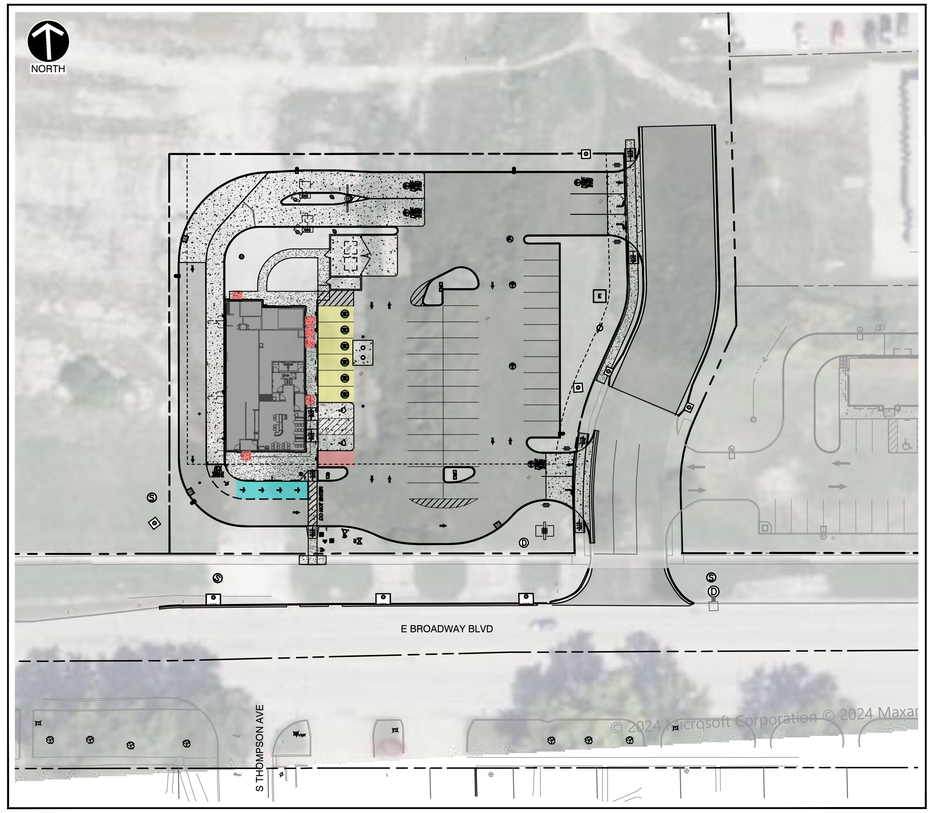
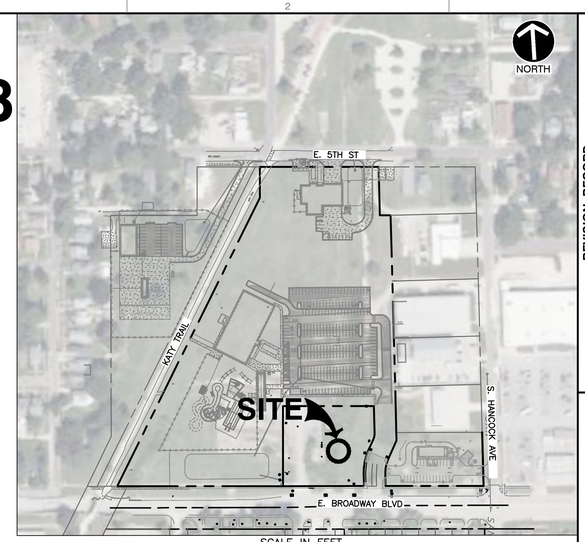
IMPROVEMENT PLANS FOR

McDONALD'S RESTAURANT #024-1308

613 EAST BROADWAY BLVD, SEDALIA, MO 65301



SITE MAP
SCALE: 1"=40'
SCALE IN FEET
0 40 80



SCALE IN FEET
0 200 400

BENCHMARKS (NAVD88)

BENCHMARK INFORMATION: MISSOURI DEPARTMENT OF NATURAL RESOURCES BENCHMARK PE-27, DESCRIBED AS STANDARD MO DNR GRS DISK STAMPED "PE-27 2000"
ELEVATION NAVD 1988 = 830.38
HORIZONTAL NAD 1983 = N:1,039,321.73, E: 1,437,987.91.

BASIS OF BEARING FOR THIS SURVEY IS MISSOURI EAST STATE PLANE. SITE WAS SCALED TO GROUND USING A GROUND SCALE FACTOR DERIVED FROM A CENTRAL POINT ON SITE USING TRIMBLE ACCESS SOFTWARE ON A TSC7 DATA COLLECTOR. SAID POINT IS AT
LAT 38°42'18.12252"N
LONG 93°13'17.85694"W
HEIGHT 801.914'
GROUND SCALE FACTOR=1.0000564410

OWNER/TEAM INFORMATION

CIVIL ENGINEER / SURVEY

CIVIL & ENVIRONMENTAL CONSULTANTS, INC.
1450 BEALE STREET
SUITE 305
ST. CHARLES, MO 63303
PH: (314) 656-4566
FAX: (314) 656-4595
CONTACTS: PATRICK T. BENNETT, PE

DEVELOPER

McDONALD'S USA, LLC
110 N. CARPENTER ST.
CHICAGO, IL 60607
CONTACT: AMY SWITZER
PH: (913) 660-2205
AMY.SWITZER@US.MCD.COM

ARCHITECT

TAYLOR/KEMPKES ARCHITECTS PA
210 CENTRAL AVE, SUITE 3A
HOT SPRINGS NATIONAL PARK, AR 71901
501-624-5679
ROBERT KEMPKES
BOB@TAYLORKEMPKES.COM

UTILITY COMPANIES

SANITARY SEWER SERVICE

CITY OF SEDALIA
200 SOUTH OSAGE AVE.
SEDALIA, MO 65301
CONTACT: DAVID GURKIN
PH: 660-221-8824

STORM WATER FACILITIES

CITY OF SEDALIA
PRETREATMENT COORDINATOR
200 SOUTH OSAGE AVE.
SEDALIA, MO 65301
CONTACT: BRITTANY WILBANKS
PH: 660-620-5160

WATER SERVICE

WATER DEPARTMENT
200 SOUTH OSAGE AVE.
SEDALIA, MO 65301
CONTACT: DAVID MURRAY
PH: 660-460-0118

ELECTRIC SERVICE

EVERGY
1710 PASEO BLVD
KANSAS CITY, MO 64108
PH: 888-544-4852

GAS SERVICE

LIBERTY
CONTACT: AMY WOOLRIDGE
PH: 573-979-5015

TELEPHONE SERVICE

SOCKET TELECOM
2703 CLARK LANE
COLUMBIA, MO 65202
CONTACT: EVAN CAMPBELL
PH: 573-447-7575

NOTE: THE CONTRACTOR SHALL FIELD VERIFY THE LOCATION AND ELEVATION OF ALL UNDERGROUND UTILITIES PRIOR TO ANY EXCAVATION AND SHALL CONTACT THE MISSOURI ONE CALL SYSTEM, INC. SERVICE A MINIMUM OF TWO (2) WORKING DAYS PRIOR TO DIGGING AT TELEPHONE NO. 1-800-344-7483 NO EXCAVATION SHALL COMMENCE UNTIL ALL APPLICABLE UTILITIES HAVE BEEN CLEARED.

MISSOURI 811
811 or 1-800-344-7483
https://missouri-811.org
ISSUED TICKET#: 000000000
TICKET DATE: 00/00/00

REFERENCE

1. TOPOGRAPHIC INFORMATION BASED UPON THE ALTA/NSPS LAND TITLE SURVEY CONDUCTED BY CIVIL & ENVIRONMENTAL CONSULTANTS, INC. IN AUGUST 2024.

NOTE TO CONTRACTOR: PRIOR TO ANY EXCAVATION FOR UNDERGROUND UTILITIES, CONTRACTOR SHALL EXPOSE AND VERIFY LOCATIONS (HORIZONTAL AND VERTICAL) OF ALL EXISTING UTILITIES INCLUDING BUT NOT LIMITED TO GAS, WATER, BROADBAND, PHONE, SANITARY AND STORM SEWERS. ANY CONFLICT SHALL BE REPORTED IMMEDIATELY TO THE ENGINEER AND APPROPRIATE AUTHORITIES

SHEET INDEX		
Sheet Number	**Sheet Title**	**Sheet Description**
01	C000	COVER SHEET
02	C001	GENERAL NOTES
03	C100	EXISTING CONDITIONS AND DEMOLITION
04	C200	SITE PLAN
05	C300	GRADING PLAN
06	C301	GRADING PLAN - STOCKPILE
07	C400	STORMWATER MANAGEMENT PLAN
08	C401	STORM SEWER PROFILES
09	C500	UTILITY PLAN
10	C501	SANITARY SEWER PROFILES
11	C700	LANDSCAPING PLAN
12	C701	LANDSCAPING DETAILS
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15	C802	CONSTRUCTION DETAILS
16	C803	CONSTRUCTION DETAILS
17	C900	EROSION & SEDIMENT CONTROL PLAN
18	C901	EROSION & SEDIMENT CONTROL PLAN
19	C902	EROSION & SEDIMENT CONTROL DETAILS
20	HD1	EXISTING DRAINAGE MAP
21	HD2	PROPOSED DRAINAGE MAP
22	S100	STRUCTURAL GENERAL NOTES
23	S200	STRUCTURAL FOUNDATION DETAILS
24	S201	STRUCTURAL FOUNDATION DETAILS
25	PHOTOMETRIC	PHOTOMETRIC PLAN
26	LI-1	IRRIGATION PLAN
27	LI-2	IRRIGATION DETAILS
28	LI-3	IRRIGATION SPECIFICATIONS

SITE COVERAGE			
IMPROVEMENT AREA			
	AREA (SF)	AREA (AC)	
LOT AREA	54,047	1.24	*EXCLUDES ROAD EXTENSION*
DISTURBED AREA	112,951	2.59	*INCLUDES 58,954 SF OFFSITE*
EXISTING COVER			
	AREA (SF)	AREA (AC)	
PAVEMENT	42,448	0.97	
GRAVEL*	24,864	0.57	
GRASS	45,639	1.05	
TOTAL	112,951	2.59	**49%** impervious
PROPOSED COVER			
	AREA (SF)	AREA (AC)	
PAVEMENT / BUILDING	41,085	0.94	
GRASS	71,866	1.65	
TOTAL	112,951	2.59	**36%** impervious

*Gravel areas = 50% impervious

PARKING INFORMATION	
TOTAL SPACES REQUIRED **19**	• 1 per / 200 sf GROSS FLOOR AREA 3695 GFA/200 = 18.48
TOTAL SPACES PROVIDED **45**	43 PROPOSED SPACES: 9' X 20' STANDARD @ 90° 2 PROPOSED SPACES: 9' X 20' ACCESSIBLE @ 90°

SITE DEVELOPMENT ZONING DATA

TOTAL AREA OF SURVEYED PROPERTY:	12.06 ACRES
ZONING DISTRICT:	M-1 LIGHT INDUSTRIAL & M-2 HEAVY INDUSTRIAL
	MIN
FRONT BUILDING SETBACK:	50'
LEFT SIDE BUILDING SETBACK:	10'
RIGHT SIDE BUILDING SETBACK:	10'
REAR BUILDING SETBACK:	0'
BUILDING FOOTPRINT:	3,695 SF
PATIO AREA:	000 SF
	3,695 SF

FLOOD PLAIN NOTE
SURVEYED PROPERTY LIES WITHIN FLOOD ZONE X (0.2% ANNUAL CHANCE FLOOD HAZARD, AREAS OF 1% ANNUAL CHANCE FLOOD WITH AVERAGE DEPTH LESS THAN ONE FOOT OR WITH DRAINAGE AREAS OF LESS THAN ONE SQUARE MILE) AS PER THE NATIONAL FLOOD HAZARD INSURANCE RATE MAP, FIRM MAP NOS. 29159C0303D DATED NOVEMBER 30, 2023.

McDONALD'S PARCEL DESCRIPTION:

COMMENCING AT THE INTERSECTION OF THE NORTH RIGHT-OF-WAY LINE OF BROADWAY BOULEVARD (U.S. HIGHWAY 50) AND THE WEST RIGHT-OF-WAY LINE OF HANCOCK AVENUE BEING A STREET LOCATED IN THE CITY OF SEDALIA, MISSOURI; THENCE NORTH 86°45'44" WEST, ALONG SAID NORTH RIGHT-OF-WAY LINE, 333.79 FEET TO THE POINT OF BEGINNING OF THE TRACT OF LAND HEREIN DESCRIBED; THENCE CONTINUING ALONG SAID RIGHT OF WAY LINE NORTH 86°45'44: WEST 226.34 FEET TO A POINT; THENCE NORTHWARDLY DEPARTING FROM SAID RIGHT OF WAY LINE NORTH 03°14'16" EAST 223.50 FEET TO A POINT; THENCE SOUTH 86°45'44" EAST 254.20 FEET TO A POINT; THENCE SOUTH 01°42'38" WEST 72.54 FEET TO A POINT OF CURVATURE; THENCE ALONG A CURVE TO THE RIGHT HAVING A RADIUS OF 51.00', AN ARC LENGTH OF 22.92 FEET AND A CHORD BEARING AND DISTANCE OF SOUTH 14°35'03" WEST 22.73 FEET TO A POINT OF TANGENCY; THENCE SOUTH 27°27'27" WEST 34.56 FEET TO A POINT OF CURVATURE; THENCE ALONG A CURVE TO THE LEFT HAVING A RADIUS OF 151.00 FEET, AN ARC LENGTH OF 64.59 FEET AND A CHORD BEARING AND DISTANCE OF SOUTH 14°02'22" WEST 64.10 FEET TO A POINT OF TANGENCY; THENCE SOUTH 01°47'04" WEST 34.22 FEET TO THE POINT OF BEGINNING AND CONTAINING 54,046.93 SQUARE FEET OR 1.241 ACRES MORE OR LESS.

NOTES:

1. REFER TO SHEET C001 FOR GENERAL NOTES AND ABBREVIATIONS.
2. CONTRACTOR SHALL REFER TO OTHER PLANS WITHIN THIS CONSTRUCTION SET FOR OTHER PERTINENT INFORMATION. IT IS NOT THE ENGINEER'S INTENT THAT ANY SINGLE PLAN SHEET IN THIS SET OF DOCUMENTS FULLY DEPICT ALL WORK ASSOCIATED WITH THIS PROJECT.

PATRICK T. BENNETT
(MO PE# 2002003134)
*HAND SIGNATURE ON FILE

STATE OF MISSOURI
PATRICK TODD BENNETT
NUMBER PE-2002003134
PROFESSIONAL ENGINEER
08/07/2025

REVISION RECORD

NO	DATE	DESCRIPTION
1	10/16/24	CITY COMMENTS
2	12/27/2024	CITY & MODOT COMMENTS
3	04/07/2025	MODOT COMMENTS
4	05/05/2025	CITY COMMENTS
5	08/07/2025	CLIENT AND MODOT COMMENTS

1450 Beale Street
Suite 305
St. Charles, MO 63303
Ph: 314.656.4566
www.cecinc.com

Civil & Environmental Consultants, Inc.

MCDONALD'S RESTAURANT
NSN 43739 (024-1308)
613 E BROADWAY BLVD
SEDALIA, MO 65301

COVER SHEET

DATE: OCTOBER 22, 2024
DWG SCALE: 1" = 20'
PROJECT NO.: 343-982
DRAWN BY: MAB
CHECKED BY: GAS
APPROVED BY: PTB

DRAWING NO.: C000
SHEET 01 OF 28

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P:\343-000\343-0482\dwg\C101\343982-C101-C000.dwg(C000) LS(7/25/2025 - mwilson) - LP: 8/7/2025 11:43 AM

GENERAL NOTES

1. EXISTING CONDITIONS AS DEPICTED ON THESE PLANS ARE GENERAL AND ILLUSTRATIVE IN NATURE. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO EXAMINE THE SITE AND BE FAMILIAR WITH EXISTING CONDITIONS PRIOR TO BIDDING ON THIS PROJECT. IF CONDITIONS ENCOUNTERED DURING EXAMINATION ARE SIGNIFICANTLY DIFFERENT FROM THOSE SHOWN, THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY.
2. THE CONTRACTOR SHALL VERIFY LOCATION AND ELEVATION OF ALL EXISTING UTILITIES (INCLUDING THOSE LABELED PER RECORD DATA) PRIOR TO THE BEGINNING OF CONSTRUCTION OR EARTH MOVING OPERATIONS. INFORM ENGINEER OF ANY CONFLICTS DETRIMENTAL TO THE DESIGN INTENT.
3. 48 HOURS BEFORE DIGGING IS TO COMMENCE, THE CONTRACTOR SHALL NOTIFY THE FOLLOWING AGENCIES: THE MISSOURI UTILITY PROTECTION SERVICES, AND ALL OTHER AGENCIES THAT MAY HAVE UNDERGROUND UTILITIES INVOLVING THIS PROJECT AND ARE NON-MEMBERS OF MISSOURI DIG-RITE UNDERGROUND PROTECTION, INC.
4. THE CONTRACTOR AND SUBCONTRACTORS SHALL BE RESPONSIBLE FOR COMPLYING WITH APPLICABLE FEDERAL, STATE AND LOCAL REQUIREMENTS, TOGETHER WITH EXERCISING PRECAUTIONS AT ALL TIMES FOR THE PROTECTION OF PERSONS (INCLUDING EMPLOYEES) AND PROPERTY. IT IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR AND SUBCONTRACTORS TO INITIATE, MAINTAIN AND SUPERVISE ALL SAFETY REQUIREMENTS, PRECAUTIONS AND PROGRAMS IN CONNECTION WITH THE WORK.
5. THE CONTRACTOR SHALL INDEMNIFY AND HOLD HARMLESS THE OWNER AND OWNER'S REPRESENTATIVE FOR ANY AND ALL INJURIES AND/OR DAMAGES TO PERSONNEL, EQUIPMENT AND/OR EXISTING FACILITIES OCCURRING IN THE COURSE OF THE DEMOLITION AND CONSTRUCTION DESCRIBED IN THE PLANS AND SPECIFICATIONS.
6. CONTRACTOR SHALL OBTAIN A PERMIT FOR ALL CONSTRUCTION ACTIVITIES IN ACCORDANCE WITH LOCAL, STATE, & FEDERAL REGULATIONS.
7. THE CONTRACTOR SHALL COMPLY WITH ALL LOCAL CODES, OBTAIN ALL APPLICABLE PERMITS, AND PAY ALL REQUIRED FEES PRIOR TO BEGINNING WORK.
8. ANY WORK PERFORMED IN THE LOCAL OR STATE RIGHT OF WAYS SHALL BE IN ACCORDANCE WITH THE APPLICABLE LOCAL OR STATE REQUIREMENTS. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN THE NECESSARY PERMITS FOR THE WORK, SCHEDULE NECESSARY INSPECTIONS, AND PROVIDE THE NECESSARY TRAFFIC CONTROL MEASURES AND DEVICES, ETC., FOR WORK PERFORMED IN THE RIGHT OF WAYS.
9. THE CONTRACTOR IS TO PERFORM ALL INSPECTIONS AS REQUIRED BY THE MISSOURI EPA FOR THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT AND FURNISH OWNERS REPRESENTATIVE WITH WRITTEN REPORTS. CONTRACTOR WILL OBTAIN NPDES PERMIT.
10. CONTRACTOR SHALL IMPLEMENT ALL SOIL AND EROSION CONTROL, PRACTICES REQUIRED BY CITY OF SEDALIA / PETTIS COUNTY AND THE MISSOURI EPA.
11. ALL GROUND SURFACE AREAS THAT HAVE BEEN EXPOSED OR LEFT BARE AS A RESULT OF CONSTRUCTION AND ARE TO FINAL GRADE AND ARE TO REMAIN SO, SHALL BE SEEDED AND MULCHED AS SOON AS PRACTICAL IN ACCORDANCE WITH SPECIFICATIONS. IF NO SPECIFICATIONS ARE SUPPLIED, USE STATE OF MISSOURI SPECIFICATIONS ITEM.
12. ITEM NUMBERS REFER TO THE MISSOURI DEPARTMENT OF TRANSPORTATION CONSTRUCTION AND MATERIAL SPECIFICATIONS, AND ALL CONSTRUCTION WORK SHALL BE DONE ACCORDING TO SAID SPECIFICATIONS AND IN ACCORDANCE WITH APPLICABLE STANDARDS OF CITY OF SEDALIA / PETTIS COUNTY. WHEN IN CONFLICT, THE COUNTY REQUIREMENTS SHALL PREVAIL.
13. ALL WORK PERFORMED BY THE CONTRACTOR SHALL CONFORM TO THE LATEST REGULATIONS OF THE AMERICANS WITH DISABILITIES ACT.
14. THE CONTRACTOR SHALL REFER TO OTHER PLANS WITHIN THIS CONSTRUCTION SET FOR OTHER PERTINENT INFORMATION. IT IS NOT THE ENGINEER'S INTENT THAT ANY SINGLE PLAN SHEET IN THIS SET OF DOCUMENTS FULLY DEPICT ALL WORK ASSOCIATED WITH THE PROJECT.
15. BEFORE INSTALLATION OF STORM OR SANITARY SEWER, OR OTHER UTILITY, THE CONTRACTOR SHALL VERIFY ALL CROSSINGS, BY EXCAVATION WHERE NECESSARY, AND INFORM THE OWNER AND THE ENGINEER OF ANY CONFLICTS. THE ENGINEER WILL BE HELD HARMLESS IN THE EVENT HE IS NOT NOTIFIED OF DESIGN CONFLICTS PRIOR TO CONSTRUCTION.
16. ADJUST/RECONSTRUCT ALL EXISTING CASTINGS, CLEANOUTS, ETC. WITHIN PROJECT AREA TO GRADE AS REQUIRED.
17. CONTRACTOR TO REMOVE & REPLACE PAVEMENT AS SPECIFIED.
18. ALL STANDARD PARKING PLACES ARE 9' BY 20'.
19. SITE SIGNAGE AND STRIPING SHALL BE IN ACCORDANCE WITH THE MISSOURI MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.

ABBREVIATIONS

AC	ACRES
ADA	AMERICANS WITH DISABILITIES ACT
ADAAG	AMERICANS WITH DISABILITIES ACT ACCESSIBILITY GUIDELINES
A; A.I.	AREA INLET
ATG	ADJUST TO GRADE
BC	BASE OF CURB AT FLOWLINE
BFP	BACK FLOW PREVENTION
BLDG	BUILDING
C.O.	CLEANOUT
CI; C.I.	CURB INLET
CMP	CORRUGATED METAL PIPE
CPP	CORRUGATED PLASTIC PIPE
COMM	U/G COMMUNICATION LINE
CONC	CONCRETE
CY	CUBIC YARD
DI	DUCTILE IRON
DIA	DIAMETER
DB	DRAIN BASIN
DS	DOWNSPOUT
ELEV	ELEVATION
EX	EXISTING
E.O.P.	END OF PIPE
FEMA	FEDERAL EMERGENCY MANAGEMENT ADMINISTRATION
FF	FINISHED FLOOR ELEVATION
FL	FLOW LINE
FND	FOUNDATION
G	U/G GAS LINE
GI; G.I.	GRATED INLET
HDPE	HIGH DENSITY POLYETHYLENE
HGL	HYDRAULIC GRADE LINE
HGT	HEIGHT
IMP	IMPERVIOUS
INV	INVERT
IRRIG	U/G IRRIGATION LINE
MAX	MAXIMUM
MH	MANHOLE
MIN	MINIMUM
N.T.S; NTS	NOT TO SCALE
OAH	OVERALL HEIGHT
PP	POLY PROPYLENE
PVC	POLY VINYL CHLORIDE
PVMT	PAVEMENT
R	RADIUS
RD	ROOF DRAIN
SAN; SS	SANITARY SEWER
SF	SQUARE FEET
ST; STM	STORM
T/C	U/G PHONE AND/OR DATA LINE
TBR	TO BE REMOVED
TBR&R	TO BE REMOVED & REPLACED
TC	TOP OF CURB
TD	TRENCH DRAIN
TS	TOP OF SURFACE
TW	TOP OF WALL ELEVATION
TYP	TYPICAL
UG; U/G	UNDERGROUND
UG-E	U/G ELECTRIC LINE
USGS	UNITED STATES GEOLOGICAL SURVEY
UST	U/G PETROLEUM STORAGE TANK
W	WATER
XFRMR	TRANSFORMER

REFERENCE

1. TOPOGRAPHIC INFORMATION BASED UPON THE ALTA/NSPS LAND TITLE SURVEY CONDUCTED BY CIVIL & ENVIRONMENTAL CONSULTANTS, INC. IN AUGUST 2024.

811 or 1-800-344-7483
https://missouri-811.org
ISSUED TICKET#: 000000000
TICKET DATE: 00/00/00

NOTE TO CONTRACTOR: PRIOR TO ANY EXCAVATION FOR UNDERGROUND UTILITIES, CONTRACTOR SHALL EXPOSE AND VERIFY LOCATIONS (HORIZONTAL AND VERTICAL) OF ALL EXISTING UTILITIES INCLUDING BUT NOT LIMITED TO GAS, WATER, BROADBAND, PHONE, SANITARY AND STORM SEWERS. ANY CONFLICT SHALL BE REPORTED IMMEDIATELY TO THE ENGINEER AND APPROPRIATE AUTHORITIES

DEMOLITION NOTES

1. ALL EXISTING ABOVE AND BELOW GROUND STRUCTURES WITHIN THE LIMITS OF CONSTRUCTION SHALL BE REMOVED UNLESS NOTED OTHERWISE WITHIN THIS CONSTRUCTION SET AND/OR PROJECT SPECIFICATIONS. THIS INCLUDES FOUNDATION SLABS, WALLS AND FOOTINGS. CAVITIES LEFT BY STRUCTURE REMOVAL SHALL BE BACKFILLED WITH SATISFACTORY MATERIALS AND COMPACTED TO THE GEOTECHNICAL ENGINEER'S RECOMMENDATION.
2. CLEARING LIMITS SHALL BE PHYSICALLY MARKED IN THE FIELD.
3. NO TREES SHALL BE REMOVED, NOR VEGETATION DISTURBED BEYOND THE LIMITS OF CONSTRUCTION WITHOUT THE EXPRESS WRITTEN APPROVAL OF THE OWNER'S REPRESENTATIVE.
4. TREE PROTECTION FENCING SHALL BE IN ACCORDANCE WITH THE CITY STANDARDS – OR – IN ACCORDANCE WITH THE DETAILED DRAWINGS. DO NOT OPERATE OR STORE EQUIPMENT, NOR HANDLE OR STORE MATERIALS WITHIN THE DRIP LINES OF THE TREES SHOWN TO REMAIN.
5. PROTECTION OF EXISTING TREES AND VEGETATION: PROTECT EXISTING TREES AND OTHER VEGETATION INDICATED TO REMAIN IN PLACE AGAINST UNNECESSARY CUTTING, BREAKING OR SKINNING OF ROOTS, SKINNING OR BRUISING OF BARK, SMOTHERING OF TREES BY STOCKPILING CONSTRUCTION MATERIALS OR EXCAVATED MATERIALS WITHIN DRIP LINE, EXCESS FOOT OR VEHICULAR TRAFFIC, OR PARKING OF VEHICLES WITHIN DRIP LINE. PROVIDE TEMPORARY GUARDS TO PROTECT TREES AND VEGETATION TO BE LEFT STANDING.
6. ALL DEMOLITION WASTE AND CONSTRUCTION DEBRIS SHALL BECOME THE PROPERTY OF THE CONTRACTOR UNLESS OTHERWISE DESIGNATED AND SHALL BE REMOVED BY THE CONTRACTOR AND DISPOSED OF OFFSITE IN A STATE APPROVED WASTE SITE AND IN ACCORDANCE WITH ALL LOCAL AND STATE CODES AND PERMIT REQUIREMENTS. TAKE CARE TO PROTECT UTILITIES THAT ARE TO REMAIN. REPAIR DAMAGE ACCORDING TO THE APPROPRIATE UTILITY COMPANY STANDARDS AND AT THE CONTRACTOR'S EXPENSE.
7. ALL UTILITY DISCONNECTION, REMOVAL, RELOCATION, CUTTING, CAPPING AND/OR ABANDONMENT SHALL BE COORDINATED WITH THE APPROPRIATE UTILITY COMPANY / AGENCY. UTILITY CONTACTS ARE LISTED ON THE COVER SHEET.
8. THE BURNING OF CLEARED MATERIAL AND DEBRIS SHALL NOT BE ALLOWED UNLESS CONTRACTOR OBTAINS PRIOR WRITTEN AUTHORIZATION FROM THE LOCAL AUTHORITIES.
9. EROSION & SEDIMENT CONTROL MEASURES AROUND AREAS OF DEMOLITION SHALL BE PROPERLY INSTALLED AND FUNCTION PROPERLY PRIOR TO INITIALIZATION OF DEMOLITION ACTIVITIES.
10. ASBESTOS OR HAZARDOUS MATERIALS ARE NOT EXPECTED, IF FOUND ON SITE, SUCH MATERIALS SHALL BE REMOVED BY A LICENSED HAZARDOUS MATERIALS CONTRACTOR. CONTRACTOR SHALL NOTIFY OWNER IMMEDIATELY IF HAZARDOUS MATERIALS ARE ENCOUNTERED.
11. CONTRACTOR SHALL ADHERE TO ALL LOCAL, STATE, FEDERAL AND OSHA REGULATIONS DURING ALL DEMOLITION ACTIVITIES.
12. CONTRACTOR SHALL PROTECT ALL CORNER PINS, MONUMENTS, PROPERTY CORNERS AND BENCHMARKS DURING DEMOLITION ACTIVITIES. IF DISTURBED, CONTRACTOR SHALL HAVE DISTURBED ITEMS RESET BY A LICENSED SURVEYOR AT NO ADDITIONAL COST TO THE OWNER.
13. CONTRACTOR SHALL PROTECT ALL EXISTING UTILITIES, STRUCTURES, AND FEATURES TO REMAIN. ANY ITEMS TO REMAIN THAT HAVE BEEN DISTURBED OR DAMAGED AS A RESULT OF CONSTRUCTION SHALL BE REPAIRED OR REPLACED BY THE CONTRACTOR AT CONTRACTOR'S EXPENSE.
14. CONTRACTOR SHALL PROVIDE AND MAINTAIN TRAFFIC CONTROL MEASURES IN ACCORDANCE WITH STATE DEPARTMENT OF TRANSPORTATION REGULATIONS AND AS REQUIRED BY LOCAL AGENCIES WHEN WORKING IN AND/OR ALONG STREETS, ROADS, HIGHWAYS, ETC.. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN APPROVAL AND COORDINATE WITH LOCAL AND/OR STATE AGENCIES REGARDING THE NEED, EXTENT AND LIMITATIONS ASSOCIATED WITH INSTALLING AND MAINTAINING TRAFFIC CONTROL MEASURES.
15. PROVIDE NEAT, STRAIGHT, FULL DEPTH, SAW CUTS OF EXISTING PAVEMENT WHERE INDICATED ALONG LIMITS OF PAVEMENT DEMOLITION.
16. ALL UTILITY AND STRUCTURE REMOVAL, RELOCATION, CUTTING, CAPPING AND/OR ABANDONMENT SHALL BE COORDINATED AND PROPERLY DOCUMENTED BY A CERTIFIED PROFESSIONAL, WHEN APPLICABLE, WITH THE APPROPRIATE UTILITY COMPANY, MUNICIPALITY AND/OR AGENCY. DEMOLITION OF REGULATED ITEMS MAY INCLUDE, BUT ARE NOT LIMITED TO WELLS, ASBESTOS, UNDER GROUND STORAGE TANKS, SEPTIC TANKS AND ELECTRIC TRANSFORMERS. DEMOLITION CONTRACTOR SHALL REFER TO ANY ENVIRONMENTAL STUDIES FOR DEMOLITION RECOMMENDATIONS AND GUIDANCE. AVAILABLE ENVIRONMENTAL STUDIES MAY INCLUDE, BUT ARE NOT LIMITED TO PHASE I ESA, PHASE II, WETLAND AND STREAM DELINEATION AND ASBESTOS SURVEY. ALL APPLICABLE ENVIRONMENTAL STUDIES SHALL BE MADE AVAILABLE UPON REQUEST.
17. ALL PAVEMENT, BASE COURSES, SIDEWALKS, CURBS, BUILDINGS, FOUNDATIONS, ETC., WITHIN THE AREA TO BE DEMOLISHED SHALL BE REMOVED TO FULL DEPTH. EXISTING BASE COURSE MATERIALS MAY BE WORKED INTO THE NEW PAVEMENT OR BUILDING SUBGRADE IF THE GRADATION, CONSISTENCY, COMPACTION, SUBGRADE CONDITION, ETC., ARE IN ACCORDANCE WITH THE SPECIFICATIONS AND RECOMMENDATIONS OF THE REPORT OF GEOTECHNICAL INVESTIGATION. BASE COURSE MATERIALS SHALL NOT BE WORKED INTO THE SUBGRADE AREAS TO RECEIVE LANDSCAPING.
18. THE CONTRACTOR SHALL USE SUITABLE METHODS TO CONTROL DUST AND DIRT CAUSED BY THE DEMOLITION ACTIVITIES.

LAYOUT NOTES

1. THE CONTRACTOR SHALL CHECK EXISTING GRADES, DIMENSIONS, AND INVERTS IN THE FIELD AND REPORT ANY DISCREPANCIES TO THE OWNER'S REPRESENTATIVE PRIOR TO BEGINNING WORK.
2. THE CONTRACTOR SHALL VERIFY THE EXACT LOCATION OF ALL EXISTING UTILITIES, INCLUDING IRRIGATION LINES. TAKE CARE TO PROTECT UTILITIES THAT ARE TO REMAIN. RELOCATE EXISTING UTILITIES AS INDICATED, OR AS NECESSARY FOR CONSTRUCTION.
3. PROVIDE A SMOOTH TRANSITION BETWEEN EXISTING PAVEMENT AND NEW PAVEMENT. FIELD ADJUSTMENT OF FINAL GRADES MAY BE NECESSARY. INSTALL ALL UTILITIES, INCLUDING IRRIGATION SLEEVING, PRIOR TO INSTALLATION OF PAVED SURFACES.
4. THE CONTRACTOR SHALL PROTECT ALL TREES TO REMAIN IN ACCORDANCE WITH THE SPECIFICATIONS.
5. SITE WORK CONCRETE WALKS AND PADS SHALL HAVE A BROOM FINISH TO ALL SURFACES. SITE WORK CONCRETE SHALL BE CLASS "A" (4000 PSI @ 28 DAYS) UNLESS OTHERWISE NOTED.
6. ALL DAMAGE TO EXISTING PAVEMENT TO REMAIN, WHICH RESULTS FROM THE CONTRACTOR'S OPERATIONS SHALL BE REPLACED WITH LIKE MATERIALS AT THE CONTRACTOR'S EXPENSE.
7. SITE DIMENSIONS SHOWN ARE TO THE FACE OF CURB, OR EDGE OF PAVEMENT UNLESS OTHERWISE NOTED.
8. CONTRACTOR SHALL MAINTAIN ONE SET OF AS-BUILT / RECORD DRAWINGS ON-SITE DURING CONSTRUCTION FOR DISTRIBUTION TO THE OWNER AND/OR OWNER'S REPRESENTATIVE UPON COMPLETION.
9. REFER TO THE ARCHITECTURAL, PLUMBING & ELECTRICAL DRAWINGS FOR EXACT DIMENSIONS AND LOCATIONS OF UTILITY SERVICE ENTRY LOCATIONS AND PRECISE BUILDING DIMENSIONS.
10. THIS SITE LAYOUT IS SPECIFIC TO THE APPROVALS NECESSARY FOR THE CONSTRUCTION IN ACCORDANCE WITH THE CITY OF SEDALIA. NO CHANGES TO THE SITE LAYOUT ARE ALLOWED WITHOUT THE WRITTEN APPROVAL OF THE ENGINEER. CHANGES MADE TO THE SITE LAYOUT WITHOUT APPROVAL IS SOLELY THE RESPONSIBILITY OF THE CONTRACTOR. CHANGES INCLUDE BUT ARE NOT LIMITED TO, INCREASED IMPERVIOUS PAVEMENT, ADDITION / DELETION OF PARKING SPACES, MOVEMENT OF CURB LINES, CHANGES TO DRAINAGE STRUCTURES AND PATTERNS, LANDSCAPING, ETC.

GRADING NOTES

1. ALL PROPOSED GRADES SHOWN ARE FINAL GRADES, TOP OF GROUND LEVEL, OR TOP OF PAVEMENT, OR GRATE ELEVATION AT THE DRAWDOWN POINT, UNLESS INDICATED OTHERWISE.
2. REFER TO AND FOLLOW THE RECOMMENDATIONS OF THE GEOTECHNICAL REPORT PREPARED FOR THIS PROJECT BY ECS MIDWEST, LLC TITLED PROPOSED MCDONALD'S 24-1308 SEDALIA, MO SEPT 9, 2024.
3. SITE BUILDING PAD EXCAVATION AND CONSTRUCTION TO BE PER GEOTECHNICAL ENGINEER'S RECOMMENDATIONS (REPORT DATED: SEPT 9, 2024). BUILDING PAD PREPARATION SHALL BEGIN BY CLEARING & STRIPPING UNSUITABLE MATERIAL FROM PAD SITE, THEN PLACEMENT & COMPACTION OF BACKFILL MATERIAL PER GEOTECHNICAL ENGINEER'S RECOMMENDATIONS. ALL BACKFILL MATERIAL MUST BE ACCEPTABLE TO THE GEOTECHNICAL ENGINEER.
4. ALL FILL UNDER PAVEMENT SHALL BE COMPACTED TO THE GEOTECHNICAL ENGINEER'S RECOMMENDATIONS. (REPORT DATED: SEPT 9, 2024).
5. ALL ELEVATIONS SHOWN ARE FINISHED GRADE ELEVATIONS.
6. CONTRACTOR SHALL STRICTLY ADHERE TO THE EROSION & SEDIMENT CONTROL PLAN PREPARED FOR THIS PROJECT.
7. EARTHWORK SHALL INCLUDE CLEARING AND GRUBBING, STRIPPING AND STOCKPILING TOPSOIL, MASS GRADING, EXCAVATION, FILLING, UNDER CUT AND REPLACEMENT, IF REQUIRED, AND COMPACTION.
8. CONTRACTOR TO REFILL UNDERCUT AREAS WITH SUITABLE MATERIAL AND COMPACT AS RECOMMENDED BY THE GEOTECHNICAL ENGINEER.
9. PLACE TOPSOIL OVER THE SUBGRADE OF UNPAVED, DISTURBED AREAS TO A DEPTH INDICATED ON THE LANDSCAPE PLANS (6" MINIMUM).
10. PAVEMENT SLOPES ACROSS ACCESSIBLE PARKING STALLS AND ADJOINING ACCESS AISLES SHALL BE MAXIMUM 2% AND SHALL CONFORM TO THE LATEST REGULATIONS OF THE AMERICANS WITH DISABILITIES ACT.
11. ALL SLOPES IN NON-PAVED AREAS SHALL BE 3:1 (HORIZONTAL:VERTICAL) MAXIMUM UNLESS NOTED OTHERWISE.
12. ALL AREAS NOT PAVED SHALL BE STABILIZED IN ACCORDANCE WITH THE EROSION & SEDIMENT CONTROL PLAN, UNLESS NOTED OTHERWISE.
13. COMPACTED FILLS ARE TO BE MADE TO A MINIMUM OF THREE FEET ABOVE THE CROWN OF ANY PROPOSED SEWER PRIOR TO CUTTING OF TRENCHES FOR PLACEMENT OF SAID SEWERS. ALL FILLS SHALL BE CONTROLLED, COMPACTED, AND INSPECTED BY AN APPROVED TESTING LABORATORY OR AN INSPECTOR FROM THE APPROPRIATE GOVERNMENTAL AGENCY.
14. ALL EXCESS SOIL MATERIALS SHALL BECOME THE PROPERTY OF THE CONTRACTOR UNLESS OTHERWISE DESIGNATED SHALL BE REMOVED BY THE CONTRACTOR AND DISPOSED OF OFFSITE AT NO ADDITIONAL COST TO THE OWNER IN ACCORDANCE WITH ALL LOCAL AND STATE CODES AND PERMIT REQUIREMENTS.
15. THE CONTRACTOR IS RESPONSIBLE FOR BALANCING THE SITE EARTHWORK BY IMPORTING OR EXPORTING AS NECESSARY TO ACHIEVE DESIGN GRADES AND SPECIFICATIONS.

STORM DRAINAGE NOTES

1. DISTANCES SHOWN ON PIPING ARE HORIZONTAL DISTANCES FROM CENTER OF STRUCTURE TO CENTER OF STRUCTURE, UNLESS OTHERWISE NOTED.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL COSTS ASSOCIATED WITH THE INSTALLATION, INSPECTION, TESTING AND FINAL ACCEPTANCE OF ALL NEW STORMWATER MANAGEMENT FACILITIES CONSTRUCTION. CONTRACTOR SHALL COORDINATE WITH ALL APPLICABLE REGULATING AGENCIES CONCERNING INSTALLATION, INSPECTION AND APPROVAL OF THE STORM DRAINAGE SYSTEM CONSTRUCTION.
3. ALL STORMWATER MANAGEMENT FACILITIES, INCLUDING COLLECTION AND CONVEYANCE STRUCTURES SHALL BE INSTALLED IN ACCORDANCE WITH ALL APPLICABLE LOCAL AND STATE CODES AND REGULATIONS.
4. ANY FIELD TILE CUT IN EXCAVATION, WHICH DRAINS AN OFFSITE AREA, MUST BE TIED INTO THE STORM DRAINAGE SYSTEM.
5. FOR EXACT LOCATION OF DOWN SPOUTS & ROOF DRAINS, CONTRACTOR IS TO COORDINATE WITH ARCHITECTURAL AND PLUMBING DRAWINGS.
6. ALL PROPOSED STORM SEWERS, SURFACE OR OTHER DRAINAGE FACILITIES ARE TO BE PRIVATE AND MAINTAINED BY THE OWNER.
7. ALL STORM STRUCTURES ARE MODOT TYPES UNLESS OTHERWISE INDICATED.
8. ALL CATCH BASINS AND MANHOLES WITH A DEPTH GREATER THAN 4' SHALL BE PROVIDED WITH STEPS. STEPS SHALL MEET THE REQUIREMENTS OF CITY OF SEDALIA OR MODOT.
9. STORM SEWER IS TO BE BEDDED WITH CLEAN GRANULAR MATERIAL-AGGREGATES NOT TO BE LARGER THAN 3/4" AND NOT SMALLER THAN NO. 8 SIEVE, FREE OF SILT AND FINES, AASHTO M43 SIZE #67, 7 OR 8. BEDDING TO BE MINIMUM OF 6" BELOW & 12" / PER CITY OF SEDALIA OR MODOT ABOVE THE PIPE.

