Andy's Frozen Custard #204

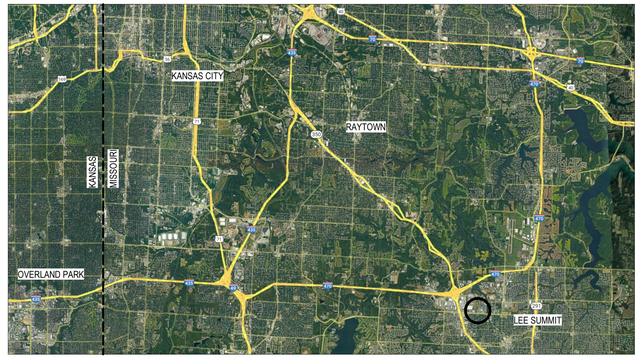
700 NW Ward Road, Lee's Summit, MO 64086

CONSTRUCTION DOCUMENTS | 05/01/2024

SITE PLAN:

700 NW Ward Road, Lee's Summit, MO 64086

LOCATION PLAN:



Greater Kansas City Area

PROJECT DIRECTORY:

ARCHITECT / INTERIOR DESIGNER:

Hufft

3612 Karnes Blvd.
Kansas City, Missouri 64111
P: 816-531-0200

Contact: Wesley Yngsdal
Email: wyngsdal@hufft.com

CLIENT CONTACT:

Andy's Frozen Custard

Andy's Frozen Custard

211 E. Water Street
Springfield, MO, 65806
P: 417-881-3500

Contact: Josh Braun
Email: josh.braun@eatandys.com

STRUCTURAL ENGINEER:

METTEMEYER ENGINEERING LLC
Structural Design

2101 W. CHESTERFIELD BLVD., B-105 PH. 417/890-8002
SPRINGFIELD, MO 65807 FAX 417/890-8003

Mettemeyer Structural

2225 W. Chesterfield Blvd. Suite 300
Springfield, MO 65807
P: 417.890.8002

CONTACT: Joshua Thorpe

M.E.P. ENGINEER:

rtm engineering consultants

RTM Engineering Consultants

3333 East Battlefield Road, Suite 1000
Springfield, MO 65804
P: 417.881.0020

CONTACT: Tyler Enserro

CIVIL ENGINEER:

PEI PLANNING ENGINEERING IMPLEMENTATION

Phelps Engineering, Inc.

1270 N. Winchester
Olathe, KS 66061
P: 913.393.1155

CONTACT: Dan Finn

SHEET INDEX

Hufft

PROJECT INFORMATION:

Andy's Frozen Custard #204

700 NW Ward Road
Lee's Summit, Missouri 64086

OWNER:

ANDY'S FROZEN CUSTARD

211 E. Water Street
Springfield, MO 65806

www.eatandys.com

ARCHITECT:

HUFFT

3612 Karnes Boulevard
Kansas City, MO 64111
P: 816-531-0200

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STRUCTURAL:

METTEMEYER ENGINEERING, LLC

2225 W. Chesterfield Blvd., Suite 300
Springfield, MO 65807
P: 417-890-8002

CIVIL/LANDSCAPE:

PHELPS ENGINEERING, INC.

1270 N. Winchester
Olathe, Kansas 66061
P: 913.538.5821

MEP:

RTM ENGINEERING CONSULTANTS

3333 E. Battelfield Road, Suite 1000
Springfield, MO 65804
P: 417-881-0020

ISSUE:

CONSTRUCTION DOCUMENTS
05/01/2024

REVISION SCHEDULE:

NO.	DATE	ISSUE

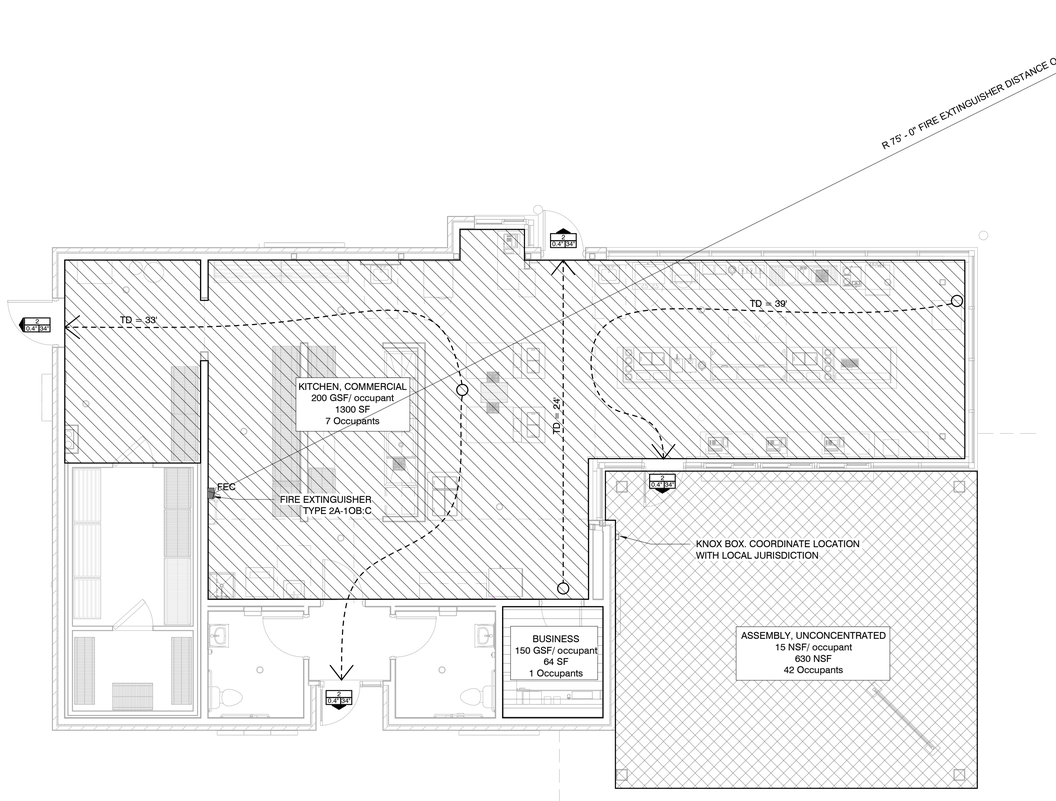
STATE OF MISSOURI
JEFFREY M. KLOCH
NUMBER A - 2016005093
ARCHITECT

05/01/2024

Architect: JEFFREY KLOCH
License Number: A-2016005093
Drawn By: WY
Project Number: 736

COVER SHEET/DRAWING INDEX

G000



1 LIFE SAFETY PLAN
3/16" = 1'-0"

PROJECT DESCRIPTION

New construction of a 1-Story stand alone frozen custard store with drive-through and walk-up sales.

APPLICABLE CODES

Lee's Summit, MO enforces the 2018 International Building Code (IBC) or 2018 International Existing Building Code (IEBC) and associated International Codes:

- 2018 International Mechanical Code (IMC)
- 2018 International Plumbing Code (IPC)
- 2017 National Electrical Code (NFPA 70 NEC)
- 2018 International Fuel Gas Code (IFGC)
- ANSI A117.1 - 2009
- 2018 International Fire Code (IFC)

ZONING

The property is zoned PMIX, defined as planned mixed use.
Conditioned area of building is 1,980 SF.
Number of employees (max shift) = 8

Requirement	Ratio	Req.	Designed
Parking	2+1 per employee	10	21
Accessible		1	1

CONSTRUCTION TYPE chapter 5 & 6

The building is **TYPE V-B CONSTRUCTION** requires non-combustible construction and the fire resistance rating of structural elements as follows (Table 601):

- Primary Columns & Beams — 0-hour
- Bearing Walls — 0-hour
- Exterior Non-Bearing Walls — 0-hour, if 10' or more to property line
- Floors — 0-hour
- Roof — 0-hour

Allowable building height and area (Table 503)
- Use: B — 40'-0", 2 Story, & 9,000 SF

Building Area Modification (Section 506)
- None

FIRE PROTECTION chapter 9

Sprinklers (section 903)	No, area does not exceed 5,000 sf or occupant load does not exceed 100
Fire Extinguishers (section 906)	Yes, within 30 feet of commercial cooking equipment
Fire Alarm (section 907)	No, occupant load does not exceed 300

OCCUPANCY CLASSIFICATION & EXIT CRITERIA chapter 10

Occupancy (Table 1004.1.2)

Occupancy	Area	Occupant Load	Total
A-2, Assembly, Unconcentrated Assembly	630 sf	15 net	42
B, Business (Office)	64 sf	100 net	1
A-2, Kitchen, Kitchen Commerical	1300 sf	200 gross	7
	1,994 gross sf		**50**

Requirement	Occupancy	Req.
Min. number of exits (section 1016.1)	A, B	2 at 1/2 the diagonal
Max travel distance (secion 1016.2)	A, B	200 ft

PLUMBING SYSTEMS chapter 29

Min. Required Plumbing Fixtures (Table 2902.1)

Use Group	Occ.Load	Water Closets		Lavatories		Drinking Ftn		Service Sink	
		Req.	Design	Req.	Design	Req.	Design	Req.	Design
A-2	50	1/75	1 (M/F)	1/200	1 (M/F)	0*	0	1/500	1

*IPC Section 410.1, where water is served in restuarants, drinking fountains shall not be required.

CODE PLAN LEGEND

PARTITIONS/BARRIERS

- 1/2 HOUR FIRE RATED WALL
- 1 HOUR FIRE RATED WALL
- 2 HOUR FIRE RATED WALL
- 3 HOUR FIRE RATED WALL

FEC — FE - FIRE EXTINGUISHER

KNOX - KNOX BOX

TRAVEL
- TRAVEL DISTANCE - START
- TRAVEL DISTANCE - END

DOOR
- OCCUPANTS
- DIRECTION OF TRAVEL
- PROVIDED WIDTH
- REQUIRED WIDTH

Hufft

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Andy's Frozen Custard #204

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211 E. Water Street
Springfield, MO 65806
www.eatandys.com

ARCHITECT:

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STATE OF MISSOURI
JEFFREY M. KLOCH
NUMBER A - 2016005093
ARCHITECT

05/01/2024

Architect: JEFFREY KLOCH
License Number: A-2016005093
Drawn By: WY
Project Number: 736

PROJECT DATA/ LIFE SAFETY

G010

SITE DEVELOPMENT PLANS
FOR
ANDY'S FROZEN CUSTARD
ADDRESS: 700 N.W. WARD ROAD
IN THE CITY OF LEE'S SUMMIT, JACKSON COUNTY, MISSOURI

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C0.1	DEMOLITION PLAN
C1	OVERALL SITE PLAN
C1.1	ENLARGED SITE PLAN
C1.2	TRUCK TURN PLAN
C2	OVERALL GRADING PLAN
C2.1–C2.2	ENLARGED GRADING PLAN
C3	UTILITY PLAN
C4	DRAINAGE MAP
C5	STORM SEWER PLAN & PROFILE
C5.1	SECONDARY STORM PLAN
C6–C6.1	EROSION CONTROL PLAN & DETAILS
C7–C7.6	STANDARD DETAILS
	LANDSCAPE PLAN
	SITE PHOTOMETRIC PLAN
	ARCHITECTURAL PLANS

FIRE ACCESS ROAD NOTE:
ALL FIRE ACCESS LANES SHALL BE HEAVY DUTY ASPHALT CAPABLE OF SUPPORTING 75,000–POUNDS.

OIL–GAS WELLS:
ACCORDING TO THE MISSOURI DEPARTMENT OF NATURAL RESOURCES STATE OIL & GAS COUNCIL WELLS, LOCATED AT www.dnr.mo.gov/geology/geoenv/allandgas.htm, THERE ARE NO OIL OR GAS WELLS ON THE PROPERTY SHOWN HEREON.

PRE–CONSTRUCTION MEETING NOTE:
THE CONTRACTOR SHALL CONTACT THE CITY'S DEVELOPMENT SERVICES ENGINEERING INSPECTION TO SCHEDULE A PRE–CONSTRUCTION MEETING WITH A FIELD ENGINEERING INSPECTOR PRIOR TO ANY LAND DISTURBANCE WORK AT (816) 969–1200.

UTILITY COMPANIES:

MISSOURI GAS ENERGY (816) 969–2218
LUCAS WALLS (LUCAS.WALLS@SUG.COM)
3025 SOUTHEAST CLOVER DRIVE
LEE'S SUMMIT, MO 64082

EVERGY (816) 347–4339
PHILLIP INGRAM (PHILLIP.INGRAM@KCPL.COM)
RON DEJARNETTE (RON.DEJARNETTE@KCPL.COM) (816) 347–4316
1300 HAMBLEN ROAD
LEE'S SUMMIT, MO 64081

STORM SEWER (PUBLIC WORKS DEPARTMENT) (816) 969–1800
220 SE GREEN STREET
LEE'S SUMMIT, MO 64063

SANITARY SEWER & WATER (WATER UTILITIES DEPT.) (816)–969–1900
1200 SE HAMBLEM ROAD,
LEE'S SUMMIT, MO 64081

AT&T (913) 383–4929
MR. CLAYTON ANSPAUGH (CA4089@ATT.COM) (913) 383–4849–FAX
9444 NALL AVENUE
OVERLAND PARK, KANSAS 66207

Know what's **below.**
Call before you dig.

UTILITY NOTES:
VISUAL INDICATIONS OF UTILITIES ARE AS SHOWN. UNDERGROUND LOCATIONS SHOWN, AS FURNISHED BY THEIR LESSORS, ARE APPROXIMATE AND SHOULD BE VERIFIED IN THE FIELD AT THE TIME OF CONSTRUCTION. FOR ACTUAL FIELD LOCATIONS OF UNDERGROUND UTILITIES CALL 811.

LEGAL DESCRIPTION:

LOT 10E, SUMMIT FAIR, LOTS 10D – 10F, A SUBDIVISION IN THE CITY OF LEE'S SUMMIT, JACKSON COUNTY, MISSOURI, ACCORDING TO THE RECORDED PLAT THEREOF.

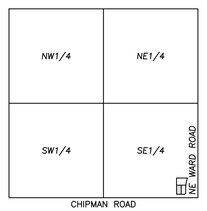
AREA = ±0.7686 ACRES / ±33,476 SQ.FT.

PREPARED & SUBMITTED BY:

PHELPS ENGINEERING, INC.
1270 N. WINCHESTER
OLATHE, KS 66061
913–393–1155 OFFICE
913–393–1166 FAX
CONTACT: JUDD CLAUSSEN, P.E.

DEVELOPER:

ANDY'S FROZEN CUSTARD
211 E. WATER ST.
SPRINGFIELD, MO 65806
417–986–3585
CONTACT: LIANA MOORE



VICINITY MAP
SEC. 36–48–32

N
SCALE: 1"=2000'

N
SCALE: 1"=100'
0' 100' 200'

STATE OF MISSOURI
JUDD DAVID CLAUSSEN
NUMBER PE-29850
04/12/2024
NATIONAL SOCIETY OF PROFESSIONAL ENGINEERS

PHELPS ENGINEERING, INC.
1270 N. Winchester
Olathe, Kansas 66061
(913) 393-1155
FAX (913) 393-1066
www.phelpsengineering.com

PLANNING
ENGINEERING
IMPLEMENTATION

COVER SHEET
ANDY'S FROZEN CUSTARD
700 NW WARD ROAD
LEE'S SUMMIT, MISSOURI

No.	Date	Revisions:	By	App.

PROJECT NO. 240159
DATE 04-12-2024 DRAWN: AEB
CHECKED: DAF APPROVED: JDC
CERTIFICATE OF AUTHORIZATION KANSAS SURVEYING – LS–82 ENGINEERING – E–391
CERTIFICATE OF AUTHORIZATION LAND SURVEYING–2007001128 ENGINEERING–2007002938

SHEET
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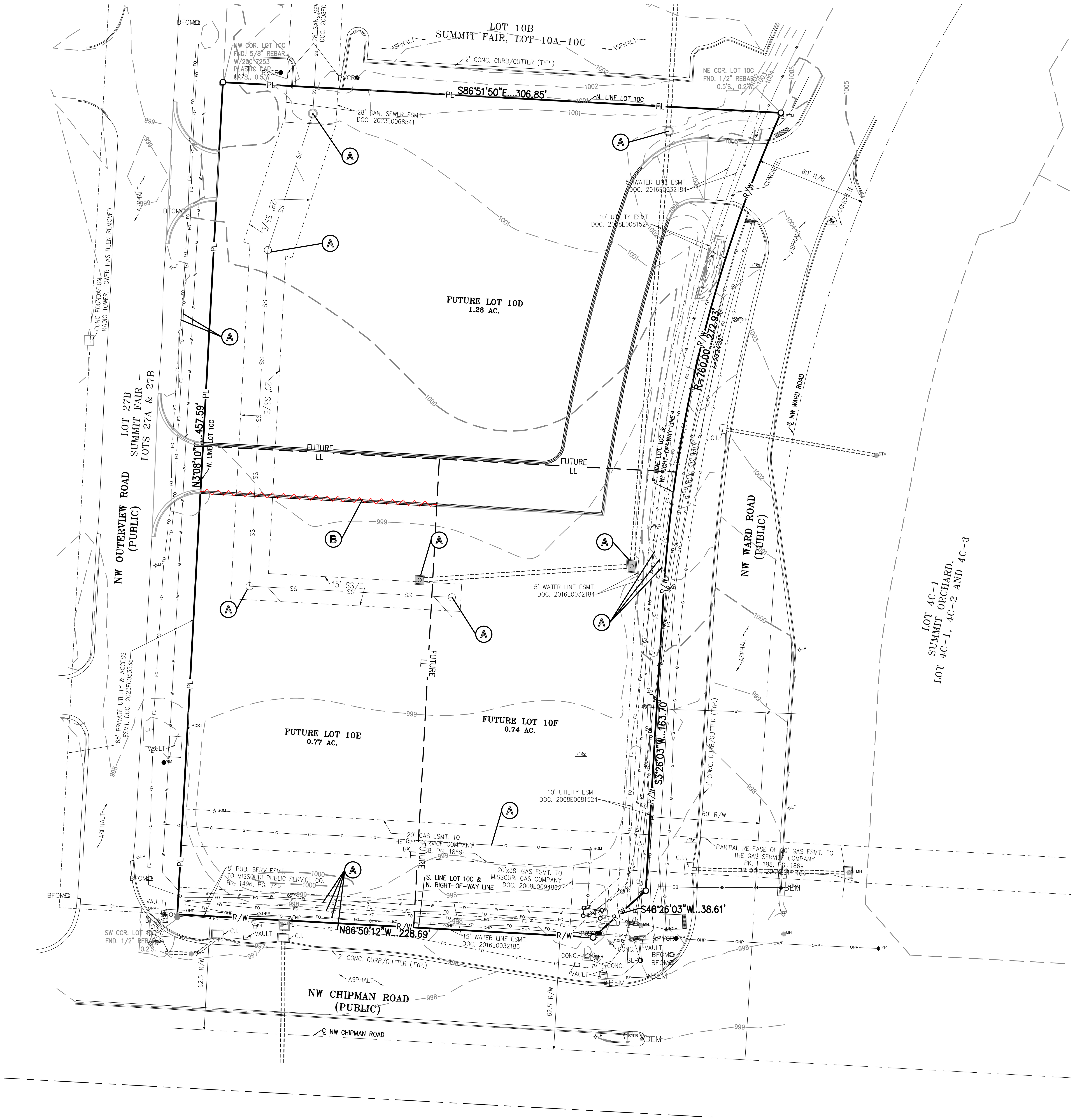


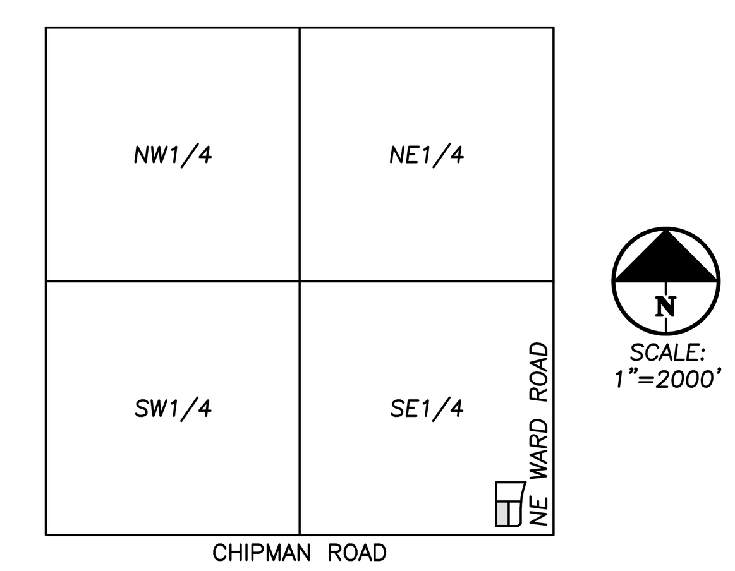
DEMOLITION KEY NOTES:

(A) ALL UTILITIES SERVING STRUCTURES IMMEDIATELY SURROUNDING THE DEMOLITION BOUNDARY SHALL REMAIN IN SERVICE THROUGHOUT THE PROJECT. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PREVENT ANY DAMAGE TO SUCH UTILITIES. TYPICAL LOCATION.

(B) CONTRACTOR TO PERFORM CLEAN SAW CUT ADJACENT TO INSIDE EDGE OF EXISTING TEMPORARY ASPHALT CURB. REMOVE EXISTING TEMPORARY ASPHALT CURB AND ASPHALT PAVEMENT FROM SAWCUT LINE TO EXISTING EDGE OF PAVEMENT TO PROVIDE CLEAN JOINT LINE WITH NEW PAVEMENT.

LEGEND

—PL—	PROPERTY LINE
— —LL— —	LOT LINE
— —R/W— —	RIGHT-OF-WAY
⩘⩘⩘	REMOVE EXISTING TEMPORARY ASPHALT CURB
—BT—	EXISTING BURIED TELEPHONE
—CATV—	EXISTING CABLE TELEVISION LINE
—FO—	EXISTING FIBER OPTIC LINE
—W—	EXISTING WATER LINE
—G—	EXISTING GAS LINE
—BE—	EXISTING BURIED ELECTRIC
—OHP—	EXISTING OVERHEAD POWER LINE
—SS—	EXISTING SANITARY SEWER
=====	EXISTING STORM SEWER
☋	EXISTING FIRE HYDRANT
LP ⌖	EXISTING LIGHT POLE
—x—x—	EXISTING CHAIN LINK FENCE



VICINITY MAP
SEC. 36-48-32

DEMOLITION NOTES:

1. THE CONTRACTOR IS RESPONSIBLE FOR THE DEMOLITION, REMOVAL, AND DISPOSAL (IN A LOCATION APPROVED BY ALL GOVERNING AUTHORITIES) ALL CURBS, PARKING, DRIVES, DRAINAGE STRUCTURES, UTILITIES, ETC., SUCH THAT THE IMPROVEMENTS SHOWN ON THE REMAINING PLANS CAN BE CONSTRUCTED. ALL FACILITIES TO BE REMOVED SHALL BE UNDERCUT TO SUITABLE MATERIAL AND BROUGHT TO GRADE WITH SUITABLE COMPACTED FILL MATERIAL.

2. THE CONTRACTOR IS RESPONSIBLE FOR REMOVING ALL DEBRIS FROM THE SITE AND DISPOSING THE DEBRIS IN A LAWFUL MANNER. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL PERMITS REQUIRED FOR DEMOLITION AND DISPOSAL.

3. DAMAGE TO ALL EXISTING CONDITIONS TO REMAIN WILL BE REPLACED AT CONTRACTOR'S EXPENSE.

4. CONTRACTOR MUST COORDINATE WITH OWNER PRIOR TO ANY CONSTRUCTION TO ESTABLISH CUSTOMER ACCESS AND TRAFFIC FLOW DURING ALL PHASES.

N

SCALE: 1"=30'
0' 30' 60'

811
Know what's **below.**
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\\PHELPS-SERVER\projects\P\240159\Dwg\Permit Plans\DEMO.dwg Layout:1 May 02, 2024 – 11:41am Audrey Burks

STATE OF MISSOURI
JUDD DAVID CLAUSSEN
NUMBER PE-29850
PROFESSIONAL ENGINEER
04/12/2024

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PLANNING
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DEMOLITION PLAN
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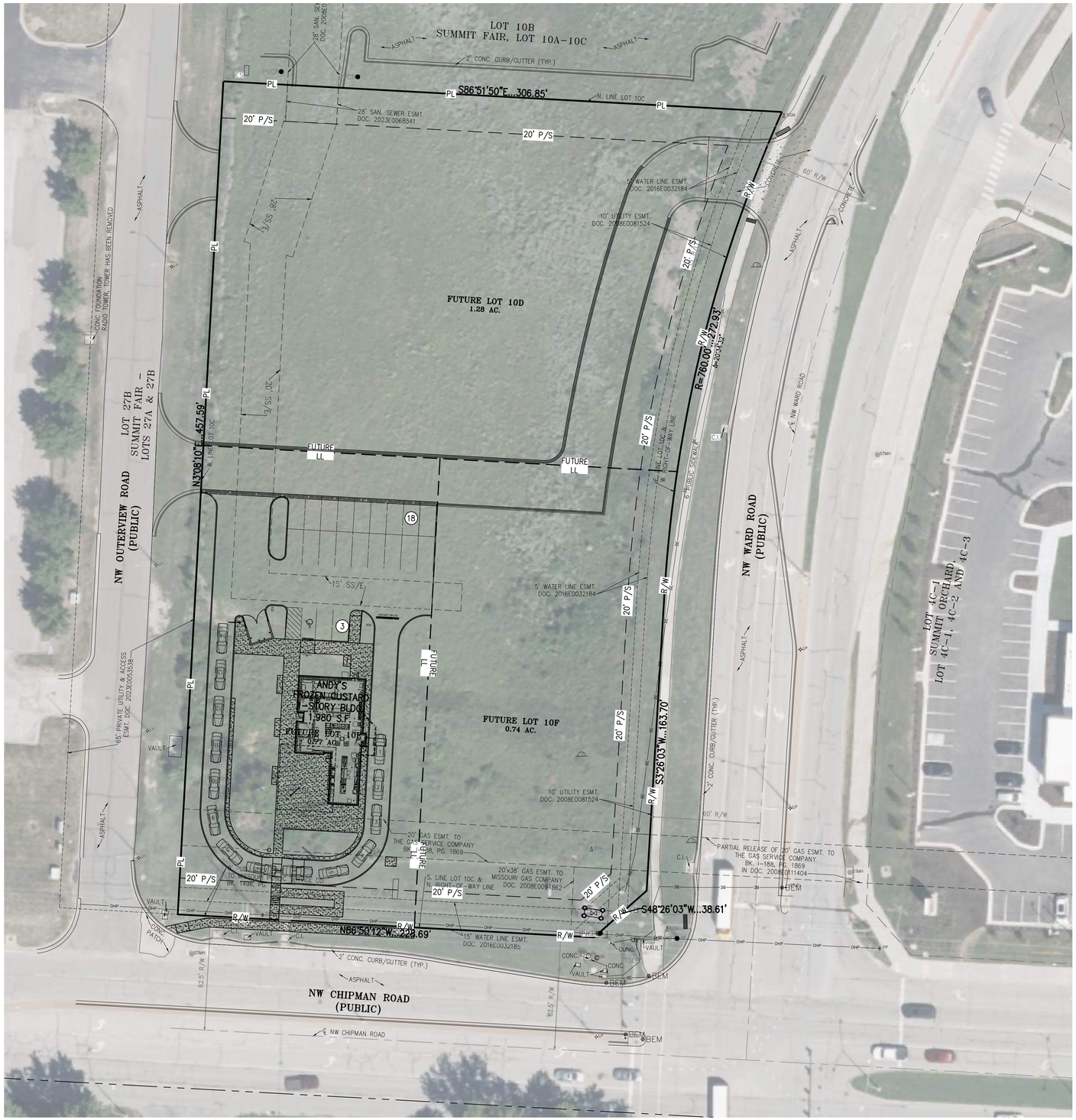

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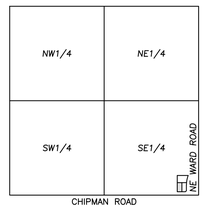

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AREA = ±0.7686 ACRES / ±33,476 SQ.FT.

SITE PLAN NOTES:

1. All construction materials and procedures on this project shall conform to the latest revision of the following governing requirements, incorporated herein by reference:
A) City ordinances & O.S.H.A. Regulations.
B) The City of Lee's Summit Technical Specifications and Municipal Code.

2. The contractor shall have one (1) signed copy of the plans (approved by the City) and one (1) copy of the appropriate Design and Construction Standards and Specifications at the job site at all times.

3. The contractor will be responsible for securing all permits, bonds and insurance required by the contract documents, City of Lee's Summit, Missouri, and all other governing agencies (including local, county, state and federal authorities) having jurisdiction over the work proposed by these construction documents. The cost for all permits, bonds and insurance shall be the contractors responsibility and shall be included in the bid for the work.

4. The contractor is responsible for coordination of his and his sub-contractor's work. The contractor shall assume all responsibility for protecting and maintaining his work during the construction period and between the various trades/sub-contractors constructing the work.

5. The demolition and removal(or relocation) of existing pavement, curbs, structures, utilities, and all other features necessary to construct the proposed improvements, shall be performed by the contractor. All waste material removed during construction shall be disposed off the project site. The contractor shall be responsible for all permits for hauling and disposing of waste material. The disposal of waste material shall be in accordance with all local, state and federal regulations.

6. Contractor shall be responsible for all relocations, including but not limited to, all utilities, storm drainage, sanitary sewer services, signs, traffic signals & poles, etc. as required. All work shall be in accordance with governing authorities specifications and shall be approved by such. All cost shall be included in base bid.

7. All existing utilities indicated on the drawings are according to the best information available to the Engineer; however, all utilities actually existing may not be shown. The contractor shall be responsible for contacting all utility companies for an exact field location of each utility prior to any construction. All underground utilities shall be protected at the contractor's expense. All utilities, shown and unshown, damaged through the negligence of the contractor shall be repaired or replaced by the contractor at his expense.

8. The contractor will be responsible for all damage to existing utilities, pavement, fences, structures and other features not designated for removal. The contractor shall repair all damages at his expense.

9. The contractor shall verify the flow lines of all existing storm or sanitary sewer connections and utility crossings prior to the start of construction. Notify the engineer of any discrepancies.

10. SAFETY NOTICE TO CONTRACTOR: In accordance with generally accepted construction practices, the contractor shall be solely and completely responsible for conditions of the job site, including safety of all persons and property during performance of the work. This requirement will apply continuously and not be limited to normal working hours. Any construction observation by the engineer of the contractor's performance is not intended to include review of the adequacy of the contractor's safety measures, in, on or near the construction site.

11. Refer to the building plans for site lighting electrical requirements, including conduits, pole bases, pull boxes, etc.

SITE DIMENSION NOTES:

1. BUILDING TIES SHOWN ARE TO THE OUTSIDE FACE OF PROPOSED WALLS. THE SUBCONTRACTOR SHALL REFER TO THE ARCHITECTURAL PLANS FOR SPECIFIC DIMENSIONS AND LAYOUT INFORMATION FOR THE BUILDINGS.

2. ALL DIMENSIONS SHOWN FOR THE PARKING LOT AND CURBS ARE MEASURED FORM BACK OF CURB TO BACK OF CURB.

PAVEMENT MARKING AND SIGNAGE NOTES:

1. PARKING STALL MARKING STRIPES SHALL BE FOUR INCH (4") WIDE WHITE STRIPES. DIRECTIONAL ARROW AND HANDICAP STALL MARKINGS SHALL BE FURNISHED AT LOCATIONS SHOWN ON PLANS.

2. HANDICAP PAVEMENT MARKINGS AND SIGNS SHALL CONFORM TO ALL FEDERAL (AMERICANS WITH DISABILITIES ACT) AND STATE LAWS AND REGULATIONS.

3. TRAFFIC CONTROL DEVICES AND PAVEMENT MARKINGS SHALL CONFORM TO THE REQUIREMENTS OF THE "MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES".

4. STOP SIGNS SHALL BE PROVIDED AT ALL LOCATIONS AS SHOWN ON PLANS AND SHALL CONFORM TO THE "MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES". SIGNS SHALL BE 18" X 12", 18 GAUGE STEEL AND SHALL BE ENGINEER GRADE REFLECTIVE.

5. TRAFFIC CONTROL AND PAVEMENT MARKINGS SHALL BE PAINTED WITH A WHITE SHERWIN WILLIAMS S-W TRAFFIC MARKING SERIES B-29Y2 OR APPROVED EQUAL. THE PAVEMENT MARKING SHALL BE APPLIED IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS. APPLY ON A CLEAN, DRY SURFACE AND AT A SURFACE TEMPERATURE OF NOT LESS THAN 70°F AND THE AMBIENT AIR TEMPERATURE SHALL NOT BE LESS THAN 60°F AND RISING. TWO COATS SHALL BE APPLIED.

ZONING:

THIS PROPERTY IS ZONED PMIX, DEFINED AS PLANNED MIXED USE.

OIL-GAS WELLS:

ACCORDING TO THE MISSOURI DEPARTMENT OF NATURAL RESOURCES STATE OIL & GAS COUNCIL WELLS, LOCATED AT www.dnr.mo.gov/geology/geosrv/oilandgas.htm, THERE ARE NO OIL OR GAS WELLS ON THE PROPERTY SHOWN HEREON.

PRE-CONSTRUCTION MEETING NOTE:

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FIRE ACCESS ROAD NOTE:

ALL FIRE ACCESS LANES SHALL BE HEAVY DUTY ASPHALT CAPABLE OF SUPPORTING 75,000-POUNDS.

BUILDING & LOT DATA

Lot 10E	
Zoning	PMIX
Site Area	33,476 S.F. (0.77 Ac.)
Building Area	1,980 S.F.
FAR	0.0591 Ac.
Impervious Area	22,228 S.F. (66%)
Open Space	11,248 S.F. (34%)

PARKING SUMMARY

Lot 10E	
Building SF – 1,980 S.F.	
Use – Carry out, drive up, or drive thru only	
# of employees (max shift) – 8	
Required Parking – 2 + 1 per employee (max shift)	10 Spaces
Parking Provided	21 Spaces

LEGEND

- PL — PROPERTY LINE
- LL — LOT LINE
- R/W — RIGHT-OF-WAY
- 6" CONCRETE CURB
- PROPOSED BUILDING
- CONCRETE PAVEMENT
- CONCRETE SIDEWALK

N
SCALE: 1"=30'
0' 30' 60'

STATE OF MISSOURI
JUDD DAVID CLAUSSEN
NUMBER PE-2010029850
04/12/2024

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1270 N. Winchester
Olathe, Kansas 66061
(913) 393-1155
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PLANNING
ENGINEERING
IMPLEMENTATION

OVERALL SITE PLAN
ANDY'S FROZEN CUSTARD
700 NW WARD ROAD
LEE'S SUMMIT, MISSOURI

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SHEET
C1

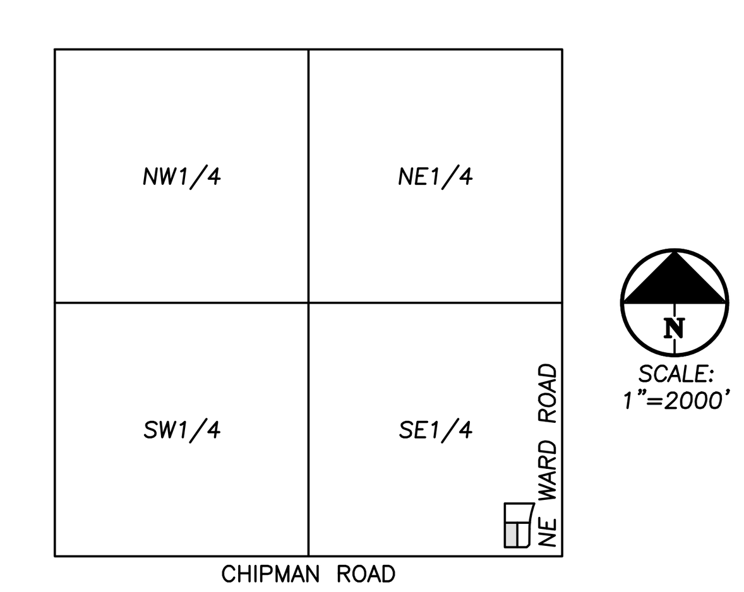
\\PHELPS-SERVER\projects\P\240159\Dwg\Permit Plans\OVERALL SITE.dwg Layout:1 May 02, 2024 - 11:41am Audrey Burks

SITE KEY NOTES:

- (A) CONSTRUCT PRIVATE 6" MONOLITHIC CONCRETE CURB.
- (B) CONSTRUCT PRIVATE CONCRETE SIDEWALK (TYPICAL). SEE "PRIVATE CONCRETE SIDEWALKS (NON-REINFORCED)" DETAIL ON SHEET 7.1.
- (C) INSTALL ACCESSIBLE PAVEMENT MARKINGS PER ADA SPECIFICATIONS. SEE "ACCESSIBLE PARKING SPACE DETAIL" DETAIL ON SHEET C7.2.
- (D) INSTALL VAN ACCESSIBLE PARKING SIGN. SEE "ACCESSIBLE SIGN" DETAILS ON SHEET C7.2.
- (E) INSTALL ONE BIKE RACK FOR 2 SPACES.
- (F) INSTALL SPEED TABLE W/ SCORED CONCRETED CROSSWALK. SEE "CROSSWALK DETAIL" ON SHEET C7.1.
- (G) INSTALL CONCRETE PAVEMENT. SEE "CONCRETE PAVING" DETAIL ON SHEET C7.
- (H) INSTALL TRASH ENCLOSURE (RE: ARCHITECT PLANS).
- (I) CONSTRUCT ELECTRICAL UTILITY PAD (RE: EVERGY WORKORDER).
- (J) INSTALL MONUMENT SIGN (RE: SITE SIGNAGE PLANS).
- (K) INSTALL PRE-ORDER MENU BOARD (RE: SITE SIGNAGE PLANS.)
- (L) INSTALL CLEARANCE BAR (RE: SITE SIGNAGE PLANS).
- (M) PICK-UP WINDOW (RE: ARCHITECT PLANS).
- (N) CONSTRUCT PRIVATE ACCESSIBLE SIDEWALK CURB RAMP (OMIT DETECTABLE WARNING). SEE "PRIVATE SIDEWALK RAMP DETAIL" ON SHEET C7.1..
- (O) INSTALL 25 FT TALL FLAG POLE (RE: SITE SIGNAGE PLANS).
- (P) INSTALL PEDESTRIAN BENCH (SEE SHEET C7.4 FOR DETAILS).
- (Q) INSTALL FENCE (SEE SHEET C7.4 FOR DETAILS).
- (R) CONSTRUCT 24" WIDE PRIVATE CONCRETE SIDEWALK "RUNNER" STRIP ALONG DRIVE THRU.
- (S) CONSTRUCT CONCRETE STAIRS W/ HANDRAIL ON BOTH SIDES. SEE "CONCRETE STAIRS DETAIL" ON SHEET C7.6.
- (T) INSTALL DIRECTIONAL SIGNAGE (RE: SITE SIGNAGE PLANS).
- (U) INSTALL PUBLIC CONCRETE SIDEWALK RAMP. SEE "ADA RAMP" DETAIL ON SHEET C7.6.
- (V) INSTALL PUBLIC CONCRETE SIDEWALK RAMP. SEE "ADA RAMP" DETAIL ON SHEET C7.6.

LEGEND

- PL — PROPERTY LINE
- LL — LOT LINE
- R/W — RIGHT-OF-WAY
- 6" CONCRETE CURB
- PROPOSED BUILDING
- CONCRETE PAVEMENT
- CONCRETE SIDEWALK



VICINITY MAP
SEC. 36-48-32

SCALE: 1"=10'

STATE OF MISSOURI
JUDD DAVID CLAUSSEN
NUMBER PE-29850
PROFESSIONAL ENGINEER
04/12/2024

PHELPS ENGINEERING, INC.
1270 N. Winchester
Olathe, Kansas 66061
(913) 393-1155
Fax (913) 393-1166
www.phelpsengineering.com

PEI PLANNING ENGINEERING IMPLEMENTATION

ENLARGED SITE PLAN
ANDY'S FROZEN CUSTARD
700 NW WARD ROAD
LEE'S SUMMIT, MISSOURI

No.	Date	Revisions:	By	App.

