



AS-BUILT
BY GRIMES CONSULTING, INC.

[illegible]

RCP-N LLC
2892 HIGHWAY K SANITARY SEWER MAIN EXTENSION
2892 HIGHWAY K
OFFALON, MO 63366
RCP-N LLC
660 OFFICE PARKWAY
CHRYE COEUR, MO 63141

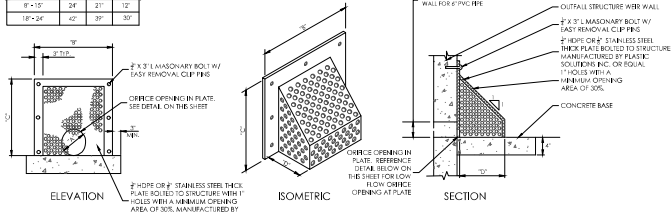
Date	4/19/2024
Project No.	2214710
Drawn By	J. STONE
Checked By	S. ELIOT

NOT RELEASED FOR CONSTRUCTION

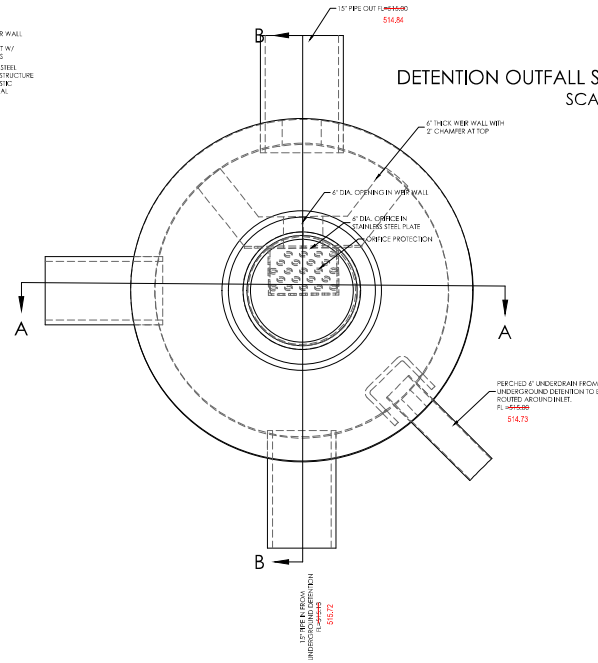
DIMENSION CHART

LOW FLOW COVERT DIA.	18"	24"	30"	36"
18" x 24"	24"	30"	36"	42"
24" x 30"	30"	36"	42"	48"
30" x 36"	36"	42"	48"	54"

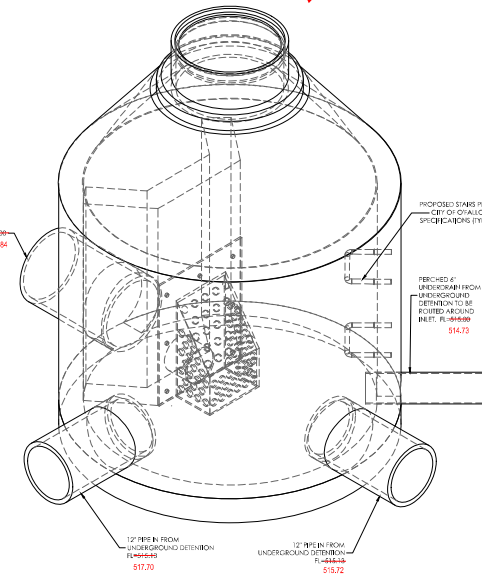
TRASH RACK MUST MEET MINIMUM STANDARDS AS SHOWN ON PLASTICSOLUTIONS.COM OR EQUAL



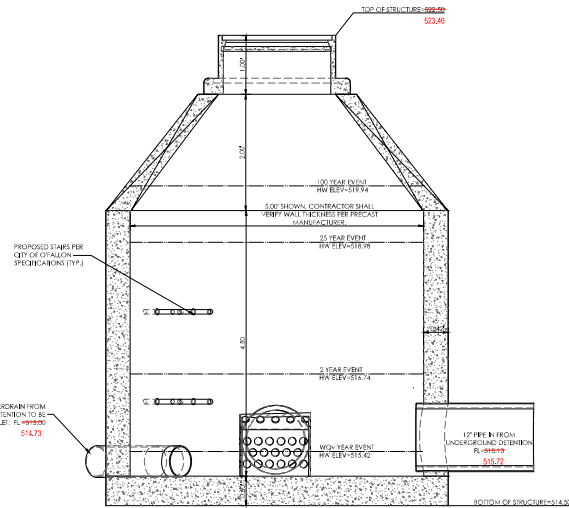
ORIFACE PROTECTION DETAIL
(N.T.S.)