UTILITY NOTES

1. ALL PROPOSED UTILITY LINES AND EXTENSIONS ARE TO BE CONSTRUCTED IN ACCORDANCE WITH THE CORRESPONDING UTILITY AGENCY / DISTRICT / MUNICIPALITY / COMPANY SPECIFICATIONS. CONTRACTOR SHALL COORDINATE UTILITY DISCONNECTIONS WITH THE APPROPRIATE AGENCY.
2. THE CONTRACTOR IS PARTICULARLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF THE EXISTING UTILITIES SHOWN HEREON IS BASED ON TOPOGRAPHIC SURVEYS AND RECORD DRAWINGS. THE CONTRACTOR SHALL NOT RELY UPON THIS INFORMATION AS BEING EXACT OR COMPLETE. SHOULD UNCHARTED UTILITIES BE ENCOUNTERED DURING EXCAVATION OPERATIONS, THE CONTRACTOR SHALL NOTIFY THE ENGINEER AS SOON AS POSSIBLE FOR INSTRUCTIONS. THE CONTRACTOR SHALL CALL THE APPROPRIATE UTILITY COMPANY AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION AND REQUEST FIELD VERIFICATION OF UTILITY LOCATIONS. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO RELOCATE EXISTING UTILITIES CONFLICTING WITH IMPROVEMENTS SHOWN HEREON IN ACCORDANCE WITH ALL LOCAL, STATE, AND FEDERAL REGULATIONS GOVERNING SUCH OPERATIONS.
3. THE CONTRACTOR SHALL OBTAIN ALL REQUIRED PERMITS PRIOR TO COMMENCEMENT OF CONSTRUCTION.
4. MAINTAIN MINIMUM 10-FOOT HORIZONTAL AND 18-INCH MINIMUM VERTICAL SEPARATION BETWEEN SANITARY SEWER, STORM SEWER AND WATER SUPPLY LINE, UNLESS OTHERWISE INDICATED.
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING THE SEQUENCING OF CONSTRUCTION FOR ALL UTILITY LINES SO THAT WATER LINES, GAS LINES, AND UNDERGROUND ELECTRIC DO NOT CONFLICT WITH SANITARY SEWERS OR STORM SEWERS. INSTALL UTILITIES PRIOR TO PAVEMENT CONSTRUCTION.
6. ALL TRENCH SPOILS SHALL BECOME THE PROPERTY OF THE CONTRACTOR UNLESS OTHERWISE DESIGNATED SHALL BE REMOVED BY THE CONTRACTOR AND DISPOSED OF OFFSITE AT NO ADDITIONAL COST TO THE OWNER IN ACCORDANCE WITH ALL LOCAL AND STATE CODES AND PERMIT REQUIREMENTS.
7. SANITARY SEWER SHALL BE PVC-SDR 35 PER ASTM D-3034 OR APPROVED EQUAL TO CITY OR COUNTY WATER & SEWER DEPARTMENT RULES AND REGULATIONS) INSTALLED AT A MINIMUM SLOPE OF ONE PERCENT (1.00%) UNLESS OTHERWISE NOTED SANITARY SERVICE SHALL BE INSTALLED AT A MINIMUM DEPTH OF FOUR FEET (4') UNLESS OTHERWISE NOTED. A MINIMUM OF 18" CLEARANCE SHALL BE MAINTAINED AT ALL WATERLINE & STORM SEWER CROSSINGS. SANITARY SERVICE JOINTS ALL CONFORM TO ASTM D-3212.
8. SANITARY SEWER IS TO BE BEDDED WITH CLEAN GRANULAR MATERIAL-AGGREGATES NOT TO BE LARGER THAN 3/4" AND NOT SMALLER THAN NO. 8 SIEVE, FREE OF SILT AND FINES, AASHTO M43 SIZE #67, 7 OR 8. BEDDING TO BE MINIMUM OF 6" BELOW & 12" / PER STATE OR CITY DOT ABOVE THE PIPE.
9. DISTANCES SHOWN FOR BOTH SANITARY AND STORM SEWER PIPES ARE MEASURED FROM CENTER OF STRUCTURE, CONTRACTOR RESPONSIBLE FOR ACTUAL FIELD CUT LENGTH. COORDINATES FOR STORM & SANITARY STRUCTURES ARE SHOWN TO THE CENTER STRUCTURE. UNLESS OTHERWISE NOTED.
10. ROOF DRAINS, FOUNDATION DRAINS AND ALL OTHER CLEAR WATER CONNECTIONS TO THE SANITARY SEWER SYSTEMS ARE PROHIBITED.
11. ADJUST ALL EXISTING UTILITY SURFACE FEATURES INCLUDING BUT NOT LIMITED TO CASTINGS, VALVE BOXES, PEDESTALS, CLEANOUTS, ETC. TO MATCH PROPOSED FINISHED GRADES, UNLESS OTHERWISE INDICATED.
12. THE CONTRACTOR SHALL PROVIDE RECORD DRAWINGS OF ALL IMPROVEMENTS. INCLUDE AT LEAST TWO DIMENSIONS TO EACH VALVE AND MANHOLE FROM KNOWN SITE FEATURES. DRAWINGS SHALL INCLUDE HORIZONTAL AND VERTICAL INFORMATION ON ALL NEW UTILITIES AS WELL AS EXISTING UTILITIES ENCOUNTERED.
13. MECHANICAL/ELECTRICAL CONTRACTORS SHALL BRING ALL UTILITIES 5' OUTSIDE BUILDING WALL. COORDINATE WITH CONSTRUCTION MANAGER.
14. ALL WATERLINE CROSSINGS SHALL MAINTAIN A VERTICAL SEPARATION OF 18" MINIMUM. SANITARY SEWER SHALL BE LOCATED 18" BELOW WATERMAIN AT ALL CROSSINGS. WATERMAIN SHALL BE LOCATED A MINIMUM OF 10' HORIZONTALLY FROM ANY SANITARY SEWER OR STORM SEWER. ALL MEASUREMENTS SHALL BE TAKEN FROM OUTSIDE OF SEWER PIPE TO THE OUTSIDE OF WATERMAIN PIPE. ONE FULL LENGTH OF WATERMAIN PIPE SHALL BE LOCATED AT ALL CROSSINGS TO ENABLE BOTH JOINTS TO BE LOCATED AS FAR FROM SEWER AS POSSIBLE.
15. WATERLINE IS TO BE BEDDED WITH CLEAN GRANULAR MATERIAL-AGGREGATES NOT TO BE LARGER THAN 3/4" AND NOT SMALLER THAN NO. 8 SIEVE, FREE OF SILT AND FINES, AASHTO M43 SIZE #67, 7 OR 8. BEDDING TO BE MINIMUM OF 6" BELOW & 12" / PER STATE OR CITY DOT ABOVE THE PIPE

NOTES:

1. REFER TO SHEET C001 FOR GENERAL NOTES AND ABBREVIATIONS.
2. CONTRACTOR SHALL REFER TO OTHER PLANS WITHIN THIS CONSTRUCTION SET FOR OTHER PERTINENT INFORMATION. IT IS NOT THE ENGINEER'S INTENT THAT ANY SINGLE PLAN SHEET IN THIS SET OF DOCUMENTS FULLY DEPICT ALL WORK ASSOCIATED WITH THIS PROJECT.

PATRICK T. BENNETT
(MO PE# 2002003134)
*HAND SIGNATURE ON FILE

STATE OF MISSOURI · PATRICK TODD BENNETT · NUMBER 2002003134 · PROFESSIONAL ENGINEER
08/07/2025

REVISION RECORD

NO	DATE	DESCRIPTION
1.	10/11/24	CITY COMMENTS
2.	12/27/2024	CITY & MODOT COMMENTS
3.	04/07/2025	MODOT COMMENTS
4.	05/06/2025	CITY COMMENTS
5.	08/07/2025	CLIENT AND MODOT COMMENTS

Civil & Environmental Consultants, Inc.
1450 Beale Street
Suite 305
St. Charles, MO 63303
Ph: 314.656.4566
www.cecinc.com

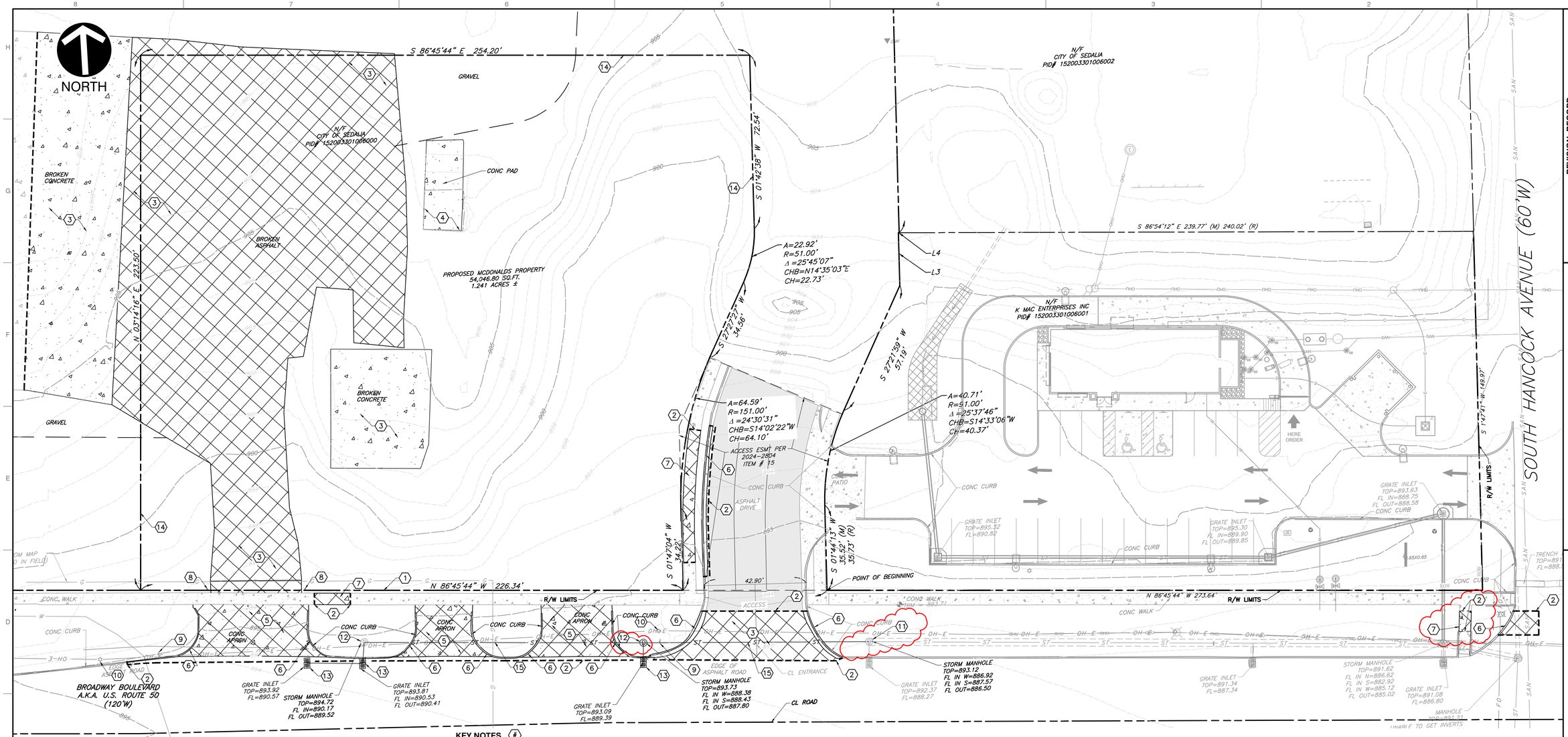
MCDONALD'S RESTAURANT
NSN 43739 (024-1308)
613 E BROADWAY BLVD
SEDALIA, MO 65301

GENERAL NOTES

DRAWN BY: MAB
CHECKED BY: GAS
PROJECT NO: 343-982
APPROVED BY: PTB
DATE: OCTOBER 22, 2024
DWG SCALE: 1" = 20'

DRAWING NO.: C001
SHEET 02 OF 28

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KEY NOTES (#)

1. EXISTING PROPERTY LINE.
2. NEW SAWCUT LINE. REFER TO DETAIL #01 ON SHEET C800.
3. EXISTING PAVEMENT TO BE REMOVED.
4. EXISTING CONCRETE PAD TO BE REMOVED.
5. EXISTING INGRESS/EGRESS CONCRETE PAVEMENT TO BE REMOVED.
6. EXISTING CURB TO BE REMOVED.
7. EXISTING SIDEWALK TO BE REMOVED.
8. EXISTING PIPE BOLLARD(S) TO BE REMOVED.
9. EXISTING SIGNAGE TO REMAIN. PROTECT IN PLACE AS NEEDED.
10. EXISTING LIGHT / UTILITY POLE TO REMAIN. PROTECT IN PLACE AS NEEDED.
11. EXISTING STORM SEWER MANHOLE TO REMAIN. PROTECT IN PLACE AS NEEDED.
12. EXISTING STORM SEWER MANHOLE TO BE REMOVED. REFER TO PLANS BY OLSSON.
13. EXISTING STORM SEWER GRATE INLET TO BE REMOVED. REFER TO PLANS BY OLSSON..
14. PROPOSED PROPERTY LINE
15. EXISTING STORM SEWER TO BE REMOVED AND REPLACED. REFER TO PLANS BY OLSSON.

EXISTING LEGEND:

- EXISTING PROPERTY LINE
- EXISTING ADJACENT PROPERTY LINE
- EXISTING RIGHT-OF-WAY
- EXISTING EASEMENT
- 870 EXISTING INDEX CONTOUR
- EXISTING INTERMEDIATE CONTOUR
- EXISTING FENCE
- EXISTING DITCH FLOW LINE
- SAN EXISTING SANITARY SEWER LINE
- CS EXISTING COMBINED SEWER LINE
- ST EXISTING STORM SEWER LINE
- G EXISTING GAS LINE
- W EXISTING WATER LINE
- FO EXISTING FIBER OPTIC LINE
- T EXISTING TELEPHONE LINE
- UG-E EXISTING UNDERGROUND ELECC. LINE
- OH-E EXISTING OVERHEAD ELECTRIC
- EXISTING TREELINE
- EXISTING BUSHES
- 1082.40 EXISTING SPOT ELEVATION

MONUMENTATION / CONTROL

- TRAVERSE POINT
- IRON PIN FOUND
- RAILROAD SPIKE FOUND
- MAG / PK NAIL FOUND
- CHISELED MARK FOUND
- CONCRETE MONUMENT FOUND
- R/W MONUMENT FOUND
- STONE FOUND
- AERIAL CONTROL POINT
- BENCHMARK
- IRON PIPE FD. (SIZE)
- STATE MONUMENT
- REBAR FD. (SIZE)
- ANGLE IRON
- AXLE
- REBAR IRON PIN SET & CAP
- CUT "X" SET
- CONCRETE MONUMENT SET
- PERMANENT MARKER (SIZE)

TOPO SYM. / STORM UTILITIES / SAN. UTI. / WTR UTI.

- SIGN
- LIGHT STANDARD
- STORM MANHOLE
- CATCH BASIN (TYPE)
- CURB INLET
- INLET (CIRCULAR)
- DRAIN
- BEEHIVE INLET SQUARE
- INLET SQUARE
- SANITARY MANHOLE
- CLEAN OUT
- FIRE HYDRANT
- WATERLINE MARKER
- WATER METER

REFERENCE

1. TOPOGRAPHIC INFORMATION BASED UPON THE ALTA/NSPS LAND TITLE SURVEY CONDUCTED BY CIVIL & ENVIRONMENTAL CONSULTANTS, INC. IN AUGUST 2024.

MISSOURI 811
811 or 1-800-344-7483
https://missouri-811.org
ISSUED TICKET#: 000000000
TICKET DATE: 00/00/00

NOTE TO CONTRACTOR: PRIOR TO ANY EXCAVATION FOR UNDERGROUND UTILITIES, CONTRACTOR SHALL EXPOSE AND VERIFY LOCATIONS (HORIZONTAL AND VERTICAL) OF ALL EXISTING UTILITIES INCLUDING BUT NOT LIMITED TO GAS, WATER, BROADBAND, PHONE, SANITARY AND STORM SEWERS. ANY CONFLICT SHALL BE REPORTED IMMEDIATELY TO THE ENGINEER AND APPROPRIATE AUTHORITIES

NOTES:

1. REFER TO SHEET C001 FOR GENERAL NOTES AND ABBREVIATIONS.
2. CONTRACTOR SHALL REFER TO OTHER PLANS WITHIN THIS CONSTRUCTION SET FOR OTHER PERTINENT INFORMATION. IT IS NOT THE ENGINEER'S INTENT THAT ANY SINGLE PLAN SHEET IN THIS SET OF DOCUMENTS FULLY DEPICT ALL WORK ASSOCIATED WITH THIS PROJECT.

SCALE IN FEET
0 20 40

PATRICK T. BENNETT
(MO PE# 2002003134)
*HAND SIGNATURE ON FILE

STATE OF MISSOURI
PATRICK TODD BENNETT
NUMBER PE-2002003134
08/07/2025
PROFESSIONAL ENGINEER

REVISION RECORD

NO	DATE	DESCRIPTION
1	10/16/24	CITY COMMENTS
2	05/27/2025	CITY & MODOT COMMENTS
3	06/27/2025	MODOT COMMENTS
4	07/25/2025	CITY COMMENTS
5	08/01/2025	CLIENT AND MODOT COMMENTS

1450 Beale Street
Suite 305
St. Charles, MO 63303
Ph: 314.656.4566
www.cecinc.com

Civil & Environmental Consultants, Inc.

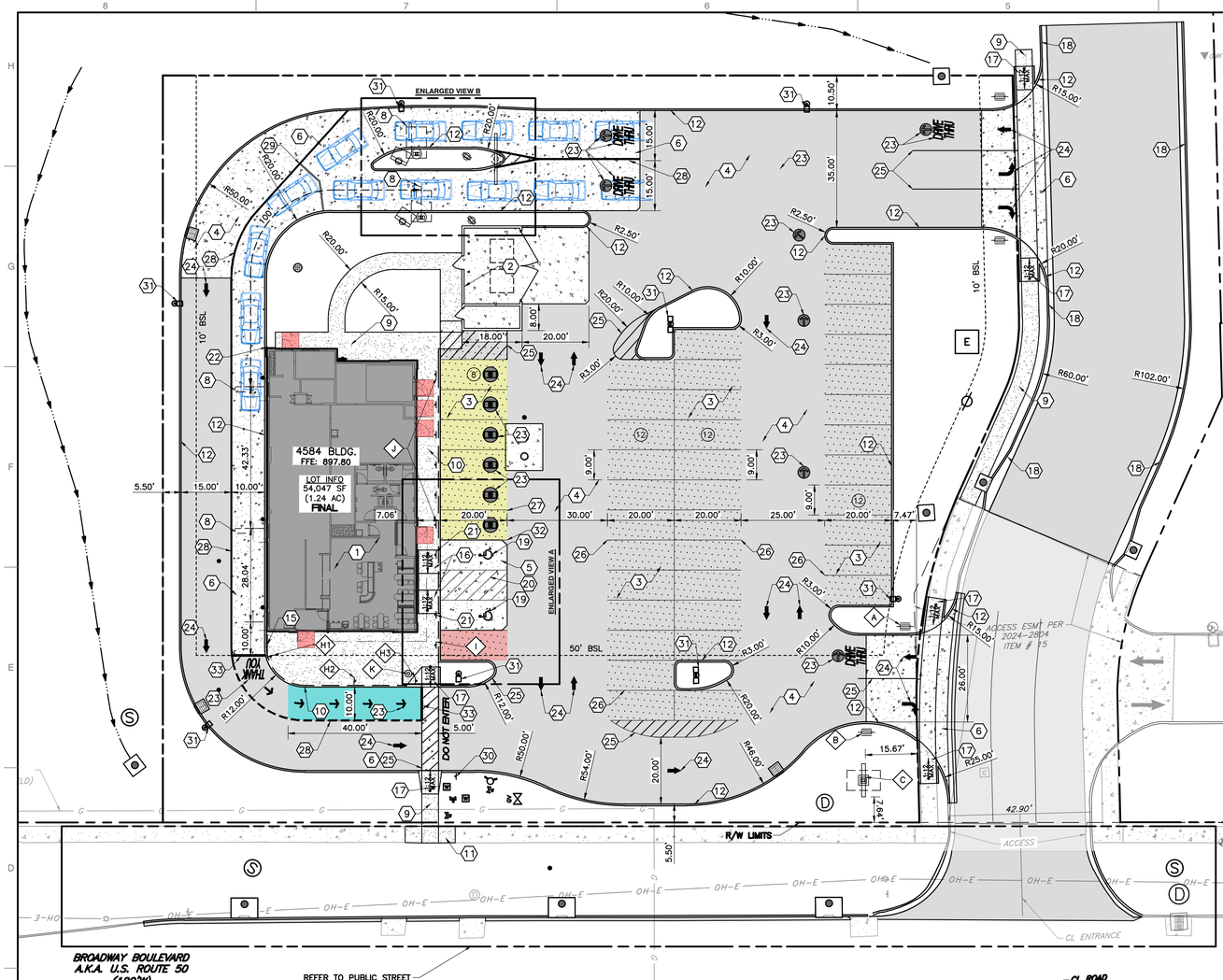
MCDONALD'S RESTAURANT
NSN 43739 (024-1308)
613 E BROADWAY BLVD
SEDALIA, MO 65301

EXISTING CONDITIONS AND DEMOLITION

DATE:	OCTOBER 22, 2024
DRAWN BY:	MAB
CHECKED BY:	GAS
DWG SCALE:	1"=20'
PROJECT NO:	343-982
APPROVED BY:	PTB

DRAWING NO.: C100
SHEET 03 OF 28

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LEGEND

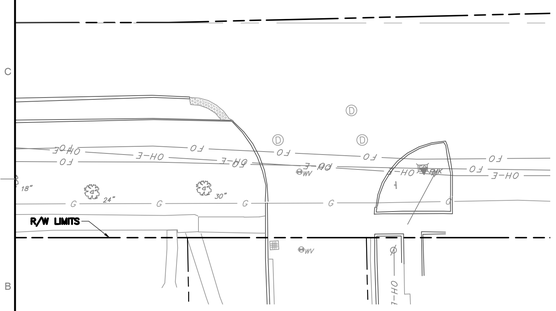
- PROPERTY BOUNDARY
- PROPOSED CURB
- PROPOSED BUILDING
- PROPOSED ASPHALT (AISLES)
- PROPOSED ASPHALT (PARKING)
- PROPOSED CONCRETE
- PROPOSED SIDEWALK
- PROPOSED STRIPING
- PROPOSED DRIVE-THRU PARKING
- PROPOSED MCDELIVERY PARKING
- PROPOSED CURB SIDE PICK-UP PARKING

McDONALD'S SIGN LEGEND

- A — McDONALD'S DIRECTIONAL ENTER SIGN. REFER TO ARCHITECTURAL AND/OR SIGN VENDOR PLANS FOR SIGN DETAILS. REFER TO THIS PLAN SET FOR STRUCTURAL DETAILS
- B — McDONALD'S DIRECTIONAL EXIT SIGN. REFER TO ARCHITECTURAL AND/OR SIGN VENDOR PLANS FOR SIGN DETAILS. REFER TO THIS PLAN SET FOR STRUCTURAL DETAILS.
- C2 — McDONALD'S HIGHWAY SIGN. REFER TO ARCHITECTURAL AND/OR SIGN VENDOR PLANS FOR DETAILS.
- D — McDONALD'S DRIVE-THRU CANOPY. REFER TO ARCHITECTURAL AND/OR SIGN VENDOR PLANS FOR SIGN DETAILS. REFER TO THIS PLAN SET FOR STRUCTURAL DETAILS.
- E — McDONALD'S DIGITAL MENU BOARD. REFER TO ARCHITECTURAL AND/OR SIGN VENDOR PLANS FOR SIGN DETAILS. REFER TO THIS PLAN SET FOR STRUCTURAL DETAILS.
- F — McDONALD'S DIGITAL PRE-BROWSE MENU BOARD. REFER TO ARCHITECTURAL AND/OR SIGN VENDOR PLANS FOR SIGN DETAILS. REFER TO THIS PLAN SET FOR STRUCTURAL DETAILS.
- G1 — McDONALD'S GATEWAY SIGN (DOUBLE ARM). REFER TO ARCHITECTURAL AND/OR SIGN VENDOR PLANS FOR SIGN DETAILS. REFER TO THIS PLAN SET FOR STRUCTURAL DETAILS.
- H1 — McDONALD'S ROLL FORWARD – ("TURN LEFT") DRIVE-THRU SIGN. REFER TO ARCHITECTURAL AND/OR SIGN VENDOR PLANS FOR DETAILS. REFER TO THIS PLAN SET FOR STRUCTURAL DETAILS.
- H2 — McDONALD'S ROLL FORWARD – ("PULL AHEAD") DRIVE-THRU SIGN. REFER TO ARCHITECTURAL AND/OR SIGN VENDOR PLANS FOR DETAILS. REFER TO THIS PLAN SET FOR STRUCTURAL DETAILS.
- H3 — McDONALD'S ROLL FORWARD – ("PICK UP HERE") DRIVE-THRU SIGN. REFER TO ARCHITECTURAL AND/OR SIGN VENDOR PLANS FOR DETAILS. REFER TO THIS PLAN SET FOR STRUCTURAL DETAILS.
- I — McDONALD'S McDELIVERY – ("COURIER PARKING") SIGN. REFER TO ARCHITECTURAL AND/OR SIGN VENDOR PLANS FOR DETAILS. REFER TO THIS PLAN SET FOR STRUCTURAL DETAILS.
- J — McDONALD'S ("CURBSIDE PICK UP") SIGN. REFER TO ARCHITECTURAL AND/OR SIGN VENDOR PLANS FOR DETAILS. REFER TO THIS PLAN SET FOR STRUCTURAL DETAILS.
- K — FLAGPOLE AND BASE. REFER TO VENDOR PLANS FOR FLAGPOLE DETAIL. REFER TO THIS PLAN SET FOR STRUCTURAL DETAILS. GENERAL CONTRACTOR TO COORDINATE WITH CONSTRUCTION MANAGER REGARDING ILLUMINATION OF FLAG.

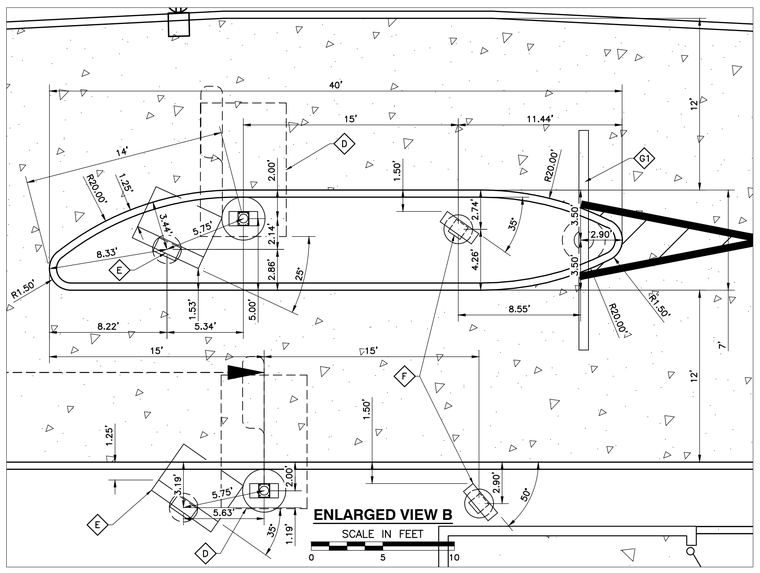
NOTE:
ALL SIGNS/LOCATIONS/ORIENTATION SHALL BE CONFIRMED BY McDONALD'S/OPERATOR AND COORDINATED WITH SIGNAGE BRAND BOOK (BY OTHERS).

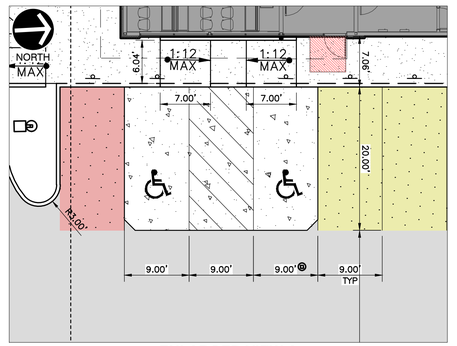
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SCALE IN FEET
0 20 40



KEY NOTES

1. PROPOSED BUILDING. REFER TO ARCHITECTURAL PLANS FOR ADDITIONAL INFORMATION.
2. PROPOSED TRASH ENCLOSURE WITH STORAGE. FOR ADDITIONAL INFORMATION REFER TO ARCHITECTURAL PLANS.
3. PROPOSED ASPHALTIC PAVEMENT (PARKING). REFER TO DETAIL ON SHEET C800.
4. PROPOSED ASPHALTIC PAVEMENT (DRIVE AISLE). REFER TO DETAIL ON SHEET C800.
5. PROPOSED CONCRETE (PARKING) PAVEMENT. REFER TO DETAIL ON SHEET C800.
6. PROPOSED CONCRETE (DRIVE AISLE) PAVEMENT. REFER TO DETAIL ON SHEET C800.
7. PROPOSED PAVEMENT REPAIR AT UTILITY TRENCH.
8. PROPOSED DETECTOR LOOP. REFER TO ELECTRICAL PLANS FOR DETAIL.
9. PROPOSED ADA COMPLIANT CONCRETE SIDEWALK. REFER TO DETAIL ON SHEET C800.
10. PROPOSED ADA COMPLIANT COMBINATION CURB / SIDEWALK. REFER TO DETAIL ON SHEET C800.
11. PROPOSED CONCRETE SIDEWALK. REFER TO MODOT DETAILS ON SHEET C802.
12. PROPOSED 6" VERTICAL CONCRETE CURB. REFER TO DETAIL ON SHEET C800.
13. PROPOSED 6" CONCRETE CURB AND GUTTER. REFER TO MODOT DETAILS ON SHEET C801 AND C802.
14. PROPOSED 6" VERTICAL CONCRETE CURB. REFER TO MODOT DETAILS ON SHEET C801 AND C802. REFER TO PLANS BY OLSSON.
15. PROPOSED BOLLARDS. REFER TO ARCHITECTURAL PLANS FOR DETAILS.
16. PROPOSED ADA ACCESSIBLE DEPRESSED CURB RAMP. REFER TO DETAIL ON SHEET C800.
17. PROPOSED ADA ACCESSIBLE CURB RAMP. REFER TO DETAIL ON SHEET C800.
18. PROPOSED 6" VERTICAL CONCRETE CURB AND GUTTER. REFER TO CITY DETAIL 2.401 ON SHEET C803.
19. PROPOSED PAINTED ADA ACCESSIBLE PARKING SYMBOL. REFER TO DETAIL ON SHEET C801.
20. PROPOSED PAINTED ADA ACCESSIBLE PARKING AISLE. REFER TO DETAIL ON SHEET C801.
21. PROPOSED ADA ACCESSIBLE PARKING SIGN(S). REFER TO DETAIL ON SHEET C801.
22. PROPOSED PIPE BOLLARD. REFER TO DETAIL ON SHEET C801.
23. PROPOSED BRANDED PAVEMENT STRIPING TO MCDONALD'S STANDARDS. REFER TO DETAIL ON SHEET C801.
24. PROPOSED WHITE PAINTED DIRECTIONAL ARROWS. REFER TO DETAIL ON SHEET C801.
25. PROPOSED PAVEMENT STRIPING. REFER TO DETAIL ON SHEET C801.
26. PROPOSED PARKING STRIPING (WHITE).
27. PROPOSED PARKING STRIPING (YELLOW).
28. PROPOSED DRIVE THRU LANE STRIPING (6" WIDE). REFER TO MCDONALD'S STANDARDS.
29. PROPOSED MERGE STRIPING (6" WIDE). REFER TO MCDONALD'S STANDARDS.
30. PROPOSED (DO NOT ENTER) SIGN. REFER TO DETAIL ON SHEET C801.
31. PROPOSED LOT LIGHT. REFER TO PHOTOMETRIC PLAN (BY OTHERS).
32. PROPOSED ADA PARKING STRIPING.
33. PROPOSED 8" WIDE PULL FORWARD/PARK STRIPE (YELLOW).





REFERENCE

1. TOPOGRAPHIC INFORMATION BASED UPON THE ALTA/NSPS LAND TITLE SURVEY CONDUCTED BY CIVIL & ENVIRONMENTAL CONSULTANTS, INC. IN AUGUST 2024.

MISSOURI 811
811 or 1-800-344-7483
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TICKET DATE: 00/00/00

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PATRICK T. BENNETT
(MO PE# 2002003134)
*HAND SIGNATURE ON FILE

STATE OF MISSOURI
PATRICK TODD BENNETT
NUMBER 2002003134
PROFESSIONAL ENGINEER
08/07/2025

REVISION RECORD

NO	DATE	DESCRIPTION
1	10/15/24	CITY COMMENTS
2	12/27/2024	CITY & MODOT COMMENTS
3	04/07/2025	MODOT COMMENTS
4	05/29/2025	CITY COMMENTS
5	08/07/2025	CLIENT AND MODOT COMMENTS

1450 Beale Street
Suite 305
St. Charles, MO 63303
Ph: 314.656.4566
www.cecinc.com

Civil & Environmental Consultants, Inc.

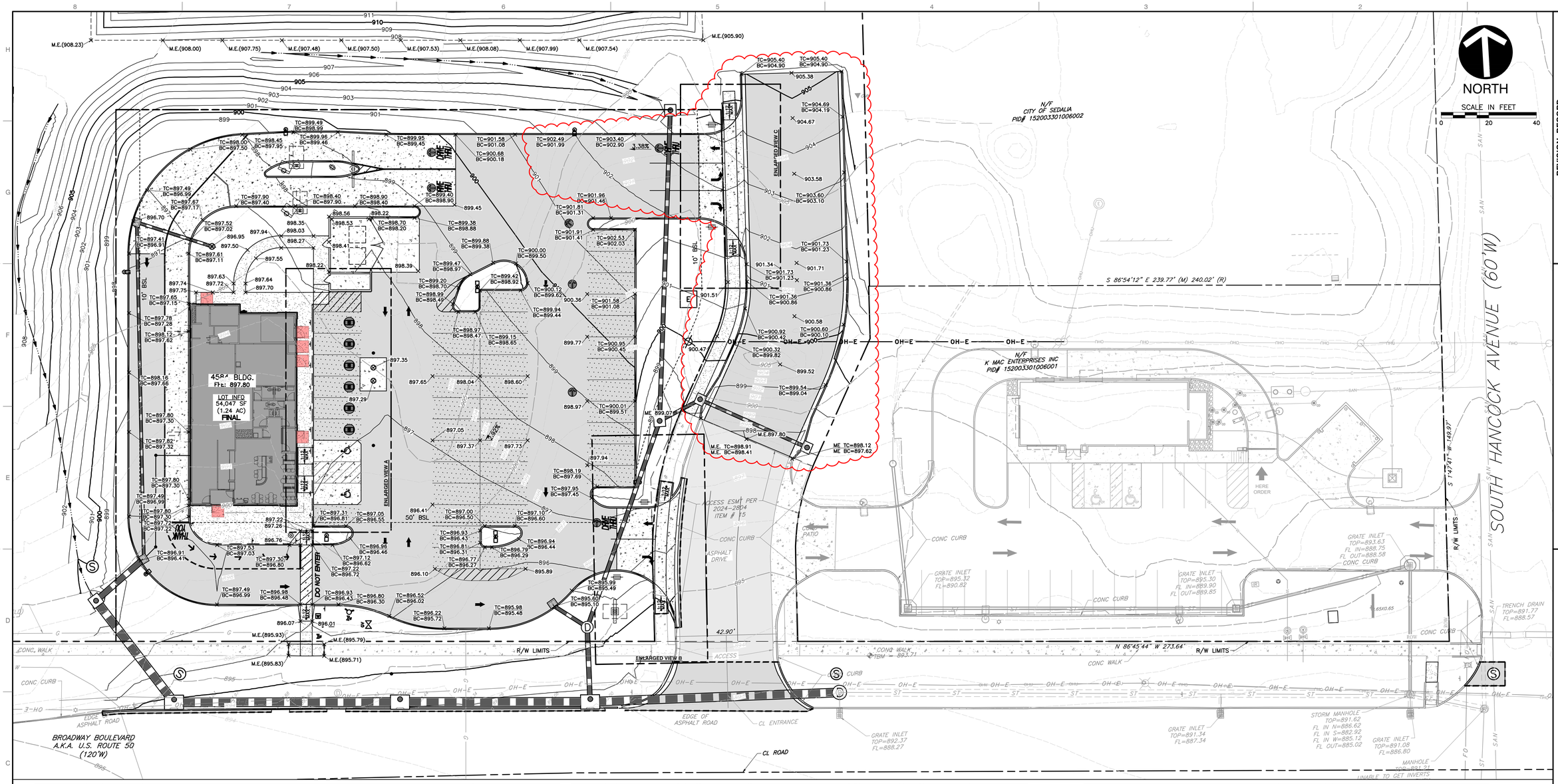
MCDONALD'S RESTAURANT
NSN 43739 (024-1308)
613 E BROADWAY BLVD
SEDALIA, MO 65301

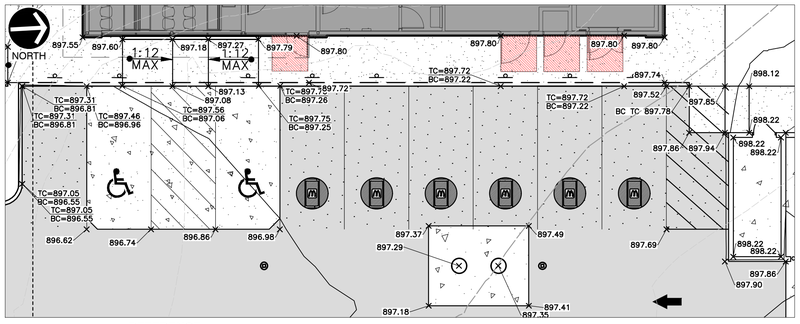
SITE PLAN

DRAWN BY:	MAB
CHECKED BY:	GAS
DATE:	OCTOBER 22, 2024
DWG SCALE:	1" = 20'
PROJECT NO:	343-982
APPROVED BY:	PTB

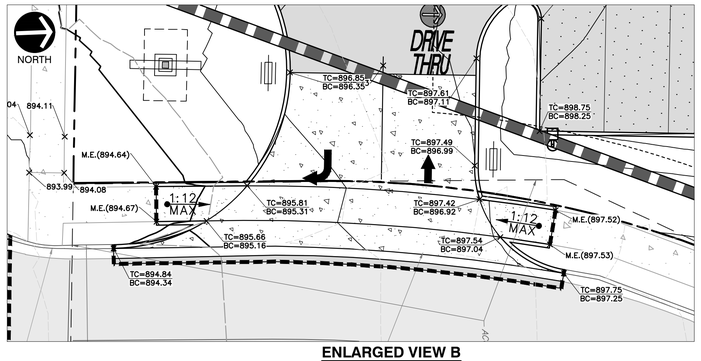
DRAWING NO.: C200
SHEET 04 OF 28

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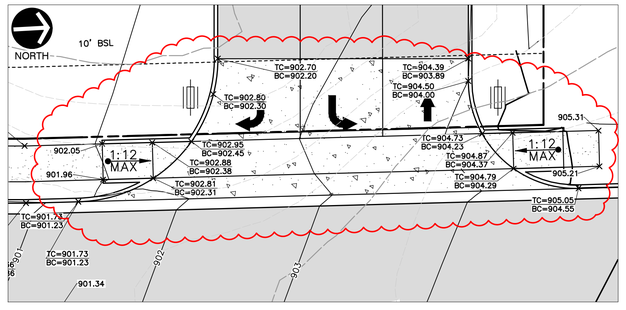




ENLARGED VIEW A
SCALE IN FEET
0 10 20



ENLARGED VIEW B
SCALE IN FEET
0 10 20



ENLARGED VIEW C
SCALE IN FEET
0 10 20

REFERENCE

1. TOPOGRAPHIC INFORMATION BASED UPON THE ALTA/NSPS LAND TITLE SURVEY CONDUCTED BY CIVIL & ENVIRONMENTAL CONSULTANTS, INC. IN AUGUST 2024.

MISSOURI 811
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PATRICK T. BENNETT
(MO PE# 2002003134)
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STATE OF MISSOURI
PATRICK TODD BENNETT
NUMBER PE-2002003134
PROFESSIONAL ENGINEER
08/07/2025

REVISION RECORD

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3	11/07/2025	MCDOT COMMENTS
4	12/05/2025	CITY COMMENTS
5	04/16/2026	CONSTRUCTION DOCUMENTS

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Ph: 314.656.4566
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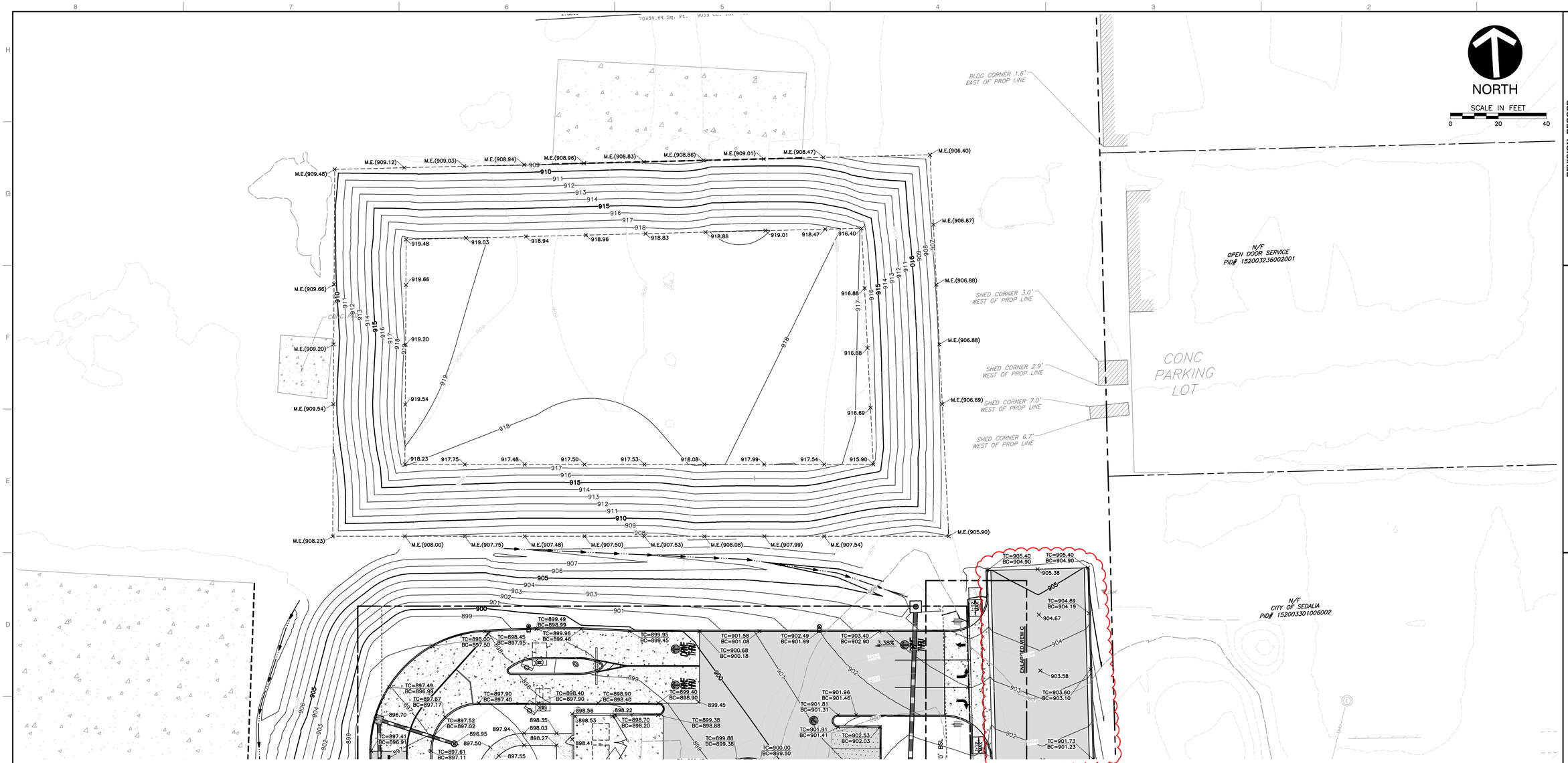
MCDONALD'S RESTAURANT
NSN 43739 (024-1308)
613 E BROADWAY BLVD
SEDALIA, MO 65301

GRADING PLAN

DRAWN BY:	MAB
CHECKED BY:	GAS
DATE:	OCTOBER 22, 2024
DWG SCALE:	1"=20'
PROJECT NO:	343-982
APPROVED BY:	PTB

DRAWING NO.: C300
SHEET 05 OF 28

P:\140-2001\141-981\-CAD\Dwg\C001\141981-C001-C300.dwg[C300] LS (8/7/2025 - dsutton) - LP: 8/7/2025 11:47 AM



REFERENCE

1. TOPOGRAPHIC INFORMATION BASED UPON THE ALTA/NSPS LAND TITLE SURVEY CONDUCTED BY CIVIL & ENVIRONMENTAL CONSULTANTS, INC. IN AUGUST 2024.

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PATRICK TODD BENNETT
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PROFESSIONAL ENGINEER
08/07/2025

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3	06/27/2025	MODOT COMMENTS
4	07/25/2025	CITY COMMENTS
5	08/01/2025	CERTIFICATION AND ADDITIONAL COMMENTS

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Civil & Environmental Consultants, Inc.

MCDONALD'S RESTAURANT
NSN 43739 (024-1308)
613 E BROADWAY BLVD
SEDALIA, MO 65301

GRADING PLAN - STOCKPILE

DATE:	OCTOBER 22, 2024	DRAWN BY:	MAB
DWG SCALE:	1" = 20'	CHECKED BY:	GAS
PROJECT NO:			343-982
APPROVED BY:			PTB

DRAWING NO.: **C301**

SHEET 06 OF 28

P:\343-000\343-0821--0400\Dwg\CIVIL\343821-C301.dwg[C301] LS(8/7/2025 - author) - LP: 8/7/2025 11:47 AM

NORTH

GRATE INLET
RIM=896.70
INV. IN (12"E)=893.50
INV. OUT (12"S)=893.24

33.1 LF 12" HDPE @ 1.0%

13 ADS NYLOPLAST STR.
RIM=896.95
INV. OUT (12"W)=893.83

16 AREA INLET
RIM=904.36
INV. OUT (18"S)=898.94

130.7 LF 18" HDPE @ 4.1%

17 CURB INLET
RIM=899.20
INV. IN (12"SE)=894.01
INV. OUT (12"SW)=893.81

19.3 LF 12" RCP @ 1.0%

49.0 LF 12" RCP @ 1.0%

15 AREA INLET
RIM=897.87
INV. IN (18"N)=893.62
INV. IN (12"NE)=893.62
INV. OUT (18"SW)=893.42

18 CURB INLET
RIM=898.18
INV. OUT (12"NW)=894.50

91.9 LF 18" HDPE @ 2.5%

14 MH
RIM=895.34
INV. IN (18"NE)=891.15
INV. IN (15"NW)=891.15
INV. OUT (18"S)=890.85

16.3 LF 15" HDPE @ 2.8%

31.4 LF 18" RCP @ 4.0%

239.7 LF 36" RCP @ 0.6%

53.8 LF 36" RCP @ 4.3%

26.7 LF 24" RCP @ 1.0%

5 AREA INLET
RIM=899.52
INV. IN (24"NE)=891.40
INV. OUT (36"SE)=891.00

GRATE INLET
RIM=896.41
INV. IN (12"N)=891.86
INV. IN (8"NE)=892.03
INV. OUT (24"SW)=891.66

CLEANOUT
RIM=897.14
INV. IN (8"E)=893.51
INV. OUT (8"S)=893.51

14.5 LF 12" HDPE @ 1.0%

14.6 LF 8" PVC @ 2.0%

38.5 LF 8" PVC @ 2.0%

11 BUILDING
FF=897.8
RIM=894.53
INV. OUT (8"W)=893.80

4534 BLDG.
FFE 897.80

LOT INFO
52,047 SF
(1.24 AC)
ZONING

CLEANOUT
RIM=896.69
INV. IN (8"N)=892.74
INV. OUT (8"SW)=892.74

GRATE INLET
RIM=895.10
INV. OUT (15"SE)=891.60

DO NOT ENTER

ONE WAY

50' BSL

10' BSL

ACCESS ESMT PER 2024-2804 ITEM # 15

ACCESS

57.86'

CL ENTRANCE

CL ROAD

BROADWAY BOULEVARD
A.K.A. U.S. ROUTE 50
(120'W)

SHED CORNER 2.9' WEST OF PROP LINE

SHED CORNER 7.0' WEST OF PROP LINE

SHED CORNER 6.7' WEST OF PROP LINE

N: 1046516.29
E: 1435092.97
UNABLE TO SEE INVERTS

SANITARY MANHOLE
TOP=900.43
FL IN=890.29
TERMINUS NOT FL OUT=890.27

STORM SHELTER
N/F
CITY OF SEDALIA
PID# 152003301006002

BUILDING FACE

N/F
CITY OF SEDALIA
DOC.# 2021-1047
ID# 152003301006000
EAST BROADWAY

N/F
K MAC ENTERPRISES INC
PID# 152003301006001

HERE ORDER

12" CLAY PER CITY PLANS

R/W LIMITS

GRATE INLET
TOP=895.32
FL=890.82

GRATE INLET
TOP=895.30
FL IN=889.90
FL OUT=889.85

GRATE INLET
TOP=893.63
FL IN=888.75
FL OUT=888.58

TRENCH DRAIN
TOP=891.77
FL=888.57

GRATE INLET
TOP=892.37
FL=888.27

GRATE INLET
TOP=891.34
FL=887.34

STORM MANHOLE
TOP=891.62
FL IN N=886.62
FL IN S=882.92
FL IN W=885.12
FL OUT=885.02

GRATE INLET
TOP=891.08
FL=886.80

UNKNOWN STRUCTURE
TOP=891.33
INV(N)=887.53
INV(W)=884.76

MANHOLE
TOP=891.33
POSSIBLE EAST PIPE
INV=884.73

UNABLE TO GET INVERTS

KEY NOTES

1. PROPOSED DOWNSPOUT CONNECTION – JR SMITH 2110 OR SIMILAR IN PEDESTRIAN AREAS, JR SMITH 2140 OR SIMILAR IN DRIVE-THRU TRAFFIC AREAS. SEE DETAIL ON C801.
2. PROPOSED 6" N-12 OR SIMILAR ROOF DRAIN COLLECTION PIPING AT 1% MINIMUM..

