	

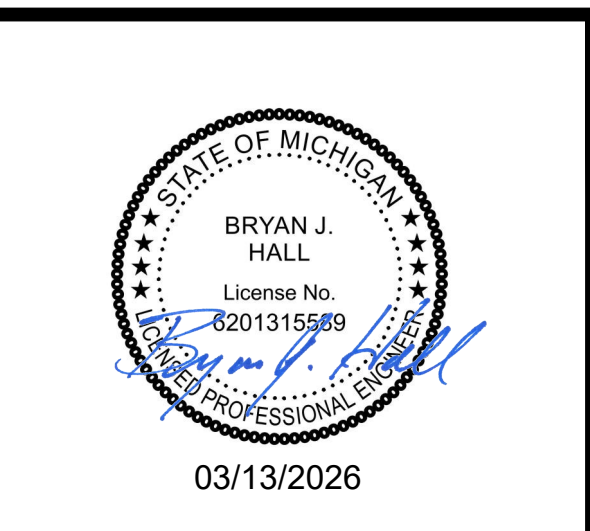
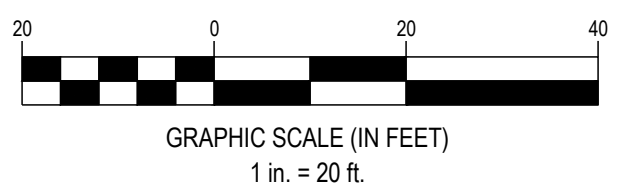
- ### CODED NOTES:
- PROPOSED 2" TELECOMMUNICATIONS SERVICE. CONTRACTOR TO COORDINATE WITH UTILITY PROVIDER FOR FINAL LOCATION.
 - PROPOSED ELECTRIC SERVICE. CONTRACTOR TO COORDINATE WITH UTILITY PROVIDER FOR FINAL LOCATION.
 - PROPOSED GREASE TRAP. REFER TO DRAINAGE AND UTILITY DETAILS, SHEET CUD-1.
 - INSTALL 6" PVC SANITARY SEWER LINE FROM BUILDING TO APPROPRIATE SERVICE LATERAL PER FIELD CONDITIONS. MINIMUM SLOPE SHALL BE 1.0%.
 - PROPOSED 1-1/4" GAS SERVICE. LINE TO CONNECT, THROUGH CONDUIT, TO EXISTING SERVICE LINE. CONTRACTOR TO COORDINATE WITH UTILITY PROVIDER FOR FINAL LOCATION.
 - PROPOSED 2" TYPE K COPPER WATER SERVICE. CONTRACTOR TO COORDINATE WITH UTILITY PROVIDER FOR FINAL LOCATION.
 - PROPOSED TRANSFORMER PAD.
 - PROPOSED TIE IN POINT FOR 2" TYPE K WATER SERVICE INTO EXISTING 6" D.I.P. WATER LINE. CONTRACTOR TO CAP 6" DURING DEMOLITION AND ADD CORP STOP.
 - PROPOSED GAS LINE TO TIE INTO EXISTING GAS LINE AT THIS LOCATION.
 - PROPOSED STORM TO TIE INTO EXISTING STORM AT THIS LOCATION.
 - PROPOSED SANITARY LINE TO TIE INTO EXISTING MANHOLE.
 - PROPOSED ADS DURASLOT. REFER TO ADS DETAILS ON SHEET DET-2
 - PROPOSED KSI SERIES 3500 HDPE CHAMBER SPILL CONTAINMENT TANK. REFER TO DETAIL ON SHEET DET-6 & DET-7.
 - PROPOSED STORMTRAP UNDERGROUND DETENTION SYSTEM WITH A 60ML LINER. REFER TO DETAILS ON SHEET DET-3, DET-4 & DET-5.
 - EXISTING FIRE HYDRANT.

- ### NOTES:
- PROPOSED GREASE TRAP WILL BE CLEANED/MAINTAINED AND INSPECTED ANNUALLY.
 - THE PLANS CONFORM TO 2013 CITY OF KALAMAZOO STANDARD SPECIFICATIONS FOR WASTEWATER SEWER INSTALLATION.

*CONTRACTOR TO VERIFY EXISTING UTILITIES LOCATIONS
**ELEVATIONS TO BE DETERMINED UPON INSTALLATION.



SEVENTY-TWO (72) HOURS BEFORE DIGGING IS TO COMMENCE, THE CONTRACTORS SHALL NOTIFY THE FOLLOWING AGENCIES: MICHIGAN UTILITIES PROTECTION SERVICE AT 811 OR 800-492-7171 AND ALL OTHER AGENCIES WHICH MIGHT HAVE UNDERGROUND UTILITIES INVOLVING THIS PROJECT AND ARE NONMEMBERS OF STATE UTILITIES PROTECTION SERVICE



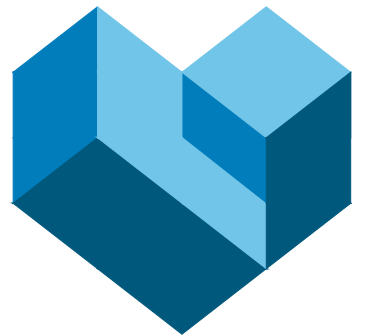
7-ELEVEN, INC.
SPEEDWAY - KALAMAZOO
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Revisions / Submissions		
ID	Description	Date
1	City Comments	2026/02/27

Project Number: 765319
Scale: 1"=20'
Drawn By: MB
Checked By: JS
Date: 09/23/2025
Issue: PERMIT SET

Drawing Title:
UTILITY PLAN

CU



CESO
WWW.CESOINC.COM

3601 Rogby Rd., Suite 300
Mansfield, OH 44902
Phone: 937.435.8584 Fax: 888.208.4826



03/13/2026

Speedway

7-ELEVEN, INC.

**SPEEDWAY -
KALAMAZOO**

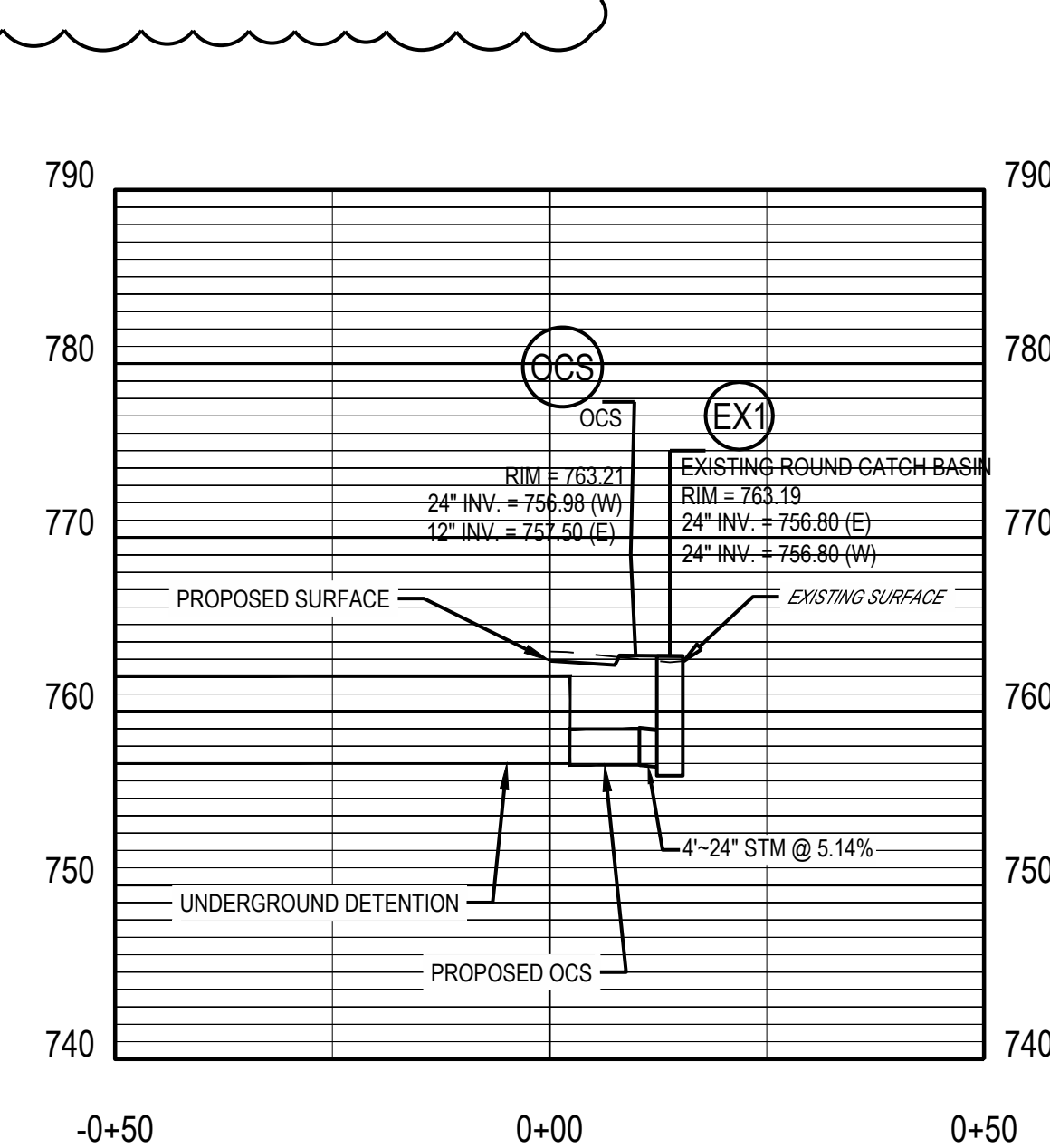
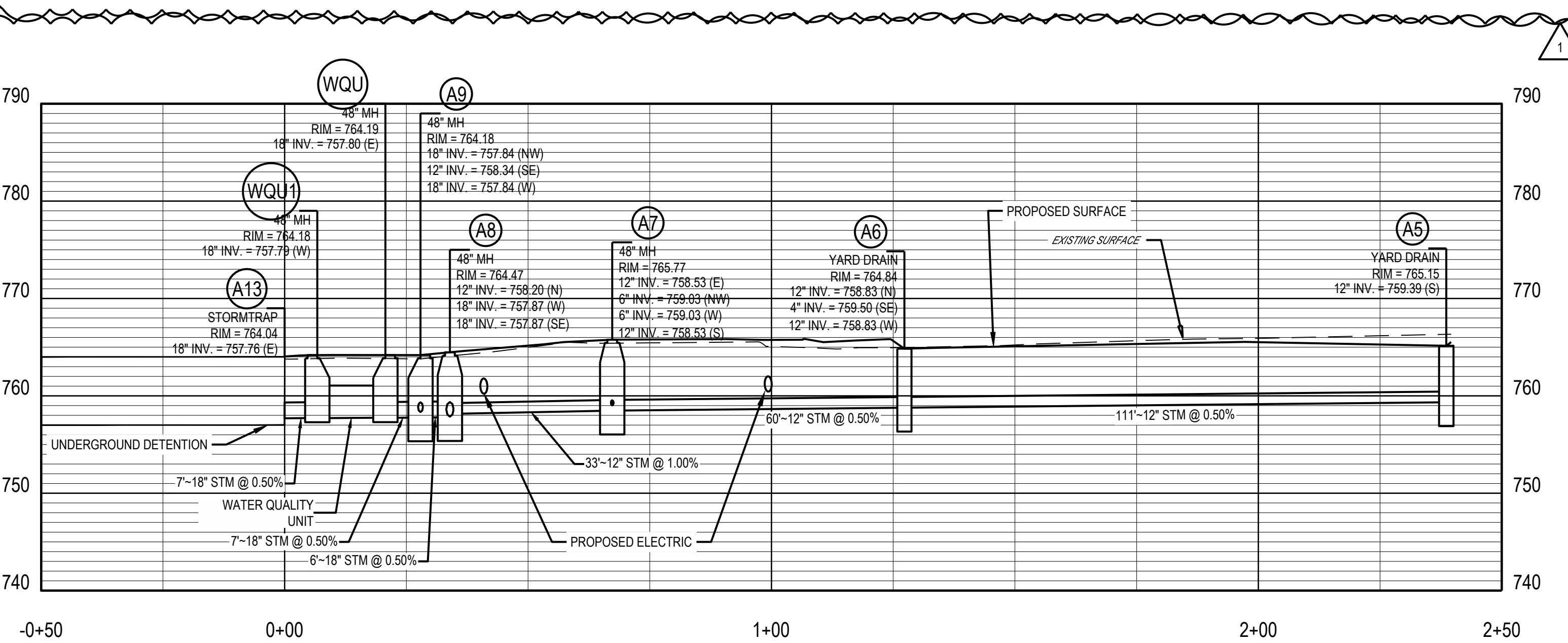
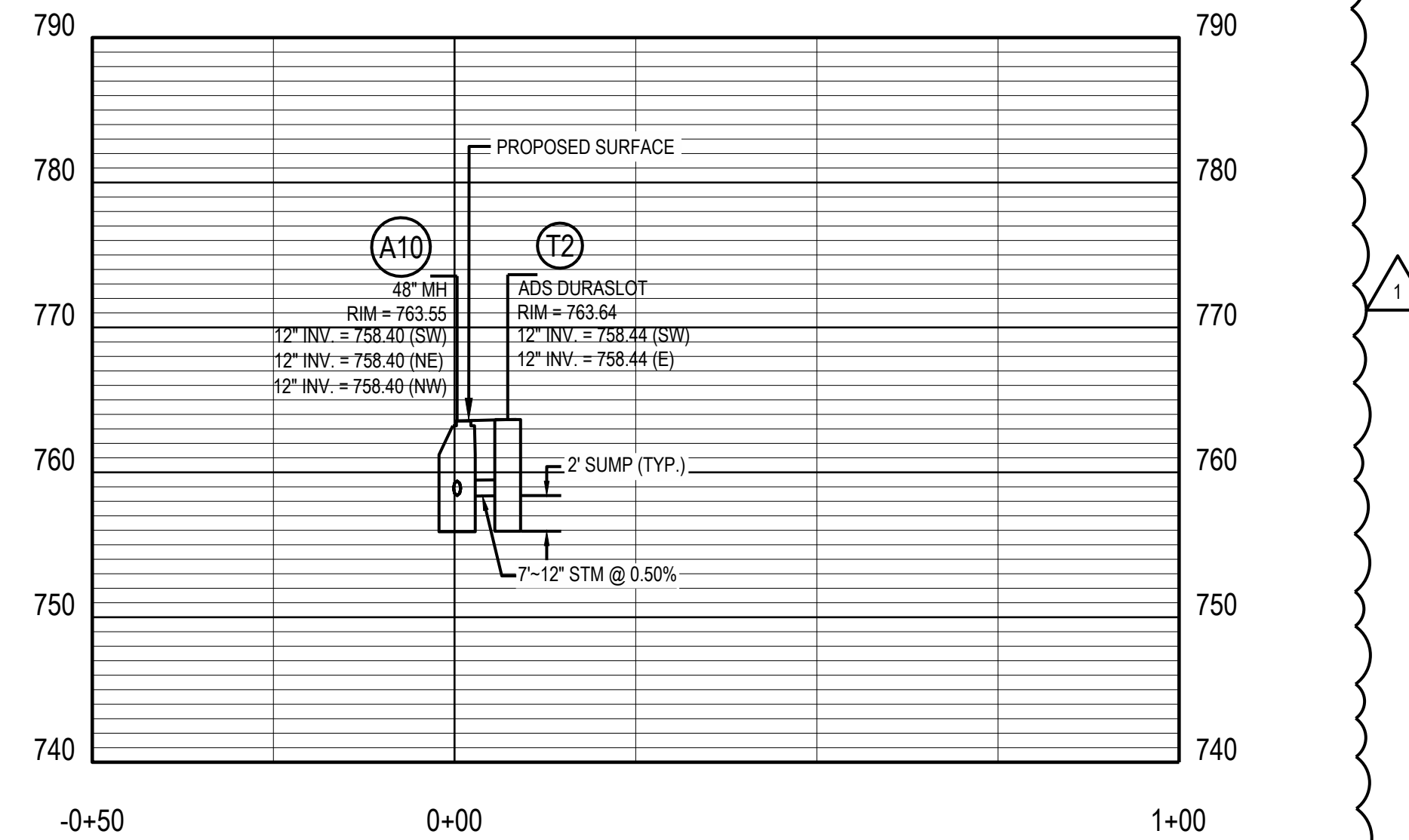
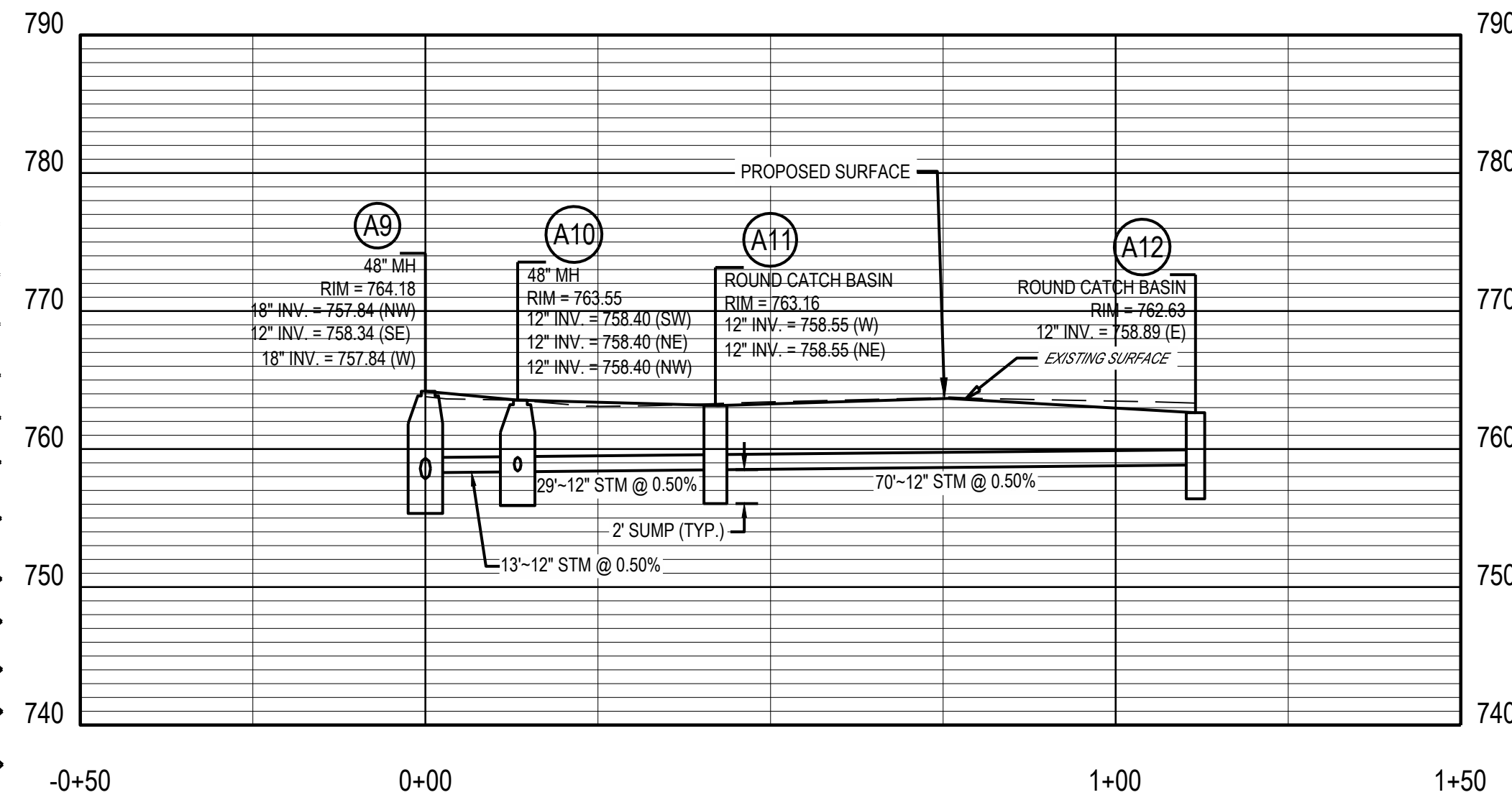
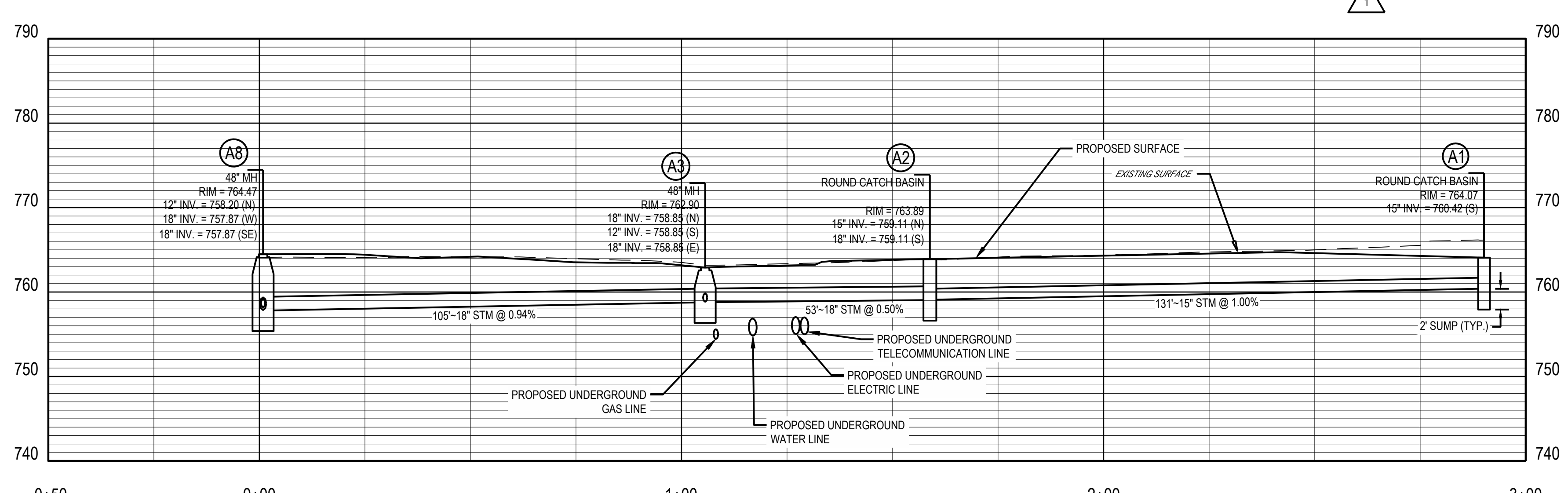
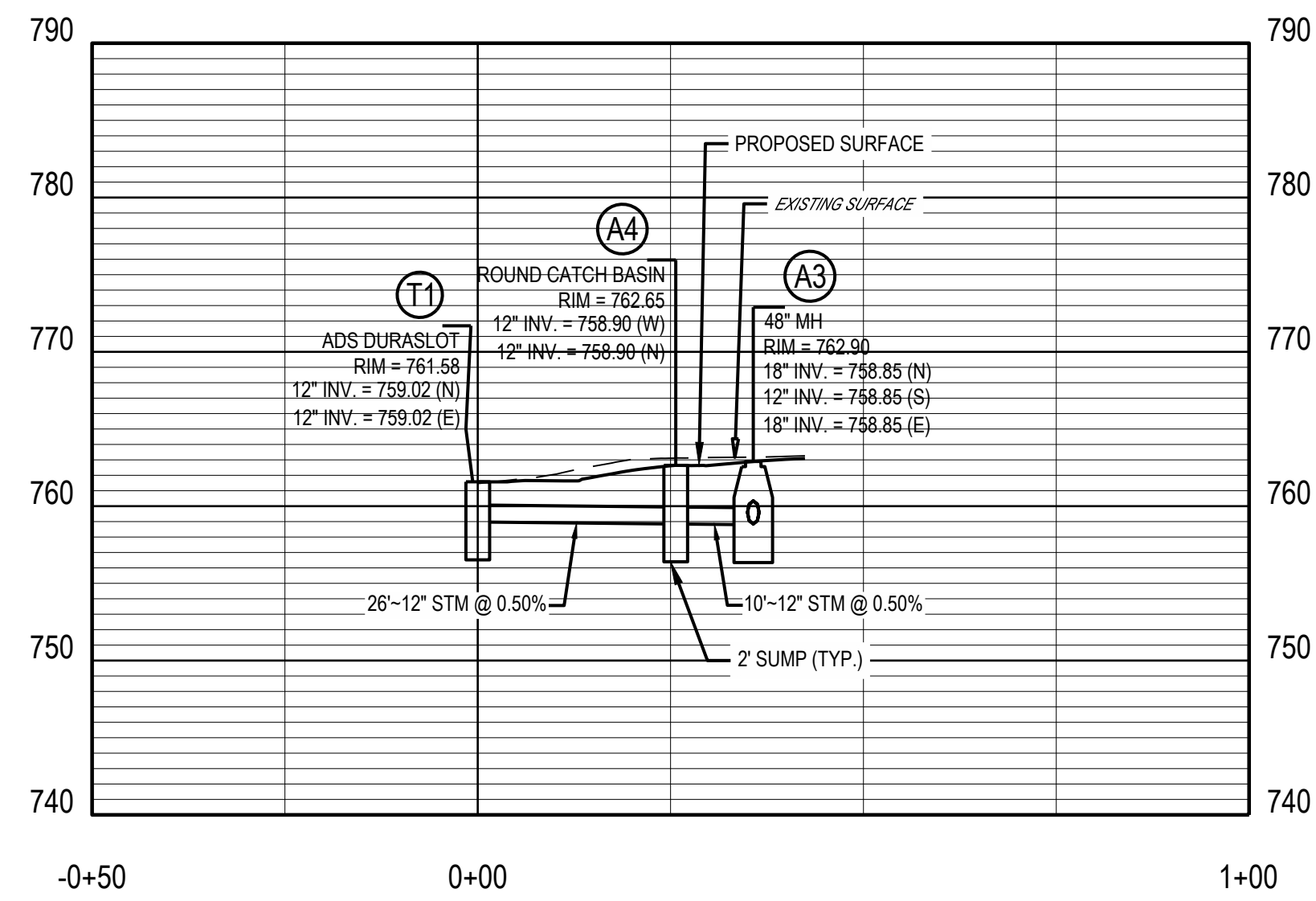
918 RIVERVIEW DRIVE
KALAMAZOO, MI 490048

Revisions / Submissions		
ID	Description	Date
1	City Comments	2026/02/27

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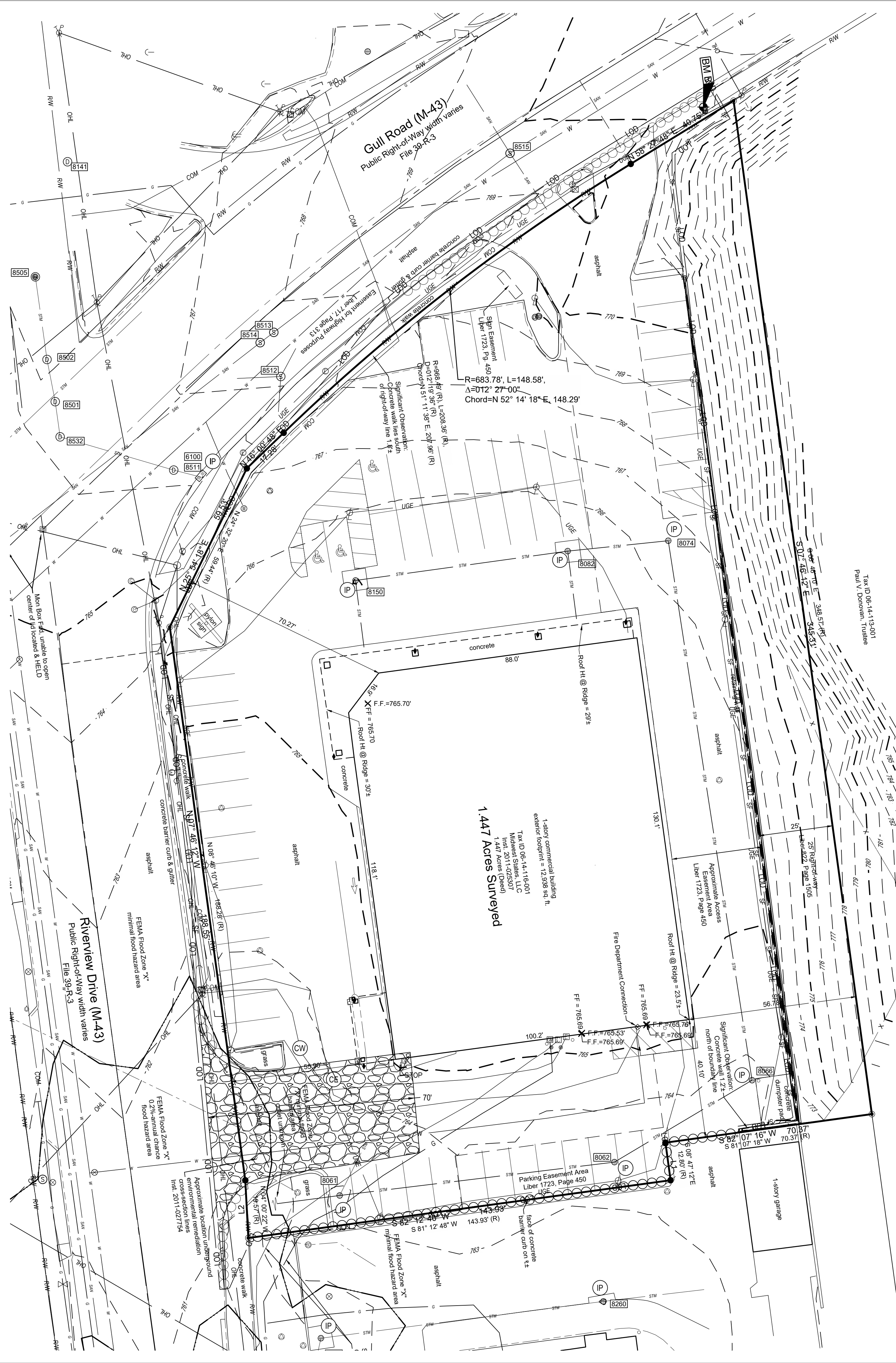
Drawing Title:
STORM PROFILES

CU1



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SEQUENCE OF CONSTRUCTION

UNLESS NOTED OTHERWISE, THE GENERAL CONTRACTOR IS RESPONSIBLE FOR MAINTAINING ALL EROSION AND SEDIMENT CONTROL MEASURES IN STRICT ACCORDANCE WITH THE SWPPP THROUGHOUT THE DURATION OF THE PROJECT.

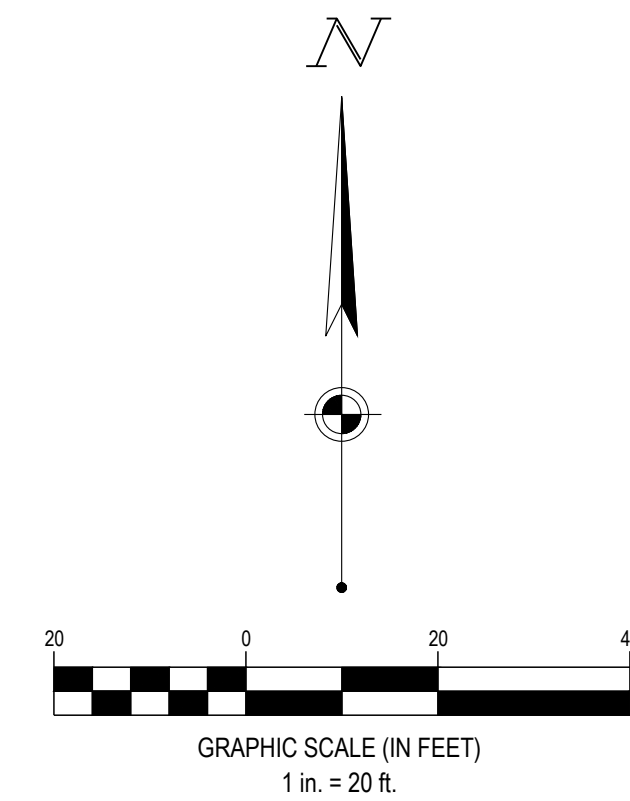
PHASE 1

1. ENSURE NOTICE OF INTENT (N.O.I.) IS FILED. INSTALL EROSION CONTROL MEASURES INCLUDING DANDY BAGS AND SILT FENCE AS SHOWN ON THE SOIL EROSION PLAN.
2. INSPECTION OF EROSION CONTROL MEASURES AS OUTLINED IN NOTES. REPAIRS AND/OR REPLACEMENTS SHALL BE MADE AS NECESSARY.
3. STRIP AND STOCKPILE TOPSOIL.
4. SITE DEMOLITION.
5. MASS GRADE AS REQUIRED.

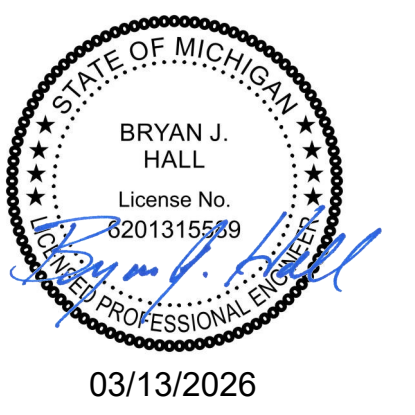
NOTE: IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO INSURE THAT ALL SOIL EROSION CONTROL MEASURES ARE INSTALLED AND MAINTAINED.

NOTE: CONTRACTOR TO MAINTAIN AND CLEAN OUT ALL TEMPORARY SEDIMENT TRAPS DURING DEMOLITION AND CONSTRUCTION, IN ACCORDANCE WITH MICHIGAN STORMWATER CONTROL REGULATIONS.

SWPPP LEGEND	
EXISTING	
REFER TO EX FOR EXISTING FEATURES LEGEND	
PROPOSED	
	MAJOR CONTOUR
	MINOR CONTOUR
	PAVEMENT/WALK
	STORM SEWER
	SILT FENCE
	COMPOST SOCK
	GRADING/SEEDING LIMITS
	LIMIT OF DISTURBANCE
	PERMANENT EROSION CONTROL BLANKET ON ALL 3:1 SLOPES OR STEEPER
	STORM MANHOLE
	CATCH BASIN
	CURB INLET
	STABILIZED CONSTRUCTION ENTRANCE
	TEMPORARY SEEDING
	FUEL STORAGE AREA
	CONCRETE WASHOUT AREA
	INLET PROTECTION
	TRASH AREA



SEVENTY-TWO (72) HOURS BEFORE DIGGING IS TO COMMENCE, THE CONTRACTORS SHALL NOTIFY THE FOLLOWING AGENCIES: MICHIGAN UTILITIES PROTECTION SERVICE AT 811 OR 800-482-7171 AND ALL OTHER AGENCIES WHICH MIGHT HAVE UNDERGROUND UTILITIES INVOLVING THIS PROJECT AND ARE NONMEMBERS OF STATE UTILITIES PROTECTION SERVICE



Speedway

7-ELEVEN, INC.
SPEEDWAY - KALAMAZOO
 918 RIVERVIEW DRIVE
 KALAMAZOO, MI 49048

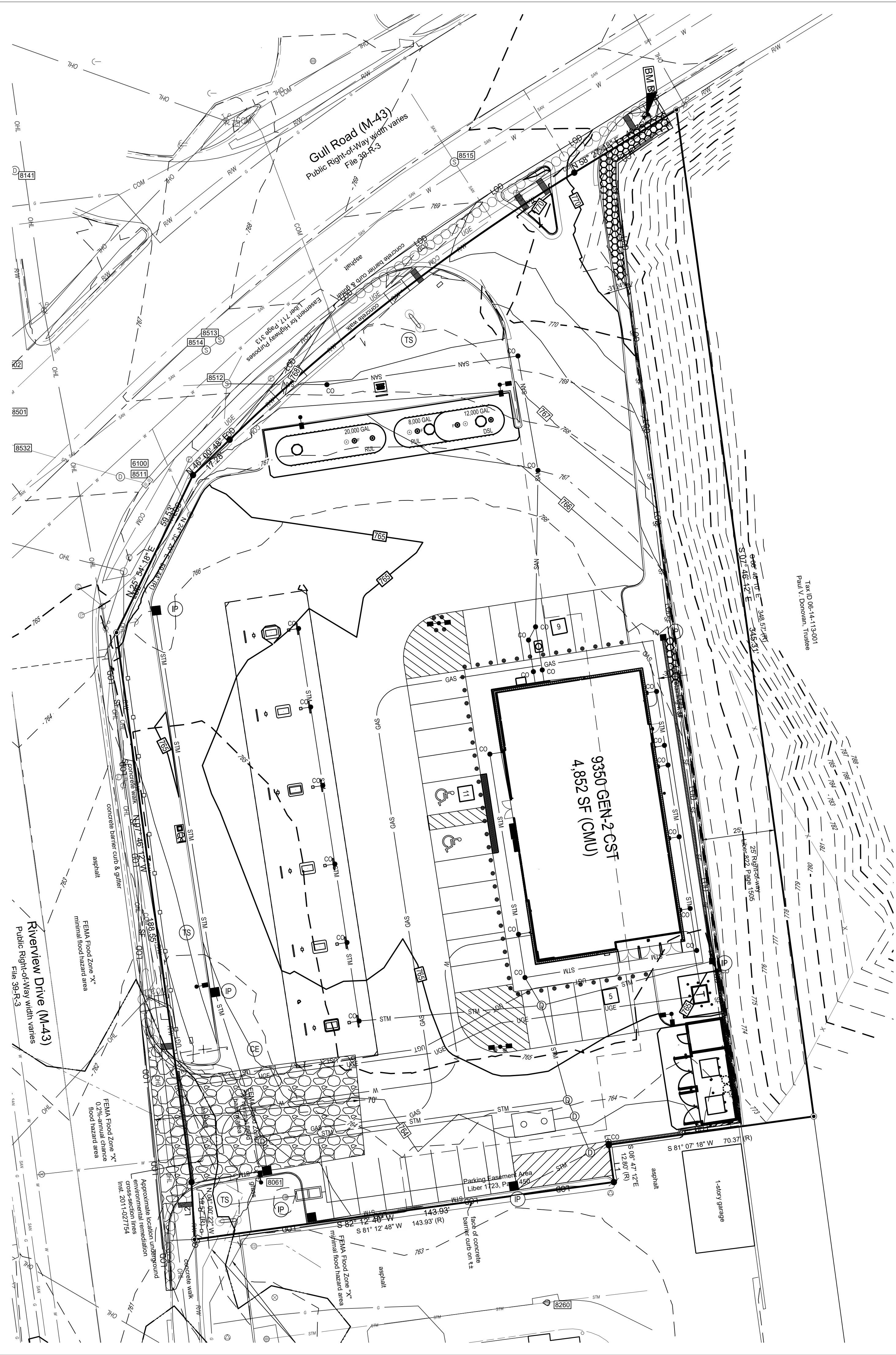
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SWPPP PHASE I

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SEQUENCE OF CONSTRUCTION

UNLESS NOTED OTHERWISE, THE GENERAL CONTRACTOR IS RESPONSIBLE FOR MAINTAINING ALL EROSION AND SEDIMENT CONTROL MEASURES IN STRICT ACCORDANCE WITH THE SWPPP THROUGHOUT THE DURATION OF THE PROJECT.

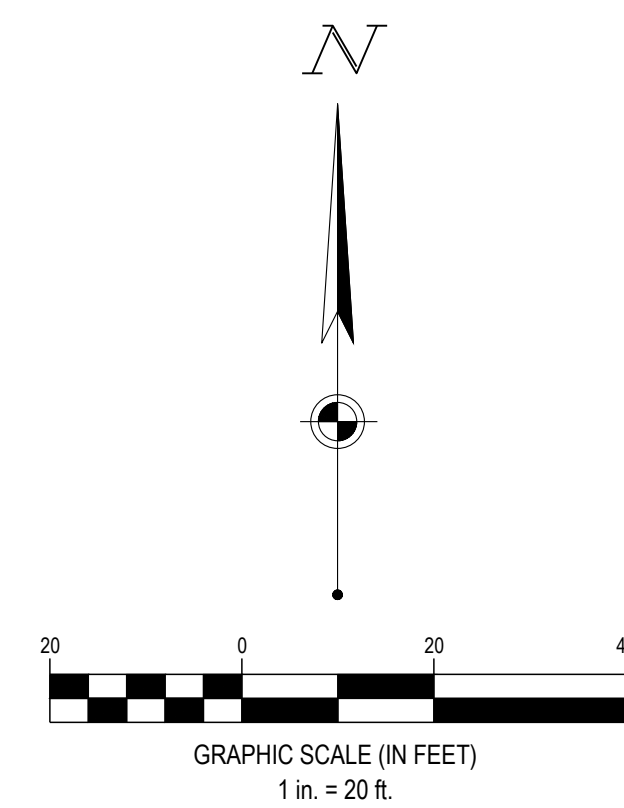
PHASE 2

1. INSPECT AND REPLACE ANY DAMAGED CONTROL ITEMS FROM PHASE 1.
2. BEGIN BUILDING CONSTRUCTION.
3. INSTALL SANITARY SEWER AND WATER SERVICE.
4. INSTALL STORM SEWER SYSTEM AFTER THE CONTRIBUTING DRAINAGE AREAS HAVE BEEN STABILIZED.
5. INSTALL ALL PUBLIC UTILITIES (GAS, ELECTRIC, AND TELEPHONE).
6. INSTALL ALL PAVEMENT.
7. REDISTRIBUTE TOPSOIL PER LANDSCAPE PLAN. ALL AREAS DISTURBED BY CONSTRUCTION THAT WILL NOT BE PAVED SHALL BE GRADED AND HAVE VEGETATION ESTABLISHED PER LANDSCAPE PLAN.
8. REMOVE SOIL EROSION CONTROL MEASURES AFTER PERMANENT VEGETATION HAS BEEN ESTABLISHED. ENSURE NOTICE OF TERMINATION (N.O.T.) IS FILED.

* NOTE: UNLESS NOTED OTHERWISE GENERAL CONTRACTOR IS RESPONSIBLE FOR MAINTAINING ALL EROSION AND SEDIMENT CONTROL MEASURES IN STRICT ACCORDANCE WITH THE SWPPP THROUGHOUT THE DURATION OF THE PROJECT.

SWPPP LEGEND

- REFER TO EX FOR EXISTING FEATURES LEGEND
- EXISTING**
- 580 MAJOR CONTOUR
 - 582 MINOR CONTOUR
 - STM PAVEMENT/WALK
 - SF STORM SEWER
 - SF SILT FENCE
 - COMPOST SOCK
 - GRADING/SEEDING LIMITS
 - LOD LIMIT OF DISTURBANCE
- PROPOSED**
- PERMANENT EROSION CONTROL BLANKET ON ALL 3:1 SLOPES OR STEEPER
 - STABILIZED CONSTRUCTION ENTRANCE
 - STORM MANHOLE
 - CATCH BASIN
 - CURB INLET
 - STABILIZED CONSTRUCTION ENTRANCE
 - TEMPORARY SEEDING
 - PERMANENT SOD
 - HAZARDOUS WASTE STORAGE AREA
 - FUEL STORAGE AREA
 - CONCRETE WASHOUT AREA
 - INLET PROTECTION
 - DANDY CURB (INLET PROTECTION)
 - DANDY BAG (INLET PROTECTION)
 - TRASH AREA



SEVENTY-TWO (72) HOURS BEFORE DIGGING IS TO COMMENCE, THE CONTRACTORS SHALL NOTIFY THE FOLLOWING AGENCIES: MICHIGAN UTILITIES PROTECTION SERVICE AT 811 OR 800-482-7171 AND ALL OTHER AGENCIES WHICH MIGHT HAVE UNDERGROUND UTILITIES INVOLVING THIS PROJECT AND ARE NONMEMBERS OF STATE UTILITIES PROTECTION SERVICE



Speedway

7-ELEVEN, INC.
SPEEDWAY - KALAMAZOO
 918 RIVERVIEW DRIVE
 KALAMAZOO, MI 49048

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Drawing Title:
SWPPP PHASE II

CE1

EROSION AND SEDIMENT CONTROL NARRATIVE

PLAN DESIGNER
CESO, INC.
13060 S US HWY 27
DEWITT, MI 48820

ENGINEER OF RECORD: ZACH FRESHNER, P.E.
P: 586-855-8130
E: GAUSS@CESOINC.COM

EXISTING SITE CONDITIONS: THE SITE IS AN EXISTING WALGREENS SITE WITH MAJORITY OF LAND BEING IMPERVIOUS SURFACE

PROJECT DESCRIPTION: THE PROJECT IS A DEVELOPMENT OF A PROPOSED ±1.44 ACRE PARCEL, INTO A PROPOSED 7-ELEVEN GAS STATION. IMPROVEMENTS WILL INCLUDE A CONVENIENCE STORE, AUTO PARKING, AUTO FUELING.

DISTURBED AREA: ±1.447 ACRES

SITE DRAINS TO: **THE SITE WILL SHEET FLOW TO A SERIES OF STORM INLETS AND ADS DURASLOTS. STORM INLETS WILL SHEET FLOW INTO A PROPOSED UNDERGROUND DETENTION ADS STORMTECH SC-800 SYSTTEM THAT WILL OUTLET TO A CITY OWNED COMBINED SEWER SYSTEM AND EVENTUALLY OUTFALL INTO THE KALAMAZOO RIVER.**

RECEIVING STREAM: KALAMAZOO RIVER

SITE BMP'S: FINAL LOCATIONS OF ALL SITE BMP'S INCLUDE DUMPSTER, VEHICLE FUELING AREAS, CONCRETE TRUCK WASH, MATERIAL STORAGE, AND TOPSOIL STOCKPILES SHALL BE DETERMINED BY CONTRACTOR. IF FINAL LOCATION OF BMP'S DIFFER FROM THE LOCATIONS SHOWN, CONTRACTOR SHALL MODIFY SWPPP AND INFORM MICHIGAN EGLE OF NEW LOCATION OF BMP'S.