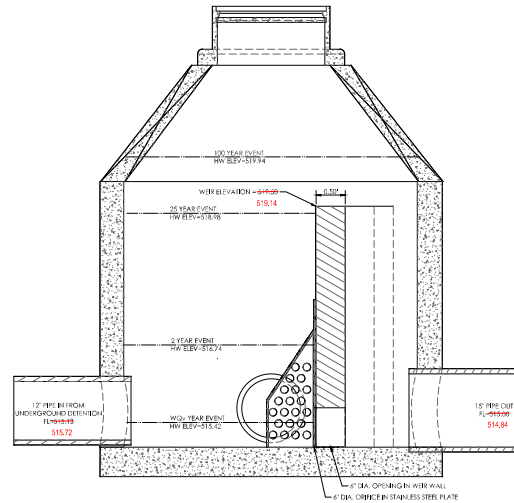
DETENTION OUTFALL STRUCTURE DETAIL - OS 101
SCALE = 1"=1"



DETENTION OUTFALL ISOMETRIC VIEW - OS 101
SCALE = 1"=1"



SECTION A-A
SCALE 1"=1"



SECTION B-B
SCALE 1"=1"

NOTE: SHOP DRAWINGS REQUIRED PRIOR TO CONSTRUCTION FOR OS 101.

AS-BUILT
BY GRIMES CONSULTING, INC.



OVERSEEN AND SUPERVISED
The undersigned hereby certifies that the project is a civil engineering project and that the undersigned is a duly licensed professional engineer in the State of Missouri, and that the undersigned is the author of the design and construction of the project.

SCOTT TAYLOR, P.E.
PROFESSIONAL ENGINEER
P.E. 000000000000

RCP-N LLC
2892 HIGHWAY K SANITARY SEWER MAIN EXTENSION
OPALLON, IL 60456

Project
Date
Description of Changes
Revised Date
Revised By

Project	Date	Description of Changes	Revised Date	Revised By
	4/19/2024			

C-402

Project No. 22714120
Drawn By D. STOKES
Checked By S. PELDT

NOT RELEASED FOR CONSTRUCTION

UNDERGROUND DETENTION DETAILS

1" 1" 9' 10' 12' A A

3" 1" 9' 10' 12' A A

5' 3' A A

3" GRADE 80 STEEL REINFORCEMENT

SECTION A-A

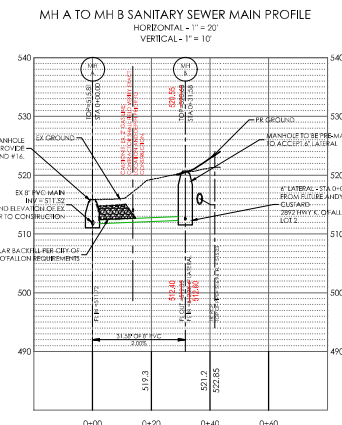
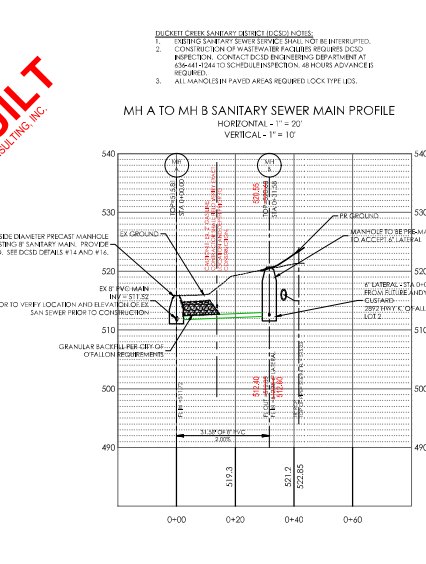
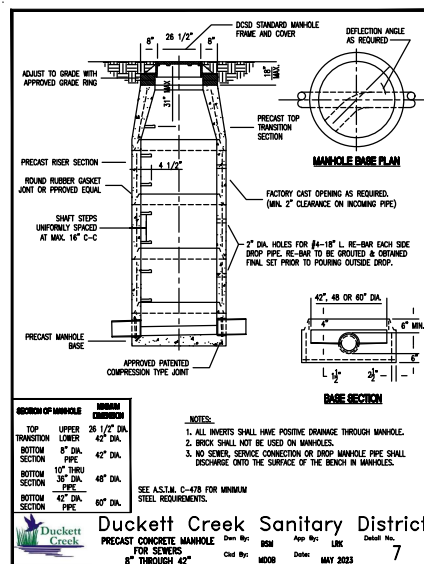
COPOLYMER POLYPROPYLENE PLASTIC

Duckett Creek Sanitary District

MANHOLE STEP FOR PRECAST MANHOLE

Drawn By: BSM App By: KA
 Check By: MCHN Dates: DEC. 2015

18



LEGEND

EXISTING CONTOURS	---
PROPOSED CONTOURS	---
EXISTING STORM SEWER	—○—
PROPOSED STORM SEWER	—●—
EXISTING SANITARY SEWER	—○—
PROPOSED SANITARY SEWER	—●—
RIGHT-OF-WAY	—+—
EASEMENT	—+—
CENTERLINE	—+—
EXISTING TREE	—○—
EXISTING SPOT ELEVATION	—+—
PROPOSED SPOT ELEVATION	—+—
SMILE	—+—
TO BE REMOVED	—+—
TO BE REMOVED & RELOCATED	—+—
TO BE USED IN PLACE	—+—
ADJUST TO GRADE	—+—
BACK OF CURB	—+—
FACE OF CURB	—+—
WATER MAIN	—+—
GAS MAIN	—+—
UNDERGROUND TELEPHONE	—+—
OVERHEAD WIRE	—+—
UNDERGROUND ELECTRIC	—+—
SILTATION CONTROL	—+—
FIRE HYDRANT	—+—
POWER POLE	—+—
WATER VALVE	—+—
LIGHT STANDARD	—+—