REFERENCE

1. TOPOGRAPHIC INFORMATION BASED UPON THE ALTA/NSPS LAND TITLE SURVEY CONDUCTED BY CIVIL & ENVIRONMENTAL CONSULTANTS, INC. IN AUGUST 2024.

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SCALE IN FEET
0 20 40

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08/01/2025
PROFESSIONAL ENGINEER

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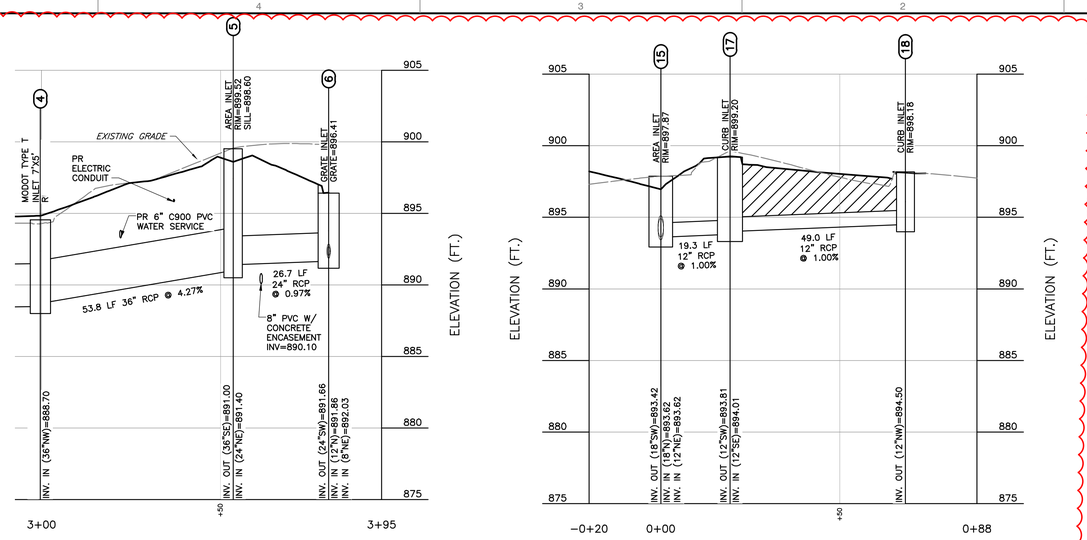
MCDONALD'S RESTAURANT
NSN 43739 (024-1308)
613 E BROADWAY BLVD
SEDALIA, MO 65301

STORMWATER MANAGEMENT PLAN

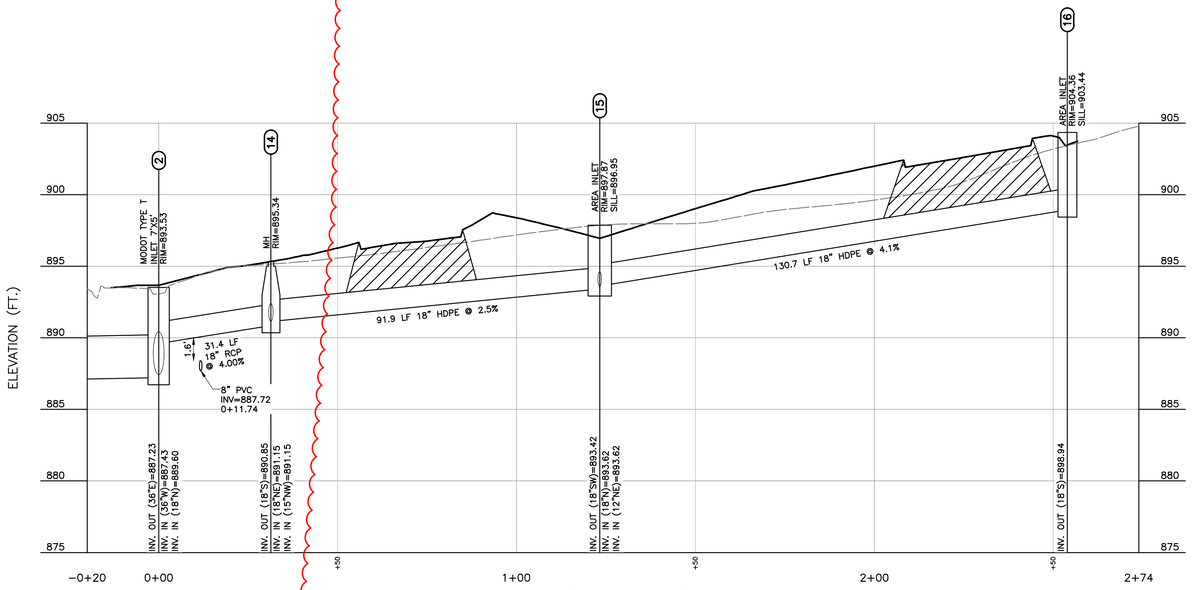
DRAWN BY:	MAB
CHECKED BY:	GAS
PROJECT NO:	343-982
APPROVED BY:	PTB
DATE:	OCTOBER 22, 2024
DWG SCALE:	1" = 20'

DRAWING NO.: C400
SHEET 07 OF 28

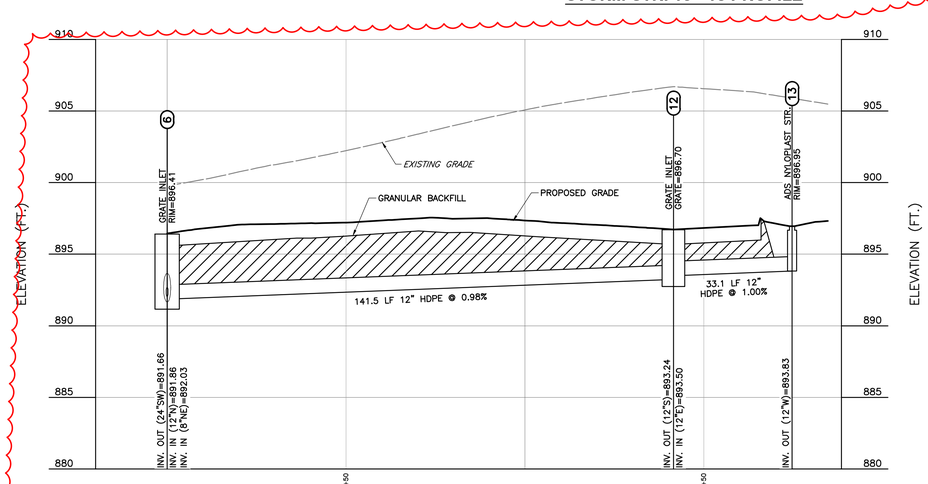
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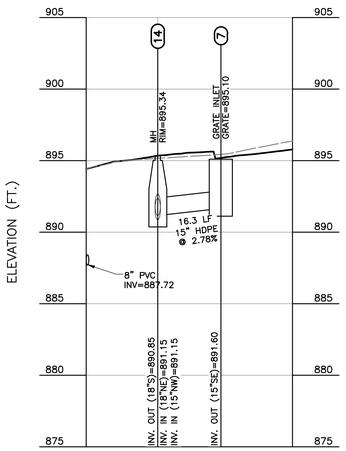
STORM STR. 15 - 18 PROFILE



STORM STR. 2 - 16 PROFILE



STORM STR. 6 - 13 PROFILE



STORM STR. 2 - 7 PROFILE

PROPOSED STORM NETWORK - PROPOSED FLOWS (10YR/20MIN)

Down Str. No.	Up Str. No.	Junction TypeUp	Length (ft)	Defl.Angle (Deg)	Line Type	Size (in)	Slope (%)	n-value Pipe	Capacity Full (cfs)	FlowRate (cfs)	Vel.Dn (ft/s)	Vel.Up (ft/s)	InvertDn (ft)	InvertUp (ft)	HGLDn (ft)	HGLUp (ft)	Inlet Rim ElevDn (ft)	Inlet Rim ElevUp (ft)	Rm-Hw (ft)
4	5	AI	53.8	52.6	Cir	36	0.87	0.013	62.31	3.67	2.95	3.67	890.53	891.00	891.23	891.60 j	894.55	899.52	7.92
5	6	GI	26.7	86.3	Cir	24	0.97	0.013	22.32	3.07	4.98	3.77	891.40	891.66	891.90	892.27	899.52	896.74	4.47
6	12	GI	141.5	-50.0	Cir	12	0.98	0.012	3.81	1.89	4.84	3.96	891.86	893.24	892.36	893.83	896.74	896.72	2.89
12	13	YD	33.1	109.0	Cir	12	1.00	0.012	3.85	0.16	0.72	1.91	893.50	893.83	893.83	893.99 j	896.72	896.95	2.96
6	9	CO	7.1	-3.8	Cir	8	10.02	0.012	4.14	0.57	5.01	3.03	892.03	892.74	892.27	893.09	896.74	896.69	3.60
9	10	CO	38.5	-45.0	Cir	8	2.00	0.012	1.85	0.57	3.03	3.03	892.74	893.51	893.09	893.86	896.69	897.14	3.28
10	11	BLDG.	14.6	90.0	Cir	8	1.99	0.012	1.85	0.57	3.03	3.03	893.51	893.80	893.86	894.15	897.14	894.53	0.38
2	14	MH	31.4	89.9	Cir	18	4.00	0.013	21.00	7.02	10.70	5.46	889.60	890.85	890.20	891.88	893.53	895.34	3.46
14	7	GI	16.3	-55.1	Cir	15	2.77	0.012	11.60	4.40	5.92	4.96	891.15	891.60	891.88	892.45	895.34	895.10	2.65
14	15	AI	91.9	21.5	Cir	18	2.47	0.012	17.88	2.62	3.07	3.86	891.15	893.42	891.88	894.03 j	895.34	898.60	4.57
15	16	AI	130.7	-17.3	Cir	18	4.07	0.012	22.95	1.18	2.98	3.06	893.62	898.94	894.03	899.35 j	898.60	904.36	5.01
15	17	CI	19.3	42.9	Cir	12	0.98	0.013	3.53	1.29	4.14	3.47	893.62	893.81	894.04	894.29	898.60	898.67	4.38
17	18	CI	49.0	52.0	Cir	12	1.00	0.013	3.56	0.60	3.34	2.75	894.01	894.50	894.29	894.82	898.67	898.67	3.85

Notes: Calculations From Hydraflow Storm Sewers Software
Starting HGL for system is the crown of the existing pipe
j-Line contains hyd. jump

SCALE IN FEET (HORIZONTAL)
0 20 40
SCALE IN FEET (VERTICAL)
0 5 10

REFERENCE

1. TOPOGRAPHIC INFORMATION ~~BASED UPON THE ALTA/NSPS LAND TITLE SURVEY~~ CONDUCTED BY CIVIL & ENVIRONMENTAL CONSULTANTS, INC. IN AUGUST 2024.

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(MO PE# 2002003134)
*HAND SIGNATURE ON FILE

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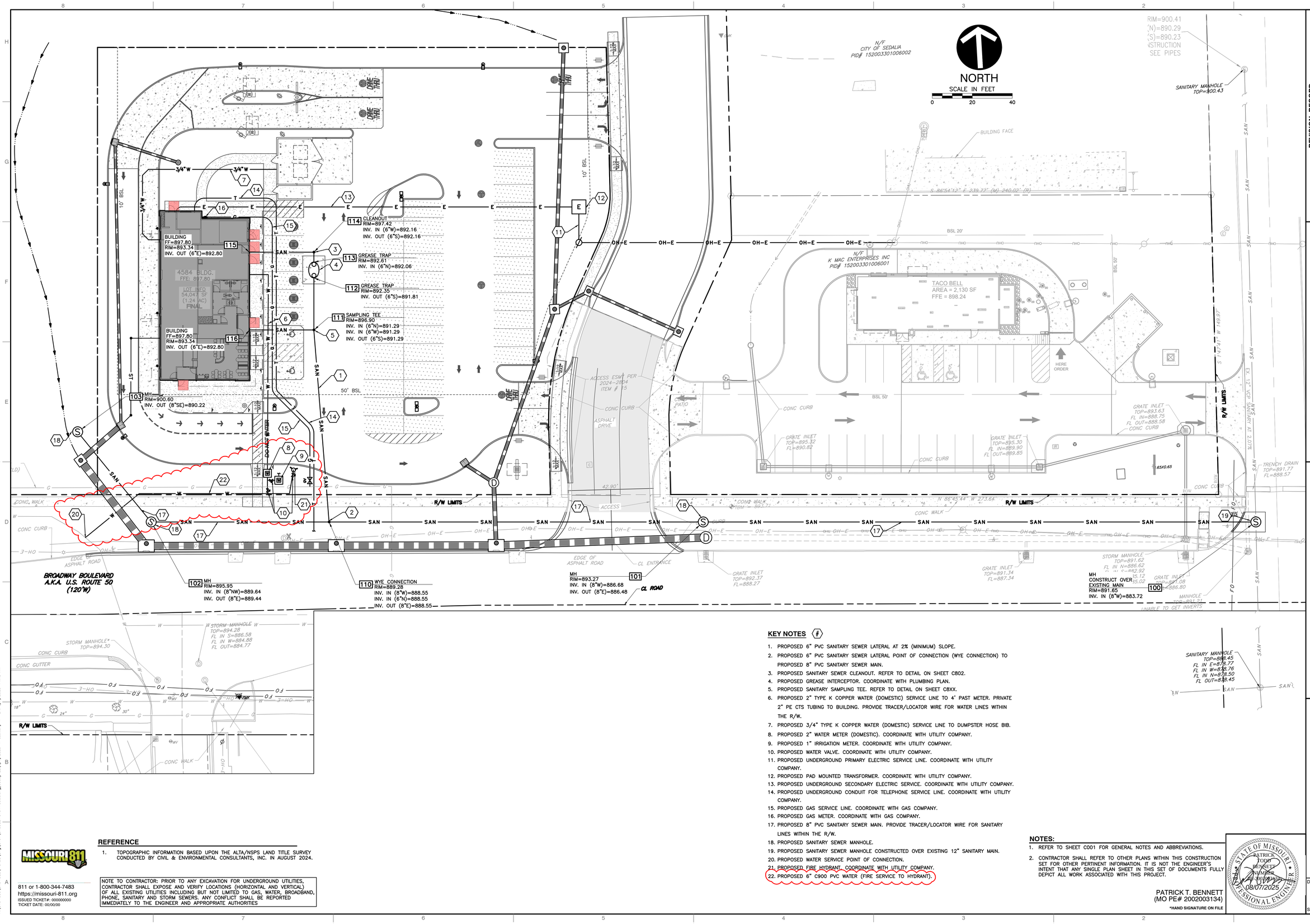
MCDONALD'S RESTAURANT
NSN 43739 (024-1308)
613 E BROADWAY BLVD
SEDALIA, MO 65301

STORM SEWER PROFILES

DATE: OCTOBER 22, 2024 | DRAWN BY: MAB
DWG SCALE: 1"=20' | CHECKED BY: GAS
PROJECT NO: 343-982
APPROVED BY: PTB

DRAWING NO.: **C401**
SHEET 08 OF 28

A:\343-0001\343-982\Admin\Dwg\C001_343982-Cd1-Cd03.dwg(C401) 15:58 8/7/2025 - asutton - LP: 8/7/2025 11:47 AM



KEY NOTES

1. PROPOSED 6" PVC SANITARY SEWER LATERAL AT 2% (MINIMUM) SLOPE.
2. PROPOSED 6" PVC SANITARY SEWER LATERAL POINT OF CONNECTION (WYE CONNECTION) TO PROPOSED 8" PVC SANITARY SEWER MAIN.
3. PROPOSED SANITARY SEWER CLEANOUT. REFER TO DETAIL ON SHEET C802.
4. PROPOSED GREASE INTERCEPTOR. COORDINATE WITH PLUMBING PLAN.
5. PROPOSED SANITARY SAMPLING TEE. REFER TO DETAIL ON SHEET C8XX.
6. PROPOSED 2" TYPE K COPPER WATER (DOMESTIC) SERVICE LINE TO 4' PAST METER. PRIVATE 2" PE CTS TUBING TO BUILDING. PROVIDE TRACER/LOCATOR WIRE FOR WATER LINES WITHIN THE R/W.
7. PROPOSED 3/4" TYPE K COPPER WATER (DOMESTIC) SERVICE LINE TO DUMPSTER HOSE BIB.
8. PROPOSED 2" WATER METER (DOMESTIC). COORDINATE WITH UTILITY COMPANY.
9. PROPOSED 1" IRRIGATION METER. COORDINATE WITH UTILITY COMPANY.
10. PROPOSED WATER VALVE. COORDINATE WITH UTILITY COMPANY.
11. PROPOSED UNDERGROUND PRIMARY ELECTRIC SERVICE LINE. COORDINATE WITH UTILITY COMPANY.
12. PROPOSED PAD MOUNTED TRANSFORMER. COORDINATE WITH UTILITY COMPANY.
13. PROPOSED UNDERGROUND SECONDARY ELECTRIC SERVICE. COORDINATE WITH UTILITY COMPANY.
14. PROPOSED UNDERGROUND CONDUIT FOR TELEPHONE SERVICE LINE. COORDINATE WITH UTILITY COMPANY.
15. PROPOSED GAS SERVICE LINE. COORDINATE WITH GAS COMPANY.
16. PROPOSED GAS METER. COORDINATE WITH GAS COMPANY.
17. PROPOSED 8" PVC SANITARY SEWER MAIN. PROVIDE TRACER/LOCATOR WIRE FOR SANITARY LINES WITHIN THE R/W.
18. PROPOSED SANITARY SEWER MANHOLE.
19. PROPOSED SANITARY SEWER MANHOLE CONSTRUCTED OVER EXISTING 12" SANITARY MAIN.
20. PROPOSED WATER SERVICE POINT OF CONNECTION.
21. PROPOSED FIRE HYDRANT. COORDINATE WITH UTILITY COMPANY.
22. PROPOSED 6" C900 PVC WATER (FIRE SERVICE TO HYDRANT).

NOTES:

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2. CONTRACTOR SHALL REFER TO OTHER PLANS WITHIN THIS CONSTRUCTION SET FOR OTHER PERTINENT INFORMATION. IT IS NOT THE ENGINEER'S INTENT THAT ANY SINGLE PLAN SHEET IN THIS SET OF DOCUMENTS FULLY DEPICT ALL WORK ASSOCIATED WITH THIS PROJECT.

REFERENCE

1. TOPOGRAPHIC INFORMATION BASED UPON THE ALTA/NSPS LAND TITLE SURVEY CONDUCTED BY CIVIL & ENVIRONMENTAL CONSULTANTS, INC. IN AUGUST 2024.

MISSOURI 811
811 or 1-800-344-7483
https://missouri-811.org
ISSUED TICKET#: 0000000000
TICKET DATE: 00/00/00

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PATRICK T. BENNETT
(MO PE# 2002003134)
*HAND SIGNATURE ON FILE

STATE OF MISSOURI
PATRICK TODD BENNETT
NUMBER PE-2002003134
08/07/2025
PROFESSIONAL ENGINEER

REVISION RECORD

NO	DATE	DESCRIPTION
1	10/15/24	CITY COMMENTS
2	12/27/2024	CITY & MODOT COMMENTS
3	04/07/2025	MODOT COMMENTS
4	05/30/2025	CITY COMMENTS
5	08/07/2025	CLIENT AND MODOT COMMENTS

1450 Beale Street
Suite 305
St. Charles, MO 63303
Ph: 314.656.4566
www.cecinc.com

Civil & Environmental Consultants, Inc.

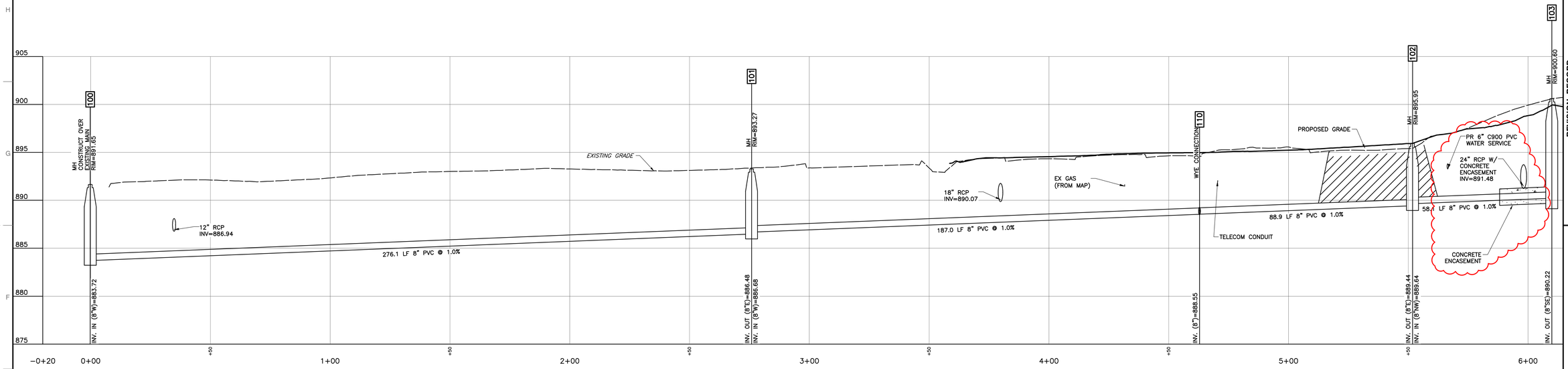
MCDONALD'S RESTAURANT
NSN 43739 (024-1308)
613 E BROADWAY BLVD
SEDALIA, MO 65301

UTILITY PLAN

DATE:	OCTOBER 22, 2024
DRAWN BY:	MAB
CHECKED BY:	GAS
DWG SCALE:	1" = 20'
PROJECT NO:	343-982
APPROVED BY:	PTB

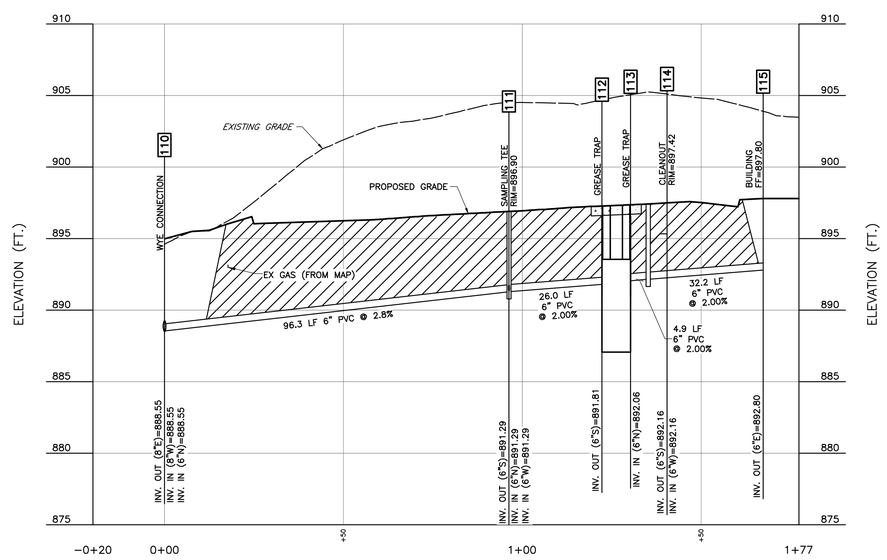
DRAWING NO.:
C500
SHEET 09 OF 28

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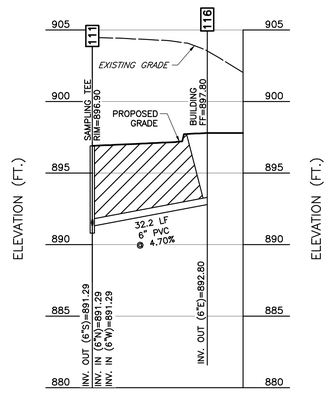
SANITARY 100-103 PROFILE

SCALE H:1"=20'; V:1"=5'



SANITARY 110-115 PROFILE

SCALE H:1"=20'; V:1"=5'



SANITARY 111-116 PROFILE

SCALE H:1"=20'; V:1"=5'

REFERENCE

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811 or 1-800-344-7483
https://missouri-811.org
ISSUED TICKET#: 000000000
TICKET DATE: 00/00/00

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SCALE IN FEET (HORIZONTAL)
0 20 40
SCALE IN FEET (VERTICAL)
0 5 10

NOTES:

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STATE OF MISSOURI
PATRICK TODD BENNETT
NUMBER 2002003134
PROFESSIONAL ENGINEER
08/07/2025

REVISION RECORD

NO	DATE	DESCRIPTION
1.	10/15/24	CITY COMMENTS
2.	12/27/2024	CITY & MODOT COMMENTS
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SANITARY SEWER PROFILES

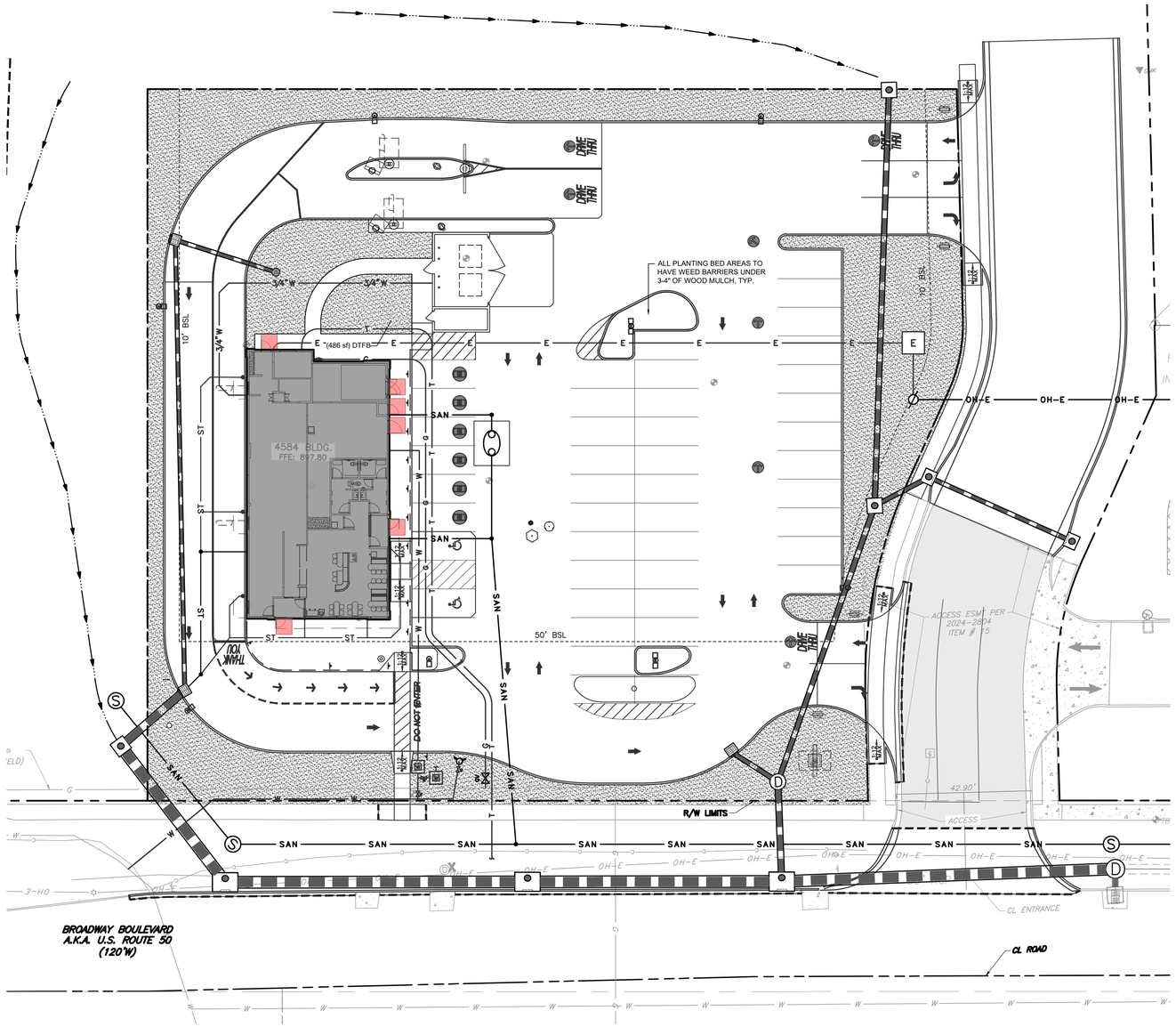
DATE:	OCTOBER 22, 2024
DWG SCALE:	1"=20'
PROJECT NO:	343-982
APPROVED BY:	PTB
DRAWN BY:	MAB
CHECKED BY:	GAS

DRAWING NO.: **C501**
SHEET 10 OF 28

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NORTH

PLANT_SCHEDULE			
SYMBOL	CODE	QTY	BOTANICAL / COMMON NAME
GROUND COVERS			
	SOD	10,990 SF	TURF SOD / DROUGHT TOLERANT FESCUE BLEND



GENERAL PLANTING NOTES:

1. CONTRACTOR RESPONSIBLE FOR ALL PLANTS AND GROUND COVER SHOWN ON PLAN. QUANTITIES ARE FOR CONVENIENCE ONLY.
2. FOR NEW PLANTING AREAS, REMOVE ALL PAVEMENT, GRAVEL SUB-BASE AND CONSTRUCTION DEBRIS, REMOVE COMPACTED SOIL AND ADD 24" NEW TOPSOIL, OR TILL AND AMEND THE TOP 24" OF EXISTING SOIL TO MEET TOPSOIL PLANTING MIX STANDARDS FOR TREES.
3. ¾" TO 1½" ROCK MULCH TO MATCH BUILDING FACADE.

REFERENCE

1. TOPOGRAPHIC INFORMATION BASED UPON THE ALTA/NSPS LAND TITLE SURVEY CONDUCTED BY CIVIL & ENVIRONMENTAL CONSULTANTS, INC. IN AUGUST 2024.

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SCALE IN FEET
0 20 40

PATRICK T. BENNETT
(MO PE# 2002003134)
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STATE OF MISSOURI
PATRICK TODD BENNETT
NUMBER PE-2002003134
PROFESSIONAL ENGINEER
08/07/2025

MISSOURI 811
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TICKET DATE: 00/00/00

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NSN 43739 (024-1308)
613 E BROADWAY BLVD
SEDALIA, MO 65301

LANDSCAPING PLAN

DATE:	OCTOBER 22, 2024
DWG SCALE:	1"=20'
PROJECT NO:	343-982
DRAWN BY:	MAB
CHECKED BY:	GAS
APPROVED BY:	PTB

DRAWING NO.: C700
SHEET 11 OF 28

P:\343-0001\343-8821-CAD\Dwg\C101\343982-C101-C700.dwg[C700] LS|8/7/2025 - asutton| - LP: 8/7/2025 11:48 AM

GENERAL PLANTING NOTES:

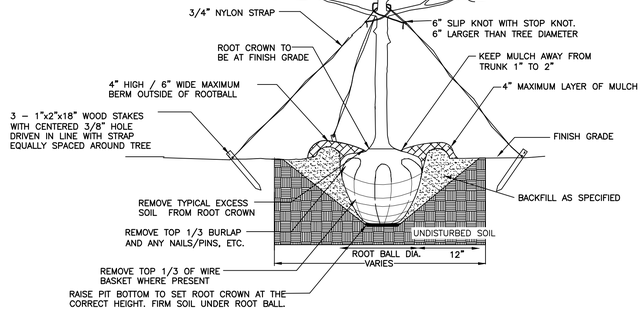
1. CONTRACTOR RESPONSIBLE FOR ALL PLANTS SHOWN ON PLAN. QUANTITIES ARE FOR CONVENIENCE ONLY.
2. SPACE PLANTS AS SHOWN ON PLAN OR IN PLANT LIST. ADJUST AS NECESSARY TO MEET EXISTING CONDITIONS.
3. STAKE AND GUY TREES AS PER LOCALLY ACCEPTED PRACTICE AND ANSI STANDARDS. CONTRACTOR RESPONSIBLE FOR DAMAGE TO PLANTS BECAUSE OF IMPROPER GUYING.
4. ALL STRAPPING AND TOP 2/3 OF WIRE BASKET MUST BE CUT AWAY AND REMOVED FROM ROOT BALL PRIOR TO BACKFILLING PLANTING PIT. REMOVE TOP 1/3 OF THE BURLAP FROM ROOT BALL.
5. FOR NEW PLANTING AREAS, REMOVE ALL PAVEMENT, GRAVEL SUB-BASE AND CONSTRUCTION DEBRIS, REMOVE COMPACTED SOIL AND ADD 24" NEW TOPSOIL, OR TILL AND AMEND THE TOP 24" OF EXISTING SOIL TO MEET TOPSOIL PLANTING MIX STANDARDS FOR TREES.
6. ALL PLANTS AND PLANTING AREAS ARE TO HAVE A WEED BARRIER FABRIC AND TO BE MULCHED WITH CLEAN SHREDDED BARK TO A MINIMUM DEPTH OF 3". MULCH TREES TO 3'-0" BEYOND TRUNK MINIMUM AND TO BED LINES AS SHOWN. KEEP MULCH OFF THE TRUNKS OF TREES.
7. LARGE MATURING TREES MAY NOT BE PLANTED WHERE THERE ARE OVERHEAD DISTRIBUTION OR TRANSMISSION LINES. IF TREES CONFLICT WITH POWER LINES OR SIGNS, CALL OWNER'S REPRESENTATIVE TO RESOLVE BEFORE PLANTING.
8. ADJUST TREE PLANTING LOCATIONS TO AVOID UNDERGROUND UTILITIES. PLANT 15' FROM ALL UNDERGROUND UTILITIES (GAS, WATER, PHONE, AND ELECTRICAL LINES).
9. ATTENTION LANDSCAPER: NOTIFY OWNER'S REPRESENTATIVE OF ANY SIGN, POWER LINE, OR OTHER CONFLICTS BEFORE PLANTING NEW TREES. LARGE MATURING TREES MUST BE A MINIMUM 25 TO 30 FROM THE OVERHEAD DISTRIBUTION OR TRANSMISSION LINES. IF TREES CONFLICT WITH POWER LINES OR SIGNS, CALL URBAN FORESTER TO RESOLVE BEFORE PLANTING.
10. ALL PLANTING BED AREAS TO HAVE 3-4" OF WOOD MULCH. MULCH TO BE PROVIDED BY LOCAL AREA.

NOTES:

1. OPTIMAL TIME FOR PLANTING TREES IS THE FALL OR EARLY SPRING, WHEN THE TREE IS DORMANT. PLANTING TREES AT OTHER TIMES IS DISCOURAGED DUE TO INCREASED STRESS ON THE TREE. IF YOU HAVE ANY QUESTIONS ON PLANTING TIMES CONTACT THE O'FALLON PARKS AND RECREATION DEPARTMENT.
2. THE HOLE SHOULD BE DUG WITH THE WIDTH THREE (3) TIMES THE SPREAD OF THE ROOT BALL NO DEEPER THAN THE ROOT BALL. HOLES SHOULD HAVE SLANTED SIDES AND BE ROUGHED WITH A SHOVEL.
3. TREES WILL BE PLANTED NO DEEPER THAN THE ORIGINAL ROOT FLARE. DO NOT CONFUSE A GRAFT UNION FOR THE ROOT FLARE. IN CLAY SOILS TREES CAN BE PLANTED SLIGHTLY HIGH. EXCAVATION AND SOIL REPLACEMENT MAY BE NECESSARY WHERE THERE IS OVERLAY COMPACTED SUBSOIL AND EXCESSIVE AMOUNTS OF GRAVEL.
4. REMOVE TREE FROM POT OR CUT AWAY TWINE OR ROPE FROM STEM AND WIRE BASKET BELOW GROUND LEVEL. WHEN POSSIBLE, ROLL BACK BURLAP FROM TOP AND CUT OFF TOP ONE-THIRD (1/3) OF THE WIRE BASKET. ALWAYS REMOVE ALL PLASTIC TWINE AND ARTIFICIAL BURLAP.
5. STRAIGHTEN TREE AND COMPLETELY BACKFILL HOLE WITH EXISTING SOIL. AVOID USING EXCESSIVE AMOUNTS OF ORGANIC MATTER.
6. APPLY WATER TO SETTLE THE SOIL AND ELIMINATE ANY VOIDS. AT THIS TIME A SOLUTION OF ROOT STIMULATOR (NOT FERTILIZER) CAN BE WATERED IN.
7. CHOP UP ANY DIRT CLODS; ADD SOIL IF NEEDED.
8. PLACE A TWO (2) TO FOUR (4) INCH LAYER OF MULCH AROUND THE TREE IN A MINIMUM THREE (3) FOOT RADIUS. MAKE SURE THAT THE MULCH IS NOT MOUNDED AGAINST THE BASE OF THE TREE TRUNK.

NOTES:

1. REMOVE WIRE AND NYLON TWINE FROM BALL AND CANOPY.
2. SOAK ROOT BALL AND PLANT PIT IMMEDIATELY AFTER INSTALLATION.
3. STAKING IS REQUIRED FOR ALL TREES IN R.O.W. OR UPON REQUEST OF ARBORIST.
4. REMOVE EXCESS SOIL FROM SITE AND DISPOSE OF IN A LEGAL MANNER.
5. RESEED UNMULCHED, DISTURBED AREAS.



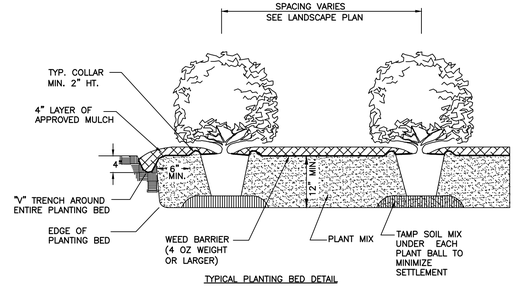
ALL TREES SHALL MEET AMERICAN STANDARD FOR NURSERY STOCK (ANSI Z60.1-2004)

FOR EXAMPLE:	CALIPER	HEIGHT (RANGE)	MAX. HEIGHT	MIN. ROOT BALL DIA.	MIN. ROOT BALL DEPTH
	2"	12-14'	16'	24"	16"
	3"	14-16'	18'	32"	21"

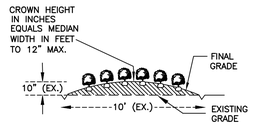
1 C703 TREE PLANTING (FOR SINGLE AND MULTI-STEM TREES)
NOT TO SCALE

NOTES:

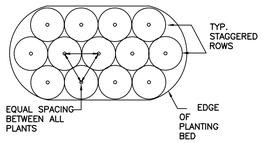
1. SCARIFY ROOT MASS OF CONTAINERIZED PLANT MATERIAL.
2. INSTALL WEED BARRIER FABRIC TO ALL PLANT BEDS. WEED BARRIER SHALL BE MINIMUM 4 OZ WEIGHT OR LARGER.
3. INSTALL CONTAINERIZED PLANTS AT FINISHED GRADE.
4. TAMP PLANTING MIX FIRMLY AS PIT IS FILLED AROUND EACH PLANT BALL.
5. OMIT COLLAR AROUND EACH SHRUB WHEN IRRIGATION SYSTEM IS PRESENT.
6. SOAK EACH PLANT BALL AND PIT IMMEDIATELY AFTER INSTALLATION.



TYPICAL PLANTING BED DETAIL



TYPICAL BED CROWNING



TYPICAL PLANTING BED PLAN

2 C703 SHRUB PLANTING BED
NOT TO SCALE

NPDES PERMIT – THE FOLLOWING STABILIZATION SCHEDULE SHALL APPLY:

THIS PROJECT SHALL ABIDE BY CHANGES IN THE NPDES PERMIT (NCG01), WHICH WENT INTO EFFECT AUGUST 3, 2011 AND INCLUDE (BUT NOT LIMITED TO) THE FOLLOWING:

SITE AREA DESCRIPTION	STABILIZATION TIMEFRAME	STABILIZATION TIMEFRAME EXCEPTIONS
PERIMETER DIKES, SWALES, DITCHES AND SLOPES	7 DAYS	NONE
HIGH QUALITY WATER (HQW) ZONES	7 DAYS	NONE
SLOPES STEEPER THAN 3:1	7 DAYS	IF SLOPES ARE 10' OR LESS IN LENGTH AND ARE NOT STEEPER THAN 2:1, 14 DAYS ARE ALLOWED
SLOPES 3:1 OR FLATTER	14 DAYS	7-DAYS FOR SLOPES GREATER THAN 50' IN LENGTH
ALL OTHER AREAS WITH SLOPES FLATTER THAN 4:1	14 DAYS	NONE (EXCEPT FOR PERIMETERS AND HQW ZONES)

REFERENCE

1. TOPOGRAPHIC INFORMATION BASED UPON THE ALTA/NSPS LAND TITLE SURVEY CONDUCTED BY CIVIL & ENVIRONMENTAL CONSULTANTS, INC. IN AUGUST 2024.

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*HAND SIGNATURE ON FILE

STATE OF MISSOURI
PATRICK TODD BENNETT
NUMBER PE-2002003134
08/07/2025
PROFESSIONAL ENGINEER

REVISION RECORD

NO	DATE	DESCRIPTION
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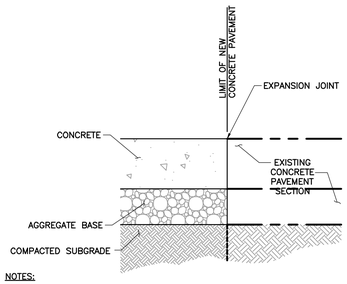
LANDSCAPING DETAILS

DATE:	OCTOBER 22, 2024
DWG SCALE:	1" = 20'
PROJECT NO:	343-982
DRAWN BY:	MAB
CHECKED BY:	GAS
APPROVED BY:	PTB

DRAWING NO.: C701

SHEET 12 OF 28

P:\343-001\343-0821-0401\dwg\C701\343982-C001-C703.dwg[C701] LS(8/7/2025 - author) - LP: 8/7/2025 11:48 AM

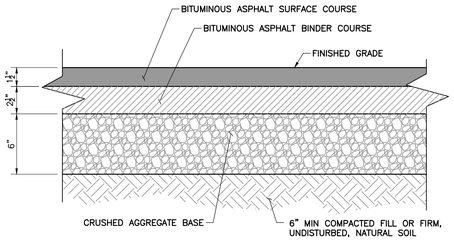


NOTES:

1. REFER TO GEOTECHNICAL REPORT BY SCI ENGINEERING DATED JANUARY 2023 FOR FURTHER SPECIFICATIONS AND/OR RECOMMENDATIONS.
2. WHERE APPLICABLE, REPAINT ALL LANE MARKINGS, PARKING STALLS, ETC. WITH PAVEMENT GRADE SOLID WHITE PAINT 4" WIDE.

PAVEMENT SAWCUT

N.T.S.

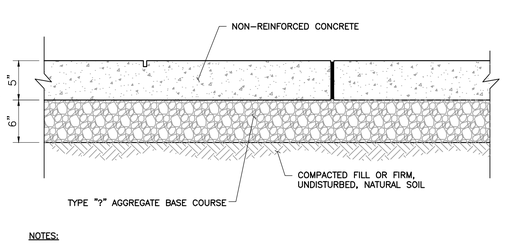


NOTES:

1. PAVEMENT THICKNESS SHOWN PER GEOTECHNICAL REPORT, REFER TO THIS DOCUMENT FOR FURTHER SPECIFICATIONS AND/OR RECOMMENDATIONS. (SEE GRADING NOTES ON C001)

LIGHT DUTY ASPHALT PAVEMENT

N.T.S.

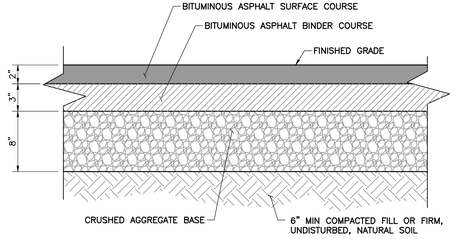


NOTES:

1. SEE CHART IN ASPHALT PAVEMENT DETAIL FOR THICKNESS.
2. PAVEMENT THICKNESS SHOWN PER GEOTECHNICAL REPORT, REFER TO THIS DOCUMENT FOR FURTHER SPECIFICATIONS AND/OR RECOMMENDATIONS. (SEE GRADING NOTES ON C001)

LIGHT DUTY CONCRETE PAVEMENT

N.T.S.

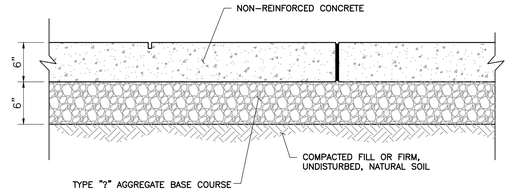


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HEAVY DUTY ASPHALT PAVEMENT

N.T.S.

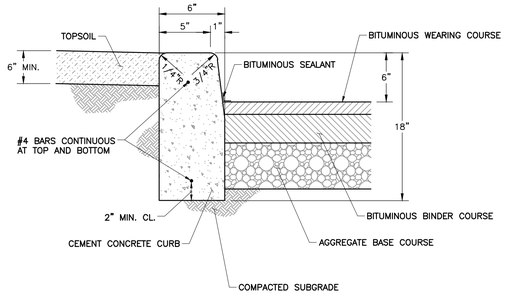


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1. SEE CHART IN ASPHALT PAVEMENT DETAIL FOR THICKNESS.
2. PAVEMENT THICKNESS SHOWN PER GEOTECHNICAL REPORT, REFER TO THIS DOCUMENT FOR FURTHER SPECIFICATIONS AND/OR RECOMMENDATIONS. (SEE GRADING NOTES ON C001)

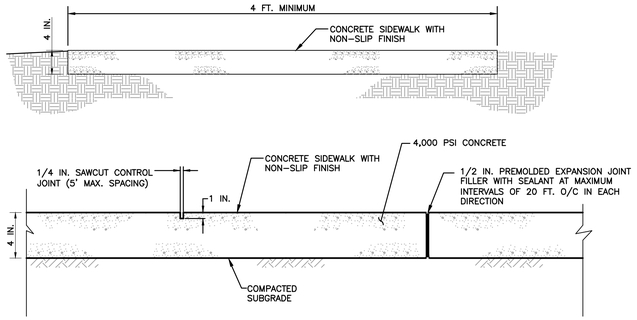
HEAVY DUTY CONCRETE PAVEMENT

N.T.S.