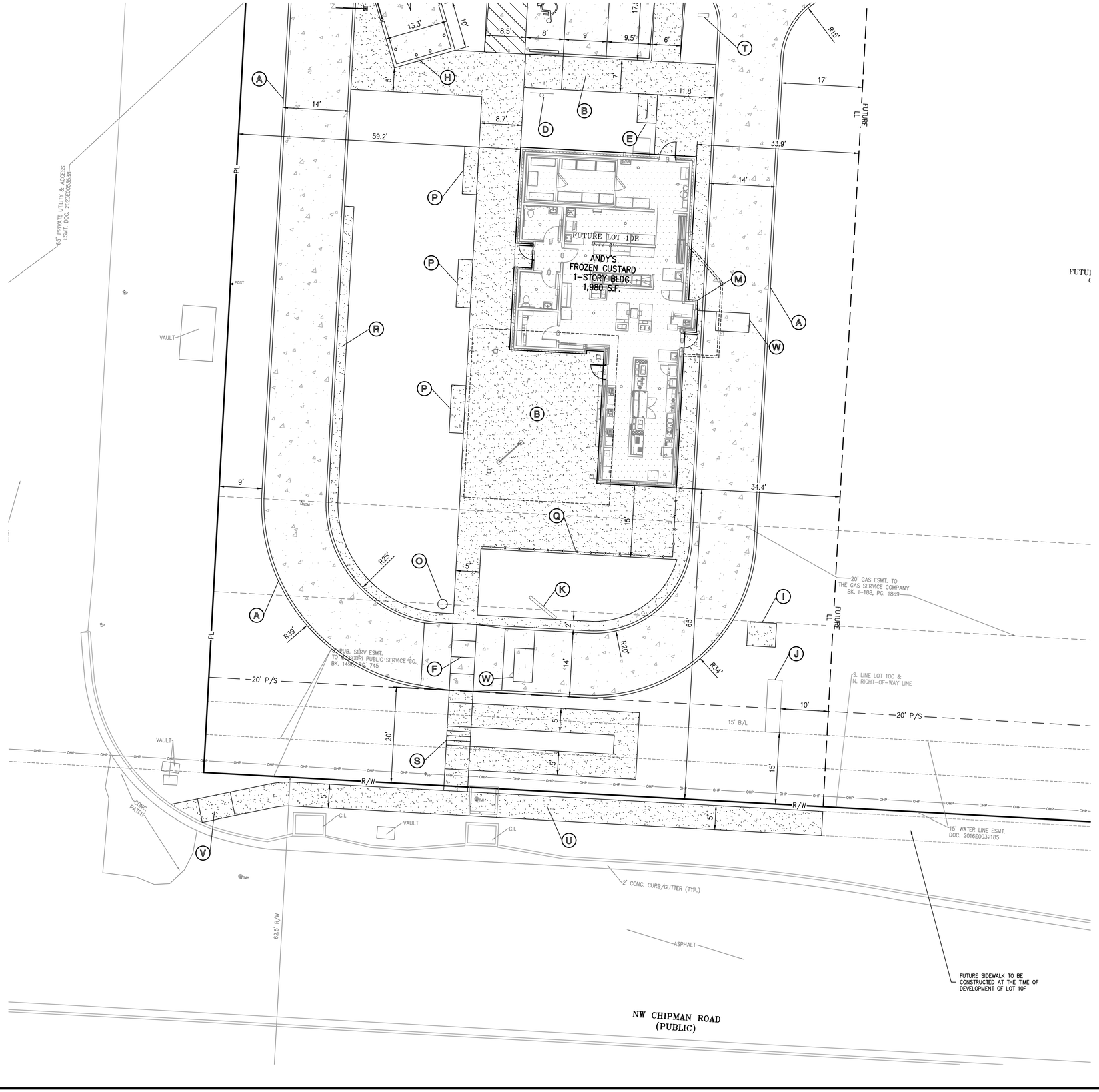
PROJECT NO. 240159
DATE: 04-12-2024 | DRAWN: AEB
CHECKED: DAF | APPROVED: JDC

CERTIFICATE OF AUTHORIZATION
KANSAS
LAND SURVEYING – LS-82
ENGINEERING – E-391

CERTIFICATE OF AUTHORIZATION
MISSOURI
LAND SURVEYING-2007001128
ENGINEERING-2007005058

SHEET
C1.1

\\PHELPS-SERVER\projects\P\240159\Dwg\Permit Plans\SITE.dwg Layout1 May 02, 2024 - 11:41am Audrey Burks

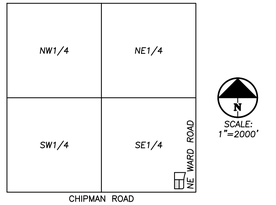


SITE KEY NOTES:

- (A) CONSTRUCT PRIVATE 6" MONOLITHIC CONCRETE CURB.
- (B) CONSTRUCT PRIVATE CONCRETE SIDEWALK (TYPICAL). SEE "PRIVATE CONCRETE SIDEWALKS (NON-REINFORCED)" DETAIL ON SHEET 7.1.
- (C) INSTALL ACCESSIBLE PAVEMENT MARKINGS PER ADA SPECIFICATIONS. SEE "ACCESSIBLE PARKING SPACE DETAIL" DETAIL ON SHEET C7.2.
- (D) INSTALL VAN ACCESSIBLE PARKING SIGN. SEE "ACCESSIBLE SIGN" DETAILS ON SHEET C7.2.
- (E) INSTALL ONE BIKE RACK FOR 2 SPACES.
- (F) INSTALL SPEED TABLE W/ SCORED CONCRETED CROSSWALK. SEE "SPEED TABLE DETAIL" AND "CROSSWALK DETAIL" ON SHEET XX.
- (G) INSTALL CONCRETE PAVEMENT. SEE "CONCRETE PAVING" DETAIL ON SHEET C7.
- (H) INSTALL TRASH ENCLOSURE (RE: ARCHITECT PLANS).
- (I) CONSTRUCT ELECTRICAL UTILITY PAD (RE: EVERGY WORKORDER).
- (J) INSTALL MONUMENT SIGN (RE: SITE SIGNAGE PLANS).
- (K) INSTALL PRE-ORDER MENU BOARD (RE: ARCHITECT PLANS.)
- (L) INSTALL CLEARANCE BAR (RE: ARCHITECT PLANS).
- (M) PICK-UP WINDOW (RE: ARCHITECT PLANS).
- (N) CONSTRUCT PRIVATE ACCESSIBLE SIDEWALK CURB RAMP (OMIT DETECTABLE WARNING). SEE "PRIVATE SIDEWALK RAMP DETAIL" ON SHEET XX.
- (O) INSTALL 25' FLAG POLE (RE: SITE SIGNAGE PLANS).
- (P) INSTALL PEDESTRIAN BENCH (RE: ARCH PLANS).
- (Q) INSTALL FENCE (RE: ARCH PLANS).
- (R) CONSTRUCT 24" WIDE PRIVATE CONCRETE SIDEWALK "RUNNER" STRIP ALONG DRIVE THRU.
- (S) CONSTRUCT CONCRETE STAIRS W/ HANDRAIL ON BOTH SIDES. SEE "CONCRETE STAIRS DETAIL" ON SHEET XX.
- (T) INSTALL DIRECTIONAL SIGNAGE (RE: SITE SPECIFIC TENANT SIGN PACKAGE).
- (U) INSTALL PUBLIC CONCRETE SIDEWALK RAMP. SEE "ADA RAMP" DETAIL ON SHEET C7.1.
- (V) INSTALL PUBLIC CONCRETE SIDEWALK RAMP. SEE "ADA RAMP" DETAIL ON SHEET C7.1.
- (W) INSTALL DRIVE THRU LOOP DETECTOR (RE: MEP PLANS FOR DETAILS).

LEGEND

- PL — PROPERTY LINE
- LL — LOT LINE
- R/W — RIGHT-OF-WAY
- 6" CONCRETE CURB
- PROPOSED BUILDING
- CONCRETE PAVEMENT
- CONCRETE SIDEWALK



VICINITY MAP
SEC. 36-48-32

SCALE: 1"=2000'

SCALE: 1"=10'
0' 10' 20'

STATE OF MISSOURI
JUDD DAVID CLAUSSEN
NUMBER PE-29850
04/12/2024
PROFESSIONAL ENGINEER

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PLANNING
ENGINEERING
IMPLEMENTATION

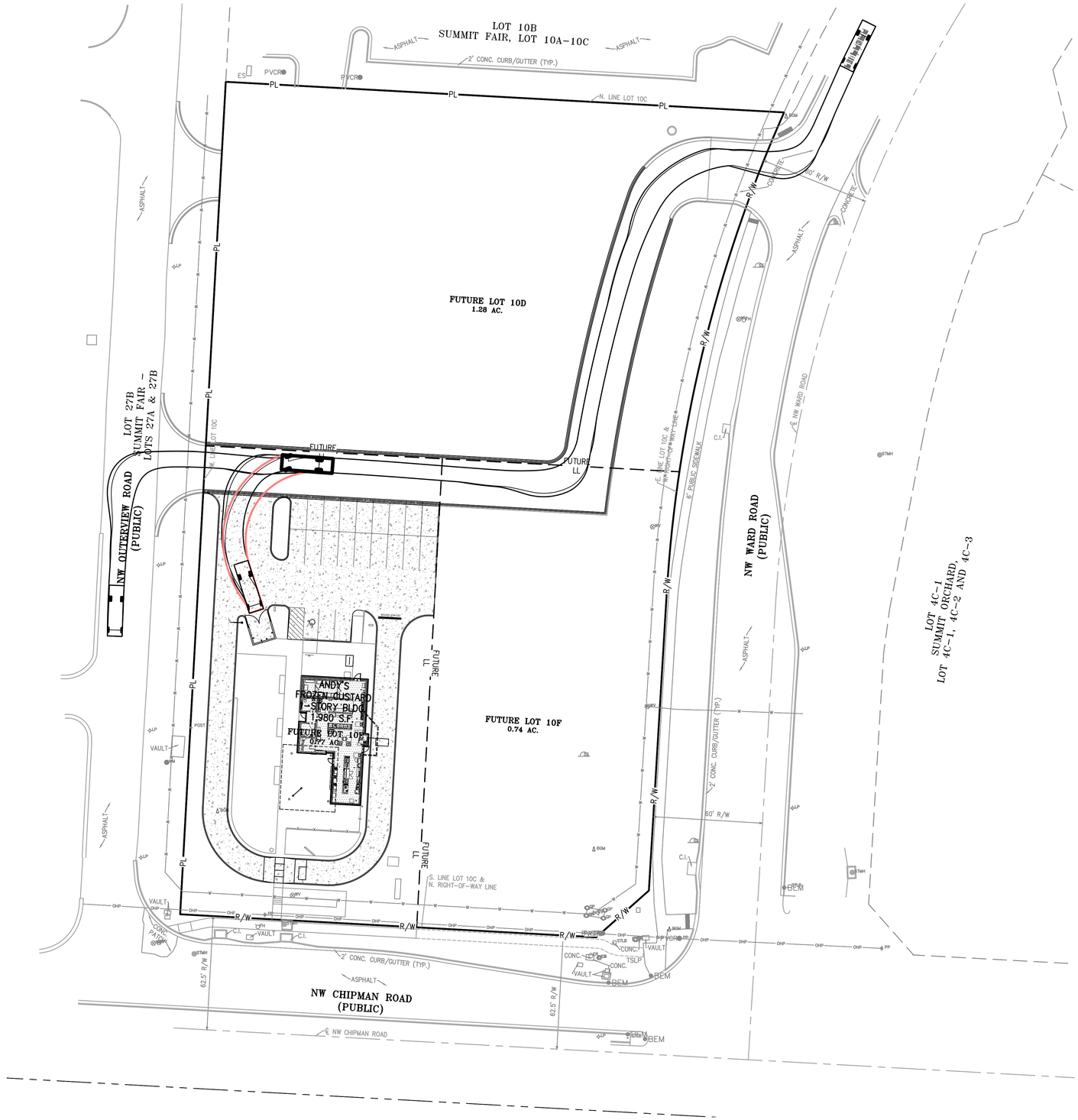
ENLARGED SITE PLAN

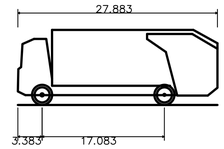
ANDY'S FROZEN CUSTARD
700 NW WARD ROAD
LEE'S SUMMIT, MISSOURI

No.	Date	Revisions:	By	App.

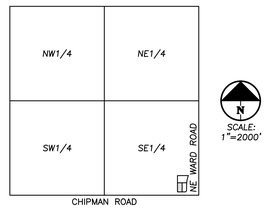
PROJECT NO. 240159
DATE: 04-12-2024 | DRAWN: AEB
CHECKED: DAF | APPROVED: JDC
CERTIFICATE OF AUTHORIZATION KANSAS ENGINEERING - LS-82
MISSOURI ENGINEERING - E-2591
CERTIFICATE OF AUTHORIZATION LAND SURVEYING-2007001128
ENGINEERING-2007005038

SHEET
C1.2





Hino 338 M + Wayne Royal GT14 Refuse Truck	
Overall Length	27.883ft
Overall Width	8.042ft
Overall Body Height	10.488ft
Min Body Ground Clearance	1.318ft
Track Width	8.042ft
Lock-to-lock time	6.00s
Curb to Curb Turning Radius	27.400ft



VICINITY MAP
SEC. 36-48-32

N
SCALE: 1"=2000'

N
SCALE: 1"=30'
0' 30' 60'

STATE OF MISSOURI
JUDD DAVID CLAUSSEN
NUMBER PE-2009050
04/12/2024
PROFESSIONAL ENGINEER

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PLANNING
ENGINEERING
IMPLEMENTATION

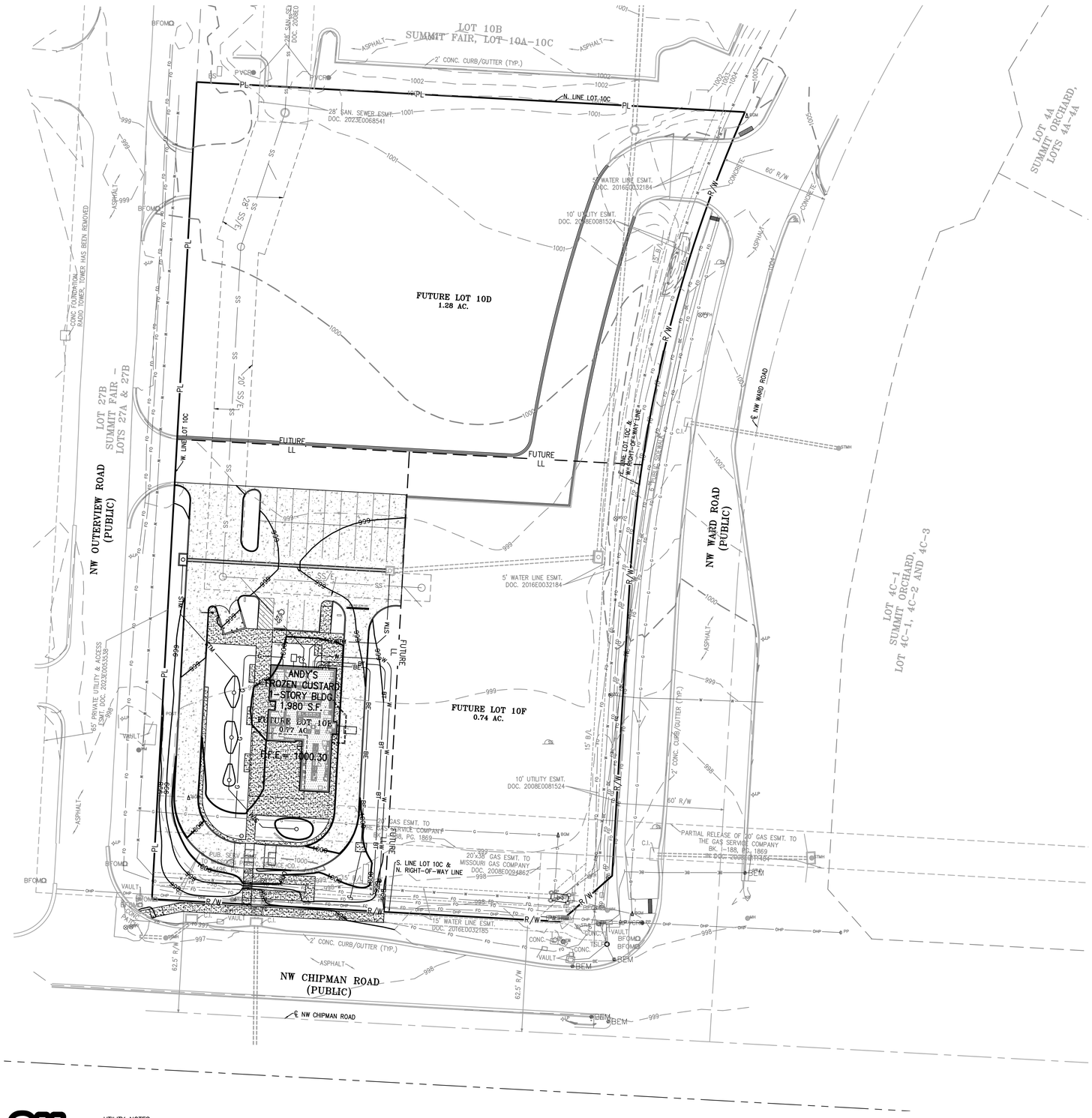
TRUCK TURN PLAN

ANDY'S FROZEN CUSTARD
700 NW WARD ROAD
LEE'S SUMMIT, MISSOURI

No.	Date	Revisions:	By	App.

PROJECT NO. 240159
DATE 04-12-2024 | DRAWN: AEB
CHECKED: DAF | APPROVED: DJC
CERTIFICATE OF AUTHORIZATION
KANSAS ENGINEERING - LS-82
ENGINEERING - E-361
CERTIFICATE OF AUTHORIZATION
LAND SURVEYING-2007001128
ENGINEERING-2007002093

SHEET
C1.3



SITE GRADING NOTES:

1. CONTOURS AND ELEVATIONS: Existing and proposed contours are shown on plans at one foot (1') contour intervals, unless otherwise noted, proposed contours and elevations shown represent approximate finish grade. Contractor shall hold down subgrades to allow for pavement and sub-base thicknesses.
2. If the contractor does not accept existing topography as shown on the plans, without exception, he shall have made at his expense, a topographic survey by a registered land surveyor and submit it to the owner for review.
3. CLEARING AND GRUBBING: Prior to beginning preparation of subgrade, all areas under pavements or building shall be stripped of all topsoil, vegetation, large rock fragments (greater than 6 inches in any dimension) and any other deleterious material. The actual stripping depth should be based on visual examination during construction and the results of proof-rolling operations. The root systems of all trees (not designated to remain) shall be removed in their entirety. Stripping materials shall not be incorporated into structural fills.
4. TOPSOIL STRIPPING: Prior to the start of site grading, the contractor shall strip all topsoil from areas to be graded, and stockpiled at a location on or adjacent to the site as directed by the owner. At completion of grading operations and related construction, the contractor will be responsible for redistribution of topsoil over all areas disturbed by the construction activities. Topsoil shall be placed to a minimum depth of six inches (6") and in accordance with specifications for landscaping. At that time, and prior to the installation of landscaping or irrigation, all topsoil graded areas shall be visually inspected and accepted by the owner and ITL.
5. Contractor shall adjust and/or cut existing pavement as necessary to assure a smooth fit and continuous grade. Contractor shall assure positive drainage away from buildings for all natural and paved areas.
6. SUBGRADE PREPARATION: Prior to placement of new fill material, the existing subgrade shall be proofrolled and approved under the direction of the Geotechnical Engineer or his representative.
7. PROOFROLLING: Subsequent to completion of stripping and over-excavation, all building and pavement areas to receive engineered fill should be systematically proof-rolled using a tandem axle dump truck loaded to approximately 20,000 pounds per axle. Also, any finished subgrade areas to receive paving shall be proof-rolled within 48 hours of paving. Unsuitable soils that are detected and that can not be recompacted should be over-excavated and replaced with controlled structural fill.
8. EARTHWORK:

   A) GEOTECHNICAL: All earthwork shall conform to the recommendations of the Geotechnical report. Said report and its recommendations are herein incorporated into the project requirements by reference. Prior to beginning construction, the contractor shall obtain a copy of and become familiar with the geotechnical report. Unless specifically noted on the plans, the recommendations in the geotechnical report are hereby incorporated into the project requirements and specifications.

   B) SURFACE WATER: Surface water shall be intercepted and diverted during the placement of fill.

   C) FILLS: All fills shall be considered controlled or structural fill and shall be free of vegetation, organic matter, topsoil and debris. In areas where the thickness of the engineered fill is greater than five, feet building and pavement construction should not commence until so authorized by the on-site geotechnical engineer to allow for consolidation.

   D) BUILDING SUBGRADE: As specified in the Geotechnical Engineering Report, the upper section of building subgrade shall consist of Low Volume Change (LVC) material defined as approved, compacted granular fill or low to moderate plasticity cohesive soil materials stabilized with Class C Flyash. Granular fill shall consist of compacted granular materials with a maximum particle size of two (2) inches or less, such as limestone screenings. Refer to geotechnical report for complete requirements.

   E) EXISTING SLOPES: Where fill material is to be placed on existing slopes greater than 5:1 (horizontal to vertical), existing slope shall be benched providing a minimum vertical face of twelve inches (12"). The benches should be cut wide enough to accommodate the compaction equipment. Fill material shall be placed and compacted in horizontal lifts not exceeding nine inches (9") (loose lift measurement), unless otherwise approved by the Geotechnical Engineer.

   F) COMPACTION REQUIREMENTS: The upper 9 inches of pavement subgrade areas shall be compacted to a minimum density of ninety five percent (95%) of the material's maximum dry density as determined by ASTM D698 (standard proctor compaction). The moisture content at the time of placement and compaction shall within a range of 0% below to 4% above optimum moisture content as defined by the standard proctor compaction procedure. The moisture contents shall be maintained within this range until completion of the work. Where compaction of earth fill by a large roller is impractical or undesirable, the earth fill shall be hand compacted with small vibrating rollers or mechanical tampers.
9. All cut or fill slopes shall be 3:1 or flatter. All asphalt parking areas shall be a minimum of 1% slope but not more than 5% slope unless otherwise noted. All pavements within ADA parking areas shall not exceed 2% total slope. All grades around building shall be held down 6" from finish floor and slope away another 6" in 10 feet. Contractor shall notify engineer prior to final subgrade construction of any areas not within this slope requirement.
10. TESTING AND INSPECTION: Owner's Independent Testing Laboratory (ITL) shall make tests of earthwork during construction and observe the placement of fills and other work performed on this project to verify that work has been completed in accordance with Geotechnical Engineering Report, Project Specifications and within industry standards. The ITL will be selected by the owner and the cost of testing will be the owner's responsibility.
11. CLASSIFICATION: All excavation shall be considered unclassified. No separate or additional payments shall be made for rock excavation.
12. PERMANENT RESTORATION: All areas disturbed by earthwork operations shall be sodded, unless shown otherwise by the landscaping plan or erosion control plan.
13. UTILITIES: The contractor is specifically cautioned that the location and/or elevation of existing utilities as shown on these plans is based on records of the various utility companies, and where possible, measurements taken in the field. The information is not to be relied on as being exact or complete. The contractor must call the appropriate utility companies at least 48 hours before any excavation to request exact field location of utilities. It shall be the responsibility of the contractor to relocate all existing utilities which conflict with the proposed improvements shown on the plans.
14. LAND DISTURBANCE: The contractor shall adhere to all terms & conditions as outlined in the EPA or applicable state N.P.D.E.S. permit for storm water discharge associated with construction activities. Refer to project S.W.P.P.P. requirements.

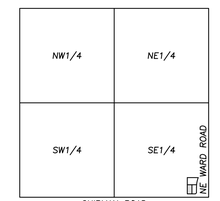
Earthwork Summary
SUMMIT FAIR LOT 10-E
4/12/2024

Raw Excavation	10 Cu. Yds.	
In Place Compaction (+15%)	-588 Cu. Yds.	
Pavement Adjustment	62 Cu. Yds.	(assume 10" of additional excavation)
Building Adjustment	147 Cu. Yds.	(assume 24" of additional excavation)
On Site Net	-370 Cu. Yds.	

* EARTHWORK COMPUTATIONS BY PHELPS ENGINEERING, INC. ARE PROVIDED FOR INFORMATIONAL PURPOSES ONLY AND SHALL BE VERIFIED BY CONTRACTORS BY THEIR CHOSEN METHOD PRIOR TO PLACING BID. ALL EARTHWORK SHALL BE CONSIDERED UNCLASSIFIED. 15% WAS ADDED INTO RAW FILL QUANTITY TO ACCOUNT FOR SHRINKAGE.

LEGEND

PL		PROPERTY LINE
LL		LOT LINE
R/W		RIGHT-OF-WAY
		2' CURB & GUTTER
920		EXISTING CONTOURS
918		
920		PROPOSED CONTOURS
918		
XXX.XX		PROPOSED SPOT ELEVATION
TW		
	LG	LIP OF GUTTER
	TC	TOP OF CURB
	SW	SIDEWALK
	ME	MATCH EXISTING
	HP	HIGH POINT
	LP	LOW POINT
	P	TOP OF PAVEMENT
	TE	TOP OF STRUCTURE
	GR	GROUND ELEVATION
	BS	BOTTOM OF STEPS
	TS	TOP OF STEPS
	BW	BOTTOM OF WALL
	TW	TOP OF WALL
		EXISTING STORM SEWER
		PROPOSED STORM PIPE
		PROPOSED WET CURB & GUTTER
		PROPOSED DRY CURB & GUTTER



VICINITY MAP
SEC. 36-48-32

SCALE: 1"=2000'

SCALE: 1"=30'
0' 30' 60'

811 Know what's below. Call before you dig.

UTILITY NOTES:
VISUAL INDICATIONS OF UTILITIES ARE AS SHOWN. UNDERGROUND LOCATIONS SHOWN, AS FURNISHED BY THEIR LESSORS, ARE APPROXIMATE AND SHOULD BE VERIFIED IN THE FIELD AT THE TIME OF CONSTRUCTION. FOR ACTUAL FIELD LOCATIONS OF UNDERGROUND UTILITIES CALL 811.

FLOOD NOTE:

THIS PROPERTY LIES WITHIN ZONE X, DEFINED AS AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN, AS SHOWN ON THE FLOOD INSURANCE RATE MAP PREPARED BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY FOR THE CITY OF LEE'S SUMMIT, COMMUNITY NO. 290174, JACKSON COUNTY, MISSOURI, MAP NO. 29095C0417G, AND DATED JANUARY 20, 2017.

STATE OF MISSOURI
JUDD DAVID CLAUSSEN
NUMBER PE-29850
04/12/2024
PROFESSIONAL ENGINEER

PHELPS ENGINEERING, INC.
1270 N. Winchester
Olathe, Kansas 66061
(913) 393-1155
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PLANNING
ENGINEERING
IMPLEMENTATION

OVERALL GRADING PLAN
ANDY'S FROZEN CUSTARD
700 NW WARD ROAD
LEE'S SUMMIT, MISSOURI

No.	Revisions:	Date	By	Appr.

PROJECT NO. 240159
DATE 04-12-2024 DRAWN: AEB
CHECKED: DAF APPROVED: JDC
CERTIFICATE OF AUTHORIZATION KANSAS SURVEYING - LS-82
KANSAS ENGINEERING - E-391
CERTIFICATE OF AUTHORIZATION MISSOURI LAND SURVEYING-2007001128
ENGINEERING-2007002508

SHEET
C2

\\PHELPS-SERVER\projects\P\240159\Dwg\Permit Plans\GRADING.dwg Layout:1 May 02, 2024 - 11:42am Audrey Burks

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Call before you dig.

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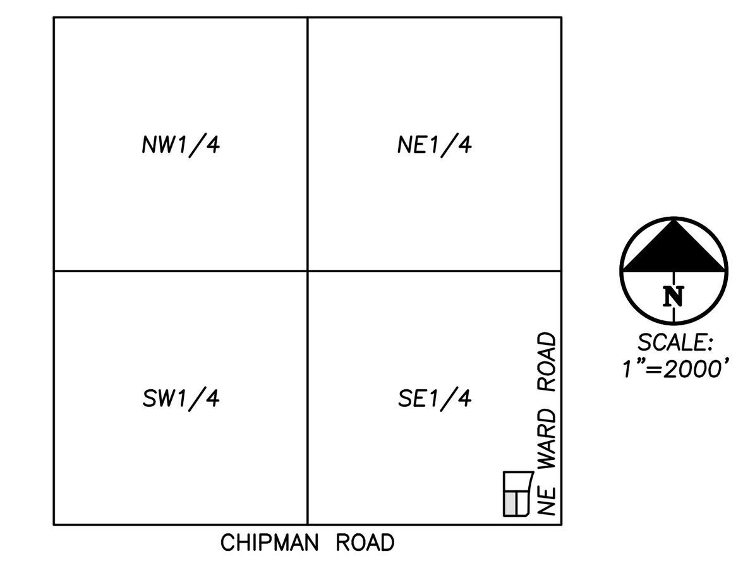

VICINITY MAP
SEC. 36–48–32

LEGEND

—PL—	PROPERTY LINE
— —LL— —	LOT LINE
— —R/W— —	RIGHT–OF–WAY
	2' CURB & GUTTER
—920— —918—	EXISTING CONTOURS
—920— —918—	PROPOSED CONTOURS
	PROPOSED SPOT ELEVATION
XXX.XX TW	LG LIP OF GUTTER
	TC TOP OF CURB
	SW SIDEWALK
	ME MATCH EXISTING
	HP HIGH POINT
	LP LOW POINT
	P TOP OF PAVEMENT
	TE TOP OF STRUCTURE
	GR GROUND ELEVATION
	BS BOTTOM OF STEPS
	TS TOP OF STEPS
	BW BOTTOM OF WALL
	TW TOP OF WALL
	EXISTING STORM SEWER
	PROPOSED STORM PIPE
	PROPOSED WET CURB & GUTTER
	PROPOSED DRY CURB & GUTTER

STATE OF MISSOURI
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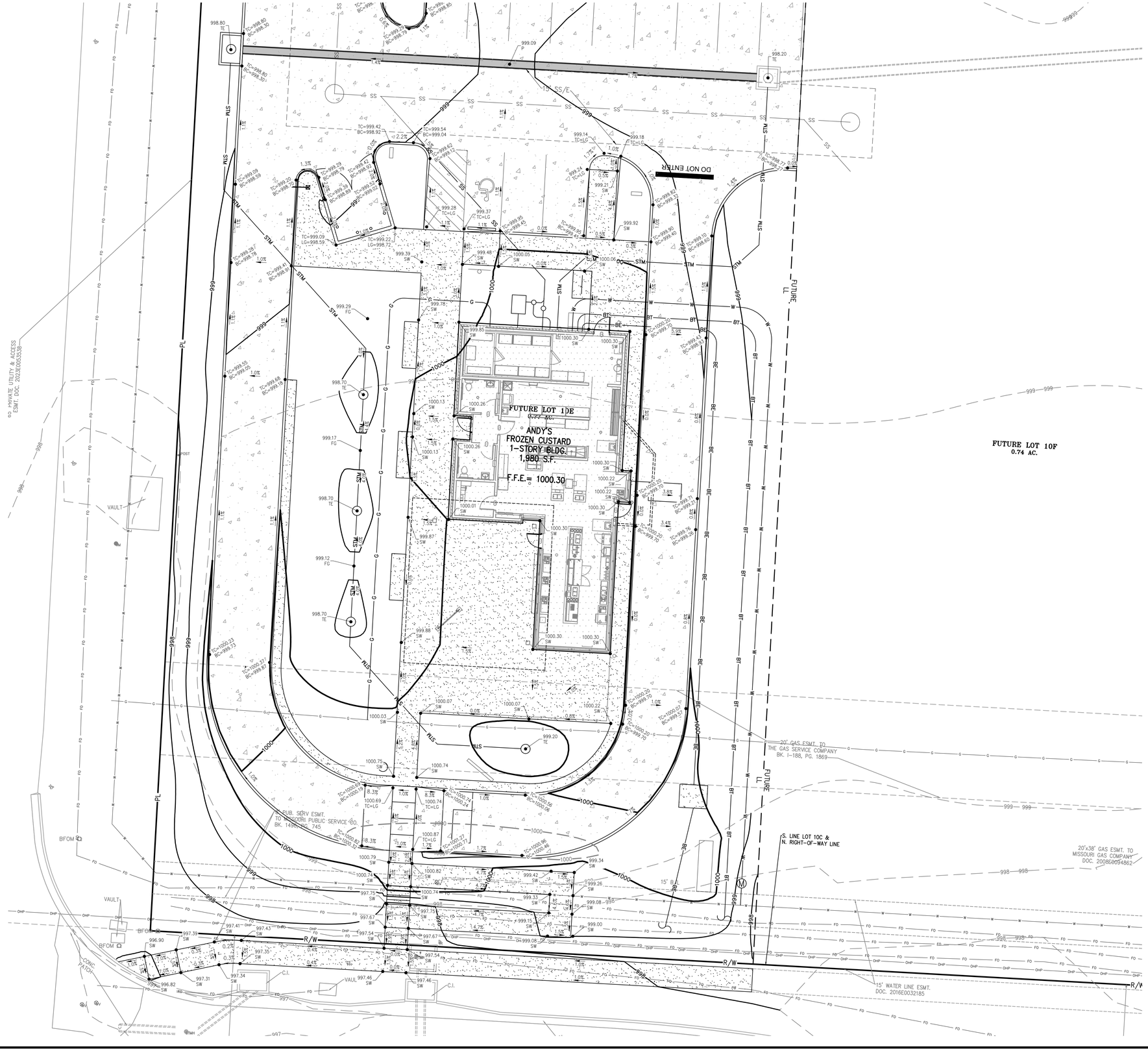
LAND SURVEYING – LS–82
ENGINEERING – E–391
CERTIFICATE OF AUTHORIZATION MISSOURI
LAND SURVEYING–2007001128
ENGINEERING–2007005058

SHEET
C2.1

\\PHELPS–SERVER\projects\P\240159\Dwg\Permit Plans\GRADING.dwg Layout:2 May 02, 2024 – 11:42am Audrey Burks



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LEGEND

- PL — PROPERTY LINE
- LL — LOT LINE
- R/W — RIGHT-OF-WAY
- 2' CURB & GUTTER
- 920 — EXISTING CONTOURS
- 918 — EXISTING CONTOURS
- 920 — PROPOSED CONTOURS
- 918 — PROPOSED CONTOURS

PROPOSED SPOT ELEVATION

XXX.XX TW

LG	LIP OF GUTTER
TC	TOP OF CURB
SW	SIDEWALK
ME	MATCH EXISTING
HP	HIGH POINT
LP	LOW POINT
P	TOP OF PAVEMENT
TE	TOP OF STRUCTURE
GR	GROUND ELEVATION
BS	BOTTOM OF STEPS
TS	TOP OF STEPS
BW	BOTTOM OF WALL
TW	TOP OF WALL

- EXISTING STORM SEWER
- PROPOSED STORM PIPE
- PROPOSED WET CURB & GUTTER
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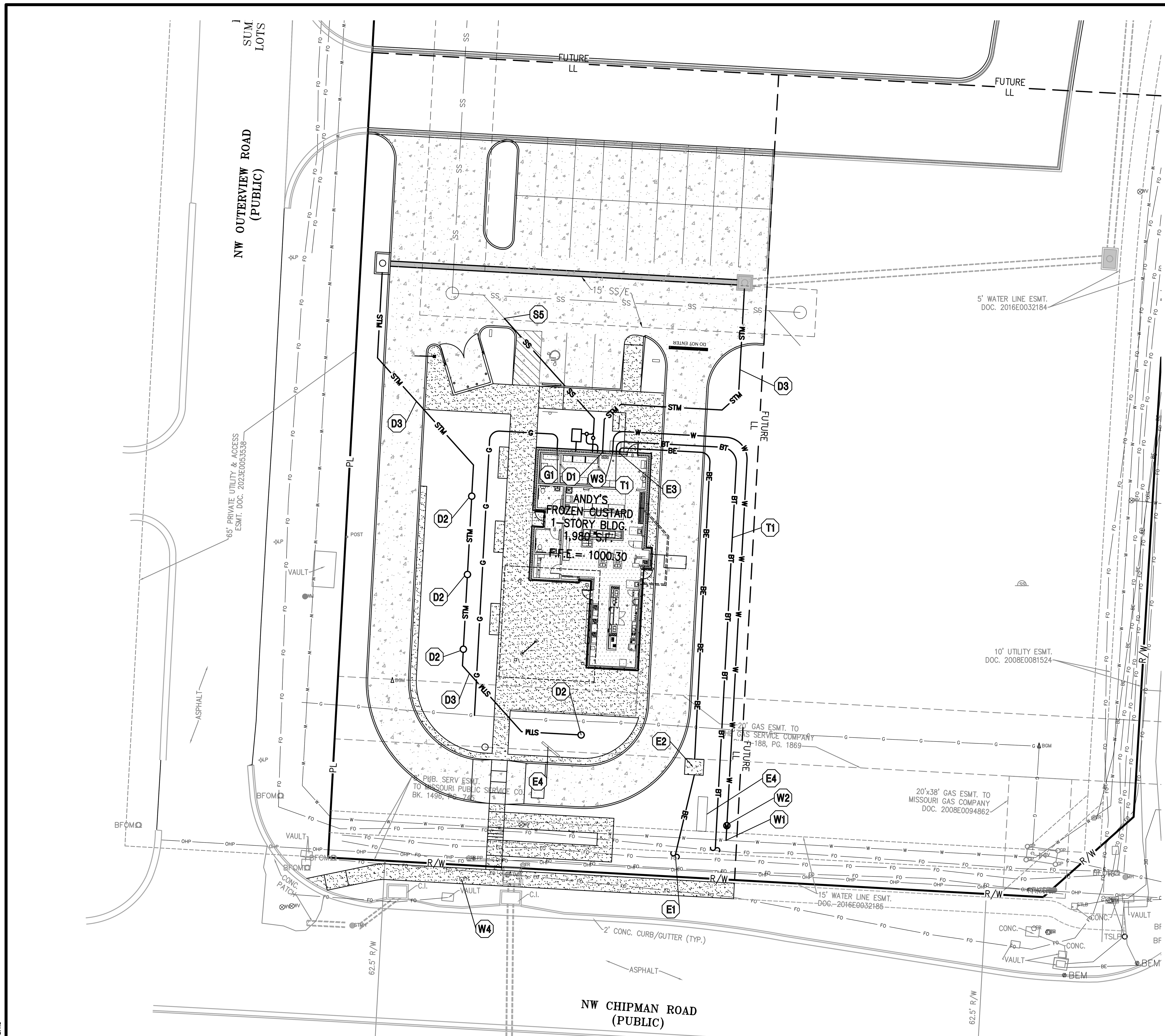
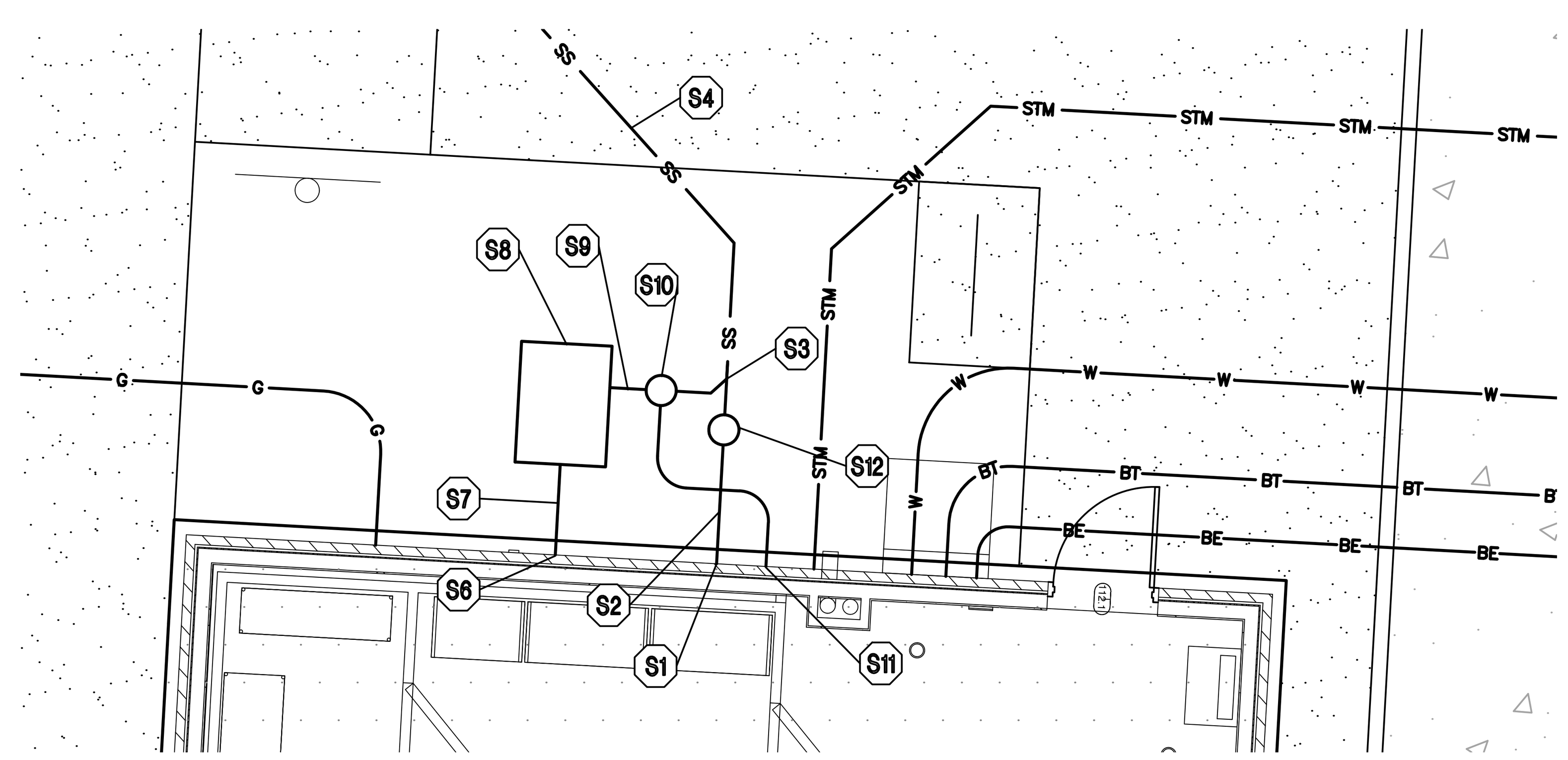
CERTIFICATE OF AUTHORIZATION LAND SURVEYING-2007001128
CERTIFICATE OF AUTHORIZATION ENGINEERING-2007002538

SHEET
C2.2

\\PHELPS-SERVER\projects\P\240159\Dwg\Permit Plans\GRADING.dwg Layout:3 May 02, 2024 - 11:42am Audrey Burks





STRUCTURE BACKFILL NOTES:

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811 Know what's below. Call before you dig.

UTILITY NOTES:
VISUAL INDICATIONS OF UTILITIES ARE AS SHOWN. UNDERGROUND LOCATIONS SHOWN, AS FURNISHED BY THEIR LESSORS, ARE APPROXIMATE AND SHOULD BE VERIFIED IN THE FIELD AT THE TIME OF CONSTRUCTION. FOR ACTUAL FIELD LOCATIONS OF UNDERGROUND UTILITIES CALL 811.

UTILITY KEY NOTES:

D1 PROPOSED 6" INTERNAL ROOF DRAIN CONNECTION. (RE: MEP PLANS). CONNECT TO INTERNAL ROOF DRAIN AND INSTALL UNDERGROUND SECONDARY STORM LINE.

D2 INSTALL PRIVATE 18" NYOPLAST INLET DRAIN W/ STANDARD GRATE (SEE SHEET C7.3 FOR DETAIL).

D3 INSTALL HDPE SECONDARY STORM LINE AT 1.0% MINIMUM SLOPE MAINTAINING 12" MINIMUM COVER (TYP). SEE SHEET C5.1 FOR TOP ELEVATIONS AND FLOWLINES.

E1 FOLLOW ELECTRIC COMPANY WORK ORDER AND SPECIFICATIONS FOR PRIMARY ELECTRICAL SERVICE ROUTING AND CONNECTION TO EXISTING.

E2 INSTALL CONCRETE TRANSFORMER PAD. CONTRACTOR TO VERIFY EXACT LOCATION AND SIZE WITH ELECTRIC COMPANY PRIOR TO CONSTRUCTION. CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLATION OF CONCRETE PAD AND CONDUIT AS REQUIRED BY THE ELECTRIC COMPANY. CONTRACTOR SHALL COORDINATE SAID WORK WITH THE ELECTRIC COMPANY.

E3 ELECTRIC ENTRY INTO BUILDING. FOLLOW ELECTRIC COMPANY REQUIREMENTS (RE: BUILDING ELECTRIC PLAN.)

E4 CONTRACTOR TO INSTALL CONDUITS TO MENU BOARD & MONUMENT SIGN (RE: BUILDING ELECTRICAL PLANS FOR POWER REQUIREMENTS)

G1 GAS ENTRY WITH GAS METER. CONTRACTOR SHALL COORDINATE WITH GAS COMPANY FOR TYING OF INDIVIDUAL METER. SIZE OF GAS MAIN SHALL BE AS DETERMINED BY UTILITY OR AS SHOWN ON BUILDING PLANS. CONTRACTOR IS RESPONSIBLE FOR COORDINATION WITH GAS COMPANY REGARDING THE SIZE & INSTALLATION OF GAS SERVICE LINE.

W1 CONTRACTOR TO COORDINATE 2" TAP ON EXISTING MAIN FOR DOMESTIC SERVICE LINE WITH CITY. THE CITY SHALL PERFORM THE TAP OF THE EXISTING MAIN. CONTACT CITY FOR TAPPING REQUIREMENTS. CONTRACTOR TO PAY ALL FEES FOR WATER MAIN TAP. OWNER WILL REIMBURSE CONTRACTOR FOR ACTUAL METER AND SYSTEM DEVELOPMENT FEES ASSESSED BY CITY.