DENSITY CALCULATIONS

SITE COVERAGE:	
Building Area	1,532 s.f.
45,400 s.f. total site	X 100 = 3.4%
Greenhouse (Include parking lot landscape area)	
14,100 s.f. pavilion	X 100 = 31.2%
45,400 s.f. total site	
Pavement:	
29,770 s.f.	X 100 = 65.6%
45,400 s.f. total site	

PARKING CALCULATIONS	
PARKING REQUIRED	
1) 20 SPACES PLUS 1 SPACES PER 100 S.F. OF FLOOR AREA, INCLUDING OUTDOOR PATIO SPACE	
800 / 100 X 1 (PATIO SPACE) = 8 SPACES	
TOTAL PARKING REQUIRED = 28 SPACES	
PARKING PROVIDED	
9'x19' = 28 SPACES	
A.O.A. = 2 SPACES	
Total = 30 SPACES	
STAKING SPACES PROVIDED = 15 SPACES	

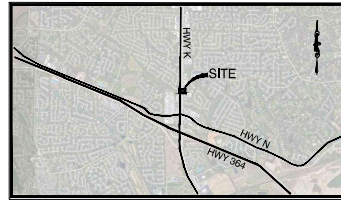
LANDSCAPING CALCULATIONS	
REQUIRED INTERIOR LANDSCAPING	
OF 28 P.S. X 270 S.F. = 454 S.F.	
PROPOSED INTERIOR LANDSCAPING	
4,160 S.F.	

ABBREVIATIONS

N	NORTH
S	SOUTH
W	WEST
E	EAST
CONC	CONCRETE
ASPH	ASPHALT
PB	PLAT BOOK
DB	DEED BOOK
PG	PAGE
SF	SQUARE FEET
AC	ACRES
ELEV	ELEVATION
FF	FINISH FLOOR
FL	FLOWLINE
PVC	POLYVINYL CHLORIDE PIPE
RCP	REINFORCED CONCRETE PIPE
STM	STORM
SAN	SANITARY
(S)	SAVE
(R)	REMOVE
(T.B.R.)	TO BE REMOVED
(T.B.R.&R.)	TO BE REMOVED AND REPLACED
H.G.	HYDRAULIC GRADE

SITE IMPROVEMENT PLAN for a ANDY'S FROZEN CUSTARD

2892 HWY K
CITY OF FALLON
ST. CHARLES COUNTY, MISSOURI 63368



PROPERTY DATA

ADDRESS	2892 HWY K, 63368
OWNER	ROP-N, LLC
DEVELOPER	GATEWAY CUSTARD, LLC
CONTACT	BRANDON ARNOLD PH: 573-480-0833 EMAIL: BRANDON.ARNOLD@GATEWAYCUSTARD.COM
PARCEL ID	2-0126-0318-00-0001.000000
ACRES	1.04 ACRES
ZONING	C-2 GENERAL BUSINESS
FIRE DISTRICT	DUQUETT CREEK SANITARY
SCHOOL DISTRICT	PORT ZUMWALT
SEWER DISTRICT	DUQUETT CREEK SANITARY
WATER SHED	DARDENNE CREEK
FEMA MAP	2013020300E (EFFECTIVE 1/20/2016)
ELECTRIC COMPANY	AMEREN UE
GAS COMPANY	SPRUE
PHONE COMPANY	CENTURYLINK
WATER DISTRICT	P.W.S.D. #2
PROPOSED USE	FROZEN TREAT RESTAURANT

UTILITY CONTACTS

SANITARY SEWER	DUQUETT CREEK SANITARY DISTRICT 3550 HIGHWAY K OTTAWILL, MO 63368 MARK MERRITT 636-441-1244	ELECTRIC SERVICE	AMEREN UE - Boone Traction Division 200 N. COLUMBIAN ROAD WENTZVILLE, MO 63385 DANIEL GIESMANN PH: (636) 639-8336 CELL: (636) 257-2878 FAX: (636) 639-8256 EMAIL: Giesmanna@ameren.com
STORM SEWER	CITY OF OTTAWILL 100 N. MAIN ST. OTTAWILL, MO 63366 636-379-3802	GAS SERVICE	SPRUE 1999 TRADE CENTER DRIVE ST. PETERS, MO 63376 MARK DEMING PH: (314) 575-9090
WATER DISTRICT	PUBLIC WATER SUPPLY DISTRICT NO. 2 P.O. BOX 967 OTTAWILL, MO 63366 636-561-3737 EXT. 131	PHONE SERVICE	CHARTER COMMUNICATIONS 8028 MEXICO RD. OTTAWILL, MO 63366 PH: (636) 272-5483 PH: (636) 272-5483 CONTACT: FIRE MARSHAL MARK MORRISON
FIRE DISTRICT	OTTAWILL FIRE PROTECTION DISTRICT 119 EAST EMIL STREET OTTAWILL, MO 63366 PH: (636) 272-5483 CONTACT: FIRE MARSHAL MARK MORRISON		