VERTICAL CONCRETE CURB DETAIL

N.T.S.

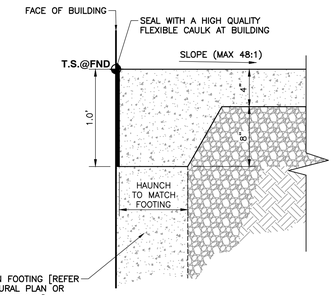


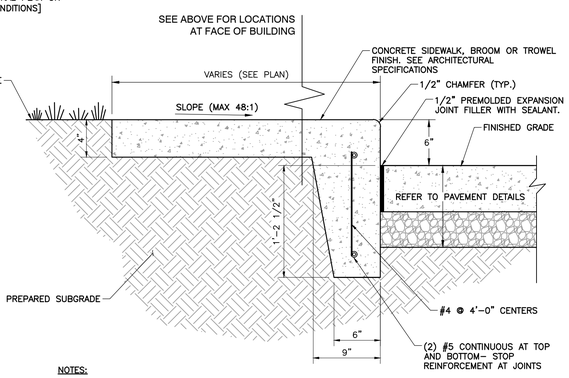
NOTES:

1. PROVIDE AN 8 IN. HAUNCH AND 1/2 IN. EXPANSION JOINT FILLER WITH SEALANT WHERE THE CONCRETE SIDEWALK ABUTS THE BUILDING.

CONCRETE SIDEWALK DETAIL

N.T.S.



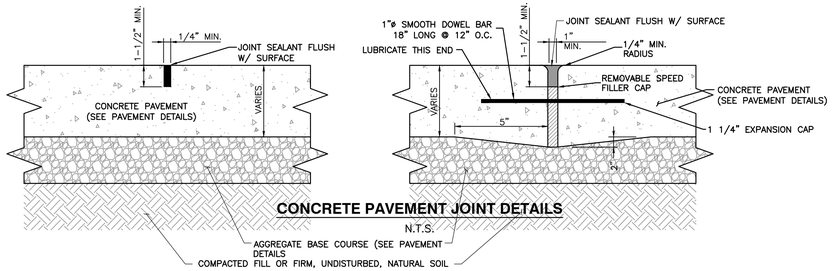


NOTES:

1. PROVIDE 1/2" PREMOLDED EXPANSION JOINT @ 25' ON CENTER.
2. PROVIDE TOOLED CONTRACTION JOINTS AT 5' ON CENTER.

TURNED DOWN WALK DETAIL

N.T.S.

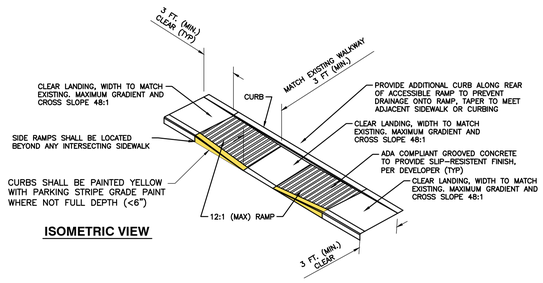


CONCRETE PAVEMENT JOINT DETAILS

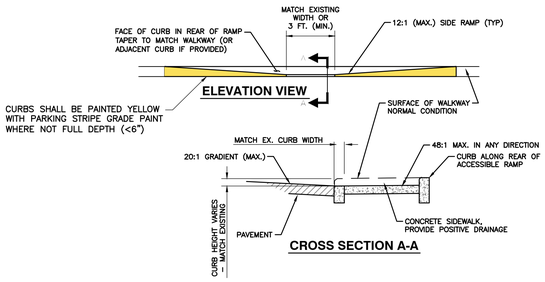
N.T.S.

NOTES:

1. MAXIMUM JOINT SPACING SHALL BE 15' CENTER TO CENTER.
1. EXPANSION JOINTS ARE REQUIRED AT ALL LOCATIONS WHERE CHANGE OF MATERIAL OR THICKNESSES OCCUR OR ABUTTING STRUCTURES.



ISOMETRIC VIEW



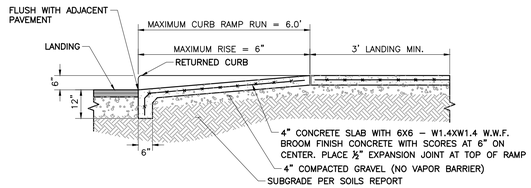
CROSS SECTION A-A

NOTES:

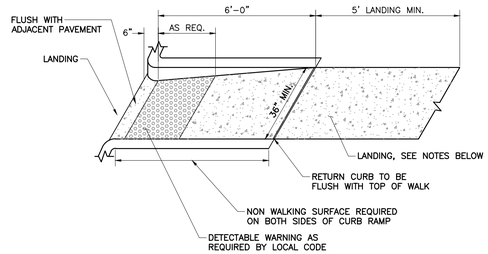
1. ACCESSIBLE SPACE / LOADING AREA: MAXIMUM 48:1 (1:50) SLOPE IN ANY DIRECTION.
2. RAMP & PAVEMENT TRANSITION TO BE COMPLETELY FLUSH, NO LIP.
2. WHEN RAMP OCCURS ON RADII, MINIMUM CLEAR LANDING WIDTH MUST BE MAINTAINED ON SHORTEST SIDE ALONG CURVE.
3. CONSTRUCT PER A.D.A. & LOCAL STANDARDS.

ADA DEPRESSED CURB ACCESSIBLE RAMP

N.T.S.



SECTION



DIAGRAM

NOTES:

1. LANDINGS SHALL BE LEVEL (LESS THAN 2% SLOPE IN ALL DIRECTIONS) AND PROVIDED AT THE TOP AND BOTTOM OF ALL ACCESSIBLE RAMPS.
2. LANDING CLEAR WIDTH SHALL BE AT LEAST AS WIDE AS THE WIDEST RAMP RUN LEADING TO THE LANDING.
3. LANDING CLEAR LENGTH SHALL BE 5' LONG MINIMUM.
4. LANDINGS THAT REQUIRE A CHANGE IN DIRECTION BETWEEN RAMP RUNS SHALL HAVE A CLEAR LANDING 60" MINIMUM BY 60" MINIMUM.

ADA ACCESSIBLE CURB RAMP DETAIL

N.T.S.

REVISION RECORD

NO	DATE	DESCRIPTION
1.	10/19/24	CITY COMMENTS
2.	02/27/2025	CITY & MODOT COMMENTS
3.	04/07/2025	MODOT COMMENTS
4.	05/29/2025	CITY COMMENTS
5.	08/07/2025	CLIENT AND MODOT COMMENTS

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Civil & Environmental Consultants, Inc.
1450 Beale Street
Suite 305
St. Charles, MO 63303
Ph: 314.656.4566
www.cecinc.com

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NSN 43739 (024-1308)
613 E BROADWAY BLVD
SEDALIA, MO 65301

CONSTRUCTION DETAILS

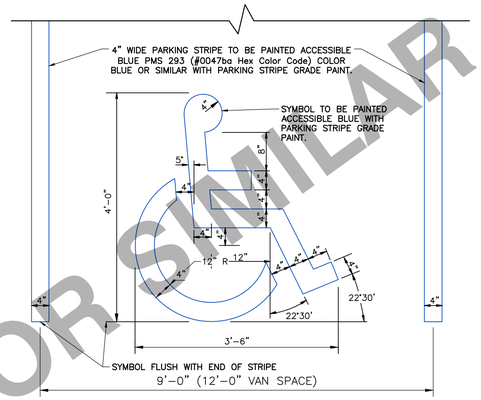
DATE: OCTOBER 22, 2024 | DRAWN BY: MAB | CHECKED BY: GAS
DWG SCALE: 1"=20' | PROJECT NO: 343-982 | APPROVED BY: PTB

DRAWING NO.: C800
SHEET 13 OF 28

STATE OF MISSOURI
PATRICK TODD BENNETT
NUMBER 2002003134
NOTARIAL SEAL
08/07/2025
PROFESSIONAL ENGINEER

PATRICK T. BENNETT
(MO PE# 2002003134)
*HAND SIGNATURE ON FILE

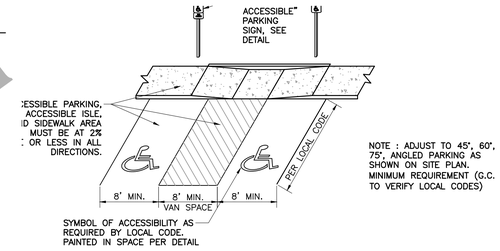
P:\340-0001\343-982\-CADD\dwg\C001\343982-C001-C800.dwg[C800] LS(729/2025 - xauthor) - LP: 8/7/2025 11:49 AM



OR SIMILAR

ADA ACCESSIBLE PARKING SYMBOL DETAIL

N.T.S.



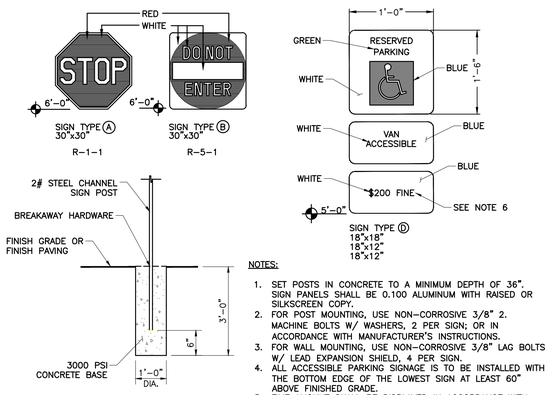
NOTE : ADJUST TO 45°, 60°, 75°, ANGLED PARKING AS SHOWN ON SITE PLAN. MINIMUM REQUIREMENT (G.C. TO VERIFY LOCAL CODES)

NOTES:

1. ALL STRIPING FOR ADA ACCESSIBLE PARKING STALLS AND ACCESS AISLES SHALL MEET THE REQUIREMENTS OF THE AMERICANS WITH DISABILITIES ACT.
2. ALL ADA PARKING STALL STRIPING, CROSSHATCH, AND SYMBOLS SHALL BE PMS 293 (#0047ba Hex Color Code) COLOR BLUE OR SIMILAR WITH PARKING STRIPE GRADE PAINT.
3. ACCESSIBLE PARKING SPACE AND ACCESSIBLE ISLE: MAXIMUM 2.0% SLOPE IN ANY DIRECTION.
4. ASPHALT TO CONCRETE BLENDED TRANSITION TO BE COMPLETELY FLUSH, NO LIP.
5. PLACEMENT AND STRIPING SHOWN IN DETAIL IS SCHEMATIC, SEE SITE PLAN FOR CONFIGURATION.
6. ACCESSIBLE ISLE SHALL BE PAINT STRIPED AT 45° ANGLE, EACH 6" WIDE STRIPE AT 24" ON CENTER.

ADA ACCESSIBLE PARKING SPACE MARKING DETAIL

N.T.S.

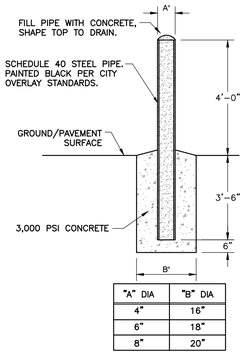


NOTES:

1. SET POSTS IN CONCRETE TO A MINIMUM DEPTH OF 36". SIGN PANELS SHALL BE 0.100 ALUMINUM WITH RAISED OR SILKSCREEN COPY.
2. FOR POST MOUNTING, USE NON-CORROSIVE 3/8" 2. MACHINE BOLTS W/ WASHERS, 2 PER SIGN; OR IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.
3. FOR WALL MOUNTING, USE NON-CORROSIVE 3/8" LAG BOLTS W/ LEAD EXPANSION SHIELD, 4 PER SIGN.
4. ALL ACCESSIBLE PARKING SIGNAGE IS TO BE INSTALLED WITH THE BOTTOM EDGE OF THE LOWEST SIGN AT LEAST 60" ABOVE FINISHED GRADE.
5. FINE AMOUNT SHALL BE DISPLAYED IN ACCORDANCE WITH LOCAL LAW. THE AMOUNT SHOWN HEREON IS REPRESENTATIVE ONLY. COORDINATE POSTING OF FINE AMOUNT WITH LOCAL LAW ENFORCEMENT AGENCY.
6. STOP BAR MUST BE PAINTED WHITE

ADA ACCESSIBLE PARKING SIGN DETAIL

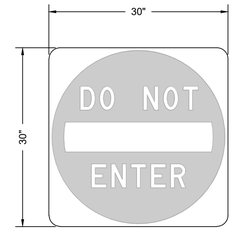
N.T.S.



"A" DIA	"B" DIA
4"	16"
6"	18"
8"	20"

PIPE BOLLARD DETAIL

N.T.S.



R5-1

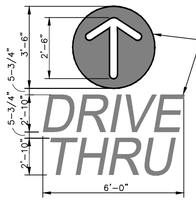
"DO NOT ENTER" SIGN DETAIL

N.T.S.

CIRCLE IS POSITIONED HORIZONTALLY CENTERED ABOVE TYPE

ARROW IS POSITIONED VERTICALLY AND HORIZONTALLY INSIDE OF CIRCLE

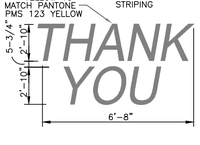
ARROW ART KNOCKS OUT SO THAT THE ARROW IS THE COLOR OF THE PAVEMENT



NOTE : ARROWS AND WORDS CAN BE ARRANGED IN OTHER COMBINATIONS THAN THOSE ILLUSTRATED HERE TO ACHIEVE DESIRED RESULT

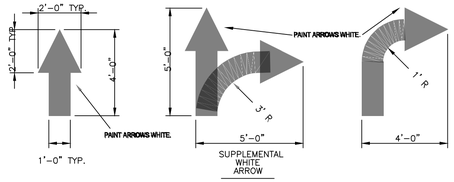
PAINT SOLID YELLOW TO MATCH PANTONE PMS 123 YELLOW

TYPE IS POSITIONED VERTICALLY SO BASE OF TYPE ALIGNS WITH HORIZONTAL EDGE OF PATH STRIPING



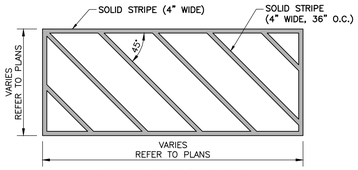
BRANDED PAVEMENT STRIPING DETAIL

N.T.S.



WHITE PAINTED DIRECTIONAL ARROWS DETAIL

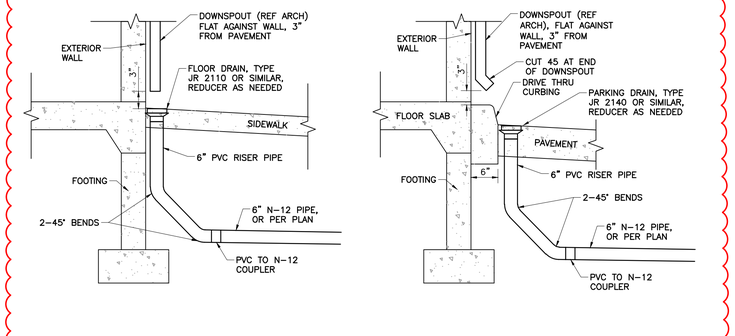
N.T.S.



NOTE:
1. ALL MARKINGS TO BE WHITE UNLESS OTHER WISE NOTED. OR AS DIRECTED BY OWNER.
2. MARKING PAINT TO BE SPECIFIED BY OWNER.

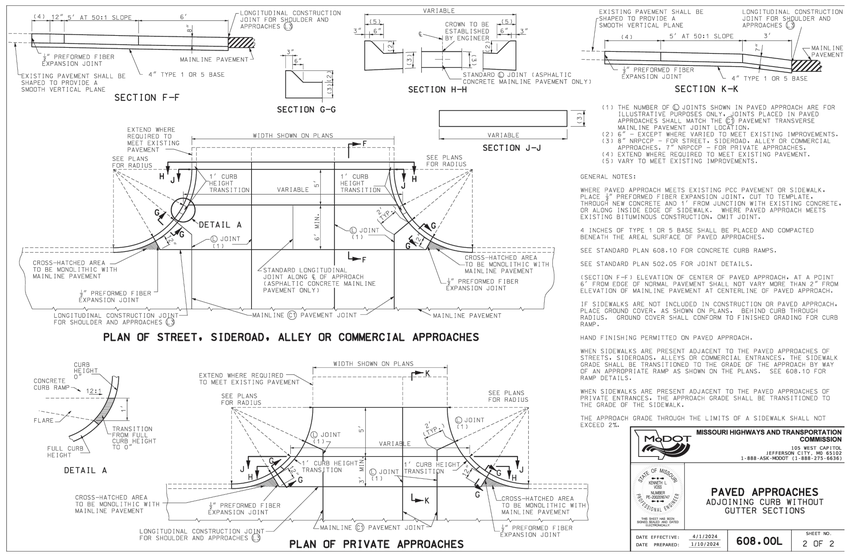
PAVEMENT STRIPING DETAIL

N.T.S.



DOWNSPOUT CONNECTION DETAIL

NOT TO SCALE



(1) THE NUMBER OF (2) JOINTS SHOWN IN PAVED APPROACH ARE FOR ILLUSTRATIVE PURPOSES ONLY. JOINTS PLACED IN PAVED APPROACHES SHALL MATCH THE (5) PAVEMENT TRANSVERSE MAINLINE PAVEMENT JOINT LOCATION.
(2) 6" - EXCEPT WHERE VARIED TO MEET EXISTING IMPROVEMENTS.
(3) 8" NRPCCP - FOR STREET, SIDEROAD, ALLEY OR COMMERCIAL APPROACHES. 7" NRPCCP - FOR PRIVATE APPROACHES.
(4) EXTEND WHERE REQUIRED TO MEET EXISTING PAVEMENT.
(5) VARY TO MEET EXISTING IMPROVEMENTS.

GENERAL NOTES:

WHERE PAVED APPROACH MEETS EXISTING PCC PAVEMENT OR SIDEWALK, PLACE ½" PREFORMED FIBER EXPANSION JOINT, CUT TO TEMPLATE, THROUGH NEW CONCRETE AND 1' FROM JUNCTION WITH EXISTING CONCRETE, OR ALONG INSIDE EDGE OF SIDEWALK. WHERE PAVED APPROACH MEETS EXISTING BITUMINOUS CONSTRUCTION, OMIT JOINT.

4 INCHES OF TYPE 1 OR 5 BASE SHALL BE PLACED AND COMPACTED BENEATH THE AREAL SURFACE OF PAVED APPROACHES.

SEE STANDARD PLAN 608.10 FOR CONCRETE CURB RAMPS.

SEE STANDARD PLAN 502.05 FOR JOINT DETAILS.

(SECTION F-F) ELEVATION OF CENTER OF PAVED APPROACH, AT A POINT 6' FROM EDGE OF NORMAL PAVEMENT SHALL NOT VARY MORE THAN 2" FROM ELEVATION APPROPRIATE RAMP AS SHOWN ON THE PLANS. SEE 608.10 FOR RAMP DETAILS.

IF SIDEWALKS ARE NOT INCLUDED IN CONSTRUCTION OR PAVED APPROACH, PLACE GROUND COVER, AS SHOWN ON PLANS. BEHIND CURB THROUGH RADIUS. GROUND COVER SHALL CONFORM TO FINISHED GRADING FOR CURB RAMP.

HAND FINISHING PERMITTED ON PAVED APPROACH.

WHEN SIDEWALKS ARE PRESENT ADJACENT TO THE PAVED APPROACHES OF STREETS, SIDEROADS, ALLEYS OR COMMERCIAL ENTRANCES, THE SIDEWALK GRADE SHALL BE TRANSITIONED TO THE GRADE OF THE APPROACH BY WAY OF AN APPROPRIATE RAMP AS SHOWN ON THE PLANS. SEE 608.10 FOR RAMP DETAILS.

WHEN SIDEWALKS ARE PRESENT ADJACENT TO THE PAVED APPROACHES OF PRIVATE ENTRANCES, THE APPROACH GRADE SHALL BE TRANSITIONED TO THE GRADE OF THE SIDEWALK.

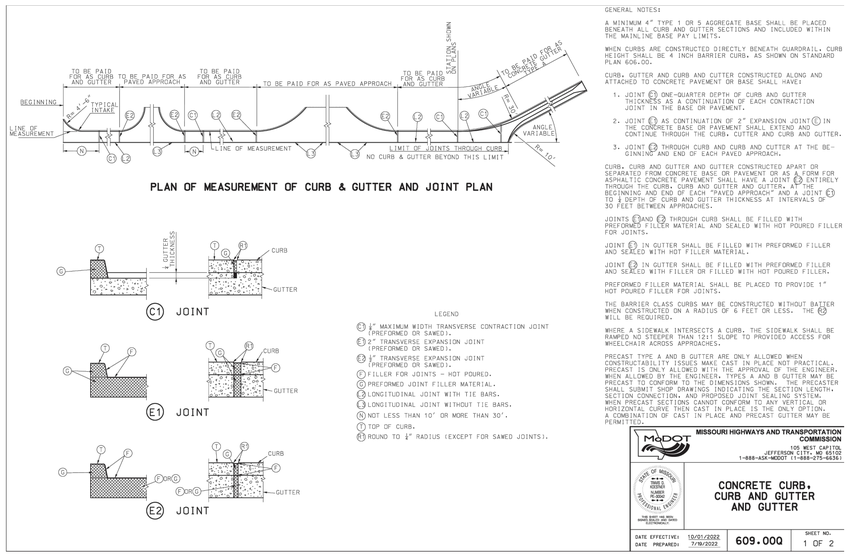
THE APPROACH GRADE THROUGH THE LIMITS OF A SIDEWALK SHALL NOT EXCEED 2%.

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STATE OF MISSOURI — PATRICK TODD BENNETT — NUMBER PE-2002003134 — PROFESSIONAL ENGINEER
THIS SHEET WAS DIGITALLY SIGNED AND SEALED ELECTRONICALLY

PAVED APPROACHES
ADJOINING CURB WITHOUT GUTTER SECTIONS

DATE EFFECTIVE:	4/1/2024	608.00L	SHEET NO.
DATE PREPARED:	1/10/2024		2 OF 2



GENERAL NOTES:

A MINIMUM 4" TYPE 1 OR 5 AGGREGATE BASE SHALL BE PLACED BENEATH ALL CURB AND GUTTER SECTIONS AND INCLUDED WITHIN THE MAINLINE BASE PAY LIMITS.

WHEN CURBS ARE CONSTRUCTED DIRECTLY BENEATH GUARDRAIL, CURB HEIGHT SHALL BE 4 INCH BARRIER CURB, AS SHOWN ON STANDARD PLAN 606.00.

CURB, GUTTER AND CURB AND GUTTER CONSTRUCTED ALONG AND ATTACHED TO CONCRETE PAVEMENT OR BASE SHALL HAVE:

1. JOINT (C) ONE-QUARTER DEPTH OF CURB AND GUTTER THICKNESS AS A CONTINUATION OF EACH CONTRACTION JOINT IN THE BASE OR PAVEMENT.
2. JOINT (E) AS CONTINUATION OF 2" EXPANSION JOINT (I) IN THE CONCRETE BASE OR PAVEMENT SHALL EXTEND AND CONTINUE THROUGH THE CURB, GUTTER AND CURB AND GUTTER.
3. JOINT (E) THROUGH CURB AND CURB AND CUTTER AT THE BEGINNING AND END OF EACH PAVED APPROACH.

CURB, CURB AND GUTTER AND GUTTER CONSTRUCTED APART OR SEPARATED FROM CONCRETE BASE OR PAVEMENT OR AS A FORM FOR ASPHALTIC CONCRETE PAVEMENT SHALL HAVE A JOINT (E) ENTIRELY THROUGH THE CURB, CURB AND GUTTER AND GUTTER. AT THE BEGINNING AND END OF EACH "PAVED APPROACH" AND A JOINT (C) TO A DEPTH OF CURB AND GUTTER THICKNESS AT INTERVALS OF 30 FEET BETWEEN APPROACHES.

JOINTS (F) AND (E) THROUGH CURB SHALL BE FILLED WITH PREFORMED FILLER MATERIAL AND SEALED WITH HOT POURED FILLER FOR JOINTS.

JOINT (C) IN GUTTER SHALL BE FILLED WITH PREFORMED FILLER AND SEALED WITH HOT FILLER MATERIAL.

JOINT (I) IN GUTTER SHALL BE FILLED WITH PREFORMED FILLER AND SEALED WITH FILLER OR FILLED WITH HOT POURED FILLER.

PREFORMED FILLER MATERIAL SHALL BE PLACED TO PROVIDE 1" HOT POURED FILLER FOR JOINTS.

THE BARRIER CLASS CURBS MAY BE CONSTRUCTED WITHOUT BATTER WHEN CONSTRUCTED ON A RADIUS OF 6 FEET OR LESS. THE (R) WILL BE REQUIRED.

WHERE A SIDEWALK INTERSECTS A CURB, THE SIDEWALK SHALL BE RAMPED NO STEEPER THAN 12:1 SLOPE TO PROVIDED ACCESS FOR WHEELCHAIR ACROSS APPROACHES.

PRECAST TYPE A AND B GUTTER ARE ONLY ALLOWED WHEN CONSTRUCTABILITY ISSUES MAKE CAST IN PLACE NOT PRACTICAL. PRECAST IS ONLY ALLOWED WITH THE APPROVAL OF THE ENGINEER. WHEN ALLOWED BY THE ENGINEER, TYPES A AND B GUTTER MAY BE PRECAST TO CONFORM TO THE DIMENSIONS SHOWN. THE PRECASTER SHALL SUBMIT SHOP DRAWINGS INDICATING THE SECTION LENGTH, SECTION CONNECTION, AND PROPOSED JOINT SEALING SYSTEM. WHEN PRECAST SECTIONS CANNOT CONFORM TO ANY VERTICAL OR HORIZONTAL CURVE THEN CAST IN PLACE IS THE ONLY OPTION. A COMBINATION OF CAST IN PLACE AND PRECAST GUTTER MAY BE PERMITTED.

LEGEND
(B) ¼" MAXIMUM WIDTH TRANSVERSE CONTRACTION JOINT (PREFORMED OR SAWED).
(E) 2" TRANSVERSE EXPANSION JOINT (PREFORMED OR SAWED).
(F) ¾" TRANSVERSE EXPANSION JOINT (PREFORMED OR SAWED).
(F) FILLER FOR JOINTS - HOT POURED.
(G) PREFORMED JOINT FILLER MATERIAL.
(J) LONGITUDINAL JOINT WITH TIE BARS.
(L) LONGITUDINAL JOINT WITHOUT TIE BARS.
(N) NOT LESS THAN 10' OR MORE THAN 30'.
(T) TOP OF CURB.
(R) ROUND TO ½" RADIUS (EXCEPT FOR SAWED JOINTS).

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STATE OF MISSOURI — PATRICK TODD BENNETT — NUMBER PE-2002003134 — PROFESSIONAL ENGINEER
THIS SHEET WAS DIGITALLY SIGNED AND SEALED ELECTRONICALLY

CONCRETE CURB, CURB AND GUTTER AND GUTTER

DATE EFFECTIVE:	10/01/2022	609.00Q	SHEET NO.
DATE PREPARED:	7/8/2022		1 OF 2

PATRICK T. BENNETT
(MO PE# 2002003134)
*HAND SIGNATURE ON FILE

STATE OF MISSOURI — PATRICK TODD BENNETT — NUMBER PE-2002003134 — PROFESSIONAL ENGINEER
08/07/2025

REVISION RECORD

NO	DATE	DESCRIPTION
1.	10/19/24	CITY COMMENTS
2.	10/27/2025	CITY & MODOT COMMENTS
3.	04/07/2025	MODOT COMMENTS
4.	05/26/2025	CITY COMMENTS
5.	08/07/2025	CLIENT AND MODOT COMMENTS

1450 Beale Street
Suite 305
St. Charles, MO 63303
Ph: 314.656.4566
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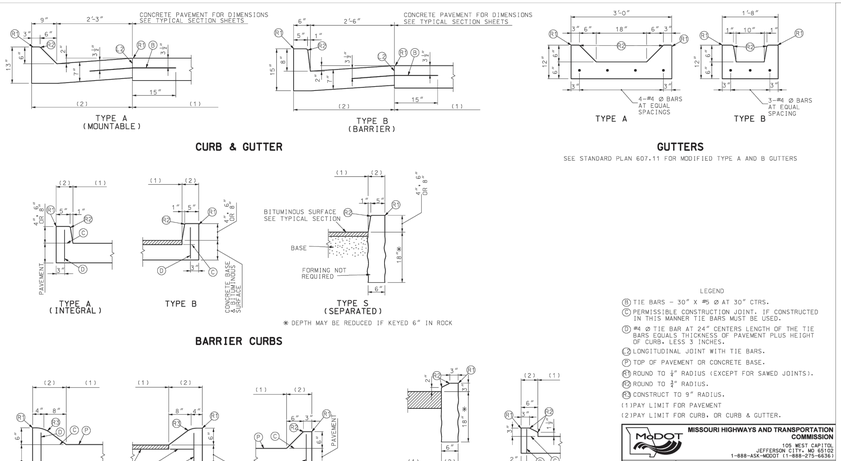
CONSTRUCTION DETAILS

DATE:	OCTOBER 22, 2024	DRAWN BY:	MAB
		CHECKED BY:	GAS
DWG SCALE:	1" = 20'		343-982
PROJECT NO.			PTB
APPROVED BY:			

DRAWING NO.: C801

SHEET 14 OF 28

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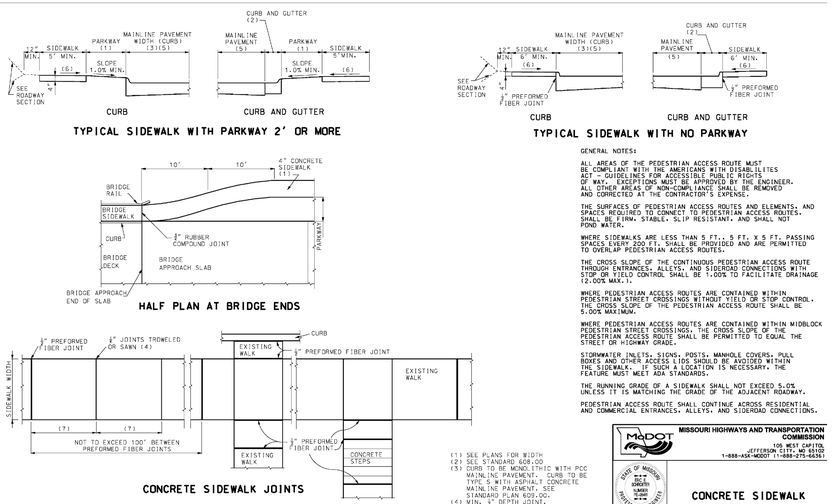
LEGEND

(1) TIE BARS - 30" X #5 Ø AT 30" CTRS.
(2) PERMISSIBLE CONSTRUCTION JOINT. IF CONSTRUCTED IN THIS MANNER TIE BARS MUST BE USED.
(3) #4 Ø TIE BAR AT 24" CENTERS LENGTH OF THE TIE BARS EQUALS THICKNESS OF PAVEMENT PLUS HEIGHT OF CURB, LESS 3 INCHES.
(4) LONGITUDINAL JOINT WITH TIE BARS.
(7) TOP OF PAVEMENT OR CONCRETE BASE.
(8) ROUND TO ½" RADIUS (EXCEPT FOR SAWED JOINTS).
(9) ROUND TO ½" RADIUS.
(C) CONSTRUCT TO 9" RADIUS.
(1) PAY LIMIT FOR PAVEMENT
(2) PAY LIMIT FOR CURB, OR CURB & GUTTER.

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
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CONCRETE CURB, CURB AND GUTTER AND GUTTER

DATE EFFECTIVE: 10/01/2022	DATE PREPARED: 7/19/2022	609.00Q	SHEET NO. 2 OF 2



(1) SEE PLANS FOR WIDTH
(2) SEE STANDARD 608.00
(3) CURB TO BE MONOLITHIC WITH PCC MAINLINE PAVEMENT. CURB TO BE TYPE S WITH ASPHALT CONCRETE MAINLINE PAVEMENT. SEE STANDARD PLAN 609.00.
(4) MIN. 8" DEPTH JOINT.
(5) SEE TYPICAL PAVEMENT SECTION
(6) SLOPE 1.0% (2.0% MAX.)
(7) SPACING EQUAL TO WIDTH OF WALK

GENERAL NOTES:

ALL AREAS OF THE PEDESTRIAN ACCESS ROUTE MUST BE COMPLIANT WITH THE AMERICANS WITH DISABILITIES ACT - GUIDELINES FOR ACCESSIBLE PUBLIC RIGHTS OF WAY. EXCEPTIONS MUST BE APPROVED BY THE ENGINEER. ALL OTHER AREAS OF NON-COMPLIANCE SHALL BE REMOVED AND CORRECTED AT THE CONTRACTOR'S EXPENSE.

THE SURFACES OF PEDESTRIAN ACCESS ROUTES AND ELEMENTS, AND SPACES REQUIRED TO CONNECT TO PEDESTRIAN ACCESS ROUTES, SHALL BE FIRM, STABLE, SLIP RESISTANT, AND SHALL NOT POND WATER.

WHERE SIDEWALKS ARE LESS THAN 5 FT., 5 FT. X 5 FT. PASSING SPACES EVERY 200 FT. SHALL BE PROVIDED AND ARE PERMITTED TO OVERLAP PEDESTRIAN ACCESS ROUTES.

THE CROSS SLOPE OF THE CONTINUOUS PEDESTRIAN ACCESS ROUTE THROUGH ENTRANCES, ALLEYS, AND SIDEROAD CONNECTIONS WITH STOP OR YIELD CONTROL SHALL BE 1.00% TO FACILITATE DRAINAGE (2.00% MAX.).

WHERE PEDESTRIAN ACCESS ROUTES ARE CONTAINED WITHIN PEDESTRIAN STREET CROSSINGS WITHOUT YIELD OR STOP CONTROL, THE CROSS SLOPE OF THE PEDESTRIAN ACCESS ROUTE SHALL BE 5.00% MAXIMUM.

WHERE PEDESTRIAN ACCESS ROUTES ARE CONTAINED WITHIN MIDBLOCK PEDESTRIAN STREET CROSSINGS, THE CROSS SLOPE OF THE PEDESTRIAN ACCESS ROUTE SHALL BE PERMITTED TO EQUAL THE STREET OR HIGHWAY GRADE.

STORMWATER INLETS, SIGNS, POSTS, MANHOLE COVERS, PULL BOXES, AND VAULTS LIDS SHOULD BE AVOIDED WITHIN THE SIDEWALK. IF SUCH A LOCATION IS NECESSARY, THE FEATURE MUST MEET ADA STANDARDS.

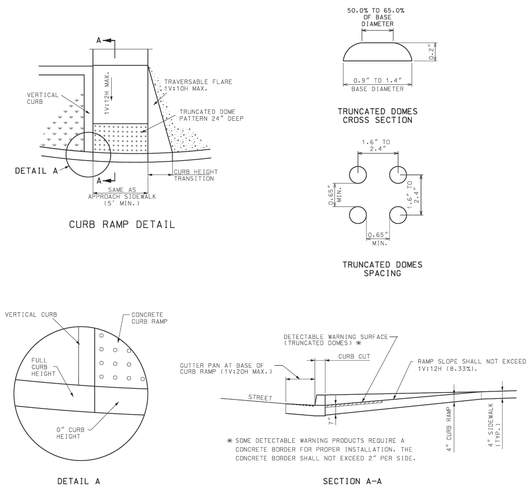
THE RUNNING GRADE OF A SIDEWALK SHALL NOT EXCEED 5.0% UNLESS IT IS MATCHING THE GRADE OF THE ADJACENT ROADWAY.

PEDESTRIAN ACCESS ROUTE SHALL CONTINUE ACROSS RESIDENTIAL AND COMMERCIAL ENTRANCES, ALLEYS, AND SIDEROAD CONNECTIONS.

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

CONCRETE SIDEWALK

DATE EFFECTIVE: 04/01/2015	DATE PREPARED: 2/20/2015	608.10P	SHEET NO. 1 OF 1



GENERAL NOTES:

ALL AREAS OF THE PEDESTRIAN ACCESS ROUTE MUST BE COMPLIANT WITH THE AMERICANS WITH DISABILITIES ACT - GUIDELINES FOR ACCESSIBLE PUBLIC RIGHTS OF WAY. EXCEPTIONS MUST BE APPROVED BY THE ENGINEER. ALL OTHER AREAS OF NON-COMPLIANCE SHALL BE REMOVED AND CORRECTED AT THE CONTRACTOR'S EXPENSE.

THE SURFACES OF PEDESTRIAN ACCESS ROUTES AND ELEMENTS, AND SPACES REQUIRED TO CONNECT TO PEDESTRIAN ACCESS ROUTES, SHALL BE FIRM, STABLE, SLIP RESISTANT, AND SHALL NOT POND WATER.

SIDEWALK, RAMP AND LANDING CROSS SLOPES SHALL BE 1.00% TO FACILITATE DRAINAGE (2.00% MAX.).

THE CROSS SLOPE OF THE CONTINUOUS PEDESTRIAN ACCESS ROUTE THROUGH ENTRANCES, ALLEYS, AND SIDE ROAD CONNECTIONS WITH STOP OR YIELD CONTROL SHALL BE 1.00% TO FACILITATE DRAINAGE (2.00% MAX.).

WHERE PEDESTRIAN ACCESS ROUTES ARE CONTAINED WITHIN PEDESTRIAN STREET CROSSINGS WITHOUT YIELD OR STOP CONTROL, THE CROSS SLOPE OF THE PEDESTRIAN ACCESS ROUTE SHALL BE 5.00% MAXIMUM.

WHERE PEDESTRIAN ACCESS ROUTES ARE CONTAINED WITHIN WIDBLOCK PEDESTRIAN STREET CROSSINGS, THE CROSS SLOPE OF THE PEDESTRIAN ACCESS ROUTE SHALL BE PERMITTED TO EQUAL THE STREET OR HIGHWAY GRADE.

30"x 48" CLEAR SPACE SHALL BE PROVIDED CENTERED ON THE PEDESTRIAN PUSH BUTTON.

BEYOND THE BOTTOM GRADE BREAK OF A CURB RAMP, A CLEAR SPACE 4' MINIMUM BY 4' MINIMUM SHALL BE PROVIDED WITHIN THE WIDTH OF THE PEDESTRIAN STREET CROSSING AND WHOLLY OUTSIDE THE PARALLEL VEHICLE TRAVEL LANE.

SIDE FLARES OF CURB RAMPS, IN THE PATH OF PEDESTRIAN TRAVEL (TRAVERSABLE), SHALL NOT EXCEED A SLOPE OF 1V:10H. SIDE FLARES OUTSIDE THE PEDESTRIAN PATH (NONTRAVERSABLE) MAY BE VERTICAL.

TRANSITION FROM SIDEWALK OR CURB RAMP TO GUTTER TO ROADWAY SHALL BE FLUSH.

DETECTABLE WARNING SURFACES (TRUNCATED DOMES) SHALL BE PREFORMED AND INSTALLED AS PER MANUFACTURER'S RECOMMENDATIONS. STAMPED CONCRETE WILL NOT BE ACCEPTED.

THE DETECTABLE WARNING SURFACE SHALL CONTRAST VISUALLY WITH ADJOINING SURFACES, EITHER LIGHT-ON-DARK OR DARK-ON-LIGHT. TRUNCATED DOMES SHALL SPAN THE FULL WIDTH OF THE RAMP OR LANDING 24" DEEP.

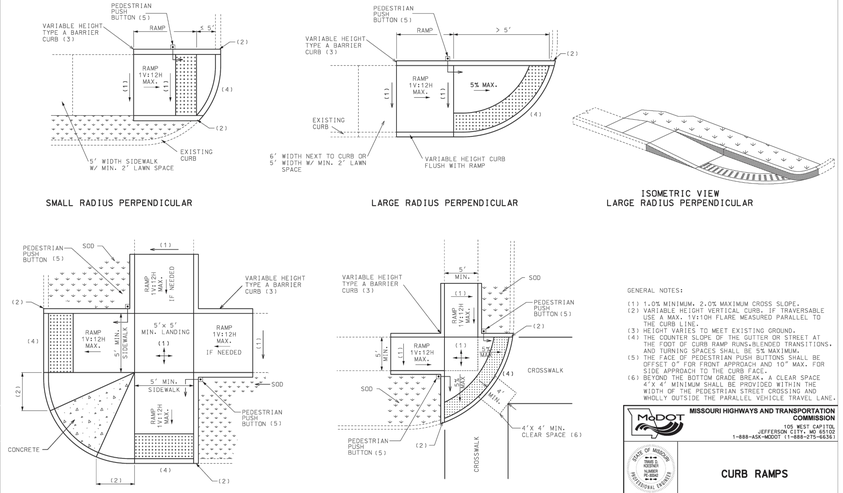
DETECTABLE WARNING SURFACES SHALL BE ALIGNED PERPENDICULAR OR RADIAL TO THE BREAK BETWEEN THE RAMP, LANDING OR BLENDED TRANSITION, AND THE STREET.

WHERE THE BOTTOM GRADE BREAK OF A CURB RAMP IS LESS THAN 5' FROM THE BACK OF CURB, DETECTABLE WARNINGS SHALL BE LOCATED ON THE RAMP SURFACE AT THE BACK OF THE CURB. WHERE THE GRADE BREAK IS GREATER THAN 5' FROM THE BACK OF CURB, THE DETECTABLE WARNING SHALL BE LOCATED ON THE LOWER LANDING.

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

CURB RAMPS

DATE EFFECTIVE: 05/01/2023	DATE PREPARED: 10/6/2022	608.50A	SHEET NO. 1 of 4



GENERAL NOTES:

(1) 1.0% MINIMUM, 2.0% MAXIMUM CROSS SLOPE.
(2) VARIABLE HEIGHT VERTICAL CURB. IF TRAVERSABLE USE A MAX. 1V:10H FLARE MEASURED PARALLEL TO THE CURB LINE.
(3) HEIGHT VARIES TO MEET EXISTING GROUND.
(4) THE COUNTER SLOPE OF THE GUTTER OR STREET AT THE FOOT OF CURB RAMP RUNS, BLENDED TRANSITIONS, AND TURNING SPACES SHALL BE 5% MAXIMUM.
(5) THE FACE OF PEDESTRIAN PUSH BUTTONS SHALL BE OFFSET 0" FOR FRONT APPROACH AND 10" MAX. FOR SIDE APPROACH TO THE CURB FACE.
(6) BEYOND THE BOTTOM GRADE BREAK, A CLEAR SPACE 4'X 4' MINIMUM SHALL BE PROVIDED WITHIN THE WIDTH OF THE PEDESTRIAN STREET CROSSING AND WHOLLY OUTSIDE THE PARALLEL VEHICLE TRAVEL LANE.

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

CURB RAMPS

DATE EFFECTIVE: 05/01/2023	DATE PREPARED: 10/6/2022	608.50A	SHEET NO. 3 of 4

REVISION RECORD

NO	DATE	DESCRIPTION
1	10/19/24	CITY COMMENTS
2	12/27/2024	CITY & MODOT COMMENTS
3	04/07/2025	MODOT COMMENTS
4	05/06/2025	CITY COMMENTS
5	08/07/2025	CLIENT AND MODOT COMMENTS

CEC
Civil & Environmental Consultants, Inc.
1450 Beale Street
Suite 305
St. Charles, MO 63303
Ph: 314.656.4566
www.cecinc.com

MCDONALD'S RESTAURANT
NSN 43739 (024-1308)
613 E BROADWAY BLVD
SEDALIA, MO 65301

CONSTRUCTION DETAILS

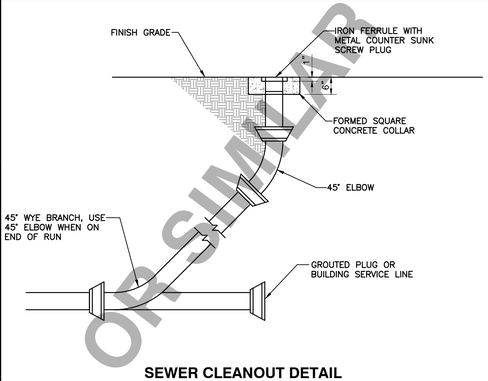
DATE:	OCTOBER 22, 2024	DRAWN BY:	MAB
DWG SCALE:	1"=20'	CHECKED BY:	GAS
PROJECT NO:			343-992
APPROVED BY:			PTB

DRAWING NO.: C802
SHEET 15 OF 28

PATRICK T. BENNETT
(MO PE# 2002003134)
*HAND SIGNATURE ON FILE

STATE OF MISSOURI
PATRICK TODD BENNETT
NUMBER 2002003134
PROFESSIONAL ENGINEER
08/07/2025

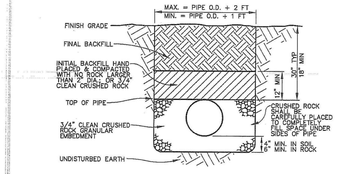
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OR SIMILAR

SEWER CLEANOUT DETAIL

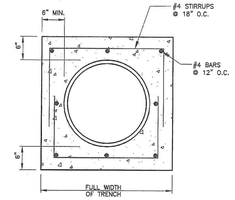
N.T.S.



NOTES:
1. GRANULAR FILL TO BE CRUSHED STONE OR PEA GRAVEL WITH NOT LESS THAN 95% PASSING A 1/2" SIEVE AND AT LEAST 95% IS RETAINED ON A NO. 4 SIEVE WITH A MAX. PARTICLE SIZE OF 3/4" PLACED IN UNIFORM LAYERS NOT TO EXCEED 6" THICKNESS AND COMPACTED BY SLICING WITH A SHOVEL OR VIBRATOR.
2. SEE DETAILS 2.103, 2.104, AND 2.105 WHEN PIPE EMBEDMENT COINCIDES WITH PAVEMENT, DRIVEWAY, OR SIDEWALK PATCHING.