W2 INSTALL 2" DOMESTIC WATER METER PIT PER CITY REQUIREMENTS. THE CITY SHALL PROVIDE THE METER, THE PIT, AND ALL OTHER MATERIALS NECESSARY FOR THE INSTALLATION. CONTRACTOR TO COORDINATE AND PAY ALL FEES. INSTALLATION BY THE CONTRACTOR'S PLUMBER SHALL BE IN ACCORDANCE WITH CITY STANDARDS.

W3 2" DOMESTIC WATER LINE ENTRY TO BUILDING. DOMESTIC WATER LINE SHALL BE 2" SOFT TYPE K COPPER. CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLING ANY APPURTENANCES ON THE DOMESTIC LINE SUCH AS BACKFLOW PREVENTION DEVICES (RE: BUILDING PLANS), GATE VALVES, REDUCERS, BENDS, TEES, ETC., WHICH MAY BE REQUIRED. CONTRACTOR TO COORDINATE WITH THE DEVELOPMENT SERVICES INSPECTOR.

W4 CONTRACTOR TO RELOCATE EX. PUBLIC FIRE HYDRANT OUTSIDE OF NEW SIDEWALK. ALL WORK TO BE COORDINATED WITH CITY OF LEE'S SUMMIT PUBLIC WORKS DEPARTMENT.

T1 CONTRACTOR IS RESPONSIBLE TO COORDINATE WITH THE TELEPHONE COMPANY FOR THE INSTALLATION OF BURIED TELEPHONE LINES. CONTRACTOR TO PROVIDE ONE (1) – 4" PVC SCH. 40 CONDUITS FROM BUILDING TO R/W. CONTRACTOR TO TERMINATE IN QUAZITE BOX WITH PULL STRING FROM BUILDING TO TELEPHONE FEED POINT. CONTRACTOR TO VERIFY EXACT ROUTING AND FEED POINT WITH TELEPHONE COMPANY.

S1 CONNECT TO BLDG. INTERIOR PLUMBING SANITARY SEWER LINE. TRANSITION FROM 4" (INTERIOR) TO 6" (EXTERIOR) AT FOUNDATION WALL. (RE: MEP PLANS)
FG=1000.30
FL 6"=996.30

S2 INSTALL 6 L.F. 6" PVC (SDR–26) SANITARY SEWER SERVICE LINE @ 3.3% SLOPE.

S3 INSTALL 6"X6"X4" WYE CONNECTION.
FG=1001.20
FL=996.10

S4 INSTALL 47 L.F. 6" PVC (SDR–26) SANITARY SEWER SERVICE LINE @ 5.2% SLOPE.

S5 CONNECT TO EXISTING 6" PVC (SDR–26) SANTIARY SEWER STUB.
FG AT EOS=998.95
FL 6" AT EOS=993.65

S6 CONNECT TO BLDG. INTERIOR PLUMBING GREASE LINE (RE: MEP PLANS)
FG=1000.30
FL 4"=996.30

S7 INSTALL 3 L.F. 4" PVC (SDR–26) GREASE LINE @ 3.3% SLOPE.

S8 INSTALL GB–75 SCHIER GREASE INTERCEPTOR (SEE SHEET C7.3 FOR DETAIL).
TE=1000.20
FL 4" IN = 996.20
FL 4" OUT= 996.20

S9 INSTALL 4 L.F. 4" PVC (SDR–26) GREASE LINE @ 2.5% SLOPE.

S10 INSTALL SANITARY SEWER SAMPLING PORT (RE: MEP PLANS).

S11 ROUTE 3" VENT LINE FROM SAMPLING PORT TO BUILDING. (RE: MEP PLANS).

S12 INSTALL SANITARY SEWER CLEAN OUT IN NON–PAVED AREA (SEE SHEET C7.2 FOR DETAIL)

UTILITY NOTES:

1. The contractor is specifically cautioned that the location and/or elevation of existing utilities as shown on these plans is based on records of the various utility companies, and where possible, measurements taken in the field. The information is not to be relied on as being exact or complete. The contractor must call the appropriate utility companies at least 48 hours before any excavation to request exact field location of utilities. It shall be the responsibility of the contractor to coordinate with and relocate &/or remove all existing utilities which conflict with the proposed improvements shown on the plans.

2. The construction of storm sewers on this project shall conform to the requirements of the City's Technical Specifications and Design Criteria.

3. The contractor shall field verify the exact location and elevation of the existing storm sewer lines and the existing elevation at locations where the proposed storm sewer collects or releases to existing ground. If discrepancies are encountered from the information shown on the plans, the contractor shall contact the design engineer. No pipes shall be laid until direction is received from the design engineer.

4. It will be the contractors responsibility to field adjust the top of all manholes and boxes as necessary to match the grade of the adjacent area. Tops of existing manholes shall be raised as necessary to be flush with proposed pavement elevations, and to be 6–inches above finished ground elevations in non–paved areas. No separate or additional compensation will be made to the contractor for making final adjustments to the manholes and boxes.

5. Inlet locations, horizontal pipe information and vertical pipe information is shown to the center of the structure. Deflection angles shown for storm sewer pipes are measured from the center of curb inlets and manholes. The contractor shall adjust the horizontal location of the pipes to go to the face of the boxes. All roof drains shall be connected to storm sewer structures. Provide cleanouts on roof drain lines at 100' max. Spacing and at all bend points. Do not connect roof drains directly to storm sewer pipe.

6. The contractor shall be responsible for furnishing and installing all fire and domestic water lines, meters, backflow devices, pits, valves and all other incidentals required for a complete operable fire protection and domestic water system. All costs associated with the complete water system for the buildings shall be the responsibility of the contractor. All work shall conform to the requirements of City.

7. The contractor shall be responsible for furnishing and installing all sanitary sewer service lines from the buildings to the public line. All work shall conform to the requirements of the City.

8. The contractor will be responsible for securing all permits, bonds and insurance required by the contract documents, City, and all other governing agencies (including local, county, state and federal authorities) having jurisdiction over the work proposed by these construction documents. The cost for all permits bonds and insurance shall be the contractors responsibility and shall be included in the bid for the work.

9. By the use of these construction documents the contractor hereby agrees that he/she shall be solely responsible for the safety of the construction workers and the public. The contractor agrees to hold the engineer and owner harmless for any and all injuries, claims, losses or damages related to the project.

10. The Contractor shall be responsible for furnishing all materials, tools and equipment and installation of electrical power, telephone and gas service from a point of connection from the public utility lines to the building structures. This will include all conduits, service lines, meters, concrete pads and all other incidentals required for a complete and operational system as required by the owner and the public utilities. Refer to building plans for exact tie–in locations of all utilities. Contractor shall verify connection points prior to installation of utility line.

11. All fill material is to be in place, compacted, and consolidated before installation of proposed utilities. On–site geotechnical engineer shall provide written confirmation that this requirement has been met and that utilities may proceed in the fill areas. All utilities are to be placed in trench conditions.

12. Contractor shall notify the utility authorities inspectors 48 hours before connecting to any existing line.

13. Water lines shall be as follows (unless otherwise shown on plans):

A. Pipe sizes less than 3–inches that are installed below grade and outside building shall comply with the following:
1. Seamless Copper Tubing: Type "K" soft copper, ASTM B88.
2. Fittings: Wrought copper (95_5 Tin Antimony solder joint), ASME B 16.22.

B. Pipe sizes 3–inches Through 48–inches that are installed below grade and outside building shall comply with one of the following:
1. Gray Cast Iron Water Pipe: ANSI A21.6, thickness class 52.
   a. Fittings: Either mechanical joint or push_on joint, AWWA C110 or AWWA C111.
   b. Elastomeric gaskets and lubricant: ASTM F477.
   c. Cement Mortar Lining, AWWA C104
2. Ductile Iron Water Pipe: AWWA C151, thickness class 50.
   a. Fittings: Either mechanical joint or push_on joint, AWWA C110 or AWWA C111.
   b. Elastomeric gaskets and lubricant: ASTM F477.
   c. Cement Mortar Lining, AWWA C104
3. Polyvinyl Chloride (PVC) Water Pipe: Pipe, AWWA C900, rated DR 18 (Class 150), continually marked as required.
   a. Elastomeric gaskets and lubricant: ASTM F477 for smaller pipes.
   b. Pipe joints: Integrally molded bell ends, ASTM D3139.
   c. Trace wire: Magnetic detectable conductor, (#12 Copper) brightly colored plastic covering imprinted with "Water Service" in large letters

14. Minimum trench width shall be 2 feet.

15. Contractor shall maintain a minimum of 42" cover on all waterlines. All water line joints are to be mechanical joints with thrust blocking as called out in specifications and construction plans. Water mains and service lines shall be constructed in accordance to waterone's specifications for commercial services.

16. All waterlines shall be kept min. ten (10') apart (parallel) from sanitary sewer lines or manholes. Or when crossing, an 24" vertical clearance (outside edge of pipe to outside edge of pipe) of the water line above the sewer line is required.

17. Sanitary conflicts will be resolved prior to permit issuance.

18. In the event of a vertical conflict between waterlines, sanitary lines, storm lines and gas lines (existing and proposed), the sanitary line shall be ductile iron pipe with mechanical joints at least 10 feet on both sides of crossing (or encased in concrete this same distance), the waterline shall have mechanical joints with appropriate thrust blocking as required to provide a minimum of 24" clearance. Meeting requirements of ANSI A21.10 or ANSI 21.11 (AWWA C–151) (CLASS 50).

19. All underground storm, sanitary, water and other utility lines shall be installed, inspected and approved before backfilling. Failure to have inspection approval prior to backfill will constitute rejection of work.

20. All necessary inspections and/or certifications required by codes and/or utility service companies shall be performed prior to announced building possession and the final connection of service. Contractor shall coordinate with all utility companies for installation requirements and specifications.

21. Refer to building plans for site lighting electrical plan, irrigation, parking lot security system and associated conduit requirements. Coordinate with Owner that all required conduits are in place & tested prior to paving.

22. When a building utility connection from site utilities leading up to the building cannot be made immediately, temporarily mark all such site utility terminations.

23. Refer to the building plans for site lighting electrical requirements, including conduits, pole bases, pull boxes, etc.

UTILITY COMPANIES:

MISSOURI GAS ENERGY (816) 969–2218
LUCAS WALLS (LUCAS.WALLS@SUG.COM)
3025 SOUTHEAST CLOVER DRIVE
LEE'S SUMMIT, MO 64082

EVERGY (816) 347–4339
PHILLIP INGRAM (PHILLIP.INGRAM@KCPL.COM)
RON DEJARNETTE (RON.DEJARNETTE@KCPL.COM) (816) 347–4316
1300 HAMBLEN ROAD
LEE'S SUMMIT, MO 64081

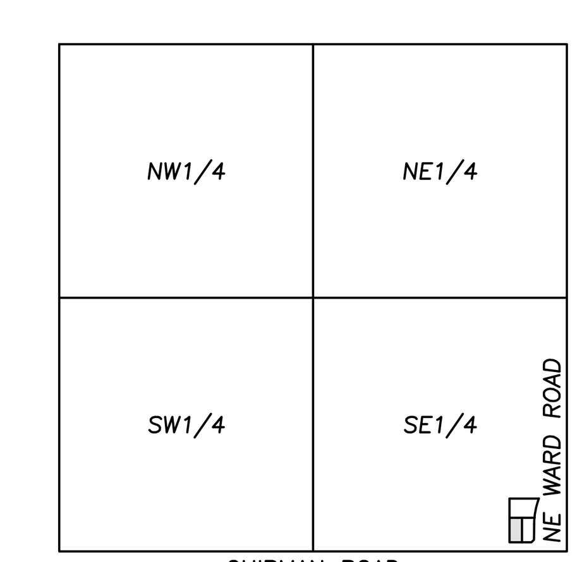
STORM SEWER (PUBLIC WORKS DEPARTMENT) (816) 969–1800
220 SE GREEN STREET
LEE'S SUMMIT, MO 64063

SANITARY SEWER & WATER (WATER UTILITIES DEPT.) (816)–969–1900
1200 SE HAMBLEM ROAD,
LEE'S SUMMIT, MO 64081

AT&T (913) 383–4929
MR. CLAYTON ANSPAUGH (CA4089@ATT.COM) (913) 383–4849–FAX
9444 NALL AVENUE
OVERLAND PARK, KANSAS 66207

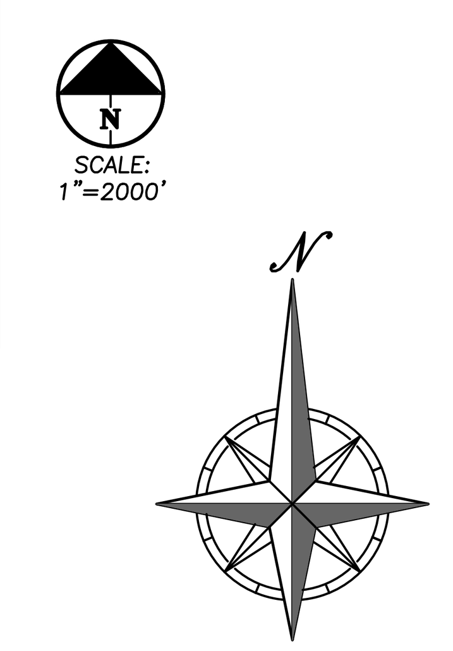
LEGEND

- PL — PROPERTY LINE
- LL — LOT LINE
- R/W — RIGHT–OF–WAY
- CATV — EXISTING CABLE TELEVISION LINE
- FO — EXISTING FIBER OPTIC LINE
- G — EXISTING GAS LINE
- BE — EXISTING BURIED ELECTRIC LINE
- OHP — EXISTING OVERHEAD POWER LINE
- OHT — EXISTING OVERHEAD TELEPHONE LINE
- SS — EXISTING SANITARY SEWER LINE
- 24"HDPE — EXISTING STORM SEWER LINE (& SIZE)
- BT — EXISTING BURIED TELEPHONE LINE
- W 6" — EXISTING WATER LINE (& SIZE)
- SS — PROPOSED SANITARY SEWER LINE
- 24"HDPE — PROPOSED STORM SEWER LINE (& SIZE)



VICINITY MAP
SEC. 36–48–32

SCALE: 1"=2000'



SCALE: 1"=30'
0' 30' 60'

JUDD DAVID CLAUSSEN
NUMBER PE-29850
PROFESSIONAL ENGINEER, STATE OF MISSOURI
04/12/2024

PHELPS ENGINEERING, INC.
1270 N. Winchester
Olathe, Kansas 66061
(913) 393-1155
Fax (913) 393-1166
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PLANNING
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UTILITY PLAN

ANDY'S FROZEN CUSTARD
700 NW WARD ROAD
LEE'S SUMMIT, MISSOURI

No.	Date	Revisions:	By	App.

PROJECT NO. 240159
DATE: 04-12-2024 | DRAWN: AEB
CHECKED: DAF | APPROVED: JDC

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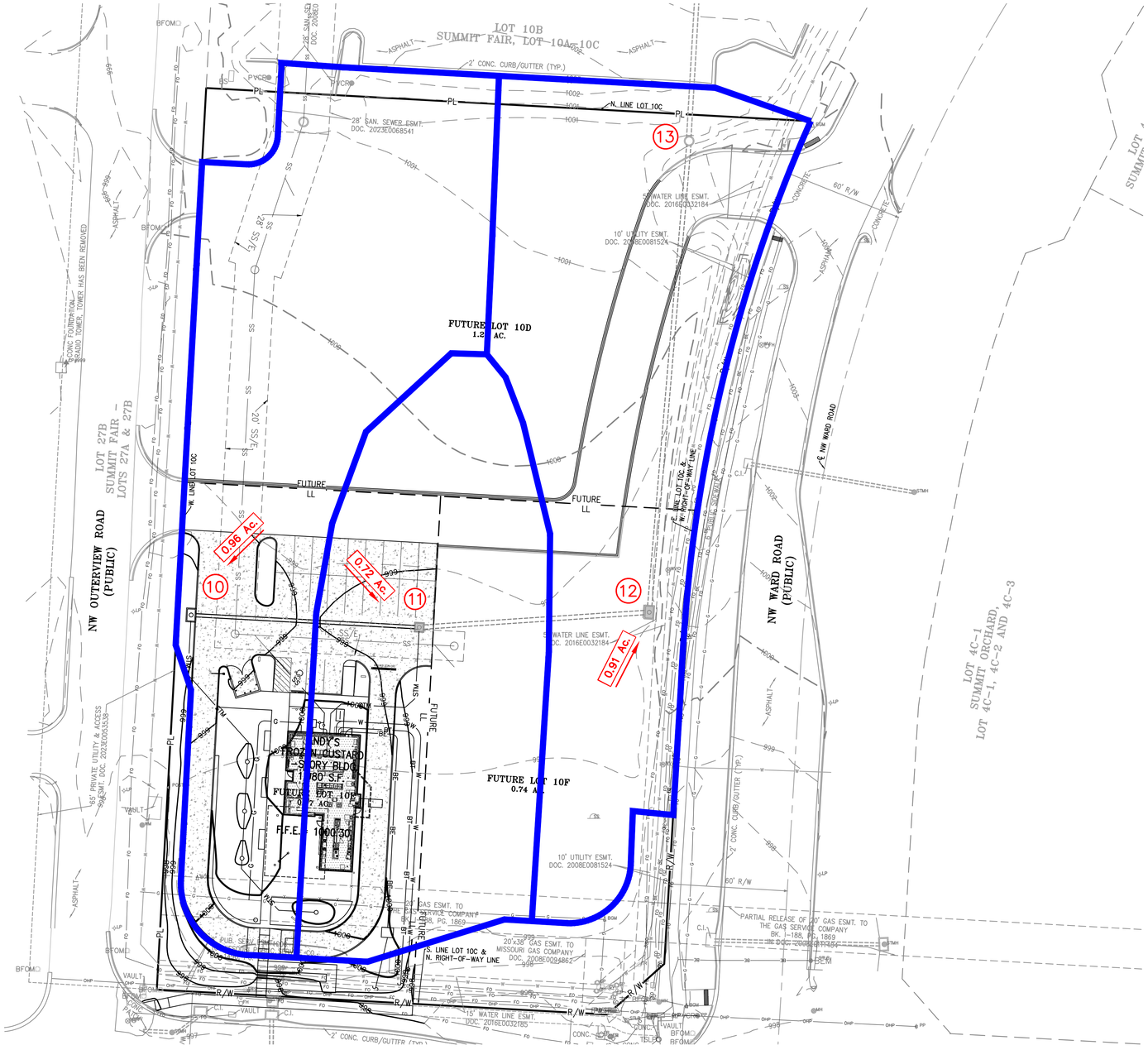

LEGEND

- XXX / XXX — EXISTING CONTOURS
- XXX / XXX — PROPOSED CONTOURS
- DENOTES DRAINAGE AREA
- DENOTES FLOW DIRECTION
- X.XX Ac. — DENOTES DRAINAGE AREA TO STRUCTURE
- XX — DENOTES STRUCTURE NUMBER

STORM DRAINAGE CALCULATIONS

DESIGN CRITERIA: K_{25} = 1.1; K_{100} = 1.25; n = 0.013 (RCP); STORM FREQUENCY = 25 YEAR; A.I. = AREA INLET; J.B. = JUNCTION BOX C.I. = CURB INLET; C.C. = CURB CUT; G.I. = GRATE INLET; HEIGHT OF STRUCTURE = RIM ELEV MINUS FLOWLINE OUT.

I. RUNOFF											III. PIPE DESIGN													REMARKS
											STRUCTURE				PIPE									
LINE NUMBER	STRUCTURE	INCREMENTAL			CUMULATIVE		SYSTEM TIME OF CONCENTRATION "T_c" AT STRUCTURE (MIN)	RAINFALL INTENSITY "I_{25} / I_{100}" (IN/HR)	ANTECEDENT PRECIPITATION FACTOR "K_{25} / K_{100}"	RUNOFF "Q_{25} / Q_{100}" (CFS)	Upstream Structure Number	Downstream Structure Number	Upstream Structure Rim Elevation	Height of Structure (FT)	Diameter "D" (IN)	Length "L" (FT)	Upstream Invert Elevation	Downstream Invert Elevation	Slope "S" (FT/FT)	Travel Time in Pipe "TT" (min)	Velocity Full V_F (FPS)	Runoff Q_{25} (CFS)	Runoff Q_{100} (CFS)	Full Flow Q_F (CFS)	
		RUNOFF COEFFICIENT "C"	AREA "A" (ACRES)	C x A	AREA "A" (ACRES)	C x A																		
1	10	0.76	0.96	0.73	0.96	0.73	5.00	8.53	1.10	6.8	10	11	998.80	3.50	18	115.79	995.30	994.72	0.0050	0.46	4.2	6.8	9.4	7.4	FUTURE (BY OTHERS)
								10.32	1.25	9.4														
	11	0.76	0.72	0.55	1.68	1.28	5.00	8.53	1.10	12.0	11	12	998.20	4.92	24	116.80	993.28	992.70	0.0050	0.38	5.1	12.0	16.5	16.0	
								10.32	1.25	16.5														
	12	0.76	0.91	0.69	2.59	1.97	5.00	8.53	1.10	18.5	12	13	998.50	5.90	24	236.69	992.60	990.92	0.0070	0.65	6.1	18.5	25.4	18.9	
								10.32	1.25	25.4														
	13	0.76	0.00	0.00	2.59	1.97	5.00	8.53	1.10	18.5	13	EX	1002.77	11.95	24	94.13	990.82	989.79	0.0109	0.21	7.6	18.5	25.4	23.6	EXISTING
								10.32	1.25	25.4														

SCALE: 1"=30'
0' 30' 60'

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PLANNING ENGINEERING IMPLEMENTATION

STATE OF MISSOURI
JUDD DAVID CLAUSSEN
NUMBER PE-2009050
PROFESSIONAL ENGINEER
04/12/2024

DRAINAGE MAP

ANDY'S FROZEN CUSTARD
700 NW WARD ROAD
LEE'S SUMMIT, MISSOURI

No.	Revisions:	Date	By App.

PROJECT NO. 240159
DATE 04-12-2024 DRAWN: AEB
CHECKED, DAF APPROVED: JDC
CERTIFICATE OF AUTHORIZATION KANSAS ENGINEERING – LS-82 MISSOURI ENGINEERING – E-397
CERTIFICATE OF AUTHORIZATION LAND SURVEYING-2007001128 ENGINEERING-2007005028

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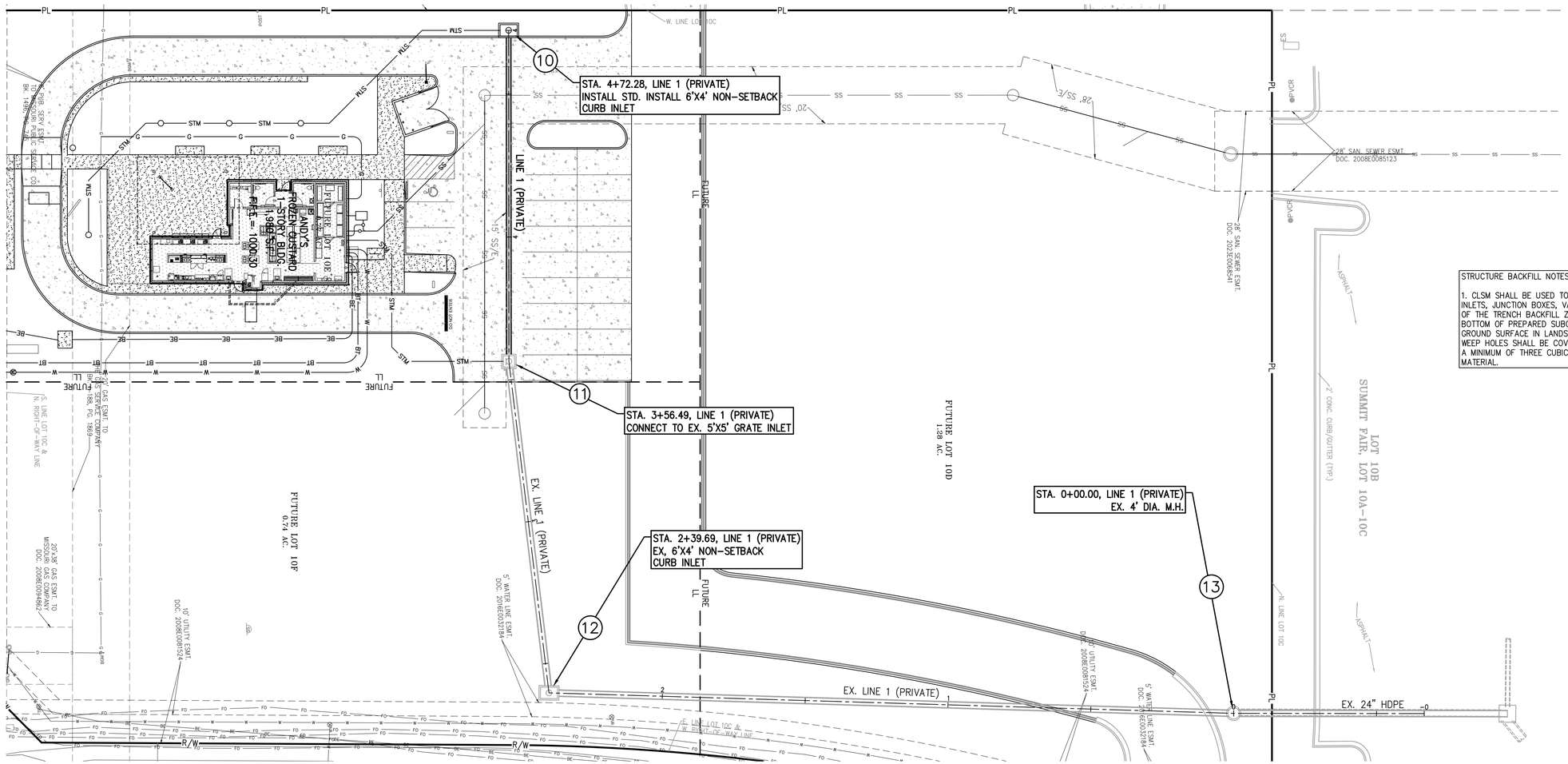

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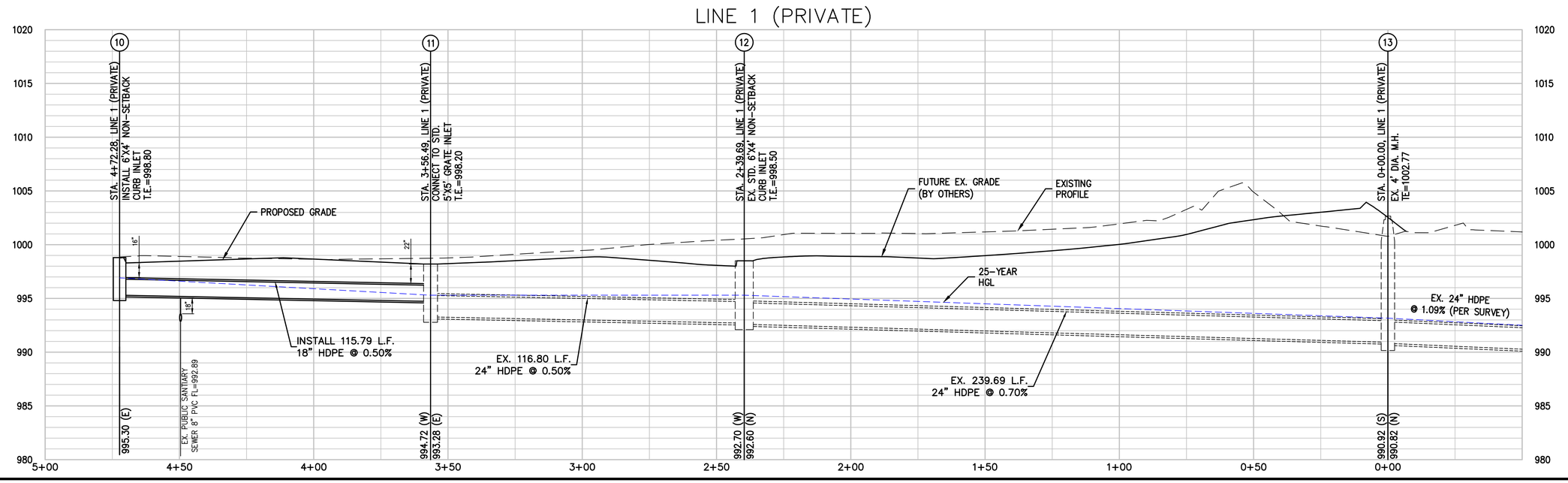

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PLANNING
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STORM SEWER PLAN & PROFILE

ANDY'S FROZEN CUSTARD
700 NW WARD ROAD
LEE'S SUMMIT, MISSOURI

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CHECKED: DAF APPROVED: JDC

CERTIFICATE OF AUTHORIZATION
KANSAS SURVEYING - LS-82
KANSAS ENGINEERING - E-391

CERTIFICATE OF AUTHORIZATION
LAND SURVEYING-2007001128
ENGINEERING-2007005028

SHEET
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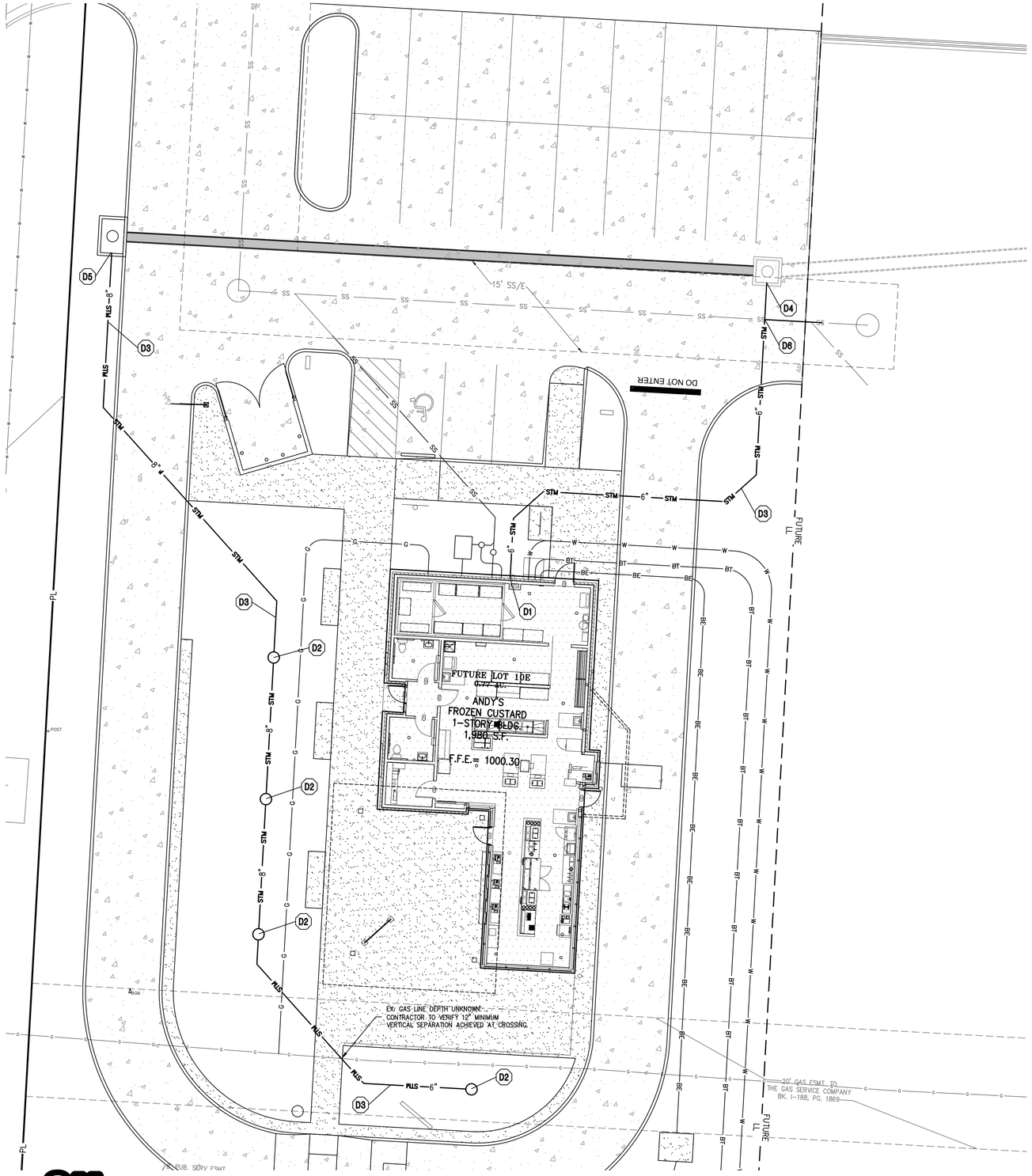

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(D4) CORE DRILL AND CONNECT TO EXISTING GRATE INLET.
TE=998.20
PROP 6" FL (S)=996.00
EX. 24" FL (E)=993.28

(D5) CORE DRILL AND CONNECT TO EXISTING GRATE INLET.
TE=998.70
PROP 8" FL (S)=996.00
EX. 24" FL (E)=995.30

(D6) UTILITY CROSSING
FG = 998.30
EX. 8" SANITARY FL=994.4±
PROP. 6" STORM FL=996.1±
VERTICAL SEP. = 12"

LEGEND

PL	PROPERTY LINE
LL	LOT LINE
R/W	RIGHT-OF-WAY
CATV	EXISTING CABLE TELEVISION LINE
FO	EXISTING FIBER OPTIC LINE
G	EXISTING GAS LINE
BE	EXISTING BURIED ELECTRIC LINE
OHP	EXISTING OVERHEAD POWER LINE
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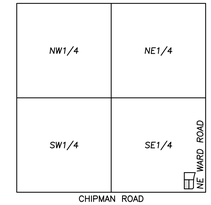

VICINITY MAP
SEC. 36-48-32

N
SCALE: 1"=2000'

N
SCALE: 1"=10'
0' 10' 20'

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PLANNING
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IMPLEMENTATION

SECONDARY STORM PLAN

ANDY'S FROZEN CUSTARD
700 NW WARD ROAD
LEE'S SUMMIT, MISSOURI

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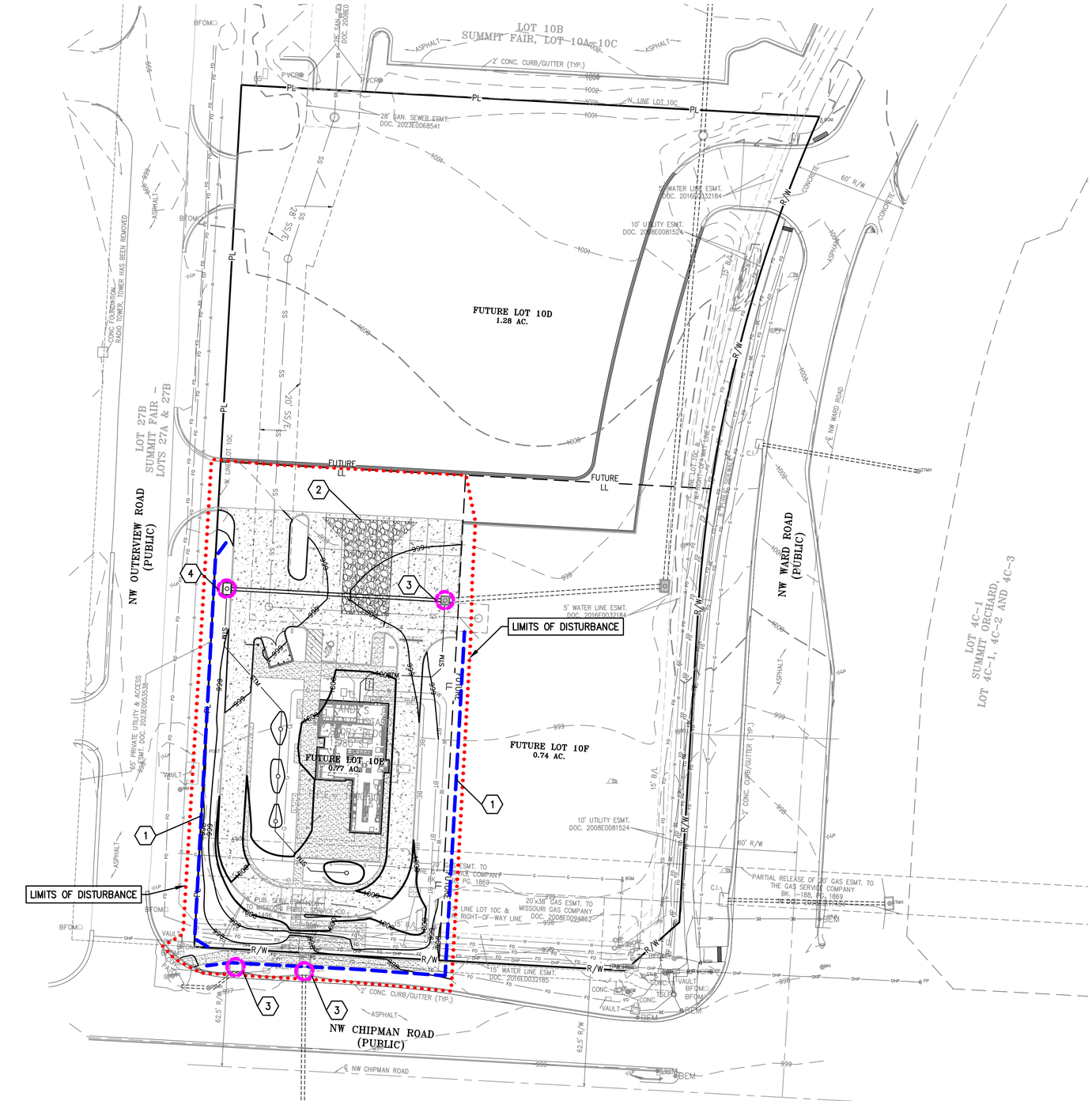
CERTIFICATE OF AUTHORIZATION KANSAS ENGINEERING - LS-82
CERTIFICATE OF AUTHORIZATION LAND SURVEYING - 2007001128
ENGINEERING - 2007005058

SHEET
C5.1



UTILITY NOTES:
VISUAL INDICATIONS OF UTILITIES ARE AS SHOWN. UNDERGROUND LOCATIONS SHOWN, AS FURNISHED BY THEIR LESSORS, ARE APPROXIMATE AND SHOULD BE VERIFIED IN THE FIELD AT THE TIME OF CONSTRUCTION. FOR ACTUAL FIELD LOCATIONS OF UNDERGROUND UTILITIES CALL 811.

811 Know what's **below.** **Call** before you dig.

EROSION AND SEDIMENT CONTROL GENERAL NOTES:

1. Prior to Land Disturbance activities, the contractor shall:
   –Delineate the outer limits of any tree or stream preservation designated to remain with construction fencing.
   –Construct a stabilized entrance/parking/delivery area and install all perimeter sediment controls on the site.
   –Install and request the inspection of the preconstruction erosion and sediment control measures designated on the approved erosion and sediment control plan. Land disturbance work shall not proceed until t here is a satisfactory inspection.
   –Identify the limits of construction on the ground with easily recognizable indications such as construction staking, construction fencing, placement of physical barriers or other means acceptable to the contractor and the City inspector.
2. Erosion and sediment control devices protecting the public right–of–way shall be installed as soon as the right–of–way has been backfilled and graded.
3. The contractor shall comply with all requirements of City Ordinances or State permit requirements, such as:
   –The contractor shall seed, mulch, or otherwise stabilize any disturbed area where the land disturbance activity has ceased for more than 14 days.
   –The contractor shall perform inspections of erosion and sediment control measures at least once a every 14 days and within 24 hours following each rainfall event of ½" or more within any 24–hour period
   –The contractor shall maintain an inspection log including the inspector's name, date of inspection, observations as to the effectiveness of the erosion and sediment control measures, actions necessary to correct deficiencies, when the deficiencies were corrected, and the signature of the person performing the inspection. The log shall be available for review by the City, the State of Missouri, or other authorities having jurisdiction.
4. The contractor shall maintain installed erosion and sediment control devices on a manner that preserves their effectiveness for preventing sediment from leaving the site or entering a sensitive area such as a natural stream corridor, tree preservation areas of the site intended to be left undisturbed, a storm sewer, or an on–site drainage channel. Failure to do so is a violation of the provisions of City Ordinances and State permit requirements.
5. The contractor is responsible for providing erosion and sediment control for the duration of a project. If the City determines that the BMP's in place do not provide adequate erosion and sediment control at any time during the project, the contractor shall install additional or alternate measures that provide effective control.
6. Concrete wash or rinsewater from concrete mixing equipment, tools and/or ready–mix trucks, toals, etc., may not be discharged into or be allowed to run directly into any existing water body or storm inlet. One or more locations for concrete wash out will be designated on site, such that discharges during concrete washout will be contained in a small area where waste concrete can solidify in place and excess water evaporated or infiltrated into the ground.
7. Chemicals or materials capable of causing pollution may only be stored onsite in their original container. Materials store outside must be in closed and sealed water–proof containers and located outside of drainageways or areas subject to flooding. Locks and other means to prevent or reduce vandalism shall be used. Spills will be reported as required by law and immediate actions taken to contain them.

MAINTENANCE: ALL MEASURES STATED ON THIS EROSION AND SEDIMENT CONTROL PLAN, AND IN THE STORM WATER POLLUTION PREVENTION PLANATION, SHALL BE MAINTAINED IN FULLY FUNCTIONAL CONDITION UNTIL NO LONGER REQUIRED FOR A COMPLETED PHASE OF WORK OR FINAL STABILIZATION OF THE SITE. ALL EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE CHECKED BY A QUALIFIED PERSON IN ACCORDANCE WITH THE CONTRACT DOCUMENTS OR THE APPLICABLE PERMIT, WHICHEVER IS MORE STRINGENT, AND REPAIRED IN ACCORDANCE WITH THE FOLLOWING:

1. INLET PROTECTION DEVICES AND BARRIERS SHALL BE REPAIRED OR REPLACED IF THEY SHOW SIGNS OF UNDERMINING, OR DETERIORATION.
2. ALL SEEDED AREAS SHALL BE CHECKED REGULARLY TO SEE THAT A GOOD STAND IS MAINTAINED. AREAS SHOULD BE FERTILIZED, WATERED, AND RESEEDED AS NEEDED.
3. SILT FENCES SHALL BE REPAIRED TO THEIR ORIGINAL CONDITIONS IF DAMAGED. SEDIMENT SHALL BE REMOVED FROM THE SILT FENCES WHEN IT REACHES ONE–THIRD THE HEIGHT OF THE SILT FENCE.
4. THE CONSTRUCTION ENTRANCES SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOW OF MUD ONTO PUBLIC RIGHTS–OF–WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING OF THE CONSTRUCTION ENTRANCES AS CONDITIONS DEMAND.
5. THE TEMPORARY PARKING AND STORAGE AREA SHALL BE KEPT IN GOOD CONDITION (SUITABLE FOR PARKING AND STORAGE). THIS MAY REQUIRE PERIODIC TOP DRESSING OF THE TEMPORARY PARKING AS CONDITIONS DEMAND.