LEGAL DESCRIPTION

A TRACT OF LAND BEING PART OF U.S. SURVEY 47, TOWNSHIP 46 NORTH, RANGE 3 EAST, ST. CHARLES COUNTY, MISSOURI AND BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:
LOT 1 OF PRELIMINARY PLAT OF KEVEN CENTER ON K, TOWNSHIP 46 NORTH, RANGE 3 EAST, ST. CHARLES COUNTY, MISSOURI, RECORDED 12/29/2022 AS INSTRUMENT 22229-0000

BENCHMARK

The Missouri Department of Transportation's VRS, RTK system referenced to NAD83 datum.

SITE BENCHMARK

Dev. 521.85' - Cut Cross located at northwest corner of lot as shown on this survey.

SHEET INDEX

C01	TITLE SHEET
C02	SPECIFICATIONS
C03	EXISTING CONDITIONS AND FACILITIES REMOVAL PLAN
C04	SITE AND GRADING PLAN
C05	SITE GEOMETRY AND UTILITY PLAN
C06	SITE DETAILS
C06.1	SITE DETAILS
C07	UTILITY & SEWER DETAILS
C08	SEWER PROFILES & HYDRAULIC DATA
C09	DRAINAGE AREA & BEST MANAGEMENT PRACTICE PLAN
C10	STORM WATER POLLUTION PREVENTION PLAN
C11	STORM WATER POLLUTION PREVENTION PLAN DETAILS
L-1	PLANTING PLAN
L-2	PLANTING PLAN

NOTE:
CIVIL ENGINEERING DESIGN CONSULTANTS, INC. AND THE UNDERSIGNED ENGINEER HAVE NO RESPONSIBILITY FOR SERVICES PROVIDED BY OTHERS TO IMPLEMENT THE IMPROVEMENTS SHOWN ON THIS PLAN AND ALL OTHER DRAWINGS WHERE THE UNDERSIGNED ENGINEER'S SEAL APPEARS. THE CONSTRUCTION MEANS, METHODS & MATERIALS ARE THE SOLE RESPONSIBILITY OF THE CONTRACTOR. CIVIL ENGINEERING DESIGN CONSULTANTS, INC. HAS NO RESPONSIBILITY TO VERIFY FINAL IMPROVEMENTS AS SHOWN ON THIS PLAN UNLESS SPECIFICALLY ENGAGED AND AUTHORIZED TO DO SO BY THE OWNER OR CONTRACTOR.

UTILITY NOTE:
UNDERGROUND FACILITIES, STRUCTURES AND UTILITIES HAVE BEEN PLOTTED FROM AVAILABLE SURVEYS, RECORDS AND INFORMATION, AND THEREFORE DO NOT NECESSARILY REFLECT THE ACTUAL EXISTENCE, NON-EXISTENCE, SIZE, TYPE, NUMBER, OR LOCATION OF THESE FACILITIES, STRUCTURES, AND UTILITIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE ACTUAL LOCATION OF ALL UNDERGROUND FACILITIES, STRUCTURES, AND UTILITIES EITHER SHOWN OR NOT SHOWN ON THESE PLANS OR PROFILES ARE IN THE FIELD PRIOR TO ANY GRADING, EXCAVATION OR CONSTRUCTION OF ANY IMPROVEMENTS. THESE PROVISIONS SHALL IN NO WAY ABSOLVE ANY PARTY FROM COMPLYING WITH ALL UNDERGROUND FACILITY SAFETY AND DAMAGE PREVENTION ACT, CHAPTER 319 RSMo.

NOTE TO CONTRACTOR:
CONTRACTOR/SUBCONTRACTOR SHALL INVESTIGATE, ASCERTAIN AND CONFORM TO ANY AND ALL PERMITS AND REGULATIONS OF THE (ANY) VARIOUS AFFECTED UTILITY COMPANIES AND/OR REGULATORY AGENCIES WITH REGARD TO MAKING CONNECTIONS, CROSSINGS OR THEIR FACILITIES, WORKING WITH THEIR RIGHT-OF-WAY OR EASEMENTS, INSPECTIONS AND ASSOCIATED MATERIAL CHARGES, AND/OR SPECIAL BACKFILL REQUIREMENTS, SUCH INVESTIGATION TO INCLUDE BUT NOT LIMITED TO THE MAKING OF NECESSARY APPLICATIONS AND PAYMENTS OF ALL REQUIRED FEES.

THE LOCATION OF EXISTING UTILITIES AS SHOWN ON THESE PLANS OR PROFILES ARE APPROXIMATE. IT IS THE RESPONSIBILITY OF THE CONTRACTOR/SUBCONTRACTOR TO VERIFY THE FIELD LOCATIONS, ANTICIPATED CLEARANCES AND THE EXISTENCE OF ANY FACILITIES NOT SHOWN HEREON, AS PART OF THE INVESTIGATIONS IN THE PARAGRAPH ABOVE.