SOILS ON SITE CONSIST OF: URBAN LAND.

EROSION AND SEDIMENT CONTROL MEASURES: PROVIDE INLET PROTECTION OF ALL NEW AND EXISTING DRAINAGE STRUCTURES INDICATED ON THIS PLAN.

ANY OFF-SITE BORROW OR SPOIL AREAS SHALL BE SUBJECT TO THE REQUIREMENTS SET FORTH BY CITY OF SAGINAW AND/OR MICHIGAN EGLE. ALL EROSION AND SEDIMENT CONTROL MEASURES FOR OFF-SITE AREAS NOT COVERED BY A SEPARATE NOI OR SWP3 SHALL BE COORDINATED WITH THE MICHIGAN EGLE.

ALL TRENCH OR EXCAVATION GROUNDWATER CONTAINING SEDIMENT MUST BE EFFECTIVELY TREATED PRIOR TO DISCHARGE INTO THE COMBINED SEWER SYSTEM.

USE ALL MEANS NECESSARY TO CONTROL DUST ON THE SITE AND PREVENT TRACKING SOIL OFF SITE.

JURISDICTION: ALL EROSION AND SEDIMENT CONTROL PRACTICES ARE SUBJECT TO FIELD MODIFICATION AT THE DISCRETION OF THE CITY OF KALAMAZOO AND/OR MICHIGAN EGLE.

RUNOFF: THE PRE-CONSTRUCTION RUNOFF COEFFICIENT IS C=0.77. THE POST-CONSTRUCTION RUNOFF COEFFICIENT IS C=0.46.

CONSTRUCTION: ESTIMATED START DATE: 06/2026
NOTES: ESTIMATED COMPLETION DATE: 12/2026

- PRE-CONSTRUCTION IMPERVIOUS ACREAGE = 1.21 AC
POST-CONSTRUCTION IMPERVIOUS ACREAGE = 1.07 AC
CHANGE IN IMPERVIOUS ACREAGE = -0.14 AC
- SITE EROSION CONTROLS SHALL BE CHECKED AND IF NECESSARY, REPAIR WEEKLY AND WITHIN 24 HOURS AFTER EACH RAINFALL GREATER THAN 1/2" IN THE EVENT OF CONTINUOUS RAINFALL, EROSION CONTROLS SHALL BE CHECKED DAILY.
- ALL AREAS TO REMAIN BARE > 15 DAYS MUST BE TEMPORARILY STABILIZED.

PROJECT IS LOCATED WITHIN ZONE X AS IT APPEARS ON FEMA FLOOD MAP PANEL #26077C0187E DATED 07/31/2006.

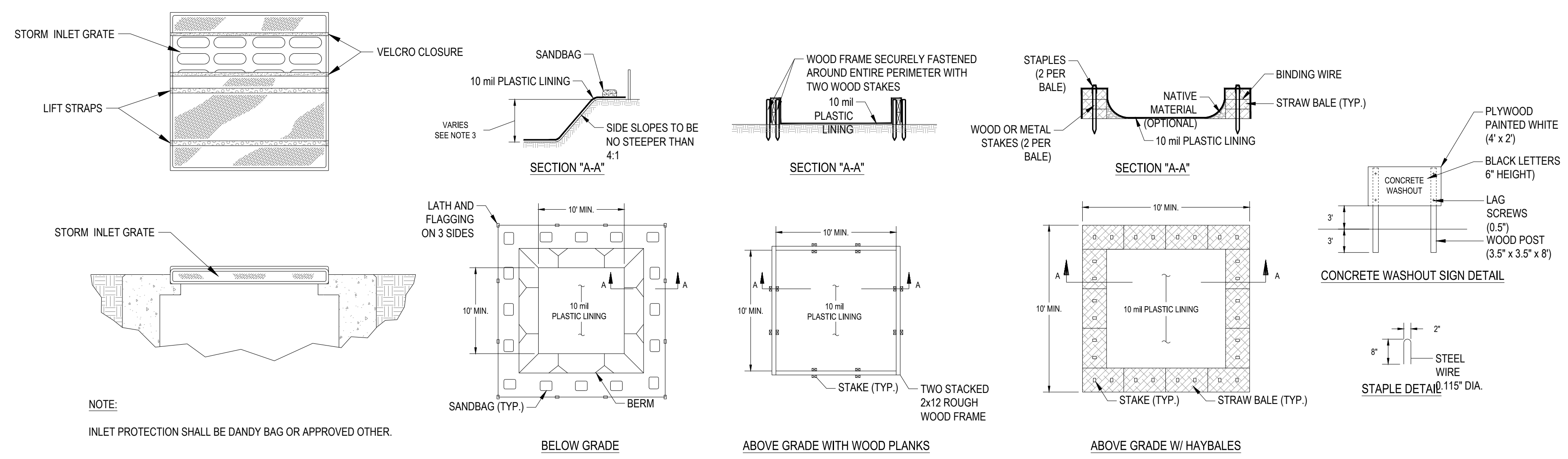
- REFER TO CG-CG2 FOR ALL PROPOSED GRADES
- REFER TO CE-CE2 FOR FURTHER EROSION CONTROL NOTES AND DETAILS

OWNERS REPRESENTATIVE FOR EROSION CONTROL MAINTENANCE:

NAME: TBD

PHONE #: TBD

SIGNATURE OF OPERATOR _____ DATE _____



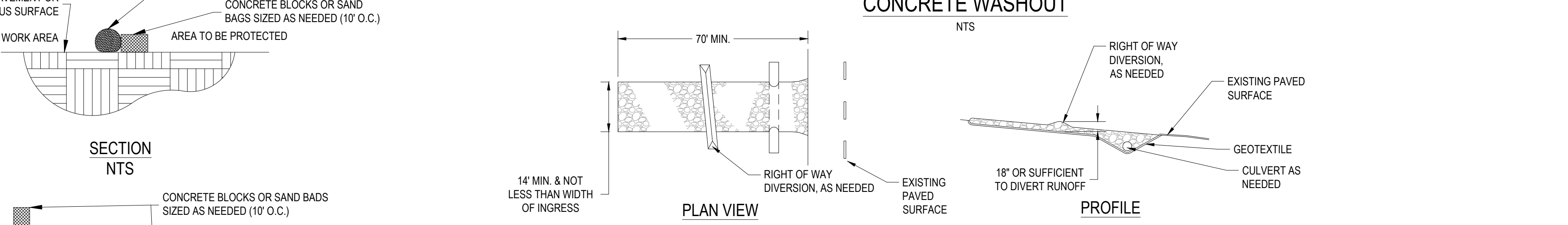
INLET PROTECTION

NTS

NOTE: INLET PROTECTION SHALL BE DANDY BAG OR APPROVED OTHER.

NOTES:

- ACTUAL LAYOUT DETERMINED IN THE FIELD.
- THE CONCRETE WASHOUT SIGN SHALL BE INSTALLED WITHIN 30' OF THE TEMPORARY CONCRETE WASHOUT FACILITY.
- THE WASHOUT MUST HAVE SUFFICIENT VOLUME TO CONTAIN ALL LIQUID AND CONCRETE WASTE GENERATED BY WASHOUT OPERATIONS INCLUDING BUT NOT LIMITED TO OPERATIONS ASSOCIATED WITH GROUT AND MORTAR.



COMPOST SOCK ON PAVEMENT

NTS

NOTES:

- ALL MATERIAL TO MEET SPECIFICATIONS.
- FILTER MEDIA TO MEET APPLICATION REQUIREMENTS.
- FILTER MEDIA TO BE DISPersed ON SITE, AS DETERMINED BY ENGINEER.

CONCRETE BLOCKS OR SAND BADS SIZED AS NEEDED (10' O.C.)

COMPOST SOCK SIZE TO BE DETERMINED BY MANUFACTURER

AREA TO BE PROTECTED

18" MIN. OVERLAP

WATER FLOW

WORK AREA

PLAN NTS

GEOTEXTILE SPECIFICATION FOR CONSTRUCTION ENTRANCE

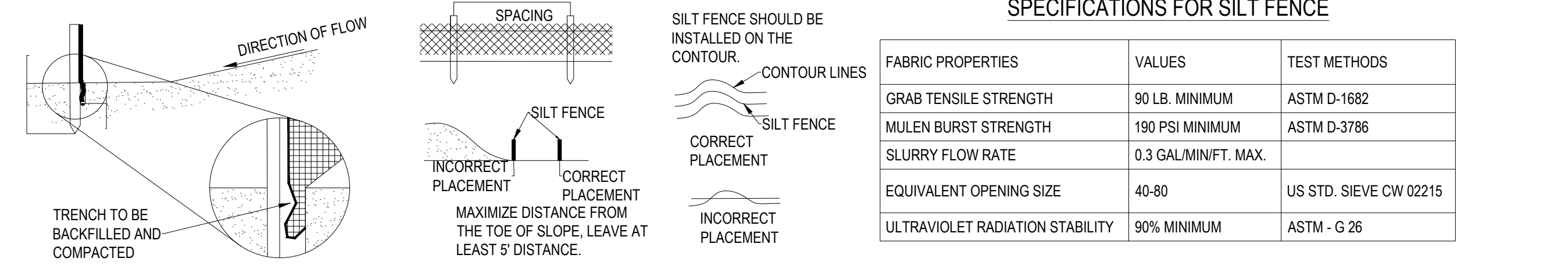
MINIMUM TENSILE STRENGTH	200 lbs.
MINIMUM PUNCTURE STRENGTH	80 psi.
MINIMUM TEAR STRENGTH	50 lbs.
MINIMUM BURST STRENGTH	320 psi.
MINIMUM ELONGATION	20%
EQUIVALENT OPENING SIZE	EOS < 0.6 mm.
PERMITTIVITY	1x10 ⁻³ cm ² /sec.

STABILIZED CONSTRUCTION ENTRANCE

NTS

NOTES:

- STONE SIZE - (1.5-2.5 INCH) STONE SHALL BE USED, OR RECYCLED CONCRETE EQUIVALENT.
- LENGTH - THE CONSTRUCTION ENTRANCE SHALL BE AS LONG AS REQUIRED TO STABILIZE HIGH TRAFFIC AREAS BUT NOT LESS THAN 70 FT. (EXCEPTION: APPLY 30 FT. MINIMUM TO SINGLE RESIDENCE LOTS.
- THICKNESS - THE STONE LAYER SHALL BE AT LEAST 6 INCHES THICK FOR LIGHT DUTY ENTRANCES OR AT LEAST 10 INCHES FOR HEAVY DUTY USE.
- WIDTH - THE ENTRANCE SHALL BE AT LEAST 14 FEET WIDE, BUT NOT LESS THAN THE FULL WIDTH AT POINTS WHERE INGRESS OR EGRESS OCCURS.
- GEOTEXTILE - A GEOTEXTILE SHALL BE LAID OVER THE ENTIRE AREA PRIOR TO PLACING STONE, IT SHALL BE COMPOSED OF STRONG ROT-PROOF POLYMERIC FIBERS AND MEET THE FOLLOWING SPECIFICATIONS:
- TIMING - THE CONSTRUCTION ENTRANCE SHALL BE INSTALLED AS SOON AS IS PRACTICAL BEFORE MAJOR GRADING ACTIVITIES.
- CULVERT - A PIPE OR CULVERT SHALL BE CONSTRUCTED UNDER THE ENTRANCE IF NEEDED TO PREVENT SURFACE WATER FROM FLOWING ACROSS THE ENTRANCE OR TO PREVENT RUNOFF FROM BEING DIRECTED OUT ONTO PAVED SURFACES.
- WATER BAR - A WATER BAR SHALL BE CONSTRUCTED AS PART OF THE CONSTRUCTION ENTRANCE IF NEEDED TO PREVENT SURFACE RUNOFF FROM FLOWING THE LENGTH OF THE CONSTRUCTION ENTRANCE AND OUT ONTO PAVED SURFACES.
- MAINTENANCE - TOP DRESSING OF ADDITIONAL STONE SHALL BE APPLIED AS CONDITIONS DEMAND. MUD SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC ROADS, OR ANY SURFACE WHERE RUNOFF IS NOT CHECKED BY SEDIMENT CONTROLS, SHALL BE REMOVED IMMEDIATELY. REMOVAL SHALL BE ACCOMPLISHED BY SCRAPING OR SWEEPING.
- CONSTRUCTION ENTRANCES SHALL NOT BE RELIED UPON TO REMOVE MUD FROM VEHICLES AND PREVENT OFF-SITE TRACKING. VEHICLES THAT ENTER AND LEAVE THE CONSTRUCTION SITE SHALL BE RESTRICTED FROM MUDDY AREAS.
- REMOVAL - THE ENTRANCE SHALL REMAIN IN PLACE UNTIL THE DISTURBED AREA IS STABILIZED OR REPLACED WITH A PERMANENT ROADWAY OR ENTRANCE.



FABRIC PROPERTIES	VALUES	TEST METHODS
GRAB TENSILE STRENGTH	90 LB. MINIMUM	ASTM D-1682
MULEN BURST STRENGTH	190 PSI MINIMUM	ASTM D-3786
SLURRY FLOW RATE	0.3 GAL/MIN/FT. MAX.	
EQUIVALENT OPENING SIZE	40-80	US STD. SIEVE CW 02215
ULTRAVIOLET RADIATION STABILITY	90% MINIMUM	ASTM - G 26

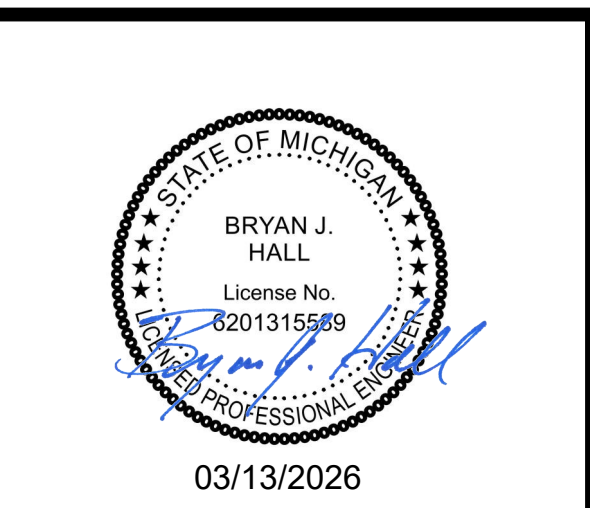
CRITERIA FOR SILT FENCE MATERIALS

- FENCE POSTS - THE LENGTH SHALL BE A MINIMUM OF 32 INCHES LONG. WOOD POSTS WILL BE 2 IN. X 2 IN. HARDWOOD OF SOUND QUALITY. THE MAXIMUM SPACING BETWEEN POSTS SHALL BE 10 FT.
- SILT FENCE FABRIC (SEE CHART BELOW)
- THE SILT FENCE SHALL BE PLACED IN A TRENCH CUT A MINIMUM 6 IN. DEEP. THE TRENCH SHALL BE CUT WITH A TRENCHER, CABLE LAYING MACHINE, OR OTHER SUITABLE DEVICES WHICH WILL ENSURE ADEQUATE UNIFORM TRENCH DEPTH.
- THE SILT FENCE SHALL BE PLACED WITH THE STAKES ON THE DOWNSLOPE SIDE OF THE GEOTEXTILE AND SO THAT THE 8 INCHES OF CLOTH ARE BELOW THE GROUND SURFACE. EXCESS MATERIAL SHALL LAY ON THE BOTTOM OF THE 6 IN. DEEP TRENCH. THE TRENCH SHALL BE BACKFILLED AND COMPACTED.
- SEAMS BETWEEN SECTIONS OF SILT FENCE SHALL BE OVERLAPPED WITH THE END STAKES OF EACH SECTION WRAPPED TOGETHER BEFORE DRIVING INTO THE GROUND.
- MAINTENANCE - SILT FENCE SHALL ALLOW RUNOFF TO PASS ONLY AS DIFFUSE FLOW THROUGH THE GEOTEXTILE. IF RUNOFF OVERTOPS SILT FENCE, FLOWS UNDER OR AROUND THE ENDS, OR IN ANY OTHER WAY BECOMES A CONCENTRATED FLOW, ONLY ONE OF THE FOLLOWING SHALL BE PERFORMED, AS APPROPRIATE:
 - THE LAYOUT OF THE SILT FENCE SHALL BE CHANGED,
 - ACCUMULATED SEDIMENT SHALL BE REMOVED, OR
 - OTHER PRACTICES SHALL BE INSTALLED.

SILT FENCE

NTS

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SPEEDWAY - KALAMAZOO

918 RIVERVIEW DRIVE
KALAMAZOO, MI 49048

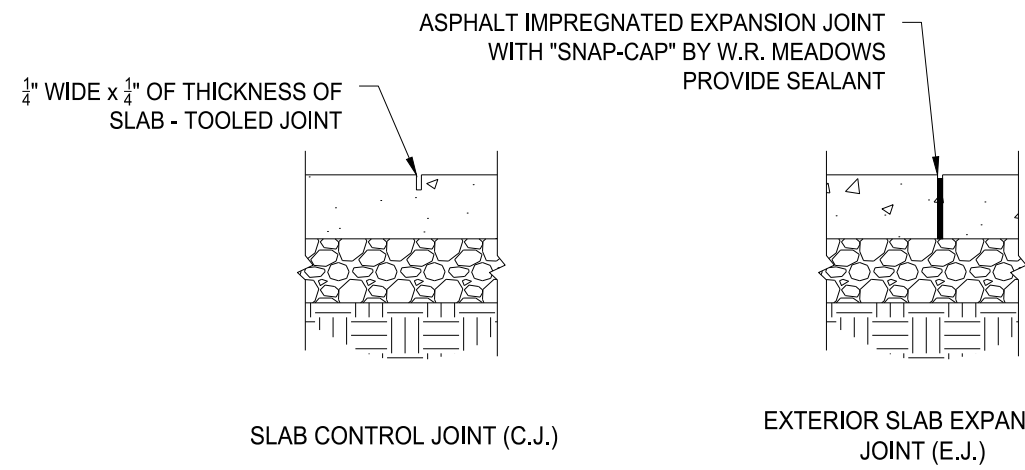
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SWPPP NOTES & DETAILS

CE2



FOR 5' OR 8' WALKS, INSTALL A CONTROL JOINT EVERY 5' AND ONE IN THE CENTER (5' FROM THE BACK OF THE BUILDING FOR EXAMPLE)

DETAILS ONLY APPLY TO BUILDING SIDEWALK. THEY DO NOT APPLY TO INTERIOR SLAB OR SITE CONCRETE.

10 CONCRETE WALK JOINTING SECTIONS
NOT TO SCALE

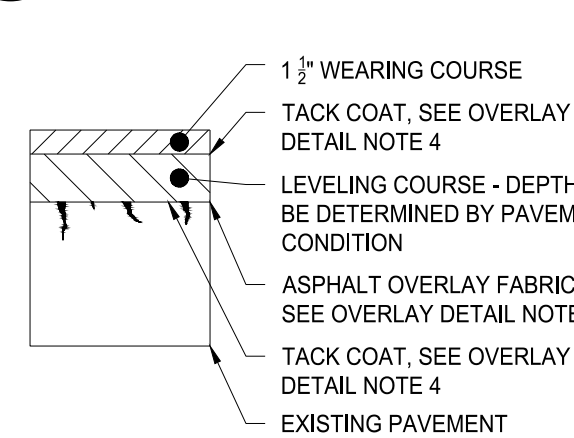
ASPHALT SEALING

- SURFACE CLEANING**
THE SURFACE TO BE SEALED SHALL BE FREE FROM DIRT AND OTHER FOREIGN MATTER. ANY ACCUMULATIONS OF OIL OR GREASE SHALL BE CLEANED OFF THE PAVEMENT WITH DETERGENT SOLUTION. THE RESIDUE OF WHICH SHALL BE THOROUGHLY WASHED AWAY WITH CLEAN WATER BEFORE SEALANT IS APPLIED.
- SEALING**
THE SEAL COATING MATERIAL SHALL BE COMPRISED OF A RUBBERIZED COAL-TAR PITCH EMULSION AND SHALL MEET OR EXCEED FEDERAL SPECIFICATION R-P-355e. SUPPLIED IN CONCENTRATED FORM, IT SHALL BE DILUTED A MINIMUM OF 15% AND A MAXIMUM OF 25% WITH FRESH, CLEAN WATER. THE SEALANT MATERIAL SHALL CONTAIN 5-6 LBS. PER GALLON OF FINE, CLEAN, DRY SILICAS AND MEETING THE FOLLOWING GRADATION:

SIEVE SIZE	% PASSING
#16	100
#30	80-100
#50	10-60
#100	0-5

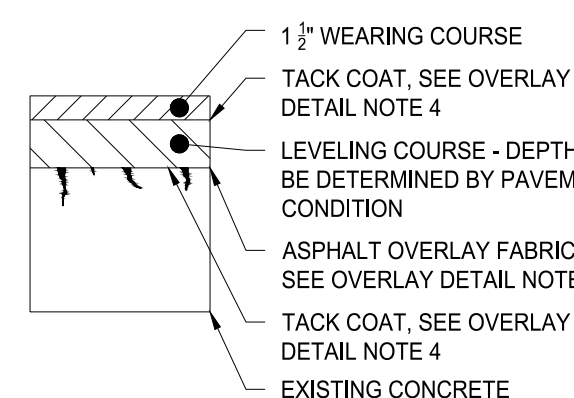
THE SEALANT SHALL BE APPLIED TO THE PAVEMENT IN TWO COATS AT THE RATE OF 0.08 TO 0.12 GALLONS PER SQUARE YARD. A LATEX ADDITIVE MAY ALSO BE ADDED TO THE SEALANT TO ALLOW FOR QUICKER DRYING TIME IN THOSE AREAS SPECIFIED BY OWNER'S REPRESENTATIVE.

7 ASPHALT SEALING NOTES
NO SCALE

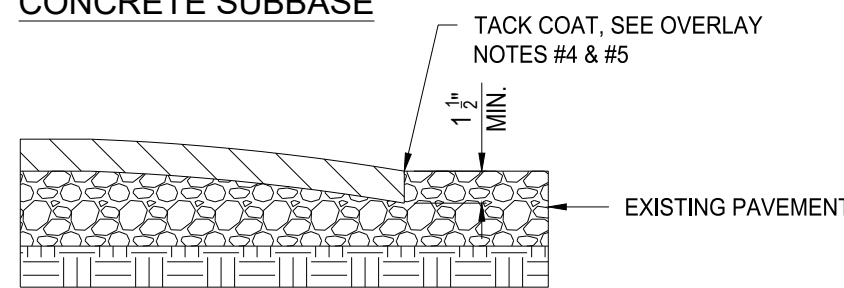


- OVERLAY DETAIL NOTES:
- THE OVERLAY SHALL BE PLACED IN ACCORDANCE WITH OWNER'S SPECIFICATIONS.
 - ALL FAILED AREAS SHALL BE REPAIRED WITH PROPER PATCHES BEFORE OVERLAY IS PLACED.
 - IF THE SURFACE IS DISTURBED, THE CONTRACTOR SHALL CONSTRUCT LEVELING COURSES TO RESTORE PROPER LINE AND CROSS SECTION.
 - THE PAVEMENT SHALL BE THOROUGHLY CLEANED AND A TACK COAT OF ASPHALT SHALL BE APPLIED BEFORE THE OVERLAY IS PLACED.
 - ALL VERTICAL SURFACES COMING IN CONTACT WITH THE OVERLAY SHALL BE SPRAYED OR PAINTED WITH A UNIFORM COATING OF EMULSIFIED ASPHALT IMMEDIATELY PRIOR TO PAVEMENT CONSTRUCTION.
 - CONTRACTOR IS RESPONSIBLE FOR ENSURING PROPER SURFACE DRAINAGE. PONDING OR PUDDLING OF WATER ON THE FINAL SURFACE WILL BE UNACCEPTABLE.
 - REPLACE IN KIND ANY EXISTING TRAFFIC LOOPS AND/OR RELATED SENSOR EQUIPMENT THAT IS REMOVED OR DAMAGED DUE TO PAVEMENT MILLING ACTIVITY.

ASPHALT SUBBASE



CONCRETE SUBBASE



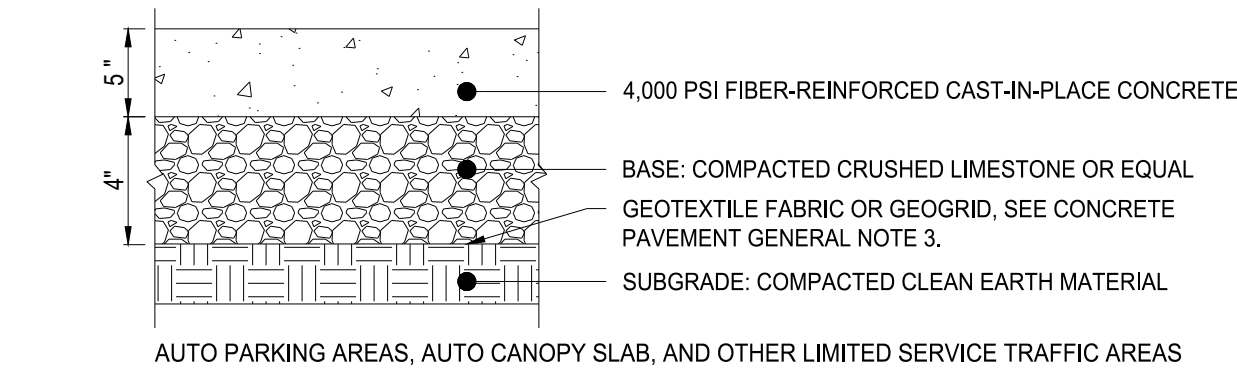
WHERE OVERLAY IS NOT SPECIFIED FOR ENTIRE EXISTING SURFACE, THE INTERFACE BETWEEN THE NEW OVERLAY AND THE OLD PAVEMENT SURFACE SHALL BE PER THE ABOVE DETAIL. FEATHERING OF THE ASPHALT TO MEET THE EXISTING PAVEMENT WILL NOT BE ACCEPTABLE.

EDGE DETAIL

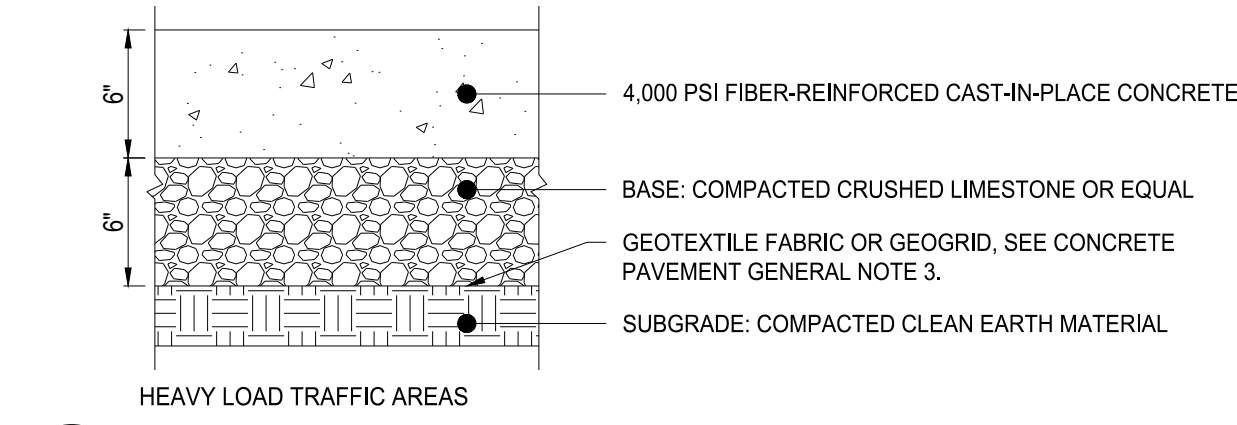
8 ASPHALT OVERLAY PAVEMENT SECTIONS
NOT TO SCALE

CONCRETE PAVEMENT JOINT DETAILS		
TYPE OF JOINT	USE DESCRIPTION	DETAIL
A. CONTROL JOINT ("S.J." ON FUEL PROTOTYPES) 1. SAWN 2. PREMOLD STRIP 3. HAND FORMED AND SAWN AT CRITICAL JOINTS	USE SPECIFICATION ACl 309R-06 TO PLACE CONTROL JOINTS SO AS TO UNIFORMLY DIVIDE SLABS INTO NOMINAL 12' x 12' (STANDARD-DUTY) OR 16' x 16' (HEAVY-DUTY) SECTIONS. (SEAL CONTROL JOINTS ONLY IF SPECIFIED ON DRAWINGS OR BY OWNER'S REPRESENTATIVE.	
B. EXPANSION JOINT (ISOLATION JOINT)	PLACE AGAINST CONCRETE TANK SLAB, ABUTTING ROADWAY PAVEMENTS AND STRUCTURES (BUILDINGS, CANOPY COLUMNS, CATCH BASINS, ETC.)	
C. CONSTRUCTION JOINT ("C.J." ON FUEL PROTOTYPES)	CONSTRUCTION JOINTS MUST BE APPROVED BY OWNER'S REPRESENTATIVE. PLACE WHEN CONTINUOUS POUR OPERATIONS ARE SUSPENDED FOR MORE THAN 30 MINUTES.	

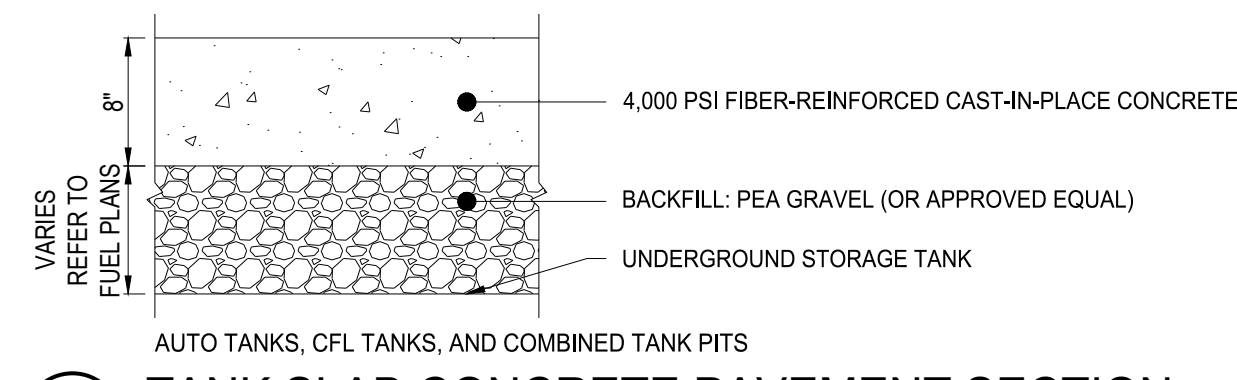
9 CONCRETE PAVEMENT JOINTING SECTIONS
NO SCALE



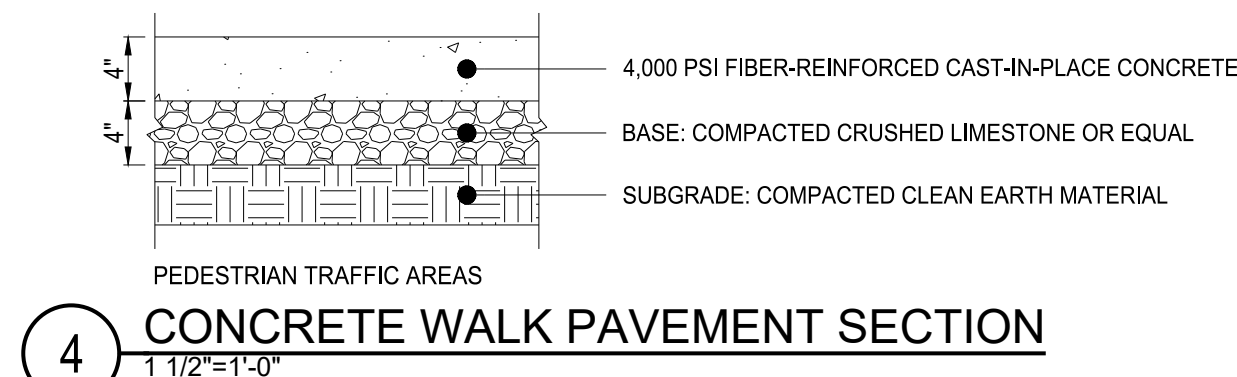
1 STANDARD-DUTY CONCRETE PAVEMENT SECTION
1 1/2"=1'-0"



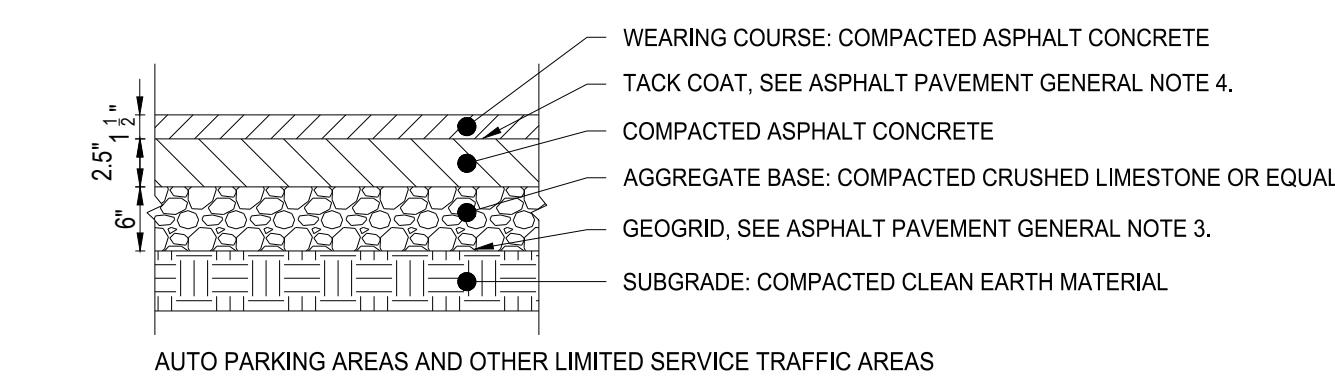
2 HEAVY-DUTY CONCRETE PAVEMENT SECTION
1 1/2"=1'-0"



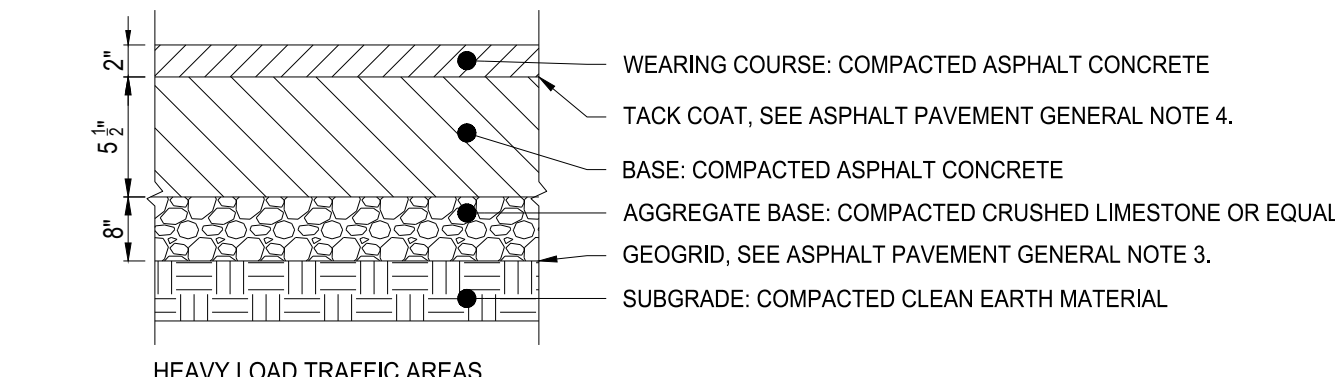
3 TANK SLAB CONCRETE PAVEMENT SECTION
1 1/2"=1'-0"



4 CONCRETE WALK PAVEMENT SECTION
1 1/2"=1'-0"



5 STANDARD-DUTY ASPHALT PAVEMENT SECTION
1 1/2"=1'-0"



6 HEAVY-DUTY ASPHALT PAVEMENT SECTION
1 1/2"=1'-0"

PAVING EXECUTION NOTES:

- LOCATE AND INSTALL CONSTRUCTION, ISOLATION, AND EXPANSION JOINTS AS INDICATED OR REQUIRED.
- PLACE CONCRETE IN A CONTINUOUS OPERATION WITHIN PLANNED JOINTS OR SECTIONS. DO NOT ADD WATER TO ADJUST SLUMP.
- FLOAT SURFACES TO TRUE PLANES WITHIN A TOLERANCE OF 1/4 INCH IN 10 FEET.
- TOOL EDGES AND JOINTS TO A RADIUS OF 1/4 INCH FOR SIDEWALKS.
- ALLOW CONCRETE PAVING TO CURE FOR A MINIMUM OF 28 DAYS AND DRY BEFORE STARTING PAVEMENT MARKING.
- APPLY TRAFFIC PAINT WITH MECHANICAL EQUIPMENT TO A MINIMUM WET FILM THICKNESS OF 15 MILS.
- PROTECT CONCRETE PAVING FROM DAMAGE. EXCLUDE TRAFFIC FROM PAVING FOR AT LEAST 14 DAYS.

CONCRETE PAVEMENT GENERAL NOTES:

- SEE FUEL PROTOTYPE FOR ADDITIONAL REQUIREMENTS FOR TANK SLABS.
- SEE FUEL PROTOTYPE FOR ADDITIONAL REQUIREMENTS FOR DISPENSER ISLAND SLABS.
- A GEOTECHNICAL OR GEOGRID IS ONLY NEEDED WHEN THE GEOTECHNICAL REPORT AND/OR A GEOTECH EXPERT REQUIRES IT FOR THE SPECIFIC SITE'S SOIL CONDITIONS.
- UNDISTURBED SOIL OR COMPACTED BACK FILL NOT LESS THAN 95% OF MODIFIED PROCTOR DENSITY (AASHTO-T-180).
- REFER TO CIVIL DESIGN GUIDELINES (CDG) FOR PAVEMENT LOCATION GUIDANCE.
- CONTRACTOR REFER TO THE GEOTECH REPORT FOR PAVEMENT AND FOUNDATION DESIGN AND CONSTRUCTION RECOMMENDATIONS IF MORE STRINGENT THAN PROTOTYPE DETAILS.
- COMPACTION IS NOT REQUIRED OVER THE TANK PIT(S).

ASPHALT PAVEMENT GENERAL NOTES:

- ALL WORK SHALL BE IN CONFORMANCE WITH OWNER'S SPECIFICATIONS FOR ASPHALTIC CONCRETE PAVING.
- GEOGRID IS ONLY NEEDED WHEN THE GEOTECHNICAL REPORT AND/OR A GEOTECH EXPERT REQUIRES IT FOR THE SPECIFIC SITE'S SOIL CONDITION.
- FOR SUBSURFACE DRAINAGE OR STABILITY ISSUES DURING CONSTRUCTION (UNDER DIRECTION BY GEOTECH EXPERT):
 - SUBSURFACE DRAINAGE ISSUE - REFER TO GUIDELINES FOR DEWATERING ISSUES TO DERIVE ACCEPTABLE OPTIONS.
 - SUBSURFACE STABILITY ISSUE - INSTALL GEOGRID PER GEOTECH EXPERT RECOMMENDATION.
- THE PAVEMENT SHALL BE THOROUGHLY CLEANED AND A TACK COAT OF ASPHALT SHALL BE APPLIED BEFORE THE OVERLAY IS PLACED.
- REFER TO CIVIL DESIGN GUIDELINES (CDG) FOR PAVEMENT LOCATION GUIDANCE.

CONTRACTOR MUST REFER TO THE GEOTECH REPORT FOR PAVEMENT AND FOUNDATION DESIGN AND CONSTRUCTION RECOMMENDATIONS



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918 RIVERVIEW DRIVE
KALAMAZOO, MI 49048

Revisions / Submissions

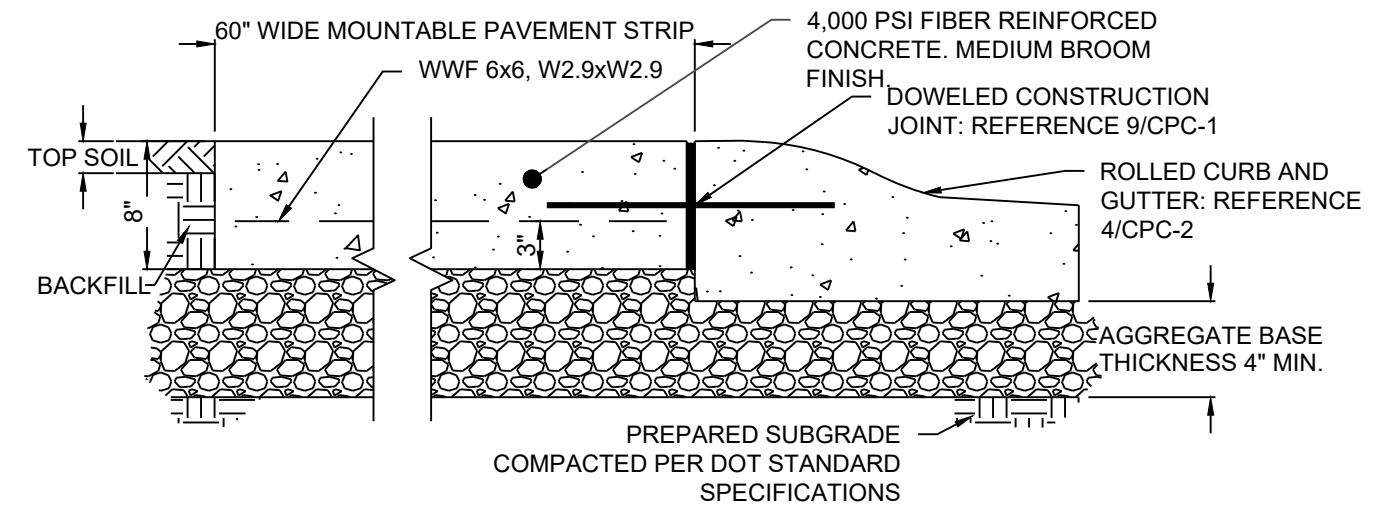
ID	Description	Date

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Project Number:	765319
Scale:	NA
Drawn By:	MB
Checked By:	JS
Date:	09/23/2025
Issue:	PERMIT SET

Drawing Title:
PAVEMENT AND JOINTING DETAILS

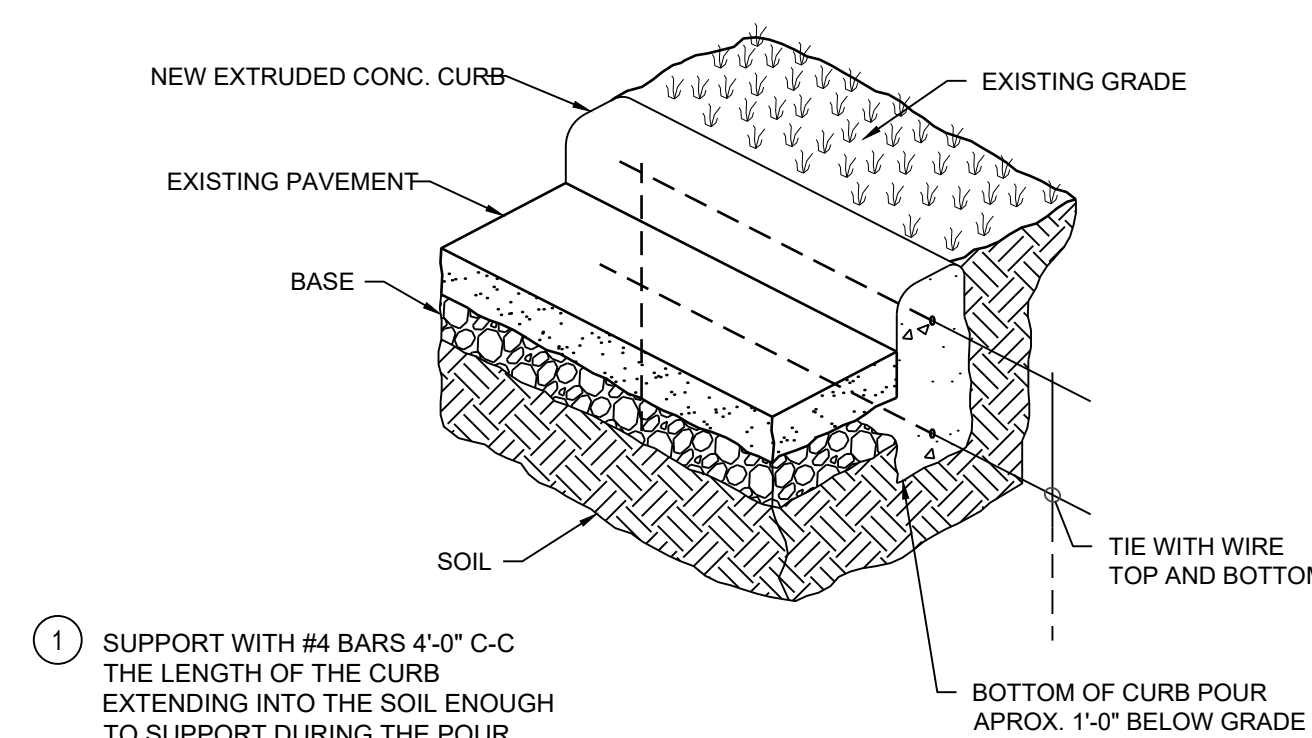
CPC-1



CONCRETE MOUNTABLE CURB IS TO BE USED AT APPROACHES THAT DO NOT MEET STANDARD WIDTH

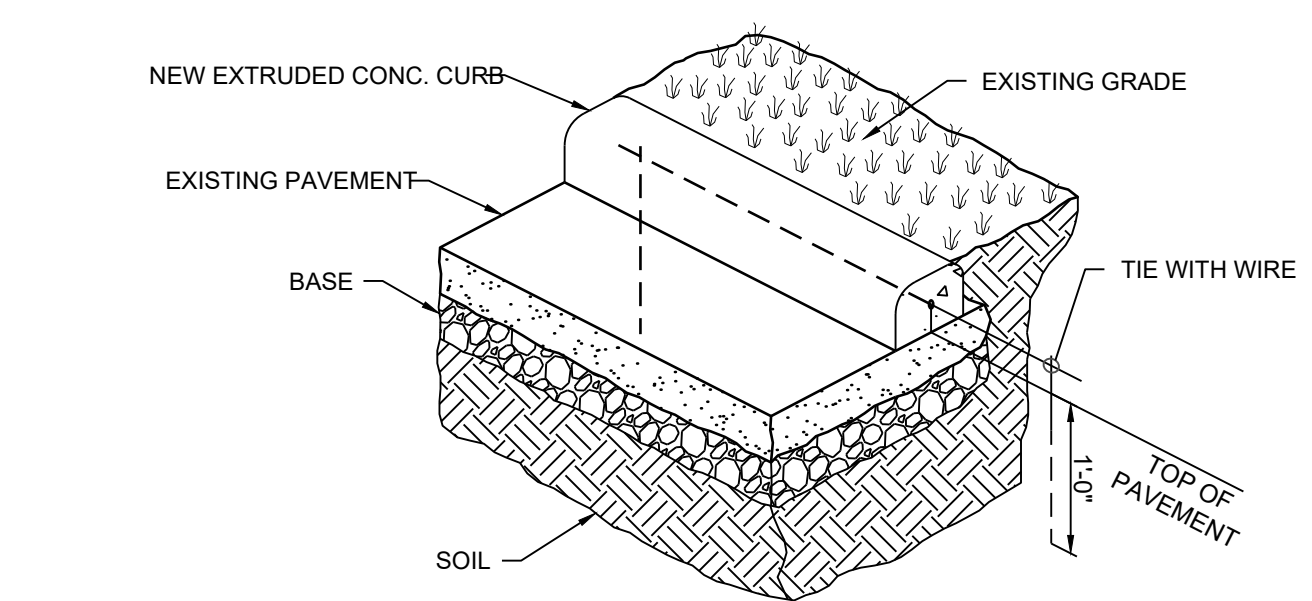
5 CONCRETE MOUNTABLE CURB SECTION
1"=1'-0"

PREFERRED METHOD



- 1 SUPPORT WITH #4 BARS 4'-0" C-C THE LENGTH OF THE CURB EXTENDING INTO THE SOIL ENOUGH TO SUPPORT DURING THE POUR.
- 2 USE (2) #4 BARS WITH 3" OF COVER ON SIDES, TOP AND BOTTOM AND 2" COVER ON ENDS OF CURB.