Approved / Date — Revisions — CITY OF SEDALIA, MISSOURI — PUBLIC WORKS DEPARTMENT

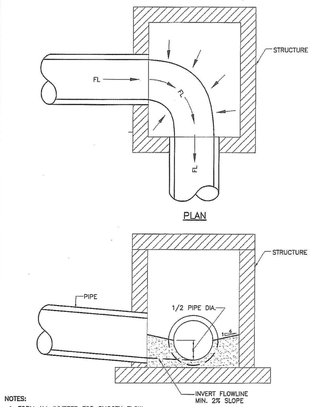
PIPE EMBEDMENT — 1.101



NOTES:
1. CONCRETE ENCASEMENT CONSTRUCTION JOINTS ARE TO COINCIDE WITH PIPE JOINTS.
2. JOINTS ARE TO BE KEYED CONTINUOUS HORIZONTAL AND VERTICAL 2" X 2" KEYS AROUND JOINTS.

Approved / Date — Revisions — CITY OF SEDALIA, MISSOURI — PUBLIC WORKS DEPARTMENT

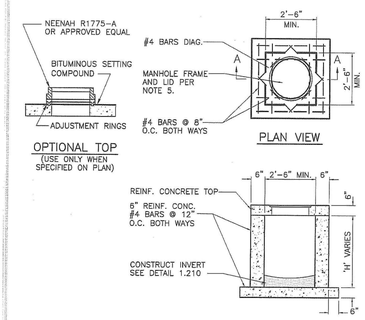
CONCRETE ENCASEMENT DETAIL — 1.103



NOTES:
1. FORM ALL INVERTS FOR SMOOTH FLOW THROUGH STRUCTURE.
2. INVERT SHALL BE FORMED UP TO 1/2 THE PIPE DIAMETER.

Approved / Date — Revisions — CITY OF SEDALIA, MISSOURI — PUBLIC WORKS DEPARTMENT

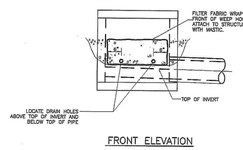
DRAINAGE STRUCTURE INVERT — 1.210



NOTES:
1. CONCRETE SHALL BE PORTLAND CEMENT CONCRETE.
2. REINFORCING STEEL SHALL BE GRADE 60.
3. INSTALL WEEP HOLES AS PER DETAIL 1.209.
4. STRUCTURES SHALL BE REINFORCED CONCRETE; #4 BARS AT 12" CTRS., BOTH WAYS AND #4 BARS DIAGONAL AT PIPE OPENINGS.
5. FRAME AND LID SHALL BE NEENAH R-1960-A (TYPE C LID), DEETER 1180, OR APPROVED EQUAL. SEE DETAIL 500.01 FOR PLACEMENT.

Approved / Date — Revisions — CITY OF SEDALIA, MISSOURI — PUBLIC WORKS DEPARTMENT

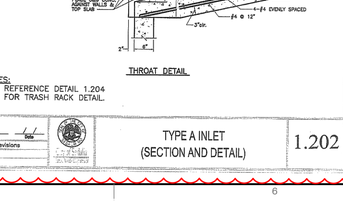
JUNCTION BOX — 1.206



NOTE:
1. PLACE WEEP HOLES ON UPSTREAM FACE OF ALL STRUCTURES
2. WEEP HOLE FILTER FABRIC SHALL CONSIST OF A NON-WOVEN, POLYPROPYLENE TYPE FABRIC SUCH AS: AMOCO 4553 NON-WOVEN GEOTEXTILE FABRIC OR APPROVED EQUAL.

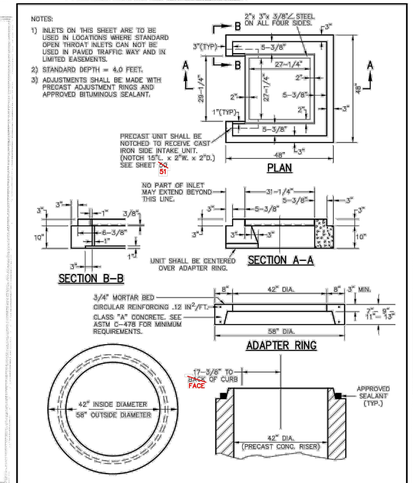
Approved / Date — Revisions — CITY OF SEDALIA, MISSOURI — PUBLIC WORKS DEPARTMENT

DRAINAGE STRUCTURE WEEP HOLES — 1.209

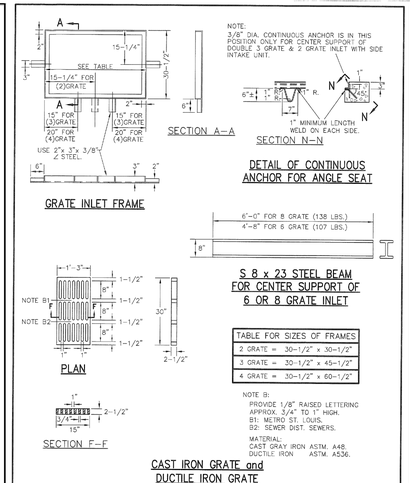


Approved / Date — Revisions — CITY OF SEDALIA, MISSOURI — PUBLIC WORKS DEPARTMENT

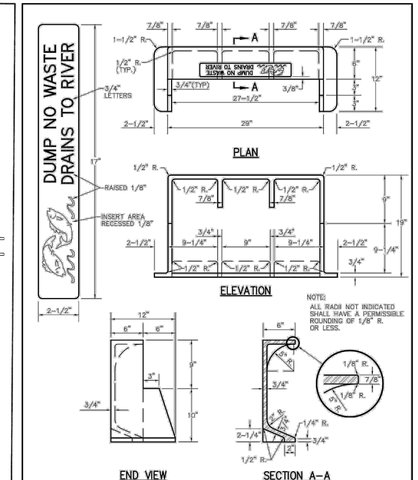
STANDARD MANHOLE (GREATER THAN 4' DEPTH) — 1.302



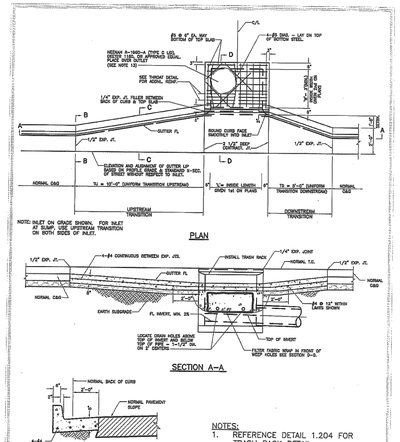
GRATE SEAT FOR 2 GRATE INLET WITH SIDE INTAKE



DETAILS OF INLET FRAME AND GRATES



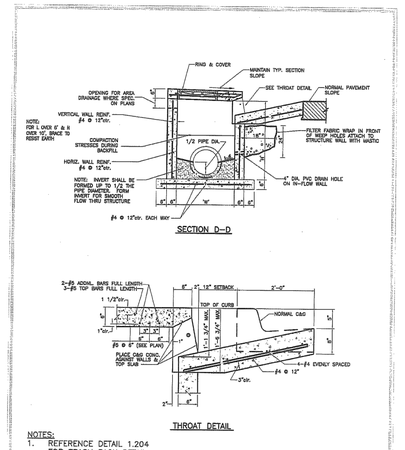
CAST IRON SIDE INTAKE UNIT FOR GRATED INLETS 249 LBS.



NOTES:
1. REFERENCE DETAIL 1.204 FOR TRASH RACK DETAIL.

Approved / Date — Revisions — CITY OF SEDALIA, MISSOURI — PUBLIC WORKS DEPARTMENT

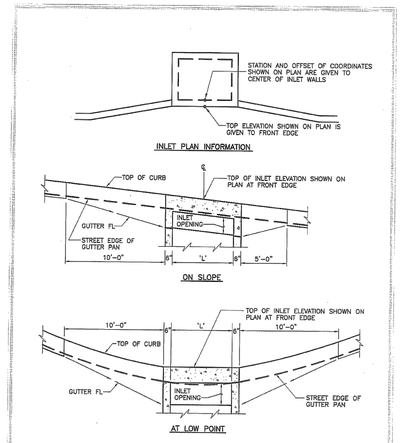
TYPE A INLET (PLAN & SECTIONS) — 1.201



NOTES:
1. REFERENCE DETAIL 1.204 FOR TRASH RACK DETAIL.

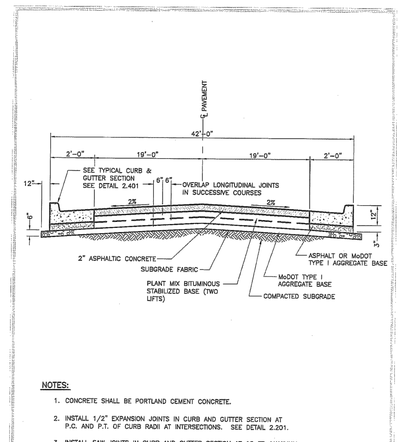
Approved / Date — Revisions — CITY OF SEDALIA, MISSOURI — PUBLIC WORKS DEPARTMENT

TYPE A INLET (SECTION AND DETAIL) — 1.202



Approved / Date — Revisions — CITY OF SEDALIA, MISSOURI — PUBLIC WORKS DEPARTMENT

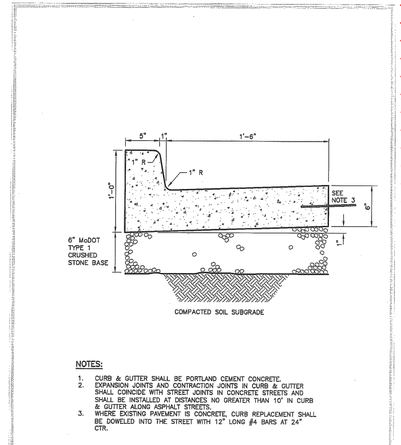
TYPE A INLET SETTING DIAGRAM — 1.203



NOTES:
1. CONCRETE SHALL BE PORTLAND CEMENT CONCRETE.
2. INSTALL 1/2" EXPANSION JOINTS IN CURB AND GUTTER SECTION AT P.C. AND P.T. OF CURB RADII AT INTERSECTIONS. SEE DETAIL 2.201.
3. INSTALL SAW JOINTS IN CURB AND GUTTER SECTION AT 10 FT. MAXIMUM SPACING, SEAL WITH BITUMASTIC JOINT SEALANT. SEE DETAIL 2.201.

Approved / Date — Revisions — CITY OF SEDALIA, MISSOURI — PUBLIC WORKS DEPARTMENT

COLLECTOR STREET (ASPHALT) — 2.302



NOTES:
1. CURB & GUTTER SHALL BE PORTLAND CEMENT CONCRETE.
2. EXPANSION JOINTS AND CONTRACTION JOINTS IN CURB & GUTTER SHALL COINCIDE WITH STREET JOINTS IN CONCRETE STREETS AND SHALL BE INSTALLED AT DISTANCES NO GREATER THAN 10' IN CURB & GUTTER ALONG ASPHALT STREETS.
3. WHERE EXISTING PAVEMENT IS CONCRETE, CURB REPLACEMENT SHALL BE DOWELED INTO THE STREET WITH 12" LONG #4 BARS AT 24" CTR.

Approved / Date — Revisions — CITY OF SEDALIA, MISSOURI — PUBLIC WORKS DEPARTMENT

TYPE 1 CURB (TYPICAL) — 2.401

REVISION RECORD

NO	DATE	DESCRIPTION
1	10/15/24	CITY COMMENTS
2	10/27/2025	CITY & MODOT COMMENTS
3	11/07/2025	MODOT COMMENTS
4	11/25/2025	CITY COMMENTS
5	12/01/2025	CLIENT AND MODOT COMMENTS

1450 Beale Street
Suite 305
St. Charles, MO 63303
Ph: 314.656.4566
www.cecinc.com

Civil & Environmental Consultants, Inc.

MCDONALD'S RESTAURANT
NSN 43739 (024-1308)
613 E BROADWAY BLVD
SEDALIA, MO 65301

CONSTRUCTION DETAILS

DATE: OCTOBER 22, 2024 | DRAWN BY: MAB
DWG SCALE: 1"=20' | CHECKED BY: GAS
PROJECT NO: 343-982
APPROVED BY: PTB

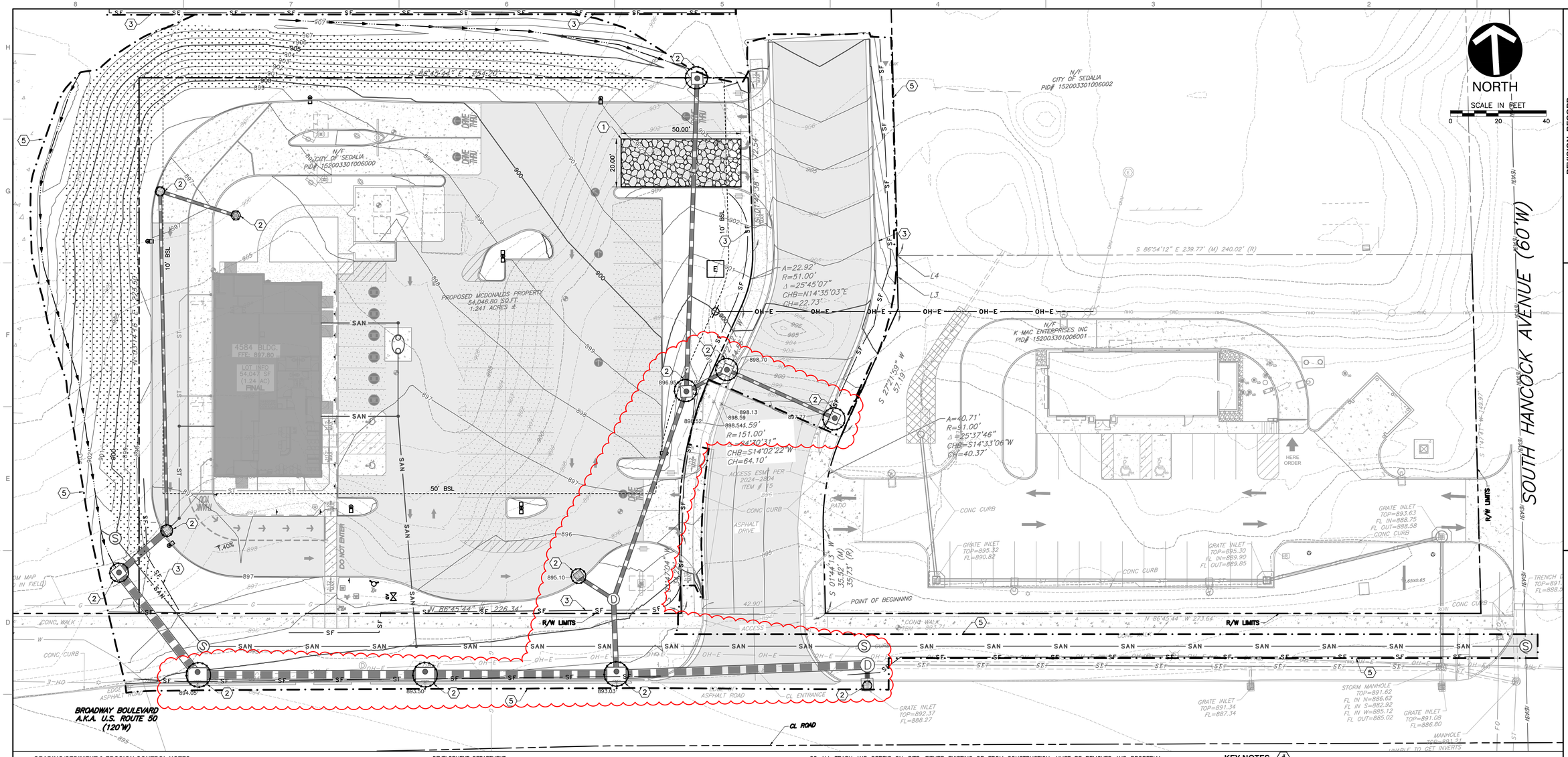
STATE OF MISSOURI — PATRICK TODD BENNETT — NUMBER 2002003134 — PROFESSIONAL ENGINEER — 08/07/2025

PATRICK T. BENNETT (MO PE# 2002003134)
*HAND SIGNATURE ON FILE

DRAWING NO.: C803

SHEET 16 OF 28

P:\340-2001\343-982\1-CAD\Dwg\[C01]343982-C01-C803.dwg[C803] LS(7/29/2025 - mattes) - LP: 8/7/2025 11:49 AM



GRADING/SEDIMENT & EROSION CONTROL NOTES

1. SEDIMENT AND EROSION CONTROL SHALL NOT BE LIMITED TO THE MEASURES SHOWN ON THE PLANS. THE CONTRACTOR, WITH THE APPROVAL OF THE COUNTY INSPECTOR, SHALL UTILIZE BEST MANAGEMENT PRACTICES TO PREVENT SEDIMENT FROM ENTERING ADJACENT PROPERTIES, ROADWAYS, STORM SEWERS, AND DRAINAGEWAYS.
2. ALL FILLED PLACES UNDER PROPOSED STORM AND SANITARY SEWER LINES AND/OR PAVED AREAS INCLUDING TRENCH BACKFILLS WITHIN AND OFF THE ROAD RIGHT-OF-WAY SHALL BE COMPACTED TO 90 PERCENT OF MAXIMUM DENSITY AS DETERMINED BY THE "MODIFIED AASHTO T-180 COMPACTION TEST" (ASTM D-1557). ALL TESTS SHALL BE VERIFIED BY A SOILS ENGINEER CONCURRENT WITH GRADING AND BACKFILLING OPERATIONS.
3. ALL FILLED PLACES IN PROPOSED AND EXISTING COVINGTON COUNTY ROADS (HIGHWAYS) SHALL BE COMPACTED FROM THE BOTTOM OF THE FILL UP TO 90 PERCENT MAXIMUM DENSITY AS DETERMINED BY THE "MODIFIED ASHTO T-180 COMPACTION TEST" (ASTM D-1557). PAVED AREAS IN CUTS SHALL MEET THE SAME COMPACTION REQUIREMENTS. ALL TESTS SHALL BE VERIFIED BY A SOILS ENGINEER CONCURRENT WITH GRADING OPERATIONS.
4. ALL TRUCKING OPERATIONS SHALL FOLLOW THE APPROVED TRUCKING HAUL ROUTE. CONCRETE TRUCKS SHALL HAVE PROPER WASHOUTS, AS APPROVED BY THE COUNTY INSPECTOR. COUNTY AND STATE ROADS SHALL BE CLEANED AND KEPT CLEAR OF MUD, SEDIMENT, AND ANY OTHER DEBRIS AT ALL TIMES THROUGHOUT CONSTRUCTION.
5. ALL ON-SITE TRASH, LITTER, DISCARDED BUILDING MATERIALS, OTHER CONSTRUCTION SITE WASTES, AND DEBRIS, EITHER EXISTING OR FROM CONSTRUCTION, MUST BE REMOVED AND PROPERLY DISPOSED OF OFF-SITE.
6. DEBRIS AND FOUNDATION MATERIAL FROM ANY EXISTING ON-SITE BUILDING OR STRUCTURE WHICH IS SCHEDULED TO BE RAZED FOR THIS DEVELOPMENT MUST BE PROPERLY DISPOSED OF OFF-SITE.
7. CONTRACTOR SHALL PROVIDE SUFFICIENT TEMPORARY TOILET FACILITIES TO SERVE THE NUMBER OF WORKERS ON THE SITE.
8. CONTRACTOR SHALL PROVIDE THE COUNTY INSPECTOR INFORMATION CONCERNING STORAGE AND HANDLING OF ALL HAZARDOUS AND TOXIC SUBSTANCES BROUGHT ONTO THE SITE. THE CONTRACTOR WILL ADHERE TO APPLICABLE FEDERAL AND STATE REGULATIONS CONCERNING STORAGE AND DISPENSERS, SPILL PREVENTION CONTROL, AND COUNTERMEASURE PLANS FOR CLEAN-UP.
9. ANY WELLS AND/OR SPRINGS WHICH MAY EXIST ON THIS PROPERTY SHOULD BE LOCATED AND SEALED IN A MANNER ACCEPTABLE TO THE COVINGTON COUNTY HIGHWAY DEPARTMENT AND THE BUILDING CODE ENFORCEMENT DIVISION OF THE COMMUNITY DEVELOPMENT DEPARTMENT.
10. SOFT SOILS IN THE BOTTOM AND BANKS OF ANY EXISTING OR FORMER POND SITES OR TRIBUTARIES OR ANY SEDIMENT BASINS, TRAPS, OR OTHER ESC MEASURES SHOULD BE REMOVED, SPREAD OUT AND PERMITTED TO DRY SUFFICIENTLY TO BE USED AS FILL. NONE OF THIS MATERIAL SHOULD BE PLACED IN PROPOSED PUBLIC RIGHT-OF-WAY LOCATIONS OR ON ANY STORM SEWER LOCATION. ANY OTHER WET SOILS THAT ARE OUTSIDE THE OPTIMUM MOISTURE RANGE TO OBTAIN THE PROPER COMPACTION SHALL BE AIR DRIED SUFFICIENTLY BEFORE USE AS FILL.
11. A PRE-CONSTRUCTION CONFERENCE MUST BE SCHEDULED WITH THE DIRECTOR OF DEVELOPMENT REVIEW PRIOR TO THE START OF EACH CONSTRUCTION PHASE OF LAND DISTURBANCE ACTIVITY. THE PERMITEE WILL BE RESPONSIBLE FOR NOTIFYING ALL CONTRACTORS, UTILITY CREWS, AND OTHER ENTITIES THAT WILL PERFORM WORK AT THE SITE TO BE IN ATTENDANCE.
12. THE EROSION CONTROL INSPECTOR OF THE COMMUNITY DEVELOPMENT DEPARTMENT SHALL BE NOTIFIED A MINIMUM OF 48 HOURS PRIOR TO THE COMMENCEMENT OF CLEARING, GRADING, AND/OR PRIOR TO THE COMMENCEMENT OF CONSTRUCTION TO ARRANGE FOR AN INSPECTION OF THE SITE.
13. ALL EXCAVATIONS, GRADING, OR FILLING SHALL HAVE A FINISHED GRADE NOT TO EXCEED A 3:1 SLOPE (33%).
14. TEMPORARY SILTATION CONTROL MEASURES (STRUCTURAL) SHALL BE MAINTAINED UNTIL VEGETATIVE COVER IS ESTABLISHED AT A DENSITY SUFFICIENT TO PROVIDE EROSION CONTROL ON THE SITE.
15. CONTRACTOR SHALL PROVIDE DUST CONTROL, AS DETERMINED BY THE COUNTY INSPECTOR.
16. UPON COMPLETION OF STORM SEWERS, SILTATION CONTROL SHALL BE PROVIDED AROUND ALL OPEN SEWER INLETS AND SHALL REMAIN UNTIL THE DISTURBED DRAINAGE AREAS HAVE BEEN PROPERLY STABILIZED.
17. WHERE NATURAL VEGETATION IS REMOVED DURING GRADING, VEGETATION SHALL BE RE-ESTABLISHED IN SUCH A DENSITY AS TO PREVENT EROSION.
18. TEMPORARY VEGETATION OR OTHER APPROVED SURFACE STABILIZATION METHODS SHALL BE ESTABLISHED WITHIN 14 DAYS WHEN THE SOIL DISTURBANCE HAS CEASED ON AREAS GREATER THAN 2,000 SQ. FT.
19. PERMANENT GRASS MUST BE ESTABLISHED AT A DENSITY SUFFICIENT TO PROVIDE EROSION CONTROL ON THE SITE WITHIN 30 DAYS OF THE COMPLETION OR SUSPENSION OF GRADING OPERATIONS. BETWEEN PERMANENT GRASS SEEDING PERIODS, TEMPORARY COVER SHALL BE PROVIDED ACCORDING TO THE RECOMMENDATION OF THE DIRECTOR OF THE DIVISION OF DEVELOPMENT REVIEW.
20. ALL SILTATION CONTROL DEVICES SHALL BE INSPECTED BY THE CONTRACTOR BI-WEEKLY, AT A MINIMUM, AND WITHIN 24 HOURS AFTER EACH RAINFALL EVENT. FOR DISTURBED AREAS THAT HAVE NOT BEEN FINALLY STABILIZED, ALL INSTALLED BMP'S AND OTHER POLLUTION CONTROL MEASURES SHALL BE INSPECTED FOR PROPER INSTALLATION, OPERATION, AND MAINTENANCE. LOCATIONS WHERE STORMWATER LEAVES THE SITE SHALL BE INSPECTED FOR EVIDENCE OF EROSION OR SEDIMENT DEPOSITION. ANY DEFICIENCIES SHALL BE NOTED IN A REPORT OF THE INSPECTION AND CORRECTED WITHIN FOUR CALENDAR DAYS OF THE INSPECTION.
21. SEDIMENT SHALL BE WASHED FROM ALL VEHICLES AT WASH DOWN STATION PRIOR TO LEAVING THE SITE. NO TRACKING OF MUD ONTO PUBLIC ROADS SHALL BE ALLOWED.
22. ALL TRASH AND DEBRIS ON-SITE, EITHER EXISTING OR FROM CONSTRUCTION, MUST BE REMOVED AND PROPERLY DISPOSED OF OFF-SITE.
23. THIS SITE DOES NOT REQUIRE 404/401 PERMITTING.
24. NO DEWATERING METHODS ARE ANTICIPATED OR PROPOSED FOR THIS PROJECT.
25. NO CONSTRUCTION WASTE OR POTENTIAL POLLUTION SOURCES ARE PROPOSED TO BE STORED ON SITE DURING CONSTRUCTION OR LAND DISTURBANCES.
26. PRIOR TO ANY MAJOR LAND DISTURBANCE ACTIVITY, A LAND DISTURBANCE PERMIT FROM THE ALABAMA DEPARTMENT OF CONSERVATION AND NATURAL RESOURCES WILL BE REQUIRED. CONTRACTOR SHALL ADHERE TO THE REQUIREMENTS OF SAID PERMIT.
27. THE LOSS OF ANY CONTAINED SEDIMENT OR OTHER POLLUTANT REQUIRES IMMEDIATE ACTION WHICH MUST BE DOCUMENTED AND REPORTED TO COVINGTON COUNTY.
28. PROPOSED POST CONSTRUCTION SURFACE BMPS SHALL BE CONSTRUCTED AFTER SUBSTANTIAL COMPLETION OF LAND DISTURBANCE ACTIVITIES. ALL POST CONSTRUCTION BMPS ARE TO BE PROTECTED FROM RUNOFF, SEDIMENT, AND DAMAGE DURING CONSTRUCTION ACTIVITIES.
29. THE FOLLOWING SUBMITTALS ARE REQUIRED PRIOR TO TEMPORARY AND PERMANENT SEEDING: 1. SEEDING DATE 2. SEED MIXTURE(S) AND RATE(S), SUPPLIER, PURITY PERCENTAGE 3. MULCHING MATERIAL(S) AND APPLICATION RATE(S) 4. MOWING HEIGHT AND SCHEDULE SEEDED AREAS SHALL BE RE-FERTILIZED 4 WEEKS AFTER INITIAL SEEDING. ALL AREAS IDENTIFIED AS BARE AND SPARSE (LESS THAN 30% GROUND COVER) DURING THE INSPECTION SHALL BE RE-SEEDED AND MULCHED. GRASS SHALL NOT BE CUT UNTIL 4 INCHES OF GROWTH OCCURS.
30. EPA ALLOWABLE NON-STORM WATER DISCHARGES:

WATERLINE FLUSHING	IRRIGATION WATER, SPRINGS
LANDSCAPE IRRIGATION	WATER FROM CRAWL SPACE PUMPS
DIVERTED STREAM FLOWS	FOOTING DRAINS
RISING GROUND WATERS	LAWN WATERING
UNCONTAMINATED GROUND WATER INFILTRATION	INDIVIDUAL RESIDENT CAR WASHING
UNCONTAMINATED PUMPED GROUND WATER	FLOWS FROM RIPARIAN HABITATS AND WETLANDS
FOUNDATION DRAINS	DE-CLORINATED SWIMMING POOL DISCHARGES
DISCHARGE FROM POTABLE WATER SOURCES	STREET WASH WATER
AIR CONDITIONING CONDENSATION	RESIDENTIAL BUILDING WASH WATERS, WITHOUT DETERGENT
	DISCHARGES FROM EMERGENCY FIRE FIGHTING ACTIVITIES

REFERENCE

1. TOPOGRAPHIC INFORMATION BASED UPON THE ALTA/NSPS LAND TITLE SURVEY CONDUCTED BY CIVIL & ENVIRONMENTAL CONSULTANTS, INC. IN AUGUST 2024.

MISSOURI 811

811 or 1-800-344-7483
https://missouri-811.org
ISSUED TICKET#: 0000000000
TICKET DATE: 00/00/00

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KEY NOTES (#)

1. PROPOSED CONSTRUCTION EXIT PAD. REFER TO CONSTRUCTION NOTES ON SHEET C901.
2. PROPOSED INLET PROTECTION. REFER TO DETAIL ON C901.
3. PROPOSED SILT FENCE. REFER TO DETAIL ON C901.
4. PROPOSED EROSION CONTROL BLANKET, SEE CONSTRUCTION NOTES ON SHEET C901.
5. PROPOSED LIMITS OF DISTURBANCE.

LEGEND

	PROPOSED INLET PROTECTION
SF	PROPOSED SILT FENCE
	PROPOSED CONSTRUCTION ENTRANCE
	PROPOSED EROSION CONTROL BLANKET

NOTES:

1. REFER TO SHEET C001 FOR GENERAL NOTES AND ABBREVIATIONS.
2. CONTRACTOR SHALL REFER TO OTHER PLANS WITHIN THIS CONSTRUCTION SET FOR OTHER PERTINENT INFORMATION. IT IS NOT THE ENGINEER'S INTENT THAT ANY SINGLE PLAN SHEET IN THIS SET OF DOCUMENTS FULLY DEPICT ALL WORK ASSOCIATED WITH THIS PROJECT.

STATE OF MISSOURI
PATRICK TODD BENNETT
NUMBER 2002003134
PROFESSIONAL ENGINEER
08/07/2025

PATRICK T. BENNETT
(MO PE# 2002003134)
*HAND SIGNATURE ON FILE

REVISION RECORD

NO	DATE	DESCRIPTION
1	10/11/24	CITY COMMENTS
2	10/27/2025	CITY & MODOT COMMENTS
3	04/07/2025	MODOT COMMENTS
4	05/05/2025	CITY COMMENTS
5	08/07/2025	CLIENT AND MODOT COMMENTS

1450 Beale Street
Suite 305
St. Charles, MO 63303
Ph: 314.656.4566
www.cecinc.com

Civil & Environmental Consultants, Inc.

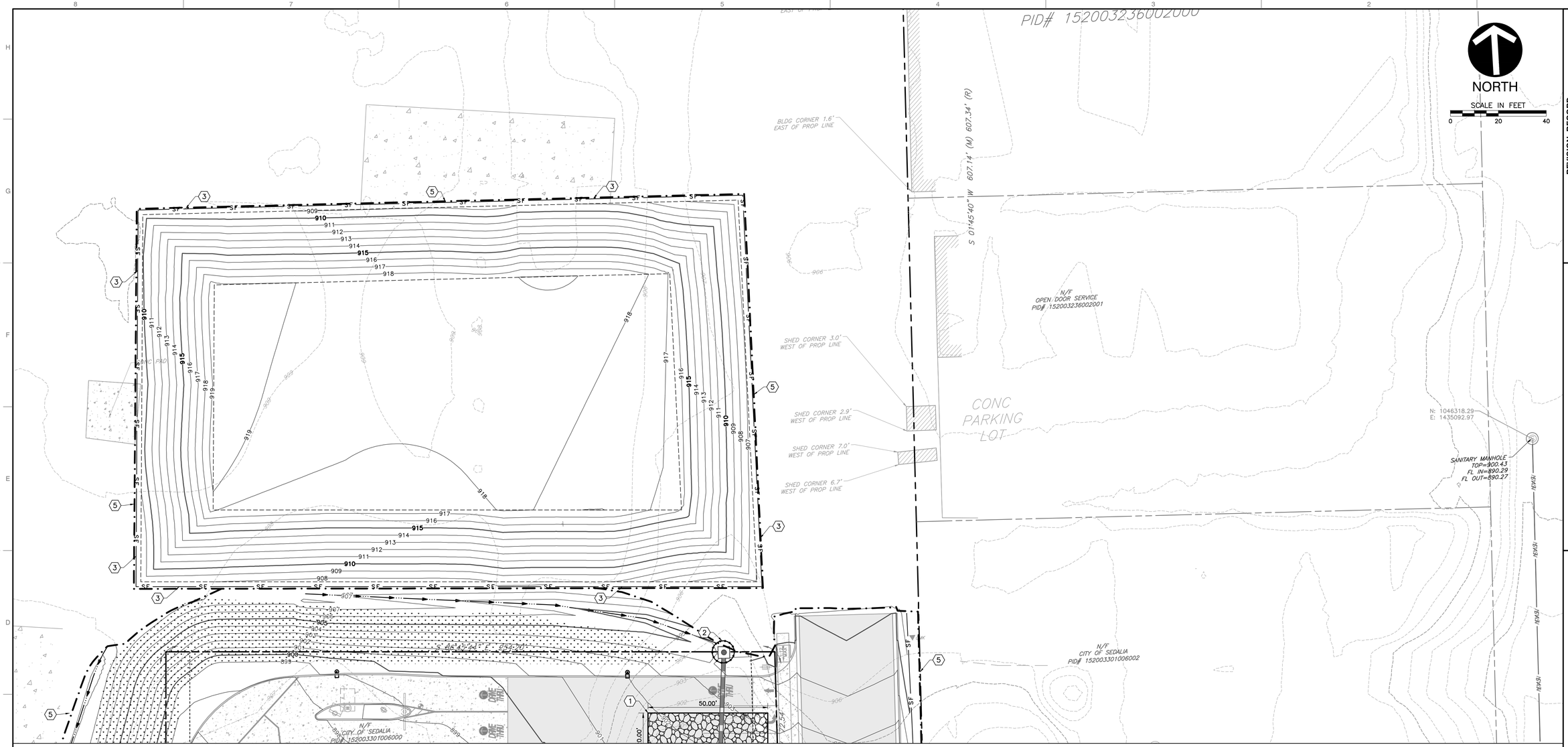
MCDONALD'S RESTAURANT
NSN 43739 (024-1308)
613 E BROADWAY BLVD
SEDALIA, MO 65301

EROSION & SEDIMENT CONTROL PLAN

DATE:	OCTOBER 22, 2024
DWG SCALE:	1" = 20'
PROJECT NO:	343-982
DRAWN BY:	MAB
CHECKED BY:	GAS
APPROVED BY:	PTB

DRAWING NO.: C900
SHEET 17 OF 28

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KEY NOTES

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2. PROPOSED INLET PROTECTION. REFER TO DETAIL ON C901.
3. PROPOSED SILT FENCE. REFER TO DETAIL ON C901.
4. PROPOSED EROSION CONTROL BLANKET, SEE CONSTRUCTION NOTES ON SHEET C901.
5. PROPOSED LIMITS OF DISTURBANCE.

LEGEND

- PROPOSED INLET PROTECTION
- SF — PROPOSED SILT FENCE
- PROPOSED CONSTRUCTION ENTRANCE
- PROPOSED EROSION CONTROL BLANKET

REFERENCE

1. TOPOGRAPHIC INFORMATION BASED UPON THE ALTA/NSPS LAND TITLE SURVEY CONDUCTED BY CIVIL & ENVIRONMENTAL CONSULTANTS, INC. IN AUGUST 2024.

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IRRIGATION WATER, SPRINGS
WATER FROM CRAWL SPACE PUMPS
FOOTING DRAINS
LAWN WATERING
INDIVIDUAL RESIDENT CAR WASHING
FLOWS FROM RIPARIAN HABITATS AND WETLANDS
DE-CLORINATED SWIMMING POOL DISCHARGES
STREET WASH WATER
RESIDENTIAL BUILDING WASH WATERS, WITHOUT DETERGENT
DISCHARGES FROM EMERGENCY FIRE FIGHTING ACTIVITIES

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PATRICK T. BENNETT
(MO PE# 2002003134)
*HAND SIGNATURE ON FILE

STATE OF MISSOURI · PATRICK TODD BENNETT · NUMBER PE-2002003134 · 08/07/2025 · PROFESSIONAL ENGINEER

REVISION RECORD

NO	DATE	DESCRIPTION
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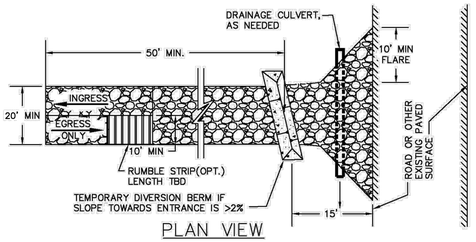
EROSION & SEDIMENT CONTROL PLAN

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PROJECT NO.	343-982
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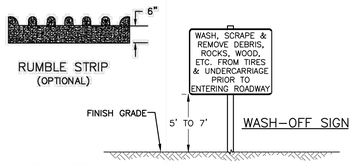
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C901

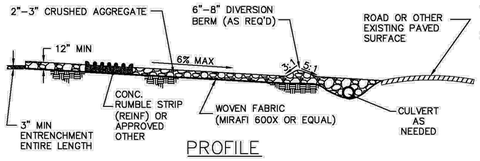
SHEET 18 OF 28

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NOTE:
A SPECIAL USE PERMIT IS REQ'D FOR THE ENTRANCE.

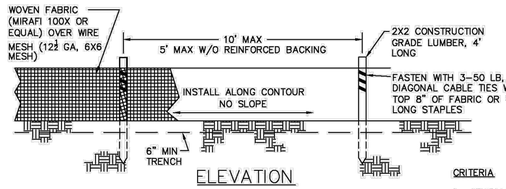




DESIGN NOTES

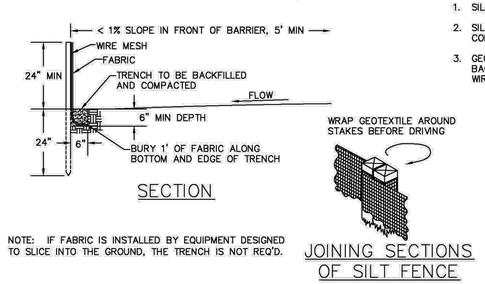
1. DIVERT ALL RUNOFF TO A SEDIMENTATION CONTROL DEVICE.
2. PROVIDE WATER SUPPLY FOR WASHDOWN.

CONSTRUCTION TRAFFIC WASH-OFF PAD



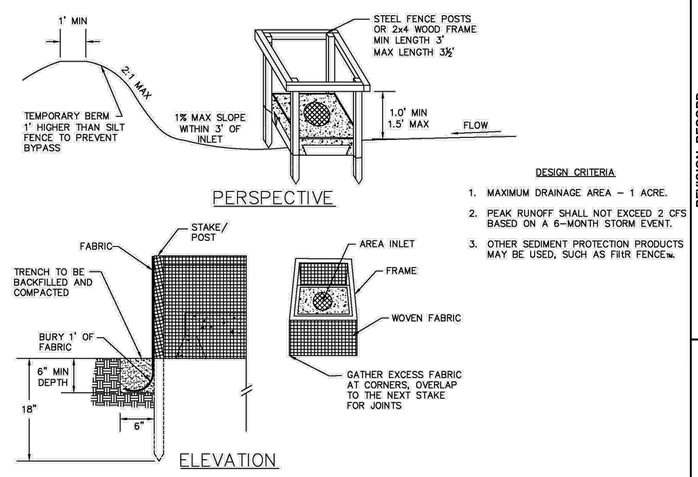
CRITERIA

1. SILT FENCE SHALL BE 30 INCHES HIGH.
2. SILT FENCE SHALL NOT BE USED FOR CONCENTRATED FLOWS.
3. GEOSYNTHETIC REINFORCED SILT FENCE BACKING MAY BE USED IN LIEU OF WIRE MESH.



NOTE: IF FABRIC IS INSTALLED BY EQUIPMENT DESIGNED TO SLICE INTO THE GROUND, THE TRENCH IS NOT REQ'D.

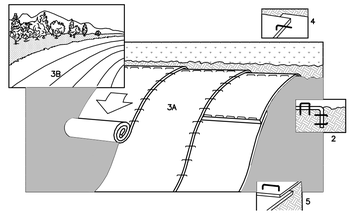
SILT FENCE INSTALLATION

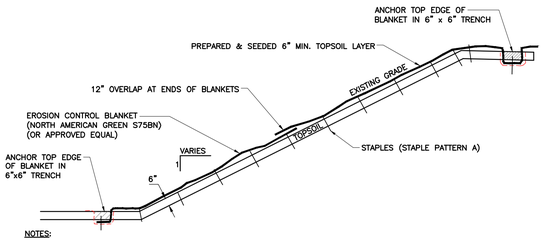


DESIGN CRITERIA

1. MAXIMUM DRAINAGE AREA – 1 ACRE.
2. PEAK RUNOFF SHALL NOT EXCEED 2 CFS BASED ON A 6-MONTH STORM EVENT.
3. OTHER SEDIMENT PROTECTION PRODUCTS MAY BE USED, SUCH AS FILTR FENCE™.

AREA INLET PROTECTION FABRIC DROP





NOTES:

1. PREPARE SOIL BEFORE INSTALLING BLANKETS, INCLUDING APPLICATION OF LIME, FERTILIZER,AND SEED.
2. BEGIN AT THE TOP OF THE SLOPE BY ANCHORING THE BLANKET IN 6" DEEP X 6" WIDE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING.
3. ROLL THE BLANKETS (A.) DOWN OR (B.) HORIZONTALLY ACROSS THE SLOPE.
4. THE EDGES OF PARALLEL BLANKETS MUST BE STAPLED WITH APPROXIMATELY 2" OVERLAP.
5. WHEN BLANKETS MUST BE SPLICED DOWN THE SLOPE, PLACE BLANKETS END OVER END (SHINGLE STYLE) WITH APPROXIMATELY 12" OVERLAP. STAPLE THROUGH OVERLAPPED AREA, APPROXIMATELY 12" APART.
6. EROSION CONTROL BLANKETS SHALL BE INSTALLED ON ALL 3:1 OR STEEPER SLOPES WITH A MINIMUM OF 6 INCHES OF TOPSOIL.

EROSION CONTROL BLANKET

NOT TO SCALE

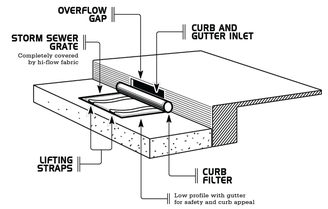
REFERENCE

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DANDY CURB BAG™



DANDY CURB BAG®
CURB AND GUTTER INLET/GRATE PROTECTION SYSTEM GUIDE SPECIFICATION

1.0 **Description:**

1.1 Work covered under this item consists of installing a Dandy Curb Bag® curb and gutter inlet protection system. The purpose is to keep silt, sediment, and construction debris out of the storm water system.

2.0 **Material:**

2.1 The Dandy Curb Bag® curb and gutter inlet protection unit shall be a **sewn in the U.S.A.** geotextile fabric unit enclosing a porous structure in the form of a cylindrical tube placed in front of and extending beyond the inlet opening on both sides and have a geotextile fabric envelope fitted to the individual grate(s)on the street side of the sewn unit for grate(s) to be inserted and to completely enclose the grate(s).

2.2 The Dandy Curb Bag® shall have lifting devices to allow manual inspection of the storm water system.

2.3 The Dandy Curb Bag® unit shall utilize an orange monofilament fabric that is manufactured in the U.S.A. with the following characteristics:

PROPERTY	TEST METHOD	UNITS	TEST RESULTS
Tensile Strength	ASTM D4632	lbs	450 x 300
Elongation	ASTM D4632	%	38% x 21%
Trapezoidal Tear	ASTM D4533	lbs	165 x 150
CBR Puncture	ASTM D6241	lbs	1000
HYDRAULIC PROPERTIES:			
Apparent Opening Size (AOS)	ASTM D 4751	US Std Sieve	30
Permittivity	ASTM D 4491	sec[1]	4.9
Water Flow Rate	ASTM 4491	gal/min/ft²	365
% Open Area (POA)	COE - 22125-86	%	29
UV Resistance (% Retained @ 2500 hrs)	ASTM D 4355	%	70
Color			Orange[1]

[1]The color orange is a trademark of Dandy Products, Inc.
The property values listed above are effective April 2022 and are subject to change without notice.

3.0 **Installation:**

3.1 Place the empty Dandy Curb Bag® unit over the grate as the grate stands on end.

3.2 *For oil and sediment model; to install or replace absorbent, place absorbent pillow in pouch, on the bottom (below-grade side) of the unit.*

3.3 Tuck the enclosure flap inside to completely enclose the grate.

3.4 Holding the lifting devices, being careful not to damage the sewn fabric unit, insert the grate into its frame, street side edge first, then lower back edge with cylindrical tube into place. The cylindrical tube should be partially blocking the curb hood opening when installed properly.

4.0 **Maintenance:**

4.1 The contractor shall remove all accumulated sediment and debris from surface and vicinity of unit after each rain event or as directed by engineer/inspector. Dispose of unit no longer in use at an appropriate recycling or solid waste facility.

4.2 *For oil and sediment model; remove and replace absorbent when near saturation.*

DANDY SACK®
INLET PROTECTION SYSTEM GUIDE SPECIFICATION

1.0 **Description:**

1.1 Work covered under this item consists of installing a Dandy Sack® inlet protection system. The purpose is to keep silt, sediment, and construction debris out of the storm water system.

2.0 **Material:**

2.1 The Dandy Sack® inlet protection unit shall be a **sewn in the U.S.A.** geotextile fabric unit.

2.2 The Dandy Sack® shall have lifting straps to allow removal of the unit and manual inspection of the storm water system.

2.3 The Dandy Sack® unit shall utilize an orange monofilament fabric that is manufactured in the U.S.A. with the following characteristics:

3.0 **Installation:**

3.1 Remove the grate from the catch basin.

3.2 For Oil and Sediment Model; to install or replace absorbent, place absorbent pillow in unit, on the bottom (below-grade side) of the unit.