THE DEMOLITION PLAN IS FOR ILLUSTRATION OF THE GENERAL DEMOLITION ANTICIPATED FOR THIS PARTICULAR SITE. THE DEMOLITION PLAN DOES NOT REPRESENT ALL CONDITIONS THAT MAY BE ENCOUNTERED DURING DEMOLITION/CONSTRUCTION. THE CONTRACTOR SHALL MAKE THEMSELVES THOROUGHLY FAMILIAR WITH THE SITE AND THE DEMOLITION/CONSTRUCTION REQUIREMENTS PRIOR TO BEGINNING THE DEMOLITION IS TO PROVIDE A CLEAR, STABLE SITE, READY FOR CONSTRUCTION OF THE PROJECT IN CONFORMANCE WITH THE CONSTRUCTION PLANS. NO ADDITIONAL COMPENSATION WILL BE ALLOWED FOR CONDITIONS THAT ARE IN KEEPING WITH THIS INTENT.

CITY APPROVAL OF ANY CONSTRUCTION SITE PLANS DOES NOT MEAN THAT ANY BUILDING CAN BE CONSTRUCTED ON THE LOTS WITHOUT MEETING THE BUILDING SETBACKS AS REQUIRED BY THE ZONING CODES.

ALL INSTALLATIONS AND CONSTRUCTION SHALL CONFORM TO THE APPROVED ENGINEERING DRAWINGS. HOWEVER, IF THE DEVELOPER CHOOSES TO MAKE MINOR MODIFICATIONS IN DESIGN AND/OR SPECIFICATIONS DURING CONSTRUCTION, THEY SHALL MAKE SUCH CHANGES AT THEIR OWN RISK, WITHOUT ANY ASSURANCE THAT THE CITY ENGINEER WILL APPROVE THE COMPLETED INSTALLATION OR CONSTRUCTION.

IT SHALL BE THE RESPONSIBILITY OF THE DEVELOPER TO NOTIFY THE CITY ENGINEER OF ANY CHANGES FROM THE APPROVED DRAWINGS. THE DEVELOPER MAY BE REQUIRED TO CORRECT THE INSTALLED IMPROVEMENTS SO AS TO CONFORM TO THE APPROVED ENGINEERING DRAWINGS. THE DEVELOPER MAY REQUEST A LETTER FROM THE CONSTRUCTION INSPECTION DIVISION REGARDING ANY FIELD CHANGES APPROVED BY THE CITY INSPECTOR.

LIGHTING VULNERABILITIES WILL BE REVIEWED ON SITE PRIOR TO THE FINAL OCCUPANCY INSPECTION.

CITY OF OTTAWILL
ENGINEERING DEPARTMENT
ACCEPTED FOR CONSTRUCTION
BY: Ryan Rockwell, DATE: 8/22/24
PROFESSIONAL ENGINEER'S SEAL
INDICATES RESPONSIBILITY FOR DESIGN

SEWER MEASUREMENTS

The existing sewer lengths, sizes, flowlines, depths of structures and sewers and locations with respect to existing or proposed easements have been measured. The results of those measurements are shown on this set of Final Measurement plans. Since the eye locations have been plotted from information provided by the sewer contractor or other sources, I disclaim any responsibility for that specific information.

All public sewers are located within designated existing or proposed easements.

P.E./A.S. DATE 01/15/2025

PLANNING & DEVELOPMENT DIVISION
633-014245 APPROVAL 2/22/2024

Call BEFORE you DIG
TOLL FREE
1-800-DIG-RITE
MISSOURI ONE CALL TICKET NUMBER 18100749



19820 Sunset Office Drive
Suite 200
St. Louis, Missouri 63127
Phone: 314.729.1400
Fax: 314.729.1404
www.cedc.net

CEDC
CIVIL ENGINEERING
DESIGN CONSULTANTS

Site Improvement Plan for
ANDY'S FROZEN CUSTARD
2892 HWY K
OF FALLON, MO 63368

Proj. #: 2436	
No. Description	Date
Current Set	7/3/24
MODOT Submittal	7/15/24
BLDG. SHIFT	7/19/24
Revised Permit Set	8/5/24
Revised Permit Set	8/15/24

TITLE SHEET

DRAWING NO.