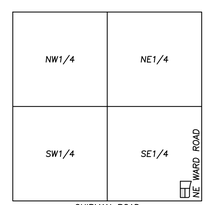
STAGING CHART

		Project Stage	Order	BMP Description	Remove after Stage:	Notes:
Phase I	A.	Prior to Land Disturbance and During Construction.	1	Sediment Fence	D	Place downstream project site perimeter. (APWA ESC–10)
			2	Constr Entrance & Staging Area	D	Maintain during all construction. Include concrete washout. (APWA ESC–01)
			3	Inlet Protection at Existing Inlets	D	Install inlet protection. (APWA Details ESC–06 & ESC–07)
Phase II	B.	Mass Grading & Utility Installation	4	Inlet Protection at Proposed Inlets	D	Install inlet protection. (APWA Details ESC–06 & ESC–07)
Phase III	C.	Final Stabilization Prior to closure of Land Disturbance Permit		Final Stabilization	N/A	Seed all disturbed areas to establish final stabilization.

DISTURBED AREA = 0.8± ACRES

LEGEND

- STABILIZED ROCK ENTRANCE
- LIMITS OF DISTURBED AREA
- PROPOSED SILT FENCE
- INLET PROTECTION
  –PRIOR TO PAVING USE SILT FENCE INLET PROTECTION WITH WIRE SUPPORT
  –AFTER TO PAVING USE GRAVEL FILTER BAGS



VICINITY MAP
SEC. 36–48–32

N
SCALE: 1"=2000'

N
SCALE: 1"=30'
0' 30' 60'

STATE OF MISSOURI
JUDD DAVID CLAUSSEN
NUMBER PE-29850
NATIONAL ENGINEER
04/12/2024

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PLANNING
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IMPLEMENTATION

EROSION CONTROL PLAN

ANDY'S FROZEN CUSTARD
700 NW WARD ROAD
LEE'S SUMMIT, MISSOURI

No.	Revisions:	Date	By	App.

PROJECT NO. 240159
DATE: 04-12-2024 | DRAWN: AEB
CHECKED: DAF | APPROVED: JDC
CERTIFICATE OF AUTHORIZATION KANSAS LANDSCAPING – LS–82 ENGINEERING – E–391
CERTIFICATE OF AUTHORIZATION LAND SURVEYING–2007001128 ENGINEERING–2007005038

SHEET
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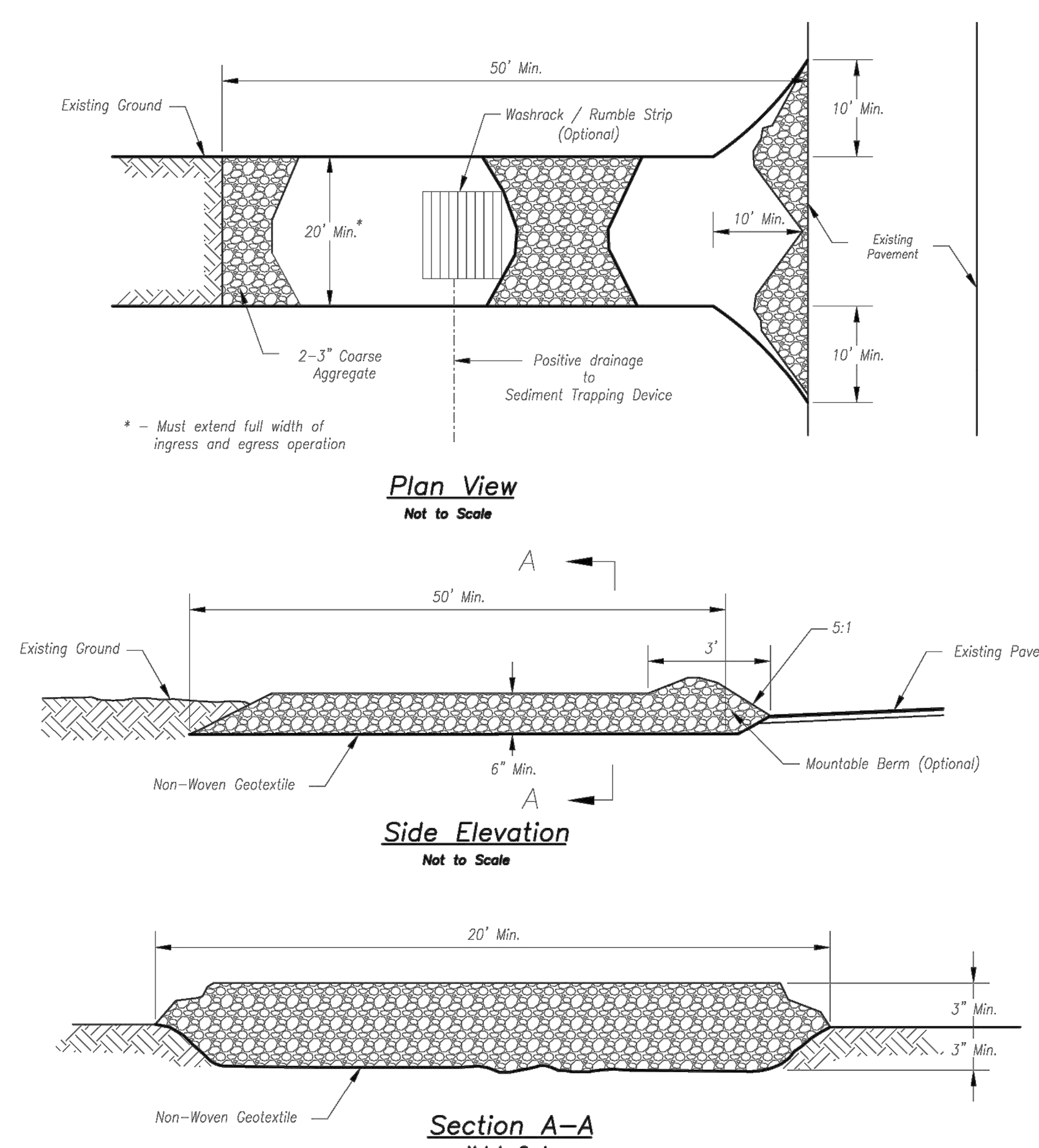
\\PHELPS–SERVER\projects\P\240159\Dwg\Permit Plans\EROSION.dwg Layout:1 May 02, 2024 - 11:45am Audrey Burks



Notes for Construction Entrance:

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

Maintenance for Construction Entrance:

1. Reshape entrance as needed to maintain function and integrity of Installation. Top dress with clean aggregate as needed.

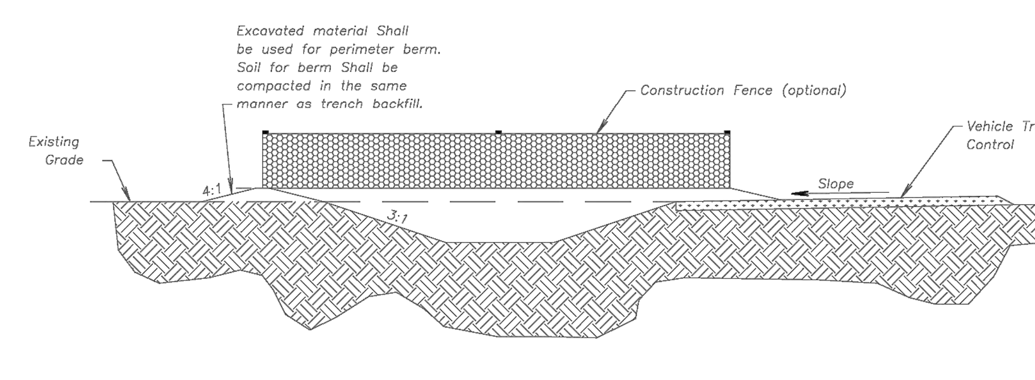
CONSTRUCTION ENTRANCE

Notes for Concrete Washout:

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

Maintenance for Concrete Washout:

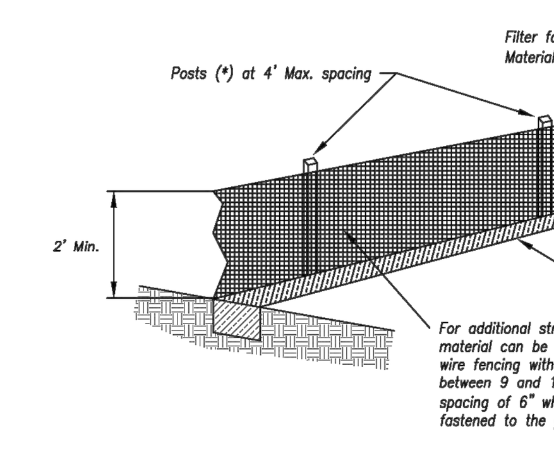
1. Concrete washout materials shall be removed once the materials have filled the washout to approximately 75% full.
2. Concrete washout areas shall be enlarged as necessary to maintain capacity for wasted concrete.
3. Concrete washout water, wasted pieces of concrete and all other debris in the subsurface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



CONCRETE WASHOUT

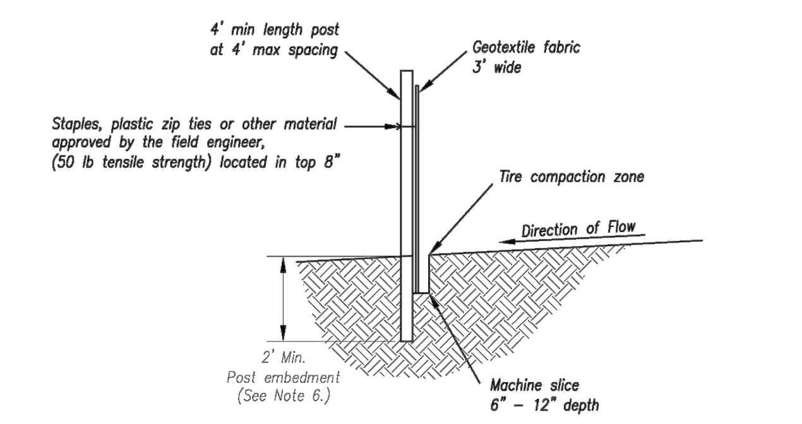
Construction Entrance modified from 2015 Overland Park Standard Details for Erosion and Sediment Control; Concrete Washout modified from 2009 City of Great Bend Standard Drawings.

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



(*) POSTS
– MIN, LENGTH 4'
– HARDWOOD 1 3/16" x 1 3/16"
– NO.2 SOUTHERN PINE 2 5/8" x 2 5/8"
– STEEL 1.33 LB/FT

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



SILT FENCE DETAILS
Not to Scale

Notes:

1. In order to contain water, the ends of the silt fence must be turned uphill (Figure A).
2. Long perimeter runs of silt fence must be limited to 100'. Runs should be broken up into several smaller segments to minimize water concentrations (Figure A).
3. Long slopes should be broken up with intermediate rows of silt fence to slow runoff velocities.
4. Attach fabric to upstream side of post.
5. Install posts a minimum of 2' into the ground.
6. Trenching will only be allowed for small or difficult installation, where slicing machine cannot be reasonably used.

Maintenance:

1. Remove and dispose of sediment deposits when the deposit approaches 1/3 the height of silt fence.
2. Repair as necessary to maintain function and structure.

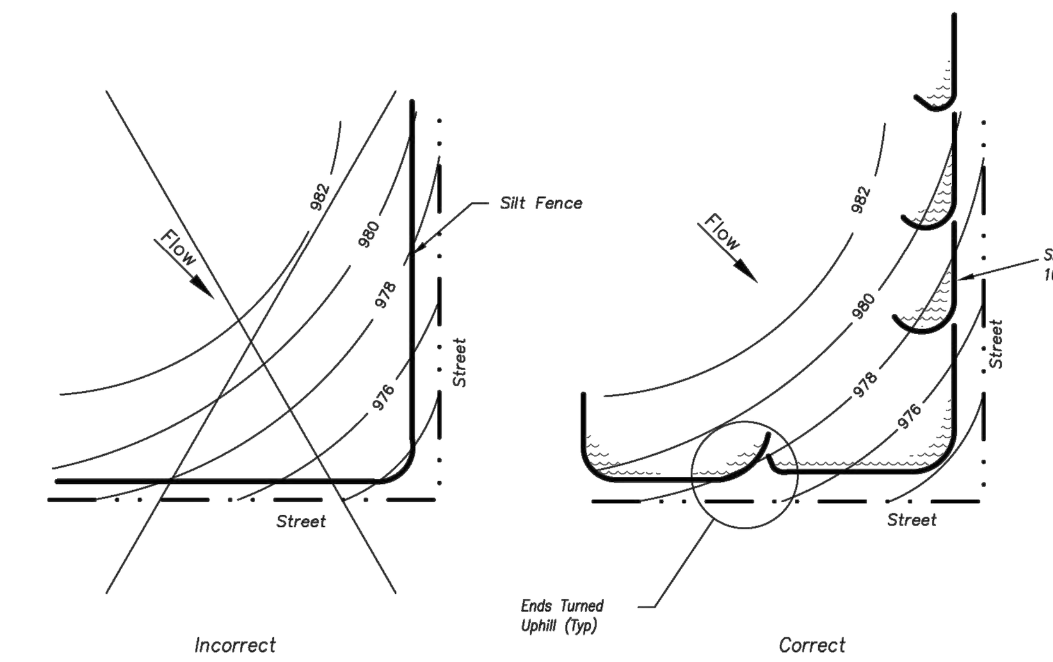
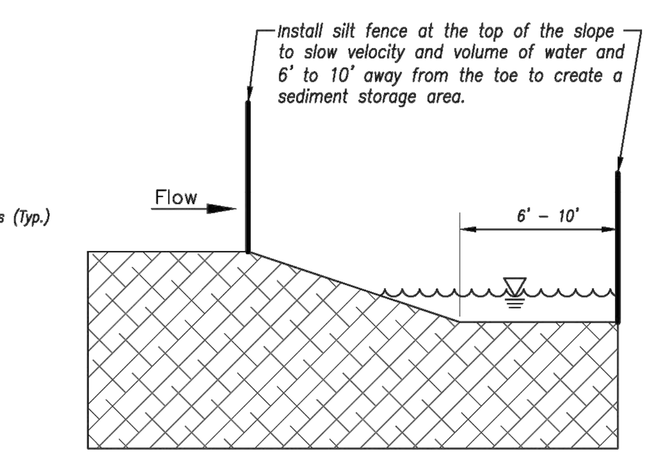
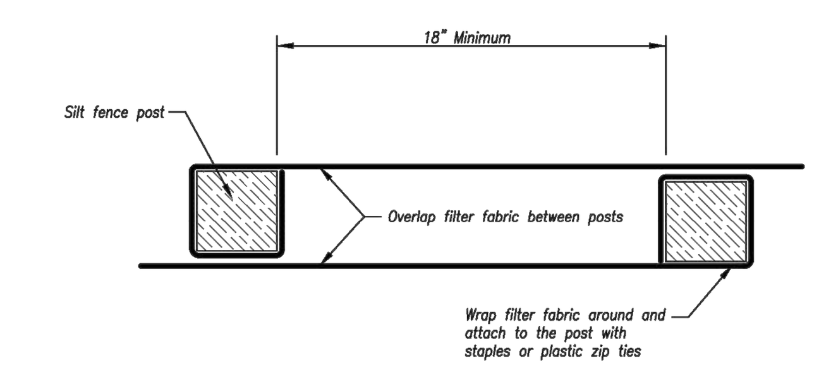


Figure A

SILT FENCE LAYOUT
Not to Scale

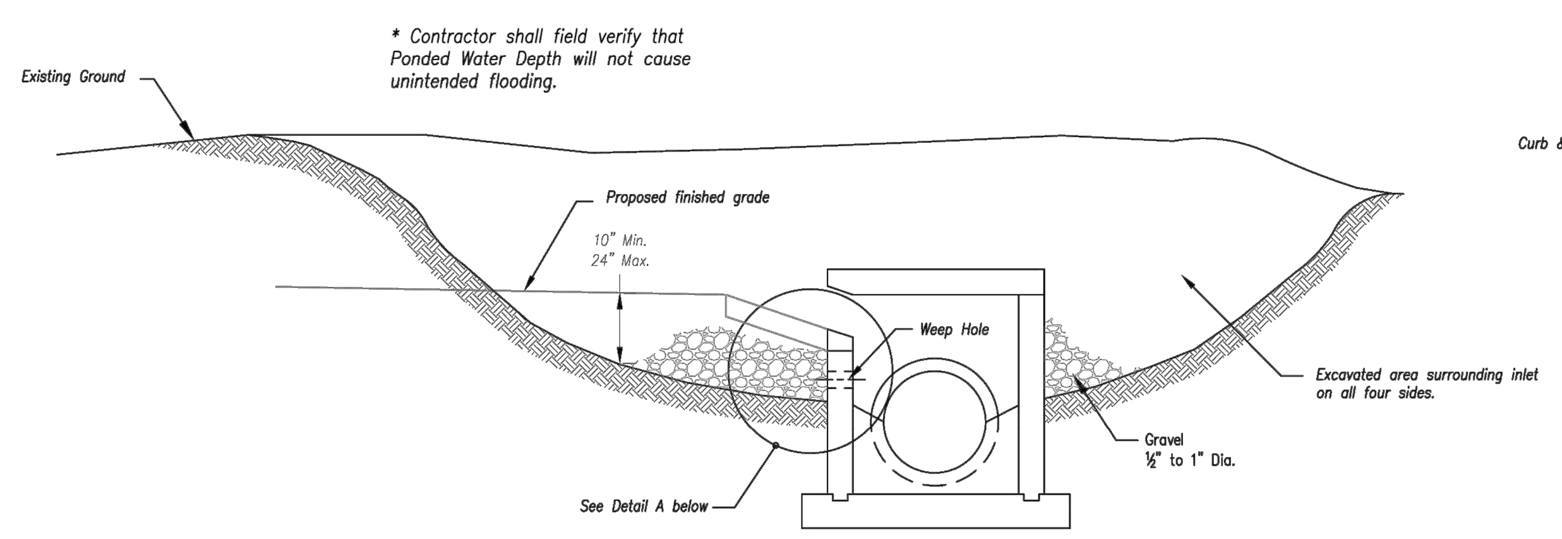


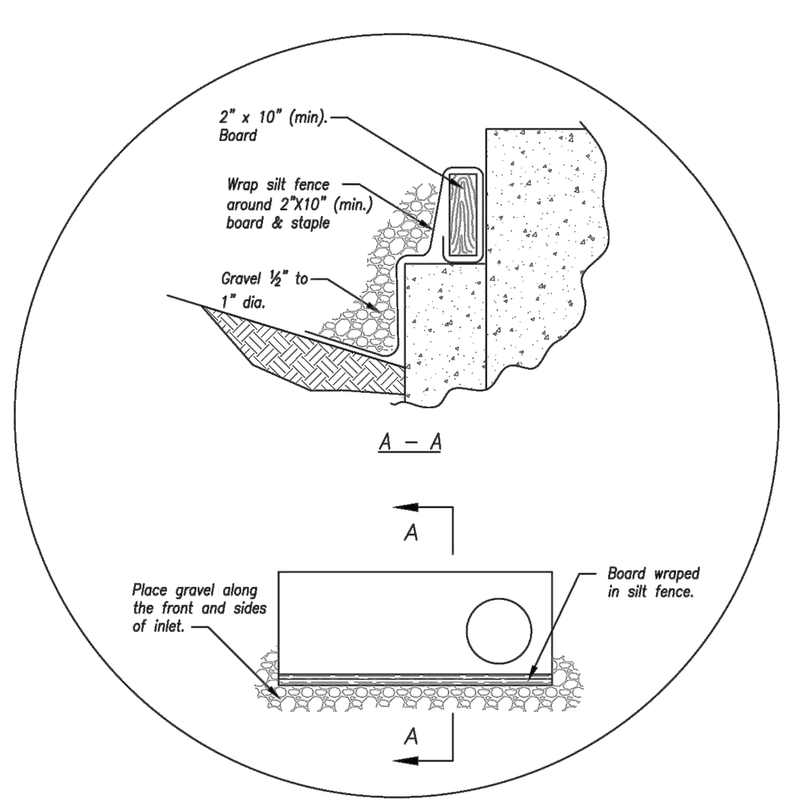


JOINING FENCE SECTIONS
Not to Scale

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

AMERICAN PUBLIC WORKS ASSOCIATION		
Kansas City Metro Chapter APWA	KANSAS CITY METRO CHAPTER	
SILT FENCE	STANDARD DRAWING NUMBER ESC-03	ADOPTED: 10/24/2016





Detail A

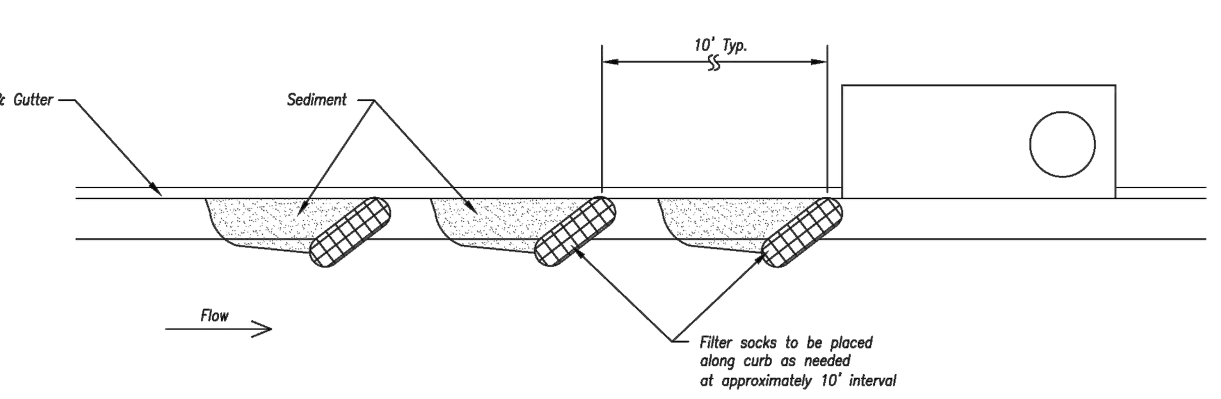
EARLY STAGE CURB INLET
(Open Box and Prior to Pouring Curb and Inlet Throat)

Notes:

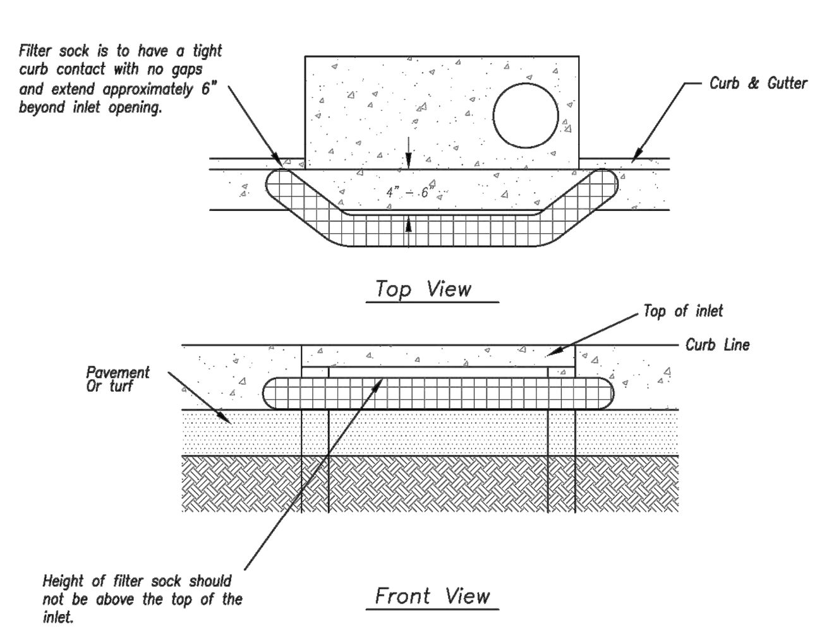
1. Immediately following inlet construction and prior to construction of curb and inlet throat, protect inlet opening by installing 2" X 10" (min.) board wrapped in silt fence. Structures shall have excavated storage area on all four sides to allow settling of sediment (Early Stage Curb Inlet).
2. When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

Maintenance:

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



On Grade Curb Inlet Protection

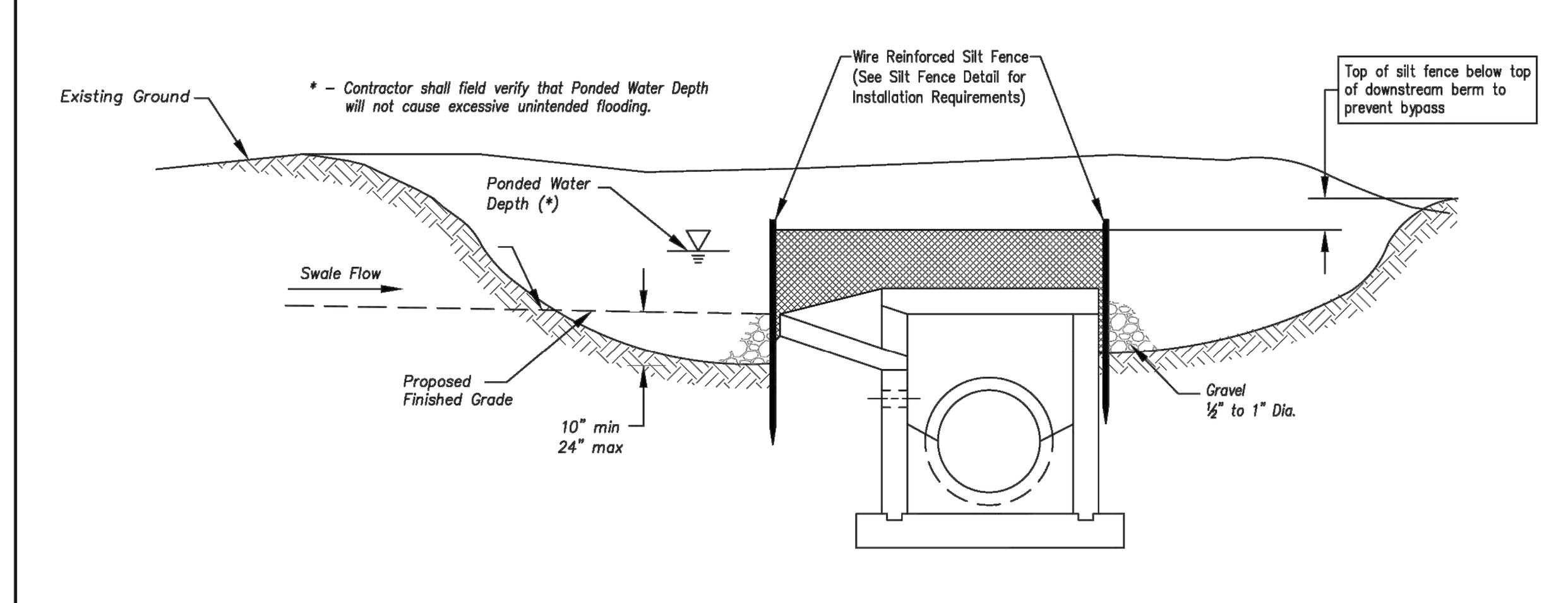


Sump Inlet Sediment Filter

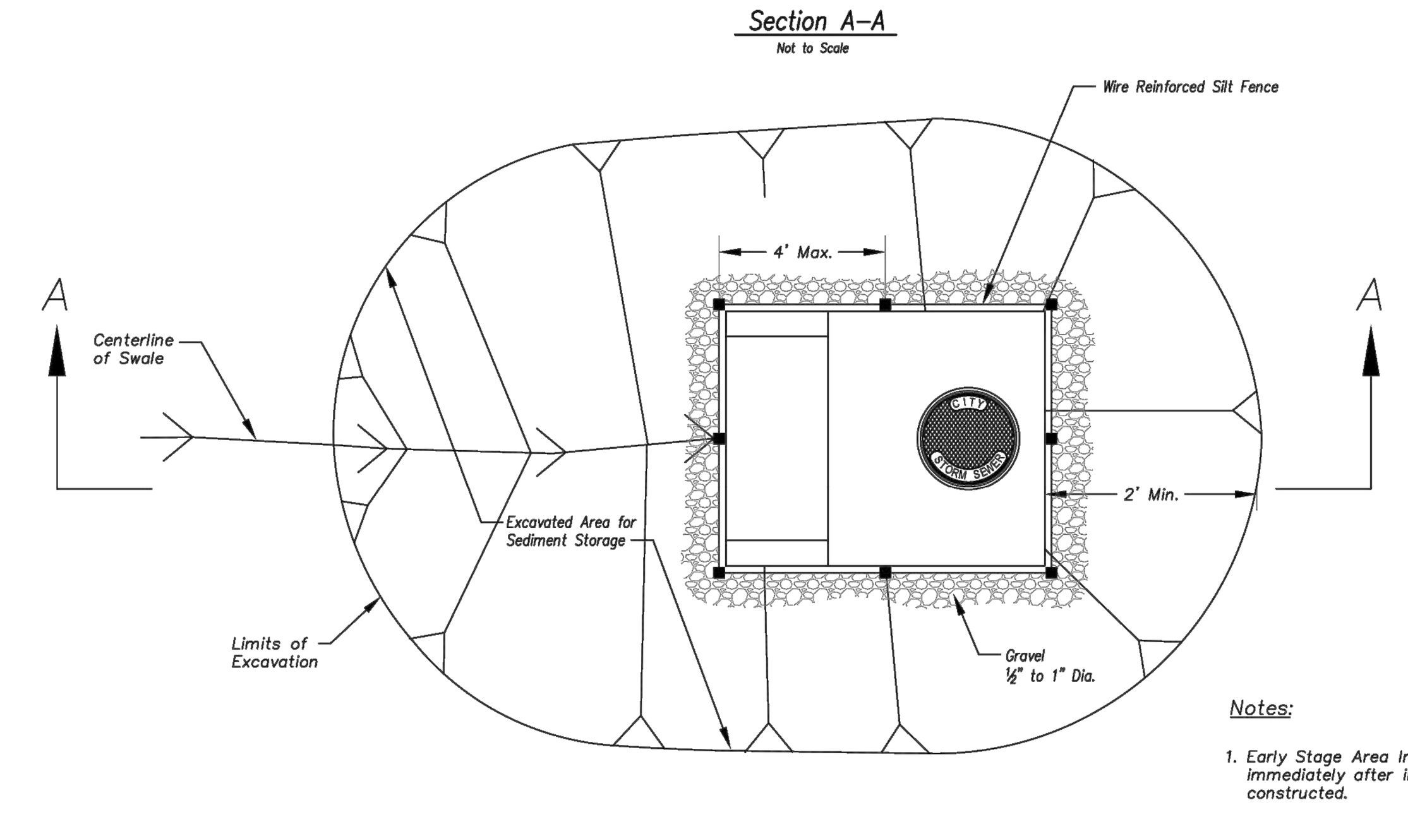
LATE STAGE CURB INLET
(After Pouring Curb and Inlet Throat)

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

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



Section A–A
Not to Scale

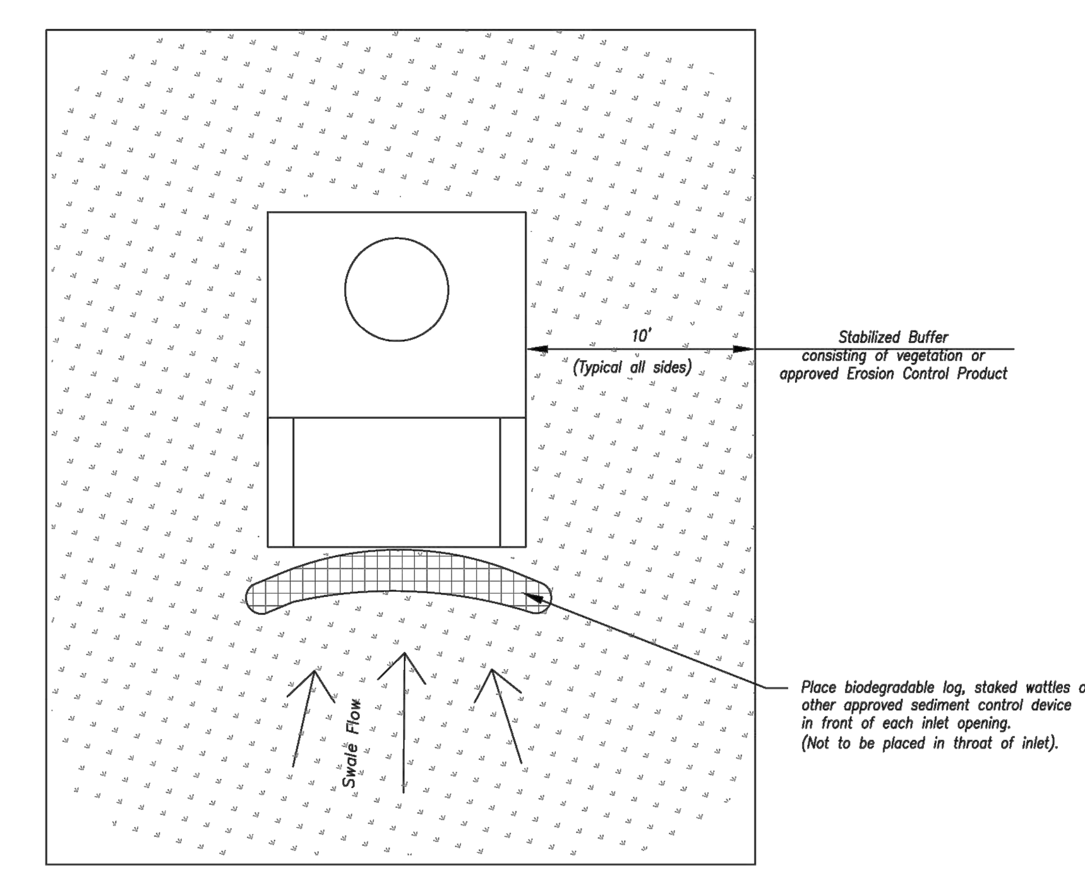


Plan
Not to Scale

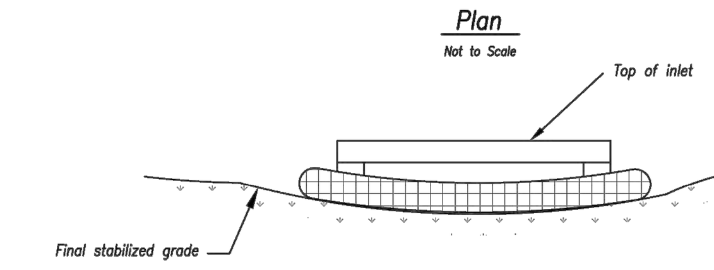
EARLY STAGE AREA INLET
(All open boxes and inlets not at final grade)

Notes:

1. Early Stage Area Inlet Sediment Barrier to be installed immediately after inlet or junction box is constructed.
2. Silt fence shall remain in place until excavated area is removed and Late Stage Area Inlet is being installed.
3. Backfill excavated area ONLY after final grading of the site. Stabilization of the site is to immediately follow.
4. Wire reinforced silt fence may be used in place of silt fence attached to wood frame.



Plan
Not to Scale



Front View

LATE STAGE AREA INLET
(Area inlets at final grade and existing inlets)

Maintenance:

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

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

AMERICAN PUBLIC WORKS ASSOCIATION		
Kansas City Metro Chapter APWA	KANSAS CITY METRO CHAPTER	
AREA INLET AND JUNCTION BOX PROTECTION	STANDARD DRAWING NUMBER ESC-07	ADOPTED: 10/24/2016

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04/12/2024

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PLANNING
ENGINEERING
IMPLEMENTATION

EROSION CONTROL DETAILS

ANDY'S FROZEN CUSTARD
700 NW WARD ROAD
LEE'S SUMMIT, MISSOURI

No.	Date	Revisions:	By	App.

PROJECT NO. 240159
DATE: 04-12-2024 | DRAWN: AEB
CHECKED: DAF | APPROVED: JDC
CERTIFICATE OF AUTHORIZATION KANSAS LAND SURVEYING – LS-82 ENGINEERING – E-391
CERTIFICATE OF AUTHORIZATION MISSOURI LAND SURVEYING–2007001128 ENGINEERING–2007005058

SHEET
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\\PHELPS-SERVER\projects\P\240159\Dwg\Permit Plans\DETAILS – EROSION.dwg Layout:1 May 02, 2024 – 11:43am Audrey Burks

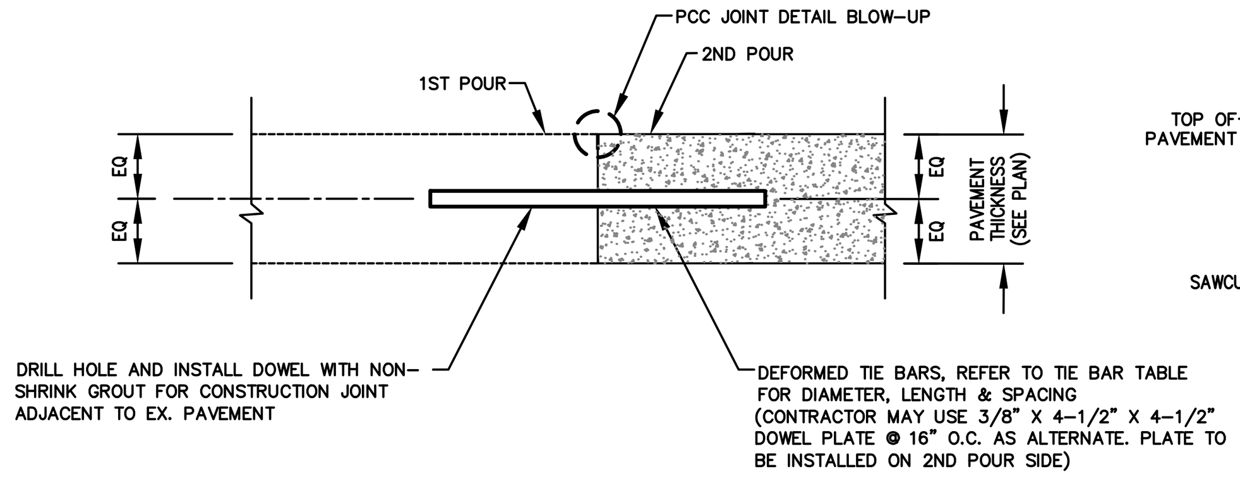
Dowel size*

Slab depth, in. (mm)	Dowel diameter, in. (mm)	Dowel embedment, in. (mm)†	Total dowel length, in. (mm)‡
5 (125)	5/8 (16)	5 (125)	12 (300)
6 (150)	3/4 (19)	6 (150)	14 (360)
7 (180)	7/8 (22)	6 (150)	14 (360)
8 (200)	1 (25)	6 (150)	14 (360)
9 (230)	1-1/8 (29)	7 (180)	16 (400)

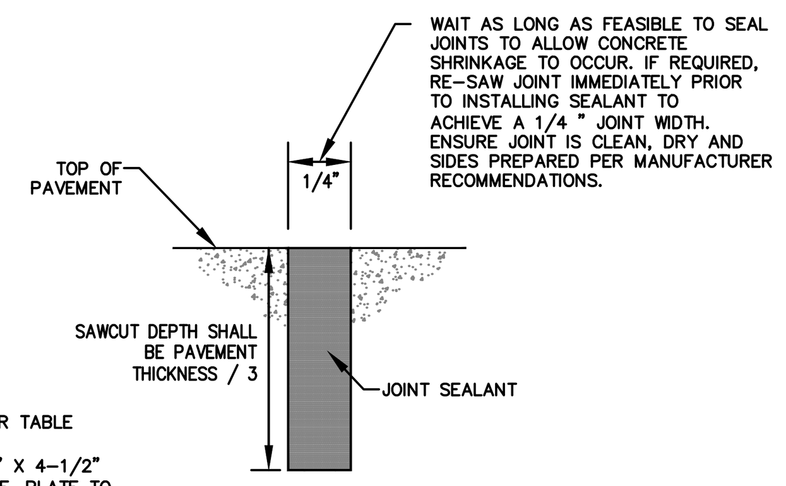
*All dowels spaced at 12 in. (300 mm) centers.
†On each side of joint.
‡Allowance made for joint openings and for minor errors in positioning dowels.

Tie bar dimensions

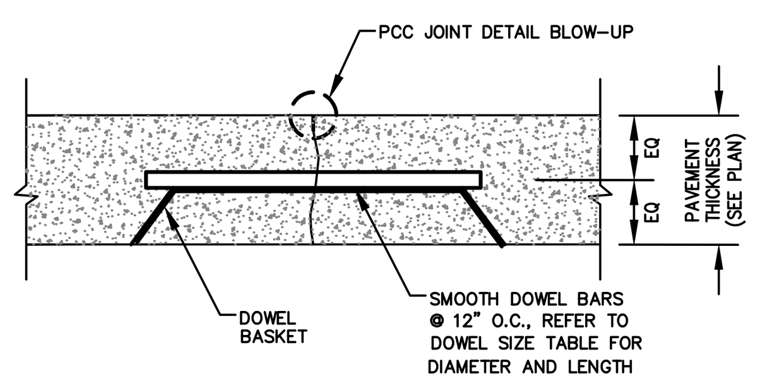
Slab depth, in. (mm)	Tiebar size, in. (mm)	Tiebar spacing — Distance to nearest free edge or to nearest joint where movement can occur: 10 ft, in. (mm)	12 ft, in. (mm)	14 ft., in. (mm)	24 ft, in. (mm)
5 (125)	1/2 x 24 (13 x 610)	30 (760)	30 (760)	30 (760)	28 (710)
5-1/2 (140)	1/2 x 24 (13 x 610)	30 (760)	30 (760)	30 (760)	25 (630)
6 (150)	1/2 x 24 (13 x 610)	30 (760)	30 (760)	30 (760)	23 (580)
6-1/2 (165)	1/2 x 24 (13 x 610)	30 (760)	30 (760)	30 (760)	21 (530)
7 (180)	1/2 x 24 (13 x 610)	30 (760)	30 (760)	30 (760)	20 (510)
7-1/2 (190)	1/2 x 24 (13 x 610)	30 (760)	30 (760)	30 (760)	18 (460)
8 (200)	1/2 x 24 (13 x 610)	30 (760)	30 (760)	28 (710)	17 (430)
8-1/2 (215)	1/2 x 24 (13 x 610)	30 (760)	30 (760)	36 (910)	16 (410)
9 (230)	1/2 x 30 (13 x 760)	36 (910)	36 (910)	—	24 (610)



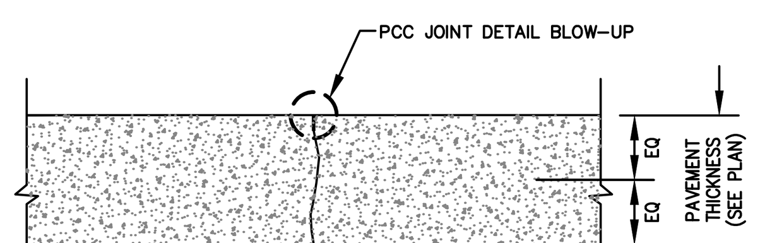
CONSTRUCTION JOINT



PCC JOINT DETAIL BLOW-UP (TYP.)