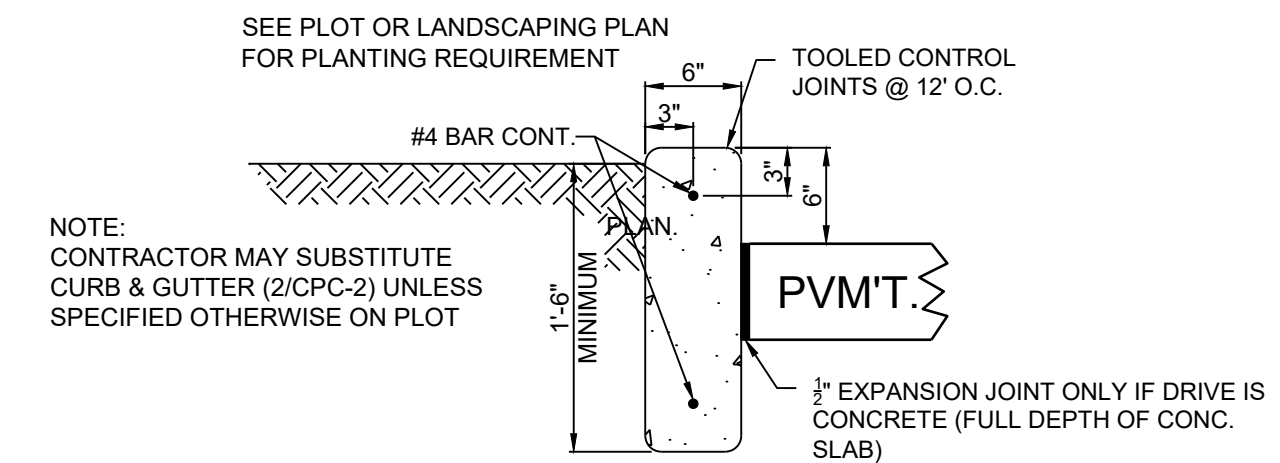
ALTERNATE METHOD



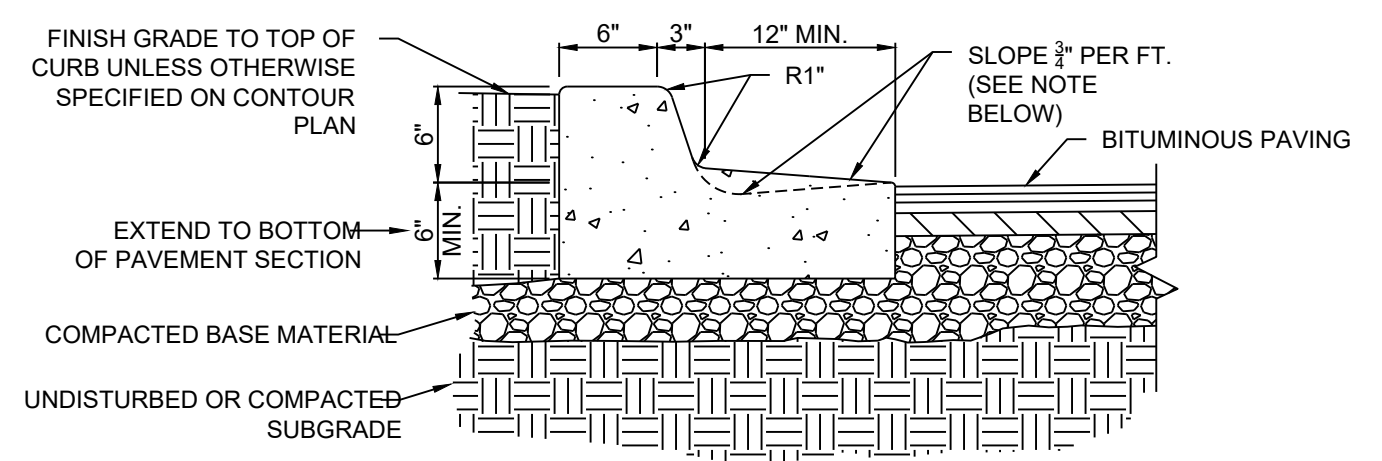
- 1 SUPPORT WITH #4 BARS 4'-0" C-C THE LENGTH OF THE CURB EXTENDING 1'-0" INTO THE PAVEMENT AND BASE.
- 2 USE (1) #4 BAR CENTERED LONGITUDINALLY IN THE CURB WITH 2" OF COVER ON ENDS OF CURB.

FOR USE WHEN COLD WEATHER CONDITIONS CAUSE ASPHALT PAVEMENT TO BE PLACED BEFORE THE CONCRETE CURB.

6 COLD WEATHER CURB INSTALLATION
NOT TO SCALE

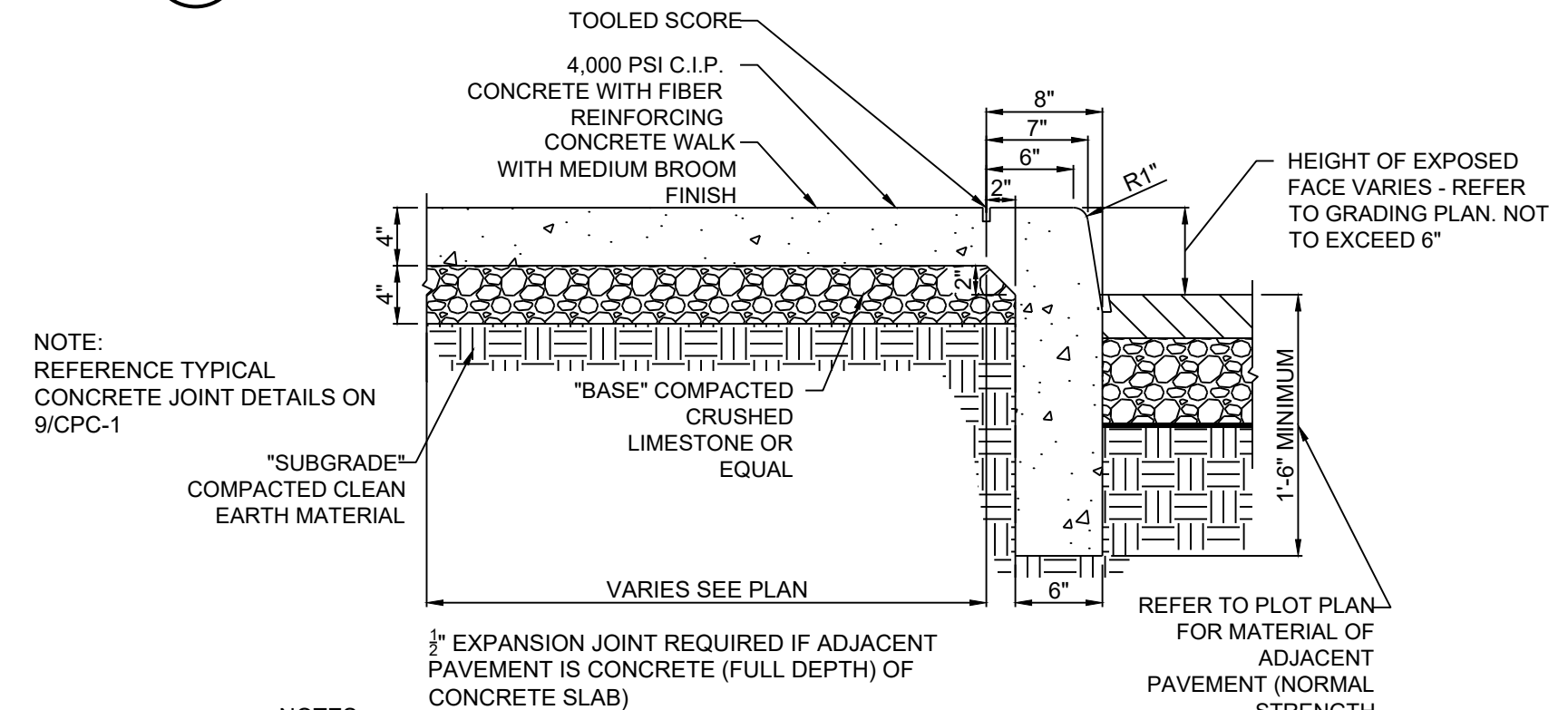


1 CONCRETE STANDING CURB SECTION
1"=1'-0"



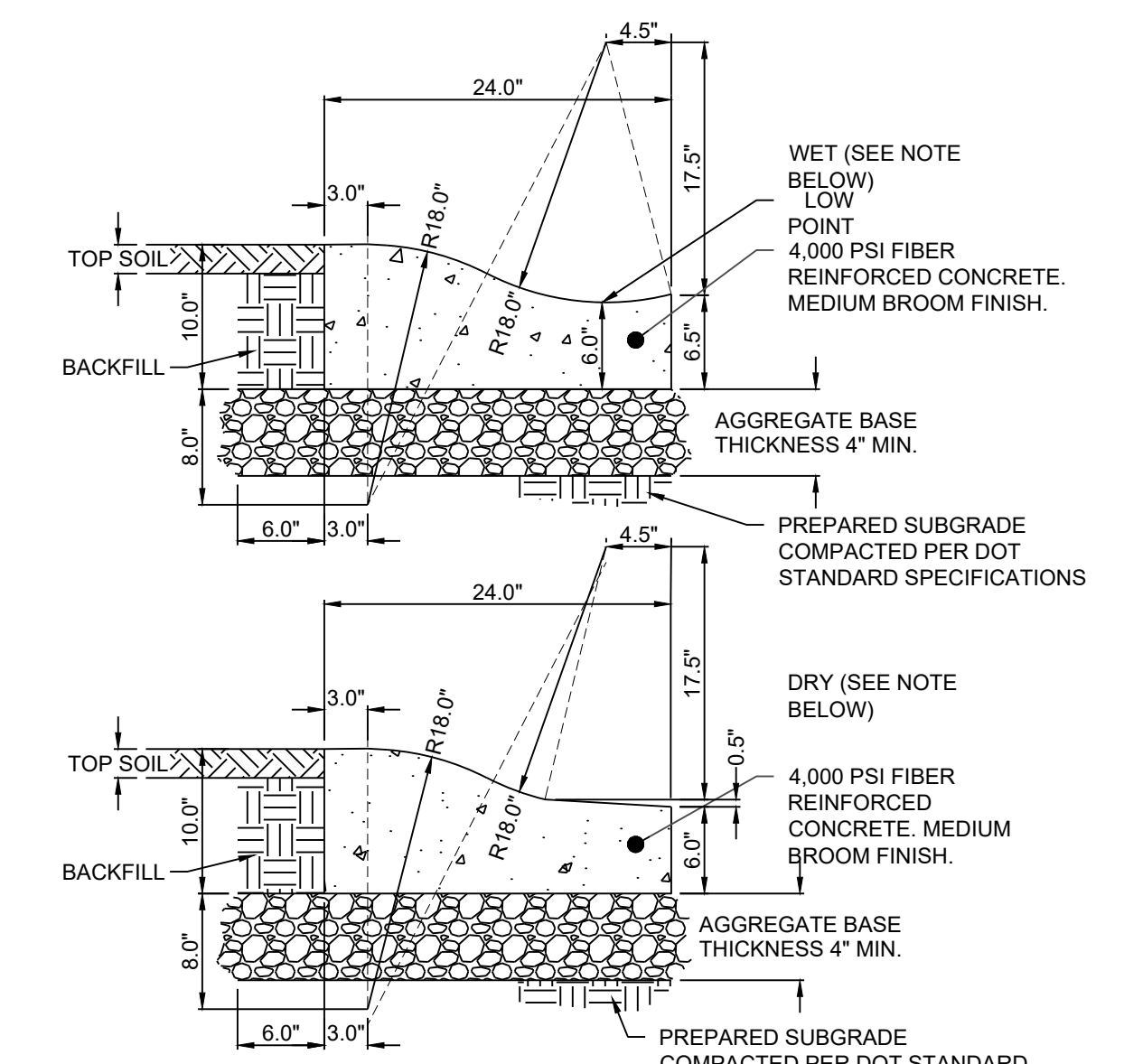
NOTE: GUTTER TO BE SLOPED DOWN GRADIENT TOWARDS CURB WHEN SITE GRADE IS TOWARDS CURB. GUTTER TO BE SLOPED DOWN GRADIENT AWAY FROM CURB WHEN SITE GRADE IS AWAY FROM CURB. MAY BE MACHINE FORMED.

2 CONCRETE STANDING CURB AND GUTTER SECTION
1"=1'-0"



- NOTES:
1. TYPICALLY THERE IS 0" CURBING AROUND THE BUILDING
 2. EXCEPTION: CA REQUIRES SIDEWALK CURBING AROUND THE BUILDING

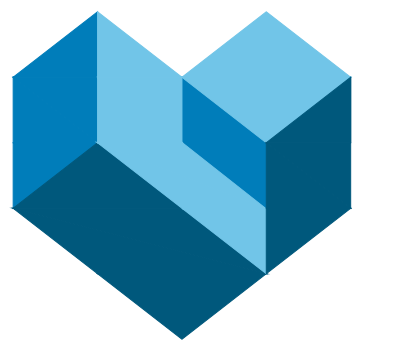
3 CONCRETE MONOLITHIC CURB AND WALK SECTION
1"=1'-0"



ROLLED CURB AND GUTTER NOTES:

1. WET: GUTTER TO BE SLOPED DOWN GRADIENT TOWARDS CURB WHEN SITE GRADE IS TOWARD THE CURB. DRY: GUTTER TO BE SLOPED DOWN GRADIENT AWAY FROM CURB WHEN SITE GRADE IS AWAY FROM CURB.
2. REFERENCE THE CONCRETE PAVEMENT JOIN DETAILS THIS SHEET.
3. EXPANSION JOINTS ARE REQUIRED AT STORM INLETS AND 100' MAXIMUM SPACING.
4. CONTRACTION JOINTS SHOULD BE INSTALLED AT 10' SPACINGS. SPACING SHALL BE 5' ON THE CURVE RADII.
5. CONTRACTION JOINTS SHALL BE TOOLED OR SAWN IN CONTINUOUSLY POURED CURBS TO A DEPTH OF 1/2".

4 CONCRETE ROLLED CURB AND GUTTER SECTION
1"=1'-0"



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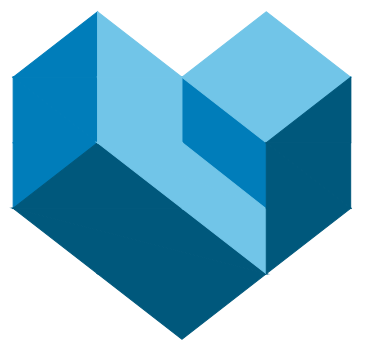
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Revisions / Submissions		
ID	Description	Date

Project Number: 765319
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Date: 09/23/2025
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Drawing Title:
CURB DETAILS

CPC-2



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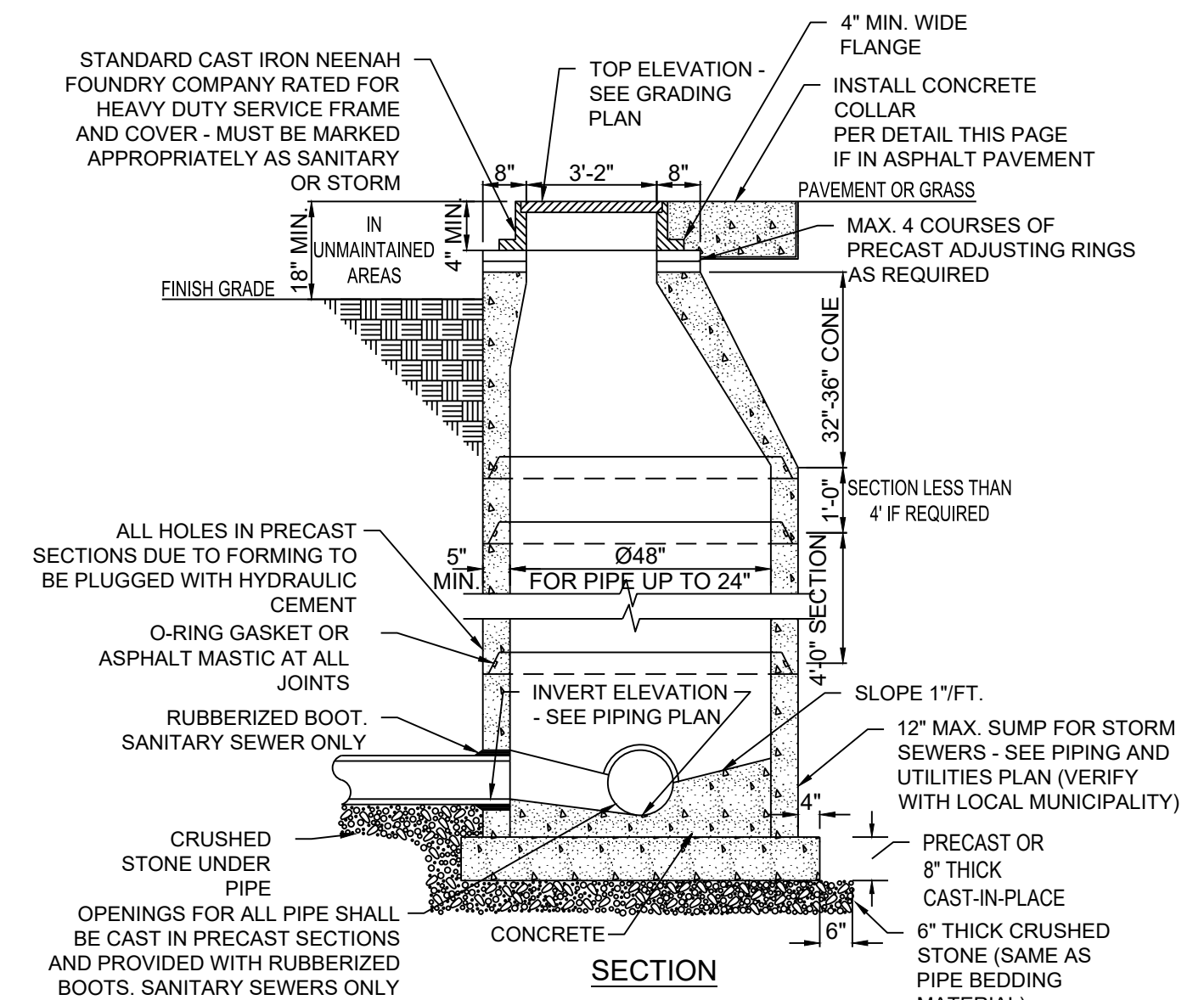
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Revisions / Submissions		
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1	City Comments	2026/02/27

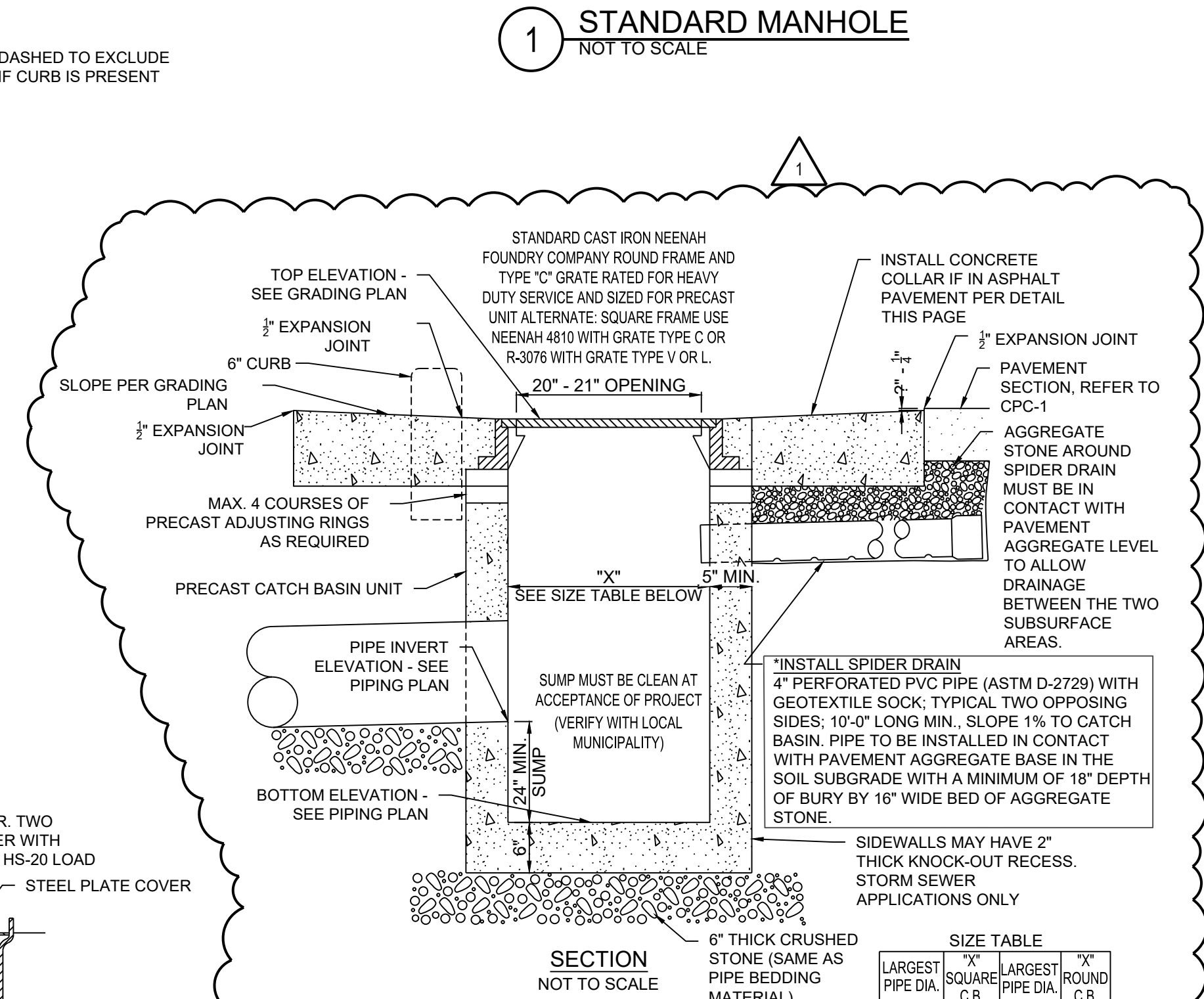
Project Number: 765319
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 Checked By: JS
 Date: 09/23/2025
 Issue: PERMIT SET

Drawing Title:
DRAINAGE AND UTILITY DETAILS

CUD-1

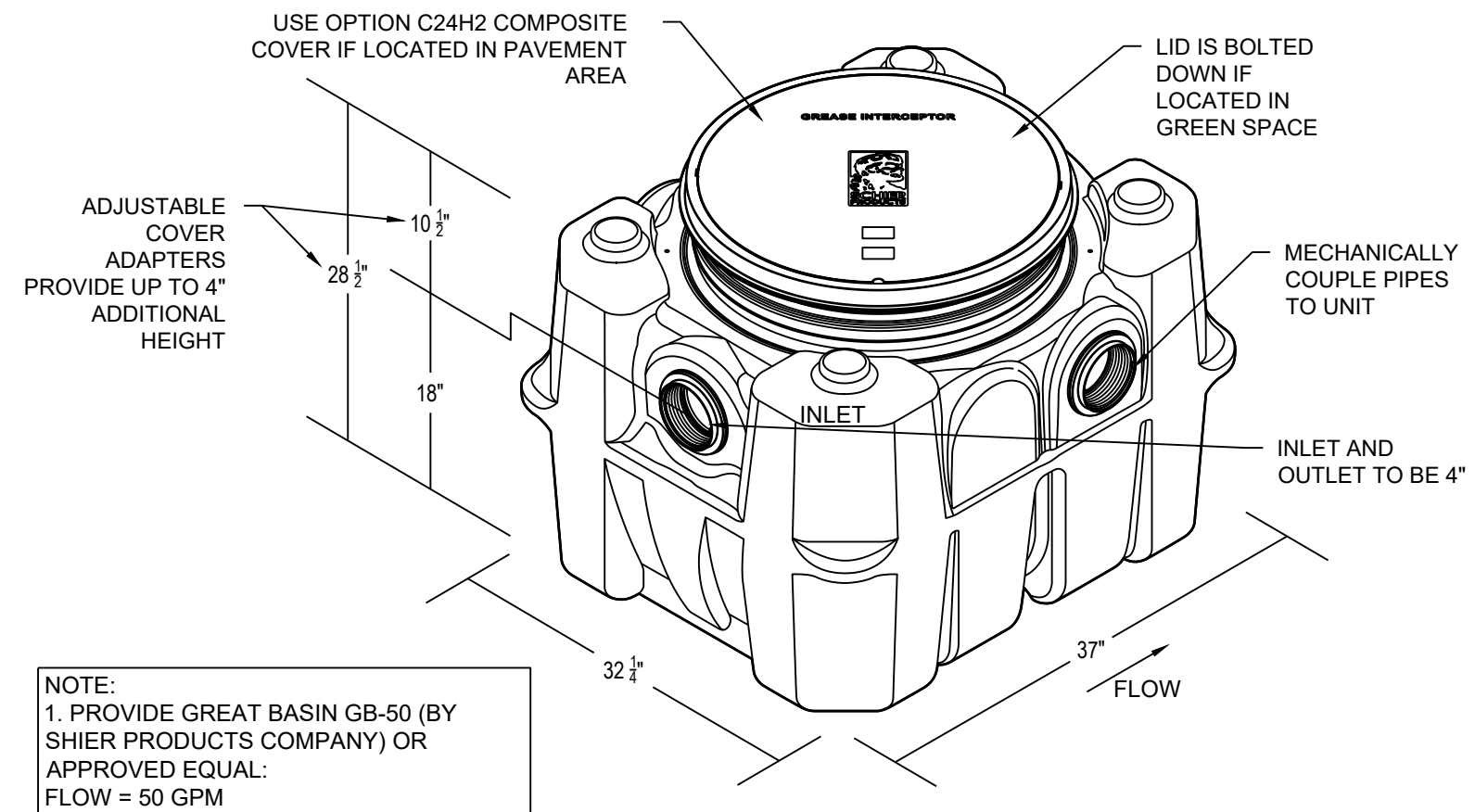


- MANHOLES SHOWN ON THE PLOT OR PIPING PLAN SHALL BE PRECAST CONCRETE AND CONSTRUCTED OF MATERIALS AND IN A MANNER MEETING THE SPECIFICATIONS OF ASTM C-478 AND THE PUBLIC AUTHORITY HAVING JURISDICTION.
 - SEE GRADING AND/OR PIPING PLAN FOR TOP AND INVERT ELEVATIONS, SIZE AND ARRANGEMENT OF INLET/OUTLET PIPING.
 - ADDITIONAL MASONRY BRICK OR BLOCK WORK IS NOT PERMITTED TO MEET SURFACE ELEVATION.
 - OBTAIN APPROVAL OF MANUFACTURER'S STRUCTURAL ENGINEER FOR DEPTHS EXCEEDING 10'.
- FOR SANITARY SEWERS ONLY**
- THE BOTTOM OF THE MANHOLE SHALL BE CONTOURED WITH CONCRETE TO CHANNEL THE FLOW THROUGH THE MANHOLE.
 - WHEN SPECIFIED ON THE PLANS, AN EXTERIOR "DROP" MANHOLE SHALL BE CONSTRUCTED PER LOCAL SPECIFICATIONS.



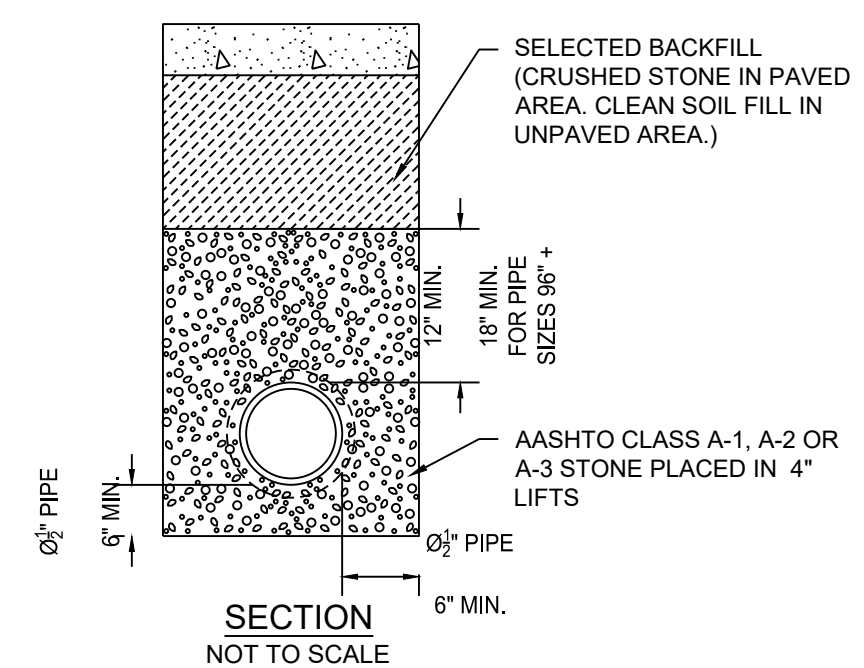
- THE PRECAST CATCH BASIN UNIT SHALL CONFORM TO THE APPLICABLE STANDARD STATE D.O.T. SPECIFICATIONS AND ASTM C913. THE UNIT SHALL BE PROPERLY REINFORCED TO PREVENT DAMAGE DURING TRANSPORT AND INSTALLATION.
 - SEE GRADING AND/OR PIPING PLAN FOR TOP, INVERT, AND BOTTOM ELEVATIONS, SIZE AND ARRANGEMENT OF INLET/OUTLET PIPING.
 - MORTAR ALL INLET, OUTLET PIPE OPENINGS WITH HYDRAULIC CEMENT GROUT.
 - ADDITIONAL MASONRY BRICK OR BLOCK WORK IS NOT PERMITTED TO MEET SURFACE ELEVATION.
- NOTE: TRAFFIC RATED REINFORCED PRE-CAST CONCRETE TOP TO BE USED WITH LARGER CATCH BASINS.
- VERIFY STRUCTURE SIZE IS ADEQUATE FOR MULTIPLE PIPES AND PIPE ANGLES.

2 STANDARD-DUTY CATCH BASIN NOT TO SCALE



NOTE:
 1. PROVIDE GREAT BASIN GB-50 (BY SHIER PRODUCTS COMPANY) OR APPROVED EQUAL:
 FLOW = 50 GPM
 WATER CAPACITY = 65 GAL
 CAPACITY = 439.5 LBS

8 EXTERIOR GREASE INTERCEPTOR NOT TO SCALE



6 PIPE BEDDING NOT TO SCALE

GEOTEXTILE FABRIC SPECIFICATIONS

8 OZ. NONWOVEN NEEDLE PUNCHED FABRIC; AMOCO 4553, PHILLIPS SUPAC 8NP, OR EQUAL

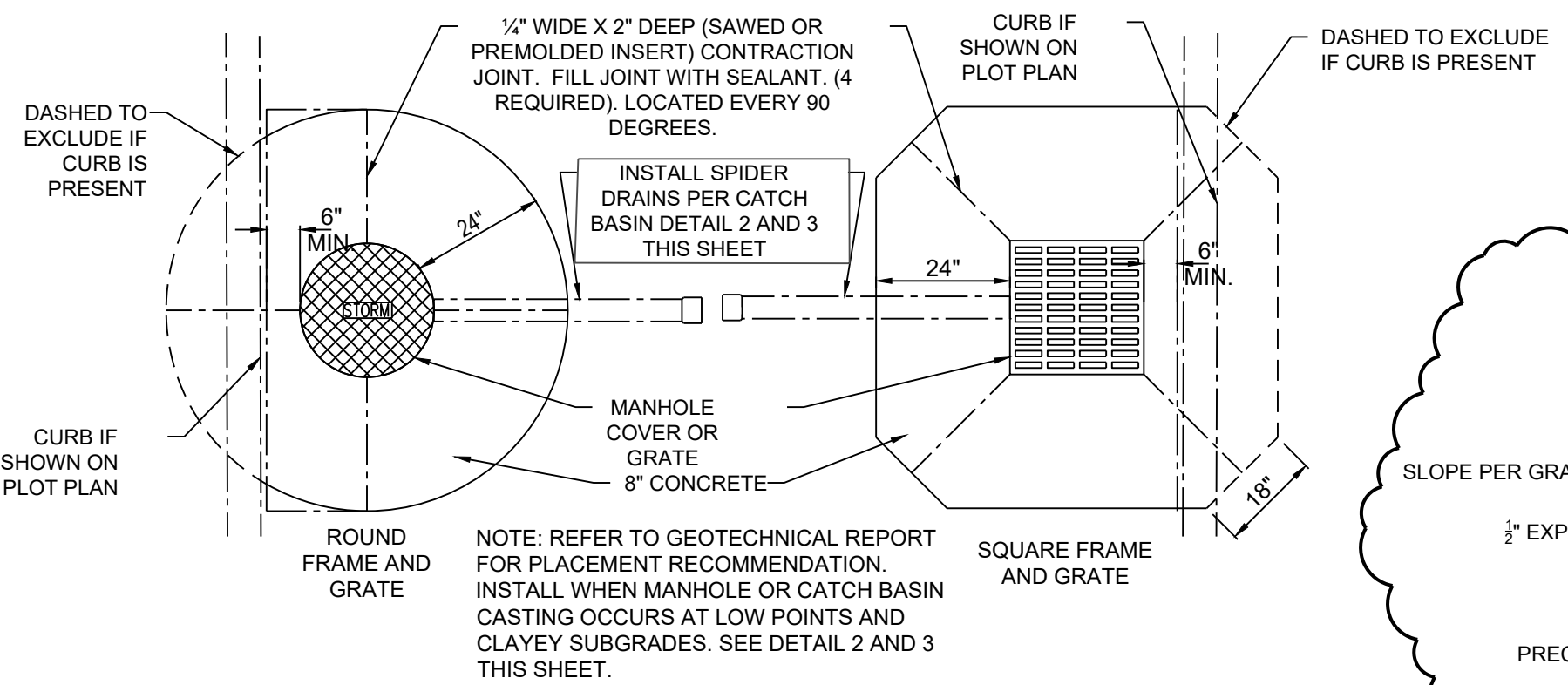
GENERAL NOTES:

- ALL STORM AND SANITARY PIPING SHALL BE THE SIZE AND TYPE SHOWN ON THE GRADING OR PIPING PLAN, AND SHALL CONFORM TO THE ASTM AND AASHTO STANDARD SPECIFICATIONS LISTED HERE, UNLESS OTHERWISE REQUIRED BY GOVERNING AUTHORITIES.
- CONTRACTOR SHALL COMPLY WITH ALL REQUIREMENTS OF 7-ELEVEN'S SPECIFICATIONS.
- CONTRACTOR SHALL CONTACT ALL UTILITY COMPANIES PRIOR TO STARTING ANY BELOW GRADE WORK TO LOCATE UNDERGROUND FACILITIES.
- ALL SANITARY SEWERS SHALL HAVE "PREMIUM" SEALED JOINTS. STORM SEWERS WITHIN 20' OF HYDROCARBON PRODUCT PIPING OR UNDERGROUND TANKS SHALL HAVE "PREMIUM SEALED JOINTS."
- THE PIPE INVERT SHALL BE STRAIGHT LINE GRADED BETWEEN ELEVATIONS SHOWN ON THE PLAN.
- PIPE SHALL BE LAID FROM THE LOWER ELEVATION TO THE HIGHER ELEVATION.
- CONTRACTOR SHALL VERIFY EXISTING ELEVATIONS PRIOR TO BEGINNING WORK. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE OWNER'S REPRESENTATIVE.
- PIPING TO BE MIN. 12" BELOW TOP OF RIGID PAVEMENT, BOTTOM OF FLEXIBLE PAVEMENT, OR FINISHED GRADE IN NON-TRAFFIC AREAS. APPLICABLE AASHTO OR AISH GUIDELINES SHALL OVERRIDE AND GOVERN MINIMUM COVER HEIGHTS WHEN GREATER THAN STATED ABOVE.
- SEE DRAWING # SCB-1 FOR CANOPY DOWNSPOUT DRAIN DETAILS.

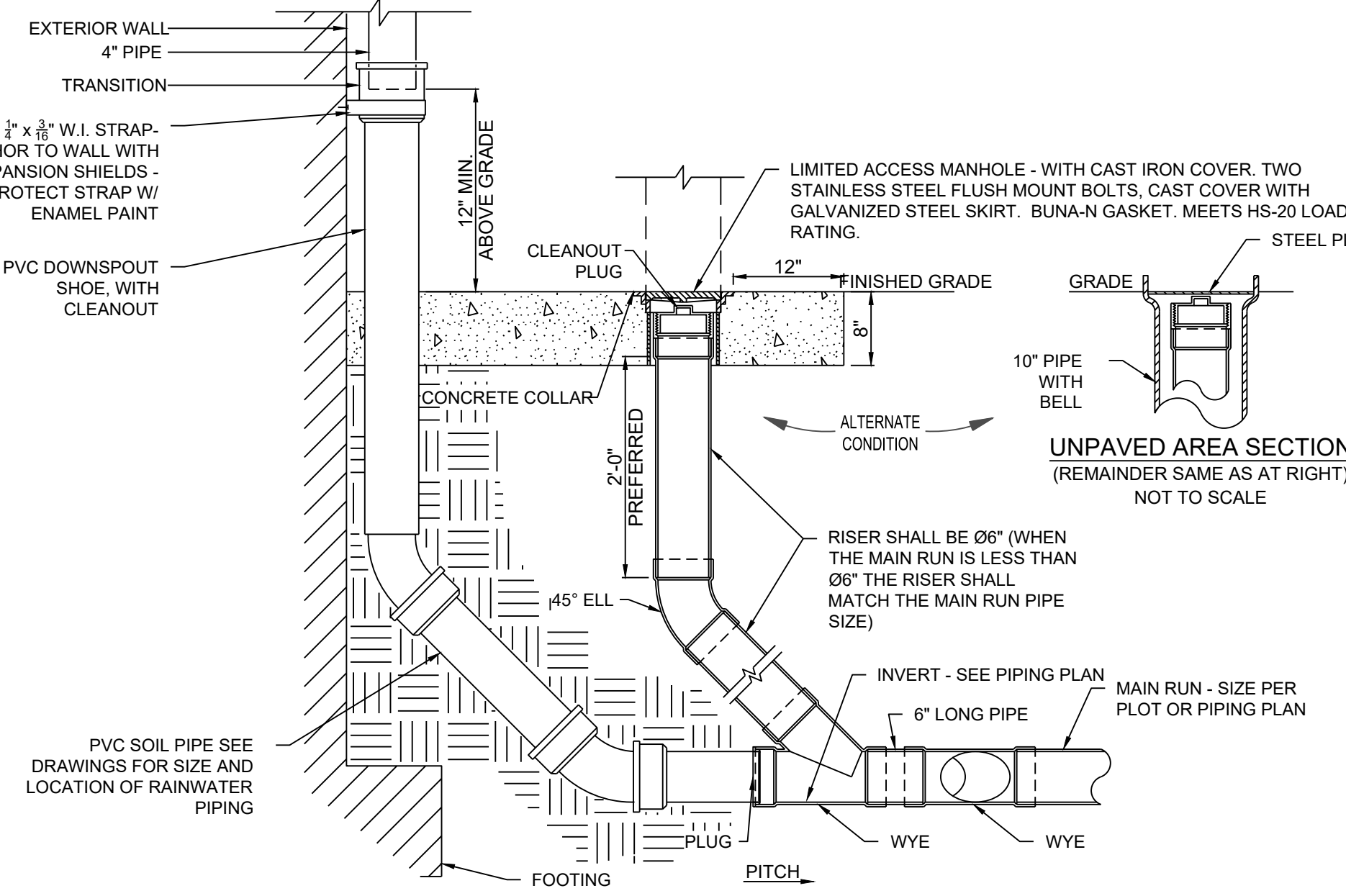
MINIMUM DEPTH OF BURY:
 (SEE NOTE #8)

PVC	18"
RCP	12"
HDPE	18"

7 GEOTEXTILE FABRIC NOT TO SCALE



4 STORM STRUCTURE CONCRETE COLLARS NOT TO SCALE

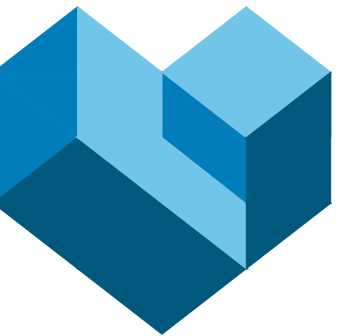


5 DOWNSPOUT BOOT AND UTILITIES PIPE CLEAN-OUT NOT TO SCALE

PIPE SPECIFICATIONS							
TYPE OF PIPE	"n" VALUES	SIZES PERMITTED	SERVICE AND USE	PIPE SPECIFICATION	INSTALLATION SPECIFICATION	JOINT SPECIFICATION	
POLYVINYL CHLORIDE (PVC)	0.01	6"	SANITARY SEWER	ASTM D-3034 SDR 35	ASTM D-2321 STANDARD PRACTICE FOR INSTALLATION OF FLEXIBLE THERMOPLASTIC SEWER PIPE	ASTM D-3212 STANDARD SPECIFICATION FOR JOINTS FOR DRAIN AND SEWER PLASTIC PIPES USING FLEXIBLE ELASTOMERIC SEALS	ASTM F-477 ELASTOMERIC SEALS FOR JOINING PLASTIC PIPE (OIL RESISTANT) HIGH NITRILE (NBR), EPICHLOROHYDRIN (ECO), NEOPRENE (CR), POLYSULFIDE (T), OR FLUORO ELASTOMER (FPM)
		8" - 12"	STORM DRAINAGE	STANDARD SPECIFICATION FOR TYPE PSM PVC SEWER PIPE AND FITTINGS	PIPE BEDDING PER DETAIL		
REINFORCED CONCRETE (RCP)	0.013	Ø12" AND LARGER	STORM DRAINAGE	ASTM C-76, ASTM C1479 CLASS 3, WALL B-TONGUE AND GROOVE STANDARD SPECIFICATION FOR REINFORCED CONCRETE CULVERT, STORM DRAIN, AND SEWER PIPE	PIPE BEDDING PER DETAIL	BITUMINOUS MASTIC	ASTM C-443 STANDARD SPECIFICATION FOR JOINTS FOR CIRCULAR CONCRETE SEWER AND CULVERT PIPE, USING RUBBER GASKETS (OIL RESISTANT)
SMOOTH LINED CORRUGATED HDPE N-12 BY ADVANCED DRAINAGE SYSTEMS (800) 733-9554 SURE-LOK BY HANCOR (800) 537-9520	0.012	8" AND LARGER	STORM DRAINAGE	AASHTO M294-S	SEE UNDERDRAIN DETAIL	STANDARD COUPLERS (PRO LINK) USE GASKET IN FINE SOILS	PVC DOUBLE BELL COUPLER WITH GASKET (PRO LINK 10.8)
		12" AND LARGER	STORM DRAINAGE	AASHTO M294-S	ASTM D-2321 PIPE BEDDING PER DETAIL	BELL & SPIGOT WITH GASKET (SURE-LOK)	BELL & SPIGOT WITH POLYISOPRENE GASKET (SURE-LOK 10.8)
DUCTILE IRON (DI)	0.012	4" - 12"	SPECIAL	ASTM A-746 CLASS 50 STANDARD SPECIFICATION FOR DUCTILE IRON GRAVITY SEWER PIPE	PIPE BEDDING PER DETAIL	RUBBER GASKET COMPRESSION TYPE JOINT	GASKET TO BE OIL RESISTANT NITRILE-BUTADIENE (NBR)
POLYETHYLENE (PE)	0.010	4" - 6"	UNDERDRAINS AND SEPTIC DISPOSAL FIELDS ONLY	ASTM F-405 STANDARD SPECIFICATION FOR CORRUGATED POLYETHYLENE TUBING AND FITTINGS	SEE UNDERDRAIN DETAIL	STANDARD COUPLINGS	N/A
CORRUGATED METAL PIPE (CMP)	0.022	Ø12" AND LARGER	STORM DRAINAGE	ASTM A-760 STANDARD SPECIFICATION FOR CORRUGATED METAL PIPE METALLIC-COATED FOR SEWERS AND DRAINS	ASTM A-807 STANDARD SPECIFICATION FOR INSTALLING CORRUGATED METAL STRUCTURAL PLATE PIPE FOR SEWERS	STANDARD COUPLINGS	N/A
HIGH PERFORMANCE (HP) PIPING	0.012	12" - 60"	STORM DRAINAGE	AASHTO M330 ASTM F2881	ASTM D2321	WATER TIGHT ASTM D-3212	EXTENDED REINFORCED INTEGRAL BELL AND GASKETED SPIGOT

9 PIPE SPECIFICATIONS NOT TO SCALE

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Revisions / Submissions

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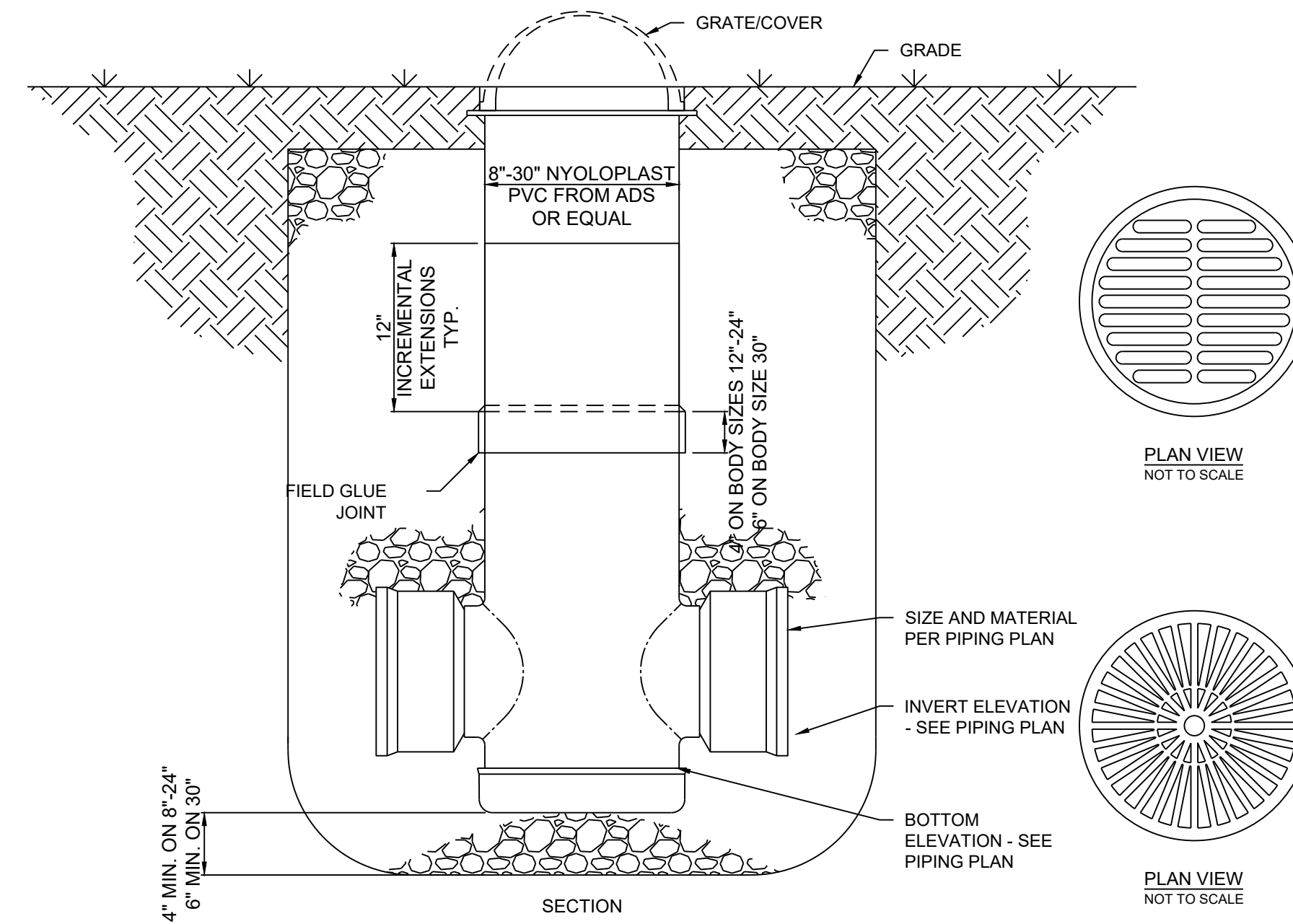
Checked By: JS

Date: 09/23/2025

Issue: PERMIT SET

Drawing Title:
DRAINAGE AND
UTILITY DETAILS

CUD-2



1 YARD DRAIN
NOT TO SCALE

NOTE:
BEEHIVE ALTERNATIVE FOR
ANTICIPATED HIGH FLOW
WATER AREAS. INSTALL
TEMPORARY EROSION
PROTECTION UNTIL
VEGETATION IS
ESTABLISHED.