C01

PREPARED FOR:

Andy's Frozen Custard
C/O Greg Anderson
60 Fourth Street
Camden, MO 65020

PREPARED BY:

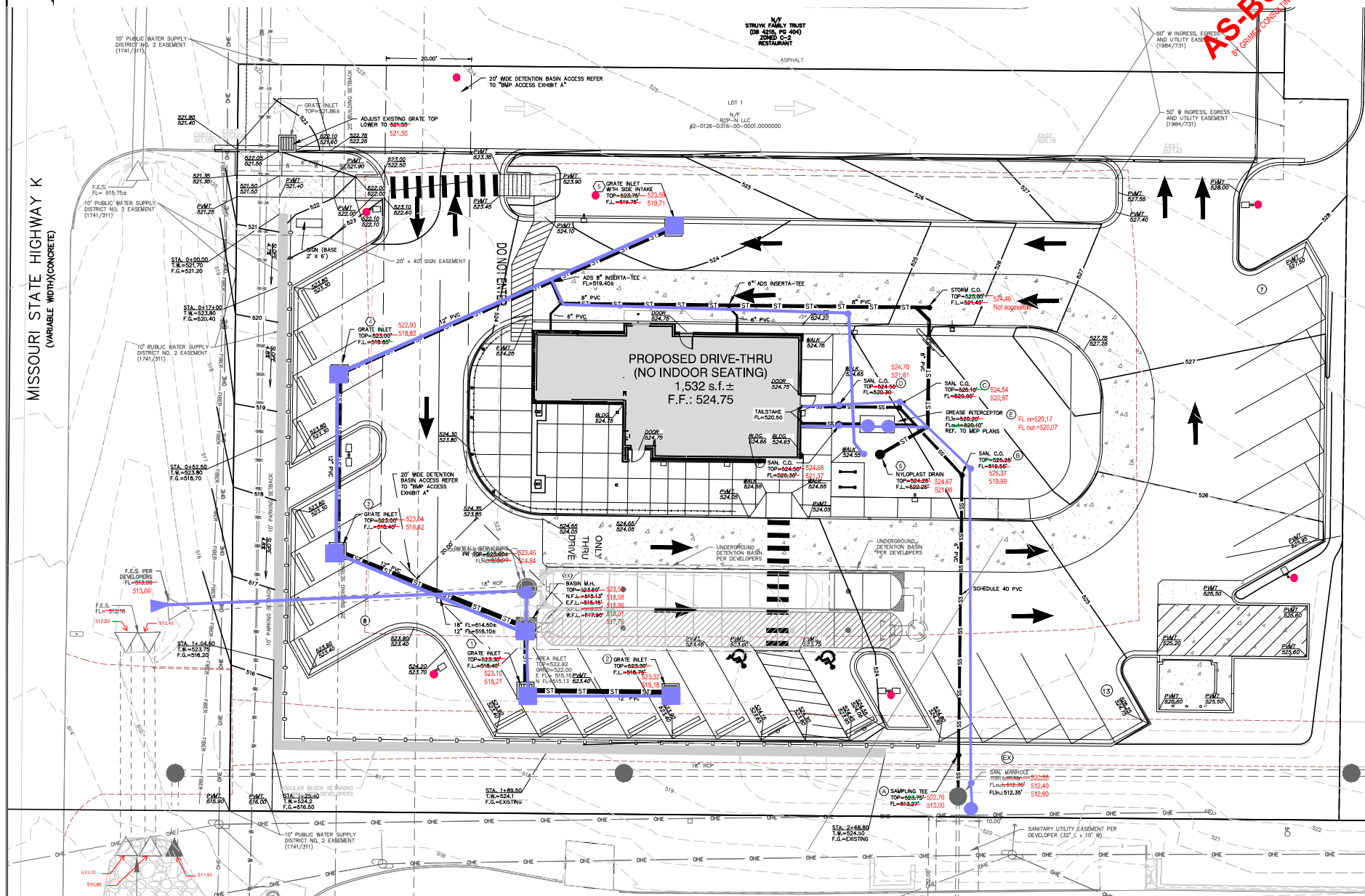
CEDC
19820 Sunset Office Drive
Suite 200
St. Louis, Missouri 63127
314.729.1400
314.729.1404
www.cedc.net

DCSD NOTES

- EXISTING SANITARY SEWER SERVICE SHALL NOT BE INTERRUPTED.
- CONNECTION TO DCSD SEWER REQUIRES DCSD INSPECTION. CONTACT AT 636-441-1244 TO SCHEDULE INSPECTION. 48 HOUR ADVANCED NOTICE IS REQUIRED.

0 10 20
SCALE:
1 inch = 10 ft.

MISSOURI STATE HIGHWAY K
(VARIABLE WIDTH/CONCRETE)



BRANDON A. HARR, P.E., E-28650
PROFESSIONAL ENGINEER
636-441-1244

18920 Sunset Office Drive
Suite 200
St. Louis, Missouri 63127
Phone: 314.729.1400
Fax: 314.729.1404
www.cedc.net

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CIVIL ENGINEERING
DESIGN CONSULTANTS