3.3 Stand the grate on end. Move the top lifting straps out of the way and place the grate into the Dandy Sack® unit so that the grate is below the top straps and above the lower straps. The grate should be cradled between the upper and lower straps.

3.4 Holding the lifting devices, insert the grate into the inlet, being careful that the grate remains in place and being careful not to damage the Dandy Sack® unit.

4.0 **Maintenance:**

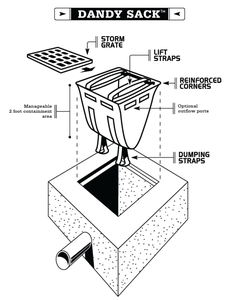
4.1 Remove all accumulated sediment and debris from vicinity of unit after each storm event.

4.2 After each storm event and at regular intervals, look into the Dandy Sack® unit. If the unit is more than 1/3 full of accumulated sediment, the unit must be emptied.

4.3 To empty the unit, using the lifting straps lift the unit out of the inlet and remove the grate. Transport the unit to an appropriate location for removal of the contents. Holding the dumping straps on the outside at the bottom of the unit, turn the unit upside down, emptying the contents. Reinstall unit as above.

4.4 *For Oil and Sediment Model; remove and replace absorbent when near saturation.*

4.5 Dispose of unit and/or absorbent in accord with applicable Federal, state and local environmental laws and regulations.



60.20.2.1.4 Submittals and Follow-up Care

The following submittals are required prior to temporary seeding:

1. Soil test report
2. Seeding date
3. Fertilization mixture and rate
4. Seed mixture(s) and rate(s), supplier, purity percentage
5. Mulching material(s) and application rate(s)
6. Mowing height and schedule

Seeded areas shall be re-fertilized 4 weeks after initial seeding. All areas identified as bare and sparse (less than 30% ground cover) during the inspection shall be re-seeded and mulched. Grass shall not be cut until 4 inches of growth occurs.

60.20.2.2 Permanent Seeding

After land disturbance activities have been completed in an area, permanent seeding shall be applied. Permanent seeding is the establishment of perennial vegetation on disturbed areas for periods longer than 12 months. Permanent seeding is used when vegetation is designed to permanently stabilize the soil. Particular care is required to establish a thick cover of permanent grass.

Refer to Sections 60.20.2.1.1, 60.20.2.1.2, and 60.20.2.1.4 and to NRCS MOFOTG Code 342 (Critical Area Planting) in Appendix D for permanent seeding guidelines.

60.20.2.4 Mulching

Mulching and hydro mulch are the application of plant residues such as straw or other suitable materials to the soil surface. Mulch protects the soil surface from the erosive force of raindrop impact and reduces the velocity of overland flow. It helps seedlings germinate and grow by conserving moisture, protecting against temperature extremes, and controlling weeds. Mulch also maintains the infiltration capacity of the soil.

Mulch shall be applied to seeded areas to help establish plant cover. It can also be used as temporary cover in unseeded areas to protect against erosion over the winter or until final grading and shaping can be accomplished. Application rates are shown in Table 60-9 below.

Table 60-9 Mulching Materials

Material	Rate	Requirements	Installation/Uses
Straw	1.5-2.5 tons/ac (3-4 tons, if roller punched)	Dry, unchopped, unweathered; free of weed seeds & rot.	Spread by machine 1.5-2.5 inches deep; must be tacked or tied down.
Compost Blanket	1" thick	Double the application rate for embankments	Follow manufacturer's application method.
Wood fiber, wood cellulose, paper	1-2 tons/ac	Double the application rate in critical areas	Use with power mulcher or hydroseeder; may be used to tack straw on steep slopes. Cannot be used in hot dry weather.

SEED AND MULCH RATES

Table 60-7 Temporary Fall Seeding

Plant Species	Rate [1] (lb/acre)	Seeding Times
Side-Oats	65	8/16 – 9/30
Winter Rye	50	8/01 – 10/15
Winter Wheat	60	8/01 – 10/15
Orchard Grass	120	8/01 – 10/15
Perennial Ryegrass	80	8/01 – 10/15
Tall fescue, Smooth Brome	80	8/01 – 10/15
K-31 Fescue	120	9/01 – 11/15
Ladino Clover	2 [2]	8/15 – 9/15
Crimson Clover	6 [2]	8/15 – 9/15
Orchard Grass and Oats or Rye	15 [2] 40 [2]	8/15 – 9/15

[1] If using aerial seeding or other broadcast method to apply seed without rolling or culti-packing, increase seeding rates by 50 percent.

[2] Pure live seed (PLS)

Table 60-8 Temporary Spring Seeding

Plant Species	Rate [1] (lb/acre)	Seeding Dates
Winter Rye	50	3/15 – 5/31
Spring Oats	65	3/15 – 5/31
Annual Ryegrass	4 [2]	3/15 – 6/15
Sudangrass	16 [2]	4/15 – 6/15
K-31 Fescue	30 [2]	3/15 – 5/31
Red Clover & Oats	2 [2] 30 [2]	3/15 – 5/31

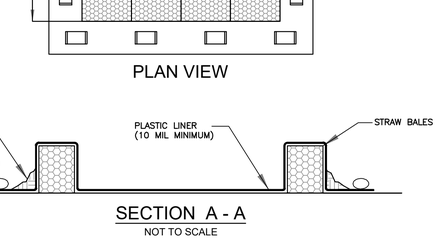
[1] If using aerial seeding or other broadcast method to apply seed without rolling or culti-packing, increase seeding rates by 50 percent.

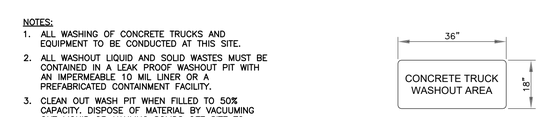
[2] Pure live seed (PLS)

60.20.2.1.3 Temporary Seeding Rates and Times

In areas that are on slopes flatter than 4:1 and that are not within watercourses, seeding shall be applied at the rates and times specified in Table 60-7 and Table 60-8. Seed shall be evenly spread with a broadcast seeder, drill, or hydro seeder. The proper depth is 1/4 to 1/2 inches deep for legumes and grasses such as annual ryegrass and up to 1 and 1/2 inches for cereal grains. If the seed is applied by a broadcast method, the area will be rolled or culti-packed immediately after seeding on a prepared seedbed only. Rolling or culti-packing is not required if the broadcast seeding rate is increased by 50 percent. Other seed species and mixtures can be proposed prior to planting, as recommended by an agronomist, competent nursery company, or refer to NRCS MOFOTG Code 340 (Cover Crop) in Appendix D.

For channels, embankments, and slopes of 4:1 or steeper, seeding shall be a mixture of K31 fescue and rye at a rate of 400 pounds per acre.





NOTES:

1. ALL WASHING OF CONCRETE TRUCKS AND EQUIPMENT TO BE CONDUCTED AT THIS SITE.
2. ALL WASHOUT LIQUID AND SOLID WASTES MUST BE CONTAINED IN A LEAK PROOF WASHOUT PIT WITH AN IMPERMEABLE 10 MIL LINER OR A PREFABRICATED CONTAINMENT FACILITY.
3. CLEAN OUT WASH PIT WHEN FILLED TO 50% CAPACITY. DISPOSE OF MATERIAL BY VACUUMING OUT LIQUID OR HAULING SOLIDS OFF SITE TO APPROPRIATE WASTE FACILITY.
4. MARK WASHOUT LOCATION WITH SIGNAGE.

CONCRETE WASHOUT PIT

NOT TO SCALE

NOTES:

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PATRICK T. BENNETT
(MO PE# 2002003134)
*HAND SIGNATURE ON FILE

STATE OF MISSOURI · PATRICK TODD BENNETT · NUMBER PE-2002003134 · 08/07/2025 · PROFESSIONAL ENGINEER

REVISION RECORD

NO	DATE	DESCRIPTION
1	10/16/24	CITY COMMENTS
2	10/27/2025	CITY & MODOT COMMENTS
3	04/07/2025	MODOT COMMENTS
4	05/29/2025	CITY COMMENTS
5	06/07/2025	CLIENT AND MODOT COMMENTS

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NSN 43739 (024-1308)
613 E BROADWAY BLVD
SEDALIA, MO 65301

EROSION & SEDIMENT CONTROL DETAILS

DATE: OCTOBER 22, 2024 | DRAWN BY: MAB | CHECKED BY: GAS | DWG SCALE: 1"=20' | PROJECT NO: 343-982 | APPROVED BY: PTB

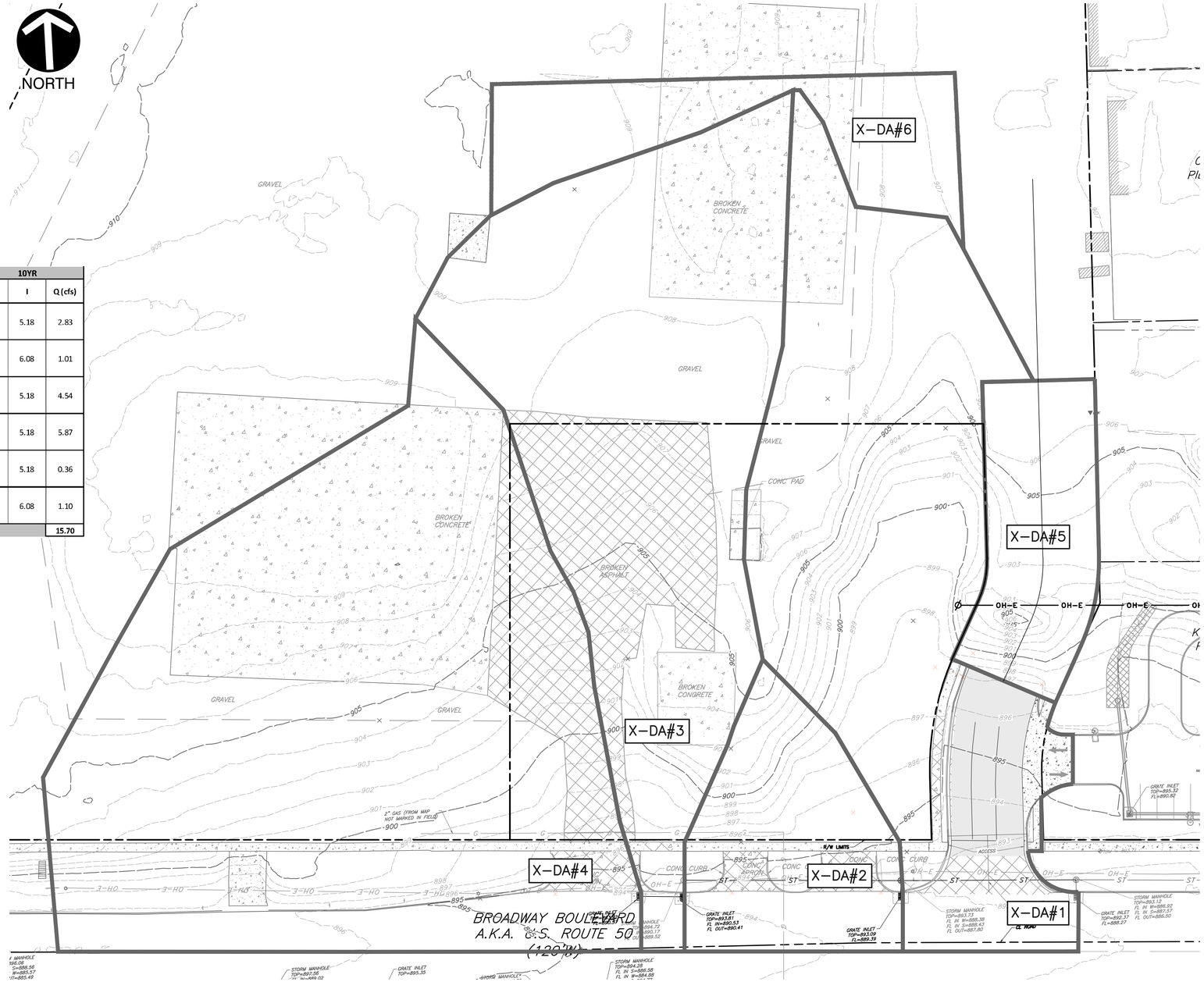
DRAWING NO.: C902

SHEET 19 OF 28

P:\343-0982\343-0982\343-0982-CV01-C900.dwg[C902] LS(7/29/2025 - stanton) - LP: 8/7/2025 11:50 AM

EXISTING TOTAL DRAINAGE AREAS								10YR		
DRAINAGE AREA	Description	Subareas	Area (SF)	Area (AC)	Impervious (%)	C	Tc (min)	K*	I	Q (cfs)
XDA#1	EX. ROW GRATE INLET #1A	IMPERVIOUS	16,950	0.39	37%	0.52	15.00	1.00	5.18	2.83
		PERVIOUS	28,452	0.65						
		TOTALS	**45,402**	**1.04**						
XDA#2	EX. GRATE INLET #2A	IMPERVIOUS	5,611	0.13	43%	0.56	10.00	1.00	6.08	1.01
		PERVIOUS	7,357	0.17						
		TOTALS	**12,968**	**0.30**						
XDA#3	EX. GRATE INLET #3A	IMPERVIOUS	40,541	0.93	88%	0.83	15.00	1.00	5.18	4.54
		PERVIOUS	5,645	0.13						
		TOTALS	**46,186**	**1.06**						
XDA#4	EX. GRATE INLET #3B	IMPERVIOUS	46,402	1.07	65%	0.69	15.00	1.00	5.18	5.87
		PERVIOUS	25,447	0.58						
		TOTALS	**71,849**	**1.65**						
XDA#5	RUNOFF OFFSITE (EAST)	IMPERVIOUS	0	0.00	0%	0.30	15.00	1.00	5.18	0.36
		PERVIOUS	9,957	0.23						
		TOTALS	**9,957**	**0.23**						
XDA#6	RUNOFF OFFSITE (NORTH)	IMPERVIOUS	7,413	0.17	65%	0.69	10.00	1.00	6.08	1.10
		PERVIOUS	4,032	0.09						
		TOTALS	**11,445**	**0.26**						
		TOTALS	**197,807**	**4.54**						**15.70**

TOTAL TO EXISTING PIPE SYSTEM			
	Area (SF)	Area (AC)	Q (cfs)
EXISTING DRAINAGE AREA TOTALS	186,362	4.28	18.59



REFERENCE

1. TOPOGRAPHIC INFORMATION BASED UPON THE ALTA/NSPS LAND TITLE SURVEY CONDUCTED BY CIVIL & ENVIRONMENTAL CONSULTANTS, INC. IN AUGUST 2024.

811 or 1-800-344-7483
https://missouri-811.org
ISSUED TICKET#: 000000000
TICKET DATE: 00/00/00

NOTE TO CONTRACTOR: PRIOR TO ANY EXCAVATION FOR UNDERGROUND UTILITIES, CONTRACTOR SHALL EXPOSE AND VERIFY LOCATIONS (HORIZONTAL AND VERTICAL) OF ALL EXISTING UTILITIES INCLUDING BUT NOT LIMITED TO GAS, WATER, BROADBAND, PHONE, SANITARY AND STORM SEWERS. ANY CONFLICT SHALL BE REPORTED IMMEDIATELY TO THE ENGINEER AND APPROPRIATE AUTHORITIES

NOTES:

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SCALE IN FEET
0 20 40

PATRICK T. BENNETT
(MO PE# 2002003134)
*HAND SIGNATURE ON FILE

STATE OF MISSOURI
PATRICK TODD BENNETT
NUMBER 2002003134
PROFESSIONAL ENGINEER
08/07/2025

REVISION RECORD

NO	DATE	DESCRIPTION
1	10/19/24	CITY COMMENTS
2	12/27/2024	CITY & MODOT COMMENTS
3	3/4/2025	MODOT COMMENTS
4	5/23/2025	CITY COMMENTS
5	7/7/2025	CLIENT AND MODOT COMMENTS

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SEDALIA, MO 65301

EXISTING DRAINAGE MAP

DATE:	OCTOBER 22, 2024
DWG SCALE:	1"=20'
PROJECT NO:	
APPROVED BY:	PTB
CHECKED BY:	GAS
DRAWN BY:	MAB

DRAWING NO.: HD1
SHEET 20 OF 28

A:\340-0001\343-982\~CADD\Dwg\C001\343982-C101-HYD.dwg[B1] LS (7/25/2025 - gmoody) - LP: 8/7/2025 12:49 PM

PROPOSED PIPE SYSTEM DRAINAGE AREAS (10-YEAR STORM)

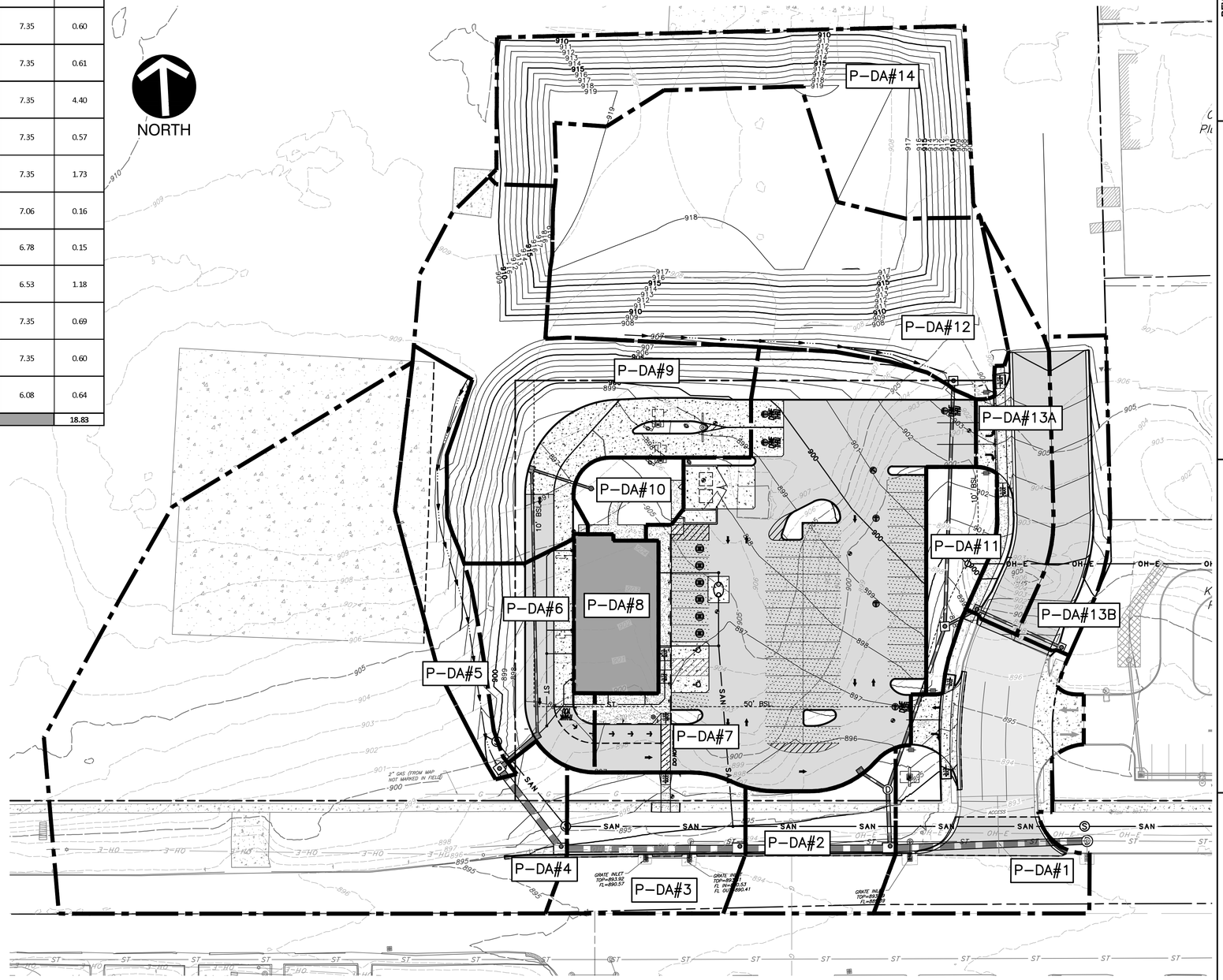
DRAINAGE AREA	Description	Subareas	Area (SF)	Area (AC)	Impervious (%)	C	Tc (min)	K*	I	Q (cfs)
PDA#1	EX. GRATE INLET #1A	IMPERVIOUS	11,265	0.26	88%	0.83	5.00	1.00	7.35	1.79
		PERVIOUS	1,495	0.03						
		TOTALS	**12,760**	**0.29**						
PDA#2	ROAD INLET 2	IMPERVIOUS	2,949	0.07	53%	0.62	5.00	1.00	7.35	0.58
		PERVIOUS	2,637	0.06						
		TOTALS	**5,586**	**0.13**						
PDA#3	ROAD INLET 3	IMPERVIOUS	3,546	0.08	50%	0.60	5.00	1.00	7.35	0.72
		PERVIOUS	3,493	0.08						
		TOTALS	**7,039**	**0.16**						
PDA#4	ROAD INLET 4	IMPERVIOUS	27,452	0.63	55%	0.63	10.00	1.00	6.08	4.41
		PERVIOUS	22,909	0.53						
		TOTALS	**50,361**	**1.16**						
PDA#5	PROPOSED AREA INLET #5	IMPERVIOUS	3,192	0.07	58%	0.65	5.00	1.00	7.35	0.60
		PERVIOUS	2,292	0.05						
		TOTALS	**5,484**	**0.13**						
PDA#6	PROPOSED CURB INLET #6	IMPERVIOUS	3,255	0.07	59%	0.65	5.00	1.00	7.35	0.61
		PERVIOUS	2,307	0.05						
		TOTALS	**5,562**	**0.13**						
PDA#7	PROPOSED GRATE INLET #7	IMPERVIOUS	27,939	0.64	90%	0.84	5.00	1.00	7.35	4.40
		PERVIOUS	3,100	0.07						
		TOTALS	**31,039**	**0.71**						
PDA#8	BUILDING DOWNSPOUTS	IMPERVIOUS	3,723	0.09	100%	0.90	5.00	1.00	7.35	0.57
		PERVIOUS	0	0.00						
		TOTALS	**3,723**	**0.09**						
PDA#9	PROPOSED GRATE INLET #12	IMPERVIOUS	7,765	0.18	41%	0.55	5.00	1.00	7.35	1.73
		PERVIOUS	10,955	0.25						
		TOTALS	**18,720**	**0.43**						
PDA#10	PROPOSED YARD DRAIN #13	IMPERVIOUS	571	0.01	27%	0.46	6.00	1.00	7.06	0.16
		PERVIOUS	1,578	0.04						
		TOTALS	**2,149**	**0.05**						
PDA#11	PROPOSED CURB INLET #15	IMPERVIOUS	0	0.00	0%	0.30	7.00	1.00	6.78	0.15
		PERVIOUS	3,136	0.07						
		TOTALS	**3,136**	**0.07**						
PDA#12	PROPOSED AREA INLET #16	IMPERVIOUS	0	0.00	0%	0.30	8.00	1.00	6.53	1.18
		PERVIOUS	26,283	0.60						
		TOTALS	**26,283**	**0.60**						
PDA#13A	PROPOSED ROAD WEST	IMPERVIOUS	4,069	0.09	73%	0.74	5.00	1.00	7.35	0.69
		PERVIOUS	1,478	0.03						
		TOTALS	**5,547**	**0.13**						
PDA#13B	PROPOSED ROAD EAST	IMPERVIOUS	3,420	0.08	67%	0.70	5.00	1.00	7.35	0.60
		PERVIOUS	1,682	0.04						
		TOTALS	**5,102**	**0.12**						
PDA#14	DRAINAGE NORTH	IMPERVIOUS	0	0.00	0%	0.30	10.00	1.00	6.08	0.64
		PERVIOUS	15,315	0.35						
		TOTALS	**15,315**	**0.35**						
		TOTALS	**197,806**	**4.54**						**18.83**

INLET DIFFERENTIALS (10-YEAR STORM)

DRAINAGE INLET	EXISTING Q (cfs)	PROPOSED Q (cfs)	DIFFERENTIAL Q (cfs)
Ex. GI #1A	4.22	3.08	-1.14
Road Inlet 2	1.05	0.58	-0.47
Road Inlet 3	5.52	0.72	-4.81
Road Inlet 4	6.39	4.41	-1.98

PROPOSED TOTALS

	Area (SF)	Area (AC)	Q (cfs)
RUNOFF TO MODOT ROAD INLETS	75,746	1.74	7.49
RUNOFF TO ONSITE INLETS	106,745	2.45	10.70
TOTALS TO MODOT PIPE NETWORK	182,491	4.19	18.19



REFERENCE

1. TOPOGRAPHIC INFORMATION BASED UPON THE ALTA/NSPS LAND TITLE SURVEY CONDUCTED BY CIVIL & ENVIRONMENTAL CONSULTANTS, INC. IN AUGUST 2024.

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SCALE IN FEET
0 20 40

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STATE OF MISSOURI
PATRICK TODD BENNETT
NUMBER PE-2002003134
PROFESSIONAL ENGINEER
08/07/2025

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SEDALIA, MO 65301

PROPOSED DRAINAGE MAP

DATE: OCTOBER 22, 2024
DWG SCALE: 1" = 20'
PROJECT NO.
APPROVED BY:

DRAWN BY: MAB
CHECKED BY: GAS
343-982
PTB

DRAWING NO.: HD2

SHEET 21 OF 28

A:\343-982\343-982\1-CAD\Dwg\C101\TA3982-C101-HYD.dwg[HD2] 10/25/2025 - jgmonte - LP: 8/7/2025 12:48 PM

GENERAL

1. THESE GENERAL NOTES REPRESENT AND/OR SUMMARIZE KEY PROJECT INFORMATION FOR THE DRAWING USER'S CONVENIENCE. HOWEVER, ALL CONSTRUCTION DOCUMENTS SHOULD BE REVIEWED FOR FURTHER DETAILS AND REQUIREMENTS.
2. WHERE REFERENCE IS MADE TO VARIOUS CODES, STANDARDS, AND TEST STANDARDS FOR MATERIALS, SUCH STANDARDS SHALL BE AS SPECIFIED IN SECTION **CODES AND STANDARDS**.
3. NOTES AND DETAILS ON DRAWINGS SHALL TAKE PRECEDENCE OVER GENERAL STRUCTURAL NOTES AND TYPICAL DETAILS. WHERE NO SPECIFIC DETAILS ARE SHOWN, CONSTRUCTION SHALL CONFORM TO SIMILAR WORK ON THE PROJECT.
4. TYPICAL DETAILS ARE NOT CUT ON DRAWINGS, BUT APPLY UNLESS NOTED OTHERWISE.
5. WHERE ANY DISCREPANCIES OCCUR BETWEEN PLANS, DETAILS, GENERAL STRUCTURAL NOTES AND SPECIFICATIONS, THE MORE STRINGENT REQUIREMENT SHALL GOVERN.
6. FOR PROJECT DIMENSIONAL CONTROL, SEE CIVIL DRAWINGS.
7. ESTABLISH AND VERIFY ALL OPENINGS AND INSERTS FOR ELECTRICAL PRIOR TO CONSTRUCTION. DO NOT PENETRATE ANY STRUCTURAL ELEMENTS (CAISSONS) WITHOUT PRIOR WRITTEN APPROVAL OF STRUCTURAL ENGINEER UNLESS SPECIFIC PENETRATION DETAILS ARE SHOWN ON DRAWINGS.
8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL BUILDING PERMITS AND SCHEDULING/ACCOMMODATING ALL REQUIRED INSPECTIONS PERTAINING TO THE BUILDING PERMITS.
9. SUBMIT SHOP DRAWINGS, PROJECT DATA AND SAMPLES AS SPECIFIED ON CONSTRUCTION DOCUMENTS.
10. THE CONTRACT STRUCTURAL DRAWINGS AND SPECIFICATIONS REPRESENT THE FINISHED STRUCTURE, WHICH IS DESIGNED TO BE SELF-SUPPORTING AND STABLE AFTER THE CONSTRUCTION IS FULLY COMPLETED. IT IS THE CONTRACTOR'S SOLE RESPONSIBILITY TO DETERMINE ERECTION PROCEDURE AND SEQUENCE AND ENSURE THE STABILITY OF THE BUILDING AND ITS COMPONENT PARTS DURING ERECTION. THIS INCLUDES THE ADDITION OF WHATEVER SHORING, TEMPORARY BRACING, ETC. THAT MAY BE NECESSARY. SUCH MATERIAL SHALL REMAIN THE CONTRACTOR'S PROPERTY AFTER COMPLETION OF THE PROJECT.
11. THIS ENGINEER DOES NOT HAVE CONTROL OR CHARGE OF, AND SHALL NOT BE RESPONSIBLE FOR, CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, OR PROCEDURES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY ACTS OR OMISSIONS OF THE CONTRACTOR, THEIR SUBCONTRACTORS, AND ANY OTHER PERSONS PERFORMING ANY OF THE WORK, OR FOR THE FAILURE OF THESE PERSONS TO CARRY OUT THE WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
12. THE CONTRACTOR IS RESPONSIBLE FOR SAFETY PRECAUTIONS AND PROGRAMS IN CONNECTION WITH THE WORK THAT CONFORMS WITH THE REGULATIONS OF THE OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) SAFETY AND HEALTH STANDARDS FOR THE CONSTRUCTION INDUSTRY.
13. CONSTRUCTION MATERIAL SHALL BE SPREAD OUT IN SUCH A MANNER TO NOT EXCEED THE DESIGN LIVE LOAD PER SQUARE FOOT OF THE AREA.
14. OPTIONS AND ALTERNATES ARE FOR THE CONTRACTOR'S CONVENIENCE. IF AN OPTION OR ALTERNATE IS CHOSEN, CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CHANGES NECESSARY AND SHALL COORDINATE ALL DETAILS WITH EOR PRIOR TO CONSTRUCTION.
15. THE FOLLOWING ABBREVIATIONS MAY BE USED ON THE DRAWINGS:

ABBREVIATIONS

A ROD	ANCHOR ROD	LB	POUND
A/E	ARCHITECT & ENGINEER	LF	LINEAR FEET
AB	ANCHOR BOLT	LL	LIVE LOAD
ACI	AMERICAN CONCRETE INSTITUTE	LONG	LONGITUDINAL
ADDL	ADDITIONAL		
AISC	AMERICAN INSTITUTE OF STEEL CONSTRUCTION	M	MOMENT
ALT	ALTERNATE	MATL	MATERIAL
ALUM	ALUMINUM	MAX	MAXIMUM
APPROX	APPROXIMATE	MECH	MECHANICAL
APVD	APPROVED	MFD	MANUFACTURED
ARCH	ARCHITECTURAL/ARCHITECT	MFR	MANUFACTURER
ASCE	AMERICAN SOCIETY OF CIVIL ENGINEERS	MIN	MINIMUM
ASTM	AMERICAN SOCIETY FOR TESTING MATERIALS	MISC	MISCELLANEOUS
AWS	AMERICAN WELDING SOCIETY	MTL	METAL
B/	BOTTOM OF	N&F	NEAR AND FAR
BLDG	BUILDING	N/A	NOT APPLICABLE
BM	BEAM	NIC	NOT IN CONTRACT
BOT	BOTTOM	NO	NUMBER
BRG	BEARING	NOM	NOMINAL
BTWN	BETWEEN	NS	NEAR SIDE
		NTS	NOT TO SCALE
C/C	CENTER TO CENTER		
CALC	CALCULATION(S)	OC	ON CENTER
CHKD	CHECKED	OD	OUTSIDE DIAMETER
CIP	CAST-IN-PLACE CONCRETE	OF	OUTSIDE FACE
CL	CENTERLINE	OPNG	OPENING
CLR	CLEAR/CLEARANCE	OPP	OPPOSITE
CMU	CONCRETE MASONRY UNIT		
COL	COLUMN	PCF	POUNDS PER CUBIC FOOT
CONC	CONCRETE	PE	PROFESSIONAL ENGINEER
CONN	CONNECTION	PENE	PENETRATION
CONT	CONTINUOUS	PERIM	PERIMETER
COORD	COORDINATE	PL	PLATE
CP	CONCRETE PIER	PLCS	PLACES
CRSI	CONCRETE REINFORCING STEEL INSTITUTE	PLF	POUNDS PER LINEAR FOOT
CTR	CENTER	PREFAB	PREFABRICATED
CTRD	CENTERED	PROJ	PROJECTION
CU	CUBIC	PSF	POUNDS PER SQUARE FOOT
		PSI	POUNDS PER SQUARE INCH
DEG	DEGREES	PT	POINT
DET	DETAIL	PVC	POLYVINYL CHLORIDE
DIA	DIAMETER		
DL	DEAD LOAD	QTY	QUANTITY
(E)	EXISTING	R	RADIUS
EA	EACH	REF	REFERENCE
EF	EACH FACE	REINF	REINFORCING
EL	ELEVATION	REQD	REQUIRED
ELEC	ELECTRICAL	RET	RETURN
ENGR	ENGINEER	REV	REVISION
EOR	ENGINEER OF RECORD		
EQ	EQUAL	SCHED	SCHEDULE
EQUIP	EQUIPMENT	SECT	SECTION
EW	EACH WAY	SHT	SHEET
		SIM	SIMILAR
FDN	FOUNDATION	SL	SLOPE
FF	FINISHED FLOOR	SPCS	SPACES
FFE	FINISHED FLOOR ELEVATION	SPEC(S)	SPECIFICATION(S)
FG	FINISHED GRADE	SQ	SQUARE
FIN	FINISH	SS	STAINLESS STEEL
FND	FOUNDATION	STD	STANDARD
FRMG	FRAMING	STL	STEEL
FRP	FIBER REINFORCED PLASTIC	STRUCT	STRUCTURAL
FS	FAR SIDE	SYM	SYMMETRICAL
FT	FOOT		
FTG	FOOTING	T/	TOP OF
		T&B	TOP AND BOTTOM
GA	GAGE, GAUGE	T&G	TONGUE AND GROOVE
GALV	GALVANIZED (HOT DIP)	THK	THICK
		THRU	THROUGH
(H)	HORIZONTAL BEAM ORIENTATION	TP	TOE PLATE
HORIZ	HORIZONTAL	TRANS	TRANSVERSE
HP	HIGH POINT	TYP	TYPICAL
HR	HANDRAIL		
HSB	HIGH STRENGTH BOLT	UL	UNDERWRITERS LABORATORIES
		UNO	UNLESS NOTED OTHERWISE
IF	INSIDE FACE		
IBC	INTERNATIONAL BUILDING CODE	VERT	VERTICAL
ICC	INTERNATIONAL CODE COUNCIL	VIF	VERIFY IN FIELD
ICF	INSULATED CONCRETE FORM		
ID	INSIDE DIAMETER	W/	WITH
IN	INCH	W/O	WITHOUT
INT	INTERIOR	WCJ	WALL CONTROL JOINT
		WP	WORKING POINT
K	KIP(S)	WS	WATERSTOP
KB	KNEE BRACE	WWR	WELDED WIRE REINFORCEMENT
KSF	KIPS PER SQUARE FOOT		
KSI	KIPS PER SQUARE INCH	YD	YARD

CODES & STANDARDS

1.	IBC 2021:	INTERNATIONAL BUILDING CODE ADOPTED BY THE CITY OF SEDALIA, MISSOURI
2.	ASCE 7-16:	MINIMUM DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURES
3.	MNL-66-20:	ACI DETAILING MANUAL
4.	ACI 117-10:	SPECIFICATION FOR TOLERANCES FOR CONCRETE
5.	ACI 301-20:	STANDARD SPECIFICATION FOR STRUCTURAL CONCRETE
6.	ACI 318-19:	BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE
7.	ACI 347-14:	STANDARD SPECIFICATION FOR FORMWORK FOR CONCRETE
8.	CRSI-17:	MANUAL OF STANDARD PRACTICE
9.	ASTM A615-15:	STANDARD SPECIFICATION FOR DEFORMED AND PLAIN CARBON STEEL BARS FOR CONCRETE REINFORCEMENT
10.	ASTM C150-18:	STANDARD SPECIFICATION FOR PORTLAND CEMENT

DESIGN CRITERIA

RISK CATEGORY		I (II FOR LIGHT POLE)
1.	DEAD LOADS (ASSUMED)	
	A. CANOPY	750 LBS
	B. DRIVE-THRU GATEWAY	576 LBS
	C. DIRECTIONAL SIGN	500 LBS
	D. PRE-BROWSE MENU	500 LBS
	E. DIGITAL MENU BOARD	500 LBS
	F. FLAGPOLE	830 LBS
	G. LIGHT POLE	165 LBS
2.	SNOW LOADS	
	A. GROUND SNOW LOAD	20 PSF
	B. EXPOSURE FACTOR	0.9
	C. THERMAL FACTOR	1.2
	D. ROOF SNOW LOAD	20.1 PSF
3.	WIND LOADS	
	A. ULTIMATE WIND SPEED (3-SECOND GUST)	102 MILES PER HOUR 109 MILES PER HOUR FOR LIGHT POLE
	B. EXPOSURE	C
	C. BUILDING CLASSIFICATION	SOLID FREESTANDING WALLS & SOLID SIGNS

NOTES:
1. VEHICULAR IMPACT AND SEISMIC LOAD WERE EXCLUDED FROM OUR DESIGN CRITERIA.

FOUNDATION NOTES

1. FOUNDATIONS ARE DESIGNED IN ACCORDANCE WITH THE FOLLOWING GEOTECHNICAL REPORT (SUPPLIED BY OWNER)
   - A. PREPARER: ECS MIDWEST, LLC
   - B. REPORT/PROJECT NUMBER: 16:15434
   - C. REPORT DATE: 09-09-2024
2. THE DESIGN PARAMETERS WERE PROVIDED FOR SOIL PROPERTIES AS NOTED BELOW:
   - A. BEARING CAPACITY: 2000 PSF (ALLOWABLE)
   - B. DENSITY OF SOIL & BACKFILL: 120 PCF
   - C. FROST DEPTH: 3 FT
   - D. PASSIVE EQUIVALENT FLUID PRESSURE: 300 PSF/FT
3. GEOTECHNICAL ENGINEER TO BE RETAINED BY OWNER TO PROVIDE OBSERVATION AND TESTING SERVICES DURING THE GRADING AND FOUNDATION PHASE OF CONSTRUCTION. INSPECTION AND TESTING REPORT SHALL BE SUBMITTED TO THE ENGINEER OF RECORD.
4. PREPARE FOUNDATION SUBGRADE IN ACCORDANCE WITH THE REQUIREMENTS SPECIFIED IN THE PROJECT GEOTECHNICAL REPORT.
5. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE WHETHER OR NOT ADDITIONAL GEOTECHNICAL INFORMATION IS REQUIRED AND TO PROVIDE SUCH INFORMATION AS HE/SHE DEEMS NECESSARY.
6. PRIOR TO PLACEMENT OF CONCRETE, CONTRACTOR SHALL CONFIRM ALL FOUNDATION EMBED ITEMS – PIPES SLEEVES, STEEL PLATES, INSERTS, ETC., ARE IN PLACE.
7. ENSURE EXCAVATION IS FREE OF STANDING WATER, ICE, DEBRIS, ETC.
8. UPPER 3 FEET OF SOIL WAS NEGLECTED IN LOAD ANALYSIS BASED ON GEOTECHNICAL RECOMMENDATION.

EXCAVATIONS

1. EXCAVATIONS SHALL BE IN ACCORDANCE WITH THE RECOMMENDATIONS OF THE PROJECT GEOTECHNICAL REPORT.
2. THE CONTRACTOR SHALL BE RESPONSIBLE TO PROVIDE SHORING OR SLOPING OF EXCAVATIONS TO MEET OSHA REQUIREMENTS. DESIGN OF SHORING IS THE CONTRACTORS RESPONSIBILITY. EXCAVATIONS SHALL BE IN ACCORDANCE WITH ALL LOCAL, STATE AND FEDERAL REGULATIONS.
3. BLASTING IS NOT PERMITTED.
4. ANY SURFACES DISTURBED DURING CONSTRUCTION SHALL BE GRADED TO MATCH SITE GRADING DRAWINGS.
5. POSITIVE SITE DRAINAGE SHALL BE PROVIDED AT ALL TIMES SO THAT WATER IS NOT ALLOWED TO POND IN EXCAVATIONS OR NEAR FOUNDATIONS
6. ANY SOFT SPOTS ENCOUNTERED ON SITE SHALL BE REMOVED AND REPLACED WITH ENGINEERED FILL. REFER TO GEOTECHNICAL REPORT FOR ADDITIONAL REQUIREMENTS.

STRUCTURAL CONCRETE

1. CONCRETE WORK SHALL FOLLOW THE PRACTICES AND STANDARDS SPECIFIED IN SECTION **CODES AND STANDARDS**.
2. CONCRETE PROPERTIES:
   - A. ALL CONCRETE SHALL CONFORM TO ASTM C94
   - B. ALL AGGREGATES SHALL CONFORM TO ASTM C33 (NORMAL-WEIGHT) & ACI 302.1
   - C. ALL CONCRETE SHALL BE CURED IN CONFORMANCE WITH ACI 301
   - D. ALL CONCRETE FORMWORK SHALL CONFORM WITH ACI 347
3. ADDITION OF WATER TO THE BATCH FOR MATERIAL WITH INSUFFICIENT SLUMP WILL NOT BE PERMITTED, UNLESS THE SUPPLIER HAS SPECIFICALLY WITHHELD WATER FROM THE BATCH AT THE PLANT. IN SUCH CASE, THE MIX DESIGN AND TRUCK TICKET MUST CLEARLY STATE THE MAXIMUM AMOUNT OF WATER THAT CAN BE ADDED TO THE BATCH ON SITE. IN NO CASE SHALL THE DESIGN WATER TO CEMENTITIOUS MATERIAL RATIO BE EXCEEDED.
4. AGGREGATES DETERMINED TO BE ALKALI-CARBONATE REACTIVE (ACR), IN ACCORDANCE WITH ASTM C1778, ARE NOT PERMITTED.
5. CONTRACTOR TO SUBMIT ALL PROPOSED CONCRETE ADMIXTURES TO EOR FOR APPROVAL.
6. CONTRACTOR AND REDI-MIX SUPPLIER SHALL SELECT A TARGET SLUMP FOR THE POINT OF DELIVERY FOR CONCRETE MIXTURES USED FOR THIS PROJECT. SELECTED TARGET SLUMP SHALL NOT EXCEED 9 INCHES. CONCRETE SHALL NOT SHOW VISIBLE SIGNS OF SEGREGATION. THE TARGET SLUMP INDICATED ON THE SUBMITTAL SHALL BE USED AS THE BASIS FOR ACCEPTANCE DURING THE PROJECT. DETERMINE THE SLUMP BY ASTM C143/C143M. SLUMP TOLERANCES SHALL BE IN ACCORDANCE WITH ACI 117.
7. MECHANICALLY VIBRATE ALL CONCRETE WHEN PLACED, EXCEPT THAT SLABS ON GRADE NEED TO BE VIBRATED ONLY AROUND UNDER-FLOOR DUCTS, SLAB EDGES, REINFORCING, KEYS, ETC. MECHANICALLY VIBRATE ONLY THE TOP 5 FEET OF DRILLED PIER CONCRETE. REVIBRATE TOP OF DRILLED PIER 15 MINUTES AFTER PLACING CONCRETE.
8. WHERE SPECIFIED, VERTICAL CONCRETE SURFACES ARE TO BE FORMED.
9. ALL EXPOSED CONCRETE HORIZONTAL CORNERS SHALL HAVE A 3/4" CHAMFER OR ROUNDED TOOLED EDGE. TOPS OF PIERS SHALL BE SLOPED TOWARD OUTWARD EDGE TO PREVENT POOLING OF WATER.
10. THE REQUIREMENTS OF MECHANICAL, ELECTRICAL AND PLUMBING FOR EMBEDDED ITEMS INCLUDING PIPE, CONDUIT, EMBEDDED STEEL, AND BOLTS ARE TO BE CHECKED PRIOR TO EACH CONCRETE POUR. VERIFY ALL ANCHOR BOLT LOCATIONS AND EQUIPMENT OPENINGS AGAINST CERTIFIED VENDOR DRAWINGS.
11. ALL CONCRETE SHALL CURE A MINIMUM OF 7 DAYS AFTER POURING, AND SHALL REMAIN UNLOADED UNTIL CONCRETE HAS REACHED 80% OF THE 28 DAY DESIGN STRENGTH, UNLESS APPROVED BY THE ENGINEER OF RECORD.
12. UNLESS OTHERWISE SPECIFIED, CONCRETE TEMPERATURE AS DELIVERED SHALL NOT EXCEED 95 DEGREES FAHRENHEIT NOR BE LESS THAN 55 DEGREES FAHRENHEIT FOR SECTION SIZE <12", 50 DEGREES FAHRENHEIT FOR 12" – 36". TEMPERATURE OF CONCRETE AS PLACED SHALL NOT EXCEED THESE VALUES BY MORE THAN 20 DEGREES FAHRENHEIT.
13. CONTRACTOR TO SELECT A TARGET SLUMP BASED ON ASTM C143 AS PERMITTED UNDER ACI 301.
14. ALKALI-SILICA REACTION – COMPLY WITH ONE OF THE FOLLOWING:
   - A. EXPANSION RESULT OF AGGREGATE: NOT MORE THAN 0.04 PERCENT AT ONE-YEAR WHEN TESTED IN ACCORDANCE WITH ASTM 1293.
   - B. EXPANSION RESULTS OF AGGREGATE AND CEMENTITIOUS MATERIALS IN COMBINATION: NOT MORE THAN 0.10 PERCENT AT AN AGE OF 16 DAYS WHEN TESTED IN ACCORDANCE WITH ASTM C1567.
   - C. ALKALI CONTENT IN CONCRETE: NOT MORE THAN 4 LB/YD^3 FOR MODERATELY REACTIVE AGGREGATE OR 3 LB/YD^3 FOR HIGHLY REACTIVE AGGREGATE, WHEN TESTED IN ACCORDANCE WITH ASTM C1293 AND CATEGORIZED IN ACCORDANCE WITH ASTM C1778, BASED ON ALKALI CONTENT BEING CALCULATED IN ACCORDANCE WITH ACI 301 (ACI 301M).