PROTECTIVE APRON DIMENSIONS AND ESTIMATED QUANTITIES

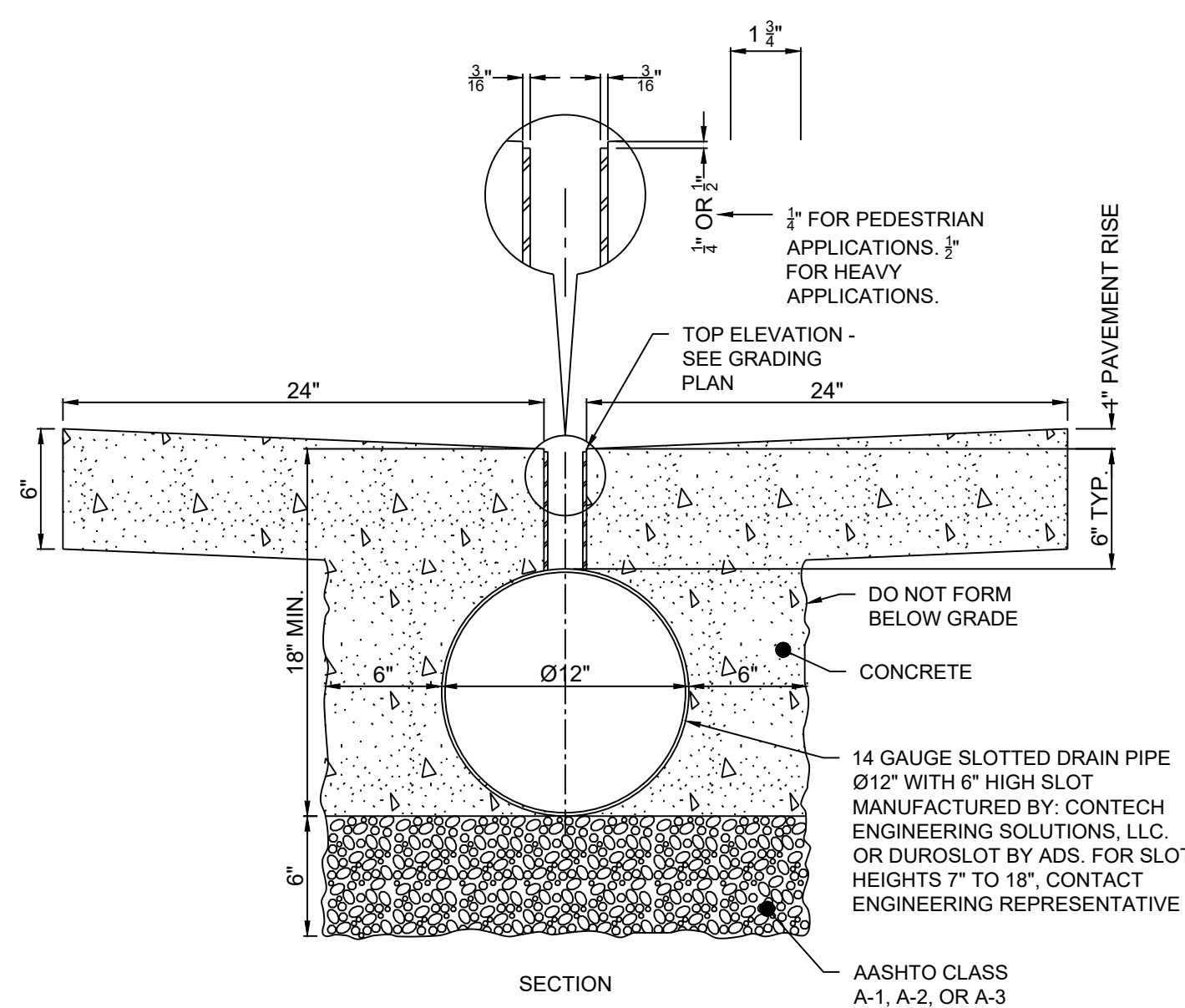
	CULVERT SIZE D (in)	RIP-RAP CLASS	LENGTH OF APRON L (ft)	DEPTH OF APRON H (ft)	EST. RIP-RAP QTY. (CY)	EST. GEOTEXTILE QTY. (SY)
WITH END SECTION	12	2	4	1.5	1	5
	18	2	6	1.5	2.2	9
	24	2	8	1.5	3.9	14
	30	3	12.5	2	10.9	28
	36	3	16	2	15.6	37
	42	4	21	2.5	34.1	63
WITHOUT END SECTION	48	4	24	2.5	44.5	79
	12	2	6	1.5	1.7	8
	18	2	9	1.5	3.2	12
	24	2	12	1.5	5.2	17
	30	3	15	2	13.3	33
	36	3	18	2	18.5	43
42	4	21	2.5	38.7	70	
48	4	24	2.5	49.8	87	

NOTE:
RIP-RAP CLASSIFICATION SPECIFICATIONS

CLASS 2 RIP-RAP
NO MORE THAN 10% OF THE STONE WILL HAVE A DIAMETER GREATER THAN 16";
NO MORE THAN 50% OF THE STONE WILL HAVE A DIAMETER LESS THAN 12";
NO MORE THAN 10% OF THE STONE WILL HAVE A DIAMETER LESS THAN 8";
THICKNESS OF THE RIP-RAP LINER WILL BE NO LESS THAN 16"

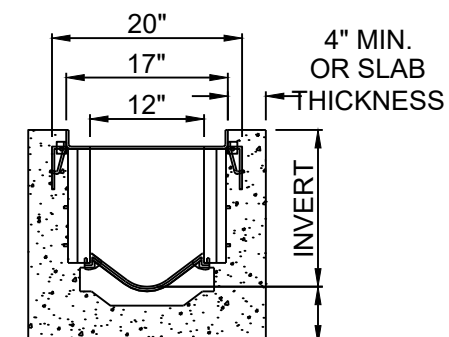
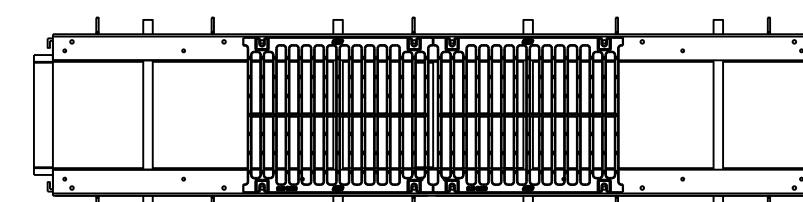
CLASS 3 RIP-RAP
NO MORE THAN 10% OF THE STONE WILL HAVE A DIAMETER GREATER THAN 22";
NO MORE THAN 50% OF THE STONE WILL HAVE A DIAMETER LESS THAN 16";
NO MORE THAN 10% OF THE STONE WILL HAVE A DIAMETER LESS THAN 8";
THICKNESS OF THE RIP-RAP LINER WILL BE NO LESS THAN 22"

CLASS 4 RIP-RAP
NO MORE THAN 10% OF THE STONE WILL HAVE A DIAMETER GREATER THAN 27";
NO MORE THAN 50% OF THE STONE WILL HAVE A DIAMETER LESS THAN 22";
NO MORE THAN 10% OF THE STONE WILL HAVE A DIAMETER LESS THAN 10";
THICKNESS OF THE RIP-RAP LINER WILL BE NO LESS THAN 27"



3 SLOTTED DRAIN
NOT TO SCALE

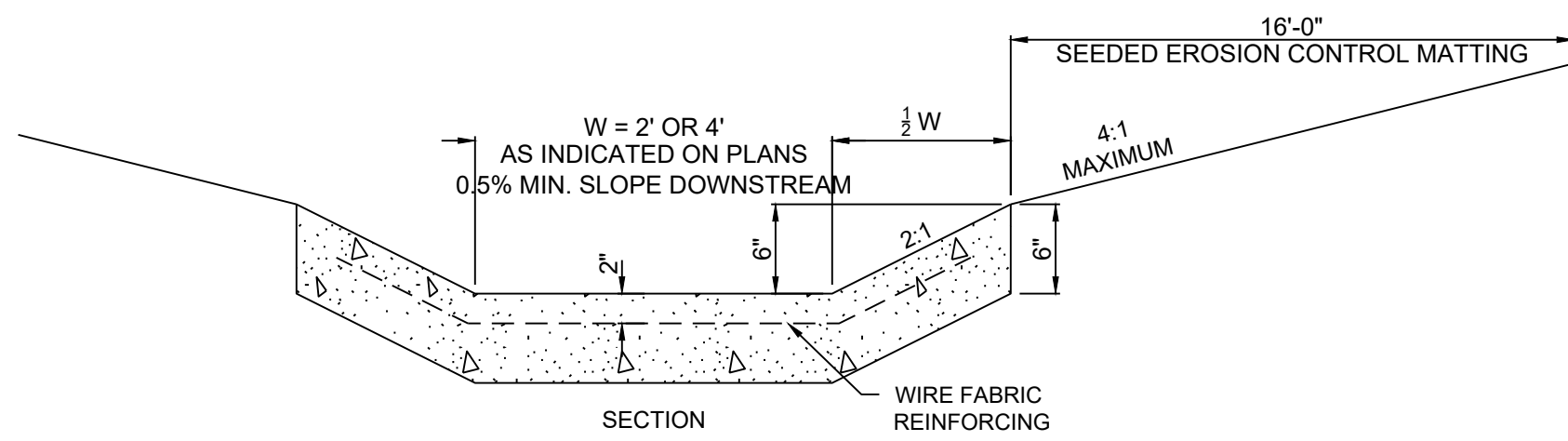
SPECIFYING ENGINEER IS
RESPONSIBLE FOR CONCRETE
ENCASEMENT AND REINFORCING
BASED UPON APPLICATION AND
LOCAL CODES



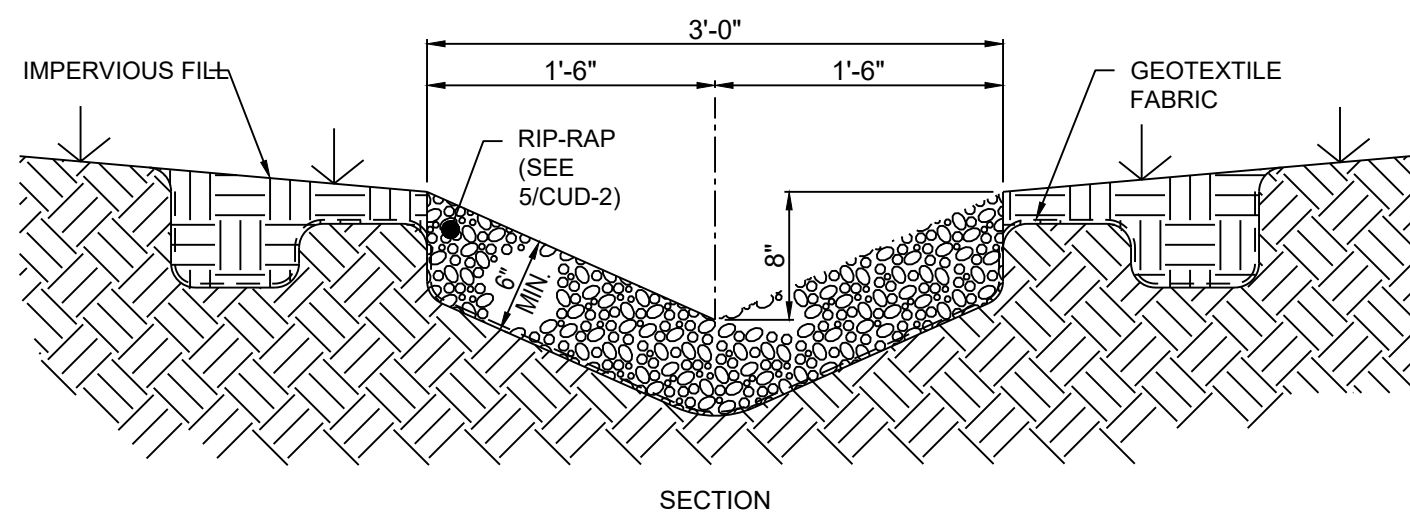
NOTE: DETAIL USED
IN PEDESTRIAN
AREAS

ZURN TRENCH DRAIN #4 CAST IRON
GRATING HEAVY SERVICE OR APPROVED
EQUAL FURNISHED BY CONTRACTOR
INSTALLED BY CONTRACTOR

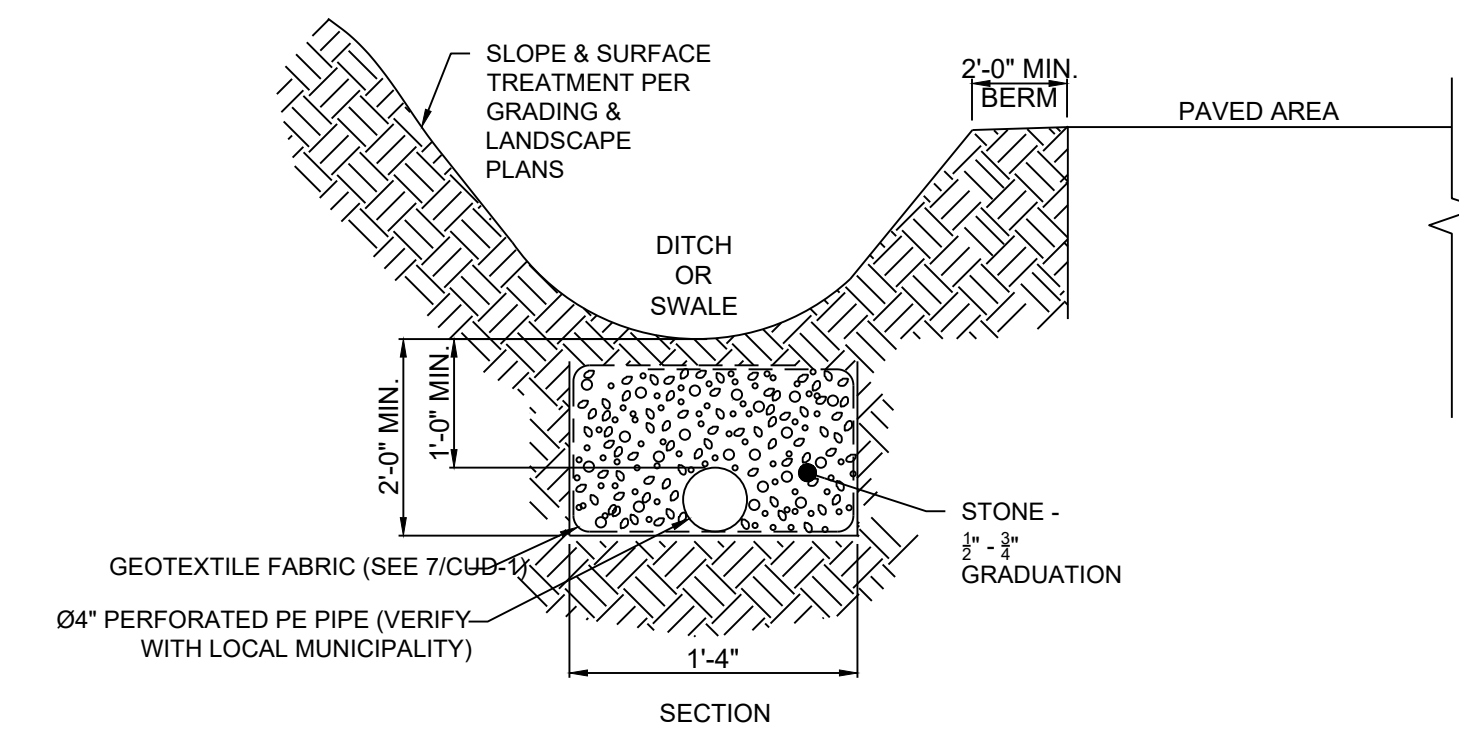
4 NOT TYPICAL
TRENCH DRAIN
NOT TO SCALE



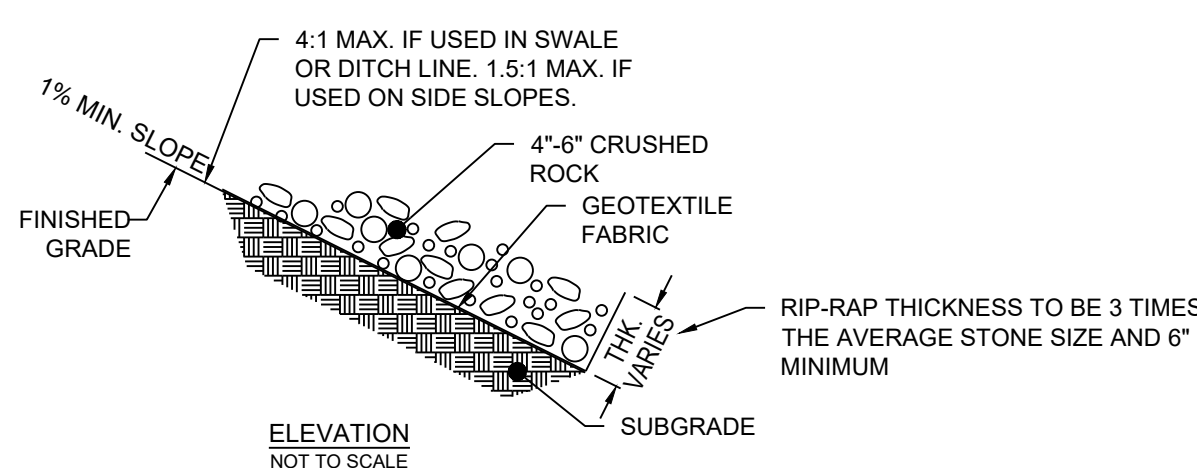
6 CONCRETE DRAINAGE FLUME
NOT TO SCALE



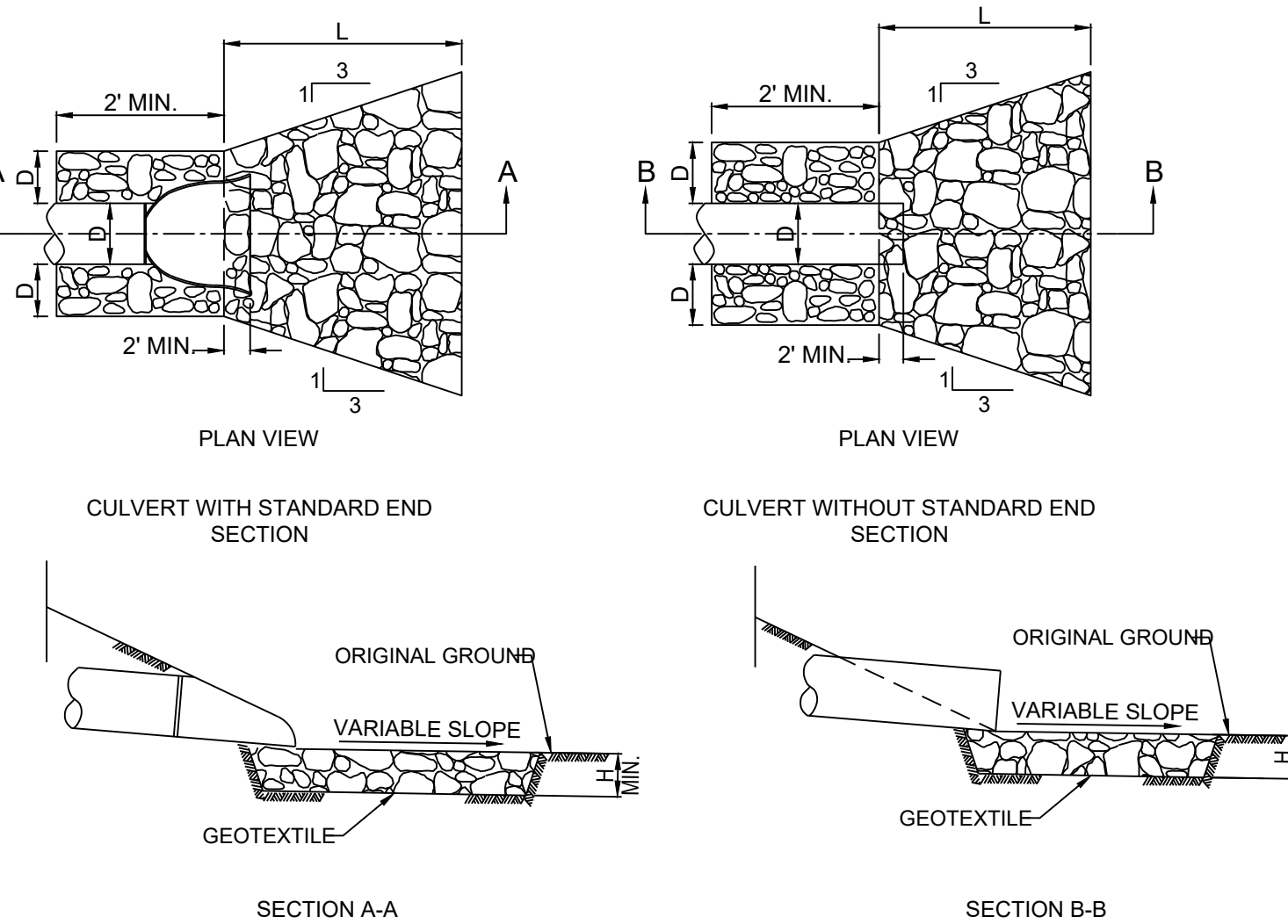
7 RIP-RAP DRAINAGE FLUME
NOT TO SCALE



8 SUBSURFACE SWALE DRAINAGE
NOT TO SCALE



5 RIP-RAP SPECIFICATIONS
NOT TO SCALE



2 PROTECTIVE APRON AT CULVERT OUTLET WITHOUT DITCH
NOT TO SCALE

NOTE:
DESIGN ENGINEER TO VERIFY DIMENSIONS
AND TYPE OF RIP-RAP WITH LOCAL/STATE
REGULATIONS

C:\DCI\ACD\ceal\CESO17-Eleven ERE Kalamazoo MI\Project Files\CESO03-CIVIL\PLAN\LOT765319_DETAILS.dwg - 3/11/2026 - Lisa Guntter



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03/13/2026

Speedway

7-ELEVEN, INC.

**SPEEDWAY -
KALAMAZOO**

918 RIVERVIEW DRIVE
KALAMAZOO, MI 49048

Revisions / Submissions		
ID	Description	Date
1	City Comments	2026/02/27

Project Number: 765319
Scale: NA
Drawn By: MB
Checked By: JS
Date: 09/23/2025
Issue: PERMIT SET

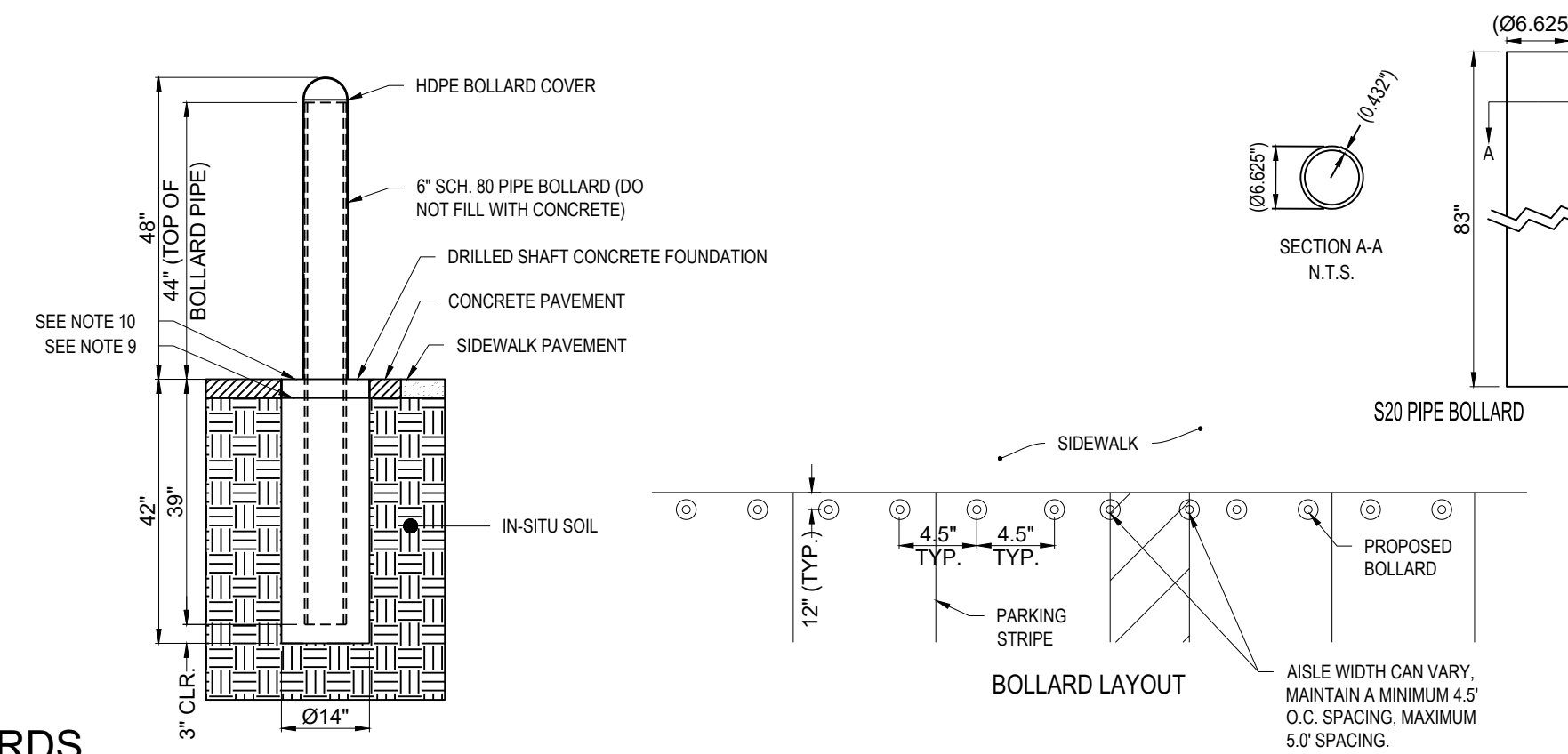
Drawing Title:
**YARD EQUIPMENT
INSTALLATION
DETAILS**

CYE-A

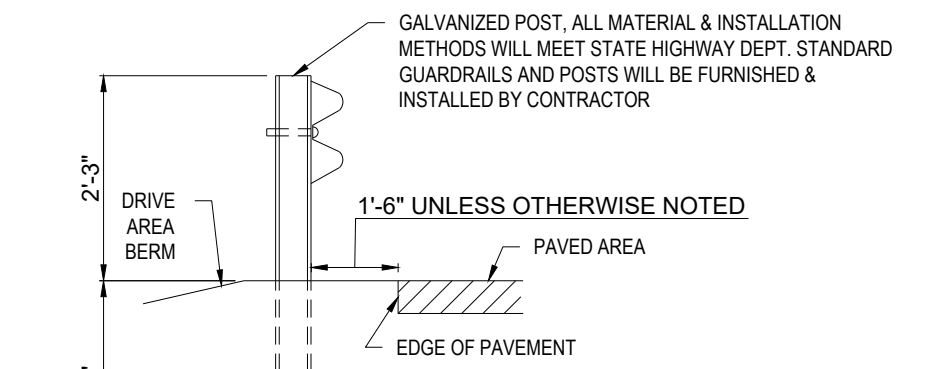
GENERAL NOTES:

1. MAXIMUM BOLLARD SPACING IS 5' ON CENTER
2. CONCRETE TO BE 4,000 PSI MIN. UNCONFINED COMPRESSIVE STRENGTH.
3. REINFORCING STEEL CONFORMS TO ASTM A615 GRADE 60.
4. BOLLARD PIPE IS ASTM A53, TYPE E, GRADE B OR A500 GRADE B/C.
5. PROVIDE HIGH-DENSITY POLYETHYLENE (HDPE) BOLLARD COVER. COVER TO BE IDEALSHIELD (OR APPROVED EQUAL) 1/8" THICK, BLACK, 6" PIPE FIT, DOME TOP, 48" TALL.
6. DO NOT FILL BOLLARD PIPE WITH CONCRETE. TEMPORARILY SEAL BOTTOM AS NECESSARY TO PREVENT CONCRETE INTRUSION WHILE POURING.
7. USE SONOTUBE IN SANDY OR OTHER SOILS THAT MIGHT CAVE IN.
8. DIMENSIONS IN PARENTHESIS ARE NOMINAL.
9. COLD JOINT ACCEPTABLE THIS LINE FOR NEW INSTALLATIONS IN MONOLITHIC POUR CONCRETE PAVEMENT.
10. SLOPE TOP OF CONCRETE AWAY FROM BOLLARD 1/4" FROM PIPE TO EDGE OF DRILLED SHAFT OR CAP.
11. INCREASE DEPTH OF CAISSON AND BOLLARD PIPE TO MEET LOCAL JURISDICTION MIN. FROST DEPTH REQUIREMENT.
12. IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY NO UTILITY CONFLICTS EXIST WHERE BOLLARDS ARE TO BE INSTALLED. PRIOR TO INSTALLATION.

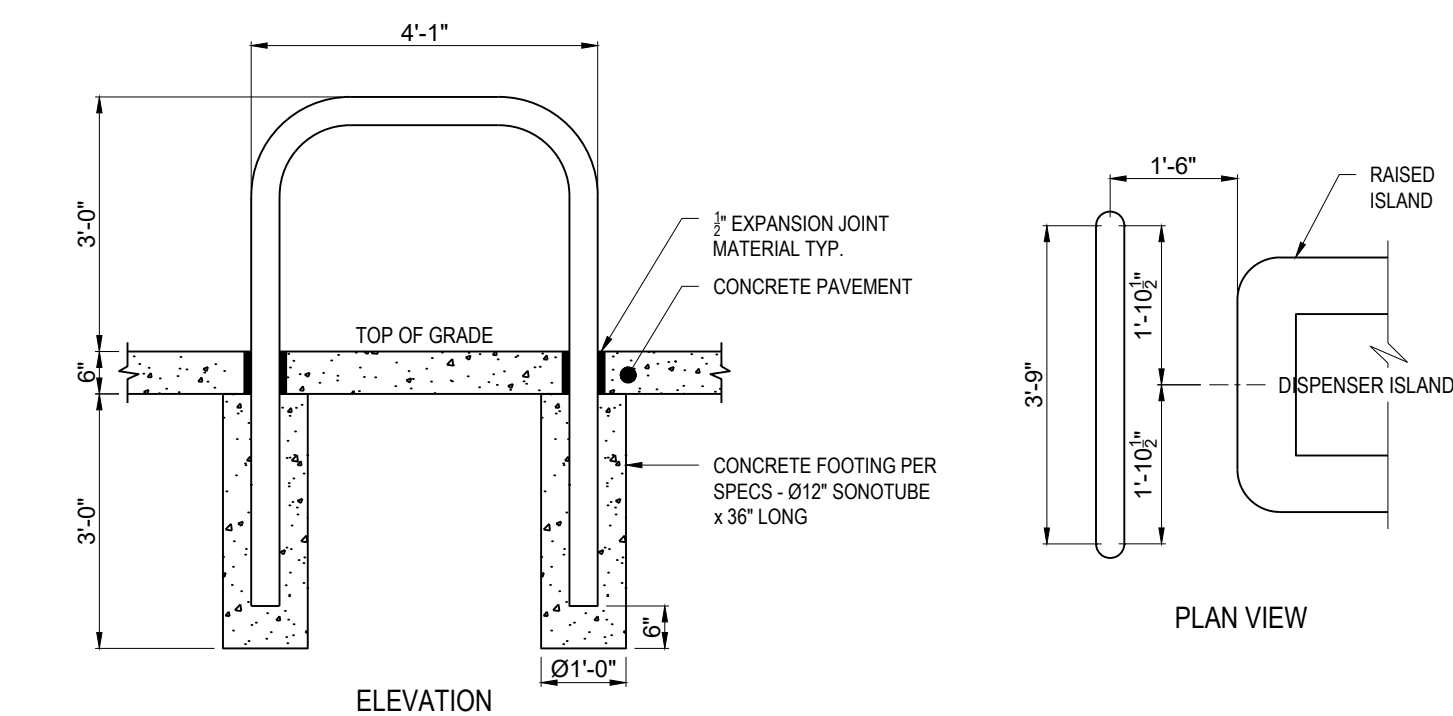
DESIGN SPECIFICATIONS: ASTM F3016-19 CONDITION DESIGNATION S20



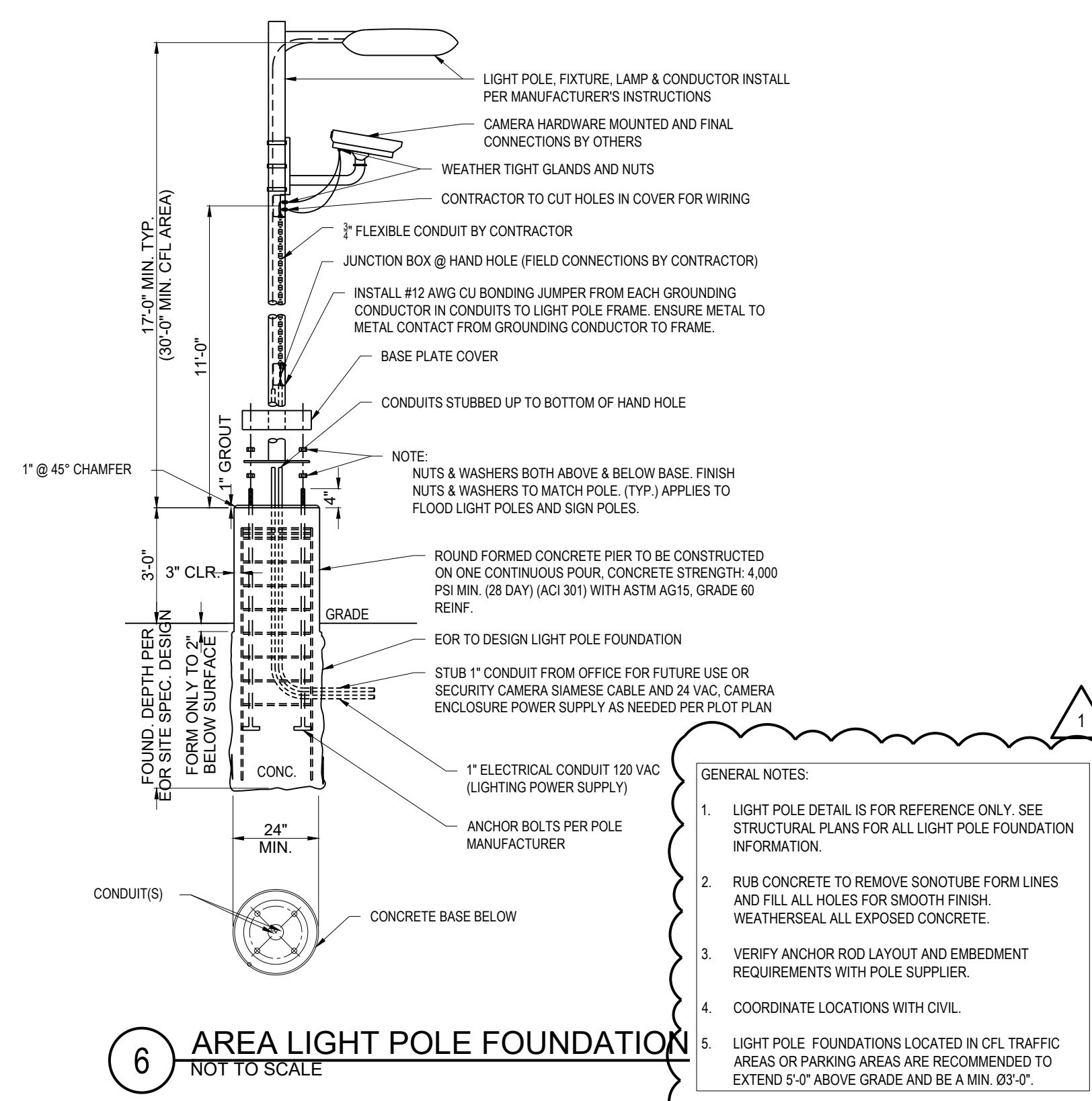
1 DEEP MOUNT S20 BOLLARD IN CONCRETE PAVING STORE FRONT GUARD BOLLARDS
NOT TO SCALE