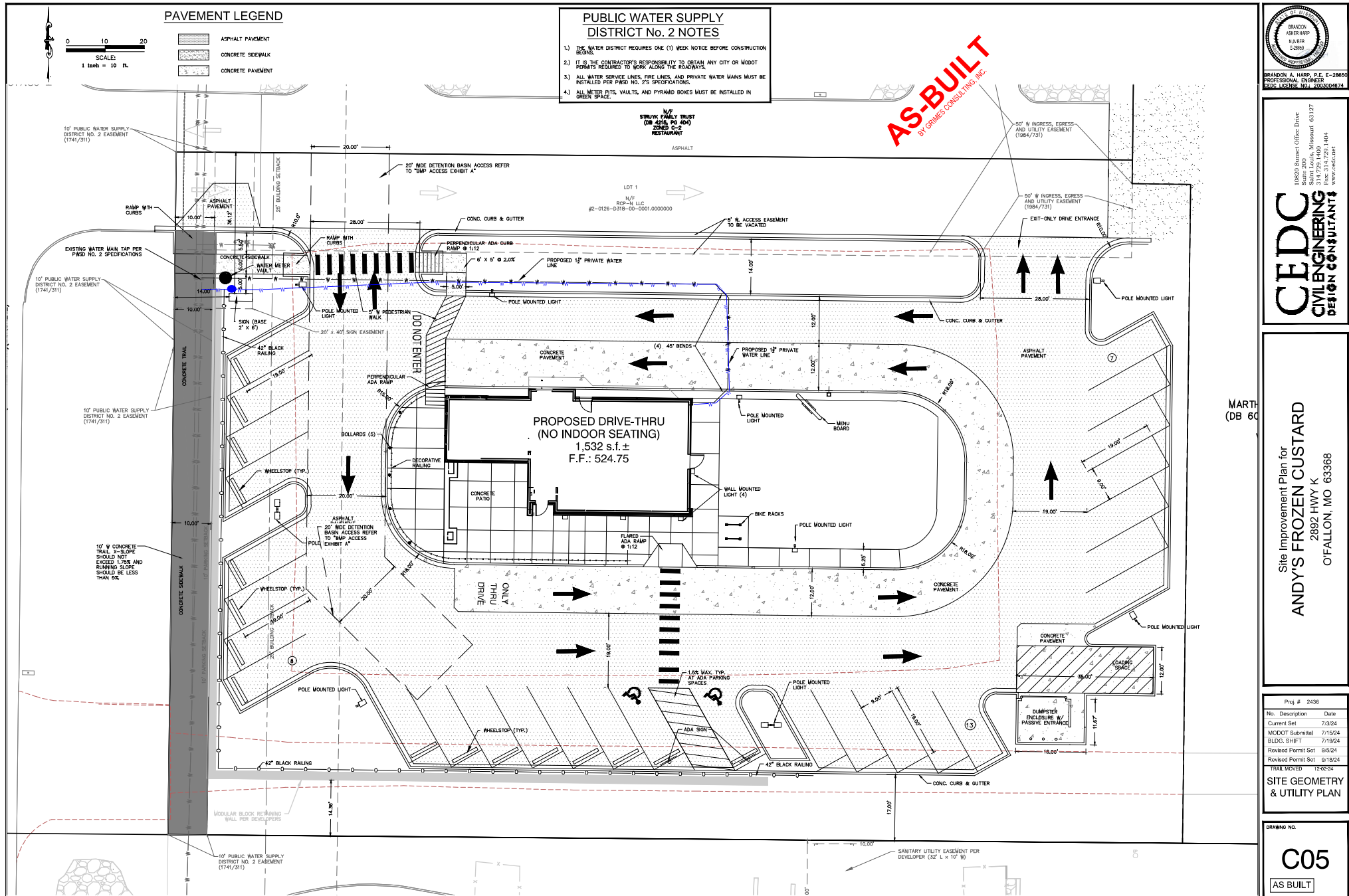
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ANDY'S FROZEN CUSTARD
2892 HWY K
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Revised Permit Set	8/5/24
Revised Permit Set	8/15/24
FINAL REVIEW	12/9/24

**SITE & GRADING
PLAN**

DRAWING NO.

C04
[AS BUILT]





BRANDON A. HARR, P.E., E-206650
PROFESSIONAL ENGINEER
S.D.C. LICENSE NO. 2003004674

10820 Sunset Office Drive
Suite 200
St. Louis, Missouri 63127
314.729.1400
Fax: 314.729.1404
www.cedc.net

CEDC
CIVIL ENGINEERING
DESIGN CONSULTANTS

Site Improvement Plan for
ANDY'S FROZEN CUSTARD
2892 HWY K
OFALLON, MO 63368

Proj. # 2436
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Revised Permit Set 9/15/24