CONTRACTION JOINT (DOWELED)



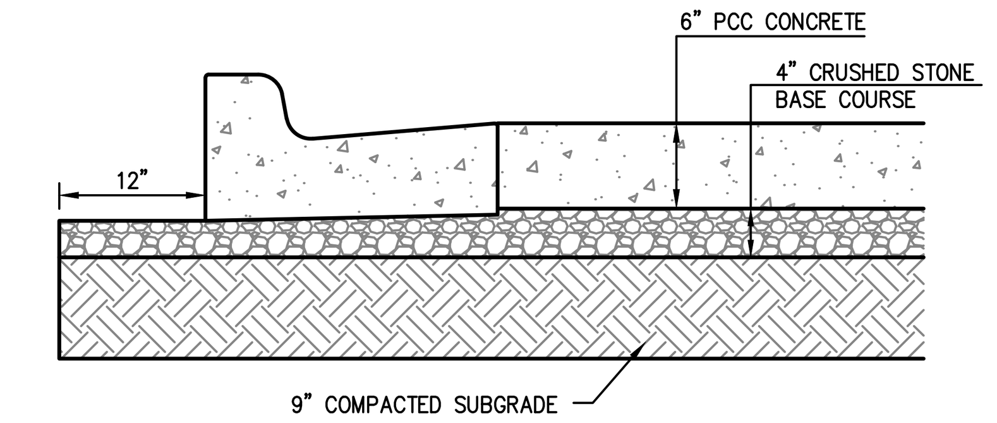
CONTRACTION JOINT (UNDOWELED)

CONCRETE JOINT DETAILS

SCALE: N.T.S.

GENERAL PAVING NOTES:

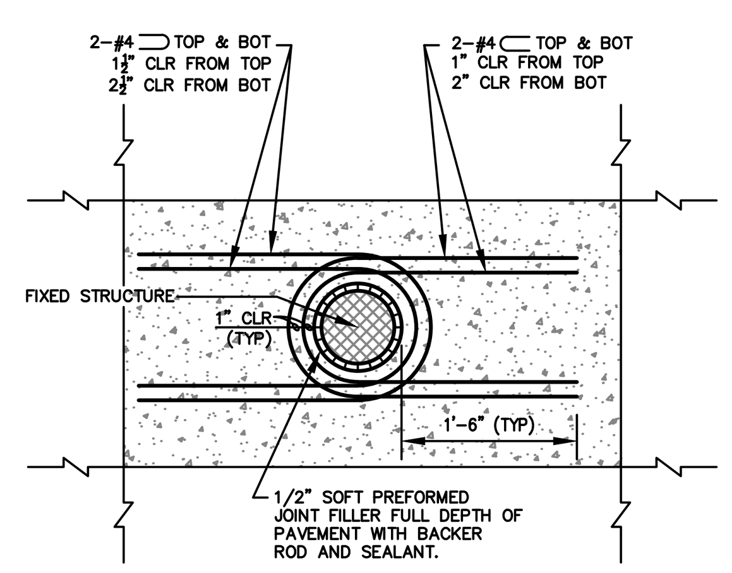
1. PRIOR TO PLACEMENT OF GRANULAR BASE OR ASPHALT, PROOF ROLL AND RE-COMPACT THE EXPOSED SURFACES UP TO A MINIMUM LATERAL DISTANCE OF TWO (2) FEET OUTSIDE THE PAVEMENT. ANY LOCALIZED SOFT, WET, OR LOOSE AREAS IDENTIFIED DURING THE PROOF ROLLING SHOULD BE REPAIRED PRIOR TO PAVING. FILL MATERIAL SHOULD BE PLACED IN LOOSE LIFTS UP TO A MAXIMUM OF EIGHT (8) INCHES IN THICKNESS AND COMPACTED TO AT LEAST 95% OF THE MAXIMUM DRY DENSITY IN ACCORDANCE WITH ASTM D698 AT MOISTURE CONTENTS WITHIN 0% AND +4% OF THE OPTIMUM FOR SOILS WITH A LIQUID LIMIT OF GREATER THAN 40, AND – +/– 3% OF THE OPTIMUM FOR SOILS WITH A LIQUID LIMIT OF LESS THAN 40. MAXIMUM DRY DENSITY AND OPTIMUM MOISTURE CONTENT SHOULD BE DETERMINED BY THE STANDARD PROCTOR TEST (ASTM D 698).
2. PROOFROLL WITH A 25 TON RUBBER TIRE VEHICLE AND REPAIR SUBGRADE DEFICIENCIES. IF ANY SIGNIFICANT EVENT, SUCH AS PRECIPITATION, OCCURS AFTER PROOFROLLING, THE SUBGRADE SHOULD BE REVIEWED BY QUALIFIED PERSONNEL IMMEDIATELY PRIOR TO PLACING THE PAVEMENT.
3. CRUSHED STONE BASE COURSE USED BENEATH CONCRETE PAVING SHALL BE COMPACTED AB-3 OR EQUIVALENT.
4. ALL SITE CONCRETE (CURBS, PAVEMENTS, SIDEWALKS, ETC.) SHALL MEET KANSAS CITY MATERIALS METRO BOARD (KCMMB) MIX DESIGN SPECIFICATIONS FOR 4,000 P.S.I. AIR ENTRAINED CONCRETE.
5. IN NEW PAVEMENT AREAS, CONTRACTOR SHALL OVER EXCAVATE AS REQUIRED TO ESTABLISH NEW COMPACTED SUBGRADE ELEVATIONS.
6. CONTRACTOR IS RESPONSIBLE FOR ALL PAVEMENT AND SUBGRADE MATERIALS TESTING
7. FIBER REINFORCEMENT SHALL BE USED IN ALL CONCRETE CURB AND CONCRETE FLATWORK (SIDEWALKS, PAVEMENTS, ETC). ALL FIBERS SHALL BE ALKALI-RESISTANT, NATURAL CELLULOSE FIBERS AS MANUFACTURED BY "SOLOMON ULTRAFIBER 500", OR POLY PROPYLENE FIBRILLATED FIBERS AS MANUFACTURED BY "SIKA FIBERMESH-300", OR AN APPROVED EQUAL IN ADVANCE BY THE ENGINEER.



CONCRETE PAVING

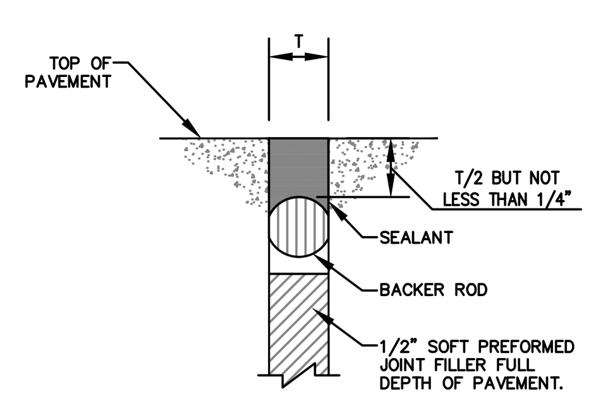
PAVING SECTIONS

SCALE: N.T.S.

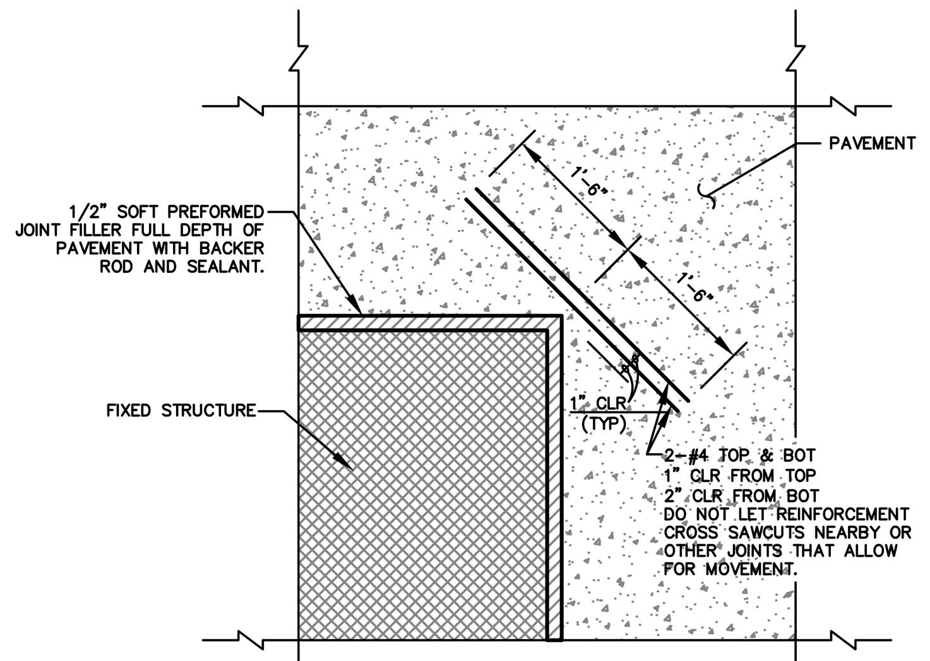


TYPICAL ROUND FIXED STRUCTURE PLAN DETAIL

USES: MANHOLES, LIGHT POLE BASES AND BOLLARDS

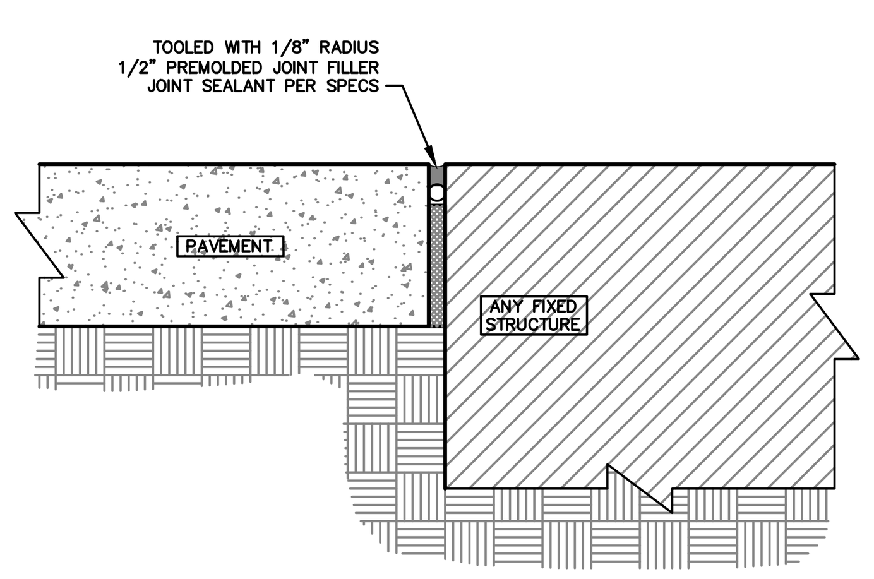


BACKER ROD AND SEALANT
SECTION AT FIXED STRUCTURE



TYPICAL RECTANGULAR FIXED STRUCTURE PLAN DETAIL

USES: BUILDINGS, RETAINING WALLS/DOCK WALLS AND DROP INLETS



ISOLATION JOINT

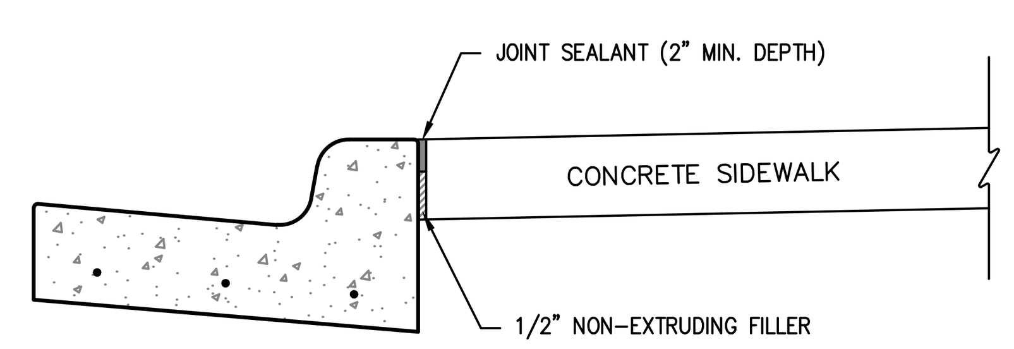
NOTES:

ISOLATION JOINT TO BE USED FOR FIXED STRUCTURES SUCH AS BUILDINGS, RETAINING WALLS/DOCK WALLS, DROP INLETS, MANHOLES, LIGHT POLE BASES AND BOLLARDS.

PAVEMENT IS NOT CONSIDERED A FIXED STRUCTURE.

ISOLATION JOINT DETAILS

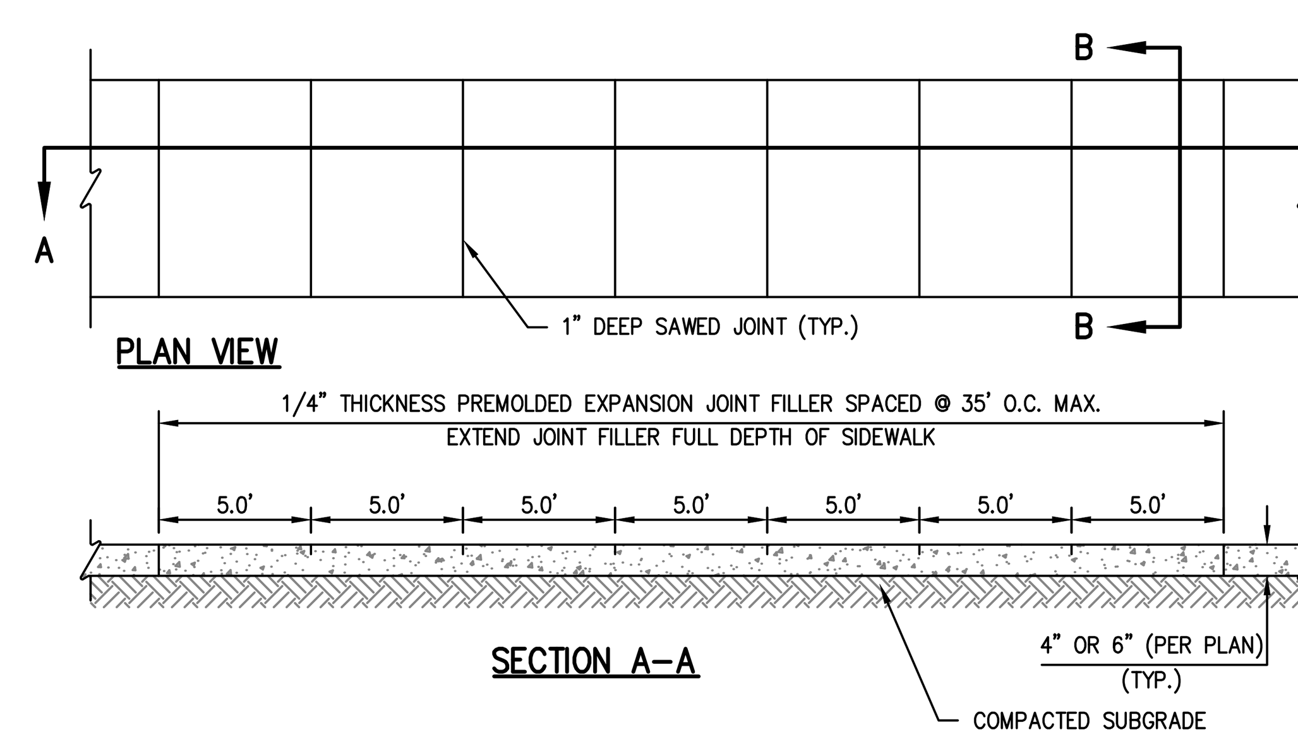
SCALE: N.T.S.



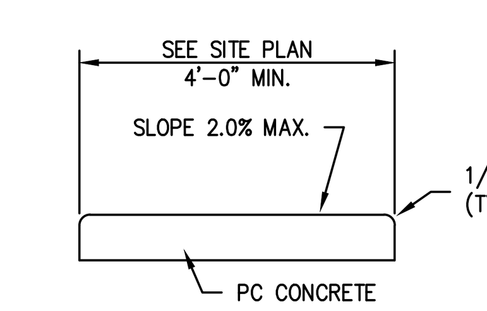
ALL OTHER DETAILS SAME AS SHOWN PER THIS SHEET.

SIDEWALK AT CURB DETAIL

SCALE: N.T.S.



NOTE: PROVIDE 1/2" EXPANSION JOINT BETWEEN SIDEWALK AND ALL FIXED OBJECTS

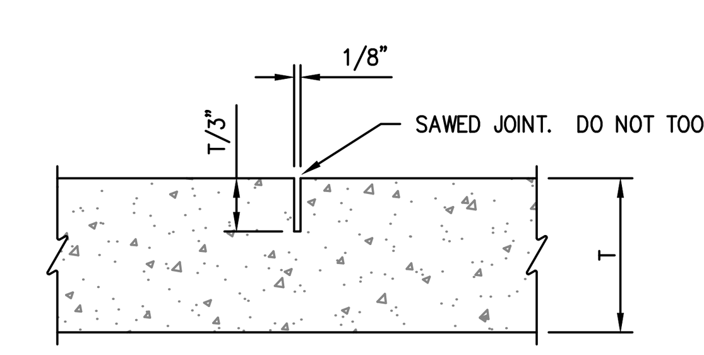


SECTION B-B

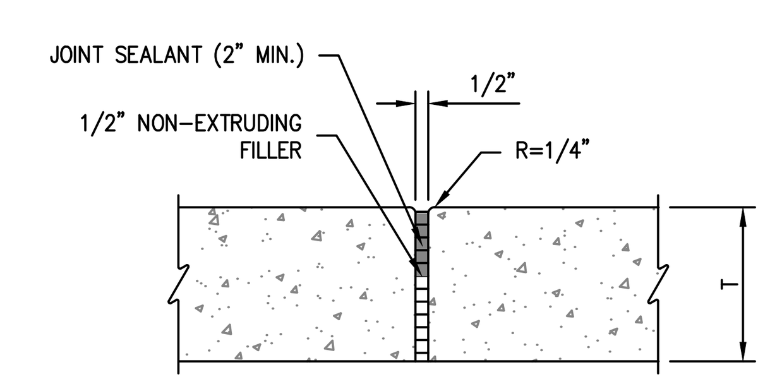
NOTE:
1. USE KANSAS CITY MATERIALS METRO BOARD (KCMMB) MIX DESIGN SPECIFICATIONS FOR 4,000 P.S.I. AIR ENTRAINED CONCRETE FOR ALL PRIVATE SIDEWALKS.

PRIVATE CONCRETE SIDEWALKS (NON REINFORCED)

SCALE: N.T.S.



TYPE A JOINT



TYPE B JOINT

NOTE: TYPE A JOINTS SHALL NOT EXCEED 20 TIMES THE PAVEMENT THICKNESS (T).

CONCRETE SIDEWALK JOINT DETAILS

SCALE: N.T.S.

JUDD DAVID CLAUSSEN NUMBER PE-29850 STATE OF MISSOURI PROFESSIONAL ENGINEER 04/12/2024

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PLANNING ENGINEERING IMPLEMENTATION

STANDARD DETAILS
ANDY'S FROZEN CUSTARD
700 NW WARD ROAD
LEE'S SUMMIT, MISSOURI

No.	Date	Revisions:	By	App.

PROJECT NO. 240159
DATE: 04-12-2024 | DRAWN: AEB
CHECKED: DAF | APPROVED: JDC
CERTIFICATE OF AUTHORIZATION KANSAS LAND SURVEYING - LS-82 ENGINEERING - E-391
CERTIFICATE OF AUTHORIZATION MISSOURI LAND SURVEYING - 2007000128 ENGINEERING - 2007000128

SHEET
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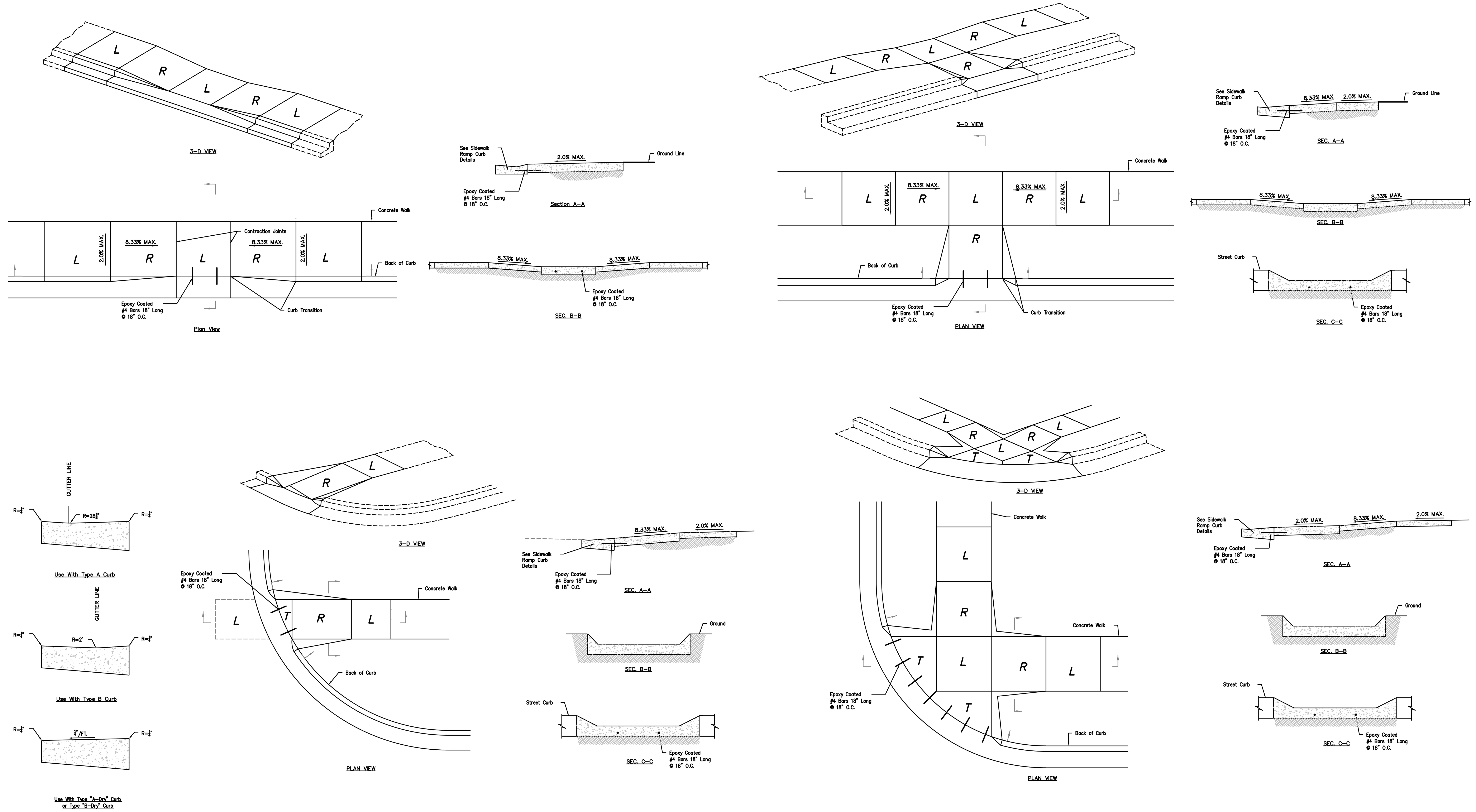


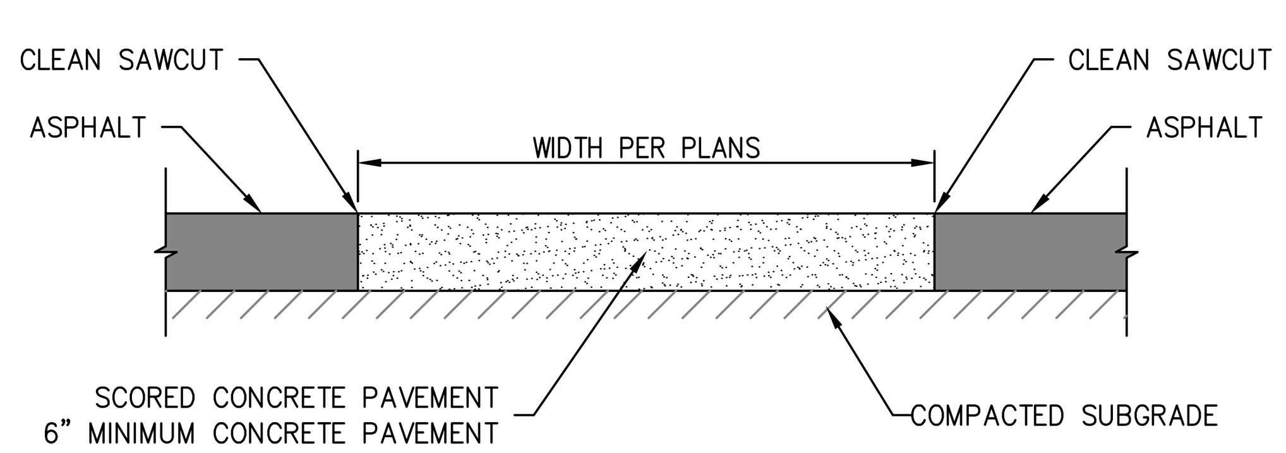
L = *LANDING*
R = *RAMP*
T = *TRANSITION*

RAMP (Required to transition elevation): Max. Longitudinal Slope – 8.33%
Max. Cross Slope – 2.00%
Min. Width – 5'
Min. Length – 5'

LANDING (Required to change direction of travel): Max. Longitudinal Slope – 2.00%
Max. Cross Slope – 2.00%
Min. Width – 5'

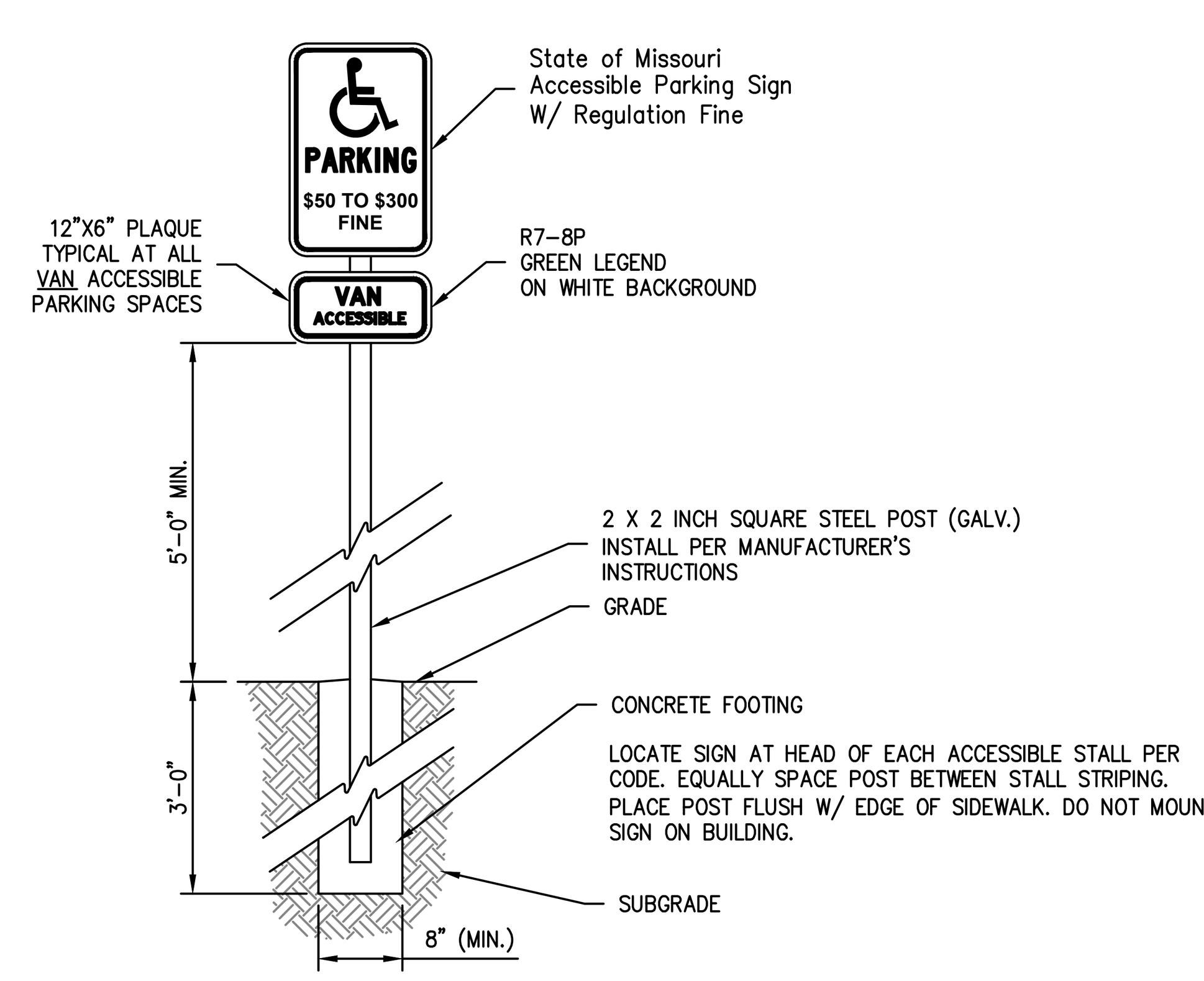
PRIVATE SIDEWALK RAMPS

SCALE: N.T.S.



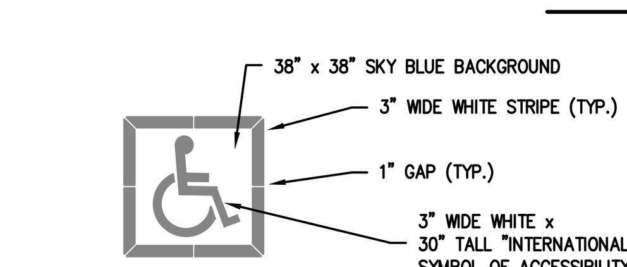
CROSSWALK DETAIL

SCALE: N.T.S.



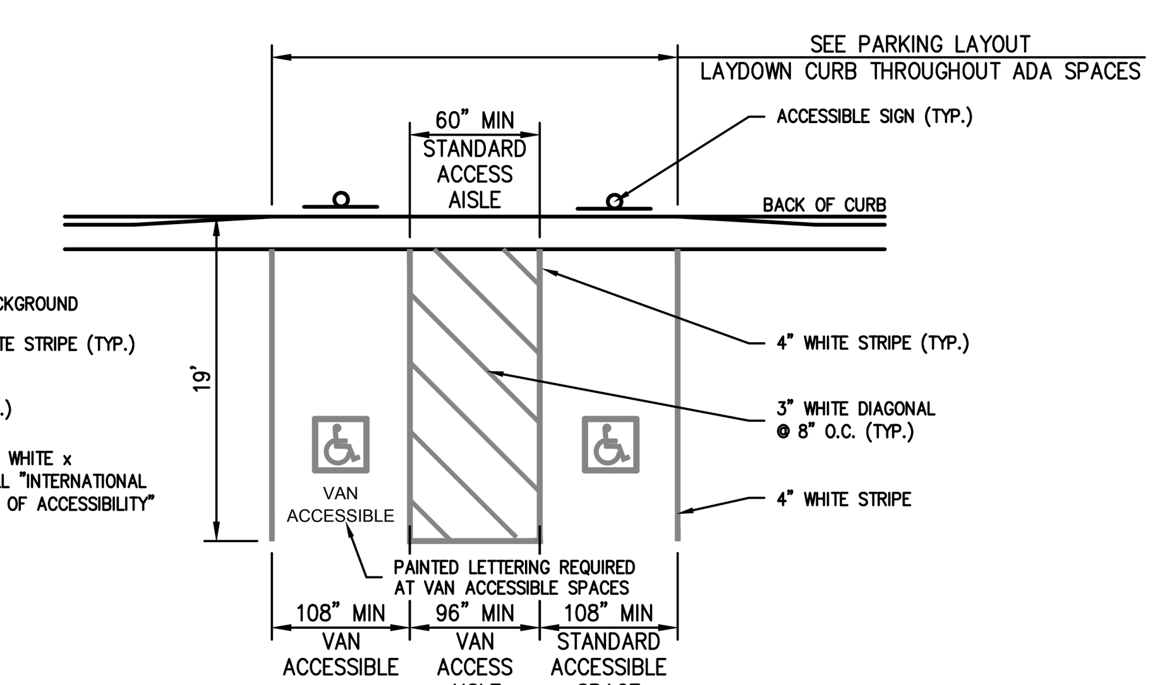
ACCESSIBLE SIGN DETAIL IN GRASS AREA

SCALE: N.T.S.



ACCESSIBLE SYMBOL MARKING DETAIL

SCALE: N.T.S.



GENERAL NOTES:

1. ALL PAVEMENT MARKINGS SHALL BE APPLIED BY A QUALIFIED CONTRACTOR HAVING A MINIMUM 3 YEARS EXPERIENCE IN TRAFFIC GRADE PAVEMENT MARKING APPLICATIONS.
2. PAINT SHALL BE A NON-BLEEDING, QUICK-DRYING, ALKYD PETROLEUM BASE PAINT SUITABLE FOR TRAFFIC-BEARING SURFACE AND SHALL MEET FS TTP-85E & MIXED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS BEFORE APPLICATION.
3. SWEEP AND CLEAN SURFACE TO ELIMINATE LOOSE MATERIAL & DUST.
4. APPLY TWO (2) COATS OF PAINT AT MANUFACTURER RECOMMENDED RATE WITHOUT THE ADDITION OF THINNER, WITH A MAXIMUM OF 100 SQUARE FEET PER GALLON. APPLY WITH MECHANICAL EQUIPMENT TO PRODUCE UNIFORM STRAIGHT EDGES. AT SIDEWALK, CURBS, AND CROSSWALKS USE A STRAIGHTEDGE TO ENSURE A UNIFORM, CLEAN, & STRAIGHT STRIPE.
5. THE FOLLOWING ITEMS SHALL BE PAINTED WITH THE COLORS NOTED BELOW:
   A. HANDICAP SYMBOLS: SEE DETAIL THIS SHEET.
   B. PARKING STALL STRIPING: WHITE.
6. ACCESSIBLE PARKING SPACE DESIGN LAYOUT SHALL BE IN ACCORDANCE WITH CURRENT ADA REQUIREMENTS.
7. SEE SITE PLANS FOR COMPLETE PARKING LAYOUT.

ACCESSIBLE PARKING SPACE DETAIL

SCALE: N.T.S.

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LAND SURVEYING-2007001128
ENGINEERING-2007005058

SHEET
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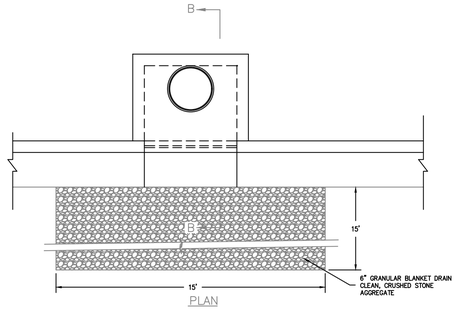
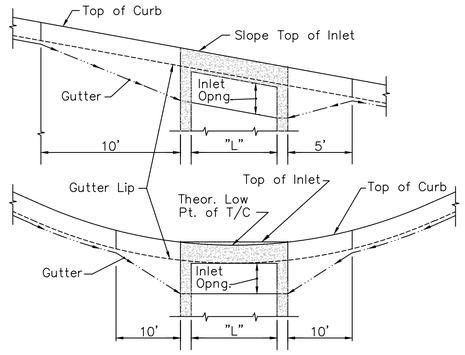


GRANULAR BLANKET DRAIN ADJACENT TO CURB INLETS

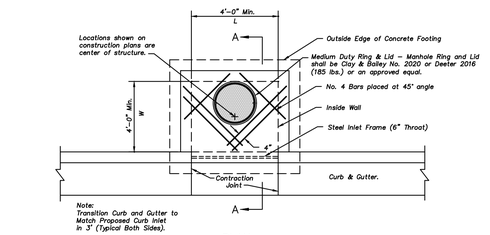
SCALE: N.T.S.



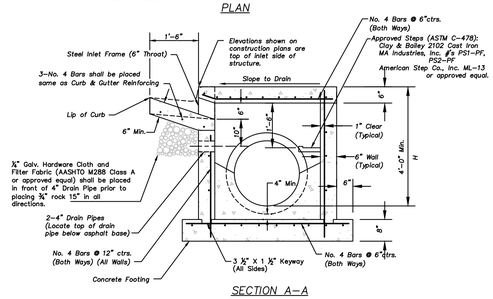
ALL CURB INLETS SHALL CONFORM TO THE GRADE OF THE ADJACENT ROAD/CURB AND BE SET PER THIS DETAIL SHOWN THUS.

INLET SETTING DIAGRAM

SCALE: N.T.S.

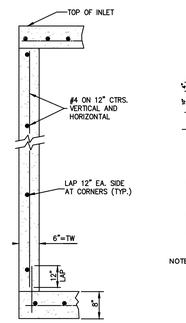


PLAN

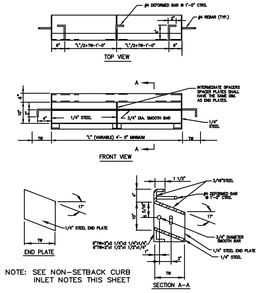


SECTION A–A

SCALE: N.T.S.



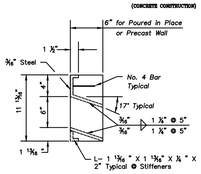
NOTE: SEE NON–SETBACK CURB INLET NOTES THIS SHEET



NOTE: SEE NON–SETBACK CURB INLET NOTES THIS SHEET

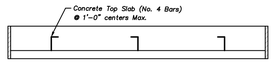
STEEL FRAME DETAIL

WALL SECTIONS



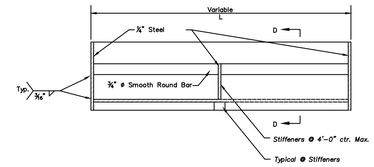
SECTION D–D (6" THROAT)

NTS



TOP VIEW

NTS



FRONT VIEW (6" THROAT)

NTS

Steel Inlet Frame Notes:

1. *All welds shall be performed in accordance with appropriate AWS Specifications and Procedures.*
2. *All welds on exposed surfaces shall be dressed so as to provide a pleasing finished appearance.*
3. *The entire frame shall be hot dip zinc coated in accordance with ASTM A–123.*

NON–SETBACK CURB INLET

(6" Throat)

SCALE: N.T.S.

Non–Setback Curb Inlet Notes

General

1. *All storm sewer structures shall be pre–cast or poured in place. If pre–cast structures are used for publicly financed, maintained or administered construction, the tops shall be poured in place and the wall steel shall be left exposed to a height 2" below the finish top elevation, or as directed by the City Engineer.*
2. *Pre–cast shop drawings are to be approved by the City Engineer for publicly financed or administered projects.*
3. *Do not scale these drawings for dimensions or clearances. Any questions regarding dimensions shall be brought to the attention of the City Engineer prior to construction.*
4. *The first dimension listed in the construction notes is the "L" dimension. The second dimension is the "W" dimension. The concrete thickness and reinforcement shown is for boxes with ("L"+"W") and ("W"+"W") less then or equal to 20. For boxes with either of these calculations greater than 20, a special design is required.*

Concrete

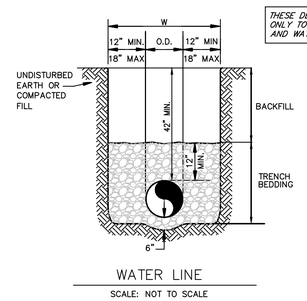
5. *Concrete used in this work shall be KCMMB4K, as approved by the Kansas City Metropolitan Materials Board, and shall meet the requirements of the City of Olathe.*
6. *Concrete construction shall meet the applicable requirements of the City of Olathe's Technical Specifications.*
7. *Inlet floors shall be shaped with non–reinforced concrete inv erts to provide smooth flow.*
8. *Bevel all exposed edges with ¾" triangular molding.*

Reinforcing Steel

9. *Reinforcing steel shall be new billet, minimum Grade 40 as per ASTM A615, and shall be bent cold.*
10. *All dimensions relative to reinforcing steel are to centerline of bars. 2" clearance shall be provided throughout unless noted otherwise. Tolerance of +/– ½" shall be permitted.*
11. *All lap splices not shown shall be a minimum of 40 bar diameters in length.*
12. *All reinforcing steel shall be supported on fabricated steel bar supports @ 3'–0" maximum spacing.*
13. *All dowels shall be accurately placed and securely tied in place prior to placement of bottom slab concrete. Sticking of dowels into fresh or partially hardened concrete will not be acceptable.*

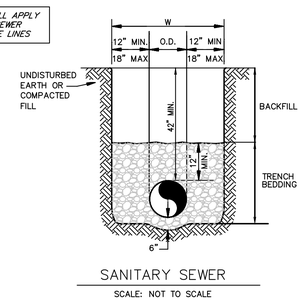
Construction

14. *The bottom slab shall be at least 24 hours old before placing sidewall concrete. All sidewall forms shall remain in place a minimum of 24 hours after sidewalls are poured before removal, and after removal shall be immediately treated with membrane curing compound.*
15. *Pipe connections to pre–cast structures shall have a minimum of 6" of concrete around the entire pipe within 2' of the structure.*
16. *Material selection and compaction requirements for backfill around structures shall be as specified in City of Olathe's Technical Specifications.*



WATER LINE

SCALE: NOT TO SCALE



SANITARY SEWER

SCALE: NOT TO SCALE

REQUIREMENTS PER APWA 2100 AS FOLLOWS:

Sanitary Sewer Bedding Material Gradation Limits (% Passing)	
Sieve Size	3/4"
1"	100
3/4"	90 – 100
3/8"	20 – 55
No. 4	0 – 5
No. 8	0 – 2

Storm Sewer Bedding Material Gradation Limits (% Passing)			
Sieve Size	3/4"	1/2"	3/8"
1"	100		
3/4"	90 – 100	100	
1/2"		80 – 100	
3/8"	20 – 55	40 – 77	100
No. 4	0 – 10	0 – 15	30 – 40
No. 8	0 – 5	0 – 5	0 – 4

Waterline Bedding Material Gradation (% Passing)				
Sieve Size	Type 1 (1/2")	Type 2 (Buckshot)	Type 3 (Man. Sand)	Type 4 (River Sand)
3/4"	95 – 100		100	
3/8"	40 – 60	100	90 – 100	
1/4"			80 – 100	
No. 4		60 – 80	65 – 90	100
No. 8	0 – 5	0 – 15	35 – 75	
No. 50			10 – 25	
No. 200		0	0 – 10	0 – 10

Trench Backfill

1. Backfill shall not be placed when material contains frost, is frozen, or a blanket of snow prevents proper compaction.
2. The Contractor shall remove from the project site waste material, trees, organic material, rubbish, or other deleterious materials.
3. All trash and debris shall be removed from the pipeline excavation prior to backfilling.
4. Backfill material shall be carefully placed to avoid damage to or displacement of the pipe, other utilities or structures.
5. Unless otherwise specified, all trenches and excavations around structures shall be backfilled to the original ground surface.
6. Outside of paved areas, the backfill material shall be placed in layers not exceeding 8–inches in loose thickness and be compacted to at least 90% of maximum density. Compaction testing shall be at the discretion of the Engineer.
7. The method of compaction and the equipment used shall be appropriate for the material to be compacted and shall not transmit damaging shocks to the pipe.
8. The combination of the thickness of the layer, the method of compaction and the type of compaction equipment used shall be at the discretion of the Contractor subject to obtaining the required densities.

Pipe Embedment: All water, sanitary sewer, and storm sewer pipe shall be bedded in bedding aggregate as specified herein.