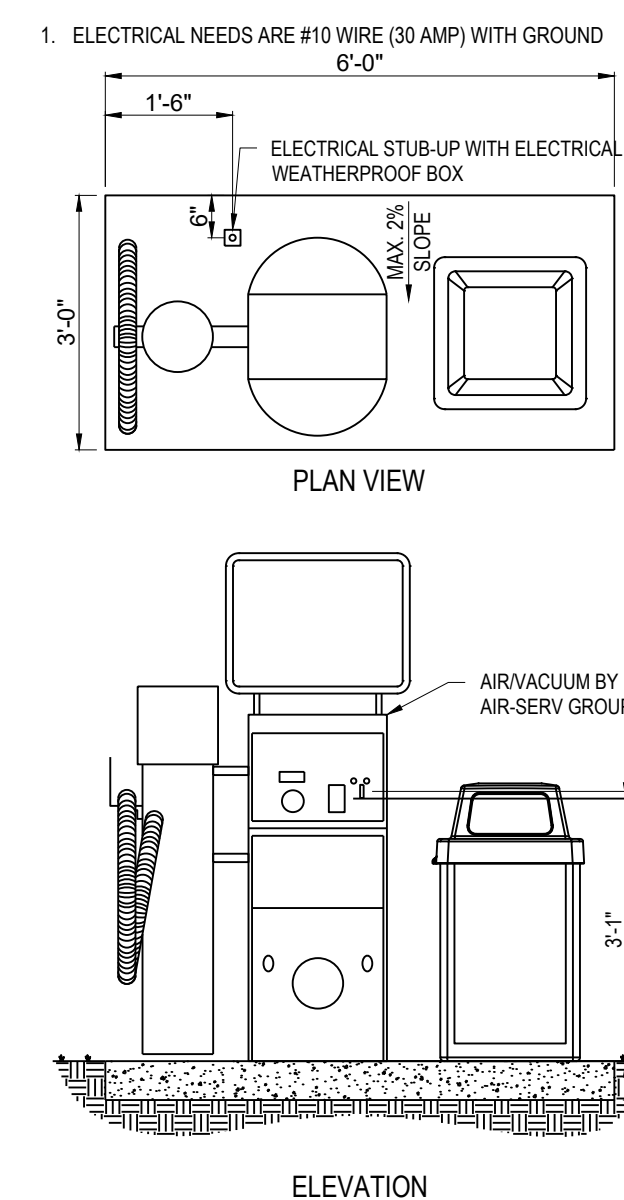
2 GUARDRAIL SECTION
NOT TO SCALE



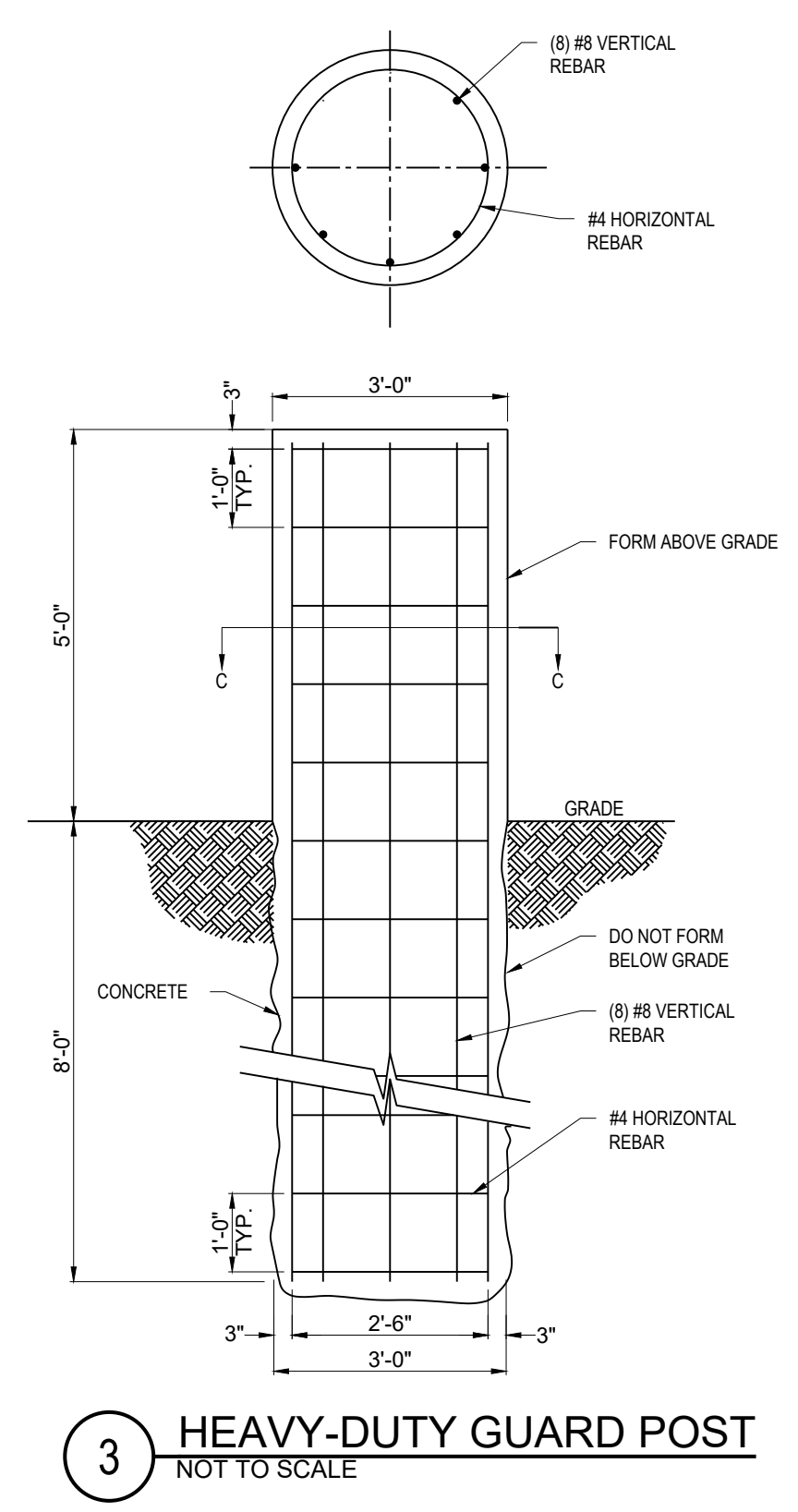
3 ISLAND GUARD POST
NOT TO SCALE



4 AREA LIGHT POLE FOUNDATION
NOT TO SCALE



5 AIR-VAC MACHINE
NOT TO SCALE

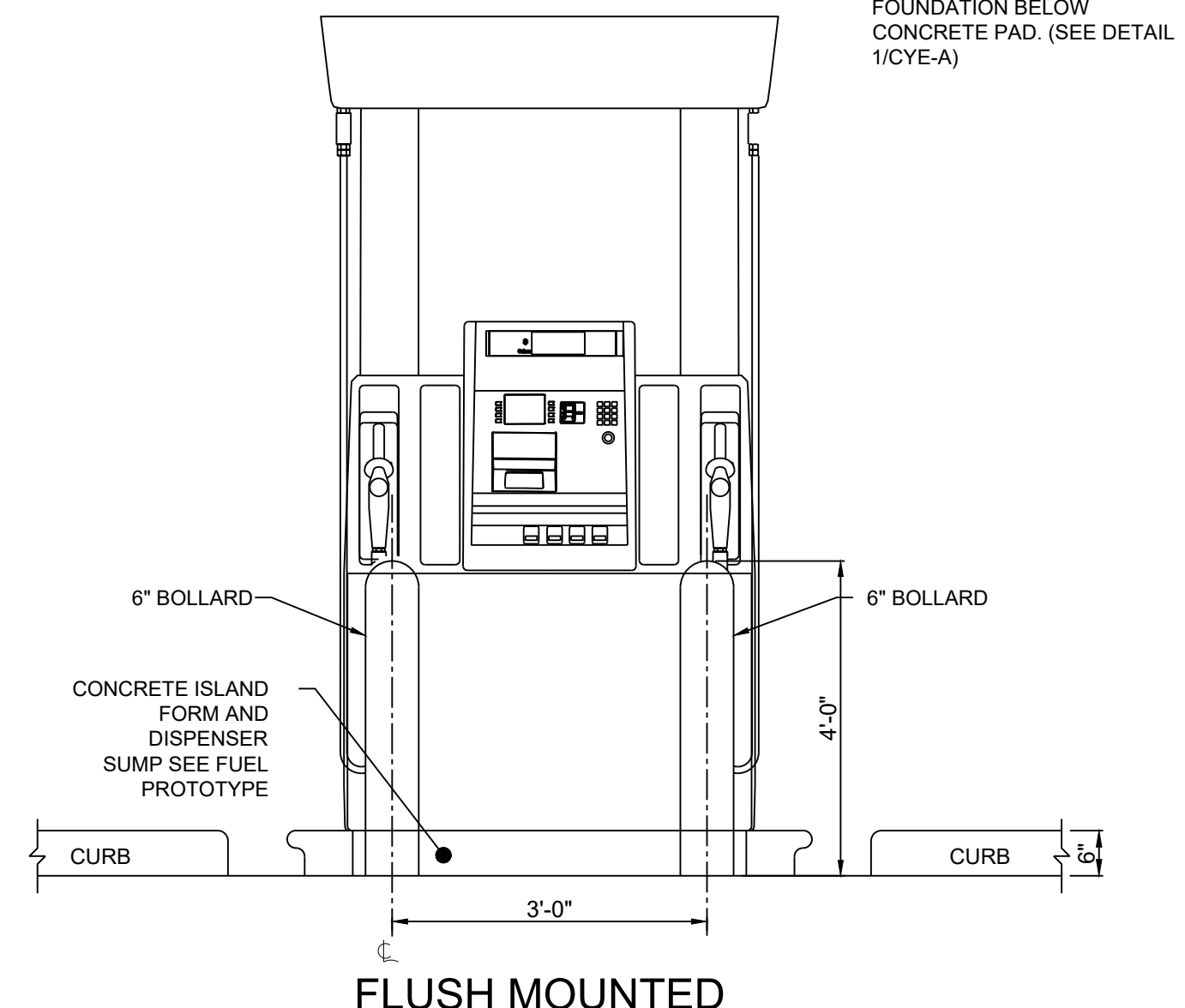
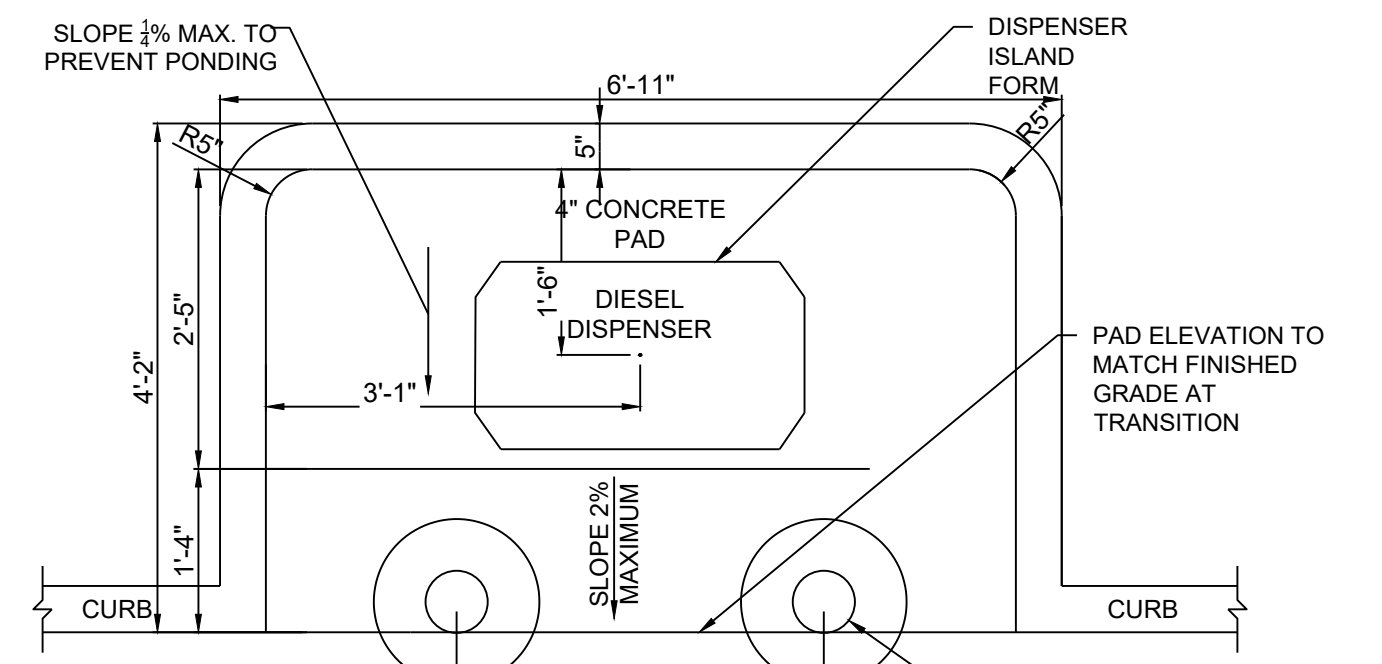


6 HEAVY-DUTY GUARD POST
NOT TO SCALE

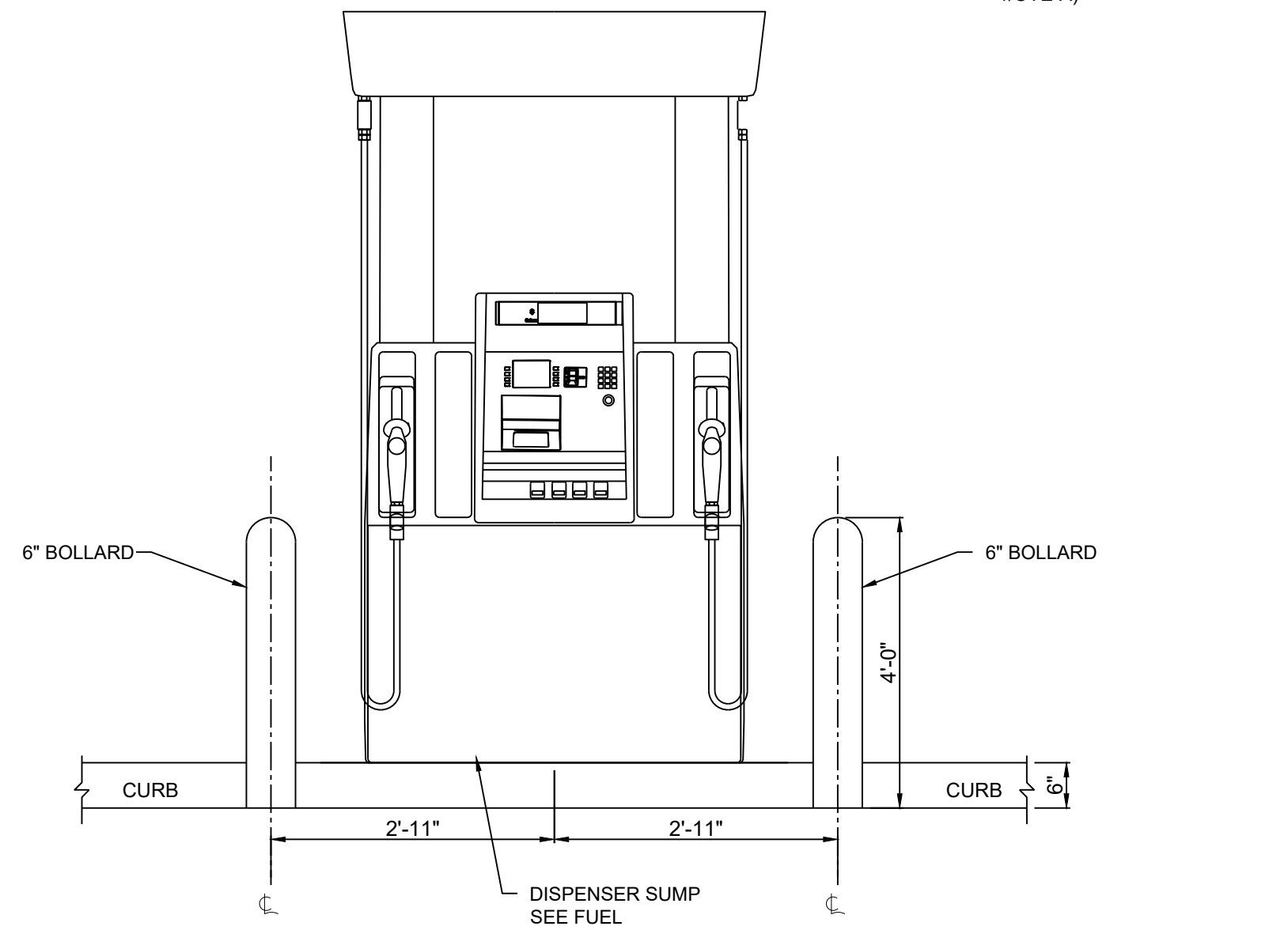
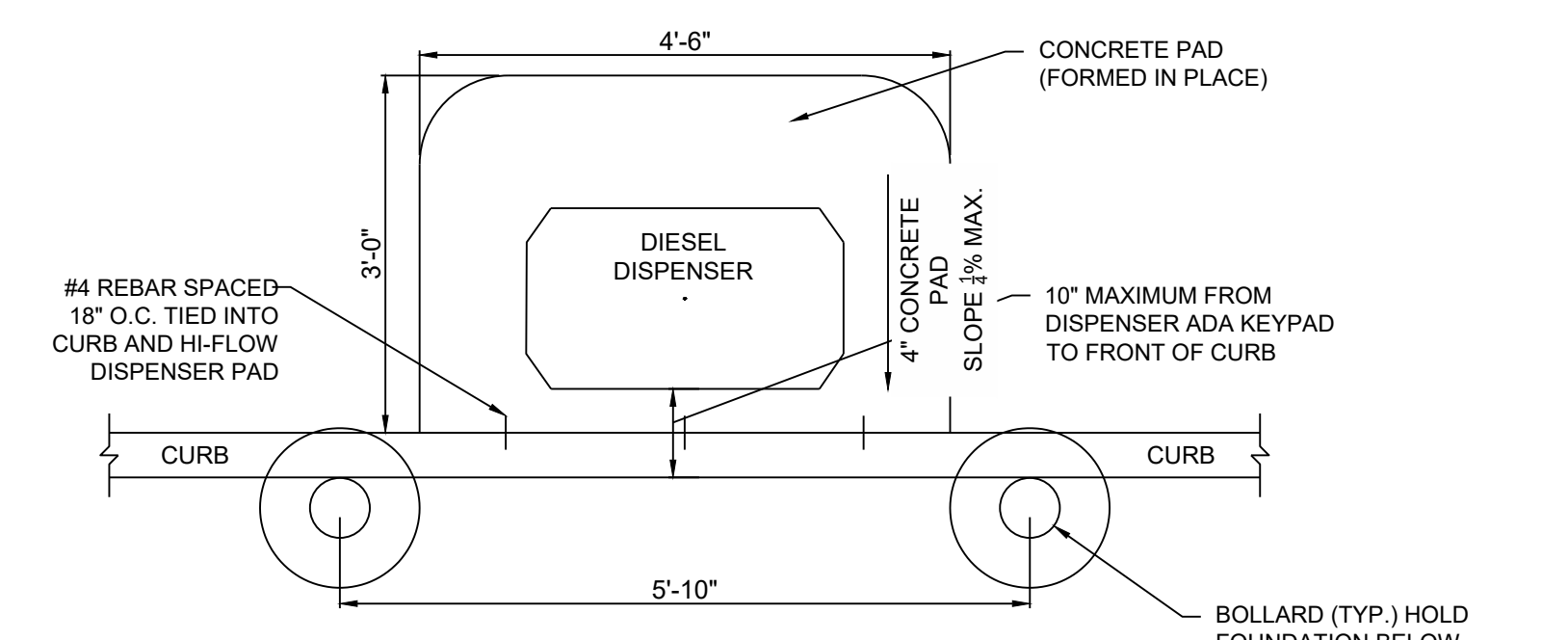
- GENERAL NOTES:**
1. LIGHT POLE DETAIL IS FOR REFERENCE ONLY. SEE STRUCTURAL PLANS FOR ALL LIGHT POLE FOUNDATION INFORMATION.
 2. RUB CONCRETE TO REMOVE SONOTUBE FORM LINES AND FILL ALL HOLES FOR SMOOTH FINISH. WEATHERSEAL ALL EXPOSED CONCRETE.
 3. VERIFY ANCHOR ROD LAYOUT AND EMBEDMENT REQUIREMENTS WITH POLE SUPPLIER.
 4. COORDINATE LOCATIONS WITH CIVIL.
 5. LIGHT POLE FOUNDATIONS LOCATED IN CFL TRAFFIC AREAS OR PARKING AREAS ARE RECOMMENDED TO EXTEND 5'-0" ABOVE GRADE AND BE A MIN. 03'-0".

- DESIGNER NOTES:**
1. CALIFORNIA SITES REQUIRE AIR/WATER AND THAT THERE BE A FREE OPTION THROUGH THE REMOTE SYSTEM.
 2. DESIGNER TO SEPARATE THE VACUUM SERVICE AT CAR WASH LOCATIONS IF TWO PLACEMENTS ARE AVAILABLE. OPTION TO PROVIDE AIR/WATER/VACUUM THROUGH THE SAME MACHINE IF NECESSARY.
- NOTE:**
MAXIMUM 2 PERCENT GRADE SLOPE EACH WAY REQUIRED FOR AMERICANS WITH DISABILITIES ACT.
- G.C. TO PROVIDE CONCRETE SLAB AND UTILITIES. AIR-SERV TO PROVIDE EQUIPMENT AND MAKE FINAL CONNECTIONS.**

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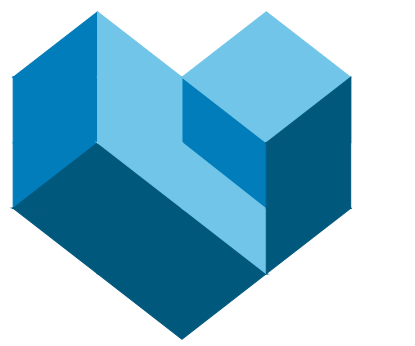


FLUSH MOUNTED



CURB MOUNTED

3 SINGLE-SIDED STAND-ALONE HIGH FLOW DIESEL RACING FUEL DISPENSER CONCRETE PAD
NOT TO SCALE



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03/13/2026



7-ELEVEN, INC.

SPEEDWAY - KALAMAZOO
918 RIVERVIEW DRIVE
KALAMAZOO, MI 49048

Revisions / Submissions

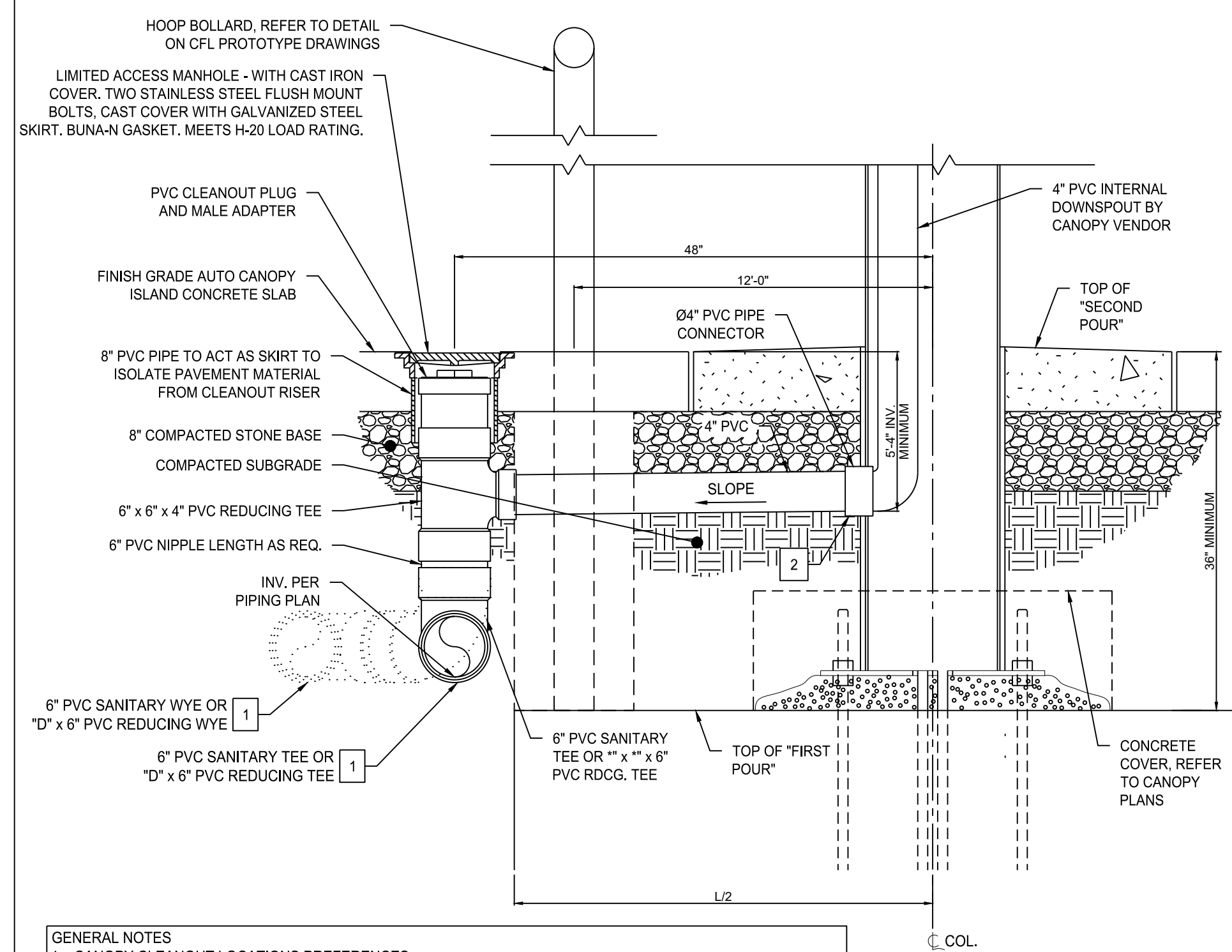
ID	Description	Date

Project Number: 765319
Scale: NA
Drawn By: MB
Checked By: JS
Date: 09/23/2025
Issue: PERMIT SET

Drawing Title:
YARD EQUIPMENT INSTALLATION DETAILS

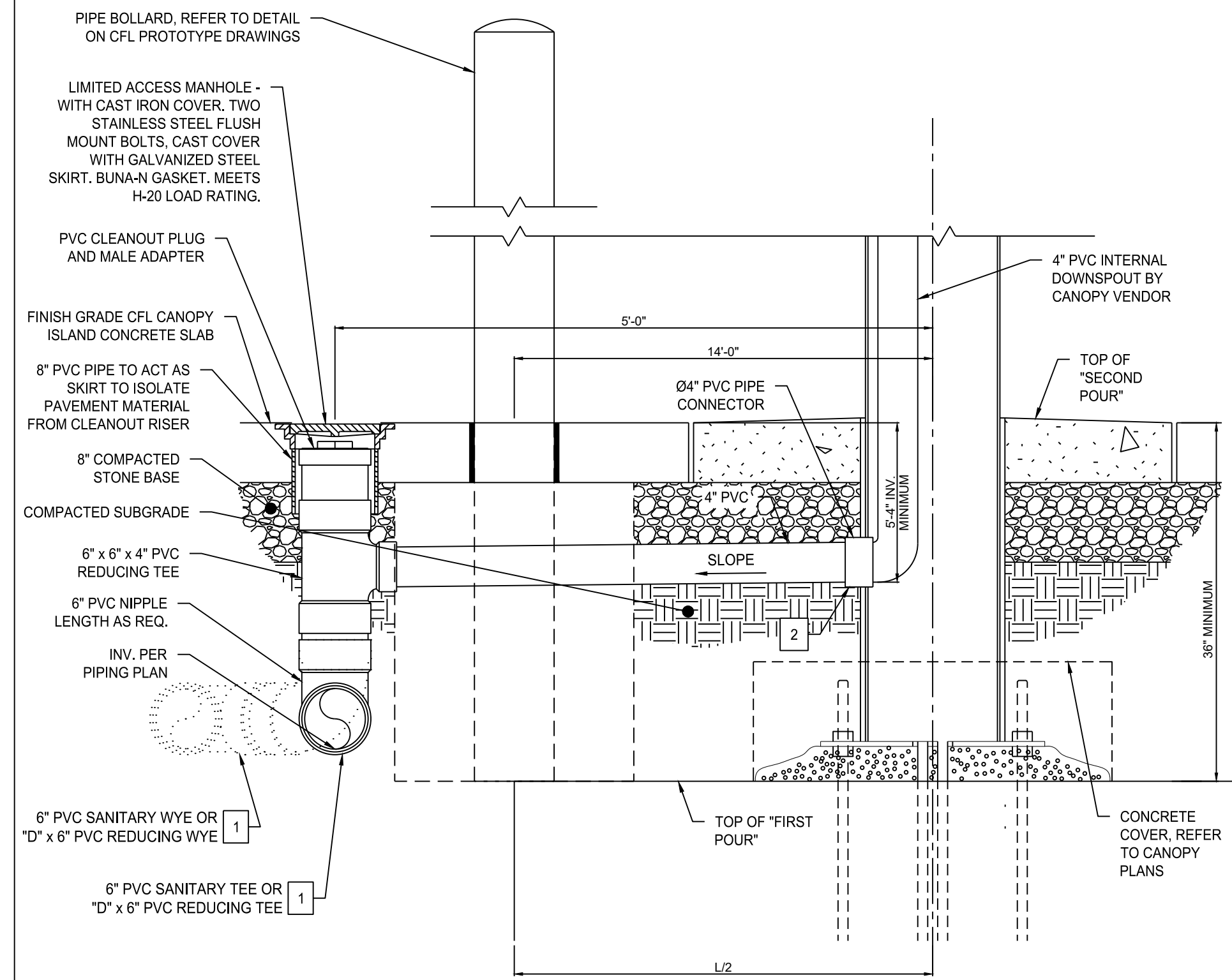
CYE-O

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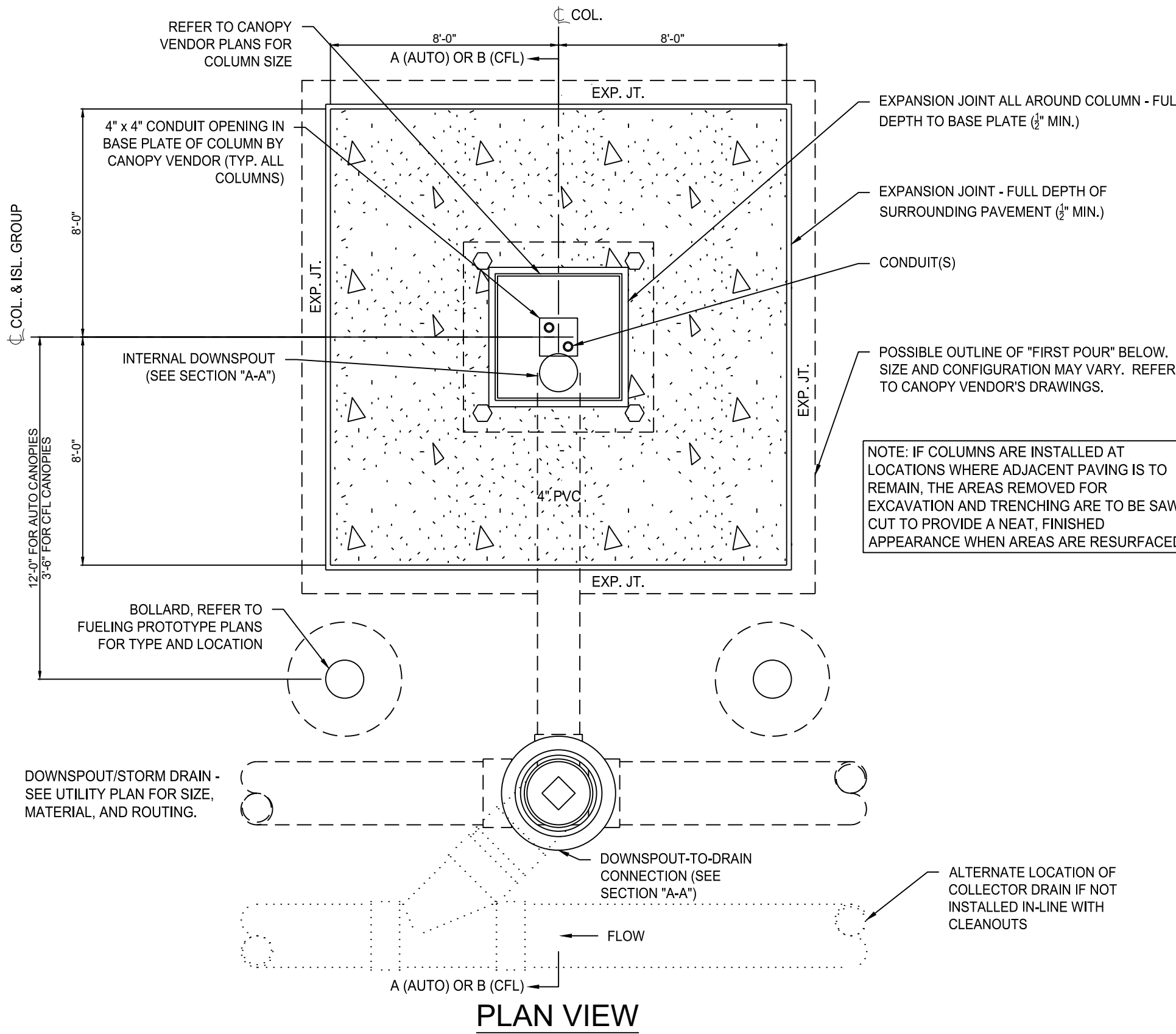
- GENERAL NOTES**
- CANOPY CLEANOUT LOCATION PREFERENCES
 - AUTO STARTING GATE - STORE SIDE ROW OF COLUMNS HAVE DRAINS
 - AUTO STACKED - BOTH ROWS OF COLUMNS HAVE DRAINS
 - REFER TO FUEL PROTOTYPE DRAWINGS FOR AUTO DISPENSER ISLAND (NOT SHOWN HEREON) DETAILS.
 - REFER TO CIVIL PROTOTYPE DRAWINGS SHEET CPC-1 FOR AUTO CANOPY PAVEMENT DETAIL.
- SECTION "A-A" KEY NOTES**
- "D" = SIZE OF ROOF DRAIN COLLECTOR PIPE. REFER TO PIPING PLAN TO VERIFY SIZE OF COLLECTOR PIPE.
 - REFER TO DIVISION OF WORK FOR G.C. CONNECTION TO ROOF DRAIN AT COLUMN.

SECTION "A-A" - INTERNAL DOWNSPOUT (AUTO CANOPY COLUMNS)

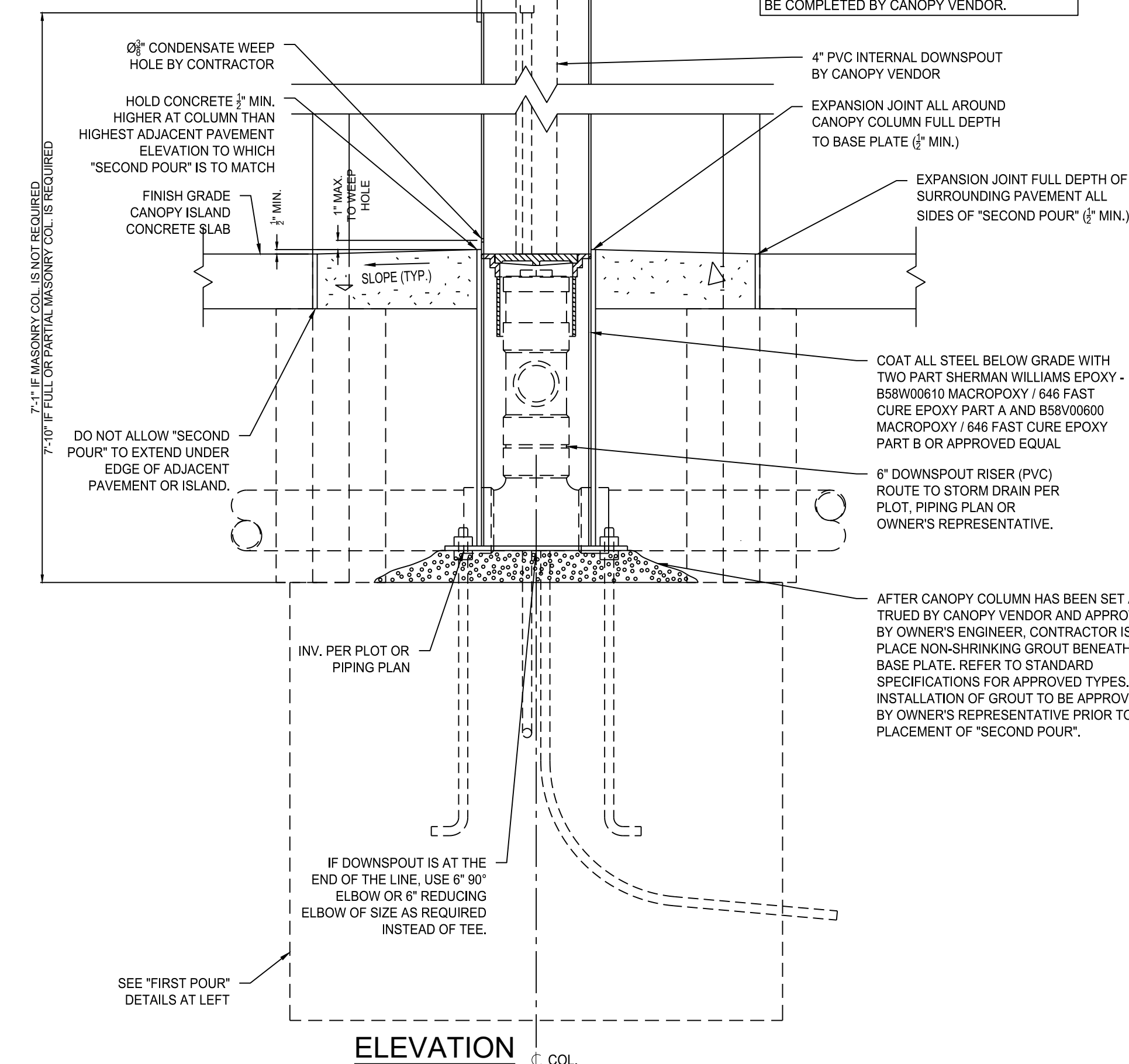


- GENERAL NOTES**
- CANOPY CLEANOUT LOCATION PREFERENCES
 - CFL - AWAY FROM PRODUCT PIPING OPPOSITE OF ENTRY SIDE COLUMNS
 - REFER TO CFL PROTOTYPE DRAWINGS FOR CFL DISPENSER ISLAND (NOT SHOWN HEREON) DETAILS.
 - REFER TO CIVIL PROTOTYPE DRAWINGS SHEET CPC-1 FOR CFL CANOPY PAVEMENT DETAIL.
- SECTION "B-B" KEY NOTES**
- "D" = SIZE OF ROOF DRAIN COLLECTOR PIPE. REFER TO PIPING PLAN TO VERIFY SIZE OF COLLECTOR PIPE.
 - REFER TO DIVISION OF WORK FOR G.C. CONNECTION TO ROOF DRAIN AT COLUMN.

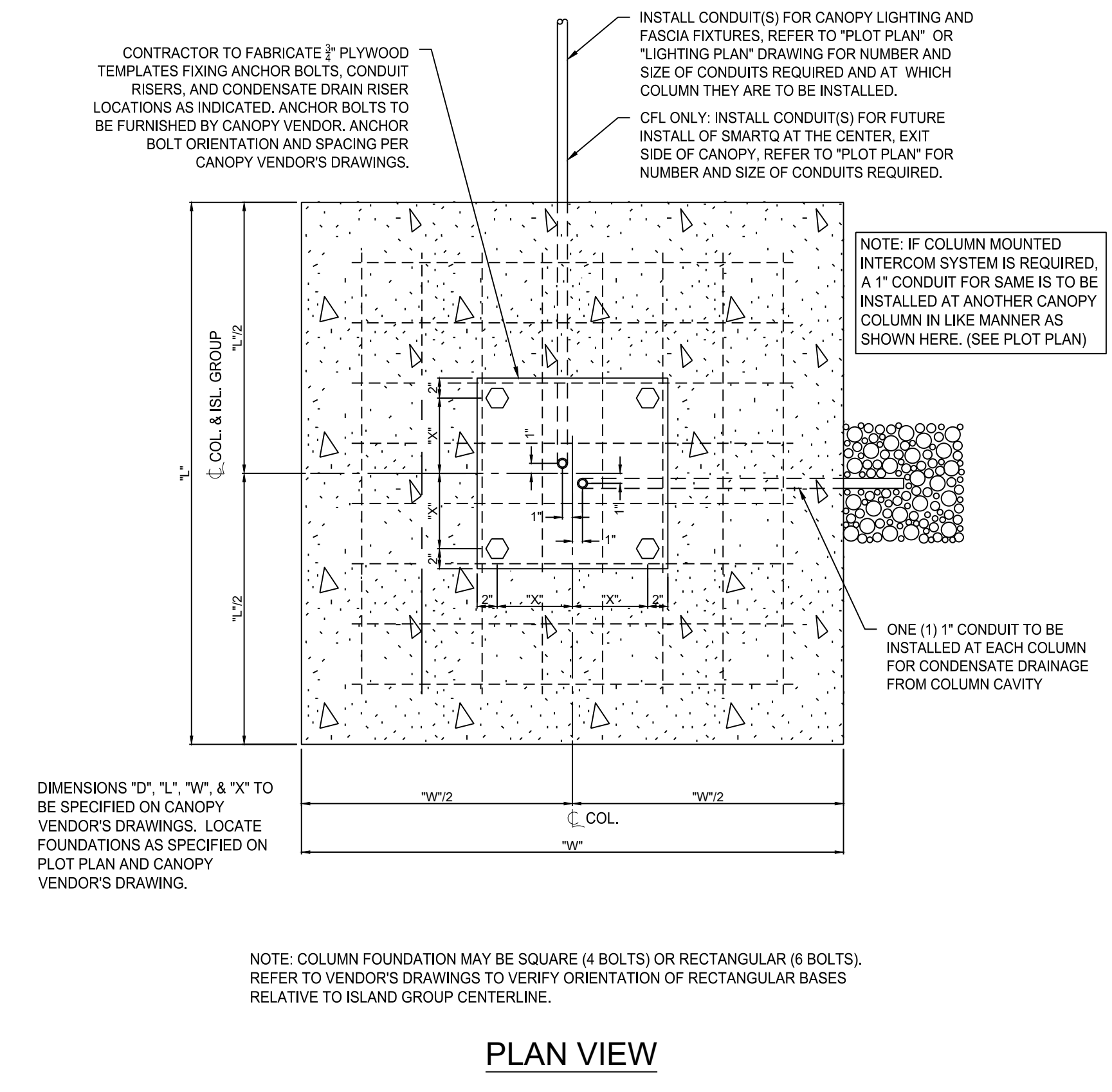
SECTION "B-B" - INTERNAL DOWNSPOUT (CFL CANOPY COLUMNS)



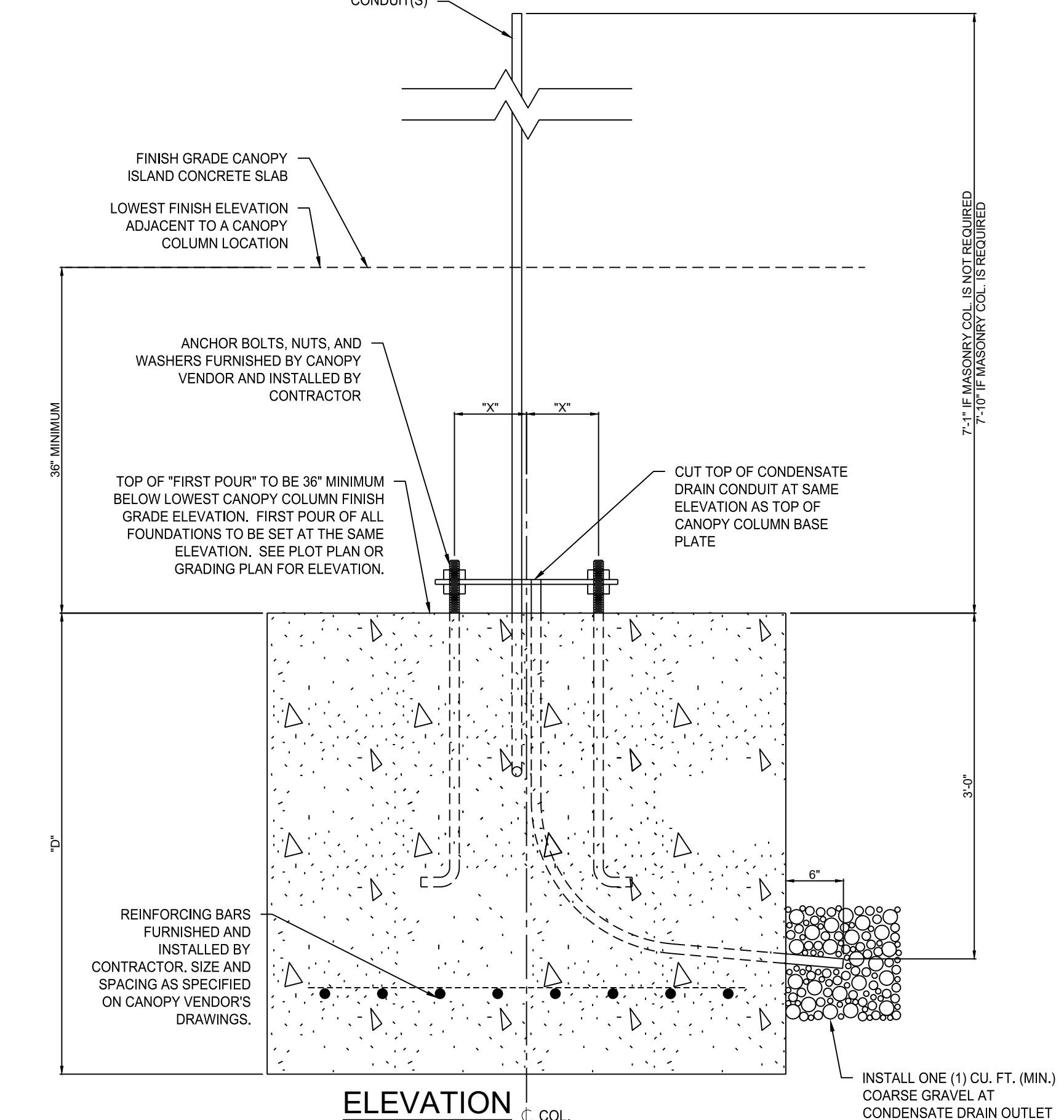
- INSTALL SEAL-OFF ON CONDUIT(S) AT HAND HOLE. LIGHTING AND SECURITY ARE NOT TO BE IN SAME COLUMN.**
- NOTE: INSTALL DOWNSPOUT COLLECTOR LINES ONLY IF SHOWN ON PLOT OR PIPING PLAN, OR DIRECTED BY OWNER'S REPRESENTATIVE. OTHERWISE DOWNSPOUTS WILL OUTLET ONTO FINISH GRADE AT BASE OF COLUMN AND WILL BE COMPLETED BY CANOPY VENDOR.**



CANOPY BASE - SECOND POUR PLAN AND ELEVATION



- NOTE: COLUMN FOUNDATION MAY BE SQUARE (4 BOLTS) OR RECTANGULAR (6 BOLTS). REFER TO VENDOR'S DRAWINGS TO VERIFY ORIENTATION OF RECTANGULAR BASES RELATIVE TO ISLAND GROUP CENTERLINE.**



CANOPY BASE - FIRST POUR PLAN AND ELEVATION



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03/13/2026

Speedway

7-ELEVEN, INC.