CONCRETE MIX REQUIREMENTS

CONCRETE TYPE	28 DAY COMPRESSIVE STRENGTH (f'c, PSI)	AIR CONTENT (+/- 1.5%) (AE=AIR ENTRAINED)	MAX W/C RATIO	MAX NOM AGG SIZE (IN)	CEMENT TYPE	FLYASH % (OF TOTAL CEMENT)	EXPOSURE CLASSES
CAISSON	4,500	6.0%	0.45	3/4	I/II	10-20	F2, S0, W1, C1

ANCHOR RODS & EMBEDDED STEEL

1. ALL STEEL ITEMS EMBEDDED IN CONCRETE INCLUDING ANCHOR RODS SHALL BE PLAIN UNLESS NOTED OTHERWISE ON DESIGN DRAWINGS.
2. ANCHOR BOLTS SHALL BE TIGHTENED TO SNUG-TIGHT CONDITION AS DEFINED BY AISC.
3. FOR ANCHOR ROD PROJECTIONS, LENGTHS, AND BASEPLATE CONFIGURATION, SEE VENDOR SPECIFICATIONS AND CUT-SHEETS.

REINFORCING STEEL

1. REINFORCING STEEL SHALL FOLLOW THE PRACTICES AND STANDARDS SPECIFIED IN SECTION **CODES AND STANDARDS**.
2. TYPICAL REINFORCING BAR STRENGTHS
   - A. REINFORCING (NON-WELDABLE) ASTM A615, DEFORMED Fy= 60 KSI (420 MPa)
3. CONCRETE COVER FOR REINFORCEMENT SHALL CONFORM TO THE REQUIREMENTS OF ACI 318 OR ACI 350, UNLESS OTHERWISE NOTED.
4. DETAILING, FABRICATION, SUPPORT, AND PLACING OF ALL BARS SHALL BE PER CRSI SPECIFICATIONS/HANDBOOKS AND THE LATEST ACI CODES AND DETAILING MANUALS.
5. ALL REINFORCING SHALL BE HELD SECURELY IN POSITION WITH STANDARD ACCESSORIES IN CONCRETE. SECURELY TIE ALL BARS IN LOCATION BEFORE PLACING CONCRETE.
6. REINFORCING BAR SPACINGS GIVEN ARE MAXIMUM ON CENTERS.
7. REINFORCING BAR HOOKS AND BENDS SHALL BE ACI STANDARD DIMENSIONS, UNLESS NOTED OTHERWISE.
8. REINFORCING BARS SHALL NOT BE BENT OR STRAIGHTENED IN A MANNER THAT WILL DAMAGE THE MATERIAL. BARS WITH KINKS OR IMPROPER BENDS SHALL NOT BE USED. NO BARS PARTIALLY EMBEDDED IN CONCRETE SHALL BE FIELD BENT, EXCEPT AS SHOWN ON THE DRAWINGS OR AS PERMITTED BY THE ENGINEER.
9. NO REINFORCING STEEL SHALL BE FIELD BENT WITHOUT THE APPROVAL OF THE ENGINEER OF RECORD. FIELD BENDING OF PLAIN REINFORCEMENT, IF PERMITTED, SHALL BE PERFORMED USING AN APPROVED AND APPROPRIATE SIZED PORTABLE HYDRAULIC DEVICE THAT MAKES ACI STANDARD RADIUS BENDS. NO OTHER FIELD BENDING METHOD SHALL BE PERMITTED.
10. REINFORCING LAP SPLICES IN CONCRETE SHALL BE PER TYPICAL DETAILS UNLESS NOTED OTHERWISE. ALL SPLICE LOCATIONS ARE SUBJECT TO APPROVAL. PROVIDE BENT CORNER BARS TO MATCH AND LAP WITH HORIZONTAL BARS AT CORNERS AND INTERSECTIONS OF FOOTINGS AND WALLS.
11. ALL SPLICING OF REINFORCING BARS SHALL BE DONE BY LAPPING UNLESS OTHERWISE APPROVED. BARS SPLICED BY NON CONTACT LAP SPLICES IN FLEXURAL MEMBERS SHALL NOT BE SPACED TRANSVERSELY FARTHER APART THAN ONE-FIFTH THE REQUIRED SPLICE LENGTH NOR 6 INCHES.
12. LAP SPLICE LENGTHS FOR DEFORMED BARS SHALL BE ACI 318 CLASS B TENSION LAP SPLICES UNLESS OTHERWISE NOTED ON DESIGN DRAWINGS.
13. LAP SPLICES FOR ADJACENT BARS SHALL BE STAGGERED. STAGGERED SPLICE REQUIREMENTS DO NOT APPLY TO BEAMS AND COLUMNS.
14. ALL SPLICES NOT DETAILED ON DESIGN DRAWINGS SHALL BE TAKEN AS TENSION LAP SPLICES.
15. ALL REINFORCING BARS AT PERIMETRANT CORNERS SHALL EXTEND FOR THE FULL BAR DEVELOPMENT LENGTH PAST THE CORNERS UNLESS NOTED.

CONCRETE DEVELOPMENT/LAP SPLICE SCHEDULE (f'c = 4.5 KSI)

BAR SIZE	DEVELOPMENT LENGTH (IN) +		LAP SPLICE LENGTH, CLASS B (IN) +	
	BAR TYPE 1*	BAR TYPE 2*	BAR TYPE 1*	BAR TYPE 2*
4	18	27	24	35
5	23	34	30	44
6	27	41	35	53
7	40	59	51	77
8	45	68	59	88
9	51	76	66	99

*BAR TYPE 1 – CLEAR SPACING OF BARS BEING DEVELOPED OR LAP SPLICED NOT LESS THAN Db, CONCRETE COVER NOT LESS THAN Db, AND STIRRUPS OR TIES THROUGHOUT Ld NOT LESS THAN THE CODE MINIMUM.

BAR TYPE 2 – OTHER CASES

+WHERE HORIZONTAL REINFORCEMENT IS PLACED SUCH THAT MORE THAN 12 INCHES OF FRESH CONCRETE IS CAST BELOW THE DEVELOPMENT LENGTH OR SPLICE, INCREASE THE LENGTHS SHOWN BY A FACTOR OF 1.3.

STATE OF MISSOURI
PATRICK JOSEPH BENNETT
NUMBER PE-2010019722
08/07/2025
PROFESSIONAL ENGINEER

REVISION RECORD

NO	DATE	DESCRIPTION

3000 Little Hills Expressway
Suite 102
St. Charles, MO 63301
Ph: 314.656.4566
www.cecinc.com
Civil & Environmental Consultants, Inc.

McDONALD'S RESTAURANT
623 EAST BROADWAY BOULEVARD
SEDALIA, MISSOURI

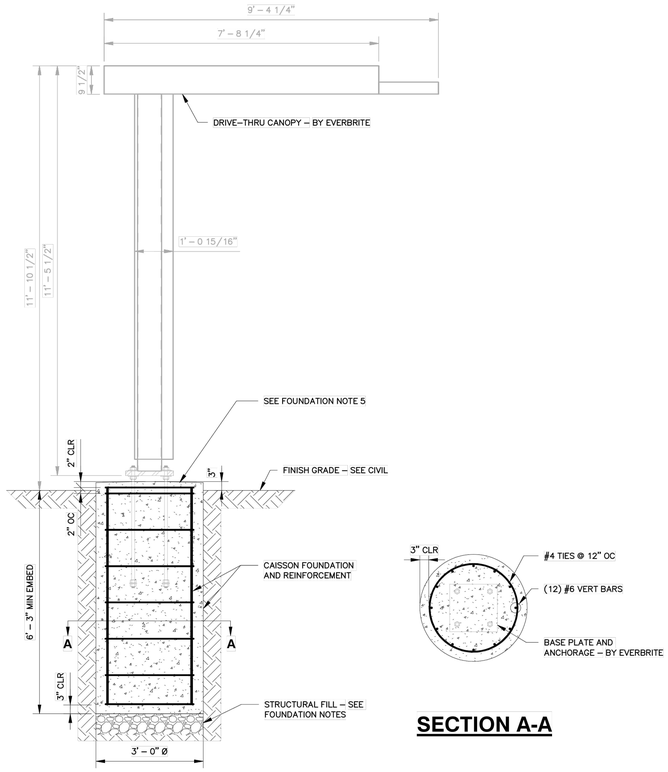
STRUCTURAL GENERAL NOTES

DATE:	SEPTEMBER 2024
DWG SCALE:	NTS
PROJECT NO:	343-982
DRAWN BY:	RL
CHECKED BY:	ESG
APPROVED BY:	RTJ

DRAWING NO.: **S100**

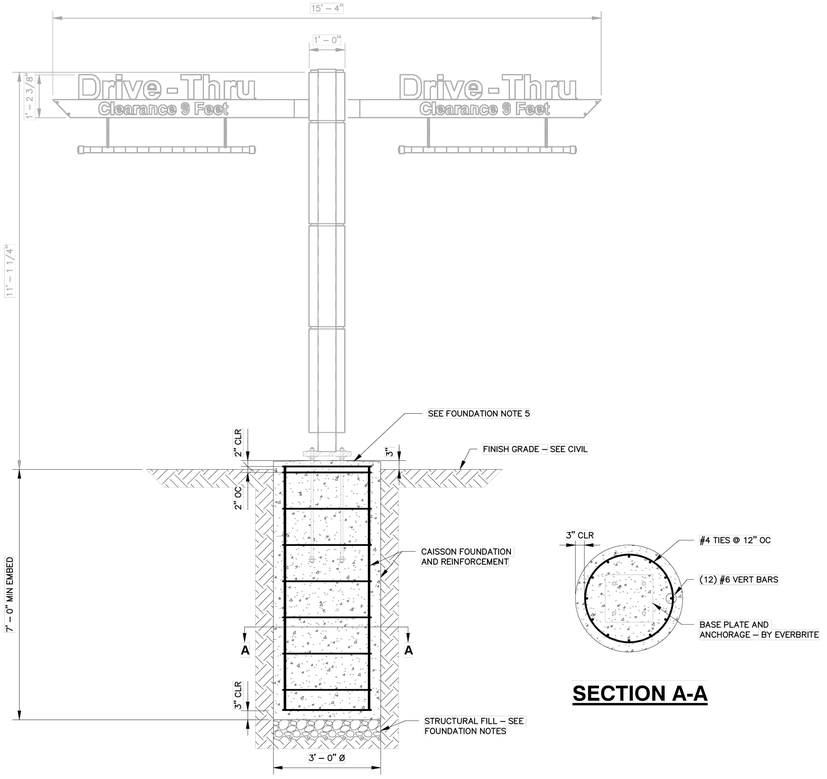
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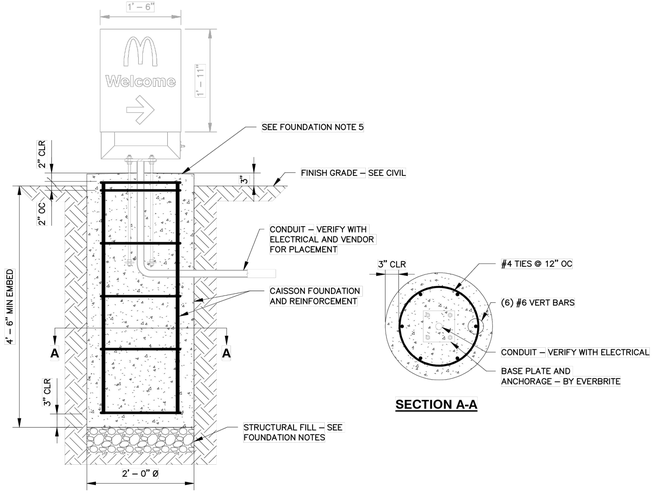
SECTION A-A

1 S200 DRIVE-THRU CANOPY CAISSON DETAIL
1/2" = 1'–0"



SECTION A-A

2 S200 DOUBLE ARM GATEWAY CAISSON DETAIL
1/2" = 1'–0"



SECTION A-A

3 S200 DIRECTIONAL SIGN CAISSON DETAIL
3/4" = 1'–0"

FOUNDATION NOTES

1. SEE GEOTECHNICAL REPORT FOR SITE PREPERATION AND STRUCTURAL FILL CONSIDERATIONS.
2. PER GEOTECHNICAL REPORT, POTENTIAL EXPANSIVE SOIL WAS ENCOUNTERED ON SITE. TO REDUCE HEAVE OR SETTLEMENT RELATED ISSUES ASSOCIATED WITH EXPANSIVE SOILS, MEDIUM AND HIGH PLASTIC CLAY TO BE REMOVED AND REPLACED.
3. PER GEOTECHNICAL REPORT, THE OVEREXCAVATION SHOULD BE BACKFILLED WITH PROPERLY COMPACTED AND NON–EXPANSIVE FILL MATERIALS.
4. A GEOTECHNICAL ENGINEER SHOULD BE RETAINED ON SITE FOR OBSERVATIONS AND TO PROVIDE FURTHER RECOMMENDATIONS AS REQUIRED.
5. SMOOTH AND SLOPE TOP OF FOUNDATION TO ALLOW FOR DRAINAGE.

REVISION RECORD

NO	DATE	DESCRIPTION

3000 Little Hills Expressway
Suite 102
St. Charles, MO 63301
Ph: 314.656.4566
www.cecinc.com

Civil & Environmental Consultants, Inc.

McDONALD'S RESTAURANT
623 EAST BROADWAY BOULEVARD
SEDALIA, MISSOURI

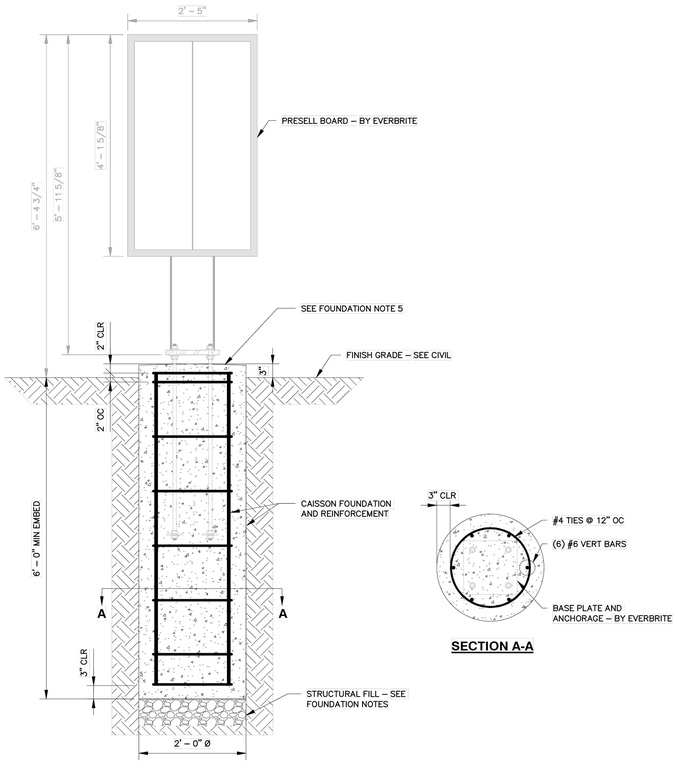
STRUCTURAL FOUNDATION DETAILS

DATE:	SEPTEMBER 2024
DWG SCALE:	As indicated
PROJECT NO:	343-982
APPROVED BY:	RTJ
DRAWN BY:	RL
CHECKED BY:	ESG

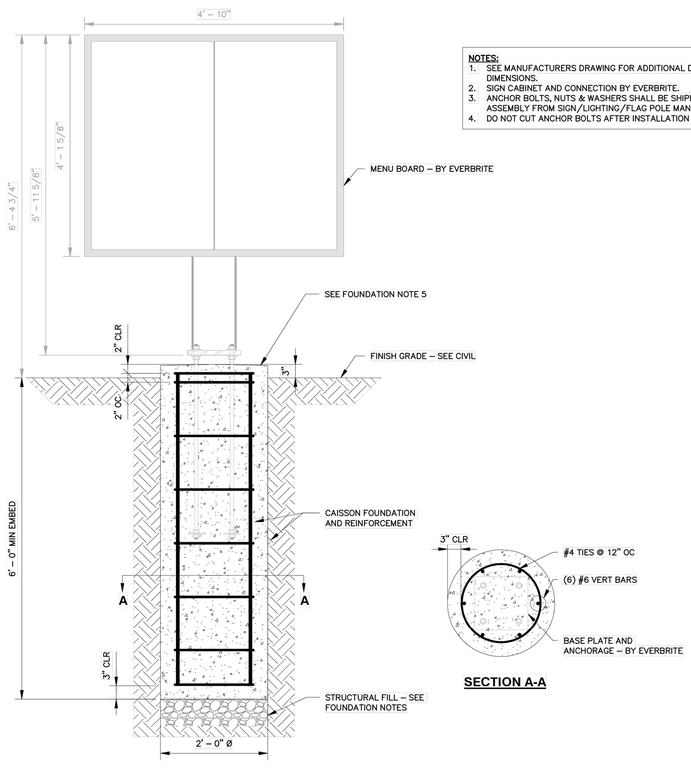


DRAWING NO.:
S200
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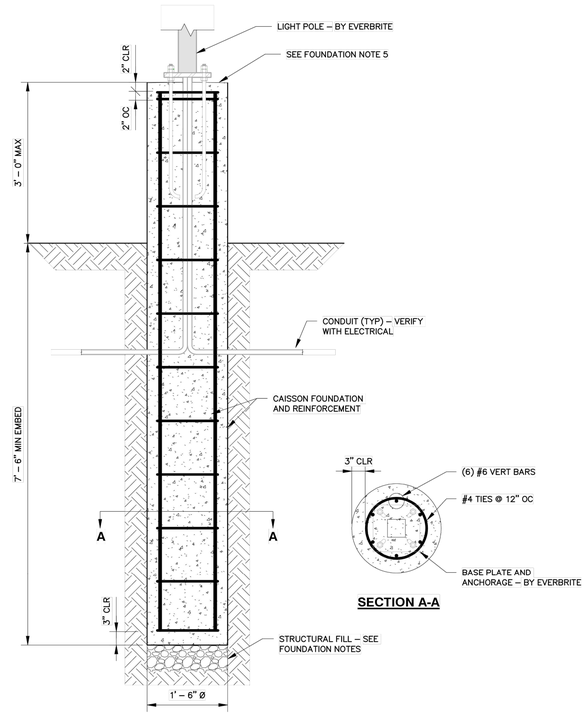


1 **DIGITAL PRE-BROWSE BOARD CAISSON DETAIL**
S201 3/4" = 1'–0"

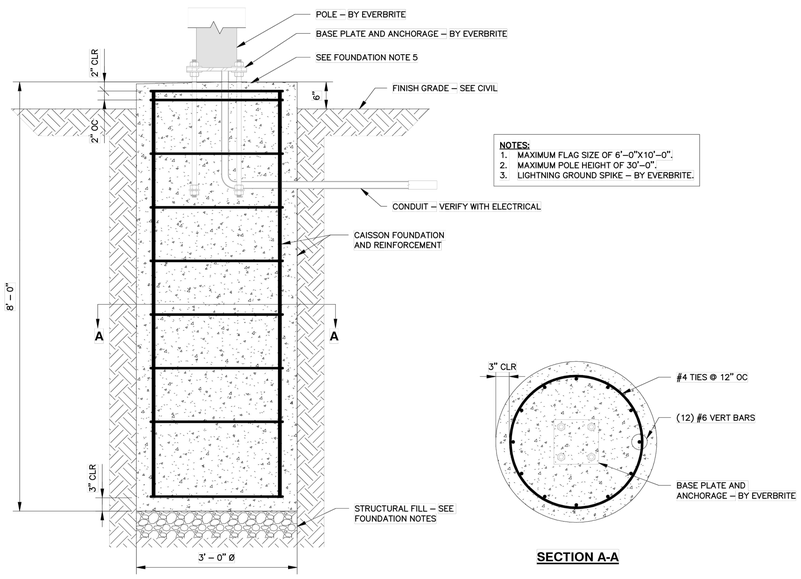


NOTES:
1. SEE MANUFACTURERS DRAWING FOR ADDITIONAL DETAIL AND DIMENSIONS.
2. SIGN CABINET AND CONNECTION BY EVERBRITE.
3. ANCHOR BOLTS, NUTS & WASHERS SHALL BE SHIPPED AS AN ASSEMBLY FROM SIGN/LIGHTING/FLAG POLE MANUFACTURER.
4. DO NOT CUT ANCHOR BOLTS AFTER INSTALLATION OF THE POLE.

2 **DIGITAL MENU BOARD CAISSON DETAIL**
S201 3/4" = 1'–0"



3 **LIGHT POLE CAISSON DETAIL**
S201 3/4" = 1'–0"



NOTES:
1. MAXIMUM FLAG SIZE OF 6'–0"X10'–0".
2. MAXIMUM POLE HEIGHT OF 30'–0".
3. LIGHTNING GROUND SPIKE – BY EVERBRITE.

4 **BOLTED FLAG POLE CAISSON**
S201 3/4" = 1'–0"

FOUNDATION NOTES

1. SEE GEOTECHNICAL REPORT FOR SITE PREPERATION AND STRUCTURAL FILL CONSIDERATIONS.
2. PER GEOTECHNICAL REPORT, POTENTIAL EXPANSIVE SOIL WAS ENCOUNTERED ON SITE. TO REDUCE HEAVE OR SETTLEMENT RELATED ISSUES ASSOCIATED WITH EXPANSIVE SOILS, MEDIUM AND HIGH PLASTIC CLAY TO BE REMOVED AND REPLACED.
3. PER GEOTECHNICAL REPORT, THE OVEREXCAVATION SHOULD BE BACKFILLED WITH PROPERLY COMPACTED AND NON–EXPANSIVE FILL MATERIALS.
4. A GEOTECHNICAL ENGINEER SHOULD BE RETAINED ON SITE FOR OBSERVATIONS AND TO PROVIDE FURTHER RECOMMENDATIONS AS REQUIRED.
5. SMOOTH AND SLOPE TOP OF FOUNDATION TO ALLOW FOR DRAINAGE.

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STRUCTURAL FOUNDATION DETAILS

DATE:	SEPTEMBER 2024
DRAWN BY:	RL
CHECKED BY:	ESG
DWG SCALE:	As Indicated
PROJECT NO:	343-982
APPROVED BY:	RTJ

STATE OF MISSOURI
PATRICK TODD TOUSLEY
PE-2010020212
08/07/2025
PROFESSIONAL ENGINEER

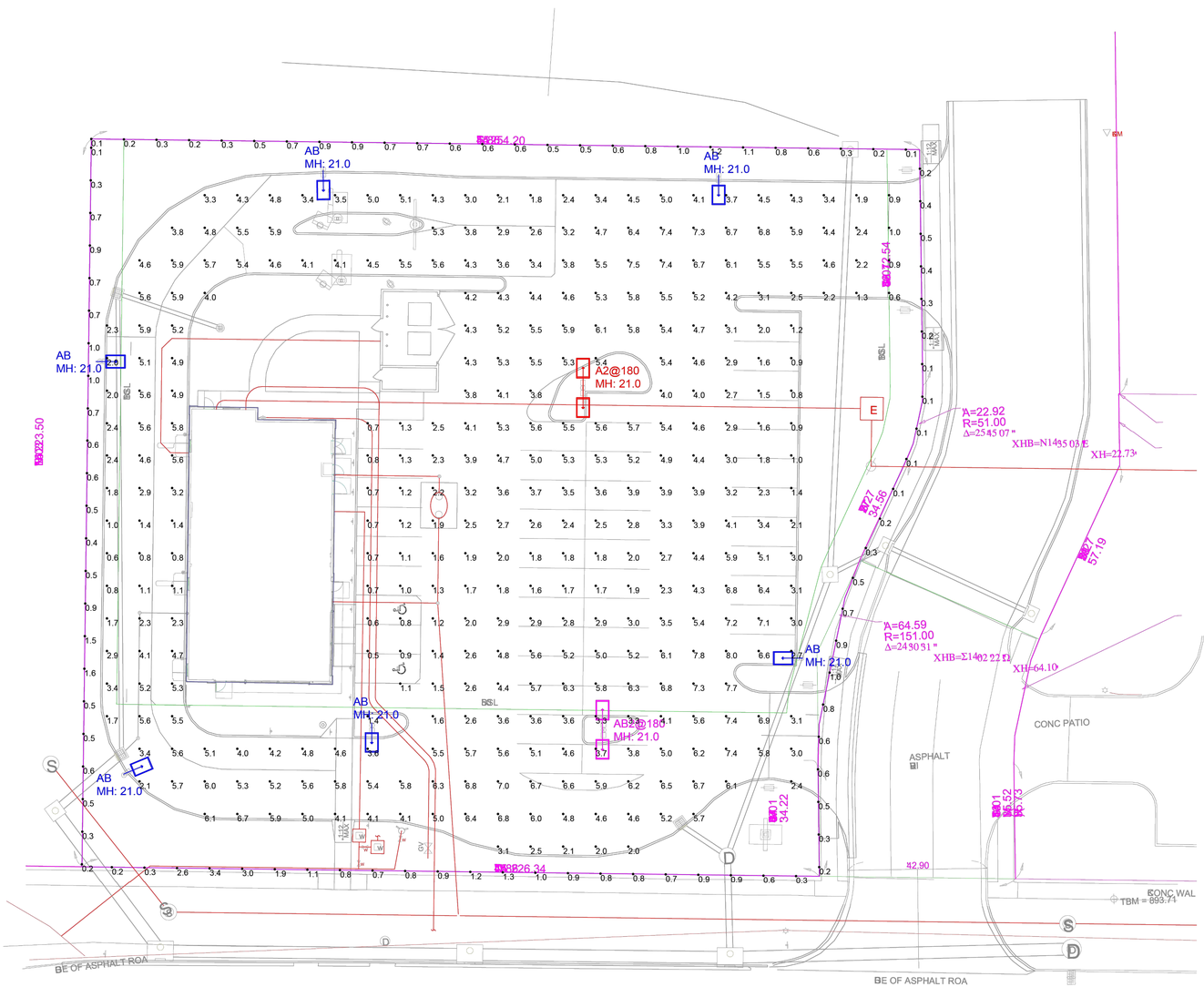
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S201
SHEET 24 OF 28

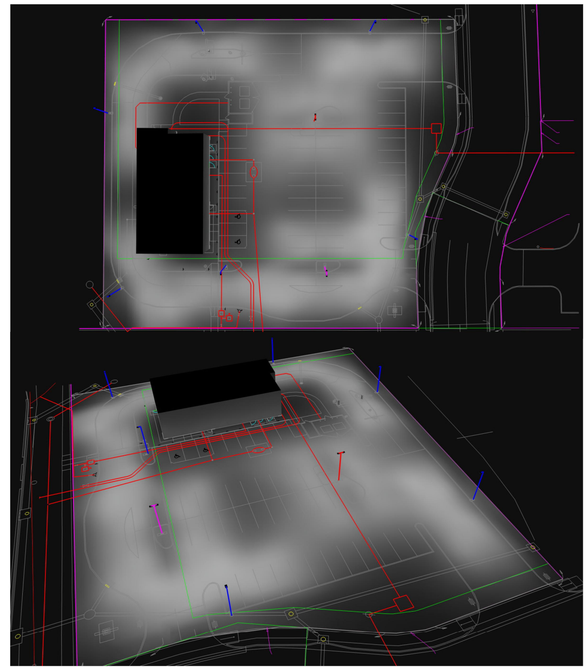
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NOTES:

1. THE FOOTCANDLE LEVELS AS SHOWN ARE BASED ON THE FOLLOWING CRITERIA. ANY SUBSTITUTIONS IN SPECIFIED FIXTURES OR CHANGES TO LAYOUT WILL AFFECT LIGHTING LEVELS SHOWN AND WILL NOT BE THE RESPONSIBILITY OF SECURITY LIGHTING.

2. DISTANCE BETWEEN READINGS 10'





Pole Fixtures Are Full Cutoff
Tilt=0
Calculation Grids Are At Grade
Pole Light Mounting Height=21ft
(18' Pole + 3' Base)

Calculation Summary							
Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min
PAVED SURFACE READINGS	Illuminance	Fc	3.94	8.0	0.5	7.88	16.00
Propertyline	Illuminance	Fc	0.69	3.4	0.1	6.90	34.00

Luminaire Schedule									
Symbol	Qty	Label	Arrangement	LLF	Description	Lum. Watts	EPA	Mtg Height	Pole Type
	1	A2@180	BACK-BACK	0.850	RAR2-480L-240-5K7-4W	226.9	1.214	21	SES-18-40-1-TA-GL-xx (4")
	6	AB	SINGLE	0.850	RAR2-480L-240-5K7-4W-BC	226.9	0.607	21	SES-18-40-1-TA-GL-xx (4")
	1	AB2@180	BACK-BACK	0.850	RAR2-480L-240-5K7-4W-BC	226.9	1.214	21	SES-18-40-1-TA-GL-xx (4")

Regional Drawing
024-1308

PROJECT WIND LOAD CRITERIA BASED ON:
ASCE 7-10 WIND SPEEDS (3-SEC PEAK GUST MPH)
50 YEAR MEAN RECURRENCE INTERVAL
ALLOWED EPA 13.6 @ WIND LOAD 90 MPH

1. THIS LIGHTING DESIGN IS BASED ON INFORMATION SUPPLIED BY OTHERS TO SECURITY LIGHTING SYSTEMS. SITE DETAILS PROVIDED HEREON ARE REPRODUCED ONLY AS A VISUALIZATION AID. FIELD DEVIATIONS MAY SIGNIFICANTLY AFFECT PREDICTED PERFORMANCE. PRIOR TO INSTALLATION, CRITICAL SITE INFORMATION (POLE LOCATIONS, ORIENTATION, MOUNTING HEIGHT, ETC.) SHOULD BE COORDINATED WITH THE CONTRACTOR AND/OR SPECIFIER RESPONSIBLE FOR THE PROJECT.

2. LUMINAIRE DATA IS TESTED TO INDUSTRY STANDARDS UNDER LABORATORY CONDITIONS. OPERATING VOLTAGE AND NORMAL MANUFACTURING TOLERANCES OF LAMP, BALLAST, AND LUMINAIRE MAY AFFECT FIELD RESULTS.

3. CONFORMANCE TO FACILITY CODE AND OTHER LOCAL REQUIREMENTS IS THE RESPONSIBILITY OF THE OWNER AND/OR THE OWNER'S REPRESENTATIVE.

4. THIS LAYOUT MAY NOT MEET TITLE 24 OR LOCAL ENERGY REQUIREMENTS. IF THIS LAYOUT NEEDS TO E COMPLIANT WITH TITLE 24 OR OTHER ENERGY REQUIREMENTS, PLEASE CONSULT FACTORY WITH SPECIFIC DETAILS REGARDING PROJECT REQUIREMENTS SO THAT REVISIONS MAY BE MADE TO THE DRAWING.

THIS DRAWING MEETS OR EXCEEDS McDONALDS CURRENT ILLUMINATION SPECIFICATIONS OF A 3-4 FOOTCANDLE AVERAGE, UNLESS SUPERSEDED BY OTHER REQUIREMENTS

SECURITY LIGHTING™
2100 Golf Road, Suite 460, Rolling Meadows, IL 60008
1-800-544-4648

UNLESS OTHERWISE SPECIFIED, ALL DIMENSIONS ARE IN INCHES

SCALE 1"=20' 0"

DRAWN BY CLB

POINT-BY-POINT FOOTCANDLE PLOT FOR
MCDONALDS
613 E BROADWAY BLVD
SEDALIA, MO 65301

NATIONAL STORE NUMBER
43739

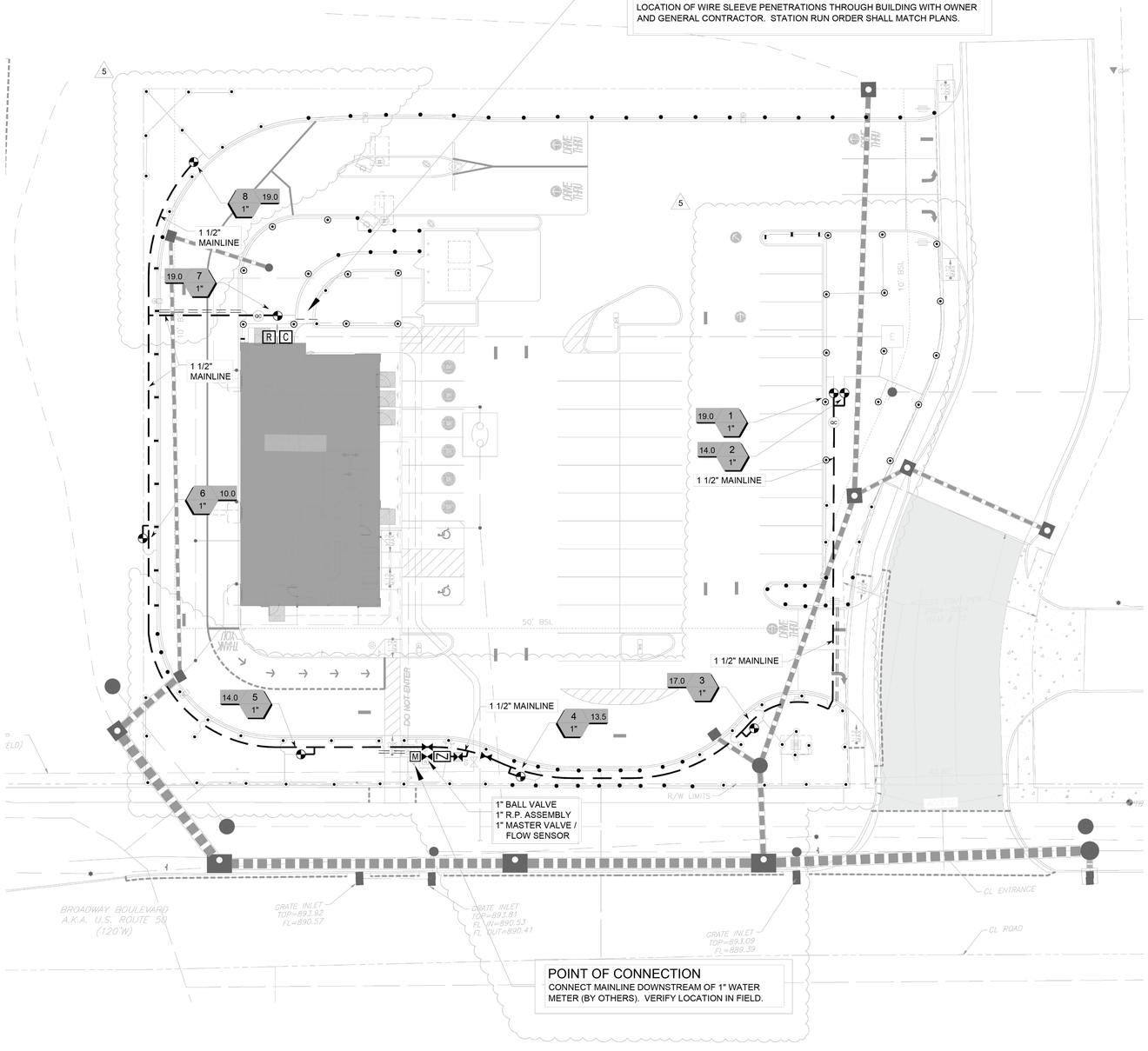
DATE 7/29/2025

DRAWING NUMBER A242238C.AGI

CONTROLLER NOTE

LOCATE CONTROLLER AT LOCATION SHOWN ON PLAN. VERIFY LOCATION IN FIELD WITH OWNER'S REPRESENTATIVE.

120 VAC POWER TO CONTROLLER LOCATION IS NOT WITHIN THE IRRIGATION CONTRACTOR'S SCOPE OF WORK, AND SHALL BE PROVIDED BY OTHERS. HOOK-UP OF CONTROLLER TO 120 VAC SHALL BE PERFORMED BY THE IRRIGATION CONTRACTOR. IRRIGATION CONTRACTOR SHALL COORDINATE LOCATION OF WIRE SLEEVE PENETRATIONS THROUGH BUILDING WITH OWNER AND GENERAL CONTRACTOR. STATION RUN ORDER SHALL MATCH PLANS.



POINT OF CONNECTION

CONNECT MAINLINE DOWNSTREAM OF 1" WATER METER (BY OTHERS). VERIFY LOCATION IN FIELD.

IRRIGATION DISCLAIMER

THIS DESIGN IS DIAGRAMMATIC. ALL PIPING, VALVES, AND OTHER EQUIPMENT SHOWN WITHIN PAVED AREAS OR OUT OF PROPERTY BOUNDARIES ARE FOR DESIGN CLARIFICATION ONLY, AND SHALL BE INSTALLED IN PLANTING AREAS WITHIN THE PROPERTY LINES OR LIMITS INDICATED ON PLAN. THE IRRIGATION CONTRACTOR SHALL VERIFY THE LOCATIONS OF ALL ABOVE-GRADE IRRIGATION EQUIPMENT WITH THE OWNER'S AUTHORIZED REPRESENTATIVE PRIOR TO INSTALLATION, OR IRRIGATION CONTRACTOR MAY BE REQURED TO MOVE SUCH ITEMS AT HIS OWN COST.

IRRIGATION CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL FINAL QUANTITIES PER DRAWINGS AND SPECIFICATIONS. ANY QUANTITIES PROVIDED ARE PROVIDED AS A CONVENIENCE TO THE CONTRACTOR ONLY AND SHALL NOT BE CONSIDERED ABSOLUTE.

AUTOMATIC DRAIN VALVES AND AIR RELIEF VALVES

INSTALL AUTOMATIC DRAIN VALVES AT THE LOW POINTS OF EACH LATERAL LINE (MIN. 2 PER VALVE) AS PER DETAIL ON SHEET LI-2. INSTALL AIR RELIEF VALVES ON DRIP SYSTEMS AT THE LOCATIONS SHOWN ON THE PLANS, AS PER DETAILS.

SLEEVING / WIRING NOTES:

IN ADDITION TO PROVIDING SLEEVES FOR ALL PIPING UNDER ROADWAYS AND WALKWAYS, THE IRRIGATION CONTRACTOR SHALL PROVIDE AND INSTALL SCH. 40 PVC SLEEVES FOR ALL CONTROLLER WIRES OCCURRING UNDER ALL ROADWAYS AND WALKWAYS. SLEEVES FOR CONTROLLER WIRES SHALL BE 2" DIA. AND CONTAIN NO MORE THAN 25 WIRES. **FOR PLAN CLARITY, ONLY SOME REPRESENTATIVE SLEEVES ARE SHOWN; SOME SLEEVES MAY NOT BE SHOWN.**

VALVE KEY

IRRIGATION LEGEND

SYMBOL	MANUFACTURER/MODEL
	RAIN BIRD R-VAN-STRIP 1806-SAM-P45 , TURF ROTARY, 5'X15' (LCS AND RCS), 5'X30' (SST) HAND ADJUSTABLE MULTI-STREAM ROTARY W/ 1800 TURF SPRAY BODY ON 6.0" POP-UP, WITH CHECK VALVE AND 45 PSI IN-STEM PRESSURE REGULATOR. 1/2" NPT FEMALE THREADED INLET.
•	RAIN BIRD R-VAN14 1806-SAM-P45, TURF ROTARY, 8'-14' 45°-270° AND 360° HAND ADJUSTABLE MULTI-STREAM ROTARY W/1800 TURF SPRAY BODY ON 6.0" POP-UP, WITH CHECK VALVE AND 45 PSI IN-STEM PRESSURE REGULATOR. 1/2" NPT FEMALE THREADED INLET.
•	RAIN BIRD R-VAN18 1806-SAM-P45, TURF ROTARY, 13'-18' 45°-270° AND 360° HAND ADJUSTABLE MULTI-STREAM ROTARY W/1800 TURF SPRAY BODY ON 6.0" POP-UP, WITH CHECK VALVE AND 45 PSI IN-STEM PRESSURE REGULATOR. 1/2" NPT FEMALE THREADED INLET.
⊙	RAIN BIRD R-VAN24 1806-SAM-P45, TURF ROTARY, 17'-24' 45°-270° AND 360° HAND ADJUSTABLE MULTI-STREAM ROTARY W/1800 TURF SPRAY BODY ON 6.0" POP-UP, WITH CHECK VALVE AND 45 PSI IN-STEM PRESSURE REGULATOR. 1/2" NPT FEMALE THREADED INLET.
5	
⊙	RAINBIRD XCZ-100-PRB-COM / 150-PRB-COM SERIES AUTOMATIC DRIP VALVE ASSEMBLY WITH 40 PSI PRESSURE REGULATOR XCZ-100-PRB-COM - 1" BALL VALVE WITH 1" PESB VALVE AND 1" PRESSURE REGULATING 40PSI QUICK-CHECK BASKET FILTER. 0.3GPM TO 20GPM.
◔	RAINBIRD PEB SERIES 1", 1-1/2", 2" PLASTIC INDUSTRIAL VALVES. LOW FLOW OPERATING CAPABILITY, GLOBE CONFIGURATION.
5	
	ZURN / WILKINS 375XLB SERIES REDUCED PRESSURE TYPE BACKFLOW PREVENTOR INSTALLED PER CITY CODE WITH HEATED / INSULATED ALUMINUM ENCLSOURE AND SAME SIZE BRONZE BALL VALVE INSTALLED ON THE UP-STREAM SIDE. G.C. TO COORDINATE POWER TO BACKFLOW ENCLOSURE LOCATION PRIOR TO CONSTRUCTION BLOW OFF VALVE TO BE INSTALLED BETWEEN THE METER AND BACKFLOW DEVICE FOR SYSTEM WINTERIZATION
⋈	LASCO "V" SERIES SCH. 80 PVC TRUE UNION BALL VALVE, MAINLINE SIZE
M	IRRIGATION WATER METER AND TAP (BY OTHERS) SIZE AS NOTED ON THE PLAN
GC	RAINBIRD 33DLRC QUICK COUPLER, 3/4"
C	RAINBIRD ESP12LXMEF2P SERIES AUTOMATIC WALL MOUNT CONTROLLER
R	RAINBIRD WR2-RFC RAIN / FREEZE SENSOR - CONFIRM SENSOR LOCATION WITH OWNERS REPRESENTATIVE
⋈	1" MASTER VALVE MODEL # 100-EFB-CP WITH RAINBIRD FLOW SENSOR MODEL #FS100B SERIES
	IRRIGATION LATERAL LINE: CLASS 200 PVC
— — —	IRRIGATION MAINLINE: SCHEDULE 40 PVC
= = =	IRRIGATION SLEEVES, SCH. 40 PVC, MIN. TWICE SIZE OF PIPE TO BE INSERTED

REVISION RECORD

NO	DATE	DESCRIPTION
1	12/19/24	CITY COMMENTS
2	02/27/2025	CITY & MODOT COMMENTS
3	04/27/2025	MODOT COMMENTS
4	05/28/2025	CITY COMMENTS
5	07/25/2025	CLIENT AND MODOT COMMENTS

1450 Beale Street
Suite 305
St. Charles, MO 63303
Ph: 314.656.4566
www.cecinc.com

Civil & Environmental Consultants, Inc.

MCDONALD'S RESTAURANT
NSN 43739 (024-1308)
613 E BROADWAY BLVD
SEDALIA, MO 65301

IRRIGATION PLAN

DATE: OCTOBER 22, 2024
DRAWN BY: AM
CHECKED BY: SS
DWG SCALE: 1"=20'
PROJECT NO: 343-982
APPROVED BY: SS

DRAWING NO.: **LI-1**

SHEET 11 OF 28

STATE OF MISSOURI
STEPHEN W. SALES
NUMBER PLA-2022044706
PROFESSIONAL LANDSCAPE ARCHITECT

DATE: 08/06/2025

811 or 1-800-344-7483
https://missouri-811.org
ISSUED TICKET#: 000000000
TICKET DATE: 00/00/00

REFERENCE

TOPOGRAPHIC INFORMATION BASED UPON THE ALTA/NSPS LAND TITLE SURVEY CONDUCTED BY CIVIL & ENVIRONMENTAL CONSULTANTS, INC. IN AUGUST 2024.

NOTE TO CONTRACTOR: PRIOR TO ANY EXCAVATION FOR UNDERGROUND UTILITIES, CONTRACTOR SHALL DISCOVER AND VERIFY LOCATIONS (HORIZONTAL AND VERTICAL) OF ALL EXISTING UTILITIES INCLUDING BUT NOT LIMITED TO GAS, WATER, BROADBAND, PHONE, SANITARY AND STORM SEWERS. ANY CONFLICTS SHALL BE REPORTED IMMEDIATELY TO THE ENGINEER AND APPROPRIATE AUTHORITIES.

NORTH

NOTES:

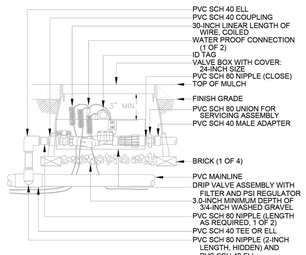
1. REFER TO SHEET C001 FOR GENERAL NOTES AND ABBREVIATIONS.
2. CONTRACTOR SHALL REFER TO OTHER PLANS WITHIN THIS CONSTRUCTION SET FOR OTHER PERTINENT INFORMATION. IT IS NOT THE ENGINEER'S INTENT THAT ANY SINGLE PLAN SHEET IN THIS SET OF DOCUMENTS FULLY DEPICT ALL WORK ASSOCIATED WITH THIS PROJECT.

SCALE IN FEET
0 20 40

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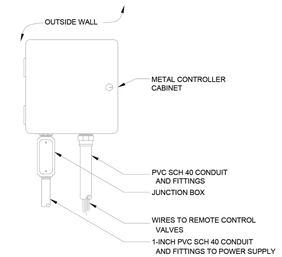
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Z:\Stored\Projects\2024\McDonalds\Mcdonald's - Sedalia MO\McDonald's Sedalia, MO_LI_2025-07-29.dwg\LI-1 (1)(7/29/2025 - adw) - LP: 8/6/2025 9:58 AM



CONTROL ZONE KIT

N.T.S.

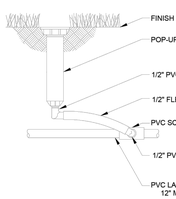


WALL MOUNT CONTROLLER

N.T.S.

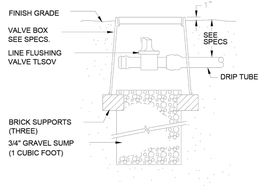
REMOTE CONTROL VALVE

N.T.S.



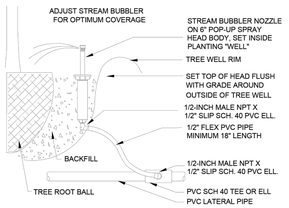
POP-UP SPRAY HEAD

N.T.S.



MANUAL LINE FLUSH VALVE

N.T.S.