1. Bedding shall cover the entire width of trench.
2. The first layer of bedding placed on the bottom of excavation shall be in accordance with Figures 1 through 3.
3. Bedding at bottom of trench, in the middle 1/3 of trench under the pipe shall be loose.
4. After pipe is placed, bedding material shall be placed in layers in accordance with manufacturer's recommendations.
5. Second layer of bedding material shall be placed under the lower haunches of the pipe up to the springline (center of pipe). Material shall be spaded to be place under haunches and compacted at the springline elevation prior to placing additional bedding material.
6. The third layer of bedding material shall be placed to 12 inches over the top of pipe.
7. Contractor shall take measures to prevent pipe from floating during placement of bedding material so that pipe maintains proper line and grade as shown on the Plans.

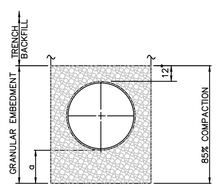


TABLE OF EMBEDMENT DEPTH BELOW PIPE		
D	a MIN. SOIL	a MIN. ROCK
LESS THAN 60"	4"	6"
60" OR LARGER	6"	12"

LEGEND

D NOMINAL PIPE SIZE
a EMBEDMENT BELOW PIPE

GRANULAR EMBEDMENT

TRENCH BEDDING

1. GRANULAR EMBEDMENT SHALL BE KDOT STD. SPEC. SECT. 1100, PB–2 COURSE AGGREGATE FOR CONCRETE, WASHED STONE OR GRAVEL, MEETING THE FOLLOWING CONDITIONS:

SIEVE SIZE	PERCENT RETAINED
1–INCH	0
½–INCH	0–20
⅜–INCH	40–70
No. 8	95–100

GRANULAR EMBEDMENT FROM THE TOP OF PIPE DOWN SHALL BE COMPACTED TO 85% MAXIMUM DENSITY AS DETERMINED BY ASTM D 698.

GRANULAR EMBEDMENT ABOVE TOP OF PIPE SHALL BE AN UN–COMPACTED LAYER FOR ALL INSTALLATIONS.

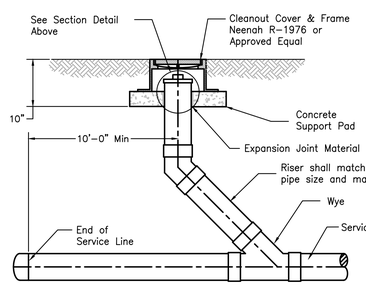
2. TRENCH OUTLINES DO NOT INDICATE ACTUAL TRENCH EXCAVATION SHAPE, SOIL CONDITIONS, OR PRESENCE OF SHEETING LEFT IN PLACE. EMBEDMENT MATERIAL SHALL EXTEND THE FULL WIDTH OF THE ACTUAL TRENCH EXCAVATION.
3. TRENCH WIDTHS SHALL BE LIMITED BELOW AN ELEVATION OF ONE (1) FOOT ABOVE THE TOP OF THE INSTALLED PIPE AS FOLLOWS: NOT LESS THAN FIFTEEN (15) INCHES NOR MORE THAN TWENTY–FOUR (24) INCHES GREATER THAN THE NOMINAL OUTSIDE DIAMETER OF THE PIPE.

BACKFILL

1. ALL MATERIALS ARE CLASSIFIED IN ACCORDANCE WITH ASTM D 2321–89.
2. ALL MATERIALS SHALL BE INSTALLED IN MAXIMUM 8" LOOSE LIFTS IN ACCORDANCE WITH ASTM D 698. CLASS III AND IV–A MATERIALS SHALL BE COMPACTED NEAR OPTIMUM MOISTURE CONTENT.
3. FILL SALVAGED FROM EXCAVATION SHALL BE FREE OF DEBRIS, ORGANICS AND ROCKS LARGER THAN 3".
4. ALL TRENCH EXCAVATIONS SHALL BE SLOPED, SHORED, SHEETED, BRACED, OR OTHERWISE SUPPORTED IN COMPLIANCE WITH OSHA REGULATIONS AND LOCAL ORDINANCES. (SEE SPECIFICATIONS)

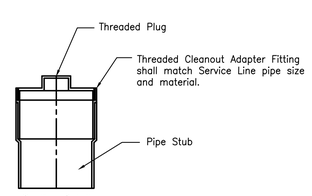
EMBEDMENTS FOR STORM SEWER PIPE

SCALE: N.T.S.



CLEANOUT DETAIL (NON–PAVED AREAS)

SCALE: N.T.S.



STATE OF MISSOURI
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04/12/2024
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CERTIFICATE OF AUTHORIZATION LAND SURVEYING–2007001128 ENGINEERING–2007005308

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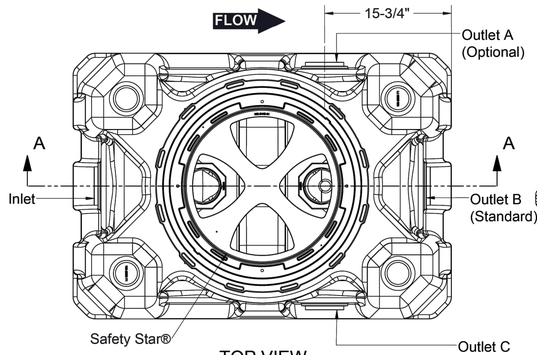
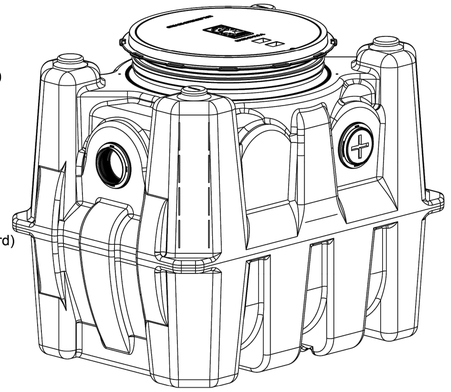
SPECIFICATIONS

Notes:

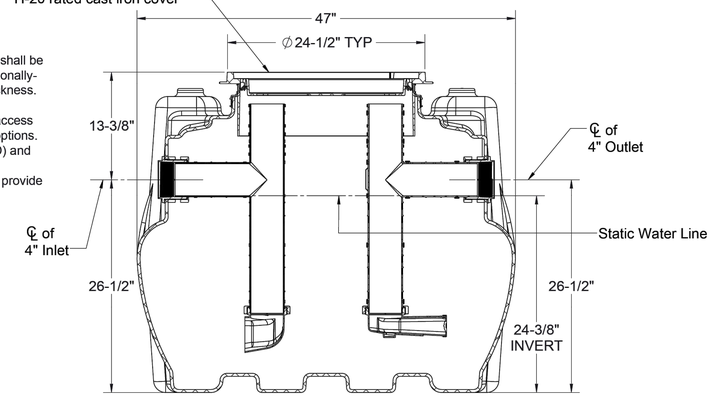
1. 4" FPT inlet/outlet with 4" plain end adapters, single inlet and triple outlet.
2. Unit weight - w/ cast iron covers: 190 lbs. (For wet weight add 1,043 lbs.)
3. Maximum operating temperature: 150º F continuous
4. Capacities - Liquid: 125 gal.
   Grease: 861 lbs. (118 gal.) @75 GPM
   Solids: 31 gal.
5. For gravity drainage applications only.
6. Do not use for pressure applications.
7. Cover placement allows full access to tank for proper maintenance.
8. Vent not required unless per local code.
9. Engineered inlet and outlet diffusers with inspection ports are removable to inspect / clean piping.
10. Integral air relief / Anti-siphon / Sampling access.
11. Adjustable cover adapter provides up to 4" of additional height.
12. Designed for below-grade, above-grade, indoor and outdoor installations.
13. Safety Star®, access restrictor built into cover adapter, prevents accidental entry to tank (450 lb rating).



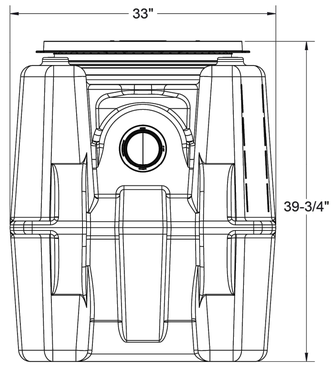
TOP VIEW
(COVER REMOVED FOR CLARITY)



ISOMETRIC VIEW



SECTION A-A



END VIEW

ENGINEER SPECIFICATION GUIDE

Schier Great Basin™ grease interceptor model # GB-75 shall be lifetime guaranteed and made in USA of seamless, rotationally-molded polyethylene with minimum 3/8" uniform wall thickness. Interceptor shall be furnished for above or below-grade installation with adjustable cover adapter, Safety Star® access restrictor built into each cover adapter, and three outlet options. Interceptor shall be certified to ASME A112.14.3 (Type D) and CSA B481.1. Interceptor flow rate shall be 75 GPM. Interceptor grease capacity shall be 861 lbs. Cover shall provide water/gas-tight seal and have minimum 16,000 lbs. load capacity.

CERTIFIED PERFORMANCE

Great Basin™ hydromechanical grease interceptors are third party performance-tested and listed by IAPMO to ASME #A112.14.3 and CSA B481.1 grease interceptor standards and greatly exceed requirements for grease separation and storage. They are compliant to the Uniform Plumbing Code and the International Plumbing Code.

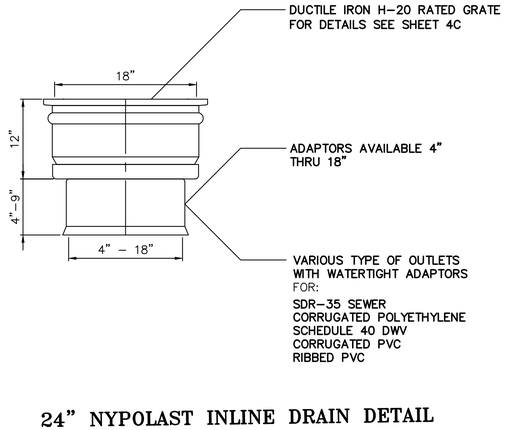
Type D certification does not require a flow control

SPECIFICATION SHEET

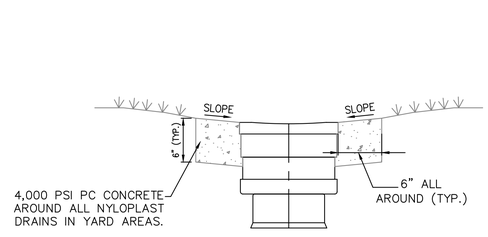
MODEL NUMBER:	PART NUMBER: 4045-007-02			
GB-75	DESCRIPTION: GB-75 GREASE INTERCEPTOR 75 GPM, 4" INLET/OUTLET, H-20 RATED CAST IRON COVER			
PROPRIETARY AND CONFIDENTIAL	DWG BY: C. BUSENITZ	DATE: 4/14/2022	REV: -	ECO: -

UPC ® UPC C ®

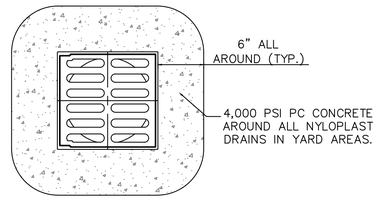
SCHIER
6455 Woodland Dr
Shawnee, KS 66218
Tel: 913-951-3300
Fax: 913-951-3399
schierproducts.com



24" NYPOLAST INLINE DRAIN DETAIL



SECTION



PLAN

NOTE:
CONTRACTOR TO USE STANDARD GRATE IN GRASS OR LANDSCAPING AREAS AND TO USE PEDESTRIAN GRATE IN SIDEWALK AREAS.

DRAIN GRATE CONCRETE BUFFER DETAIL

PHELPS ENGINEERING, INC.
1270 N. Winchester
Olathe, Kansas 66061
(913) 393-1155
Fax (913) 393-1066
www.phelpsengineering.com

PLANNING
ENGINEERING
IMPLEMENTATION

STATE OF MISSOURI
JUDD DAVID CLAUSSEN
NUMBER PE-2009050
04/12/2024
PROFESSIONAL ENGINEER

STANDARD DETAILS

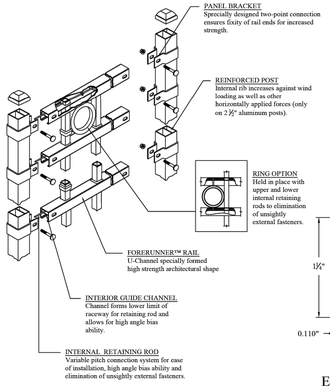
ANDY'S FROZEN CUSTARD
700 NW WARD ROAD
LEE'S SUMMIT, MISSOURI

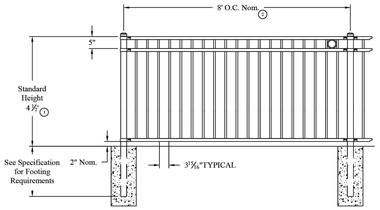
No.	Revisions:	Date	By	App.

PROJECT NO. 240159
DATE: 04-12-2024 | DRAWN: AEB
CHECKED: DAF | APPROVED: JDC
CERTIFICATE OF AUTHORIZATION
KANSAS LAND SURVEYING - LS-82
ENGINEERING - E-391
CERTIFICATE OF AUTHORIZATION
MISSOURI
LAND SURVEYING-2007001128
ENGINEERING-2007035539

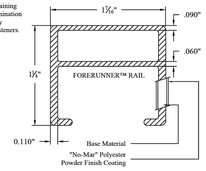
SHEET
C7.3

NOTES:
1. Post size and gauge depends on fence height and wind loads. See ECHELON PLUS™ specifications for post sizing chart.
2. Values shown are nominal and not to be used for installation purposes. See product specification for installation requirements.
3. Additional heights available by request.



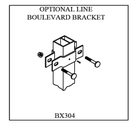


ECHELON PLUS™
PANEL



ECHELON PLUS™ RAIL

IBC COMPLIANCE:
Majestic style with 3-rail configurations shall meet IBC compliance. Panel, post and bracket assemblies shall be subjected to structural performance testing according to Chapter 17 - Structural Tests and Special Inspections - International Building Code (IBC) 2018. Physical testing to be completed by accredited third party testing facility. Completed assembly shall demonstrate loading capacity of 2.5 times prescribed design loads found in section 1607.8.1, 1607.8.1.1 and 1607.8.1.2 of IBC 2018 for Handrails and Guards.



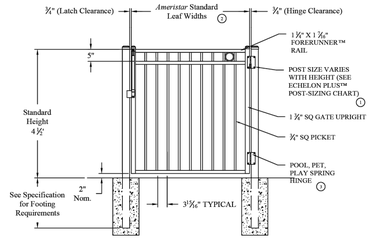
REV C 10/2021

ECHELON PLUS™ MAJESTIC 3-RAIL POOL PANEL

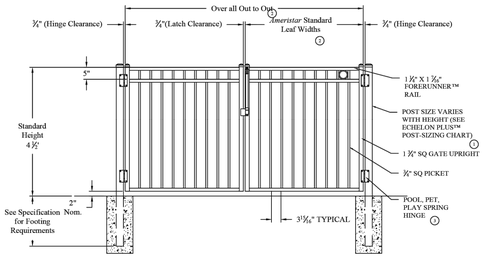
FENCE PRODUCTS
AMERISTARFENCE.COM | 800-321-8724
ASSA ABLOY, the global leader in door opening solutions

AMERISTAR
ASSA ABLOY

NOTES:
1. Post size depends on fence height, weight, and wind loads. See Echelon Plus™ post sizing chart.
2. See Ameristar Gate Table for standard out to outs. Custom gate openings available for special out to out/leaf widths.
3. Additional styles of gate hardware are available on request. This could change the Latch & Hinge Clearance.



ECHELON PLUS™
Single Gate Arrangement



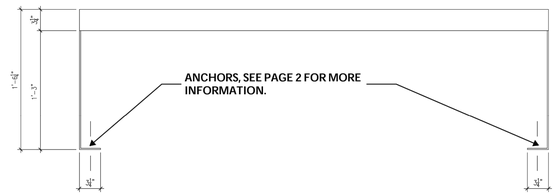
ECHELON PLUS™
Double Gate Arrangement

REV C 10/2021

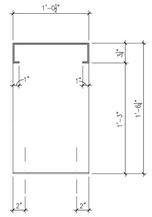
ECHELON PLUS™ MAJESTIC 3-RAIL POOL GATE

FENCE PRODUCTS
AMERISTARFENCE.COM | 800-321-8724
ASSA ABLOY, the global leader in door opening solutions

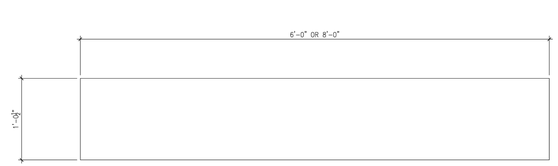
AMERISTAR
ASSA ABLOY



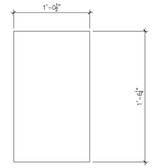
ELEVATION



SECTION



PLAN



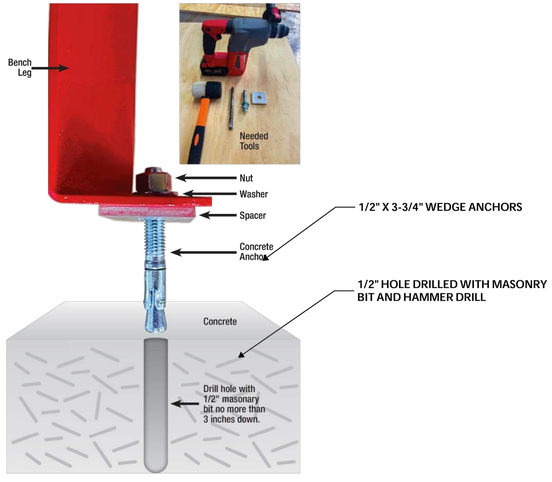
ELEVATION

REFER TO PAGE 2 FOR NOTES AND ADDITIONAL INFORMATION OF BENCH INSTALLATION AND FINISHES.

BENCH EXHIBIT

NOVEMBER 8, 2021

PAGE 1



INSTALLATION DIAGRAM

NOTES:

BENCHES TO BE CONSTRUCTED OF 12 GAUGE STEEL.

BENCHES TO BE SANDBLASTED AND THEN POWDER COATED WITH "PRISMATIC POWDERS – PASSION RED RIVER.

EACH BENCH INCLUDES 4 ALUMINUM SPACERS THAT LIFT THE BENCH OFF CEMENT TO HELP PREVENT RUSTING. SPACERS ARE ¼" THICK ALUMINUM THAT MEASURE 2"X2" AND HAS 1/2" HOLE FOR THE ANCHOR. HOLE IS POSITIONED SO THAT SPACER IS HIDDEN BENEATH THE LEG OF BENCH. SEE INSTALLATION INSTRUCTION DIAGRAM ON THIS SHEET.

BENCH EXHIBIT

NOVEMBER 8, 2021

PAGE 2

STATE OF MISSOURI
JUDD DAVID CLAUSSEN
NUMBER PE-29850
04/12/2024
PROFESSIONAL ENGINEER

PHELPS ENGINEERING, INC.
1270 N. Winchester
Olathe, Kansas 66061
(913) 393-1155
Fax (913) 393-1156
www.phelpsengineering.com

PLANNING
ENGINEERING
IMPLEMENTATION

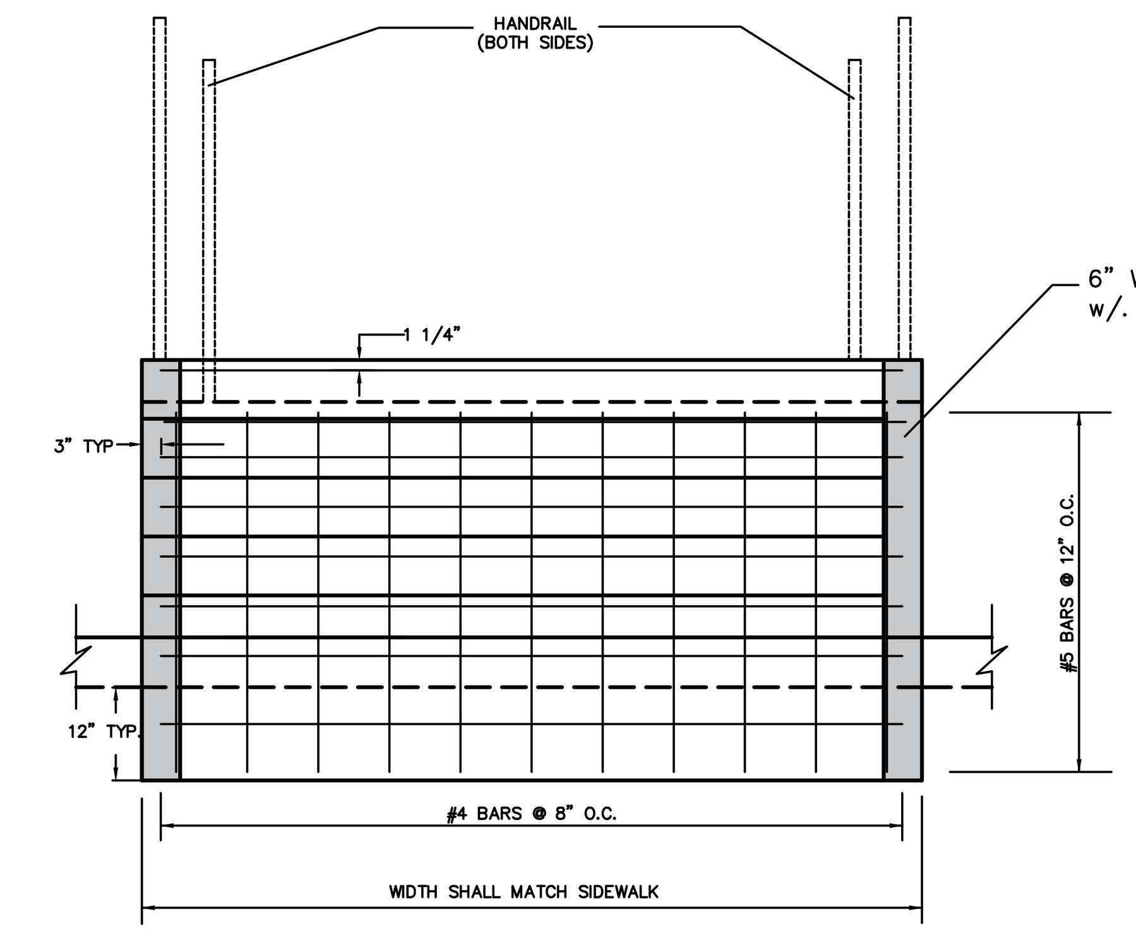
STANDARD DETAILS
ANDY'S FROZEN CUSTARD
700 NW WARD ROAD
LEE'S SUMMIT, MISSOURI

No.	Date	Revisions:	By	App.

PROJECT NO. 240159
DATE: 04-12-2024 | DRAWN: AEB
CHECKED: DAF | APPROVED: JDC
CERTIFICATE OF AUTHORIZATION KANSAS ENGINEERING - LS-82
CERTIFICATE OF AUTHORIZATION LAND SURVEYING-2007001128
ENGINEERING-2007005209

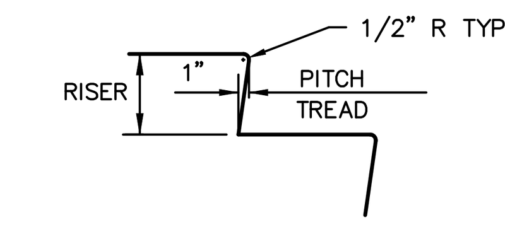
SHEET
C7.4

\\PHELPS-SERVER\projects\P\240159\Dwg\Permit Plans\DETAILS - PRIVATE.dwg Layout:andy May 02, 2024 - 11:44am Audrey Burks

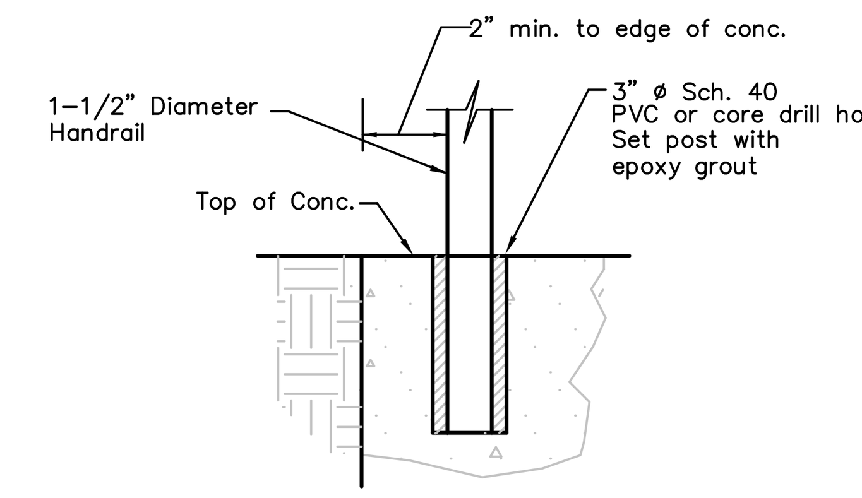


FRONT VIEW (TYP.)

SLOPE	TREAD	RISE
2:1	12"	6"

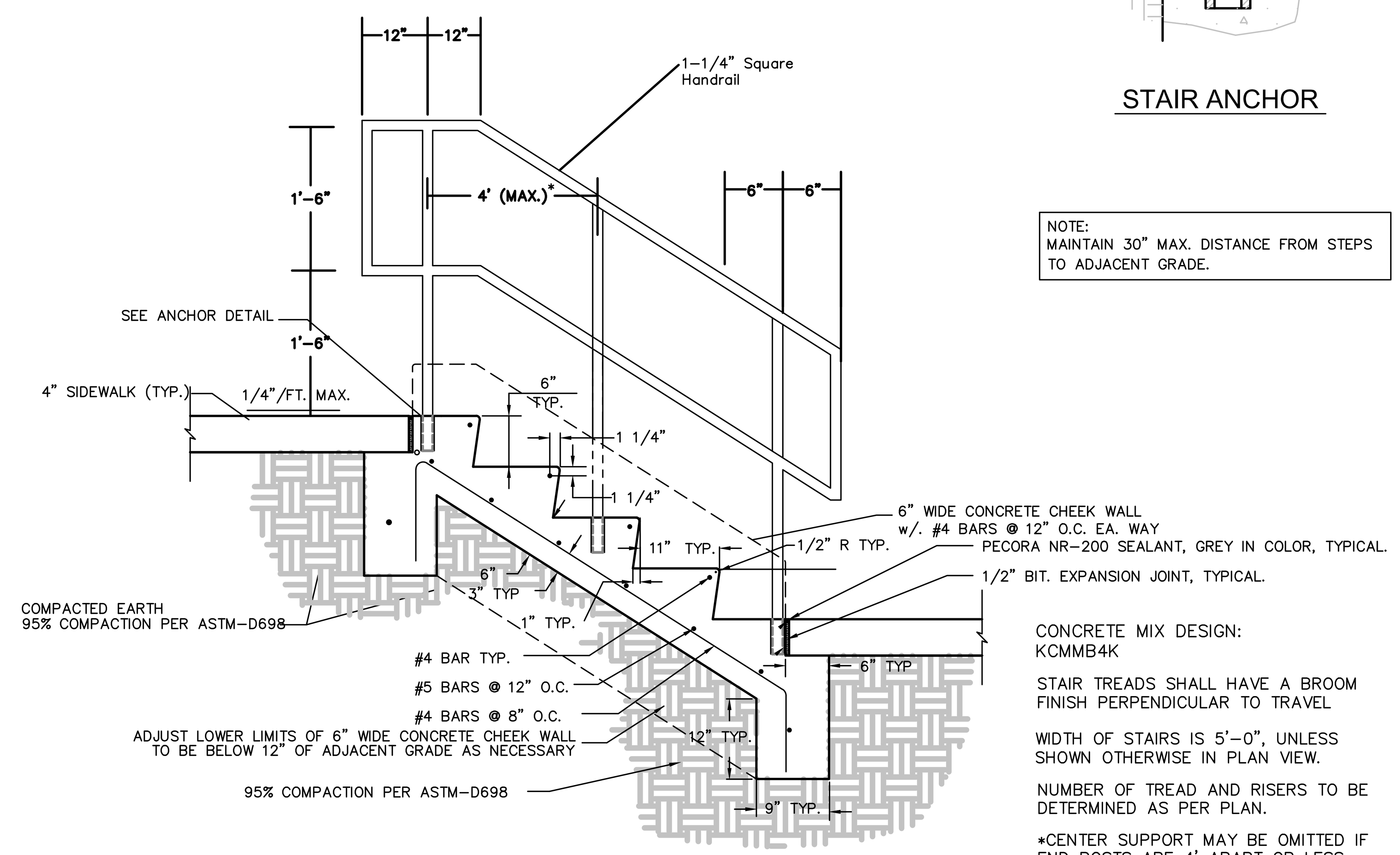


STEP DETAIL (TYP.)



STAIR ANCHOR

NOTE:
MAINTAIN 30" MAX. DISTANCE FROM STEPS TO ADJACENT GRADE.



STAIR SECTION DETAIL (TYP.)

CONCRETE MIX DESIGN:
KCMMB4K

STAIR TREADS SHALL HAVE A BROOM FINISH PERPENDICULAR TO TRAVEL

WIDTH OF STAIRS IS 5'-0", UNLESS SHOWN OTHERWISE IN PLAN VIEW.

NUMBER OF TREAD AND RISERS TO BE DETERMINED AS PER PLAN.

*CENTER SUPPORT MAY BE OMITTED IF END POSTS ARE 4' APART OR LESS

CONTRACTOR TO SUBMIT SHOP DWGS. FOR HANDRAIL FOR APPROVAL

CONCRETE STAIR WITH CHEEK WALL AND HANDRAIL DETAILS

STATE OF MISSOURI
JUDD DAVID CLAUSSEN
NUMBER PE-29850
PROFESSIONAL ENGINEER
04/12/2024

PHELPS ENGINEERING, INC.
1270 N. Winchester
Olathe, Kansas 66061
(913) 393-1155
Fax (913) 393-1166
www.phelpsengineering.com

PLANNING
ENGINEERING
IMPLEMENTATION

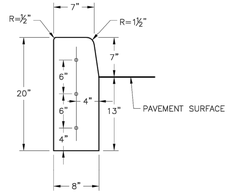
STANDARD DETAILS
ANDY'S FROZEN CUSTARD
700 NW WARD ROAD
LEE'S SUMMIT, MISSOURI

No.	Date	Revisions:	By	App.

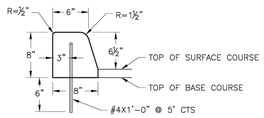
PROJECT NO. 240159
DATE:04-12-2024 | DRAWN: AEB
CHECKED: DAF | APPROVED: JDC
CERTIFICATE OF AUTHORIZATION KANSAS LAND SURVEYING - LS-82 ENGINEERING - E-391
CERTIFICATE OF AUTHORIZATION MISSOURI LAND SURVEYING-2007000128 ENGINEERING-2007005068

SHEET
C7.5

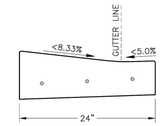
\\PHELPS-SERVER\projects\P\240159\Dwg\Permit Plans\DETAILS - PRIVATE.dwg Layout:STAIRS May 02, 2024 - 11:44am Audrey Burks



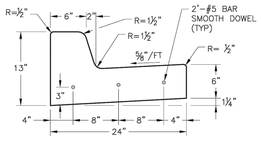
STRAIGHT CURB
(TYPE C-1)



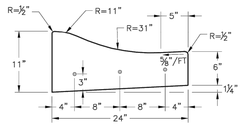
DOWELLED CURB
(TYPE DC)



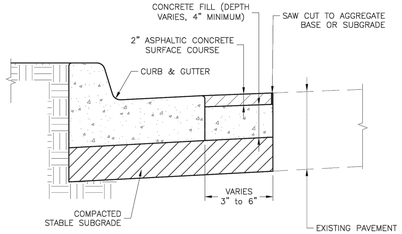
CURB & GUTTER DETAIL AT RAMP
(ADA SLOPE REQUIREMENTS)



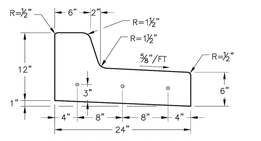
STRAIGHT BACK CURB & GUTTER
(TYPE CG-1)



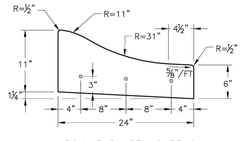
ROLL BACK CURB & GUTTER
(TYPE CG-2)



CURB REPLACEMENT DETAIL



STRAIGHT BACK DRY CURB & GUTTER
(TYPE CG-1 DRY)



ROLL BACK DRY CURB & GUTTER
(TYPE CG-2 DRY)

GENERAL NOTES

1. ¾" ISOLATION JOINTS WITH 3 (2'-#5 BAR) SMOOTH DOWELS SHALL BE PLACED AT RADIUS POINTS AND AT 150' INTERVALS. THESE DOWEL BARS SHALL BE GREASED AND WRAPPED ON ONE END WITH EXPANSION TUBES.
2. 3" DEEP CONTRACTION JOINTS SHALL BE INSTALLED AT APROXIMATELY 10' INTERVALS. THESE JOINTS SHALL PASS ACROSS THE ENTIRE CURB SECTION.
3. CONCRETE FILL SHALL HAVE UNIFORM AND SMOOTH FINISH
4. KCMMB 4K CONCRETE SHALL BE USED FOR ALL CURB.
5. ASPHALTIC CONCRETE SURFACE COURSE SHALL CONFORM TO STANDARD SPECIFICATIONS SECTION 2205.2.
6. CURBS FOR NEW STREETS SHALL BE BUILT ON ASPHALT OR AGGREGATE BASE AS SHOWN IN TYPICAL SECTION DETAIL.
7. WHITE CURING COMPOUND MUST BE APPLIED UNIFORMLY TO THE CONCRETE SURFACE IMMEDIATELY AFTER FINAL FINISHING.

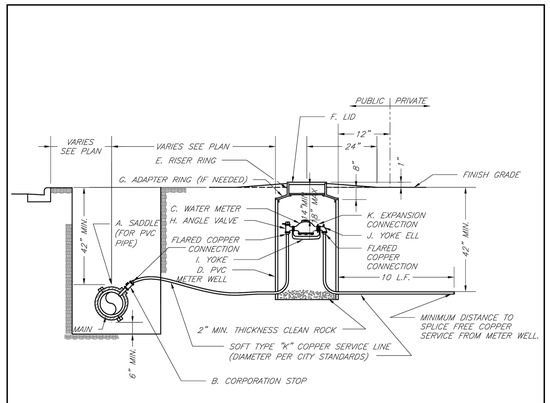
LEE'S SUMMIT MISSOURI
PUBLIC WORKS ENGINEERING DIVISION | 220 SE GREEN STREET | LEE'S SUMMIT, MO 64063

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

Sheet Name: CURB & GUTTER DETAIL

Drawn By: MJF
Checked By: DL
Date: 04/17
Proj. #:

GEN-4



TYPICAL METER INSTALLATION - 2" AND SMALLER
NOT TO SCALE

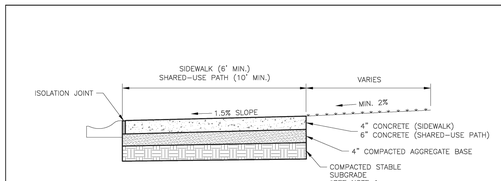
NOTES:

1. METER INSTALLATION SHALL NOT BE LOCATED IN AREAS SUBJECT TO VEHICULAR TRAFFIC OR IN CONCRETE PAVEMENT WITHOUT CITY APPROVAL.
2. IF METER IS TO BE LOCATED OTHER THAN IN FRONT OF PROPERTY LINE, CITY APPROVAL SHALL BE OBTAINED.
3. CITY TO FURNISH ITEMS A-K.
4. NO OTHER EQUIPMENT SHALL BE INSTALLED IN THIS PIT.
5. 42" MINIMUM BURY DEPTH FOR ALL SERVICE LINES.
6. EXCAVATION FOR TAP TO EXPOSE 4 LINEAR FEET OF MAIN.
7. NO SPLICES ALLOWED BETWEEN METER AND MAIN.
8. SERVICE CONNECTION TAP AT APPROXIMATELY 45 DEGREES.
9. LID AND RISER RING SHALL BE SET SO THAT GROUND WATER WILL DRAIN AWAY FROM THE WELL.
10. CONTACT WATER UTILITIES, 816-969-1900, FOR REQUIREMENTS OF A METER LARGER THAN 2"

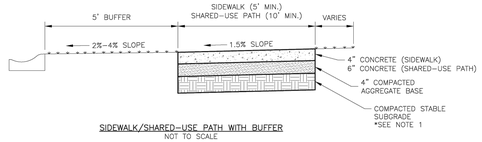
LEE'S SUMMIT MISSOURI
PUBLIC WORKS ENGINEERING DIVISION | 220 SE GREEN STREET | LEE'S SUMMIT, MO 64063

SERVICE CONNECTION/METER WELL

Date: 02/13
Drawn By: JN
Checked By: DL
FILE: WAT-11
Rev: 1/14
Rev.



SIDEWALK/SHARED-USE PATH WITHOUT BUFFER
NOT TO SCALE



SIDEWALK/SHARED-USE PATH WITH BUFFER
NOT TO SCALE

GENERAL NOTES:

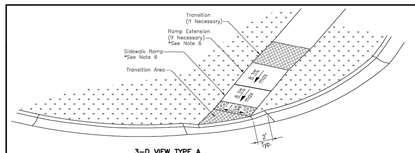
1. SUBGRADE MUST BE OF STABLE, COMPACTED EARTH AND SHALL BE OVERLAYED WITH 4" COMPACTED DENSE GRADED AGGREGATE BASE.
2. 1.5% CROSS SLOPE MUST BE MAINTAINED THROUGH DRIVEWAYS.
3. KCMMB 4K CONCRETE MIX SHALL BE REQUIRED FOR ALL SIDEWALKS/SHARED-USE PATHS.
4. ALL SIDEWALK/SHARED-USE PATHS SHALL MEET CURRENT PUBLIC RIGHT OF WAY ACCESSIBILITY GUIDELINES (PROWAG).
5. AN ISOLATION JOINT SHALL BE PLACED AT A MAXIMUM OF 100 FT. CONSTRUCTION JOINTS SHALL BE PLACED THE SAME WIDTH OF SIDEWALK/SHARED-USE PATHS, BUT NO GREATER THAN 10 FT.
6. AN ISOLATION JOINT SHALL BE PLACED WHERE THE SIDEWALK/SHARED-USE PATHS MEETS A RESIDENTIAL DRIVEWAY.
7. SHARED-USE PATHS WIDTH SHALL BE 10 FT. WIDE.
8. SIDEWALK/SHARED-USE PATHS FINISHING SHALL BE FULL BROOM FINISH OR AS DIRECTED BY CITY INSPECTOR.
9. WHITE CURING COMPOUND MUST BE APPLIED UNIFORMLY TO THE CONCRETE SURFACE IMMEDIATELY AFTER FINAL FINISHING.

LEE'S SUMMIT MISSOURI
PUBLIC WORKS ENGINEERING DIVISION | 220 SE GREEN STREET | LEE'S SUMMIT, MO 64063

SIDEWALK/SHARED-USE PATH DETAIL

Date: 08/2023
Drawn By: MJF
Checked By: DL

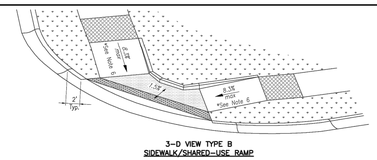
GEN-2



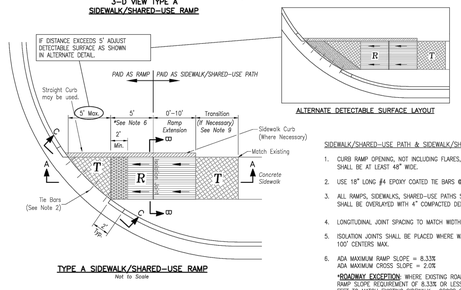
J-D VIEW TYPE A
SIDEWALK/SHARED-USE RAMP

LEGEND

- R — SIDEWALK RAMP
- TS — TURNING SPACE
- DETECTABLE WARNING SURFACE
- T — TRANSITION



J-D VIEW TYPE B
SIDEWALK/SHARED-USE RAMP

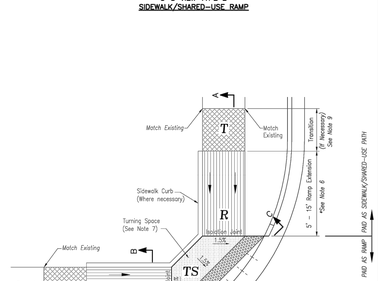


TYPE A SIDEWALK/SHARED-USE RAMP
Not to Scale

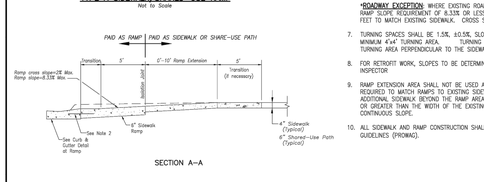
ALTERNATE DETECTABLE SURFACE LAYOUT

SIDEWALK/SHARED-USE PATH & SIDEWALK/SHARED-USE RAMP NOTES:

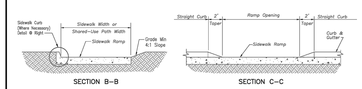
1. CURB RAMP OPENING, NOT INCLUDING FLARES, SHALL MATCH EXISTING SIDEWALK WIDTH AND OPENING SHALL BE AT LEAST 48" WIDE.
2. USE 18" LONG #4 EPOXY COATED TIE BARS @ 24" O.C. EMBED TIE BARS 9" IN EACH DIRECTION.
3. ALL RAMPS, SIDEWALKS, SHARED-USE PATHS SUBGRADE MUST BE OF STABLE, COMPACTED EARTH AND SHALL BE OVERLAYED WITH 4" COMPACTED DENSE GRADED AGGREGATE BASE.
4. LONGITUDINAL JOINT SPACING TO MATCH WIDTH OF SIDEWALK.
5. ISOLATION JOINTS SHALL BE PLACED WHERE WALK ABUTS DRIVEWAYS AND SIMILAR STRUCTURES, AND 100' CENTERS MAX.
6. ADA MAXIMUM RAMP SLOPE = 8.33%
   ADA MAXIMUM CROSS SLOPE = 2.0%
   *ROADWAY EXCEPTION: WHERE EXISTING ROAD PROFILE GRADE DOES NOT ALLOW RAMP TO MEET RAMP SLOPE REQUIREMENT OF 8.33% OR LESS, THE RAMP SHALL BE EXTENDED TO A LENGTH OF 15 FEET TO MATCH EXISTING SIDEWALK. CROSS SLOPE OF RAMP SHALL BE 1.5%, ±0.5%.
7. TURNING SPACES SHALL BE 1.5%, ±0.5% SLOPE IN ANY DIRECTION. TURNING SPACES SHALL HAVE A MINIMUM 4'x4' TURNING AREA. TURNING SPACES, WITH A SIDEWALK CURB, SHALL HAVE A 5' TURNING AREA PERPENDICULAR TO THE SIDEWALK CURB.
8. FOR RETROFIT WORK, SLOPES TO BE DETERMINED IN FIELD BY CONTRACTOR AND APPROVED BY CITY INSPECTOR
9. RAMP EXTENSION AREA SHALL NOT BE USED AS TRANSITION TO EXISTING SIDEWALK. ANY TRANSITIONS REQUIRED TO MATCH RAMPS TO EXISTING SIDEWALK SHALL REQUIRE REMOVAL AND REPLACEMENT OF ADDITIONAL SIDEWALK BEYOND THE RAMP AREA. SIDEWALK TRANSITION LENGTH SHALL BE EQUAL TO OR GREATER THAN THE WIDTH OF THE EXISTING SIDEWALK. RAMP EXTENDING SHALL BE A CONTINUOUS SLOPE.
10. ALL SIDEWALK AND RAMP CONSTRUCTION SHALL MEET CURRENT PUBLIC RIGHT OF WAY ACCESSIBILITY GUIDELINES (PROWAG).