SPEEDWAY - KALAMAZOO

918 RIVERVIEW DRIVE
KALAMAZOO, MI 49048

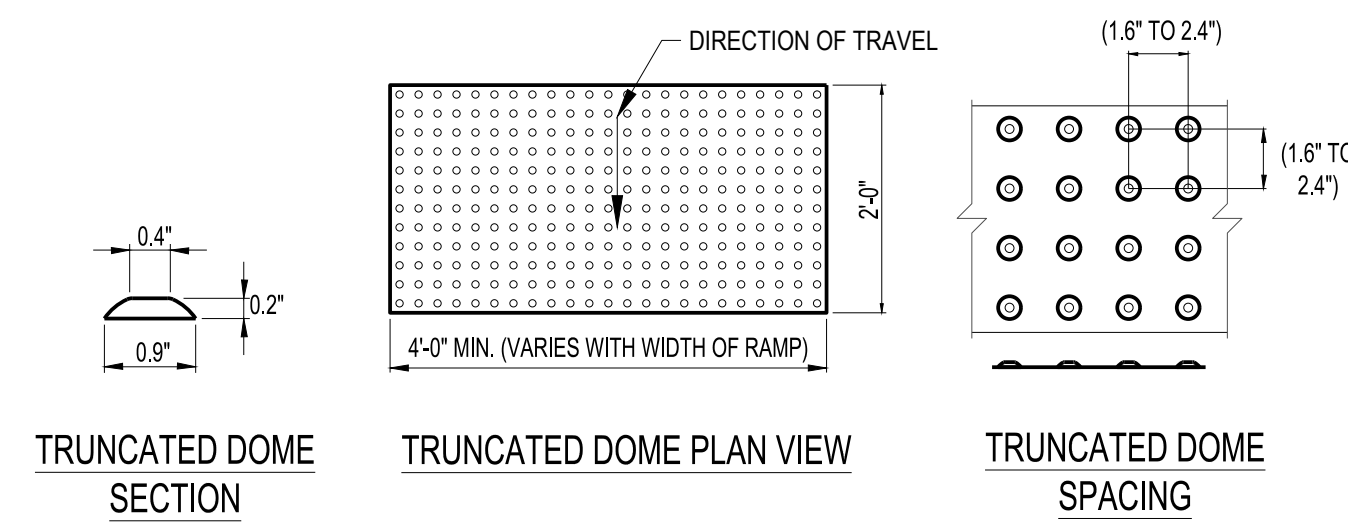
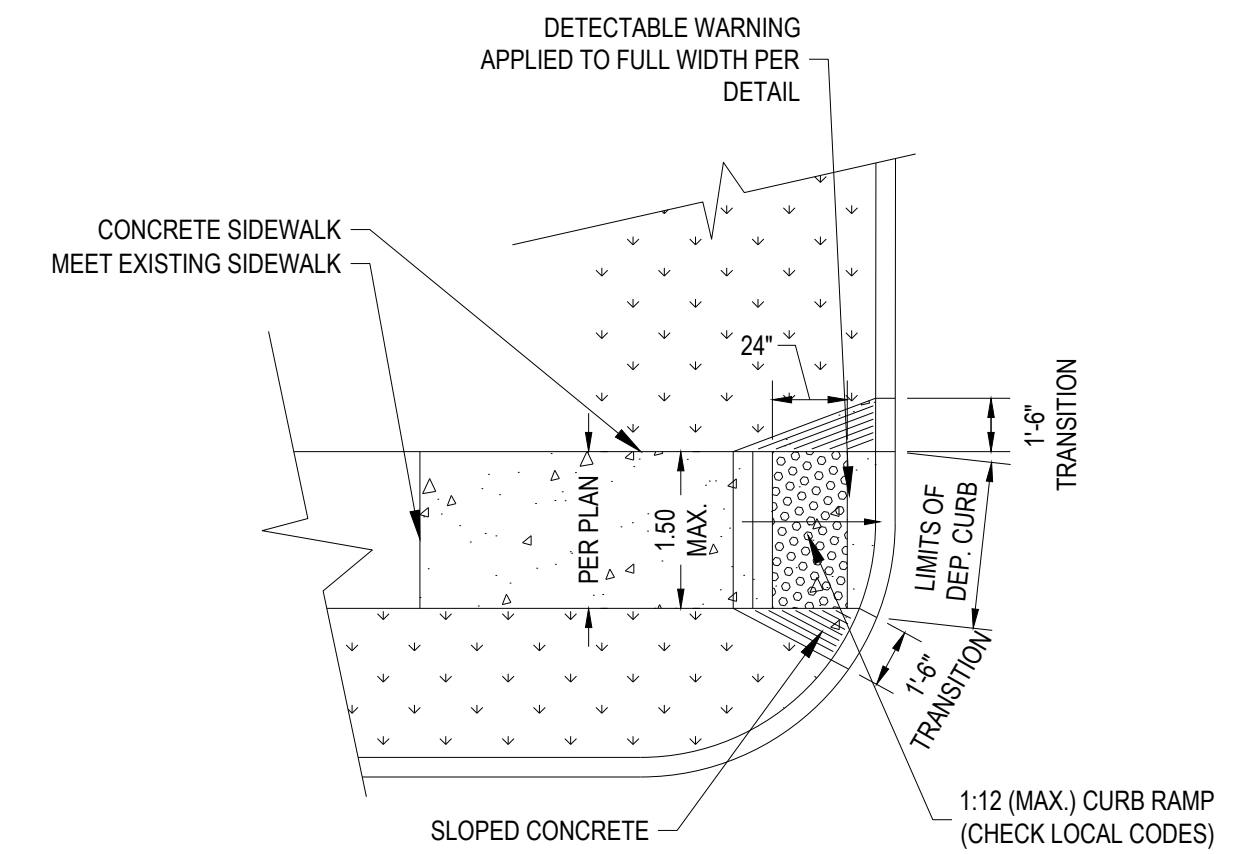
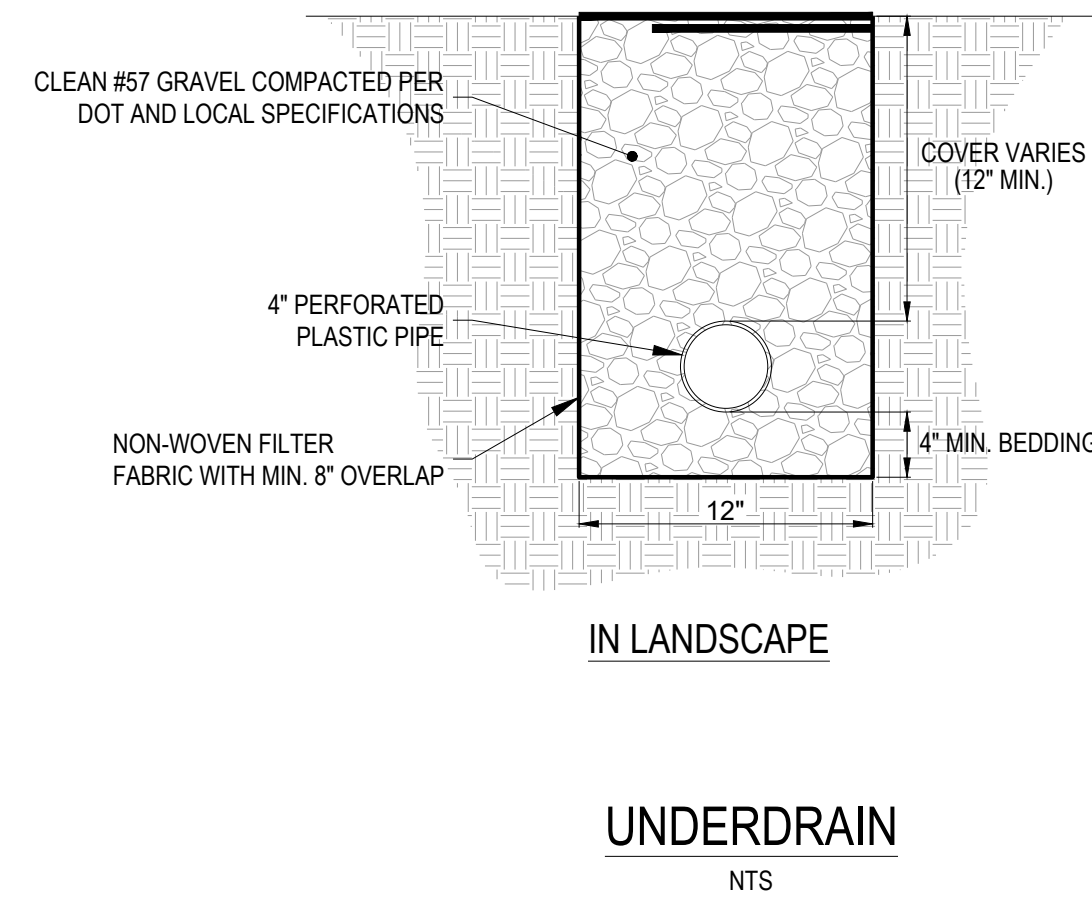
Revisions / Submissions		
ID	Description	Date

Project Number: 765319
Scale: NA
Drawn By: MB
Checked By: JS
Date: 09/23/2025
Issue: PERMIT SET

Drawing Title:
STANDARD CANOPY DETAILS

SCB-1

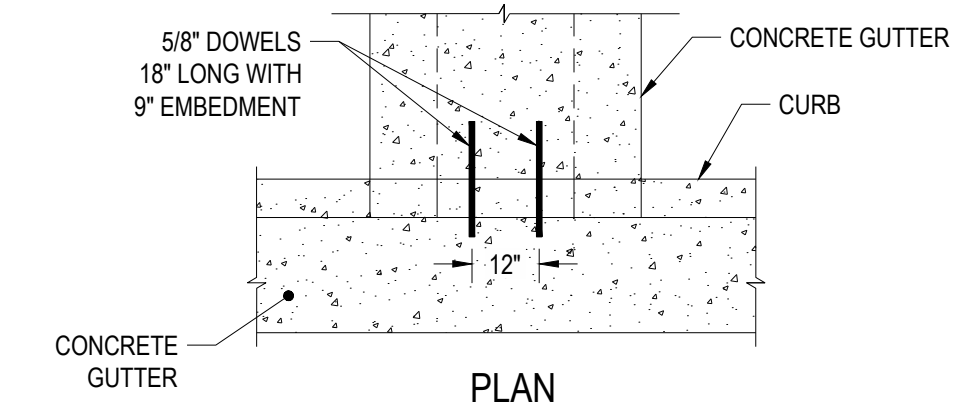
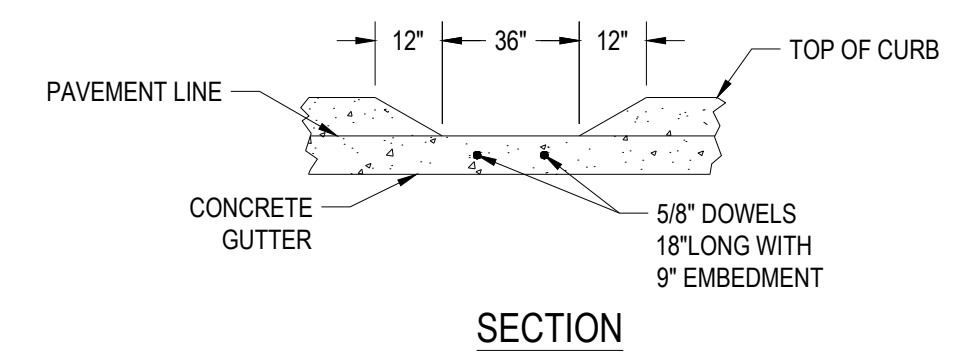
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NOTES:

1. ALL DETECTABLE WARNING DEVICES USED IN NEW CONSTRUCTION SHALL BE OF RIGID PRECAST OR EMBEDDED PRODUCT APPROVED BY THE CITY ENGINEER. RETRO FIT MATS WILL ONLY BE ALLOWED ON EXISTING RAMPS WITH PRIOR APPROVAL OF THE CITY ENGINEER FOR MATERIAL TYPE AND INSTALLATION (IE RESURFACING).
2. WIDTH OF DETECTABLE WARNING AREA SHALL BE A MINIMUM OF 4 FEET AND VARY WITH WIDTH OF RAMP.
3. LENGTH OF DETECTABLE WARNING AREA SHALL BE 2 FEET REGARDLESS OF SECTION WIDTH.
4. DETECTABLE WARNING AREA CAN BE SQUARE WHERE USED IN A CURB RADIUS.
5. DETECTABLE WARNING DOMES SHALL BE ALIGNED ON A SQUARE GRID IN THE PREDOMINANT DIRECTION OF TRAVEL TO PERMIT WHEELS TO ROLL BETWEEN DOMES.
6. IF PAVERS ARE TO BE USED, PAVERS SHALL BE 6" THICK AND CAST FROM 5000 PSI CONCRETE.
7. MATS ARE TO BE RIGID WITH TURN DOWN EDGES EMBEDDED IN CONCRETE TO ELIMINATE TRIP HAZARD.
8. TRUNCATED DOMES TO BE RED IN COLOR, UNLESS OTHERWISE DIRECTED.

ACCESSIBLE CURB RAMP (TYPE II)
NTS

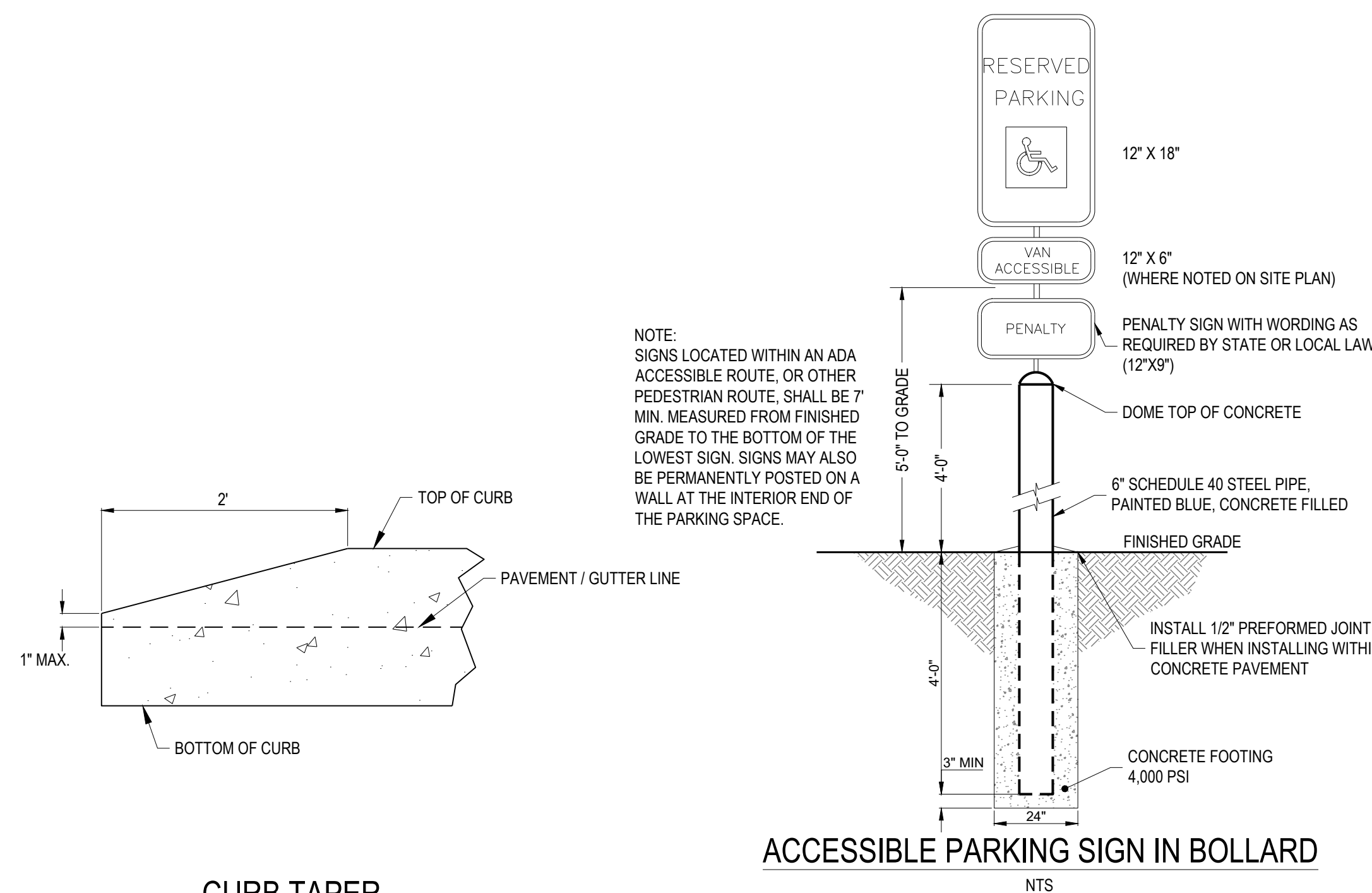


NOTES:

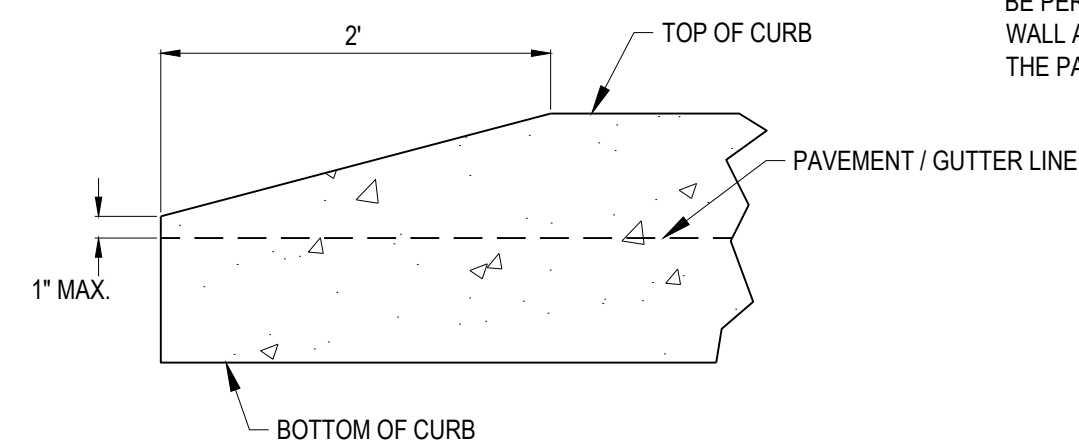
1. CONTRACTOR TO MATCH TOP OF PAVED GUTTER TO TOP OF CURB AND THEN TRANSITION GUTTER DEPTH DOWN TO 4" OVER 2'.

CURB CUT W/ CONCRETE FLUME
NTS

DETECTABLE WARNING
NTS



NOTE: SIGNS LOCATED WITHIN AN ADA ACCESSIBLE ROUTE, OR OTHER PEDESTRIAN ROUTE, SHALL BE 7" MIN. MEASURED FROM FINISHED GRADE TO THE BOTTOM OF THE LOWEST SIGN. SIGNS MAY ALSO BE PERMANENTLY POSTED ON A WALL AT THE INTERIOR END OF THE PARKING SPACE.



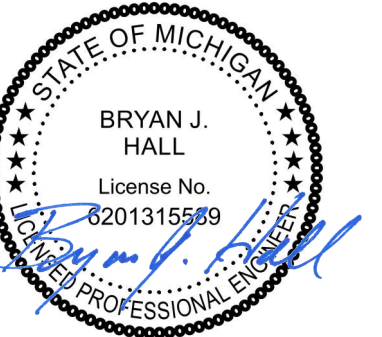
CURB TAPER
NTS



ACCESSIBLE PARKING SPACE STRIPING
NTS



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03/13/2026



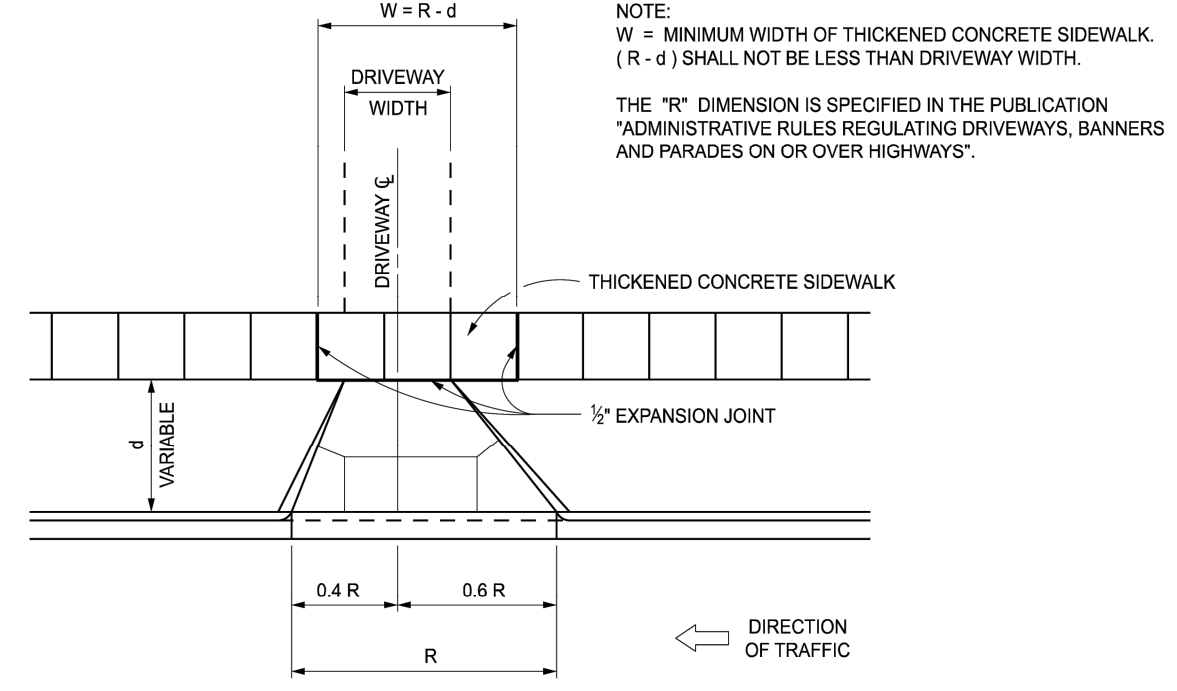
7-ELEVEN, INC.
SPEEDWAY - KALAMAZOO
918 RIVERVIEW DRIVE
KALAMAZOO, MI 49048

Revisions / Submissions		
ID	Description	Date

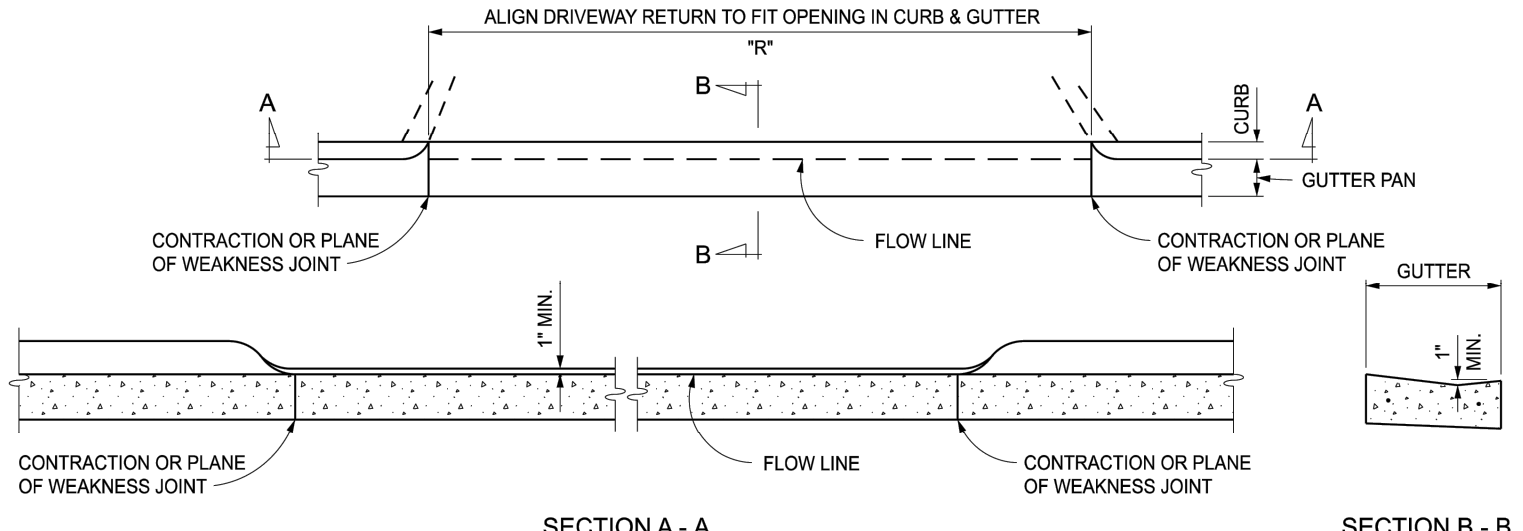
Project Number: 765319
Scale: NA
Drawn By: MB
Checked By: JS
Date: 09/23/2025
Issue: PERMIT SET

Drawing Title:
CONSTRUCTION DETAILS

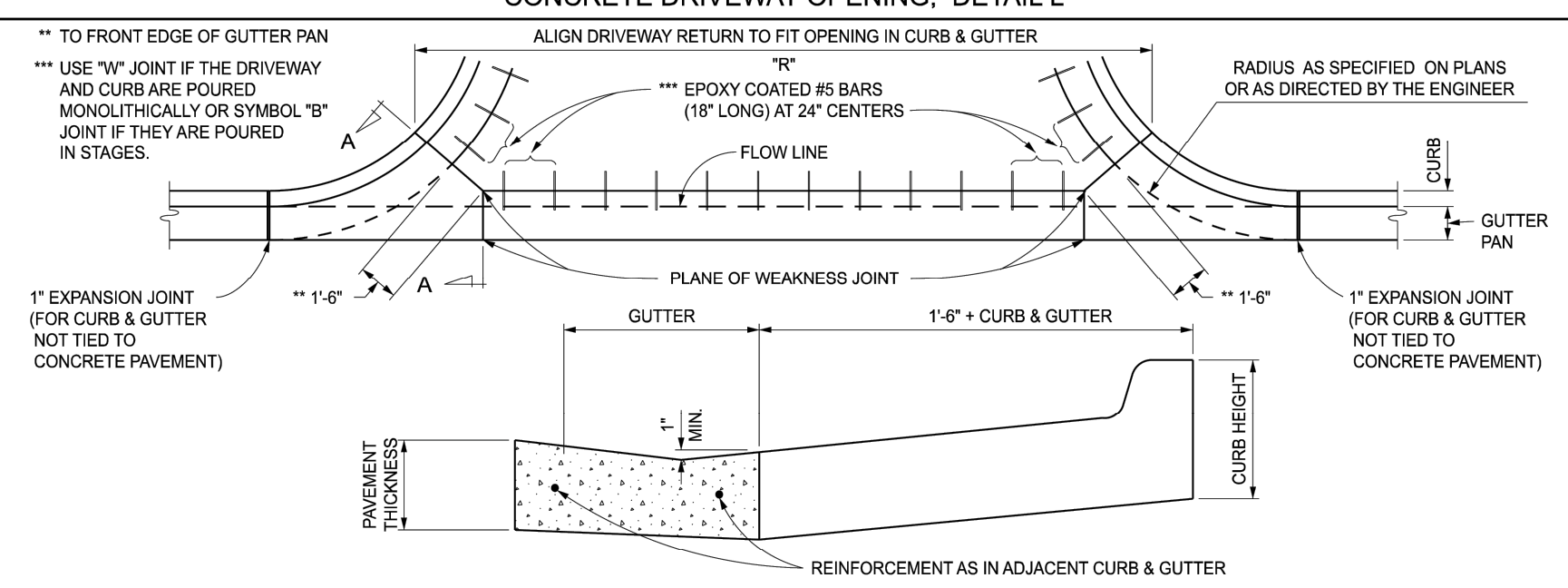
DET-1



CONCRETE DRIVEWAY OPENING LAYOUT



CONCRETE DRIVEWAY OPENING, DETAIL L



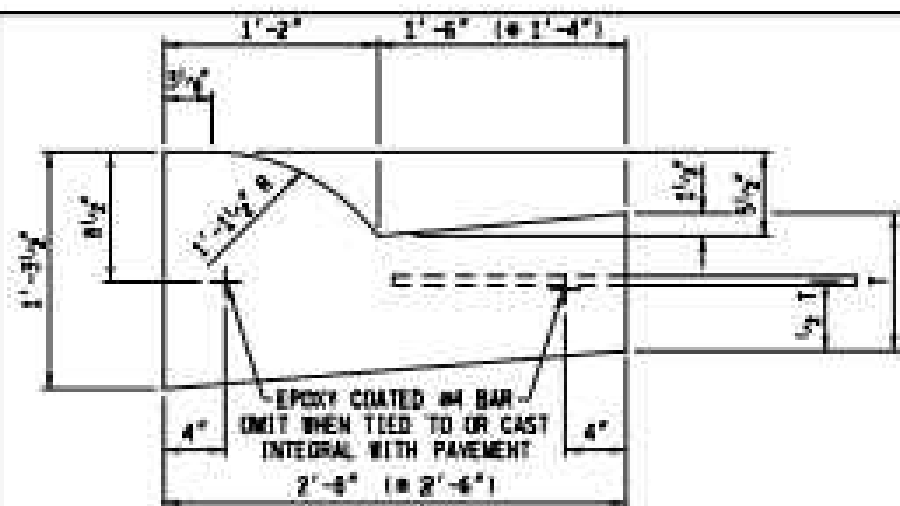
CONCRETE DRIVEWAY OPENING, DETAIL M

NOTE:
FOR ROADWAYS WITH CONCRETE PAVEMENTS, LONGITUDINAL LANE TIES WILL BE CONTINUOUS THROUGH THE DRIVEWAY OPENING AND THE SPACING OF THE #5 BARS IN CONCRETE DRIVEWAYS SHALL BE ADJUSTED TO AVOID CONFLICT WITH THE LONGITUDINAL LANE TIES.

MDOT Michigan Department of Transportation

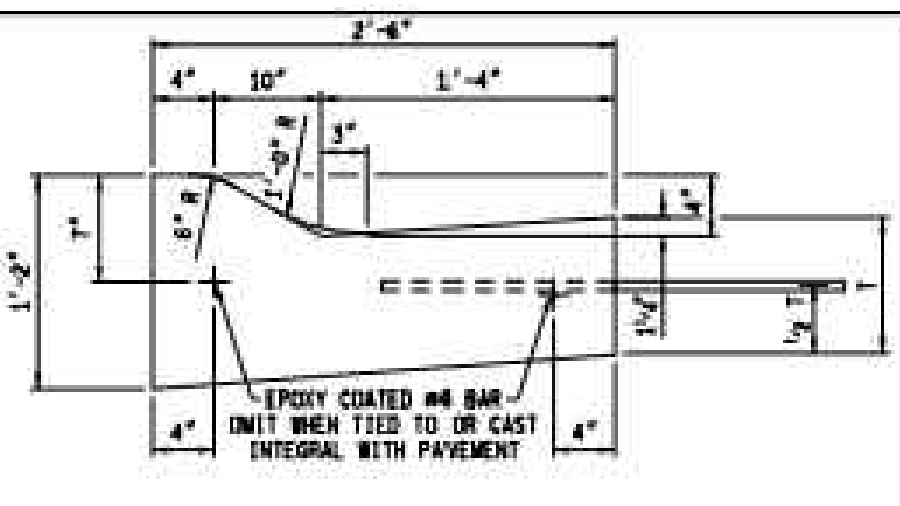
DEPARTMENT DIRECTOR: BRADLEY C. WEFERICH, PE

(SPECIAL DETAIL) 11/08/2023 PLAN DATE: R-29-J SHEET 2 OF 4

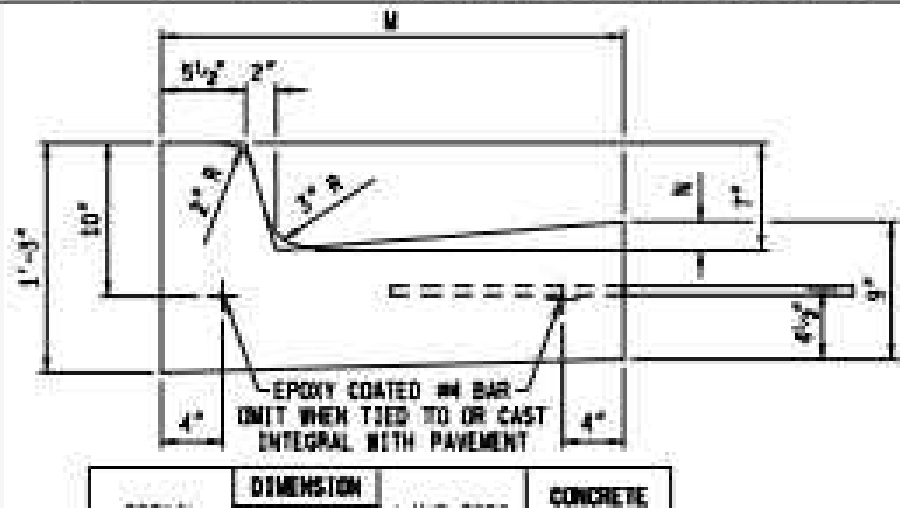


(R) GUTTER PAN WIDTH MAY BE REDUCED WHEN APPROVED BY THE ENGINEER

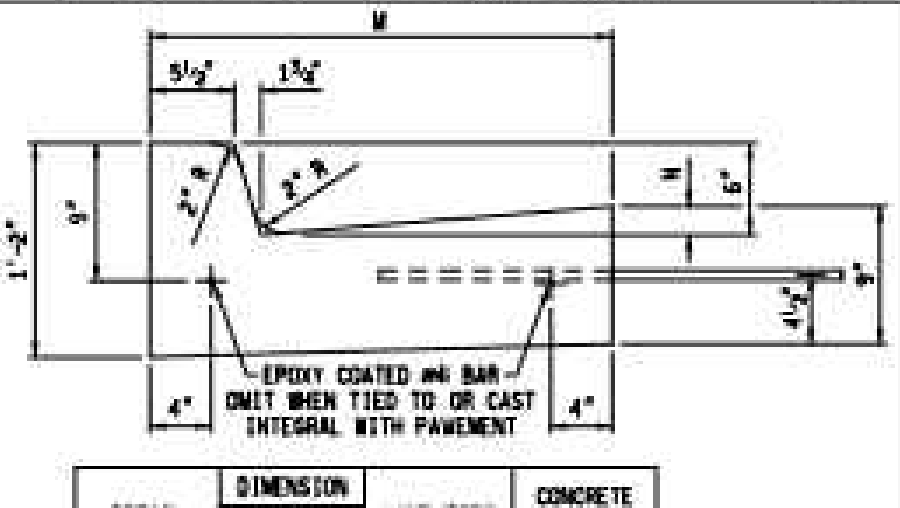
DETAIL	DIMENSION	LANE TIES	CONCRETE CYD / LFT	CONCRETE CYD / LFT
B1	9"	AS SHOWN	0.0900	(R) 0.0951
B2	9"	OMITTED	0.0900	(R) 0.0951
B3	10"	AS SHOWN	0.0941	(R) 0.0991



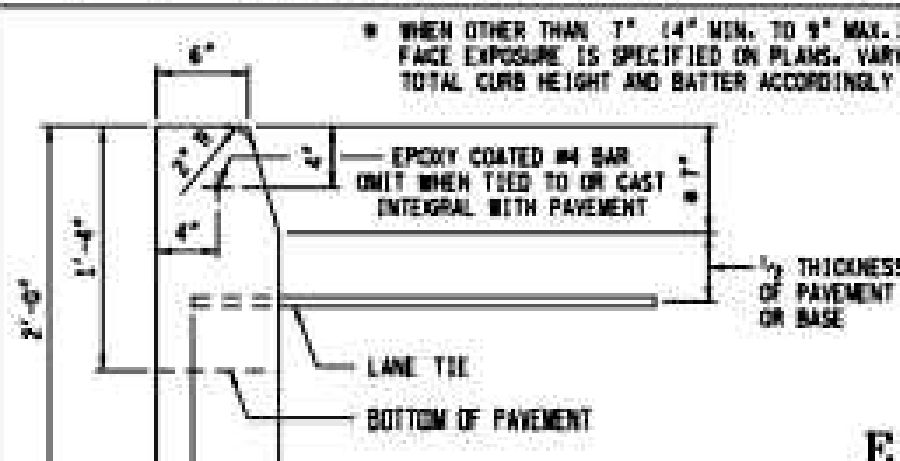
DETAIL	DIMENSION	LANE TIES	CONCRETE CYD / LFT
D1	9"	AS SHOWN	0.0786
D2	9"	OMITTED	0.0786
D3	10"	AS SHOWN	0.0826



DETAIL	DIMENSION	M	N	LANE TIES	CONCRETE CYD / LFT
M1	1'-4"	1/2"	AS SHOWN	0.0500	
M2	1'-4"	1/2"	OMITTED	0.0500	
M3	2'-0"	1/2"	AS SHOWN	0.0632	
M4	2'-0"	1/2"	OMITTED	0.0632	
M5	2'-4"	1/2"	AS SHOWN	0.0757	
M6	2'-4"	1/2"	OMITTED	0.0757	



DETAIL	DIMENSION	M	N	LANE TIES	CONCRETE CYD / LFT
F1	1'-4"	1/2"	AS SHOWN	0.0484	
F2	1'-4"	1/2"	OMITTED	0.0484	
F3	2'-0"	1/2"	AS SHOWN	0.0610	
F4	2'-0"	1/2"	OMITTED	0.0610	
F5	2'-4"	1/2"	AS SHOWN	0.0737	
F6	2'-4"	1/2"	OMITTED	0.0737	



DETAIL	CURB HEIGHT	LANE TIES	CONCRETE CYD / LFT
E1	1'-4"	AS SHOWN	0.0510
E2	1'-4"	OMITTED	0.0510
E4	2'-0"	OMITTED	0.0477

MDOT Michigan Department of Transportation

DEPARTMENT DIRECTOR: JIM T. STRAUGH

APPROVED BY: *Randy V. Pappalardo* DIRECTOR, BUREAU OF FIELD SERVICES

DESIGN DIVISION

DRAWN BY: B.L.L.P.

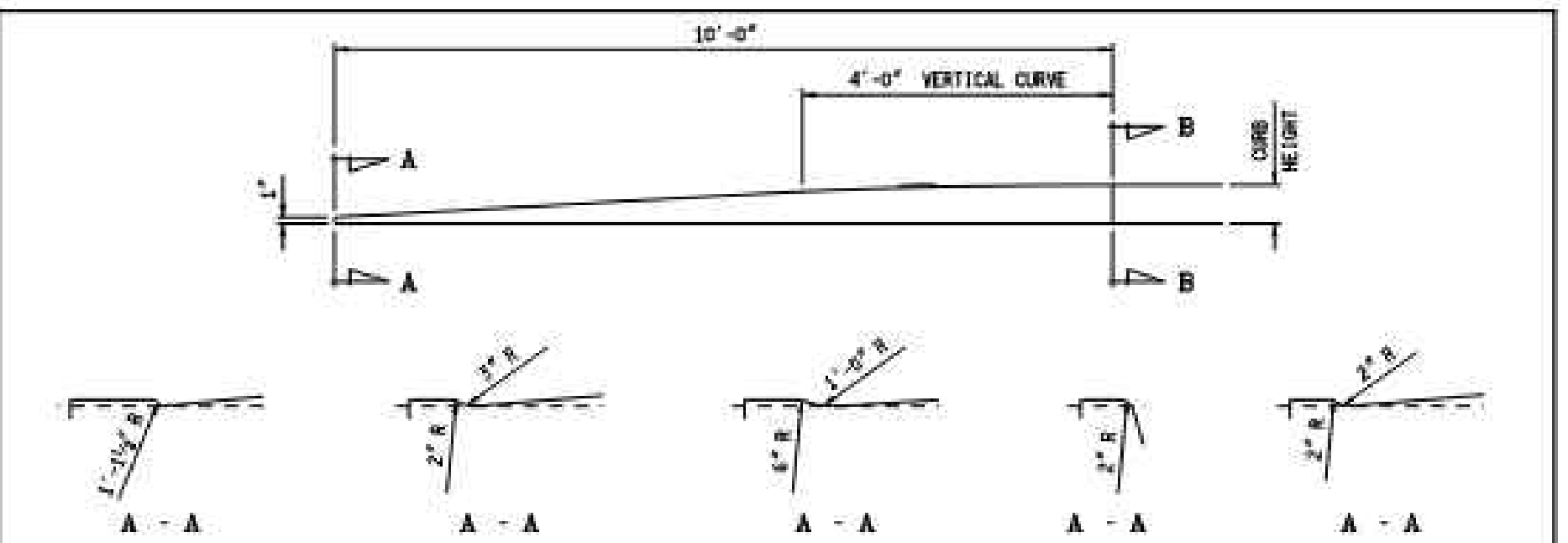
CHECKED BY: B.L.L.P.