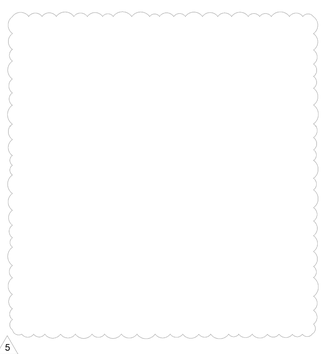
INCLUDE TWO BUBBLER HEADS, SET ON OPPOSITE SIDES OF ROOT BALL

TREE BUBBLER

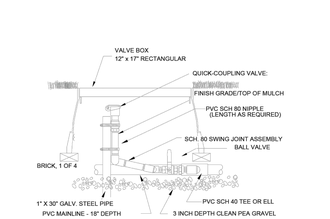
N.T.S.

DRIP TUBE

N.T.S.

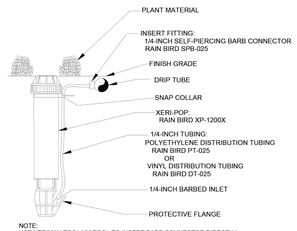


5



N.T.S.

QUICK COUPLER VALVE WITH PVC BALL VALVE



NOTE:
USE XERIMAN TOOL XM-TOOL TO INSERT BARB CONNECTOR DIRECTLY INTO 1/2-INCH POLYETHYLENE TUBING.
LOCATE AT FURTHEST DISTANCE FROM DRIP VALVE ASSEMPLY, ADJACENT TO EDGING OR WITHIN LOW PLANTINGS FOR OPTIMUM VIEWING. WITH CLOSED SPRAY NOZZLE.

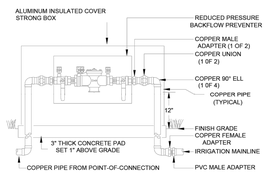
DRIP ZONE INDICATOR

N.T.S.

NOTE:
1. INSTALL BACKFLOW PREVENTER AS REQUIRED BY LOCAL CODES AND HEALTH DEPARTMENT. VERIFY LOCAL REQUIREMENTS PRIOR TO INSTALLATION.

RP DEVICE

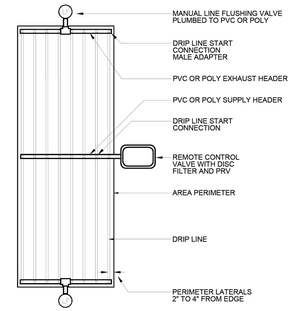
N.T.S.



NOTE:
1. INSTALL BACKFLOW PREVENTER AS REQUIRED BY LOCAL CODES. VERIFY LOCAL REQUIREMENTS PRIOR TO INSTALLATION.

RP DEVICE WITH INSULATED COVER

N.T.S.

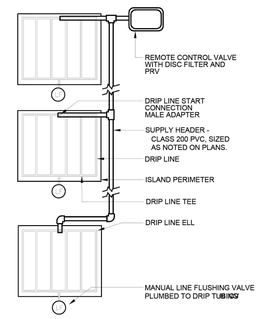


SUPPLY AND EXHAUST HEADERS SHALL BE CLASS 200 PVC PIPE, OF THE SAME DIAMETER AS THE ZONE VALVE SIZE.

USE DRIP TUBE FOR SUPPLY AND EXHAUST HEADERS ON GRIDS WITH FLOW SMALLER THAN 5 GPM ONLY.

DRIP CENTER FEED LAYOUT

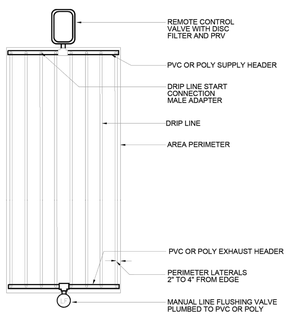
N.T.S.



USE DRIP TUBE FOR SUPPLY AND EXHAUST HEADERS ON GRIDS WITH FLOW SMALLER THAN 5 GPM ONLY.

DRIP ISLAND LAYOUT

N.T.S.

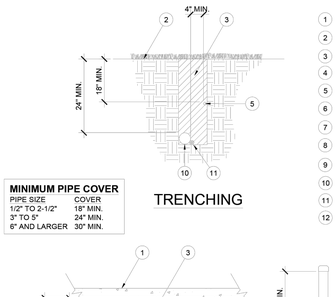


SUPPLY AND EXHAUST HEADERS SHALL BE CLASS 200 PVC PIPE, OF THE SAME DIAMETER AS THE ZONE VALVE SIZE.

USE DRIP TUBE FOR SUPPLY AND EXHAUST HEADERS ON GRIDS WITH FLOW SMALLER THAN 5 GPM ONLY.

DRIP END FEED LAYOUT

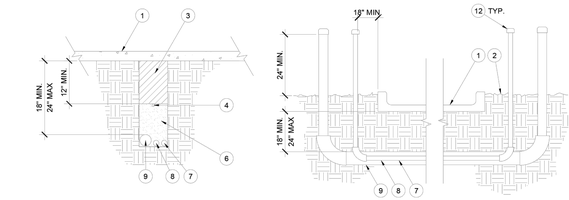
N.T.S.



MINIMUM PIPE COVER

PIPE SIZE	COVER
1/2" TO 2-1/2"	18" MIN.
3" TO 5"	24" MIN.
6" AND LARGER	30" MIN.

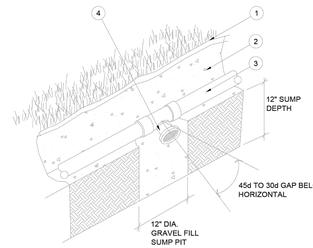
TRENCHING



SLEEVING

PIPE AND SLEEVE INSTALLATION

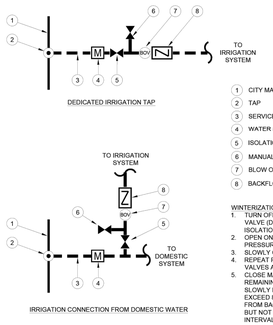
N.T.S.



NOTE:
AUTOMATIC VALVES ARE TO BE LOCATED AT LOW POINTS OF LATERAL LINES. LOCATE END DRAIN VALVE 12" UPSTREAM FROM LAST HEAD.

AUTOMATIC DRAIN VALVE

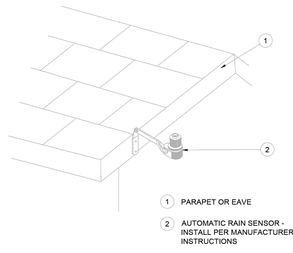
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WINTERIZATION PROCEDURE:
1. TURN OFF EITHER THE METER AND ISOLATION VALVE (DEDICATED IRRIGATION METER) OR ISOLATION VALVE (DOMESTIC TAP).
2. OPEN ONE CONTROL VALVE TO RELIEVE PRESSURE.
3. SLOWLY OPEN MANUAL DRAIN VALVE.
4. REPEAT PROCEDURE FOR ALL MANUAL DRAIN VALVES ALONG IRRIGATION MAINLINE.
5. CLOSE MANUAL DRAIN VALVES AND BLOW OUT REMAINING WATER FROM THE BLOWOUT VALVE. SLOWLY INCREASE AIR PRESSURE, NOT TO EXCEED 80 PSI. DO NOT BLOWOUT SYSTEM FROM BACKFLOW. BLOWOUT SYSTEM TWICE BUT NOT TO EXCEED AT MORE THAN 2 MIN. INTERVALS.

WATER TAP DIAGRAM

N.T.S.



RAIN SENSOR, ROOF MOUNT

N.T.S.

REVISION RECORD

NO	DATE	DESCRIPTION
1	12/19/24	CITY COMMENTS
2	05/27/2025	CITY & MODOT COMMENTS
3	04/27/2025	MODOT COMMENTS
4	06/06/2025	CITY COMMENTS
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NSN 43739 (024-1308)
613 E BROADWAY BLVD
SEDALIA, MO 65301

IRRIGATION DETAILS

DRAWN BY: AM
CHECKED BY: SS
DWG SCALE: N.T.S.
PROJECT NO: 343-982
APPROVED BY: SS
DATE: OCTOBER 22, 2024

DRAWING NO.: **LI-2**

SHEET 27 OF 25

STATE OF MISSOURI
STEPHEN W. SALES
NUMBER PLA-2022044706
PROFESSIONAL LANDSCAPE ARCHITECT

DATE: 08/06/2025

REFERENCE

TOPOGRAPHIC INFORMATION BASED UPON THE ALTA/NSPS LAND TITLE SURVEY CONDUCTED BY CIVIL & ENVIRONMENTAL CONSULTANTS, INC. IN AUGUST 2024.

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MISSOURI 811
811 or 1-800-344-7483
https://missouri-811.org
ISSUED TICKET#: 000000000
TICKET DATE: 00/00/00

NOTES:

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Z:\Shared Projects\2024\McDonalds\McDonald's - Sedalia #01\McDonald's Sedalia #01_L-2025-07-29.dwg(L-2) LST:729:2025 - sales - LP: 8/6/2025 9:58 AM

IRRIGATION SPECIFICATIONS

GENERAL

A. QUALIFICATIONS OF IRRIGATION CONTRACTOR
1. ALL WORK SHOWN ON THESE PLANS SHALL BE PERFORMED BY A SINGLE IRRIGATION CONTRACTING FIRM SPECIALIZING IN IRRIGATION SYSTEMS. SEE THE IRRIGATION PLAN FOR SPECIFIC EQUIPMENT AND SYSTEM LAYOUT.
2. THE IRRIGATION CONTRACTOR MUST HAVE ON ITS STAFF A LICENSED IRRIGATION INSTALLER, AS REGULATED BY THE APPROPRIATE LOCAL JURISDICTION. A LICENSED IRRIGATION INSTALLER SHALL BE PRESENT AT THE PROJECT SITE AT ALL TIMES AS WORK IS IN PROGRESS. THE OWNER MAY DEMAND THAT WORK STOP UNTIL THE CONTRACTOR PROVIDES FOR A LICENSED IRRIGATION INSTALLER TO BE PRESENT AT THE PROJECT SITE AND SUPERVISING ALL IRRIGATION WORK.
3. A LIST OF SUCCESSFULLY COMPLETED PROJECTS OF THIS TYPE, SIZE AND NATURE MAY BE REQUESTED BY THE OWNER FOR FURTHER QUALIFICATION MEASURES.

B. SCOPE OF WORK
1. WORK COVERED BY THESE SECTIONS INCLUDES THE FURNISHING AND PAYMENT OF ALL MATERIALS, LABOR, SERVICES, EQUIPMENT, LICENSES, TAXES, FEES, AND ANY OTHER ITEMS THAT ARE NECESSARY FOR THE EXECUTION, INSTALLATION AND COMPLETION OF ALL WORK, SPECIFIED HEREIN AND/OR SHOWN ON THE IRRIGATION PLANS, NOTES, AND DETAILS.
2. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH ALL APPLICABLE LAWS, CODES AND REGULATIONS REQUIRED BY AUTHORITIES HAVING JURISDICTION OVER SUCH WORK, INCLUDING ALL INSPECTIONS AND PERMITS REQUIRED BY FEDERAL, STATE AND LOCAL AUTHORITIES IN SUPPLY, TRANSPORTATION AND INSTALLATION OF MATERIALS. IN CASE OF CONFLICT BETWEEN THESE PLANS AND LOCAL AND/OR STATE CODES, CODES SHALL PREVAIL.
3. THE INTENT OF THE IRRIGATION SYSTEM IS TO PROVIDE 100% COVERAGE OF ALL LANDSCAPE AREAS. THE IRRIGATION PLAN IS GENERALLY DIAGRAMMATIC; COORDINATE IRRIGATION INSTALLATION WITH UTILITY INSTALLATIONS. ACTUAL LOCATION OF CONTROLLER, BACKFLOW DEVICE, PIPING, VALVES, SPRAY HEADS, DRIP IRRIGATION, AND RELATED EQUIPMENT MAY NEED TO BE ADJUSTED BASED ON ACTUAL SITE CONDITIONS.
4. FOR CLARITY PURPOSES, SOME IRRIGATION LINES AND EQUIPMENT ARE SHOWN IN HARDSCAPE AREAS WITHOUT ACCESS SLEEVES; THESE LINES SHALL BE INSTALLED IN A COMMON TRENCH OR AT THE BACK OF CURB IN LANDSCAPE AREAS. MINOR FIELD ADJUSTMENTS SHALL BE MADE AT NO ADDITIONAL COST TO THE OWNER.

PRODUCTS

A. ALL MATERIALS SHALL BE NEW AND WITHOUT FLAWS OR DEFECTS OF ANY TYPE AND SHALL BE THE BEST OF THEIR CLASS AND KIND. ALL MATERIALS SHALL HAVE A MINIMUM GUARANTEE OF ONE YEAR AGAINST MATERIAL DEFECTS OR DEFECTIVE WORKMANSHIP. ALL MATERIALS SHALL BE OF THE BRANDS AND TYPES NOTED ON THE DRAWINGS OR AS SPECIFIED HEREIN, OR APPROVED EQUAL. THE CONTRACTOR MUST FIRST OBTAIN APPROVAL FROM THE IRRIGATION DESIGNER FOR AN APPROVED EQUAL; BEFORE INSTALLING SUCH MATERIALS IN THE FIELD, OR THE CONTRACTOR MAY BE REQUIRED TO REPLACE SUCH MATERIALS AT HIS OWN COST.
B. BACKFLOW PREVENTION DEVICES SHALL BE OF THE SIZE AND TYPE INDICATED ON THE DRAWINGS. INSTALL BACKFLOW PREVENTION UNITS IN ACCORDANCE WITH IRRIGATION CONSTRUCTION DETAILS AND ALL APPLICABLE STATE AND LOCAL CODES AND ORDINANCES.
C. PIPING
1. PRESSURE SUPPLY LINES, DOWNSTREAM OF THE POINT-OF-CONNECTION:
   a. SCHEDULE 40 PVC FOR ALL PIPE 1-1/2" OR LESS
   b. CLASS 315 PVC FOR ALL PIPE 2" TO 2-1/2"
   c. CLASS 200 PVC, GASKETED, FOR ALL PIPE 3" AND LARGER
2. SLEEVING AND NON-PRESSURE LATERAL LINES (DOWNSTREAM FROM VALVES): CLASS 200 PVC
3. FITTINGS: SCH. 40 PVC, EXCEPT AS NOTED OTHERWISE.

D. VALVES AND DRIP VALVE ASSEMBLIES: TYPE AND SIZE AS NOTED ON PLANS. EACH VALVE SHALL BEAR A PRE-MANUFACTURED, NUMBERED WATERPROOF TAG BEARING A NUMBER CORRESPONDING TO ITS VALVE SEQUENCE OF OPERATION ON THE CONTROLLER. THE OPERATION SEQUENCE SHALL MATCH THAT AS SHOWN ON THE PLANS.
E. QUICK COUPLERS, BALL VALVES, AND GATE VALVES: TYPE AND SIZE PER PLANS.
F. VALVE BOXES: TYPE AND SIZE AS NOTED ON DETAILS. ALL VALVES BOXES SHALL BE LOCKING BOLT-DOWN TYPE, FURNISHED WITH LIDS AND BOLTS. BOXES SHALL BE OF A SIZE TO CONTAIN THE ENTIRE VALVE AND/OR VALVE ASSEMBLY. THE VALVE BOX LID SHALL HAVE THE VALVE STATION NUMBER HEAT-BRANDED INTO THE LID WITH 2" HIGH LETTERS.
G. FIXED SPRAY HEADS AND ROTORS: PLASTIC BODY POP-UP, WITH A REMOVABLE PLASTIC SPRAY NOZZLE. EXACT TYPE, MODEL, AND NOZZLE SHALL BE AS INDICATED ON PLANS.
H. INTEGRAL EMITTER DRIP TUBING: TUBING MODEL AND FLOW RATE AS NOTED ON PLANS, WITH INTEGRAL EMITTERS WELDED TO THE INSIDE WALL OF THE TUBING AS AN INTEGRAL PART OF THE TUBING ASSEMBLY.
I. AUTOMATIC CONTROLLER: TYPE AND MODEL PER PLANS. PROVIDE VANDAL-PROOF ENCLOSURE FOR ALL EXTERIOR INSTALLATIONS. PROVIDE LINE-VOLTAGE DISCONNECT SWITCH WITH GROUND FAULT PROTECTION.
J. 24 VOLT VALVE WIRE SHALL BE A MINIMUM OF #14 GAUGE, U.F. APPROVED FOR DIRECT BURIAL, SINGLE CONDUCTOR IRRIGATION WIRE. EACH CONTROLLER SHALL HAVE A DIFFERENT COLOR STATION AND COMMON WIRE.
1. STATION WIRE - ANY COLOR EXCEPT WHITE OR BLUE
2. COMMON WIRE - WHITE
3. EXTRA COMMON WIRES - BLUE

K. WIRE SPLICES SHALL BE ENCASED IN A WATERPROOF COMPOUND OR GEL. ALL FIELD SPLICES SHALL BE LOCATED IN A 6 INCH ROUND VALVE BOX.
L. RAIN SENSOR: TYPE AND MODEL PER PLANS.

METHODS

A. THIS DESIGN IS DIAGRAMMATIC. ALL PIPING, VALVES, AND OTHER EQUIPMENT SHOWN WITHIN PAVED AREAS OR OUT OF PROPERTY BOUNDARIES ARE FOR DESIGN CLARIFICATION ONLY, AND SHALL BE INSTALLED IN PLANTING AREAS WITHIN THE PROPERTY LINES OR LIMITS INDICATED ON PLAN. THE IRRIGATION CONTRACTOR SHALL VERIFY THE LOCATIONS OF ALL ABOVE-GRADE IRRIGATION EQUIPMENT WITH THE OWNER'S AUTHORIZED REPRESENTATIVE PRIOR TO INSTALLATION, OR IRRIGATION CONTRACTOR MAY BE REQURED TO MOVE SUCH ITEMS AT HIS OWN COST. ENSURE FIELD COORDINATION IS MADE EARLY ON IN THE CONSTRUCTION PHASE SO PLACEMENT LOCATION IS CORRECT.
B. THE IRRIGATION CONTRACTOR SHALL MEET WITH THE OWNER'S REPRESENTATIVE PRIOR TO COMMENCEMENT OF WORK, AND SHALL OBTAIN ALL ENGINEERING, LANDSCAPE, AND OTHER APPLICABLE PLANS & DOCUMENTS. THE CONTRACTOR SHALL THOROUGHLY REVIEW THE PLANS AND REPORT ANY CONFLICTS OR DISCREPANCIES TO THE LANDSCAPE ARCHITECT AND OWNER'S REPRESENTATIVE IMMEDIATELY.
C. THE IRRIGATION CONTRACTOR SHALL NOT WILFULLY INSTALL THE IRRIGATION SYSTEM AS SHOWN ON THE DRAWINGS WHEN IT IS OBVIOUS IN THE FIELD THAT UNKNOWN OBSTRUCTIONS, GRADES OR DIMENSIONS EXIST THAT MIGHT NOT HAVE BEEN CONSIDERED IN THE ENGINEERING. SUCH OBSTRUCTIONS OR DIFFERENCES SHALL BE BROUGHT TO THE ATTENTION OF THE IRRIGATION DESIGNER. IN THE EVENT THAT THIS NOTIFICATION IS NOT PERFORMED, THE IRRIGATION CONTRACTOR SHALL ASSUME FULL RESPONSIBILITY FOR ANY REVISIONS AND NECESSARY COSTS.
D. THE IRRIGATION CONTRACTOR SHALL PAY ANY AND ALL FEES AND PERMITS ASSOCIATED WITH THE INSTALLATION OF THE IRRIGATION SYSTEM.
E. AT LEAST SEVEN DAYS BEFORE BEGINNING WORK, CONFIRM THE STATIC WATER PRESSURE IS AT LEAST 65 PSI. IF STATIC WATER PRESSURE IS OUTSIDE OF THE STATED RANGE, DO NOT PROCEED WITHOUT FIRST NOTIFYING THE IRRIGATION DESIGNER AND OWNER IN WRITING, AND OBTAINING SUBSEQUENT DIRECTION FOR CORRECTIONAL MEASURES. SHOULD THE IRRIGATION CONTRACTOR CHOOSE TO BEGIN THE INSTALLATION WITHOUT SUCH NOTIFICATION, THE IRRIGATION CONTRACTOR WILL ASSUME THE RESPONSIBILITY FOR ALL COSTS INCURRED TO ENSURE THE SYSTEM IS WORKING PROPERLY. NO CHANGE ORDERS WILL BE AUTHORIZED IN SUCH CIRCUMSTANCES.
F. THE IRRIGATION CONTRACTOR SHALL VERIFY THE LOCATION OF ALL UNDERGROUND UTILITY LINES (WATER, SEWER, ELECTRICAL, TELEPHONE, GAS, CABLE, TELEVISION, ETC.) PRIOR TO THE START OF ANY WORK. THE CONTRACTOR SHALL BE FAMILIAR WITH ALL GRADE DIFFERENCES, LOCATIONS OF WALLS, STRUCTURES AND UTILITIES.
G. COORDINATE WITH THE OWNER THE PROPOSED LOCATIONS OF THE AUTOMATIC CONTROLLER AND ANY REQUIRED SLEEVES THROUGH THE BUILDING FOR CONTROL WIRES.
H. TRENCHING NEAR EXISTING TREES:
1. CONTRACTOR SHALL NOT DISTURB ROOTS 1-1/2" AND LARGER IN DIAMETER WITHIN THE CRITICAL ROOT ZONE (CRZ) OF EXISTING TREES, AND SHALL EXERCISE ALL POSSIBLE CARE AND PRECAUTIONS TO AVOID INJURY TO TREE ROOTS, TRUNKS, AND BRANCHES. THE CRZ IS DEFINED AS A CIRCULAR AREA EXTENDING OUTWARD FROM THE TREE TRUNK, WITH A RADIUS EQUAL TO 1' FOR EVERY 1" OF TRUNK DIAMETER-AT-BREAST-HEIGHT (4.5' ABOVE THE AVERAGE GRADE AT THE TRUNK).
2. ALL EXCAVATION WITHIN THE CRZ SHALL BE PERFORMED USING HAND TOOLS. NO MACHINE EXCAVATION OR TRENCHING OF ANY KIND SHALL BE ALLOWED WITHIN THE CRZ.
3. ALTER ALIGNMENT OF PIPE TO AVOID TREE ROOTS 1-1/2" AND LARGER IN DIAMETER. WHERE TREE ROOTS 1-1/2" AND LARGER IN DIAMETER ARE ENCOUNTERED IN THE FIELD, TUNNEL UNDER SUCH ROOTS. WRAP EXPOSED ROOTS WITH SEVERAL LAYERS OF BURLAP AND KEEP MOIST. CLOSE ALL TRENCHES WITHIN THE CANOPY DRIP LINES WITHIN 24 HOURS.
4. ALL SEVERED ROOTS SHALL BE HAND PRUNED WITH SHARP TOOLS AND ALLOWED TO AIR-DRY. DO NOT USE ANY SORT OF SEALERS OR WOUND PAINTS.

I. BACKFILL
1. ALL BACKFILL MATERIAL SHALL BE SUBJECT TO APPROVAL BY THE OWNER. BACKFILL MATERIAL SHALL BE FREE FROM RUBBISH, ROCK LARGER THAN 1", LARGE STONES, BRUSH, SOD, FROZEN MATERIAL OR OTHER UNSUITABLE SUBSTANCES THAT MAY DAMAGE PIPE DURING THE BACKFILLING OPERATIONS. SEPARATE OUT ROCKS LARGER THAN 1 INCH IN ANY DIRECTION FROM EXCAVATED MATERIAL, AND REMOVE FROM AREAS TO RECEIVE LANDSCAPING. COVER FOR BOTH TOP AND SIDES OF PIPE SHALL BE A MINIMUM OF 2 INCHES OF ROCK-FREE SOIL, SAND, OR OTHER APPROVED MATERIAL.
2. IN THE EVENT THAT THE MATERIAL FROM THE EXCAVATION OR TRENCHING IS FOUND TO BE UNSUITABLE FOR USE IN BACKFILL, IT SHALL BE REMOVED FROM THE SITE AND PROPERLY AND LEGALLY DISPOSED OF BY THE CONTRACTOR AT THE CONTRACTORS EXPENSE. THE CONTRACTOR SHALL THEN PURCHASE AND AND FURNISH SUITABLE BACKFILL MATERIAL CONSISTING OF EARTH, LOAM, SANDY CLAY, SAND OR OTHER APPROVED MATERIALS FREE OF DEBRIS.

J. BACKFLOW PREVENTER INSTALLATION. CONTRACTOR SHALL MAKE CONNECTIONS TO EXISTING WATER SOURCES AT LOCATION SHOWN ON PLANS AND AS APPROVED BY THE OWNER, AND SHALL MAKE ANY MINOR CHANGES IN LOCATION AS MAY BE NECESSARY DUE TO ACTUAL SITE CONDITIONS. BACKFLOW PREVENTER HEIGHT SHALL BE AS PER LOCAL CODES AND IRRIGATION DETAILS. INSTALL A BRASS BALL VALVE IMMEDIATELY UPSTREAM OF THE BACKFLOW DEVICE TO SERVE AS AN ISOLATION VALVE. TO EVERY EXTENT POSSIBLE, INSTALL BACKFLOW PREVENTER ION A LOCATION SCREENED FROM PUBLIC VIEW (SUCH AS BEHIND A SHRUB ROW).
K. PIPING:
1. PIPE SIZE SHALL CONFORM TO THOSE SHOWN ON THE DRAWINGS. NO SUBSTITUTIONS OF SMALLER PIPE SIZES SHALL BE PERMITTED, BUT SUBSTITUTIONS FOR LARGER SIZES MAY BE APPROVED.
2. MAINLINE PIPE AND WIRES SHALL BE INSTALLED WITH A MINIMUM COVER OF 18 INCHES (24" FOR MAINLINE 3"-5", AND 30" FOR MAINLINE 6" AND GREATER). LATERAL PIPE SHALL BE INSTALLED WITH A MINIMUM COVER OF 12 INCHES.
3. ASSEMBLE ALL THREADED FITTINGS WITH TEFLON TAPE, WHICH SHALL BE APPLIED TO MALE THREADS ONLY.
4. ALL SOLVENT-WELD CONNECTIONS SHALL BE MADE WITH APPROVED SOLVENT-WELD PRIMER AND GLUE.
5. PIPE SHALL BE INSTALLED WITH A MINIMUM OF 4" HORIZONTAL CLEARANCE FROM ANY OTHER PIPE AND 2" VERTICAL CLEARANCE FROM ANY PIPES THAT CROSS OVER OR UNDER.

L. VALVES
1. VALVES SHALL BE INSTALLED PER MANUFACTURER'S DIRECTIONS AND THE IRRIGATION DETAILS.
2. VALVE BOXES SHALL BE INSTALLED FLUSH WITH THE GRADE, WITH CLEAN PEA GRAVEL LOCATED BELOW THE VALVE AS NOTED ON THE DETAILS. LOCATE BOXES WITHIN 12 TO 24" OF SIDEWALKS OR LANDSCAPE EDGES, WITH TOPS OF BOXES 1" ABOVE FINISH GRADE IN TURF, AND 3" ABOVE FINISH GRADE IN SHRUB AREAS (TO AVOID BEING COVERED BY MULCH).
3. EACH VALVE BOX COVER SHALL BE HEAT-BRANDED WITH THE CONTROLLER STATION NUMBER.
4. DO NOT INSTALL MORE THAN TWO VALVES IN A JUMBO BOX.

M. DRIP IRRIGATION EQUIPMENT SHALL BE INSTALLED PER MANUFACTURER'S DIRECTIONS AND THE IRRIGATION DETAILS.
1. SUBSURFACE DRIP LINES SHALL BE BURIED NO MORE THAN 2" BELOW FINISH GRADE.
2. DRIP LINES MOUNTED ON GRADE SHALL BE LOCATED BENEATH LANDSCAPE FABRIC, AND SECURED IN PLACE WITH WIRE STAPLES AT A MAXIMUM OF 24"-36" ON CENTER.

N. SPRAY, ROTOR, AND BUBBLER HEADS:
1. ALL SPRAY AND ROTOR HEAD LOCATIONS SHALL BE STAKED, FLAGGED AND/OR OTHERWISE CLEARLY MARKED ON THE GROUND PRIOR TO INSTALLATION. SPRINKLER HEAD STAKING SHALL BE INSPECTED AND APPROVED BY THE OWNER'S REPRESENTATIVE BEFORE INSTALLATION.
2. ALL SPRAY HEADS SHALL BE CONNECTED WITH A 12 INCH MINIMUM LENGTH OF ½ INCH FLEX PVC. THE FLEX PVC SHALL BE SOLVENT WELDED TO SCHEDULE 40 PVC FITTINGS WITH WELD-ON #795 SOLVENT AND #P-70 PRIMER. ALL ROTORS SHALL BE CONNECTED TO LATERAL LINES WITH PRE-MANUFACTURED SWING JOINTS.
3. ALL ROTOR, SPRAY AND BUBBLER HEADS SHALL BE SET PERPENDICULAR AND FLUSH TO FINISH GRADE AND WITH A CLEARANCE OF FOUR INCHES (MINIMUM) FROM THE EDGE OF ANY BUILDINGS, WALLS, BOULDERS, AND HARDSCAPE, WITH A CLEARANCE OF TWELVE INCHES (MINIMUM) FROM BUILDINGS, UNLESS OTHERWISE SPECIFIED.
4. ALL ROTOR, SPRAY AND BUBBLER HEADS AND VALVES SHALL BE FLUSHED AND ADJUSTED FOR OPTIMUM COVERAGE WITH MINIMUM OVERSPRAY ON WALKS, STREETS, WALLS, ETC.
5. LATERAL PIPE TO TREE STREAM BUBBLER HEADS IS OMITTED FOR GRAPHIC CLARITY. CONNECT TREE BUBBLER HEADS TO VALVES AS SHOWN WITH CLASS 200 PVC PIPE SIZED TO ALLOW A MAXIMUM FLOW VELOCITY OF 5 FEET PER SECOND

O. AUTOMATIC CONTROLLER:
1. INSTALL THE CONTROLLER AT THE LOCATION INDICATED BY THE OWNER. INSTALL CONTROLLER WITH A BACKUP BATTERY AS RECOMMENDED BY THE MANUFACTURER.
2. THE IRRIGATION CONTRACTOR SHALL COORDINATE 120 V.A.C. ELECTRICAL POWER TO CONTROLLER AND DEDICATE ONE (1) 20-AMP BREAKER FOR EACH CONTROLLER. IT SHALL BE THE RESPONSIBILITY OF THE IRRIGATION CONTRACTOR TO MAKE THE FINAL HOOK-UP FROM THE ELECTRICAL SOURCE TO THE CONTROLLER UNIT ONLY.
3. ALL VALVE CONTROL WIRE SHALL BE AWG 14 TYPE UF, 600 VOLT TEST, DIRECT BURIAL. NO SPLICES SHALL BE ALLOWED EXCEPT AT VALVES AND CONTROLLER. WHERE SPLICES MAY BE NECESSARY DUE TO EXCESSIVELY LONG WIRE RUNS, THE CONTRACTOR SHALL MAKE ALL SPLICES IN 6" ROUND VALVE BOXES WITH 3M'S "DBY-DIRECT BURIAL SPLICE KIT". THE CONTRACTOR SHALL LABEL ALL WIRES WITH WATERPROOF TAGS AND MARKERS AT ALL SPLICES AND VALVE MANIFOLDS, AND SHALL LEAVE A 24" COIL OF EXCESS WIRE AT EACH CONNECTION.
4. PROVIDE #10 COMMON WIRE, DIRECT BURIAL, TO ALL REMOTE CONTROL VALVES.
5. CONNECT ALL DIRECT BURIAL WIRES TO VALVES USING 3M'S "DBY-DIRECT BURIAL SPLICE KIT" (UNLESS OTHERWISE SPECIFIED).
6. PROVIDE THREE ADDITIONAL IRRIGATION CONTROL WIRES ALONG EACH BRANCH OF MAINLINE FOR FUTURE EXPANSION. STUB ADDITIONAL CONTROL WIRES INTO BACK OF IRRIGATION CONTROLLERS.
7. THE IRRIGATION CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLING ALL CONTROL WIRE SLEEVES AND PIPE SLEEVES UNDER PAVED AREAS PRIOR TO PAVING - SEE SLEEVING NOTES.

P. INSTALL THE RAIN SENSOR IN THE VICINITY OF THE CONTROLLER, AND COORDINATE LOCATION WITH THE OWNER. PROVIDE MINIMUM 5' CLEARANCE FROM OTHER OUTDOOR EQUIPMENT, FREE AND CLEAR OF ANY TREE CANOPY OR OTHER OVERHEAD OBSTRUCTIONS, AND ABOVE THE HEIGHT OF THE SPRINKLER COVERAGE. IT IS THE RESPONSIBILITY OF THE IRRIGATION CONTRACTOR TO ENSURE THE RAIN SENSOR IS PLACED IN A LOCATION WHERE IT CAN RECEIVE ADEQUATE RAINFALL WITHOUT OBSTRUCTIONS. IF IT IS PLACED IN AN INADEQUATE LOCATION, THE IRRIGATION CONTRACTOR MAY BE REQUIRED TO RELOCATE IT AT NO ADDITIONAL COST TO THE OWNER.
Q. NO PUMP ON SITE.
R. ALL IRRIGATION EQUIPMENT NOT OTHERWISE DETAILED OR SPECIFIED SHALL BE INSTALLED AS PER MANUFACTURER'S RECOMMENDATIONS AND SPECIFICATIONS.
S. QUALITY CONTROL
1. PERFORM COVERAGE TESTS AFTER IRRIGATION SYSTEM IS COMPLETED, BUT PRIOR TO ANY PLANTING AND PERFORM TESTING IN THE PRESENCE OF THE IRRIGATION DESIGNER AND THE CONSTRUCTION MANAGER.
2. TEST SYSTEM TO ASSURE THAT ALL LAWN AND PLANTING AREAS ARE WATERED COMPLETELY AND UNIFORMLY.
3. MAKE ALL NECESSARY ADJUSTMENTS TO PROVIDE COMPLETE COVERAGE, INCLUDING REALIGNMENT OF HEADS AND REPLACEMENT OF NOZZLES.

T. CLEAN UP
1. DURING IRRIGATION EXCAVATION AND INSTALLATION, KEEP ALL PAVEMENT CLEAN AND ALL WORK AREAS IN A NEAT, ORDERLY CONDITION.
2. DISPOSED LEGALLY OF ALL EXCAVATED MATERIALS OFF THE PROJECT SITE.

U. INSPECTION AND ACCEPTANCE
1. UPON COMPLETION OF THE WORK, THE IRRIGATION CONTRACTOR SHALL PROVIDE THE SITE CLEAN, FREE OF DEBRIS AND TRASH, AND SUITABLE FOR USE AS INTENDED. THE IRRIGATION CONTRACTOR SHALL THEN REQUEST AN INSPECTION BY THE OWNER TO DETERMINE FINAL ACCEPTABILITY.
2. WHEN THE INSPECTED WORK DOES NOT COMPLY WITH THE CONTRACT DOCUMENTS, THE CONTRACTOR SHALL REPLACE AND/OR REPAIR THE REJECTED WORK TO THE OWNER'S SATISFACTION WITHIN 24 HOURS.
3. THE MAINTENANCE PERIOD WILL NOT COMMENCE UNTIL THE WORK HAS BEEN RE-INSPECTED BY THE OWNER AND FOUND TO BE ACCEPTABLE. AT THAT TIME, A WRITTEN NOTICE OF FINAL ACCEPTANCE WILL BE ISSUED BY THE OWNER, AND THE MAINTENANCE AND GUARANTEE PERIODS WILL COMMENCE.
4. CONTROLLER CHART: THE IRRIGATION CONTRACTOR SHALL PROVIDE A 11" X 17" COLOR-CODED, LAMINATED COPY OF THE IRRIGATION LAYOUT AND PLACE IT IN THE CONTROLLER'S COVER. THE CONTROLLER CHART SHALL CLEARLY DELINEATE THE AREAS COVERED BY EACH VALVE, USING A SEPARATE COLOR FOR EACH ZONE.
5. TURN THE FOLLOWING ITEMS IN TO THE OWNER UPON COMPLETION OF THE INSTALLATION:
   a. QUICK COUPLER KEYS (2)
   b. CONTROLLER MANUAL (1)
   c. CONTROLLER KEYS (2)
   d. A MINIMUM OF (2) COPIES OF RECORD DRAWINGS. A RECORD DRAWING IS A RECORD OF ALL CHANGES THAT OCCURRED IN THE FIELD AND THAT ARE DOCUMENTED THROUGH CHANGE ORDERS, ADDENDA, OR CONTRACTOR/CONSULTANT DRAWING MARKUPS.

V. REFER TO THE PLANTING SPECIFICATIONS FOR ADDITIONAL CONDITIONS OF FINAL ACCEPTANCE AND START OF THE MAINTENANCE PERIOD.
W. WARRANTY
1. THE IRRIGATION SYSTEM SUPPLIED AND INSTALLED SHALL BE WARRANTED (LABOR AND MATERIALS) TO REMAIN OPERATIONAL FOR A PERIOD OF 12 MONTHS AFTER THE DATE OF FINAL ACCEPTANCE. DURING THIS PERIOD, THE CONTRACTOR SHALL ALSO REPAIR ANY SETTLEMENT OF THE IRRIGATION TRENCHES.
2. BY THE END OF THE WARRANTY PERIOD, ANY IRRIGATION PART THAT IS EITHER NON-OPERATIONAL OR THAT IS OPERATING BELOW STANDARDS AS DETERMINED BY THE OWNER, SHALL BE REMOVED FROM THE SITE AND SHALL BE REPLACED. REPLACEMENTS SHALL BE OF THE SAME KIND AS SPECIFIED IN THE IRRIGATION LEGEND, AND SHALL BE INSTALLED AS ORIGINALLY SPECIFIED.
3. IRRIGATION PARTS DAMAGED OR IMPAIRED DUE TO ACTS OF GOD, VANDALISM, AND/OR THE OWNER'S IMPROPER MAINTENANCE SHALL NOT BE COVERED BY THIS WARRANTY.

X. SHOULD THE PERMITTING JURISDICTION REQUIRE AN IRRIGATION AUDIT, THE IRRIGATION CONTRACTOR SHALL RETAIN THE SERVICES OF A THIRD-PARTY CERTIFIED LANDSCAPE IRRIGATION AUDITOR, AT NO ADDITIONAL COST TO THE OWNER.

IRRIGATION LEGEND

SYMBOL	MANUFACTURER/MODEL
	RAIN BIRD R-VAN-STRIP 1806-SAM-P45 ,TURF ROTARY, 5`X15` (LCS AND RCS), 5`X30` (SST) HAND ADJUSTABLE MULTI-STREAM ROTARY W/ 1800 TURF SPRAY BODY ON 6.0" POP-UP, WITH CHECK VALVE AND 45 PSI IN-STEM PRESSURE REGULATOR. 1/2" NPT FEMALE THREADED INLET.
●	RAIN BIRD R-VAN14 1806-SAM-P45, TURF ROTARY, 8`-14` 45°-270° AND 360° HAND ADJUSTABLE MULTI-STREAM ROTARY W/1800 TURF SPRAY BODY ON 6.0" POP-UP, WITH CHECK VALVE AND 45 PSI IN-STEM PRESSURE REGULATOR. 1/2" NPT FEMALE THREADED INLET.
●	RAIN BIRD R-VAN18 1806-SAM-P45, TURF ROTARY, 13`-18` 45°-270° AND 360° HAND ADJUSTABLE MULTI-STREAM ROTARY W/1800 TURF SPRAY BODY ON 6.0" POP-UP, WITH CHECK VALVE AND 45 PSI IN-STEM PRESSURE REGULATOR. 1/2" NPT FEMALE THREADED INLET.
⊙	RAIN BIRD R-VAN24 1806-SAM-P45, TURF ROTARY, 17`-24` 45°-270° AND 360° HAND ADJUSTABLE MULTI-STREAM ROTARY W/1800 TURF SPRAY BODY ON 6.0" POP-UP, WITH CHECK VALVE AND 45 PSI IN-STEM PRESSURE REGULATOR. 1/2" NPT FEMALE THREADED INLET.
	RAINBIRD XCZ-100-PRB-COM / 150-PRB-COM SERIES AUTOMATIC DRIP VALVE ASSEMBLY WITH 40 PSI PRESSURE REGULATOR XCZ-100-PRB-COM - 1" BALL VALVE WITH 1" PESB VALVE AND 1" PRESSURE REGULATING 40PSI QUICK-CHECK BASKET FILTER. 0.3GPM TO 20GPM.
	RAINBIRD PEB SERIES 1", 1-1/2", 2" PLASTIC INDUSTRIAL VALVES. LOW FLOW OPERATING CAPABILITY, GLOBE CONFIGURATION.
	ZURN / WILKINS 375XLB SERIES REDUCED PRESSURE TYPE BACKFLOW PREVENTOR INSTALLED PER CITY CODE WITH HEATED / INSULATED ALUMINUM ENCLSOURE AND SAME SIZE BRONZE BALL VALVE INSTALLED ON THE UP-STREAM SIDE. G.C. TO COORDINATE POWER TO BACKFLOW ENCLOSURE LOCATION PRIOR TO CONSTRUCTION BLOW OFF VALVE TO BE INSTALLED BETWEEN THE METER AND BACKFLOW DEVICE FOR SYSTEM WINTERIZATION
	LASCO "V" SERIES SCH. 80 PVC TRUE UNION BALL VALVE, MAINLINE SIZE
M	IRRIGATION WATER METER AND TAP (BY OTHERS) SIZE AS NOTED ON THE PLAN
QC	RAINBIRD 33DLRC QUICK COUPLER, 3/4"
C	RAINBIRD ESP12LXMEF2P SERIES AUTOMATIC WALL MOUNT CONTROLLER
R	RAINBIRD WR2-RFC RAIN / FREEZE SENSOR - CONFIRM SENSOR LOCATION WITH OWNERS REPRESENTATIVE
	1" MASTER VALVE MODEL # 100-EFB-CP WITH RAINBIRD FLOW SENSOR MODEL #FS100B SERIES

IRRIGATION LATERAL LINE: CLASS 200 PVC
IRRIGATION MAINLINE: SCHEDULE 40 PVC
IRRIGATION SLEEVES, SCH. 40 PVC, MIN. TWICE SIZE OF PIPE TO BE INSERTED

IRRIGATION NOTE:

1. L.I.C. SHALL SELECT R-VAN SPRAY NOZZLES FOR "HEAD-TO-HEAD" COVERAGE, ADJUSTED FOR NO OVERSPRAY ONTO WALLS AND WALKS. NO OVERSPRAY INTO STREETS IS PERMITTED.
2. ALL PIPE TO BE SIZED SUCH THAT FLOWS WILL NOT EXCEED VELOCITY OF 5 FPS

WATER CONSERVATION

IRRIGATION WATER CONSERVATION SHALL BE ACCOMPLISHED THROUGH THE FOLLOWING EFFORTS:

1. SEPARATE TURF / SHRUB ZONES FOR SCHEDULING ADJUSTMENT
2. NO OVERSPRAY ONTO PAVEMENT PERMITTED
3. USE OF RAIN SENSOR SHUT OFF OVER-RIDE DEVICE

LATERAL PIPE SIZE CHART

LATERAL PIPE SHALL BE SIZED TO ALLOW A MAXIMUM FLOW VELOCITY OF FIVE FEET PER SECOND ACCORDING TO THE FOLLOWING CHART:

FLOW IN GPM	LATERAL PIPE SIZE
UP TO 5 GPM	3/4" CLASS 200
6 - 10 GPM	3/4" CLASS 200
11 - 15 GPM	1" CLASS 200
16 - 28 GPM	1 1/4" CLASS 200
29 - 35 GPM	1 1/2" CLASS 200
36 - 54 GPM	2" CLASS 200
55 - 81 GPM	2 1/2" CLASS 200
82 - 120 GPM	3" CLASS 200

CRITICAL ANALYSIS

P.O.C. NUMBER: 01
Water Source Information: Irrigation Meter, By Others

FLOW AVAILABLE
Water Meter Size: 1"
Flow Available: 30 gpm

PRESSURE AVAILABLE
Static Pressure at POC (est.): 68.00 psi
Elevation Change: NA
Service Line Size: NA
Length of Service Line: NA
Pressure Available: 65.00 psi

DESIGN ANALYSIS
Maximum Station Flow: 19.0 gpm
Flow Available at POC: 30.0 gpm
Residual Flow Available: 11.0 gpm

Critical Station: 8
Head Pressure Required: 35.0 psi
Lateral Loss: 3.5 psi
Loss through Valve: 2.9 psi
Pressure Req. at Critical Station: 41.4 psi
Loss for Main Line: 2.67 psi
Loss for Fittings 20%(Main Line): 0.5 psi
Loss for Master Valve: 2.1 psi
Loss for Backflow: 11.0 psi
Loss for Water Meter: 2.0 psi
Critical Station Pressure at POC: 59.67 psi
Pressure Available: 65.00 psi
Residual Pressure Available: 5.33 psi

VALVE KEY

Valve Callout
Valve Number
Valve Flow
Valve Size

ZONE PRESSURE LOSS CHART

Zone #	Zone GPM	Zone Type	PSI Loss at Water Meter	PSI Loss at Backflow	PSI Loss at Master Valve	PSI Loss at Mainline	PSI Loss at Zone Valve	PSI Loss at Lateral Pipe	PSI Loss at Head / Nozzle	Total PSI Required	Residual PSI
1	19	SPRAY	2	11	2.1	2.4	2.9	3.5	35	58.9	6.1
2	14	SPRAY	1.1	11	1.2	1.37	1.8	3.5	35	54.97	10.03
3	17	SPRAY	1.6	11	2.1	1.1	1.8	3.5	35	56.1	8.9
4	13.5	SPRAY	1.1	11	1.2	0.95	1.8	3.5	35	54.55	10.45
5	14	SPRAY	1.1	11	1.2	1.26	3	3.5	35	56.06	8.94
6	10	SPRAY	0.7	11	1.2	0.78	1.8	3.5	35	53.98	11.02
7	19	SPRAY	2	11	2.1	2.2	2.9	3.5	35	58.7	6.3
8	19	SPRAY	1.8	11	2.1	2.67	2.9	3.5	35	58.97	6.03

NOTES:
1. REFER TO SHEET C001 FOR GENERAL NOTES AND ABBREVIATIONS.
2. CONTRACTOR SHALL REFER TO OT