TYPE B SIDEWALK/SHARED-USE RAMP
Not to Scale



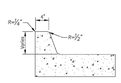
SECTION A-A



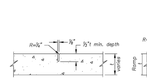
SECTION B-B

SECTION C-C

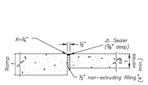
TYPE A & B SIDEWALK RAMP
Not to Scale



SIDEWALK CURB DETAIL
Not to Scale

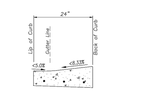


CONTRACTION JOINT



ISOLATION JOINT

JOINT DETAILS
Not to Scale



CURB & GUTTER DETAIL AT RAMP
Not to Scale

LEE'S SUMMIT MISSOURI
PUBLIC WORKS ENGINEERING DIVISION | 220 SE GREEN STREET | LEE'S SUMMIT, MO 64063

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

Sheet Name: ADA RAMP RETROFIT DETAIL

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

GEN-3A

No.	Date	Revisions:	By	App.

PROJECT NO. 240159
DATE 04-12-2024 | DRAWN: AEB
CHECKED: DJF | APPROVED: JDC
CERTIFICATE OF AUTHORIZATION
KANSAS ENGINEERING - LS-82
ENGINEERING - E-391
CERTIFICATE OF AUTHORIZATION
MISSOURI
LAND SURVEYING-2007001128
ENGINEERING-2007005938

STATE OF MISSOURI
JUDD DAVID CLAUSSEN
NUMBER PE-2010029850
04/12/2024

PHELPS ENGINEERING, INC.
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PLANNING
ENGINEERING
IMPLEMENTATION

STANDARD DETAILS
ANDY'S FROZEN CUSTARD
700 NW WARD ROAD
LEE'S SUMMIT, MISSOURI

SHEET
C7.6

\\PHELPS-SERVER\projects\P\240159\Dwg\Permit Plans\DETAILS - PRIVATE.dwg Layout:STORM 1 May 02, 2024 - 11:44am Audrey Burks

GENERAL NOTES:

For definitions of proper nouns used in these general notes (i.e. Owner, Architect, Contractor, Work, etc.), refer to *AIA Document A201-2017 General Conditions of the Contract for Construction.*

1. All work and materials furnished shall comply with ALL applicable building codes, including, but not limited to, the regulations of the National Board of Fire Underwriters, National Fire Protective Association Requirements and all Federal, State, and Municipal authorities having jurisdiction over the work.

2. Contractor is responsible for securing and obtaining all necessary permits, approvals, and inspections and paying all applicable fees for all Subcontractors.

3. Contractor must comply with all appropriate municipal and regulatory agencies, codes and requirements. The contractor shall submit certificates of insurance and lien waivers in accordance with building requirements and shall include a hold harmless clause for the owner, building management, and the Architect.

4. Contractor shall provide inspections as required for the City Building Department approval.

5. The submission of a proposal by the Contractor will be construed as evidence that a careful and thorough examination of the premises has been made and later claims for labor, materials or equipment required or for difficulties encountered, which could have been foreseen had such an examination been made, will not be recognized. The submission of a proposal by the Contractor shall also constitute a representation that the Contractor has checked and verified all quantities, work and materials involved and that he or she shall take responsibility or any deficiencies therein.

6. Before ordering any materials or doing any work, each Subcontractor shall verify all measurements at the building and shall be responsible for correctness of same. No extra charge or compensations will be allowed on account of any difference between actual dimensions and the measurements indicated on the drawings; any discrepancies between the drawings and field conditions which may be found shall be submitted to the Architect for consideration and clarification before proceeding with the work. The Contractor shall be responsible for any deviations from the Contract Documents.

7. All the Architect's drawings and construction notes are complimentary and what is called for by either will be binding as if called for by all; any work shown or referred to on any one drawing shall be provided by the Contractor as shown on all drawings. Whenever an item is specified and/or shown on the drawings by detail or reference it shall be considered typical for other items which are obviously intended to be the same, even though not so designated or specifically named but do serve the same function.

8. Larger scale details or drawings shall govern smaller scale drawings which they are intended to amplify. Details or conditions indicated for a portion of the work but not carried out fully for other portions shall apply throughout to all similar portions except as otherwise specifically noted. In every case a more expensive item or method shall be assumed over a less expensive one and dimensions shall be figured rather than determined by rule or scale.

9. The character and scope of the Work are illustrated by the Drawings. To interpret and explain the Drawings, other information deemed necessary by the Architect will be furnished to the Contractor when and as required by the Work. It is to be understood that the said additional drawings are to be of equal force as the original drawings, and shall be considered as forming a part of this set.

10. The Contractor shall abide by and comply with the true intent and meaning of the drawings and notes taken as a whole and shall not avail himself or herself of any obvious errors or omissions, should any exist. Should any error or discrepancy appear or any doubt arise as to the true meaning of the drawings or notes, the contractor shall bring such items to the attention of the Architect before submission of a bid or proposal for explanation or correction of same.

11. The work to be performed consists of furnishing all labor, equipment, tools, transportation, supplies, fees, materials, and services in accordance with these General Notes and Construction Documents; and includes performing all operations necessary to construct and install complete, in satisfactory condition, the various materials and equipment at the locations shown within the Construction Documents. It is intended that the drawings include everything requisite and necessary to finish the entire work properly, notwithstanding the fact that every item necessarily involved may not be specifically mentioned or shown. Any item which may be reasonably construed as incidental to the proper and satisfactory completion of the work in accordance with the intent of these notes and drawings is hereby included.

12. The contractor shall notify the Architect immediately if he cannot for any reason comply with all the requirements of these General Notes and Construction Documents.

13. The contractor shall submit in writing all proposals for additional work to the Architect for review. No additional work by the Contractor or its agents is to proceed until a signed authorization to proceed is returned to Contractor.

14. Work affected by changes proposed in any revised drawings or other documents issued to the Contractor shall not be executed unless changes are accompanied by letter of authorization from the owner to proceed accordingly. In cases where instructions accompanying an issue of revised drawings or specifications request estimates of cost, such estimates shall be prepared and submitted promptly to the owner in order not to affect the progress of the work.

15. Payment will not be made to the Contractor on changes or extras unless they are approved in writing by Owner or Owner's Representative.

16. The Project has been designed and detailed for the specific materials and equipment specified. No substitutions shall be made without the express written consent of the Architect. If the specified material is not available, the contractor shall propose an alternate material and shall provide drawings, samples, specifications, manufacturer's literature, performance data, etc., in order that the Architect can evaluate the proposed substitution. If the substitution affects a correlated function, adjacent construction, or the work of any other contractor or trade, the necessary changes and modifications to the affected work shall be accomplished by the contractor at no additional expense to the owner. No requests for substitutes will be entertained by the Architect due to contractor's failure to order materials in a timely manner.

17. All materials required for the performance of this work shall be new and of the best quality of the kinds specified. The use of old or second-hand materials is strictly forbidden, except for locations on the drawings that refer to removal and relocation of materials or equipment. All materials shall be used in accordance with the manufacturer's specifications. The Contractor shall submit all product warranties. The Contractor shall warranty all work as per state and/or local jurisdiction regulations. Upon request, the manufacturer's representative shall go to the site and instruct the mechanics in the use of the materials or shall supervise their use.

18. The standard specifications of the manufacturers approved for use in the project are hereby made a part of these notes with the same force and effect as though herein written out in full, except that wherever the drawings require heavier members, better quality materials or are otherwise more stringent, those more stringent requirements shall govern.

19. The Contractor shall submit all fabrication shop drawings, samples, and fixture cuts for the Architect's review as required and/or indicated on the drawings. The Architect's review shall not be constructed as an indication that the submittal is correct or suitable nor that work represented by submittal complies with the drawings, except as to the matters of finish, color, and other aesthetic matters. The duties noted above do not relieve the Contractor from responsibility to coordinate all trades and to check quantities and dimensions against conditions in the field. Contractors shall assume responsibility for all errors on their drawings.

20. The Contractor shall submit all shop drawings, complete with manufacturer's equipment cuts, for approval by the Architect prior to commencement of work.

21. When "approved equal", "equal to", or other general qualifying terms are used it shall be based upon the review and approval by the Owner or the Owner's Representative. No material substitutions shall be made without first informing the Owner. Submit substitute materials specifications and samples to the Architect for approval, in writing prior to commencement of work.

22. Any materials delivered or work performed, contrary to the drawings and specifications and approved shop drawings, shall be removed by the Contractor at his own expense, and the same shall be replaced with other materials or work satisfactory to the Architect. The Contractor shall also assume the cost of replacing the work which may be disturbed by the Contractor.

23. The Contractor shall be responsible for properly and accurately laying out the work and for the lines and measurements herein. The contractor shall establish necessary reference lines and permanent bench marks from which building lines and elevation shall be taken. Heights of all work called for "A.F.F." including but not limited to soffits, ceilings, doors, and hollow metal shall be true and level within a maximum tolerance of 1/8" overall throughout the entire project.

24. All HVAC, plumbing, sprinkler and electrical lines are to be coordinated so that no conflicts occur. Any conflicts which result in a relocation of a finished surface must be brought to the attention of the Architect/Engineer prior to installation.

25. Unless otherwise noted, the Contractor shall provide a one-year warranty covering all work performed and equipment installed, from the time of Substantial Completion.

26. Contractor shall carefully remove and protect items indicated by the Owner or in the Construction Documents to be saved for re-use.

27. The Contractor shall keep the Architect informed of the progress of the Work.

28. Contractor is responsible for the safety and protection of workers, public, and property.

29. A copy of the latest set of Construction Documents shall be kept at the job site for review by the Owner, the Owner's Representative, the Architect, or inspectors.

30. The Contractor shall have a competent superintendent on the premises at all times when the work is in progress.

31. All mechanical and electrical work shall be performed by persons licensed in their trades.

32. The Contractor shall coordinate their own work with the work of all other Contractors and Subcontractors, whether their own or those on separate contract. Prior to commencing work, the Contractor shall provide a work schedule to show estimated commencement and completion dates of each trade and also identifying long lead items. Contractor shall be responsible for giving all trades such information, plans or details as may be required for the proper installation of their work. All materials shall be ordered sufficiently ahead of time so that work can proceed on schedule. No substitution of materials will be accepted because of failure to do order material on time.

33. The owner reserves the right to let other contacts in connection with the work of the project. The Contractor shall be responsible for coordination of work with other contractors. The Contractor shall afford other contractors reasonable opportunity for the introduction and storage of their materials and equipment and the execution of their work.

34. The Contractor is responsible for the following conditions:
A. The premises and the job site shall be maintained in a reasonably neat and orderly condition and kept free from accumulations of waste materials and rubbish during the entire construction period. Remove crates, cartons and other flammable waste materials or trash from the work areas at the end of each working day. Contractor to control cleaning to prevent dirt or dust from leaving the job site and infiltrating areas not involved in the project. No material or debris storage shall be permitted at the street or sidewalk at any time.

B. Electrical closets, pipe and duct shafts chases, furred spaces and similar spaces shall be cleaned and left free from rubbish loose plaster, mortar drippings, extraneous construction materials, dirt and dust.

C. Contractor shall protect and be responsible for the existing structure, facilities and improvements adjoining the area under this contract. Any disturbance or damage to adjoining property resulting directly or indirectly from the contractor's operation shall be promptly restored, repaired or replaced to the satisfaction of the client at no additional cost.

D. Clean up immediately upon completion of each trade's work.

E. This cleaning includes the removal of trash and rubbish from these areas, broom cleaning of floors, the removal of any plaster, mortar, dust and other extraneous materials from finish surfaces, including but not limited to miscellaneous metal, woodwork, plaster, glass, gypsum drywall, masonry, concrete, mechanical and electrical equipment, piping ductwork, conduit, and surfaces visible after permanent fixtures, induction unit covers, grilles, registers, and other such fixtures or devices are in place.

F. In addition to the cleaning specified above and the more specific cleaning which may be required in various sections of the specifications the premises shall be prepared for occupancy by:

(i) a thorough cleaning throughout including washing or cleaning by other approved methods of all floors and surfaces on which dirt or dust has collected and by washing glass, removing all paint, foreign material, and stains thereon.

(ii) providing and maintain adequate runner strips of non-staining reinforced kraft building paper on finished floors as required for protection.

(iii) leaving all fixtures and equipment in an undamaged, bright, clean, polished condition.

(iv) clean and polish all hardware and all other metal work.

(v) do all other cleaning as required to turn the premises over to the owner in a spotless and orderly condition.

35. The Owner reserves the right to accept or refuse any bids/proposals from any Contractor or Subcontractor without exception.

36. The Contractor is Responsible for the following conditions related to safety of public and property:

A. Institute and maintain safety measures and provide all equipment or temporary construction necessary to safeguard all persons and property affected.

B. Structures, devices, or construction equipment shall not be loaded in excess of their design capacity.

C. Before using construction equipment or devices, same shall be inspected by the person superintending the work, and defects or unsafe conditions shall be promptly corrected before use.

D. Determine location, protect and safeguard all utilities on or adjacent to site. Notify all utility companies and building management as required.

E. Maintain fire preventive, sanitary and safety facilities.

F. All machines, tools, service lines and conduits shall be shielded or barricaded to provide safety and prevent contact by the public.

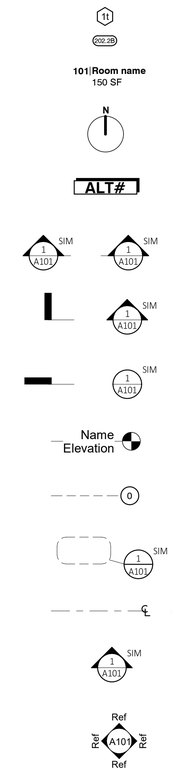
G. No materials shall be dropped or thrown outside the exterior walls of the building.

H. Areas used by the public shall be maintained free from debris, equipment, materials.

ABBREVIATIONS:

#	Pound or Number
&	And
Ø	Diameter or Round
@	At
A	
A/C	Air Conditioning
AB	Anchor Bolt
ABV	Above
AC OR ACOUS	Acoustical
ACC	Access
ACT	Acoustical CeilingTile
ACU	Air Conditioning Unit
AD	Access Door
AD	Area Drain
ADD	Addendum
ADDL	Additional
ADH	Adhesive
ADJ	Adjacent
ADJT	Adjustable
AFF	Above Finish Floor
AGG	Aggregate
AHU	Air Handling Unit
ALLOW	Allowance
ALT	Alternate
ALUM	Aluminum
ANC	Anchor/ Anchorage
ANG	Angle
ANOD	Anodized
AP OR AC PNL	Access Panel
APC	Architectural Precast Concrete
APPROX	Approximate
ARCH	Architect(ural)
ASPH	Asphalt
AUTO	Automatic
AVE	Avenue
AVG	Average
AWT	Acoustical Wall Treatment
B	
B&B	Balled & Bagged
BAL	Balance
BC	Back of Curb
BD	Board
BF	Bottom Face
BFE	Bottom Footing Elevation
BG	Bumber Guard
BITUM	Bituminous
BJT	Bed Joint
BL	Building Line
BLDG	Building
BLK	Block
BLKG	Blocking
BLR	Boiler
BLW	Below
BM	Beam
BM	Bench Mark
BO	Bottom Of
BOC	Bottom of Curb
BOS	Bottom of Steel
BOT	Bottom
BPL	Bearing Plate
BR	Bedroom
BRG	Bearing
BRIDG	Bridging
BRK	Brick
BRKT	Bracket
BRZ	Bronze
BS	Both Sides
BSMT	Basement
BTWN	Between
BUR	Built-up Roofing
BVL	Bevel(ed)
BW	Both Ways
BYND	Beyond
C	
C	Celsius, Degree
C of O	Certificate of Occupancy
C to C	Center to Center
CAB	Cabinet
CANTL	Cantilever
CB	Catch Basin
CEM	Cement
CER	Ceramic
CF	Cubic Foot
CFCI	Contractor Furnished Contractor Installed
CFM	Cubic Feet Per Minute
CG	Corner Guard
CH	Coat Hook
CHAM	Chamfer
CHBD	Chalkboard
CHEM	Chemical, Chemistry
CI	Cubic Inch
CIP	Cast-In-Place
CIPC	Cast-In-Place Concrete
CIR	Circle
CJ	Control Joint
CKT	Circuit
CL	Center Line
CLG	Ceiling
CLG HT	Ceiling Height
CLL	Contract Limit Line
CLO	Closet
CLR	Clear(ance)
CLRM	Classroom
CM	Centimeter(s)
CM	Construction Manager
CMP	Currugated Metal Pipe
CMU	Conc. Masonry Unit
CND	Conduit
CO	Change Order
CO	Clean Out
COL	Column
COMM	Communication Outlet
CONC	Concrete
COND	Condenser or Condensate
CONF	Conference
CONN	Connect(ed)(ion)
CONST	Construction
CONT	Continuous
CONTR	Contractor
COORD	Coordinate
CORR	Corridor
CORR	Corrugated
CPT	Carpet(ed)
CRS	Course(s)
CSWK	Casework
CT	Ceramic Tile
CTR	Center
CUH	Cabinet Unit Heater
CW	Cold Water
CY	Cubic Yard
CYL	Cylinder
D	
D	Depth
DB	Decibel
DBL	Double
DBL ACT	Double Acting
DC	Direct Current
DEG	Degree
DEMO	Demolish, Demolition
DEPT	Department
DF	Drinking Fountain
DH	Double Hung
DIA	Diameter
DIAG	Diagonal
DIFF	Diffuser
DIM	Dimension
DIR	Direction,Director
DISP	Dispenser
DIST	Disribution
DIV	Division
DK	Dark
DL	Dead Load
DMT	Demountable
DN	Down
DO	Door Opening
DP	Dampproofing
DP	Deep
DR	Door
DS	Downspout
DSGN	Design
DTL	Detail
DUP	Duplicate
DW	Dishwasher
DWG	Drawing
DWL(S)	Dowel(s)
DWR	Drawer
E	
E	East
EA	Each
EE	Each End
EF	Each Face
EF	Exhaust Fan
EG	Exhaust Grille
EIFS	Exterior Insulation& Finish System
EJT	Expansion Joint
EL OR ELV	Elevation
ELAS	Elastomeric
ELEC	Electrical
ELEV	Elevator
EMER	Emergency
ENCL	Enclosure
ENGR	Engineer
ENTR	Entrance
EQ	Equal
EQUIP	Equipment
ESC	Escalator
EST	Estimate
ESTB	Establish
EW	Each Way
EWC	Electric Water Cooler
EXH	Exhaust
EXIST'G	Existing
EXP	Expansion
EXT	Exterior
EXTRU	Extrusion
F	
F	Farenheit
FA	Fire Alarm
FAS	Fasten, Fastener
FB	Face Brick
FBO	Furnished By Others
FCO	Floor Cleanout
FD	Floor Drain
FDTN	Foundation
FE	Fire Extinguisher
FEC	FIre Extinguisher Cabinet
FF	Finished Floor
FF&E	Furniture, Fixtures, & Equipment
FFE	Finished Floor Elevation
FFL	Flinished Floor Line
FH	Fire Hydrant/Hose
FHC	FIre Hose Cabinet
FHMS	Flat Head Machine Screws
FHWS	Flat Head Wood Screws
FIN	Finish
FIX	Fixture
FL	Flow Lines
FLASH	Flashing
FLR	Floor
FLUOR	Fluorescent
FOC	Face of Concrete
FOF	Face of Finish
FOM	Face of Masonry
FOS	Face of Stud
FOW	Face of Wall
FP	Fireproof
FR	FIre Rated, FIre Retardant
FRM	Frame
FS	Full Size
FSP	Fire Stand Pipe
FT or '	Foot, Feet
FTG	Footing
FUR	Furring
FURN	Furnish
FUT	Future
FV	Field Verify
FVC	FIre Valve Cabinet
G	
G	Gas
GA	Gage or Gauge
GAL	Gallon
GALV	Galvanized
GB	Grab Bar
GC	General Contract(or)
GEN	Generator
GFRC	Glass FIber Reinforced Concrete
GFRG	Glass FIber Reinforced Gypsum
GL	Glass
GLU LAM	Glue Laminated
GR	Grade
GR BM	Grade Beam
GRND	Ground
GSF	Gross Square Feet
GU	Gutter
GWB	Gypsum Wallboard
GYP	Gypsum
GYP BD	Gypsum Wallboard
H	
H	High
H PT	High Point
HB	Hose Bibb
HC	Hollow Core
HD	Head
HDBD	Headboard
HDF	High Density Fiberboard
HDR	Header
HDWD	Hardware
HDWR	Hardwood
HJT	Head Joint
HM	Hollow Metal
HNDRL	Handrail
HORIZ	Horizontal
HP	Horsepower
HR	Hour
HT	Height
HTG	Heating
HTR	Heater
HVAC	Heating, Ventilating, Air Conditioning
HW	Hot Water
HWH	Hot Water Heater
HWY	Highway
HYD	Hydrant
HZ	Hertz
I	
ICF	Insulated Concrete Form
ID	Inside Diameter
IF	Inside Face
ILLUM	Illumination
IN or "	Inches
INCL	Include(d)(ing)
INFO	Information
INSUL	Insulation
INSUL PNL	Insulated Panel
INT	Interior
J	
JAN	Janitor
JB	Junction Box
JC	Janitor's Closet
JST	Joist
JST BR	Joist Bearing
JT	Joint
K	
KD	Knocked Down
KIT	Kitchen
KO	Knockout
KPL	Kick Plate
KW	Kilowatts
L	
L	Length
LAM	Laminated
LAV	Lavatory
LG	Large
LH	Left Hand
LIN	Linear
LL	Live Load
LLH	Long Leg Horizontal
LLV	Long Leg Vertical
LOC	Locate, Location
LONG	Longitudinal
LP	Low Point
LT	Light
LTG	Lighting
LTL	Lintel
LVR	Louver
LWT	Lightweight
LWT CONC	Lightweight Concrete
M	
M	Meter
MACH	Machine
MAINT	Maintenance
MAN	Manual
MAS	Masonry
MATL	Material
MAX	Maximum
MBR	Member
MDF	Medium Density Fiberboard
MECH	Mechanical
MED	Medium
MEMB	Membrane
MEZZ	Mezzanine
MFR	Manufacturer
MIN	Minimum
MIN	Minute
MIR	Mirror
MISC	Miscellaneous
MIX	Mixture
MLDG	Molding
MLWK	Millwork
MM	Millimeter
MO	Masonry Opening
MOD	Modified, Modular
MS	Machine Screw
MTD	Mounted
MTL	Metal
MTR	Mortar
MULL	Mullion
N	
N	North
NA	Not Applicable
NAT	Natural
NIC	Not In Contract
NO, NUM, #	Number
NOM	Nominal
NORM	Normal
NRC	Noise Reduction Coefficient
NTS	Not to Scale
O	
OA	Overall
OB	Obscure
OB GL	Obscure Glass
OC	On Center
OD	Outside Diameter
OFCI	Owner Furnished Contractor Installed
OFF	Office
OFOI	Owner Furnished Owner Installed
OH	Overhead
OPNG	Opening
OPP	Opposite
ORD	Overflow Roof Drain
ORIG	Original
OTO	Out to Out
OZ	Ounce
P	
PC	Precast Concrete
PC	Point of Curve
PCF	Pounds per Cubic Foot
PERF	Perforated
PERP	Perpendicular
PI	Point of Intersection
PL	Plate
PL	Property Line
PLAM	Plastic Laminate
PLAS	Plaster
PLUMB	Plumbing
PLYWD	Plywood
PNL	Panel
PR	Pair
PREFAB	Prefabricated
PRELIM	Preliminary
PROJ	Projection
PROP	Property
PSF	Pounds per Square Foot
PSI	Pounds per Square Inch
PT	Paint
PT	Point, Point of Tangent
PTD	Painted
PTD	Paper Towel Dispenser
PTN	Partition
PVC	Polyvinyl Chloride
PVMT	Pavement
PWD	Plywood
Q	
QT	Quarry Tile
QT	Quart
QTR	Quarter
QTY	Quantity
QUAL	Quality
R	
R	Riser
R, RAD	Radius
RA	Return Air
RB	Rubber Base
RCP	Reinforced Concrete Pipe
RD	Roof Drain
RE or REF	Reference
REBAR	Reinforcing Bar
REC	Recessed
RECP	Receptacle
RECT	Rectangular
REFR	Refridgerator
REG	Regular
REINF	Reinforcing(ed)
REQD	Required
RET	Return
REV	Revision
RFG	Roofing
RH	Right Hand
RLF	Relief
RM	Room
RND	Round
RO	Rough Opening
ROW	Right of Way
S	
S	South
SA	Supply Air
SAN	Sanitary
SC	Solid Core
SCD JT	Scored Joint
SCHED	Schedule
SECT	Section
SHT	Sheet
SIM	Similar
SPEC	Specification
SPKR	Speaker
SQ	Square
SQFT OR SF	Square Foot
ST STL OR SS	Stainless Steel
STAG	Staggered
STC	Sound Transmission Coefficient
STD	Standard
STL	Steel
STOR	Storage
STRUCT	Structural
STRUCT STL	Structural Steel
SUSP	Suspended
SW	Switch
SYS	System
T	
T	Tread
T&G	Tounge and Groove
TB	Towel Bar
TEL	Telephone
TEMP	Temperature
TEMP	Temporary
TEMP GL	Tempered Glass
TEX FIN	Textured Finish
THERM	Thermal
THK	Thick(ness)
TKBD	Tackboard
TO	Top of
TOB	Top of Beam
TOC	Top of Curb (Concrete)
TOD	Top of Deck
TOF	Top of Footing
TOP	Top of Pier
TOPAR	Top of Parapet
TOS	Top of Steel
TOW	Top of Wall
TPD	Toilet Paper Dispenser
TR	Transom
TYP	Typical
U	
UL	Underwriter's Laboratories
UNFIN	Unfinished
UNO	Unless Noted Otherwise
UR	Urinal
UTIL	Utility
V	
V	Volt
VAL	Value
VAR	Varnish
VB	Vapor Barrier
VCT	Vinyl Composition Tile
VEN	Veneer
VENT	Ventilating
VERT	Vertical
VEST	Vestibule
VIF	Verify in Field
VIT	Vitreous
VOL	Volume
VWC	Vinyl Wall Covering
W	
W	West
W	Wide, Width
W/	With
W/O	Without
WC	Water Closet
WD	Wood
WDW	Window
WF	Wide Flange
WG	Wired Glass
WH	Water Heater
WI	Wrought Iron
WPT	Working Point
WSCT	Wainscot
WT	Weight
WTW	Wall to Wall
WWF	Welded Wire Fabric
Y	
YD	Yard

SYMBOL LEGEND:



WINDOW TAG
DOOR TAG
ROOM NAME
NORTH ARROW
DESIGN ALTERNATE. RE: COVERSHEET
BUILDING SECTION
WALL SECTION
DETAIL SECTION
ELEVATION LEVEL
COLUMN GRID
ENLARGED DETAIL
CENTER LINE
EXTERIOR ELEVATION
INTERIOR ELEVATION

Hufft

PROJECT INFORMATION:

Andy's Frozen Custard #204

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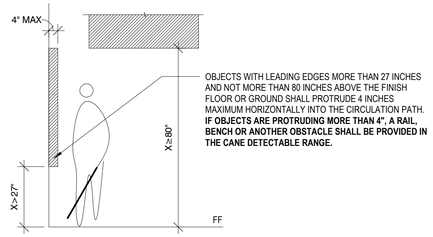
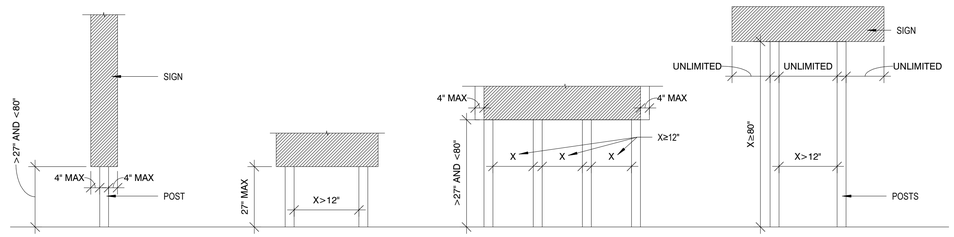
Architect: JEFFREY KLOCH
License Number: A-2016005093
Drawn By: MS
Project Number: 736

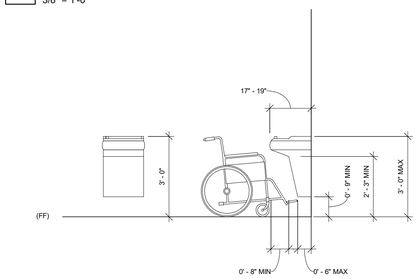
GENERAL NOTES

A001

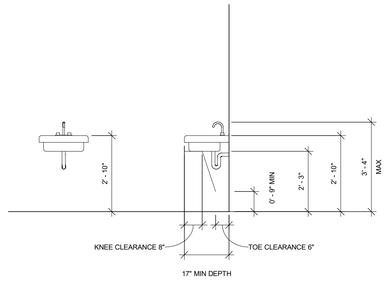




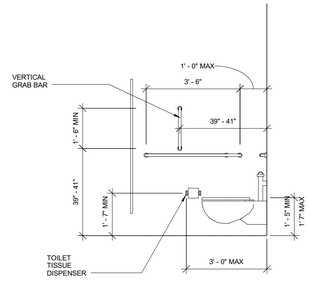
6 LIMITS OF PROTRUDING OBJECTS
3/8" = 1'-0"



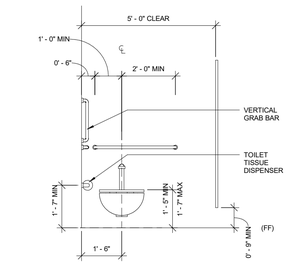
5 ACCESSIBLE DRINKING FOUNTAIN
3/8" = 1'-0"



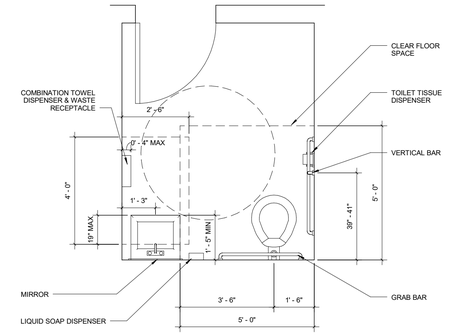
4 ACCESSIBLE LAVATORY
3/8" = 1'-0"



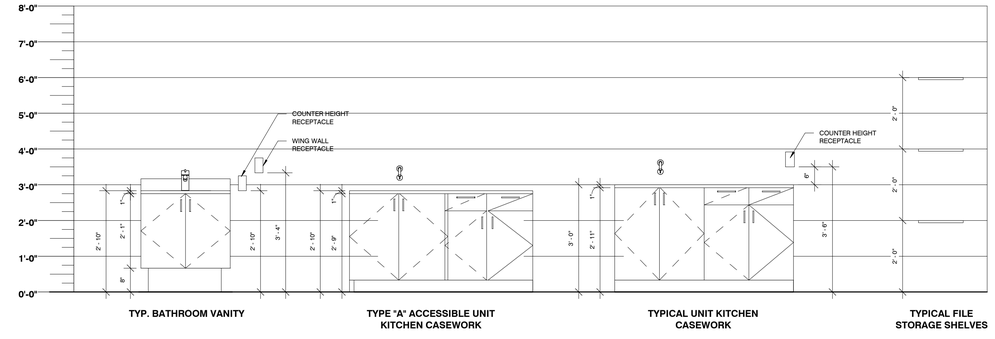
3 TYP. RESTROOM ACCESSORY PLACEMENT (SIDE)
3/8" = 1'-0"



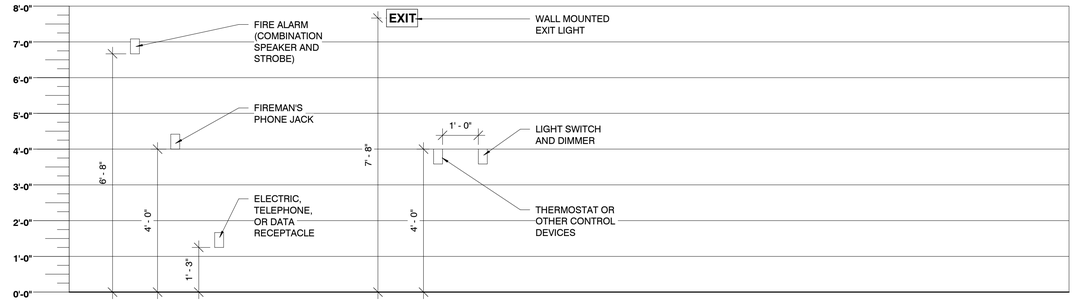
2 TYP. RESTROOM ACCESSORY PLACEMENT (FRONT)
3/8" = 1'-0"



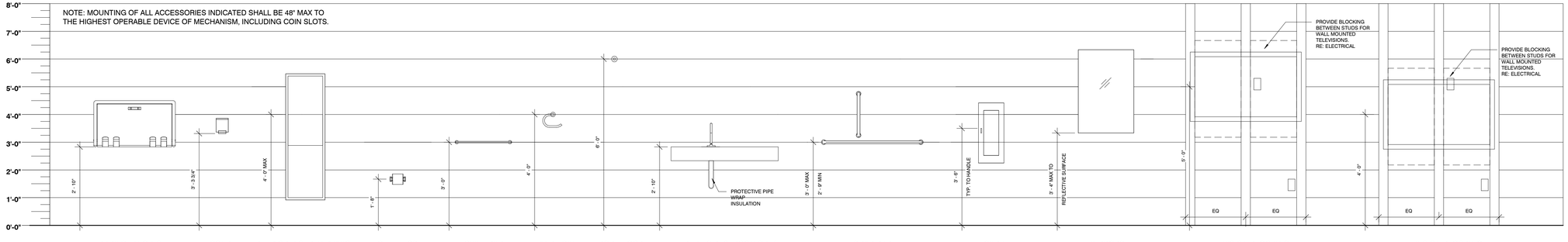
1 ACCESSIBLE TOILET LAYOUT
3/8" = 1'-0"



TYP. CASEWORK HEIGHTS
1/2" = 1'-0"



MISC. HEIGHTS
1/2" = 1'-0"



TYP. FIXTURE HEIGHTS
1/2" = 1'-0"

Hufft

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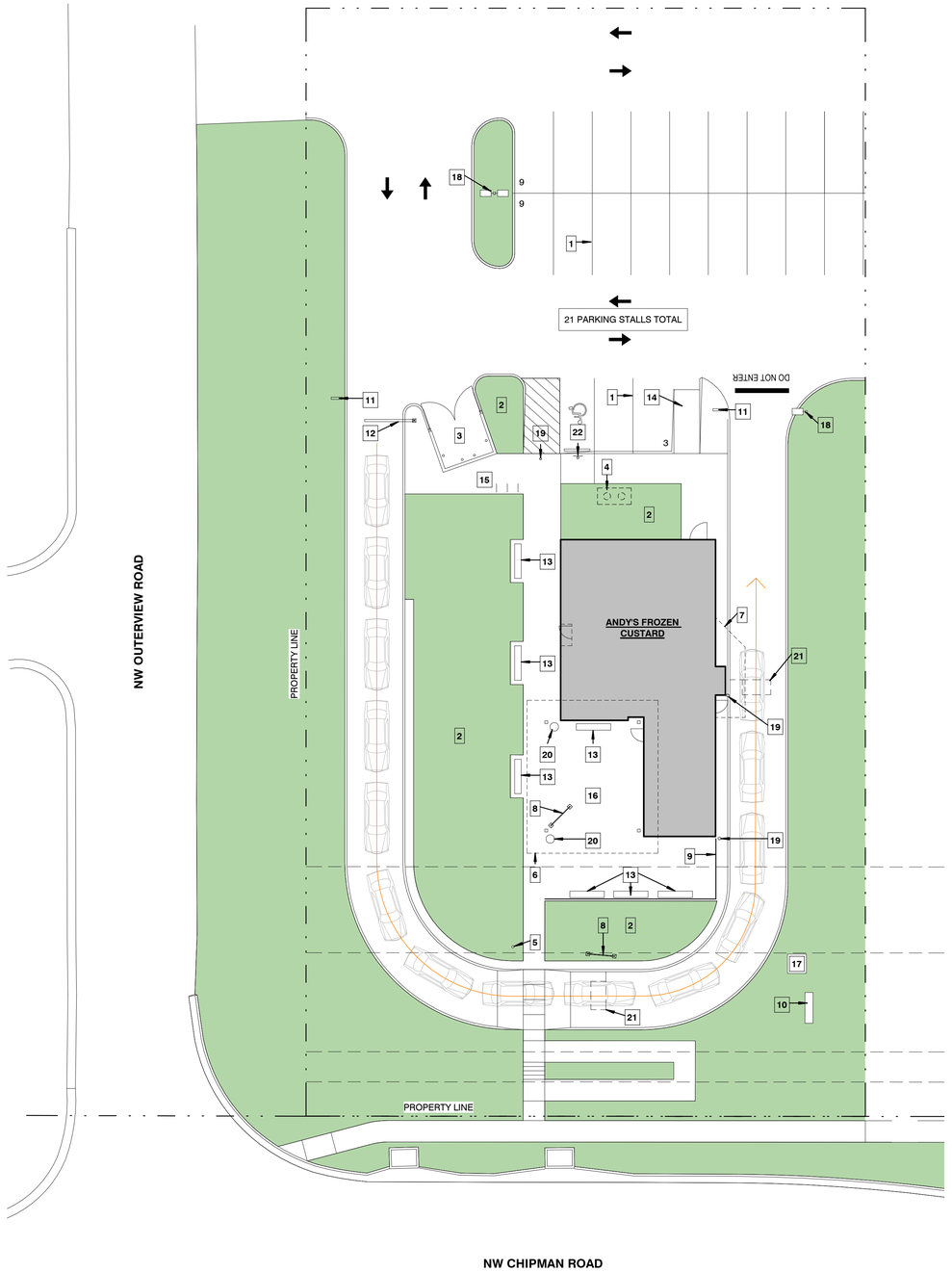
Architect: JEFFREY KLOCH
License Number: A-2016005093
Drawn By: MS
Project Number: 736

TYP. MOUNTING HEIGHTS

A002



1 ARCHITECTURAL SITE PLAN
1/16" = 1'-0"

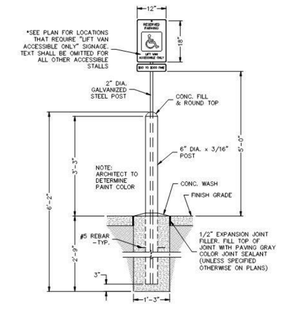
N

SITE PLAN KEYNOTES

1 ALL STALL AND SYMBOL DEMARCATION TO BE 4" WHITE STRIPING
2 LANDSCAPE / PLANTINGS, RE: LANDSCAPE DWGS
3 DUMPSTER ENCLOSURE. MASONRY TO MATCH BUILDING
4 GREASE INTERCEPTOR, RE: CIVIL & MEP DWGS
5 FLAGPOLE, CFCI. 40' SATIN ALUMINUM POLE WITH 8'X12' FLAG, W/ GROUND LIGHT FIXTURE INCORPORATED IN FOOTING
6 PATIO CANOPY AND STRUCTURE. RE: STRUCT DWGS
7 DRIVE-THRU CANOPY, RE: STRUCT DWGS
8 MENU BOARD. VERIFY LOCATION WITH OWNER. ALL SIGNAGE BY PINNACLE SIGN GROUP. RE: ELEC & SIGNAGE DWGS
9 36" METAL FENCE
10 MONUMENT SIGN. ALL SIGNAGE BY PINNACLE SIGN GROUP., VERIFY LOCATION WITH OWNER. RE: ELEC, STRUCT., & SIGNAGE DWGS
11 DIRECTIONAL SIGN. ALL SIGNAGE BY PINNACLE SIGN GROUP. RE: ELEC & SIGNAGE DWGS
12 DRIVE-THRU CLEARANCE SIGN. ALL SIGNAGE BY PINNACLE SIGN GROUP. RE: ELEC & SIGNAGE DWGS
13 STANDARD 8'-0" CORPORATE RED BENCH, OFCI
14 PROVIDE ACCESSIBLE CURB RAMP WITH DETECTABLE WARNING FOR PERSONS WITH VISUAL IMPAIRMENT
15 BIKE RACKS, INVERTED 'U' CBBR-2UR-SS
16 OUTDOOR PATIO, CONCRETE SLAB W/ SEALER
17 TRANSFORMER, RE: CIVIL & ELEC DWGS
18 LIGHT POLE, RE: SITE PHOTOMETRIC PLAN AND CIVIL DRAWINGS
19 6" DIA. CONCRETE BOLLARD PTD WHITE, TYP. RE: CIVIL
20 STANDARD CORPORATE WASTE RECETACLE, OFCI
21 LOOP DETECTOR, RE: ELECT
22 ACCESSIBLE SIGN EMBEDDED IN 6" DIA. CONCRETE BOLLARD PTD WHITE

SITE PLAN GENERAL NOTES:

1. COORDINATE SITE DETAILS INDICATED ON THIS SHEET WITH ALL CIVIL DRAWINGS. REFER TO CIVIL DRAWINGS FOR ADDITIONAL INFORMATION NOT INDICATED HERE AND NOTIFY ARCHITECT OF AND DISCREPENCIES.
2. REFER TO LANDSCAPE PLANS FOR PLANTINGS TYPE AND LOCATION.