MICHIGAN DEPARTMENT OF TRANSPORTATION BUREAU OF HIGHWAY DEVELOPMENT STANDARD PLAN FOR

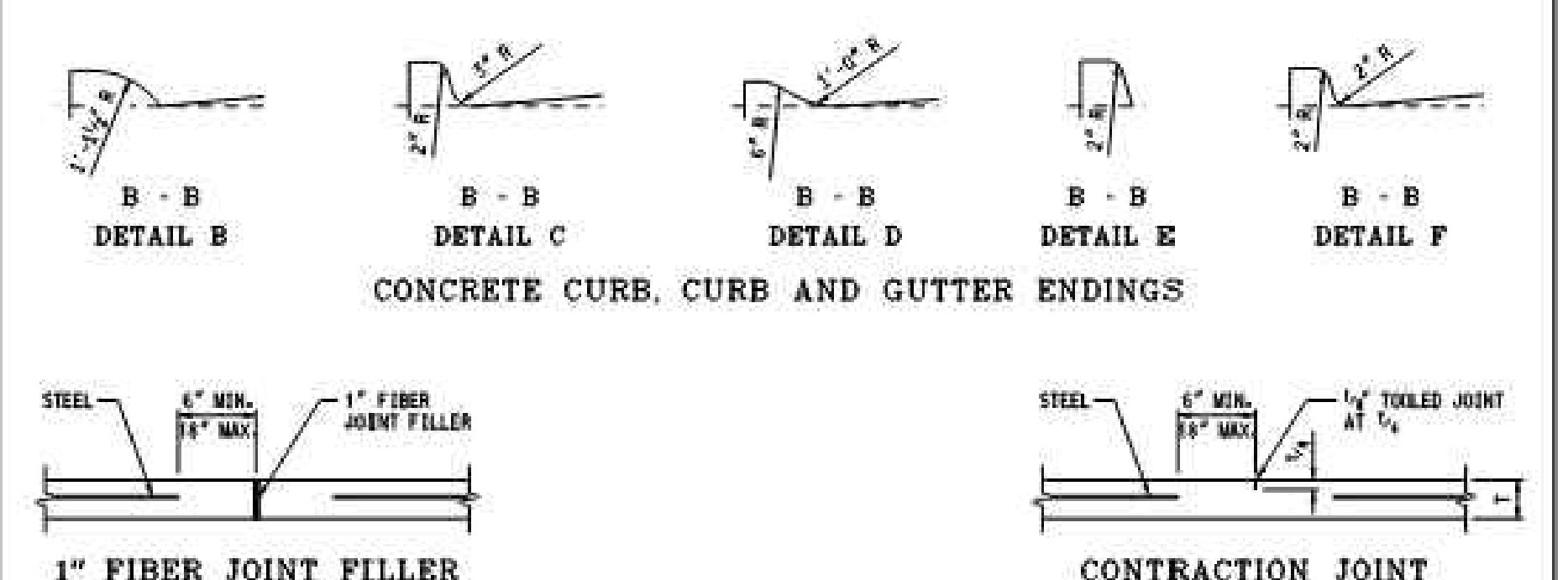
CONCRETE CURB AND CONCRETE CURB & GUTTER

9-30-2014 2-6-2014 R-30-G SHEET 1 OF 2

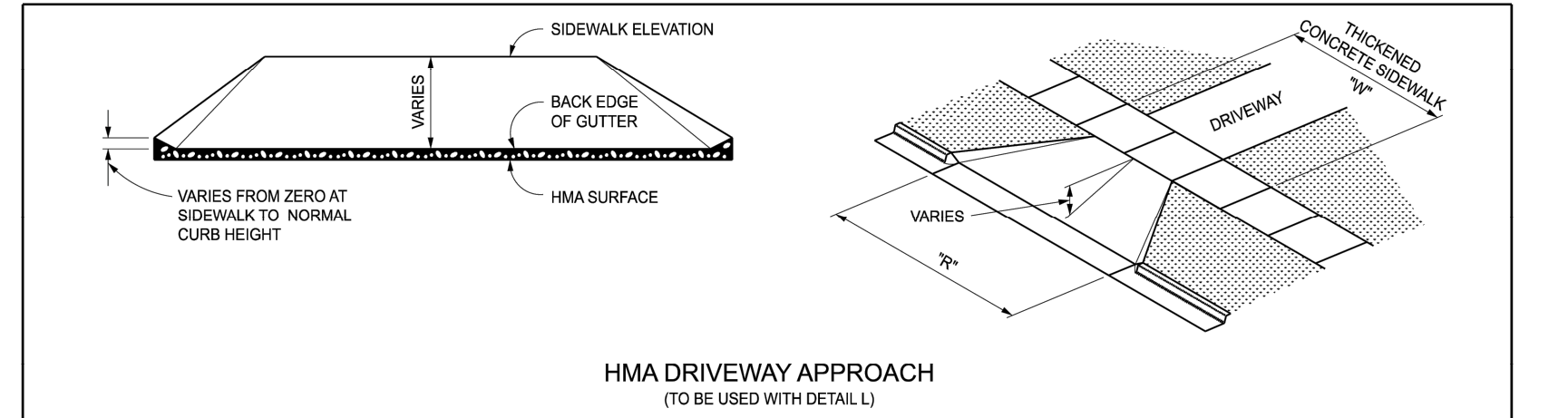
T.J.L. APPROVAL PLAN DATE



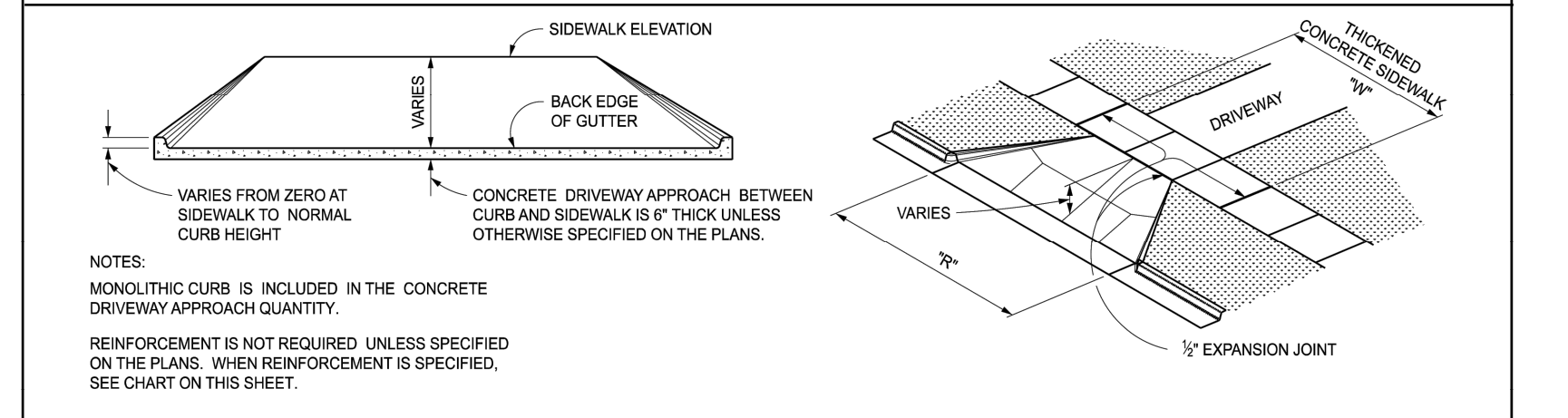
CONCRETE CURB, CURB AND GUTTER ENDINGS



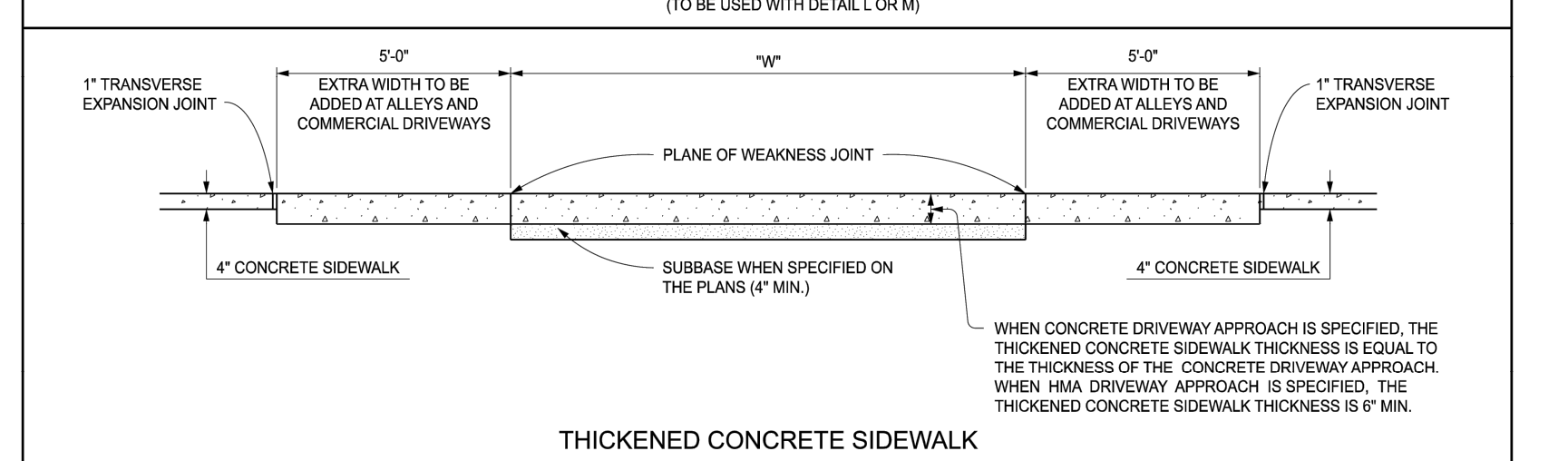
- NOTES:
- CURB AND GUTTER RADIUS SHALL BE DIMENSIONED TO THE FRONT EDGE OF THE GUTTER PAN OR EDGE OF PAVEMENT.
 - CONCRETE CURB AND GUTTER ENDINGS WILL BE PAID FOR IN LINEAR FEET OF THE ADJACENT CURB DETAIL.
 - JOINTS SHALL BE PLACED AT RIGHT ANGLES TO THE EDGE OF CONCRETE CURB AND GUTTER.
 - JOINTS DETAILED ON THE PLANS SHALL SUPERSEDE THOSE SPECIFIED ON THIS STANDARD PLAN.
 - BOTTOM SLOPE OF CURB AND GUTTER STRUCTURE MAY BE THE SAME SLOPE AS BOTTOM OF PAVEMENT. BACK OF CURB AND VERTICAL EDGE OF GUTTER PAN MAY HAVE A MAXIMUM 1/2" BATTER TO FACILITATE FORMING.
 - WHEN CURB AND GUTTER IS CAST INTEGRALLY, SEE CURRENT STANDARD PLAN R-31-SERIES.
 - ALL JOINTS FOR CURB OR CURB AND GUTTER ARE INCLUDED IN THE PAY ITEM FOR THE CURB OR CURB AND GUTTER.
- JOINTS IN CURB OR CURB AND GUTTER NOT TIED TO CONCRETE PAVEMENT ADJACENT TO CONCRETE BASE COURSE OR ADJACENT TO HMA PAVEMENT:
- PLACE 1" FIBER JOINT FILLER AT 40' MAXIMUM INTERVALS.
 - PLACE 1" FIBER JOINT FILLER AT SPRING POINTS OF INTERSECTING STREETS.
 - PLACE 1/2" ISOLATION JOINT AT CATCH BASINS PER STANDARD PLAN R-37-SERIES.
 - PLACE CONTRACTION JOINTS AT 40' MAXIMUM INTERVALS.
- JOINTS IN CURB OR CURB AND GUTTER TIED TO JOINTED PAVEMENT
- PLACE 1" FIBER JOINT FILLER OPPOSITE ALL TRANSVERSE EXPANSION JOINTS IN PAVEMENT.
 - PLACE 1/2" ISOLATION JOINT AT CATCH BASINS PER STANDARD PLAN R-37-SERIES.
 - PLACE CONTRACTION JOINTS OPPOSITE ALL TRANSVERSE CONTRACTION JOINTS IN PAVEMENT.
 - A SYMBOL (R) JOINT SHALL BE PLACED BETWEEN CURB OR CURB AND GUTTER AND ADJACENT CONCRETE PAVEMENT AS SPECIFIED ON STANDARD PLAN R-41-SERIES.



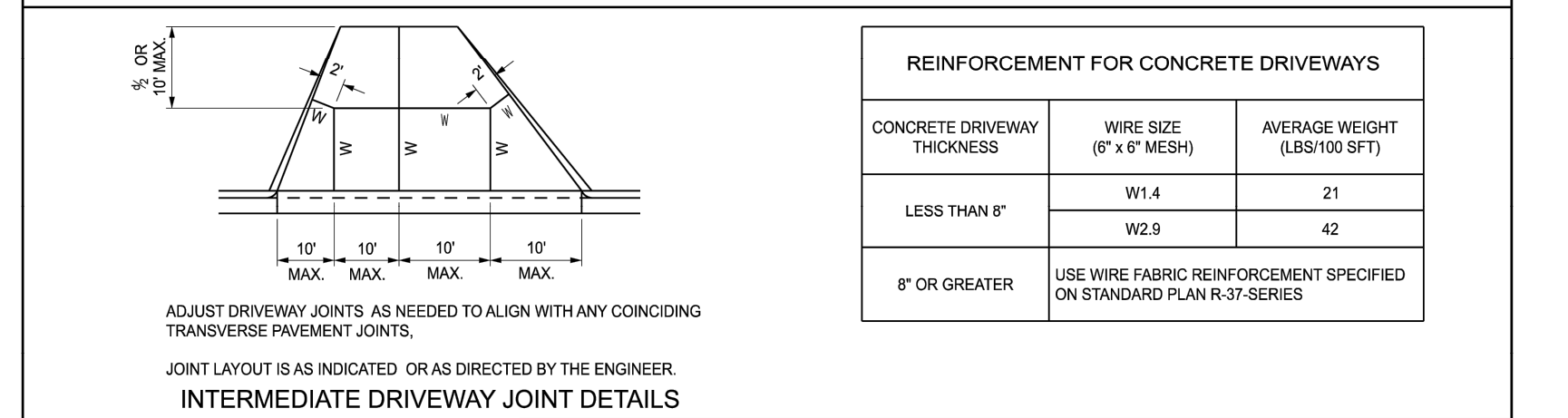
HMA DRIVEWAY APPROACH (TO BE USED WITH DETAIL L)



CONCRETE DRIVEWAY APPROACH (TO BE USED WITH DETAIL L OR M)



THICKENED CONCRETE SIDEWALK



REINFORCEMENT FOR CONCRETE DRIVEWAYS

CONCRETE DRIVEWAY THICKNESS	WIRE SIZE (6" x 6" MESH)	AVERAGE HEIGHT (LBS/100 SFT)
LESS THAN 8"	W1.4	21
	W2.9	42
8" OR GREATER	USE WIRE FABRIC REINFORCEMENT SPECIFIED ON STANDARD PLAN R-37-SERIES	

MDOT Michigan Department of Transportation

DEPARTMENT DIRECTOR: BRADLEY C. WEFERICH, PE

(SPECIAL DETAIL) 11/08/2023 PLAN DATE: R-29-J SHEET 3 OF 4



Speedway

7-ELEVEN, INC.
SPEEDWAY - KALAMAZOO
918 RIVERVIEW DRIVE
KALAMAZOO, MI 49048

Revisions / Submissions

ID	Description	Date

Project Number: 765319
Scale: [SCALE]
Drawn By: MB
Checked By: JS
Date: 09/23/2025
Issue: PERMIT SET

Drawing Title:
MDOT DETAILS 1
DET-2

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ZONE CHART		
ZONES	ZONE DESCRIPTIONS	REMARKS
ZONE 1A	FOUNDATION AGGREGATE	#5 (2") STONE ANGULAR AGGREGATE (SEE NOTE 4 FOR DESCRIPTION)
ZONE 1B	FOUNDATION AGGREGATE (INFILTRATION NOT ALLOWED)	3" RECYCLED CRUSHED CONCRETE (SEE NOTES 5 & 6 FOR DESCRIPTION)
ZONE 2	BACKFILL	UNIFIED SOILS CLASSIFICATION (GW, GP, SW, SP) OR SEE BELOW FOR APPROVED BACKFILL OPTIONS
ZONE 3	FINAL COVER OVERTOP	MATERIALS NOT TO EXCEED 120 PCF

FILL DEPTH	TRACK WIDTH	MAX VEHICLE WEIGHT (KIPS)	MAX GROUND PRESSURE
12"	18"	51.8	1690 psf
	24"	56.1	1219 psf
	30"	68.1	1111 psf
	36"	76.7	1000 psf
	36"	85.0	924 psf

NOTE:
TRACK LENGTH NOT TO EXCEED 15'-4".
ONLY TWO TRACKS PER VEHICLE.

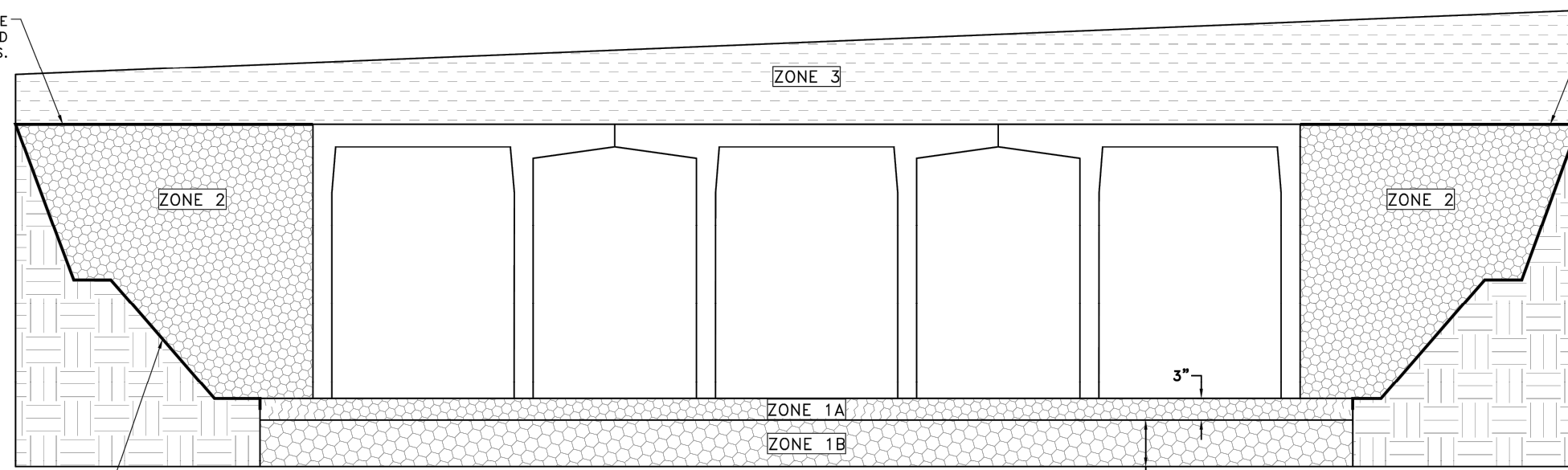
STORMTRAP ZONE INSTALLATION SPECIFICATION/PROCEDURE

- THE FILL PLACED AROUND THE STORMTRAP MODULES MUST BE DEPOSITED ON BOTH SIDES AT THE SAME TIME AND TO APPROXIMATELY THE SAME ELEVATION. AT NO TIME SHALL THE FILL BEHIND ONE SIDE BE MORE THAN 2'-0" HIGHER THAN THE FILL ON THE OPPOSITE SIDE. BACKFILL SHALL EITHER BE COMPACTED AND/OR VIBRATED TO ENSURE THAT BACKFILL AGGREGATE/STONE MATERIAL IS WELL SEATED AND PROPERLY INTER LOCKED. CARE SHALL BE TAKEN TO PREVENT ANY WEDGING ACTION AGAINST THE STRUCTURE, AND ALL SLOPES WITHIN THE AREA TO BE BACKFILLED MUST BE STEPPED OR SERRATED TO PREVENT WEDGING ACTION. CARE SHALL ALSO BE TAKEN AS NOT TO DISRUPT THE JOINT WRAP FROM THE JOINT DURING THE BACKFILL PROCESS. BACKFILL MUST BE FREE-DRAINING MATERIAL. SEE ZONE 2 BACKFILL CHART ON THIS PAGE FOR APPROVED BACKFILL OPTIONS. IF NATIVE EARTH IS SUSCEPTIBLE TO MIGRATION, CONFIRM WITH GEOTECHNICAL ENGINEER AND PROVIDE PROTECTION AS REQUIRED (PROVIDED BY OTHERS). ALL MODULES MUST BE SET AND ALL SIDES MUST BE FULLY BACKFILLED BEFORE TRAVEL OVERTOP THE SYSTEM IS PERMITTED. SEE NOTE 2 FOR EXCEPTIONS AND LIMITATIONS.
- THE FILL PLACED OVERTOP THE SYSTEM SHALL BE PLACED IN MINIMUM 8" LIFTS. AT NO TIME SHALL MACHINERY OR VEHICLES GREATER THAN THE DESIGN LINE LOAD LISTED ON SHEET 1.1 TRAVEL OVERTOP THE SYSTEM. IF TRAVEL OVER THE SYSTEM OCCURS BEFORE THE MINIMUM DESIGN COVER IS ACHIEVED, IT MAY BE NECESSARY TO REDUCE THE ULTIMATE LOAD/BURDEN OF THE OPERATING MACHINERY SO AS TO NOT EXCEED THE DESIGN CAPACITY OF THE SYSTEM. VEHICLES AND MACHINERY USED TO PLACE FILL MATERIAL ON TOP OF THE SYSTEM SHALL TRAVEL PARALLEL TO THE LONGITUDINAL AXIS OF THE STORMTRAP MODULES WHENEVER POSSIBLE.
- THE VIBRATORY FUNCTION OF ANY ROLLER, COMPACTOR, VEHICLE, ETC. SHALL NOT BE USED OVERTOP THE SYSTEM WITHOUT PRIOR APPROVAL FROM STORMTRAP. IN SOME CASES, HAND COMPACTION MAY BE NECESSARY TO ENSURE THAT THE ALLOWABLE DESIGN LOADING IS NOT EXCEEDED.
- FREE DRAINING ANGULAR AGGREGATE - 80% AGGREGATE RETAINED ON 1" SIEVE MAJORITY OF AGGREGATE SIZE BETWEEN 1" AND 1" ONLY 5% OF MATERIAL PASSING #8 SIEVE.
- FREE DRAINING, NO FINES, 3" ANGULAR AGGREGATE - MAJORITY OF STONE SIZE IN BETWEEN 1 1/2" AND 3" - VERY SIMILAR TO AASHTO (#1, #2, #3, & #24) STONE AGGREGATE GRADATION.
- CRUSHED CONCRETE AGGREGATE IS KNOWN TO REACT WITH WATER AND CAN INCREASE THE PH VALUE OF THE GROUND WATER. PRIOR TO USING CRUSHED CONCRETE AGGREGATE IN ZONE 1B IT IS IMPERATIVE THAT THE USE OF SUCH MATERIAL SHALL BE VERIFIED BY THE EOR AND/OR THE PROJECT GEOTECHNICAL ENGINEER.

APPROVED ZONE 2 BACKFILL OPTIONS

OPTION	REMARKS
1" STONE AGGREGATE	THE STONE AGGREGATE SHALL CONSIST OF CLEAN AND FREE DRAINING ANGULAR MATERIAL. THE SIZE OF THIS MATERIAL SHALL HAVE 100% PASSING THE 1" SIEVE WITH 0% TO 5% PASSING THE #8 SIEVE. THIS MATERIAL SHALL BE SEPARATED FROM NATIVE MATERIAL USING GEOTEXTILE AROUND THE PERIMETER OF THE BACKFILL (ASTM SIZE #57) AS DETERMINED BY THE GEOTECHNICAL ENGINEER.
SAND	IMPORTED PURE SAND IS PERMITTED TO BE USED AS BACKFILL IF IT IS CLEAN AND FREE DRAINING. THE SAND USED FOR BACKFILLING SHALL HAVE LESS THAN 40% PASSING #40 SIEVE AND LESS THAN 5% PASSING #200 SIEVE. THIS MATERIAL SHALL BE SEPARATED FROM NATIVE MATERIAL USING GEOTEXTILE AROUND THE PERIMETER OF THE SAND BACKFILL.
CRUSHED CONCRETE AGGREGATE	CLEAN, FREE DRAINING CRUSHED CONCRETE AGGREGATE MATERIAL CAN BE USED AS STORMTRAP'S MODULES. THE SIZE OF THIS MATERIAL SHALL HAVE 100% PASSING THE 1" SIEVE WITH 0% TO 5% PASSING THE #8 SIEVE. THIS MATERIAL SHALL BE SEPARATED FROM NATIVE MATERIAL USING GEOTEXTILE AROUND THE PERIMETER OF THE BACKFILL.
ROAD PACK	STONE AGGREGATE 100% PASSING THE 1-1/2" SIEVE WITH LESS THAN 12% PASSING THE #200 SIEVE (ASTM SIZE #467). GEOTEXTILE AS PER GEOTECHNICAL ENGINEER RECOMMENDATION.

GEOTEXTILE/GEOTEXTILES AS REQUIRED PER APPROVED ZONE 2 BACKFILL OPTIONS.



BACKFILL DETAIL

STEPPED OR SERRATED AND APPLICABLE OSHA REQUIREMENTS (SEE INSTALLATION SPECIFICATIONS)

StormTrap

1287 WINDHAM PARKWAY
ROMEOVILLE, IL 60446
P815-941-4549 / F331-318-5347

ENGINEER INFORMATION:
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PROJECT INFORMATION:
7-Eleven
Kalamazoo, MI

CURRENT ISSUE DATE:
03/06/2026

ISSUED FOR:
PRELIMINARY

REV. DATE ISSUED FOR: DWN BY:

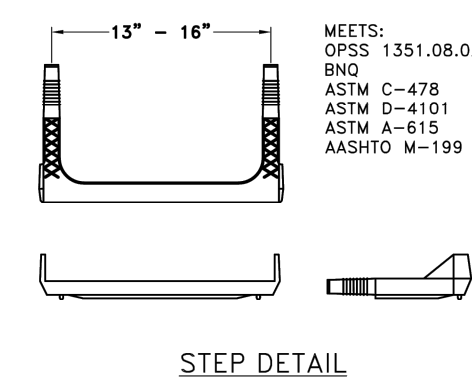
SCALE:
NTS

SHEET TITLE:
SINGLETRAP BACKFILL SPECIFICATION

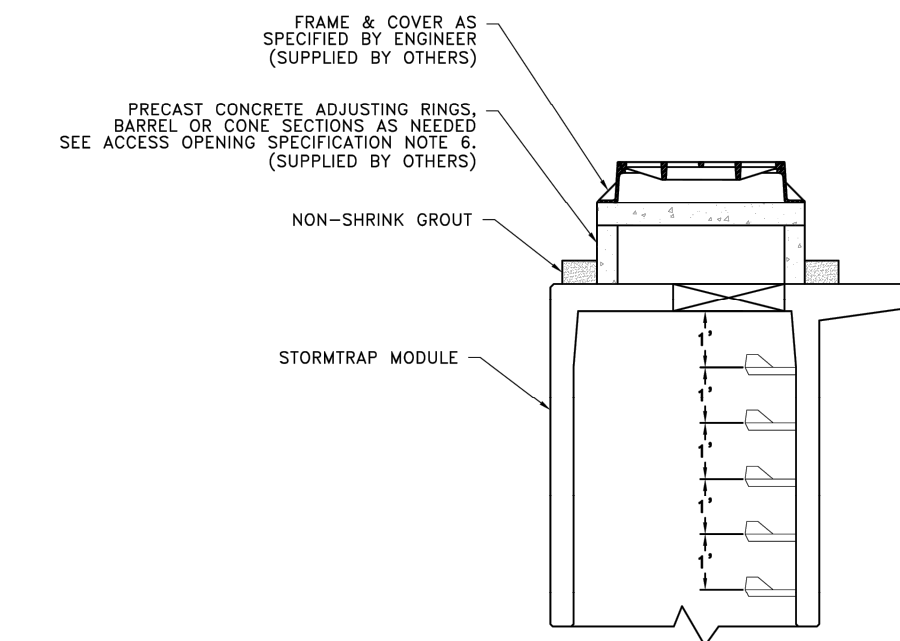
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4.0

ACCESS OPENING SPECIFICATION

- A TYPICAL ACCESS OPENING FOR THE STORMTRAP SYSTEM ARE 2'-0" IN DIAMETER. ACCESS OPENINGS LARGER THAN 4'-0" IN DIAMETER NEED TO BE APPROVED BY STORMTRAP. ALL OPENINGS MUST REMAIN AT LEAST 2'-0" OF CLEARANCE FROM THE END OF THE STORMTRAP MODULE UNLESS NOTED OTHERWISE. ALL ACCESS OPENINGS TO BE LOCATED ON INSIDE LEG UNLESS OTHERWISE SPECIFIED. SEE SHEET 2.0 FOR SIZES AND LOCATIONS.
- UNLESS OTHERWISE SPECIFIED, PLASTIC COATED STEPS ARE PROVIDED INSIDE ANY MODULE WHERE DEEMED NECESSARY. THE HIGHEST STEP IN THE MODULE IS TO BE PLACED A DISTANCE OF 1'-0" FROM THE INSIDE EDGE OF THE STORMTRAP MODULES. ALL ENDING STEPS SHALL BE PLACED AT A DISTANCE BETWEEN 10" MIN AND 14" MAX BETWEEN THEM. STEPS MAY BE MOVED OR ALTERED TO AVOID OPENINGS OR OTHER IRREGULARITIES IN THE MODULE.
- STORMTRAP LIFTING INSERTS MAY BE RELOCATED TO AVOID INTERFERENCE WITH ACCESS OPENINGS OR THE CENTER OF GRAVITY OF THE MODULE AS NEEDED.
- STORMTRAP ACCESS OPENINGS MAY BE RELOCATED TO AVOID INTERFERENCE WITH INLET AND/OR OUTLET PIPE OPENINGS SO PLACEMENT OF STEPS IS ATTAINABLE.
- ACCESS OPENINGS SHOULD BE LOCATED IN ORDER TO MEET THE APPROPRIATE MUNICIPAL REQUIREMENTS. STORMTRAP RECOMMENDS AT LEAST TWO ACCESS OPENINGS PER SYSTEM FOR ACCESS AND INSPECTION.
- USE PRECAST ADJUSTING RINGS AS NEEDED TO MEET GRADE. STORMTRAP RECOMMENDS FOR COVER OVER 2" TO USE PRECAST BARREL OR CONE SECTIONS. (PROVIDED BY OTHERS)



STEP DETAIL



RISER/STAIR DETAIL

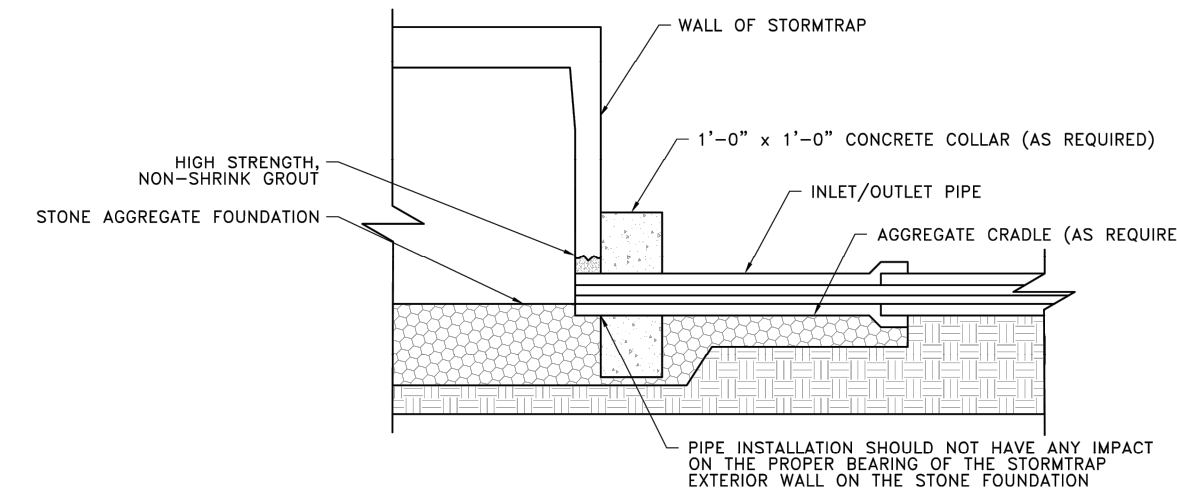
PIPE OPENING SPECIFICATION

- MINIMUM EDGE DISTANCE FOR AN OPENING ON THE OUTSIDE WALL SHALL BE NO LESS THAN 1'-0".
- CONNECTING PIPES MAY BE INSTALLED WITH A 1'-0" CONCRETE COLLAR AND AN AGGREGATE CRADLE (AS REQUIRED) FOR AT LEAST ONE PIPE LENGTH (SEE PIPE CONNECTION DETAIL). A STRUCTURAL GRADE CONCRETE OR HIGH STRENGTH, NON-SHRINK GROUT WITH A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 3000 PSI MAY BE USED.
- THE ANNULAR SPACE BETWEEN THE PIPE AND THE HOLE SHALL BE FILLED WITH HIGH STRENGTH NON-SHRINK GROUT.

PIPE INSTALLATION INSTRUCTIONS

- CLEAN AND LIGHTLY LUBRICATE ALL OF THE PIPE TO BE INSERTED INTO STORMTRAP.
- IF PIPE IS CUT, CARE SHOULD BE TAKEN TO ALLOW NO SHARP EDGES. BEVEL AND LUBRICATE LEAD END OF PIPE.
- ALIGN CENTER OF PIPE TO CORRECT ELEVATION AND INSERT INTO OPENING.

NOTE: ALL ANCILLARY PRODUCTS/SPECIFICATIONS RECOMMENDED AND SHOWN ON THIS SHEET INCLUDING BUT NOT LIMITED TO CONCRETE COLLARS, AGGREGATE CRADLES, GRADE RINGS, RISER SECTIONS, ETC., ARE RECOMMENDATIONS ONLY AND SUBJECT TO CHANGE PER THE INSTALLING CONTRACTOR AND/OR PER LOCAL MUNICIPAL CODE/REQUIREMENTS.



PIPE CONNECTION DETAIL WHEN PIPE INVERT IS AT INVERT OF STORMTRAP SYSTEM

StormTrap

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7-Eleven
Kalamazoo, MI

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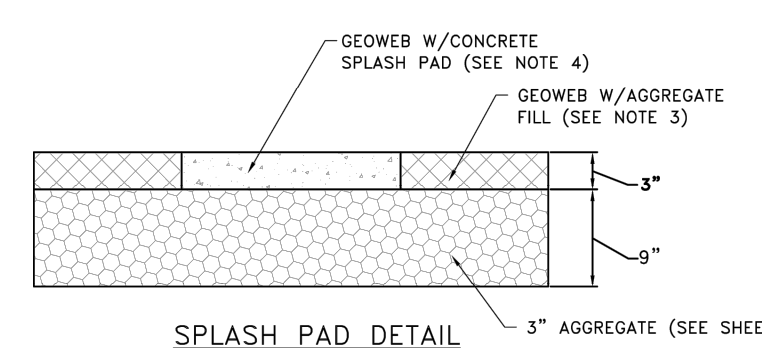
SCALE:
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SHEET TITLE:
SPLASH PAD & GEOWEB DETAILS

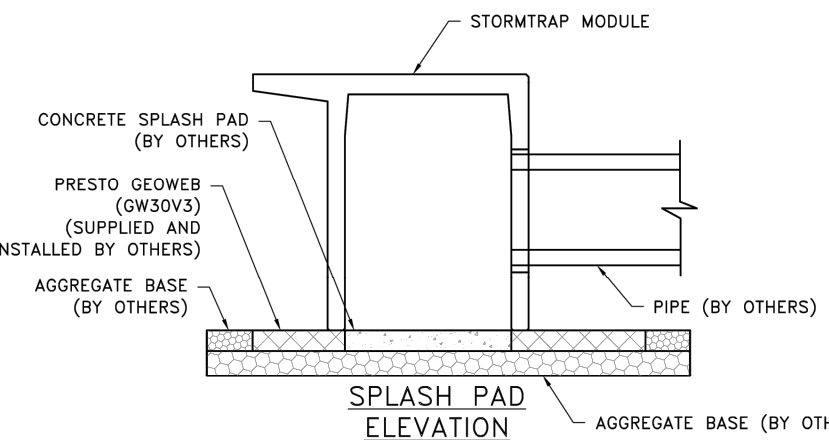
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GEOWEB AND SPLASH PAD INSTALLATION SPECIFICATION

- THE APPROVED GEOWEB SHALL BE PRESTO GEOWEB (GW30V3). THE GEOWEB NOMINAL DIMENSIONS SHALL BE 8'-FT x 25'-FT.
- THE CONCRETE SPLASH PAD AND GEOWEB SHALL BE INSTALLED PRIOR TO INSTALLATION OF THE STORMTRAP MODULES.
- THE GEOWEB INTILL MATERIAL SHALL BE #5 AGGREGATE.
- THE CONCRETE SPLASH PAD SHALL BE INSTALLED WITHIN THE GEOWEB AND IS REQUIRED AT ALL PIPE ENTRY LOCATIONS.
- THE GEOWEB EDGE SHALL BE INSTALLED 1-FT BEYOND THE OUTER PERIMETER OF THE STORMTRAP SYSTEM.
- THE GEOWEB LONGITUDINAL DIMENSION (25'-FT) SHALL BE INSTALLED PARALLEL TO THE STORMTRAP LEGS.
- THE CONCRETE SPLASH PAD AND GEOWEB SHALL BE CENTERED AT THE PIPE PENETRATION.
- REFER TO SPLASH PAD LAYOUT FOR CONCRETE SPLASH PAD DIMENSIONS.
- IF ANY PRODUCT OTHER THAN PRESTO GEOWEB IS TO BE INSTALLED, THE PRODUCT MANUFACTURER IS REQUIRED TO SUBMIT A LETTER STATING THAT THE PRODUCT IS EQUAL OR BETTER THAN PRESTO GEOWEB, BOTH IN PERFORMANCE AND IN STRUCTURAL CAPACITY.
- ALL GEOWEB AND SPLASH PADS TO BE SUPPLIED AND INSTALLED BY CONTRACTOR.
- A CONCRETE SPLASH PAD IS REQUIRED AT ANY ACCESS OPENING THAT HAS AN OPEN GRATE FOR DRAINAGE. THE CONCRETE SPLASH PAD SHALL EXTEND BETWEEN THE UNIT LEG WALLS AND 3'-0" FROM THE CENTERLINE OF THE OPENING ON BOTH SIDES UNLESS SPECIFIED OTHERWISE ON THE SPLASH PAD LAYOUT. GEOWEB IS NOT REQUIRED UNDER ACCESS OPENINGS.

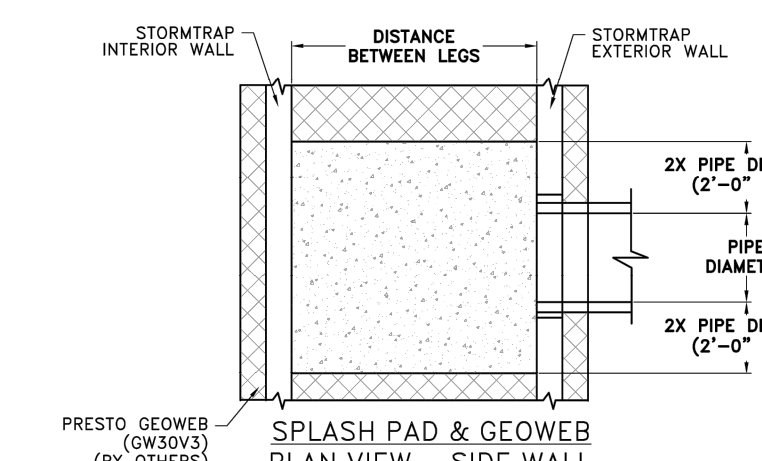
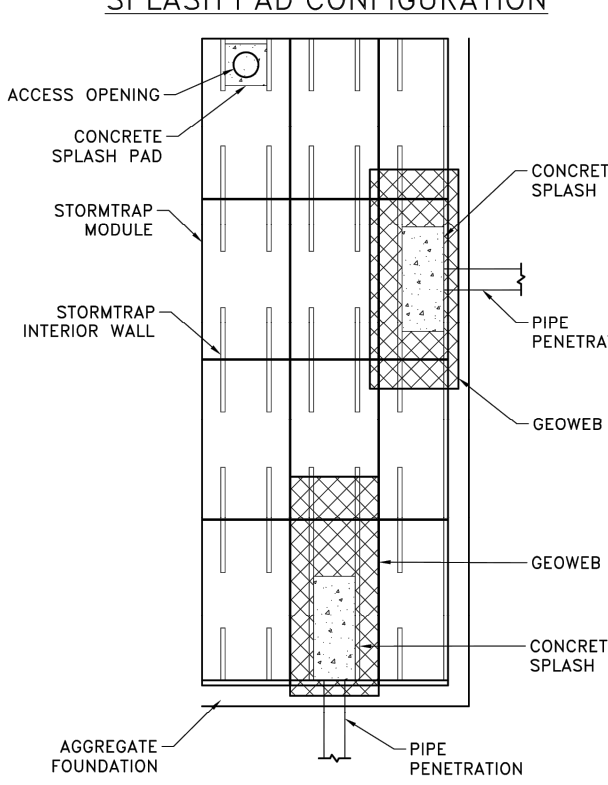


SPLASH PAD DETAIL

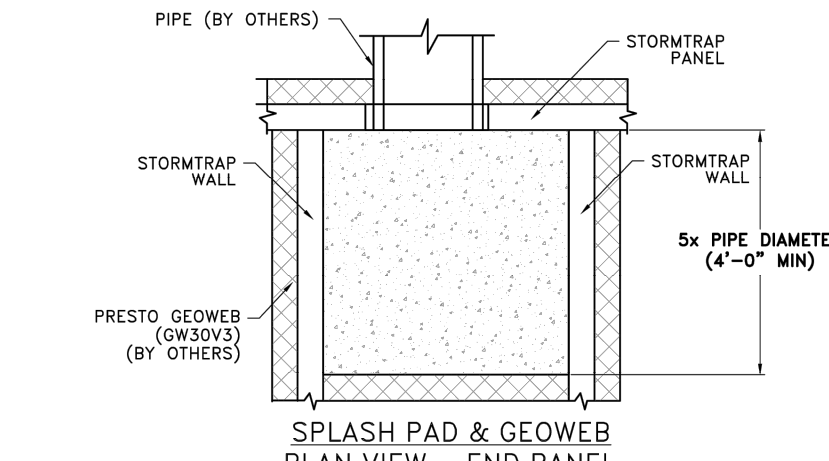


SPLASH PAD ELEVATION

SPLASH PAD CONFIGURATION

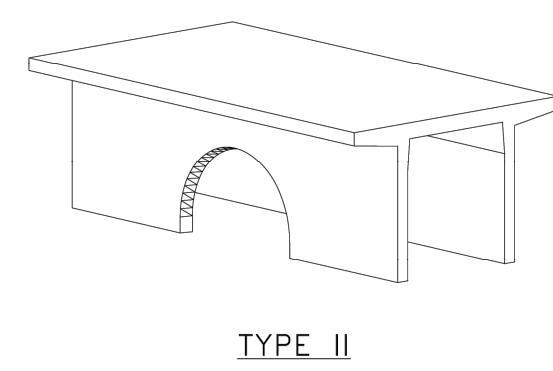


SPLASH PAD & GEOWEB PLAN VIEW - SIDE WALL

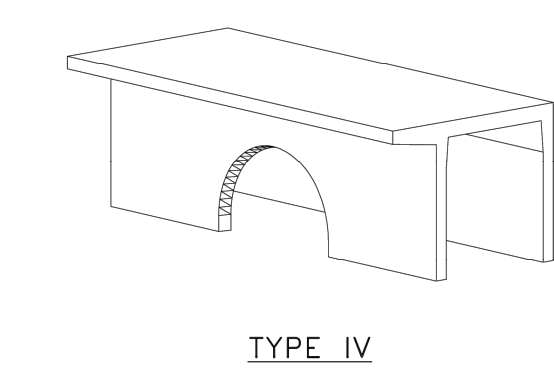


SPLASH PAD & GEOWEB PLAN VIEW - END PANEL

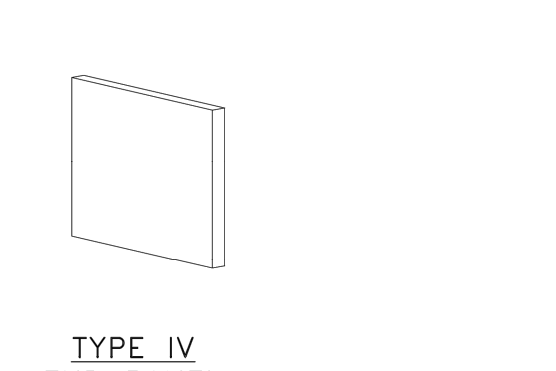
- NOTES:
- OPENING LOCATIONS AND SHAPES MAY VARY.
 - SP - INDICATES A MODULE WITH MODIFICATIONS.
 - P - INDICATES A MODULE WITH A PANEL ATTACHMENT.
 - POCKET WINDOW OPENINGS ARE OPTIONAL.