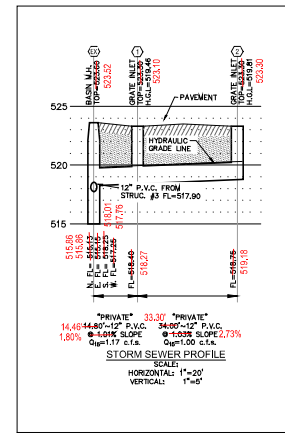
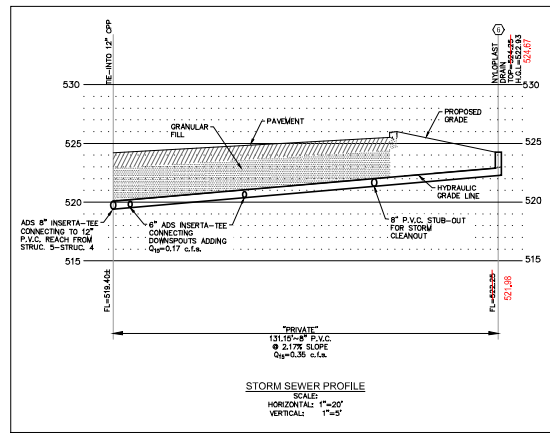
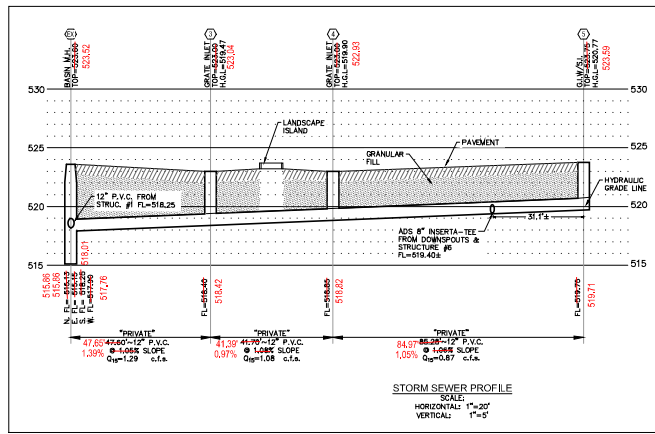
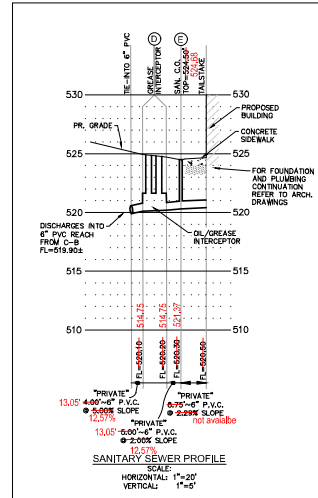
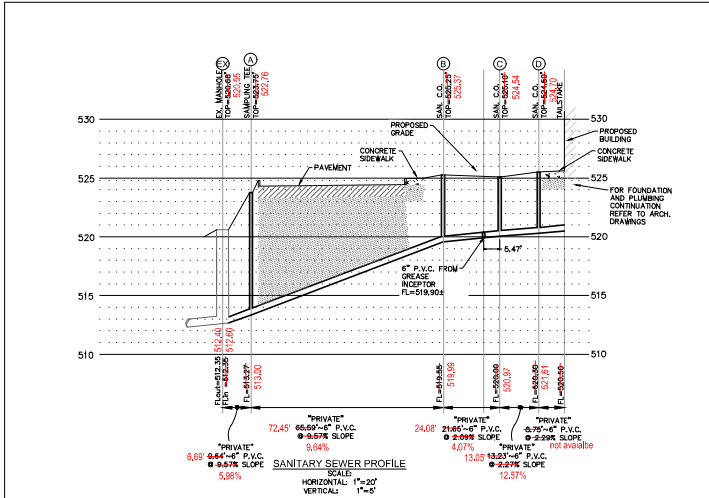
**SEWER PROFILES
& HYDRAULIC
DATA**

DRAWING NO.

C08

AS BUILT

AS-BUILT
BY GRIMES CONSULTING INC.



Project: 2892 HWY K										Computed By: CAH										Date: 4/3/2024									
STORM SEWER COMPUTATION SHEET																													
Sewer Location										Design										Profile									
Top Elevation	Structure No.	Structure No.	Diameter (in)	Manning's N	Slope	Velocity (fps)	Capacity (cfs)	Q15 Incoment Flow (cfs)	Q15 Design Flow (cfs)	Q100 Incoment Flow (cfs)	Q100 Design Flow (cfs)	Length (ft.)	Full (ft.)	Full (ft.)	Invert Elevation Upper End	Invert Elevation Lower End	HYDRAFLOW LINK ID	STRUCTURE FREEDOM	HYDRAFLOW AT STRUCTURE	FREEDOM (Ft.)									
523.30	2	1	12	0.009	1.03%	6.67	5.24	1.00	1.00	1.34	1.34	34	0.35		518.75	518.40	X	2	519.81	3.49									
523.30	1	EX	12	0.009	1.01%	6.60	5.19	0.17	1.17	0.23	1.57	14.8	0.15		518.40	518.25	X	1	519.46	3.84									
524.25	6	12" PVC	8	0.009	2.17%	7.39	2.58	0.35	0.35	0.44	0.44	131.15	2.85		522.25	519.40	X	6	522.95	1.30									
523.75	5	4	12	0.009	1.06%	6.76	5.31	0.52	0.87	0.67	1.11	85.28	0.90		519.75	518.85	X	5	520.79	2.96									
523.00	4	3	12	0.009	1.08%	6.83	5.36	0.21	1.08	0.28	1.39	41.7	0.45		518.85	518.40	X	4	519.90	3.10									
523.00	3	EX	12	0.009	1.05%	6.73	5.29	0.21	1.29	0.29	1.68	47.6	0.50		518.40	517.90	X	3	519.47	3.53									