TYPE II



TYPE IV



TYPE IV END PANEL

StormTrap

1287 WINDHAM PARKWAY
ROMEOVILLE, IL 60446
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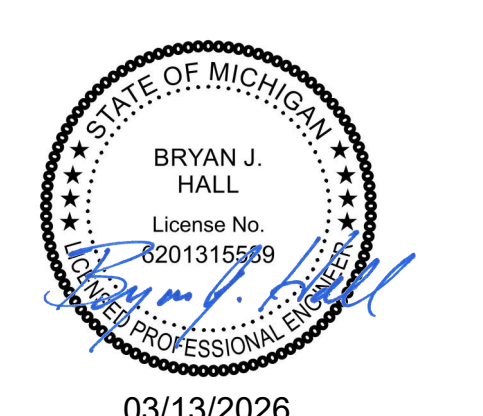
ISSUED FOR:
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SCALE:
NTS

SHEET TITLE:
SINGLETRAP MODULE TYPES

SHEET NUMBER:
7.0



03/13/2026



7-ELEVEN, INC.
SPEEDWAY - KALAMAZOO
918 RIVERVIEW DRIVE
KALAMAZOO, MI 49048

Revisions / Submissions		
ID	Description	Date
1	City Comments	2026/02/27

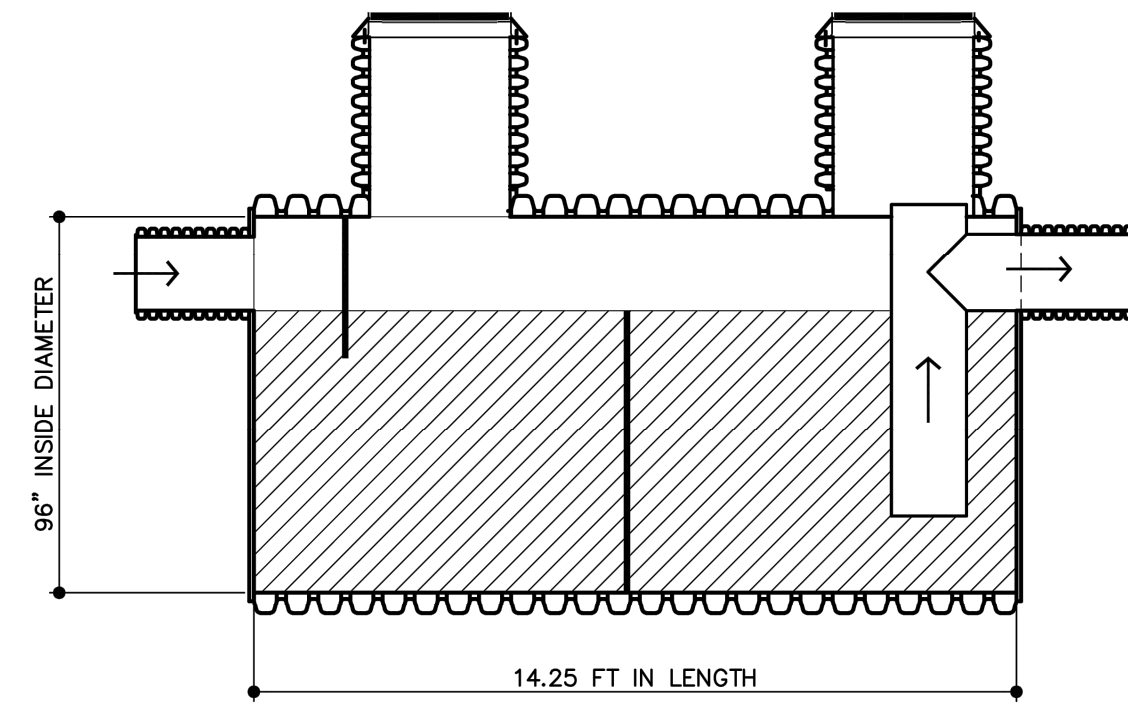
Project Number: 765319
Scale: [SCALE]
Drawn By: MB
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Date: 09/23/2025
Issue: PERMIT SET

Drawing Title:
STORMTRAP DETAILS

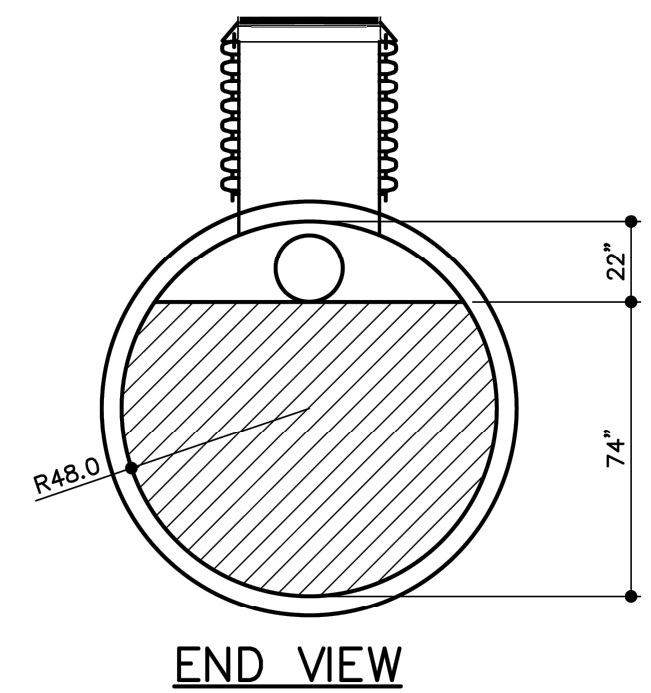
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SPILL CONTAINMENT VOLUME WITHIN STORM WATER TREATMENT CHAMBER



VOLUME DIAGRAM



END VIEW

KSI SPILL CONTAINMENT SYSTEM WITHIN KSI SERIES 3500-96-18 STORM WATER TREATMENT CHAMBER

VOLUME BELOW THE OUTLET TEE IS 74"
A = 41.58 CF/FT

REQUIRED SPILL CONTAINMENT VOLUME = 4358 GAL OR 582.5 CF

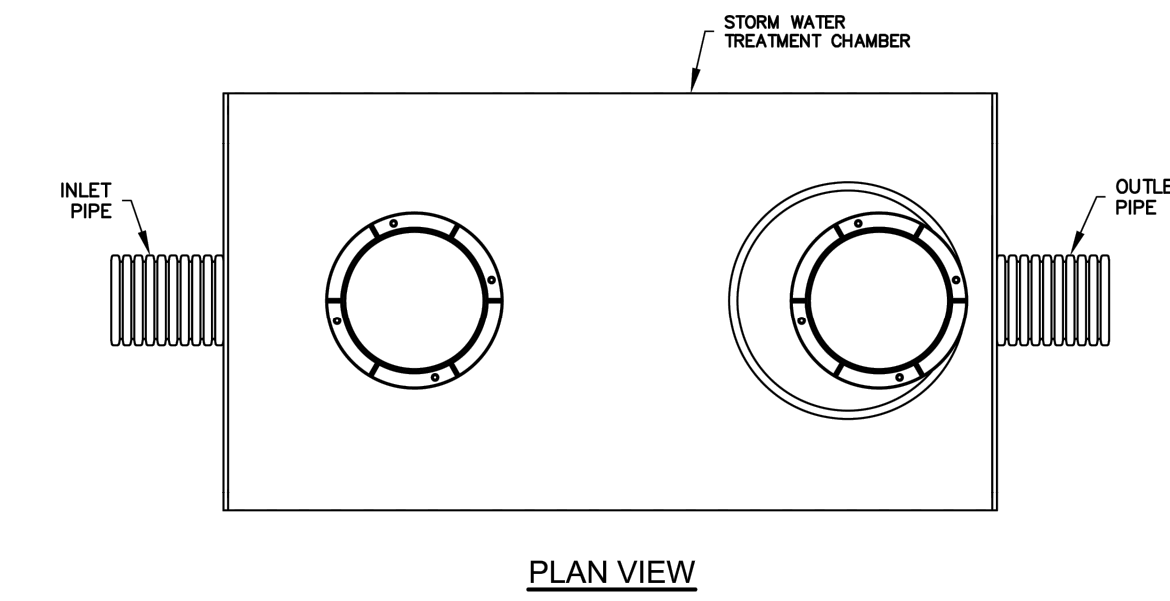
$582.5 \text{ CF} / 41.58 = 14.0 \text{ FT LONG REQUIRED}$

KSI 3500-96-18 SWTC IS 14.25 FT > 14.0 FT THEREFORE: OK

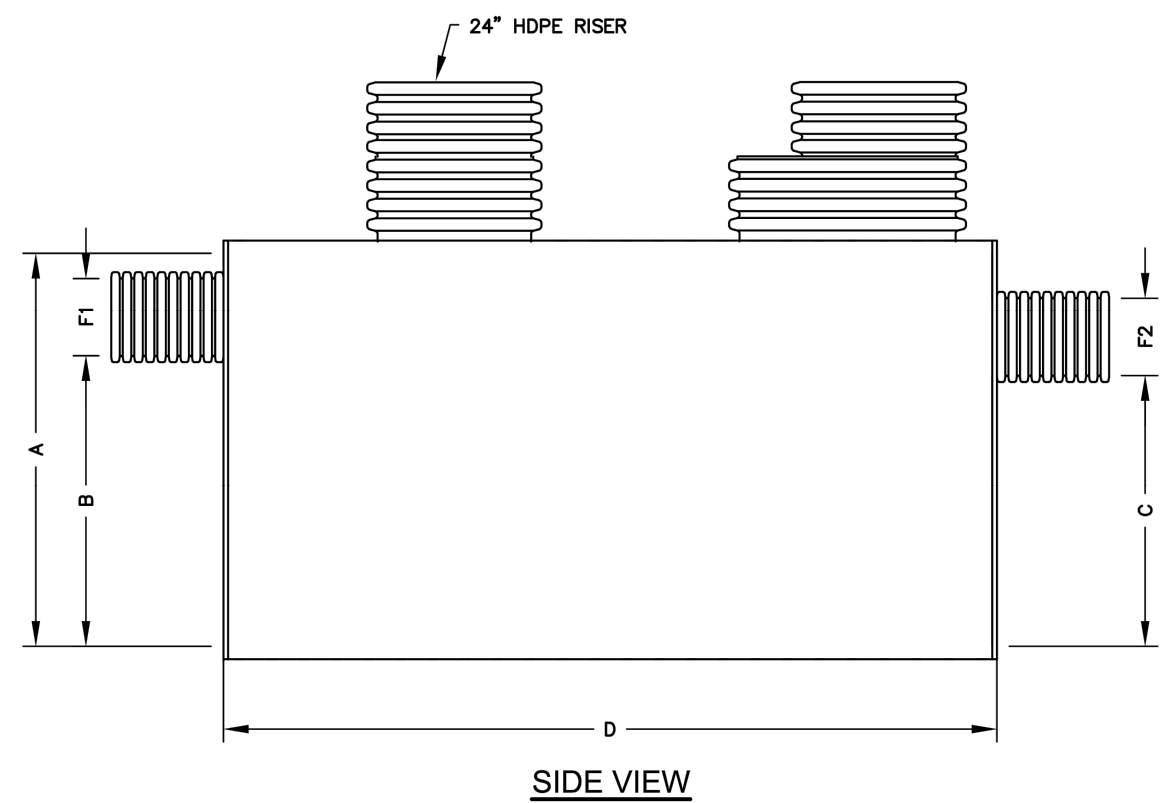
$Q_{\text{treat}} = 17.7 \text{ CFS} > Q_{\text{treat}} = 1.67 \text{ CFS}$

USE KSI 3500-96-18 SWTC INLINE - NO BYPASS REQUIRED

DESIGN BY: AG / RK REV: 3-5-26 DATE: 10-10-08 1 OF 1
MANUF. APPROVAL BY: NTS SCALE: NTS SHEET NO. 1
DRAWING NO: SWTC TANK VIEWS v2026



PLAN VIEW



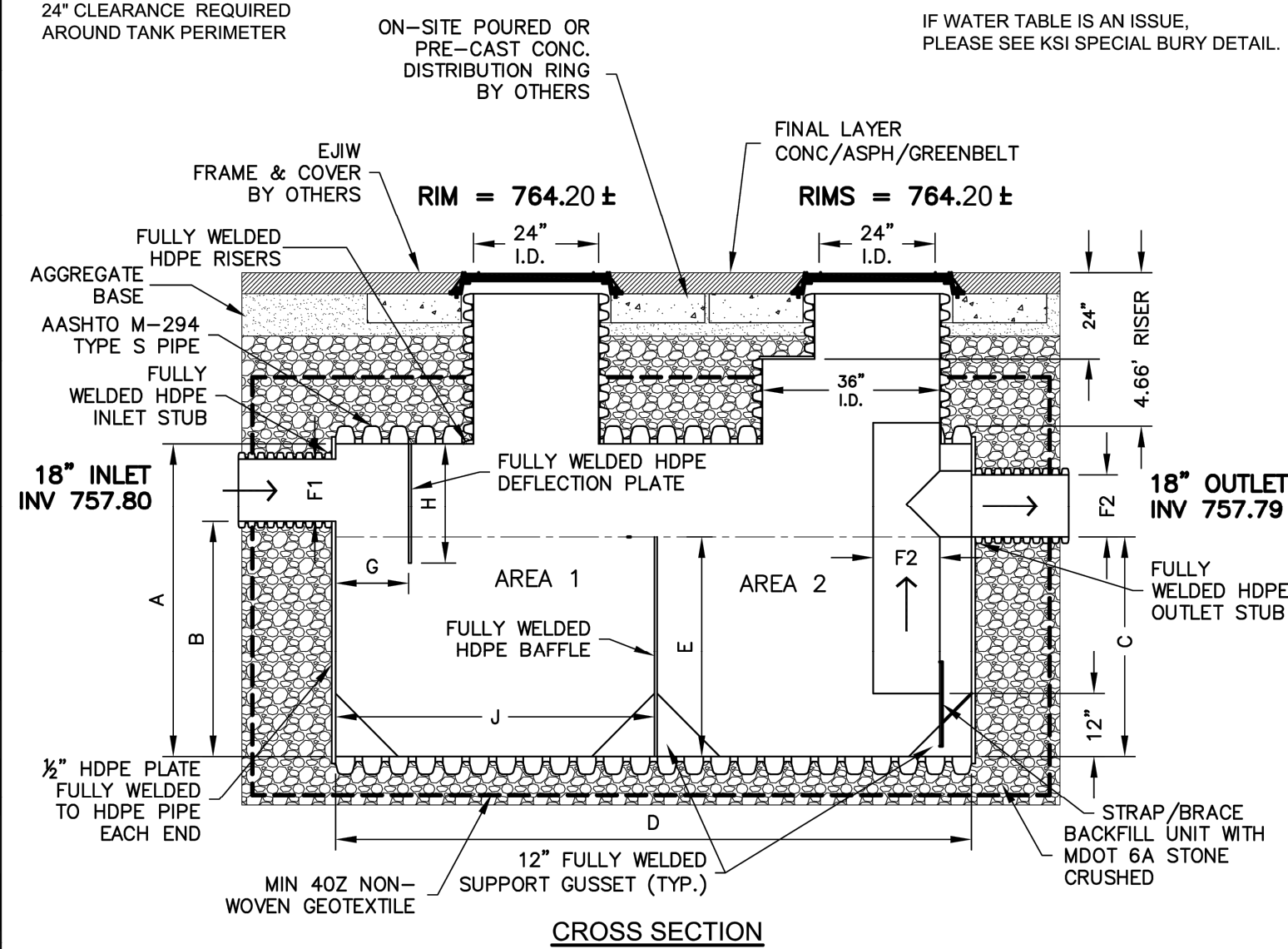
SIDE VIEW

DESIGN BY: AG / RK REV: 3-5-26 DATE: 10-10-08 1 OF 2
MANUF. APPROVAL BY: NTS SCALE: NTS SHEET NO. 2
DRAWING NO: SWTC TANK VIEWS v2026

STORM WATER TREATMENT CHAMBER KSI SERIES 3500 HDPE CHAMBER

NOTE:
KSI REP MUST BE ON SITE DURING INSTALLATION. IF INSTALLED WITHOUT KSI REP ON SITE, WARRANTY WILL BE VOID.

NOTE:
INSTALL UNIT PER ASTM D2321
4 OZ NON-WOVEN GEOTEXTILE FABRIC WRAP REQUIRED SEE TRENCH DETAIL
IF WATER TABLE IS AN ISSUE, PLEASE SEE KSI SPECIAL BURY DETAIL.



CROSS SECTION

STORM WATER TREATMENT CHAMBER DIMENSIONS AND CAPACITIES

MODEL NO.	A	B	C	D	E	F1	F2	G	H	J	AREA 1	AREA 2
3500-96-18	96"	74"	74"	171"	74"	18"	18"	18"	27"	85"	212.4 CF	302 CF

DESIGN BY: AG / RK REV: 3-5-26 DATE: 1-7-26 2 OF 2
MANUF. APPROVAL BY: NTS SCALE: NTS SHEET NO. 2
DRAWING NO: SERIES 3500 SWTC v2026

STORM WATER TREATMENT CHAMBER INSTALLATION AND MAINTENANCE GUIDELINES

INSTALLATION GUIDELINES

- KSI REQUIRES A COMPANY REP TO BE ON SITE TO WITNESS THE INSTALLATION. KSI MUST BE NOTIFIED OF THE INSTALLATION DATE WITH A 3-4 DAY LEAD TIME TO ENSURE HAVING A REP ON SITE. FAILURE TO COMPLY WILL RESULT IN THE WARRANTY BEING NULL & VOID.
- EXCAVATE AREA FOR KSI SWTC AND PREPARE TRENCH BOTTOM PER ASTM D2321, SECTIONS 6 & 7.
- THE KSI SWTC SHALL BE INSTALLED ON A BED OF NO LESS THAN 12" MDOT 6A CRUSHED STONE MATERIALS COMPACTED TO 95% PROCTOR DENSITY. COMPACTED TO 95% (90% MIN. FOR MDOT 6A CRUSHED STONE MATERIAL) OF THE BACKFILL MATERIAL'S MAXIMUM WEIGHT AT A MOISTURE CONTENT NOT GREATER THAN THE OPTIMUM.
- INSTALL KSI SWTC UNIT, HIGH FLOW BYPASS LINE (IF APPLICABLE), DIVERSION STRUCTURE AND EXITING STRUCTURE AT ELEVATIONS INDICATED ON SITE PLAN. COUPLE INLET AND OUTLET HDPE SPLIT COUPLERS TO CONVEYANCE PIPE.
- BACKFILL UNIT WITH MDOT 6A CRUSHED STONE MATERIALS PER ASTM D2321. BACKFILL SHALL BE COMPACTED TO 95% PROCTOR DENSITY.
- THE HDPE ACCESS RISERS SHALL BE FIELD CUT TO FINISH GRADE BY THE CONTRACTOR. SEE RISER INSTALLATION OPTIONS PAGE.
- KSI RECOMMENDS FILLING THE UNIT WITH WATER UPON COMPLETION OF INSTALLATION UP TO THE BAFFLE HEIGHT.
- ONCE THE UNIT IS INSTALLED, PLACE A ORANGE SAFETY FENCE 4-5 FT HIGH WITH TEE POST, AROUND THE SYSTEM. PLACE FENCE 5 FT BEYOND GRID FOOTPRINT. ANY DAMAGE TO THE SYSTEM AS A RESULT OF NOT FOLLOWING THESE INSTRUCTIONS AND THE BLUEPRINT DETAILS, SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO REPAIR THE SYSTEM TO KSI'S SATISFACTION.

MAINTENANCE GUIDELINES

- ALL STORM WATER TREATMENT CHAMBERS WILL REQUIRE PERIODIC MAINTENANCE DEPENDING ON SPECIFIC SITE CONDITIONS.
 - KSI RECOMMENDS CLEANING THE SWTC QUARTERLY AND AFTER HEAVY RAIN STORMS. SEDIMENT IS EASIER TO REMOVE WHEN IT IS REMOVED ON A REGULAR BASIS.
 - DISPOSAL OF MATERIAL FROM THE KSI SWTC ARE SIMILAR TO THAT OF ANY OTHER BEST MANAGEMENT PRACTICES (BMP). LOCAL GUIDELINES SHOULD BE CONSULTED PRIOR TO DISPOSAL OF THE SWTC CONTENTS. PETROLEUM WASTE PRODUCTS SHOULD BE REMOVED BY A LICENSED WASTE MANAGEMENT COMPANY.
 - IF A HYDROCARBON REMOVAL SYSTEM WAS INSTALLED - REPLACE IT WHEN IT TURNS BLACK. UNIT CAN BE DISPOSED OF VIA NORMAL REFUSE REMOVAL. SPENT UNIT DOES NOT LEACH CAPTURED CONTAMINATES.
- WHITE = NEW
GRAY = WORKING
BLACK = SPENT - NEEDS REPLACEMENT - CONTACT KSI FOR REPLACEMENT PARTS
- AFTER CLEANING THE UNIT - KSI RECOMMENDS REFILLING THE UNIT WITH WATER.

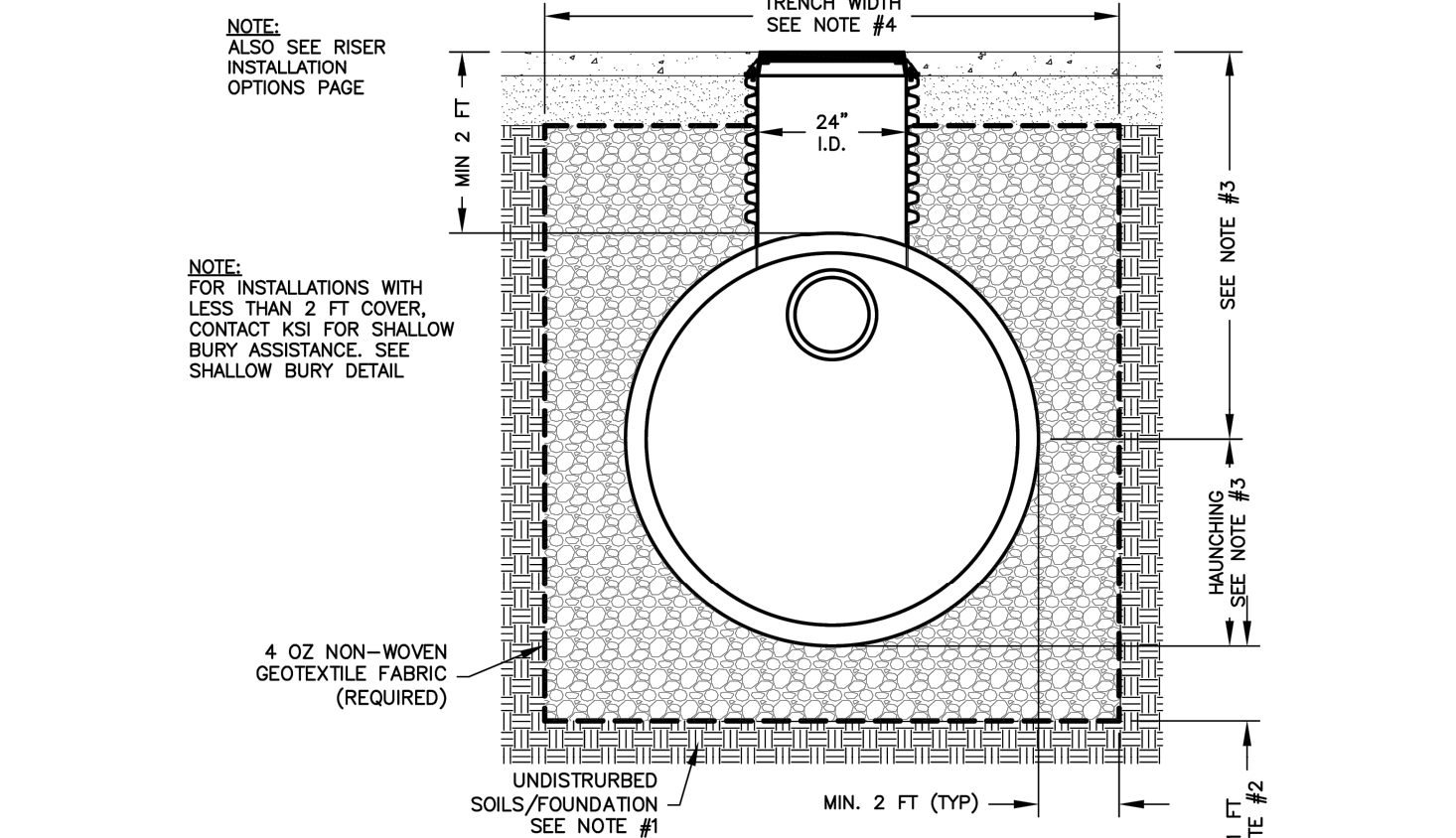
DESIGN BY: AG / RK REV: 12-9-24 DATE: 10-10-08 1 OF 1
MANUF. APPROVAL BY: NTS SCALE: NTS SHEET NO. 1
DRAWING NO: SWTC INSTALL & MAINT.

STORM WATER TREATMENT CHAMBER TRENCH DETAIL

- NOTES:
- FOUNDATION: WHERE THE TRENCH BOTTOM IS UNSTABLE, THE CONTRACTOR SHALL EXCAVATE TO A DEPTH REQUIRED BY THE ENGINEER AND REPLACE WITH A FOUNDATION OF MDOT 6A CRUSHED STONE AS DEFINED IN ASTM D2321, LATEST EDITION; AS AN ALTERNATIVE TRENCH BOTTOM MAY BE STABILIZED USING A WOVEN GEOTEXTILE FABRIC AND OR A GEOGRID.
 - BEDDING: SUITABLE MATERIAL SHALL BE MDOT 6A CRUSHED STONE INSTALLED AS REQUIRED IN ASTM D2321, LATEST EDITION, UNLESS OTHERWISE SPECIFIED BY THE ENGINEER, MINIMUM BEDDING THICKNESS SHALL BE 12" FOR 36"-120" SWTC.
 - HAUNCHING AND INITIAL BACKFILL: SUITABLE MATERIAL SHALL BE MDOT 6A CRUSHED STONE AND INSTALLED AS REQUIRED IN ASTM D2321, LATEST EDITION, MAXIMUM TEN INCH (10") LIFTS.
 - UNLESS OTHERWISE SPECIFIED BY THE ENGINEER, MIN. TRENCH WIDTHS ARE AS FOLLOWS.

NOMINAL I.D.	NOMINAL O.D.	MINIMUM RECOMM. TRENCH WIDTH
36"	42"	90"
48"	54"	102"
60"	66"	114"
72"	80.5"	129"
96"	105.9"	154"
120"	131.3"	190"

- MINIMUM COVER: MINIMUM RECOMMENDED COVER FOR VARIOUS LIVE LOADING CONDITIONS ARE AS SUMMARIZED IN THE FOLLOWING TABLE, UNLESS OTHERWISE NOTED, ALL DIMENSIONS ARE TAKEN FROM THE TOP OF THE SWTC TANK TO THE GROUND SURFACE.



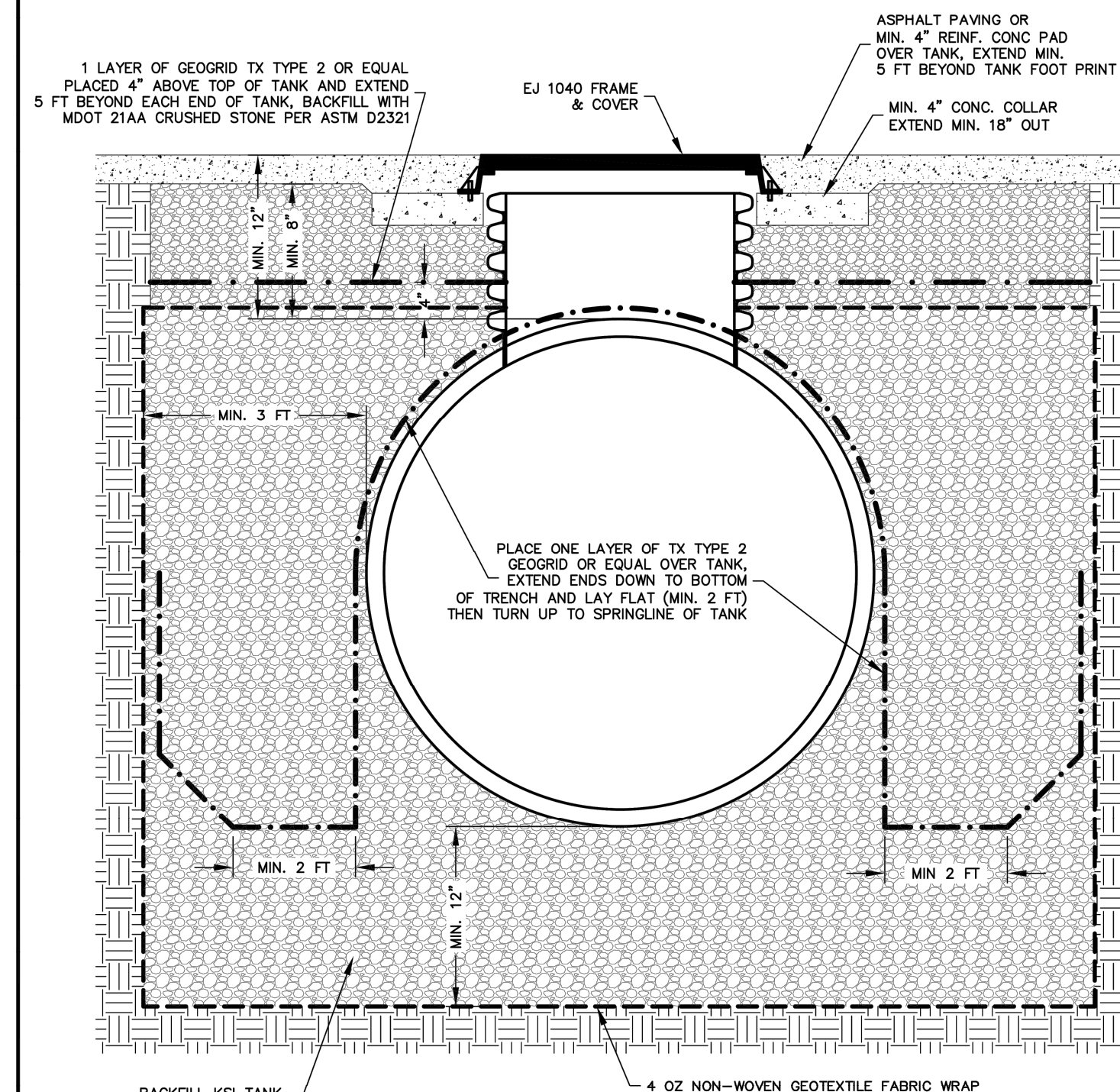
HDPE SWTC TANK DETAIL

SCALE: NONE

DESIGN BY: AG / RK REV: 4-1-22 DATE: 10-10-08 1 OF 1
MANUF. APPROVAL BY: NTS SCALE: NTS SHEET NO. 1
DRAWING NO: SWTC INSTALLATION DETAIL

KSI SPECIAL TANK BURY DETAIL

NOTE: GEGRID & GEOTEXTILE FABRIC BY OTHERS



DESIGN BY: AG / RK REV: 10-9-24 DATE: 10-2-19 1 OF 1
MANUF. APPROVAL BY: NTS SCALE: NTS SHEET NO. 1
DRAWING NO: KSI SPECIAL TANK BURY



CESO
WWW.CESOINC.COM

3601 Rgby Rd., Suite 300
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03/13/2026

Speedway

7-ELEVEN, INC.
SPEEDWAY -
KALAMAZOO
918 RIVERVIEW DRIVE
KALAMAZOO, MI 49048

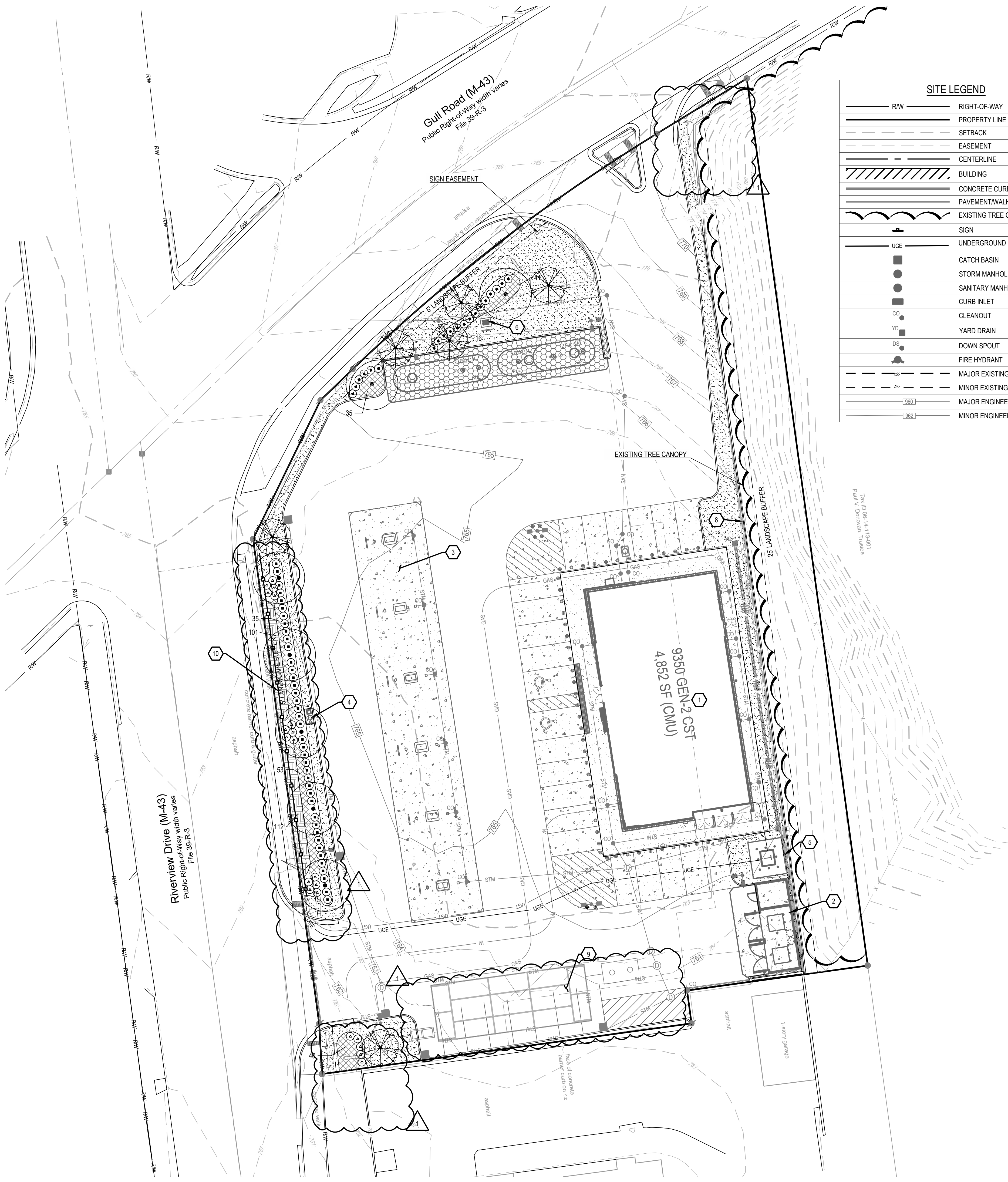
ID	Description	Date
1	City Comments	2026/02/27

Project Number: 765319
Scale: [SCALE]
Drawn By: MB
Checked By: JS
Date: 09/23/2025
Issue: PERMIT SET

Drawing Title:
KSI DETAILS

DET-6

C:\D\CAD\Drawings\CES07-Elleven ERE Kalamazoo MI\Project Files\CES0106-LA_PLAN_CD\765319_LANDSCAPE_PLAN.dwg - 3/12/2026 - Edward Browder



SITE LEGEND	
---	RIGHT-OF-WAY
---	PROPERTY LINE
---	SETBACK
---	EASEMENT
---	CENTERLINE
▨	BUILDING
---	CONCRETE CURB
---	PAVEMENT/WALK
---	EXISTING TREE CANOPY
■	SIGN
---	UNDERGROUND ELECTRIC
■	CATCH BASIN
●	STORM MANHOLE
●	SANITARY MANHOLE
■	CURB INLET
○	CLEANOUT
■	YARD DRAIN
○	DOWN SPOUT
■	FIRE HYDRANT
---	MAJOR EXISTING CONTOUR
---	MINOR EXISTING CONTOUR
---	MAJOR ENGINEERED CONTOUR
---	MINOR ENGINEERED CONTOUR

PLANT SCHEDULE					
SYMBOL	QTY	BOTANICAL / COMMON NAME	SIZE	MIN HT / SPR	SPACING
TREES					
	6	CERCIS CANADENSIS EASTERN REDBUD	1.5" CAL	8-10' HT	AS SHOWN
	7	TILIA CORDATA LITTLELEAF LINDEN	2" CAL	10-12' HT	AS SHOWN
SHRUBS					
	60	ILEX GLABRA HICKBERRY HOLLY	---	18" HT	3'-0" OC
	20	SPIRAEA X BUMALDA 'MONHUB' LIMEMOUND® SPIRAEA	---	12" HT	2'-6" OC
GROUND COVERS					
	223	HEMEROCALLIS X 'HAPPY RETURNS' HAPPY RETURNS DAYLILY	1 GAL	---	1'-6" OC
	213	JUNIPERUS HORIZONTALIS 'WILTONII' BLUE RUG JUNIPER	1 GAL	---	1'-6" OC
SOD					
	5,725 SF	POA PRATENSIS KENTUCKY BLUEGRASS	SOD	---	---

LANDSCAPE REQUIREMENTS

ROW SCREENING
PER SECTION 50.8.4 (C) – LANDSCAPE AREA AROUND PARKING SHOULD BE 5' WIDE. FENCING UP TO 42 INCHES IN HEIGHT IS REQUIRED IN THE LANDSCAPE BUFFER AND SHALL BE LOCATED ADJACENT TO THE PARKING AREA, WITH THE REQUIRED TREES, SHRUBS, AND OTHER LANDSCAPING ADJACENT TO THE STREET. ONE TREE IS REQUIRED FOR EVERY THIRTY-FIVE LINEAR FEET OF FRONTAGE. ONE SHRUB IS REQUIRED FOR EVERY SIX LINEAR FEET OF FRONTAGE.

TOTAL ROW LENGTH (444 LF)

REQUIRED TREES: 13 (444 / 35)
PROPOSED TREES: 13

REQUIRED SHRUBS: 74 (444 / 6)
PROPOSED SHRUBS: 83

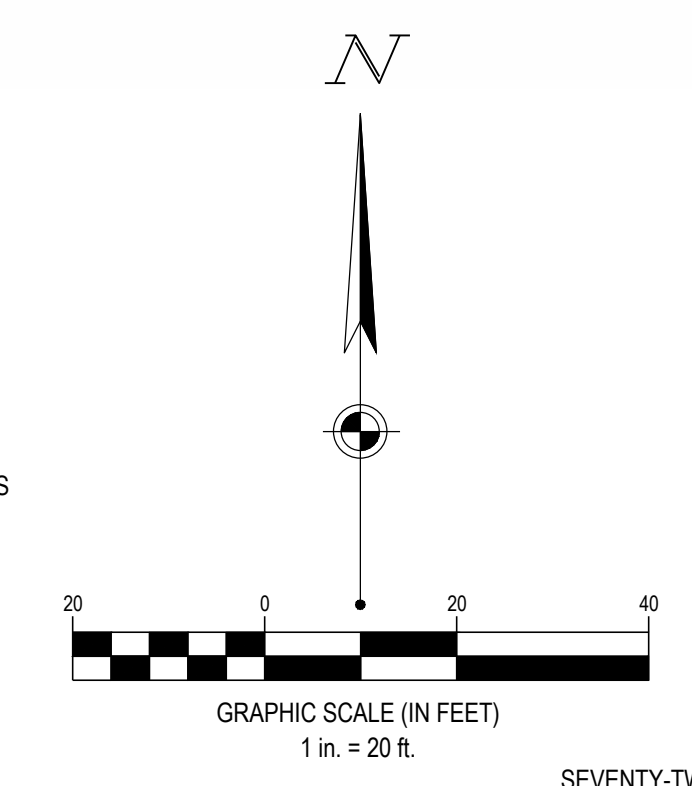
TREE CANOPY
1 TREE CANOPY PER ACRE
TOTAL SITE: 1.44 A
REQUIRED TREES: 2
PROPOSED TREES: 2

SIDE & REAR YARD LANDSCAPING
EAST RESIDENTIAL BUFFER
REQUIRED SCREENING: 10' WIDE W/ EXISTING OR PROPOSED VEGETATION
PROPOSED SCREENING: 25' BUFFER WITH EXISTING VEGETATION TO BE PRESERVED

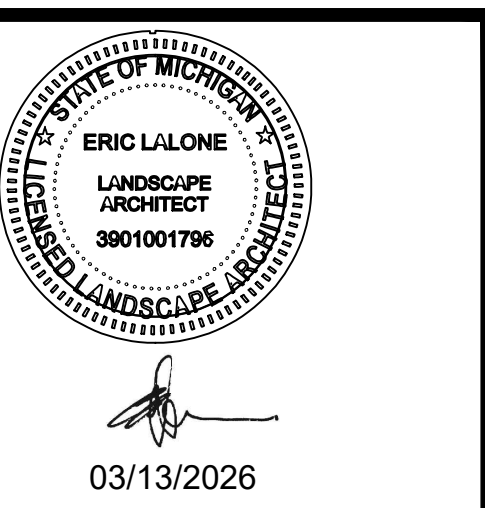
MULCH
ALL PLANT BEDS SHALL CONTAIN A 3" LAYER OF DOUBLE-HAMMERED HARDWOOD MULCH FROM A SUSTAINABLE SOURCE. CONTRACTOR TO PLACE A 4' DIAMETER MULCH RING AROUND ALL TREES IN LAWN.

IRRIGATION
THE CONTRACTOR SHALL DESIGN, SUPPLY, AND INSTALL IRRIGATION SYSTEM FOR ALL SODDED AND PLANTING AREAS AS SHOWN ON THIS SHEET. DESIGN SHALL BE APPROVED BY OWNER'S REPRESENTATIVE PRIOR TO INSTALLATION.

- CODED NOTES:**
1. PROPOSED BUILDING
 2. PROPOSED TRASH ENCLOSURE PER LOCAL REQUIREMENTS
 3. PROPOSED AUTO FUELING CANOPY
 4. PROPOSED AIR MACHINE
 5. ELECTRICAL TRANSFORMER PAD
 6. PROPOSED VENT STACKS FOR FUEL TANKS
 7. EXISTING TREE CANOPY
 8. EXISTING RETAINING WALL
 9. PROPOSED UNDERGROUND DETENTION
 10. PROPOSED FENCE



SEVENTY-TWO (72) HOURS BEFORE DIGGING IS TO COMMENCE, THE CONTRACTORS SHALL NOTIFY THE FOLLOWING AGENCIES, MICHIGAN UTILITIES PROTECTION SERVICE AT 811 OR 800-482-7171 AND ALL OTHER AGENCIES WHICH MIGHT HAVE UNDERGROUND UTILITIES INVOLVING THIS PROJECT AND ARE NONMEMBERS OF STATE UTILITIES PROTECTION SERVICE



Speedway

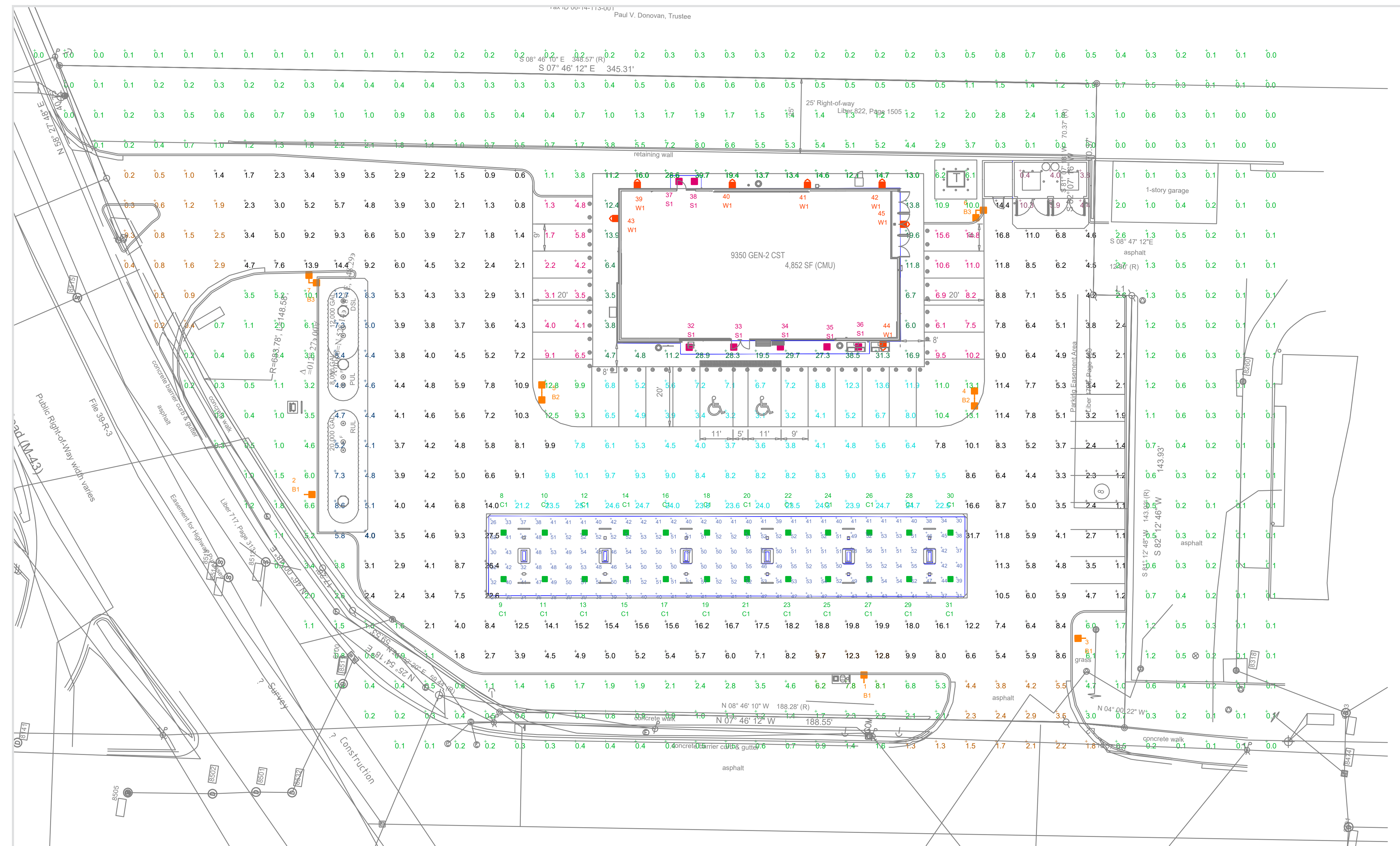
7-ELEVEN, INC.
SPEEDWAY - KALAMAZOO
918 RIVERVIEW DRIVE
KALAMAZOO, MI 49048

Revisions / Submissions		
ID	Description	Date
1	City Comments	2026/02/27

Project Number: 765319
Scale: 1" = 20'
Drawn By: EG
Checked By: EB
Date: 09/23/2025
Issue: PERMIT SET

Drawing Title:
LANDSCAPE PLAN

L1.0



LUMINAIRE LOCATION SUMMARY		
LUM NO.	LABEL	MTG. HT.
1	B1	20
2	B1	20
3	B1	20
4	B2	20
5	B2	20
6	B3	20
7	B3	20
8-31	C1	14
32	S1	9.333
33	S1	9.333
34	S1	9.333
35	S1	9.333
36	S1	9.333
37	S1	9.333
38	S1	9.333
39	W1	12
40	W1	12
41	W1	12
42	W1	12
43	W1	12
44	W1	12
45	W1	12

NOTES:

- AREA LIGHT POLE MOUNTED FIXTURES ARE MOUNTED ON A 17FT POLE ATOP A 3FT CONCRETE BASE.
- THIS SITE IS LOCATED IN A REGION WHERE LIGHTING IS REGULATED BY LOCAL ORDINANCE
- FOOTCANDLES LEVELS CALCULATED AT GRADE USING INITIAL LUMEN VALUES UNLESS NOTED OTHERWISE.

CALCULATION SUMMARY					
LABEL	AVG	MAX	MIN	AVG/MIN	MAX/MIN
AIR-VAC	9.48	12.8	6.2	1.53	2.06
APPROACH	1.75	5.5	0.2	8.75	27.50
BUILDING SIDEWALK	16.73	39.7	3.5	4.78	11.34
CANOPY TO BUILDING	10.94	25.1	3.1	3.53	8.10
FUEL CANOPY	45.71	56	24	1.90	2.33
PAVED AREA	6.75	31.7	0.6	11.25	52.83
SIDE PARKING	6.85	15.6	1.3	5.27	12.00
TANK PAD	5.92	12.7	4.0	1.48	3.18
TRASH PAD	4.80	10.3	0.4	12.00	25.75
UNDEFINED	1.82	39.7	0.0	N.A.	N.A.

LUMINAIRE SCHEDULE										
SYMBOL	QTY	LABEL	ARRANGEMENT	LUMENS	LLF	BUG RATING	ARR. WATTS	TOTAL WATTS	MANUFACTURE	DESCRIPTION
[Symbol]	3	B1	Single	16573	1.030	B2-U0-G3	133.14	399.42	Lithonia Lighting	RSX1 LED P4 50K R4 MVOLT SPA FAO XXXXX
[Symbol]	2	B2	2 @ 180°	16573	1.030	B2-U0-G3	266.28	532.56	Lithonia Lighting	RSX1 LED P4 50K R4 MVOLT SPA FAO XXXXX
[Symbol]	2	B3	2 @ 90°	16573	1.030	B2-U0-G3	266.28	532.56	Lithonia Lighting	RSX1 LED P4 50K R4 MVOLT SPA FAO XXXXX
[Symbol]	24	C1	Single	12288	1.030	B3-U0-G1	71.583	1717.997	Lithonia Lighting	RCNY LED SYMC ALO1 Setting 8 70CRI 50K MVOLT
[Symbol]	7	S1	Single	5546	1.030	N.A.	37.48	262.36	Lithonia Lighting	SCNY LED ALO2 SWW2 PFL MVOLT DWXHD M3 (SETTING 2, CCT: 5000K) + PCNYDT XXXXX J12
[Symbol]	7	W1	Single	6200	1.030	B1-U0-G1	46.93	328.51	Lithonia Lighting	WPX2 LED 50K MVOLT XXXXX

REV.	BY	DATE	DESCRIPTION
R1	JRB	01/28/26	SHIFTED POLE OUT OF CONFLICT

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SCALE: 1" = 20'
 LAYOUT BY: JRB
 DWG SIZE: D
 DATE: 12/15/25

PROJECT NAME:
7-ELEVEN # 42768
 KALAMAZOO, MI
 DRAWING NUMBER:
RL-10889-S1-R1