BOLLARD MOUNTED ACCESSIBLE STALL SIGN

Hufft

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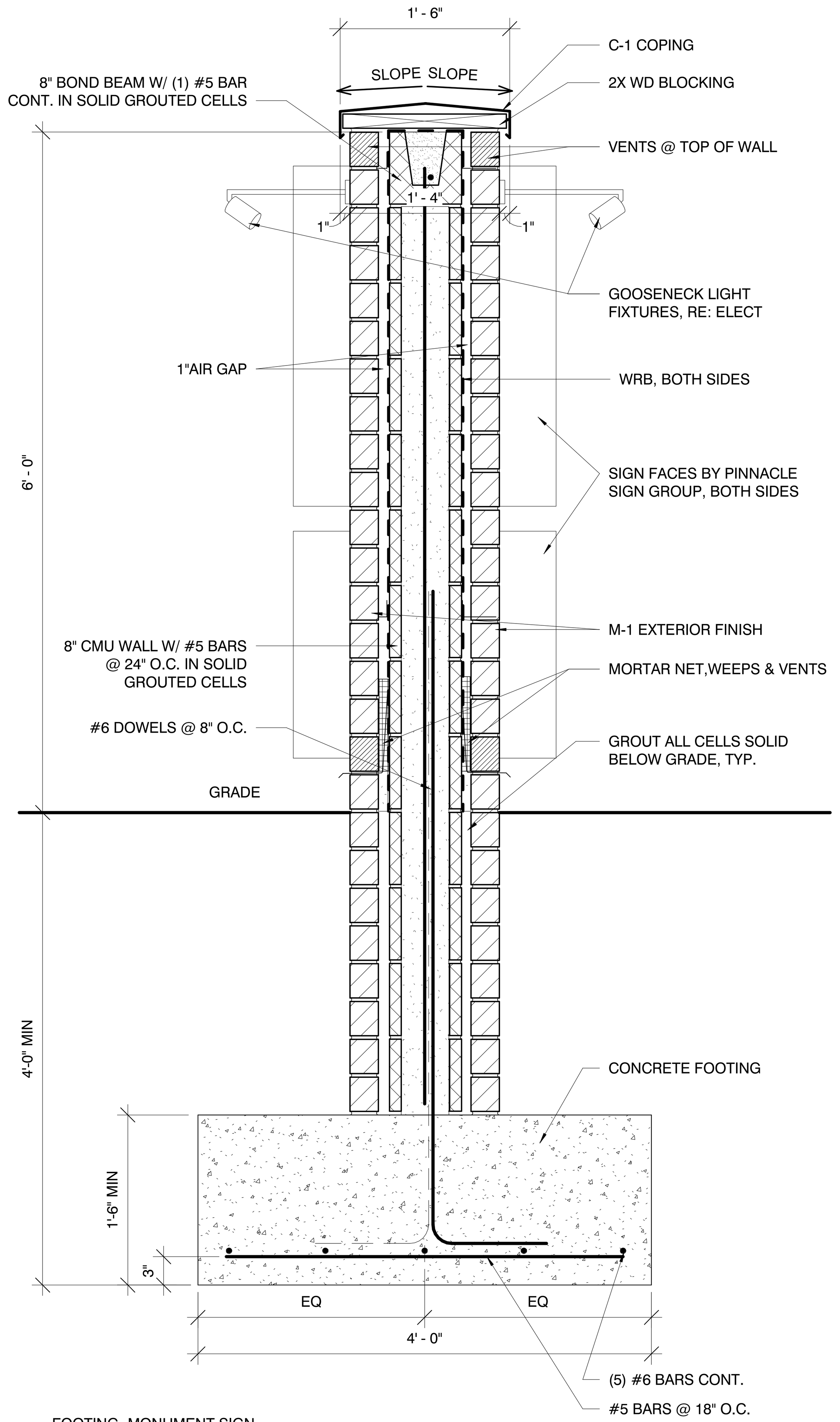
STATE OF MISSOURI
JEFFREY M. KLOCH
NUMBER A - 2016005093
ARCHITECT

05/01/2024

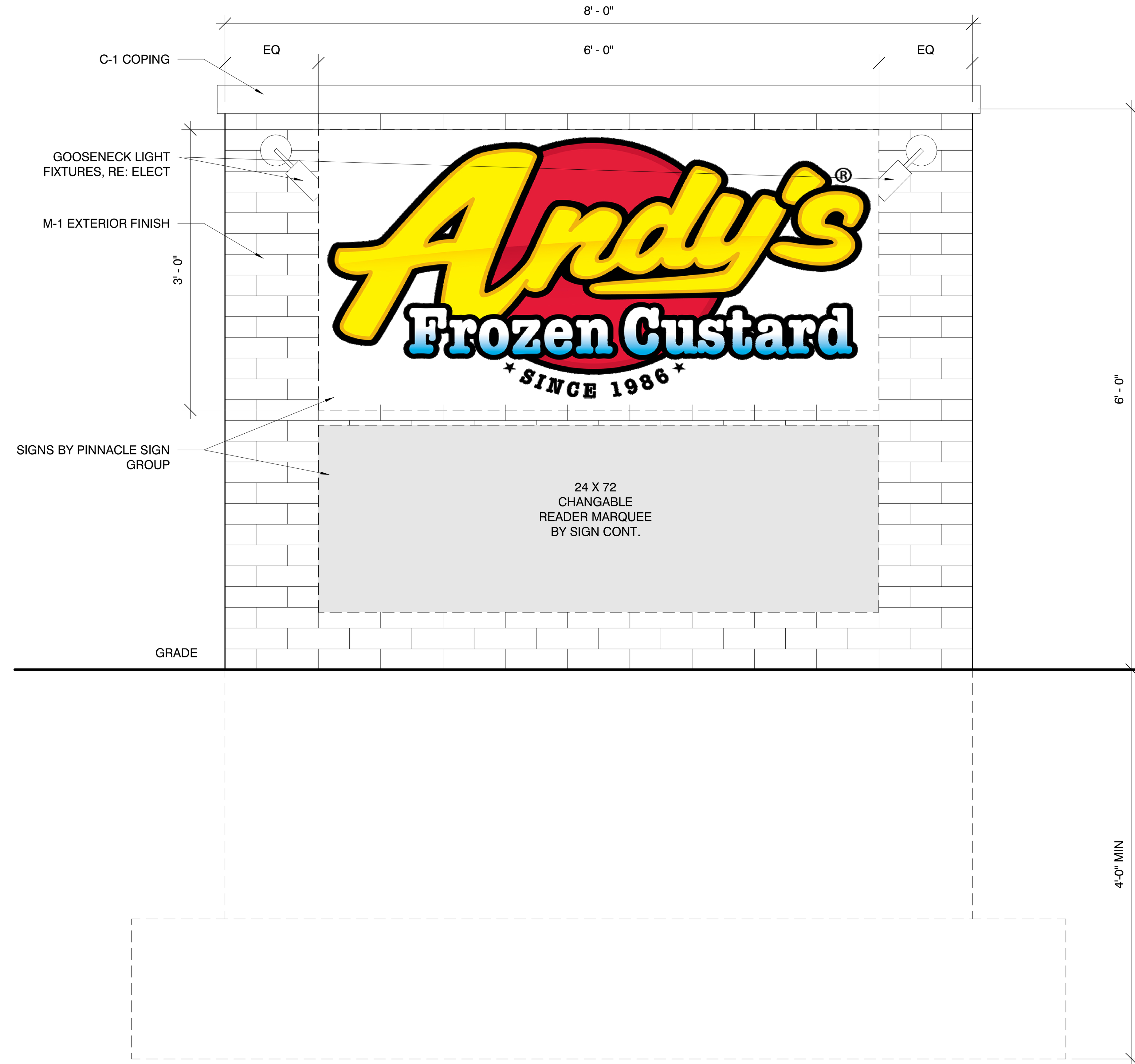
Architect: JEFFREY KLOCH
License Number: A-2016005093
Drawn By: MS
Project Nect Number: 736

ARCHITECTURAL SITE PLAN

A010



FOOTING- MONUMENT SIGN



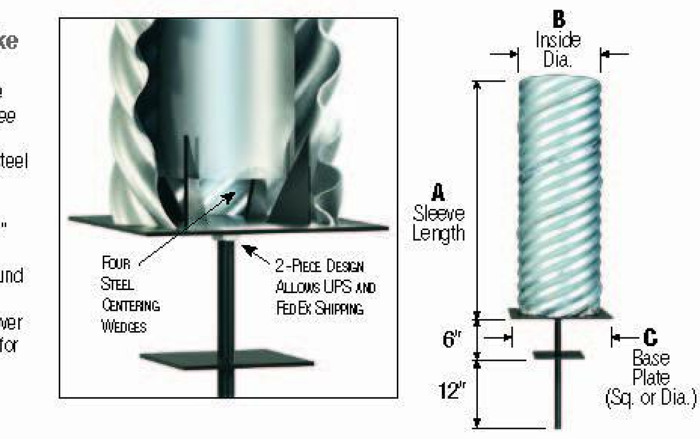
ELEVATION - MONUMENT SIGN

TOLL FREE: 800-527-3902 **GROUND SLEEVES & ACCESSORIES 79**

Ground Sleeves - Steel

Corrugated Steel with Steel Lightning Spike
Two-Piece Design

Corrugated Steel Ground Sleeves with Steel Lightning Spike are designed for use in Ground Set flagpole installations *(See Page 14)*. Our superior 2-piece design contains an upper section manufactured of galvanized 16-gauge corrugated steel tube, a thick steel base plate, and steel centering wedges welded into the base to assist in plumb installations of the flagpole. The lower section incorporates a threaded top 3/4" diameter steel grounding spike with 6" x 6" steel setting plate, allowing the concrete foundation to completely surround the sleeve. Ground Sleeves for flagpoles up to 75' can be shipped via UPS and Fed Ex, providing significant savings over competitor's one piece designs. Contact Customer Service for custom sizes, larger sizes, or special applications.



Flagpole Height	"A" Sleeve Length	For Use With 4" Butt Diameter Flagpoles, Sleeve Dia. "B" = 6", Base Plate "C" = 8": Part Number	1+	For Use With 5" Butt Diameter Flagpoles, Sleeve Dia. "B" = 8", Base Plate "C" = 10": Part Number	1+	For Use With 6-7" Butt Diameter Flagpoles, Sleeve Dia. "B" = 10", Base Plate "C" = 12": Part Number	1+	For Use With 8" Butt Diameter Flagpoles, Sleeve Dia. "B" = 12", Base Plate "C" = 14": Part Number	1+	For Use With 10-12" Butt Diameter Flagpoles, Sleeve Dia. "B" = 15", Base Plate "C" = 16": Part Number	1+
20'	2'	GCA-2006	$189	GCA-2008	$201	GCA-2010	$205				
25'	2'-6"	GCA-2506	$201	GCA-2508	$208	GCA-2510	$214				
30'	3'	GCA-3006	$207	GCA-3008	$213	GCA-3010	$219	GCA-3012	$244		
35'	3'-6"			GCA-3508	$220	GCA-3510	$226	GCA-3512	$255		
40'	4'			GCA-4008	$225	GCA-4010	$250	GCA-4012	$281	GCA-4015	$310
45'	4'-6"					GCA-4510	$266	GCA-4512	$306	GCA-4515	$321
50'	5'					GCA-5010	$277	GCA-5012	$330	GCA-5015	$367
55'	5'-6"									GCA-5515	$388
60'	6'									GCA-6015	$408
65'	6'-6"									GCA-6515	$443
70'	7'									GCA-7015	$483
75'	7'-6"									GCA-7515	$498
80'	8'									GCA-8015	$540

*GCA Ground Sleeves May Be Combined For Quantity Discounts: 6+....Deduct 5%.

Ground Sleeves – PVC

PVC Ground Sleeves aid in the proper Ground Set installation of smaller residential and commercial flagpoles. They are not recommended for use on installations exceeding 35', flagpoles having larger wall thicknesses, flagpoles located in high wind regions, or in flagpoles applications flying oversized or multiple flags. *See Page 14, Ground Set Foundations, for more information.*

Flagpole Height	Sleeve Length	For Use With 2" Butt Diameter Flagpoles, Sleeve Dia. (I.D.) = 2" Nom.: Part Number	1+	For Use With 2-1/2-3" Butt Diameter Flagpoles, Sleeve Dia. (I.D.) = 4": Part Number	1+	For Use With 4" Butt Diameter Flagpoles, Sleeve Dia. (I.D.) = 6": Part Number	1+	For Use With 5" Butt Diameter Flagpoles, Sleeve Dia. (I.D.) = 8": Part Number	1+
15'	1'-6"			GST-1504	$18				
20'	2'	GST-2002	$10	GST-2004	$19	GST-2006	$35	GST-2008	$50
25'	2'-6"			GST-2504	$20	GST-2506	$43	GST-2508	$55
30'	3'					GST-3006	$51	GST-3008	$61
35'	3'-6"							GST-3508	$66

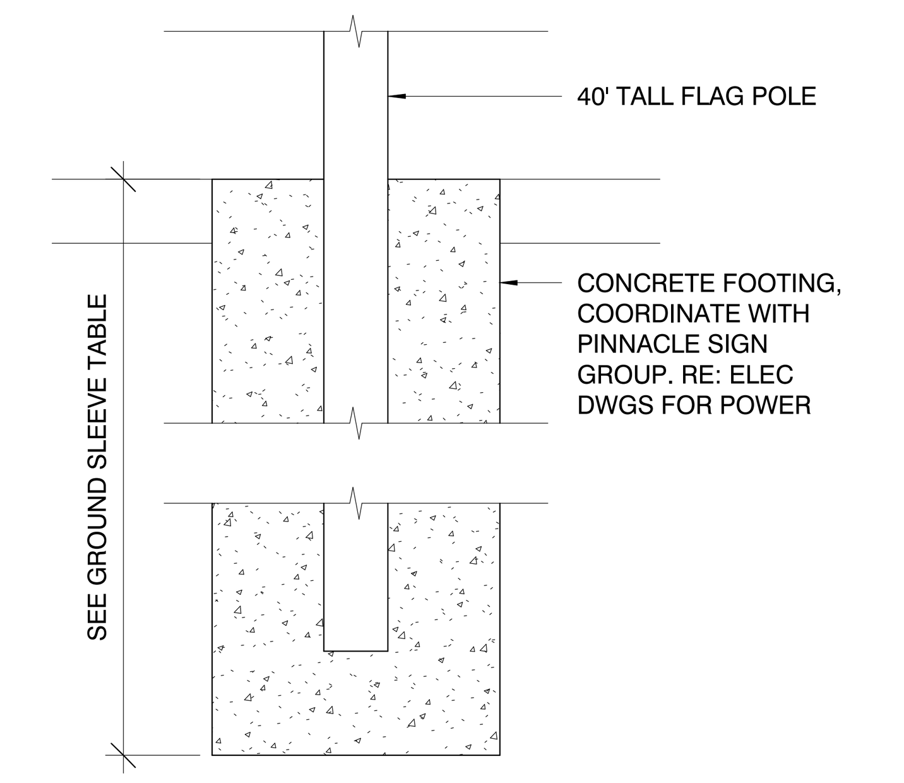
*PVC Ground Sleeves May Be Combined For Quantity Discounts: 6+....Deduct 5%.

Lightning Rod Kit

Lightning Rod Kits are constructed of 7-strand, 1/2" diameter x 6' long aluminum cable and 5/8" diameter x 5' long copper clad rod. Kit includes Drill and Tap Kit, assembly hardware and installation instructions for field installation.

Description	Part Number	1+	6+
Lightning Rod Kit	LRK-9019	$182	$172

CONCORD AMERICAN FLAGPOLE



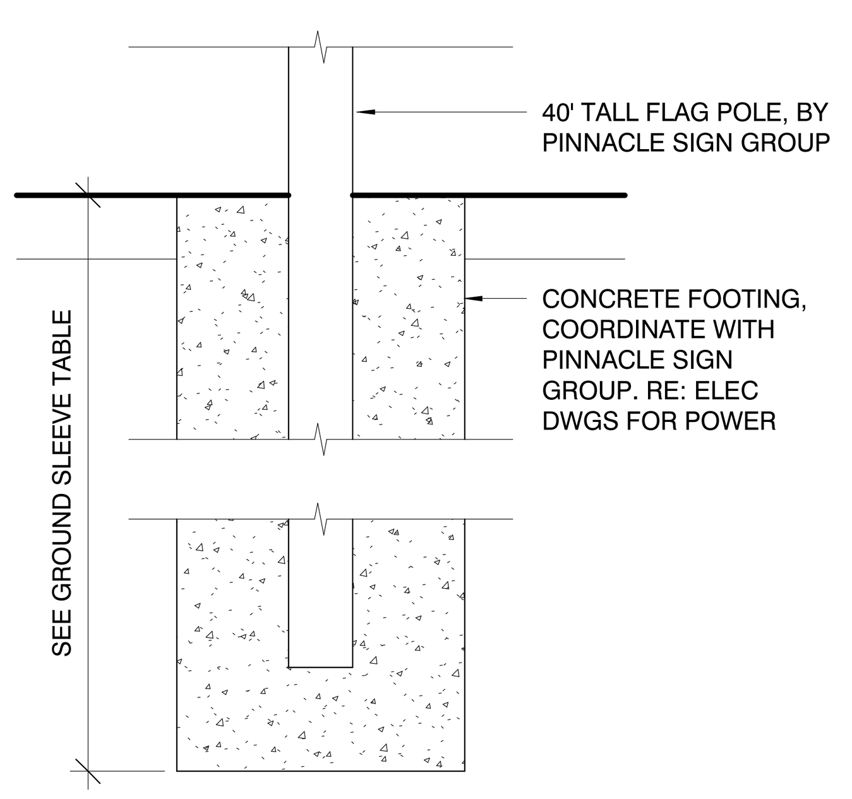
FOOTING - FLAG POLE (NOT TO SCALE)

GENERAL NOTES:
1. ALL SIGNAGE BY PINNACLE SIGN GROUP.

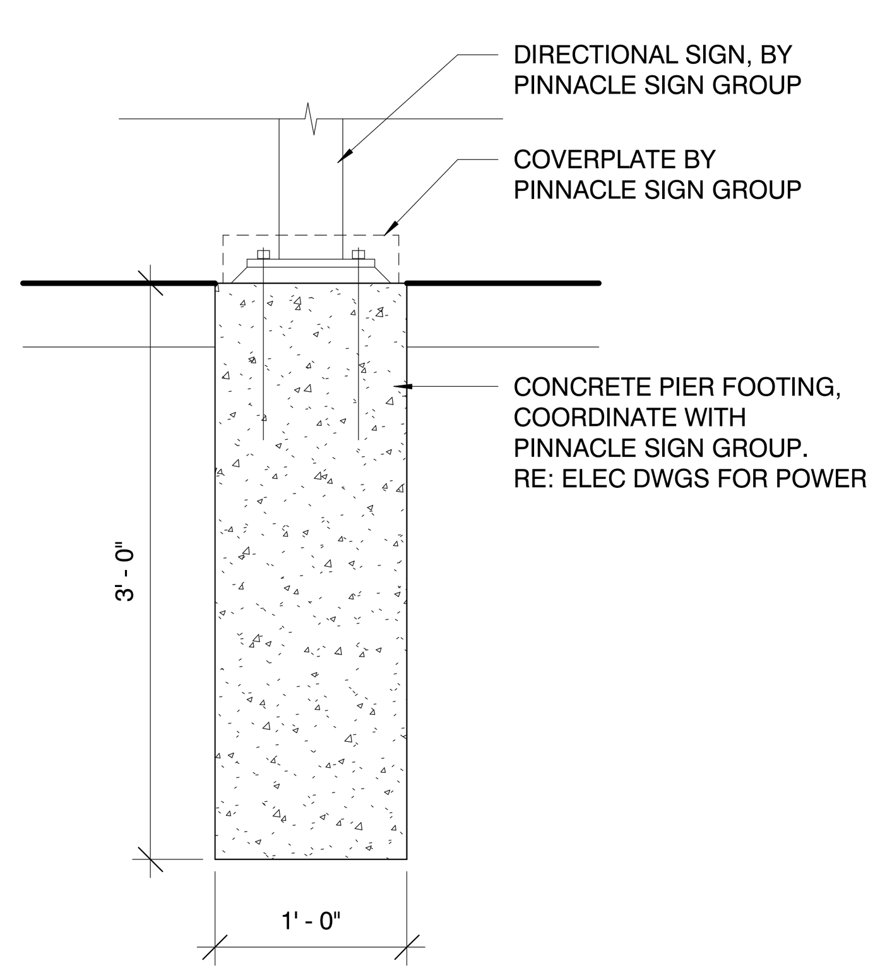
2. FOOTINGS FOR ALL SIGNAGE TO BE INSTALLED BY GENERAL CONTRACTOR. FOOTING DETAILS PROVIDED FOR REFERENCE ONLY. CONTRACTOR TO COORDINATE AND CONFIRM FOOTING SIZES, REINFORCING, AND ANCHORING WITH PINNACLE SIGN GROUP PRIOR TO CONSTRUCTING FOOTING.

3. FOOTING, MANSORY, CAP, POWER, GOOSENECK LIGHT FIXTURES FOR MONUMENT SIGN BY CONTRACTOR.

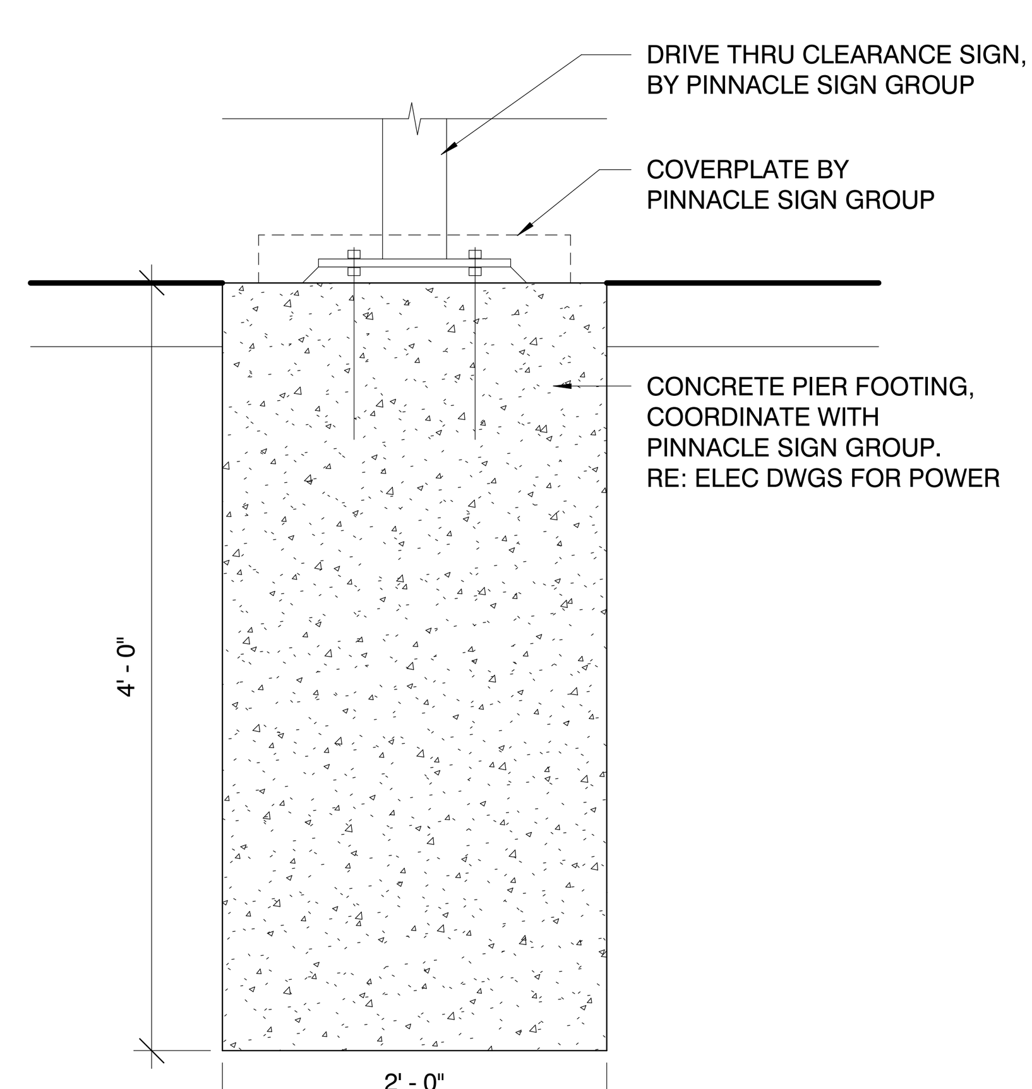
4. FLAGPOLE AND SLEEVE BY PINNACLE SIGN GROUP.



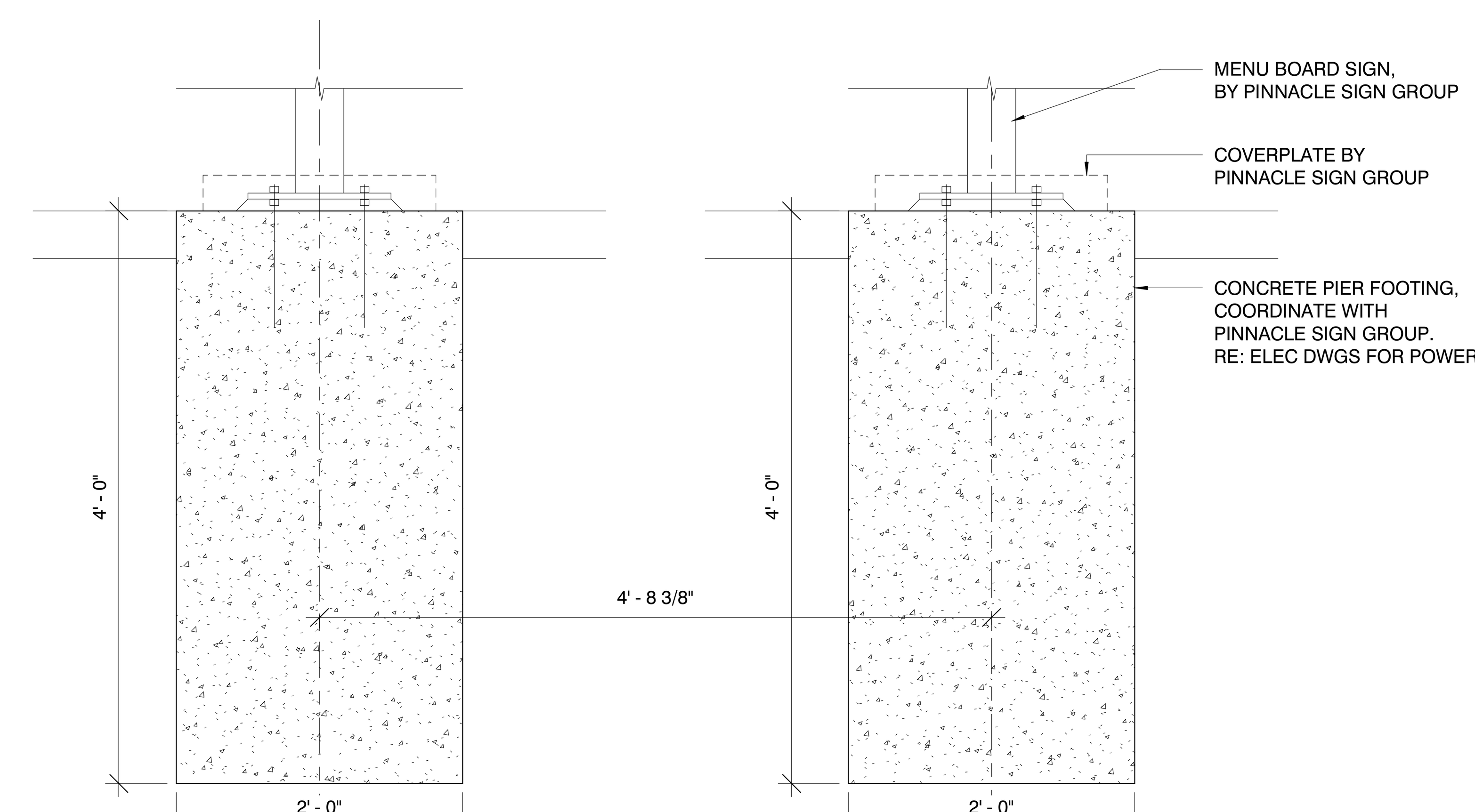
FOOTING - FLAG POLE (NOT TO SCALE)



FOOTING - DIRECTIONAL SIGN



FOOTING - DRIVE THRU CLEARANCE SIGN



FOOTING - MENU BOARD SIGN

1 TYP. FOOTINGS - SITE SIGNAGE ELEMENTS
1" = 1'-0"

Hufft

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STATE OF MISSOURI
JEFFREY M. KLOCH
NUMBER
A - 2016005093
ARCHITECT
[illegible]

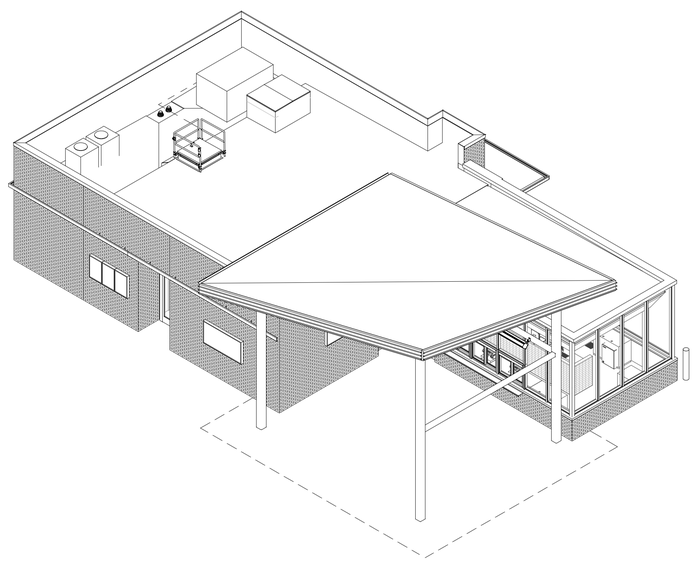
05/01/2024

Architect: JEFFREY KLOCH
License Number: A-2016005093
Drawn By: Author
Project Number: 736

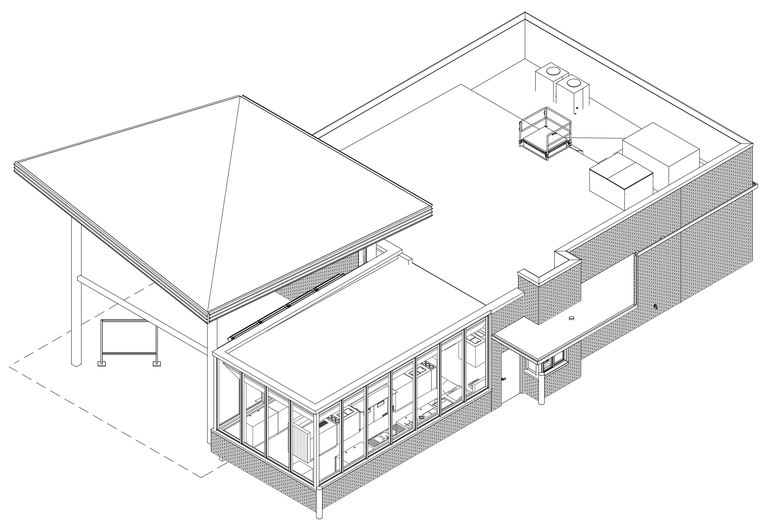
SITE SIGNAGE

A011

EXTERIOR 3D VIEW - FRONT ENTRY VIEW (FOR REFERENCE ONLY)



2 AXON VIEW 2 (FOR REFERENCE ONLY)



1 AXON VIEW 1 (FOR REFERENCE ONLY)

Hufft

PROJECT INFORMATION:

Andy's Frozen Custard #204

700 NW Ward Road
Lee's Summit, Missouri 64086

OWNER:

ANDY'S FROZEN CUSTARD

211 E. Water Street
Springfield, MO 65806

www.eatandys.com

ARCHITECT:

HUFFT

3612 Kames Boulevard
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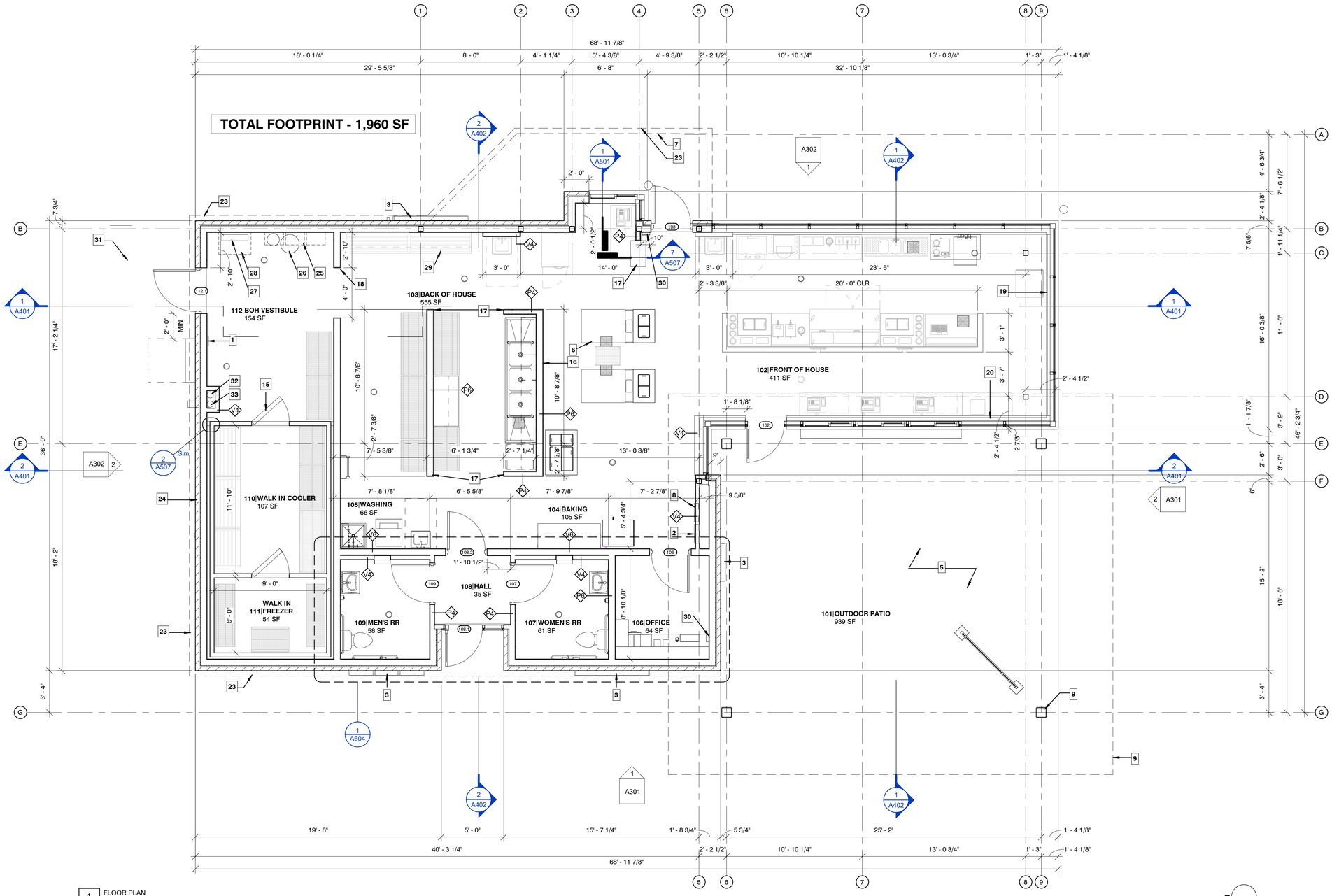
STATE OF MISSOURI
JEFFREY M. KLOCH
NUMBER A - 2016005093
ARCHITECT

05/01/2024

Architect: JEFFREY KLOCH
License Number: A-2016005093
Drawn By: MS
Project Number: 736

AXON 3D VIEWS

A020



PLAN KEYNOTES

1 FIRE EXTINGUISHER CABINET, RE: A507
2 PANELBOARD(S), RE: ELEC. DWGS
3 BUILDING SIGNAGE, RE: ELEC. DWGS
5 OUTDOOR PATIO, CONCRETE SLAB W/ SEALER
6 PATIO CANOPY AND STRUCTURE. RE: STRUCT DWGS. STEEL COLUMNS, PTD
7 DRIVE-THRU CANOPY, RE: STRUCT DWGS
8 CUSTARD MACHINE SHUT-OFF SWITCH, RE: MEP DWGS
9 CUSTARD MACHINE TO STRADDLE FLOOR SINKS
15 WALK-IN COOLER/FREEZER, COORDINATE WITH SUPPLIER
16 PROVIDE HOT AND COLD WATER HOSE BIB ON WALL BEHIND AND ADJACENT TO CUSTARD MACHINES, RE: MEP DWGS
17 INSTALL STAINLESS STEEL CORNER GUARDS THROUGHOUT, TYP. ALL EXPOSED CORNERS RE: A507
18 CASED OPENING FOR BOH ACCESS. MAINTAIN A MIN OF 10" CLEAR OF OPENING.
19 ANDYS FROZEN CUSTARD NEON CONE SIGN - LOCATED INSIDE STORE IN FRONT OF STOREFRONT GLAZING, SUSPENDED. CONSEAL POWER SUPPLY ALONG INSIDE FACE OF MULLION.
20 ANDYS FROZEN CUSTARD "SPRECHER ROOT BEER" NEON SIGN - LOCATED INSIDE STORE IN FRONT OF STOREFRONT GLAZING, SUSPENDED. CONSEAL POWER SUPPLY ALONG INSIDE FACE OF MULLION.
23 SIGNAGE LIGHTING BAND, BY PINNACLE SIGN GROUP. RE: ELEC DWGS & SIGNAGE DWGS
24 PRE-FINISHED DOWNSPOUT, TIE INTO BELOW GRADE STORM DRAINAGE SYSTEM. RE: MEP & CIVIL DWGS
25 TANKLESS WATER HEATERS, RE: MEP DWGS
26 WATER SOFTENER, RE: MEP DWGS
27 BACK FLOW PREVENTOR, RE: MEP DWGS
28 PRESSURE WASHER, RE: MEP DWGS
29 WALL SHELVES ABOVE DUNNAGE RACKS
30 IPAD HOLDER
31 SCREENING MASONRY WALL, M-1
32 ROOF DRAIN DOWN TO BELOW GRADE, RE: PLUMB, PROVIDE CLEAN-OUT AT WALL WITH STAINLESS STEEL WALL COVER
33 OVERFLOW ROOF DRAIN, STUB-OUT AT 12" AFF WITH OVERFLOW DRAIN NOZZLE, RE: PLUMB

NOTE:
1. CONTRACTOR TO VERIFY ALL DIMENSIONS AND LOCATIONS OF EXISTING STRUCTURE, MECHANICAL, ELECTRICAL, PLUMBING, ETC. AND NOTIFY ARCHITECT OF ANY DISCREPENCIES.

2. DIMENSIONS ARE FROM GRIDLINES TO FINISH FACE OF NEW PARTITIONS, U.O.N.

3. REFER TO A701 FOR ADDITIONAL NOTES PERTAINING TO WALL TYPE CONSTRUCTION AND DETAILING.

4. REFER TO EQUIPMENT PLAN FOR ALL EQUIPMENT.

5. REFER TO WALL SECTIONS FOR EXTERIOR WALL CONSTRUCTION.

6. REFERENCE CIVIL SITE PLAN FOR BUILDING LOCATION AND ORIENTATION ON SITE.

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ARCHITECT

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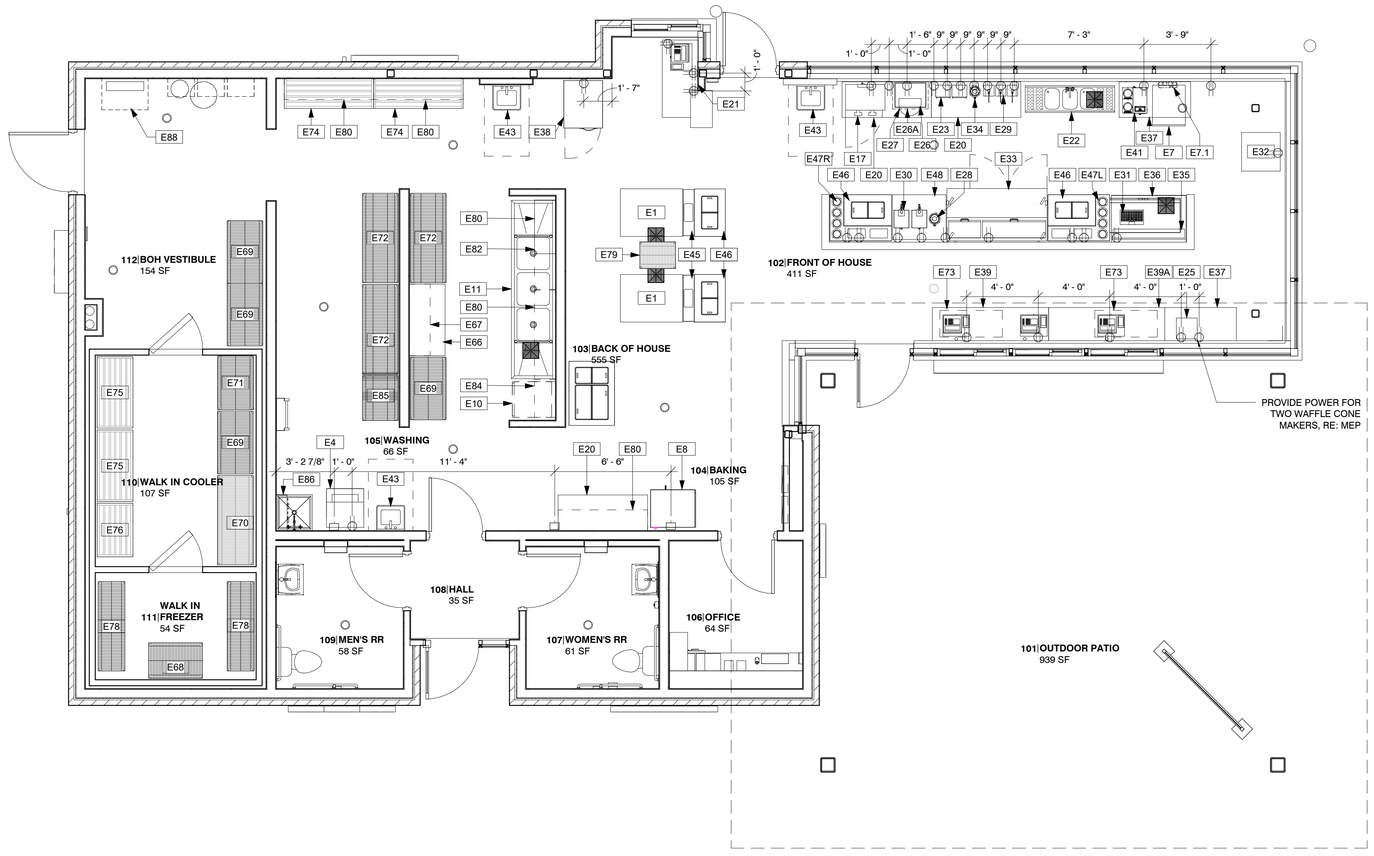
Architect: JEFFREY KLOCH
License Number: A-2016005093
Drawn By: WY
Project Number: 736

FLOOR PLAN

A101



1 EQUIPMENT AND FURNISHINGS PLAN
1/4" = 1'-0"

FOOD SERVICE EQUIPMENT SCHEDULE:

ITEM #	QTY.	EQUIPMENT CATEGORY	NOTES	MANUFACTURER	MODEL #	PROVIDED BY
E1	2	CUSTARD MACHINE		SECO	DBCM	SECO
E4	1	WASHER/DRYER		UNIMAC	UTEE5ASP	KITCHEN EQUIPMENT SUPPLIER
E7	1	ICE MAKER W/ BIN	AIRCOOLED	HOSHIZAKI	KM-231B-AJ	KITCHEN EQUIPMENT SUPPLIER
E7.1	1	FILTER SYSTEM, COMBINATION APPLICATIONS	PROVIDE AT ICE MACHINE	3M	DP190/DP195	KITCHEN EQUIPMENT SUPPLIER
E8	1	OVEN, CONVECTION, ELECTRIC	W/ STAND, CASTER	BLODGETT	CTB SINGLE	KITCHEN EQUIPMENT SUPPLIER
E10	1	WAREWASHER, UNDERCOUNTER, HIGH TEMP		HOBART	LXiH	KITCHEN EQUIPMENT SUPPLIER
E11	1	SINK, SCULLERY, 3 COMPARTMENTS		EAGLE GROUP	314-22-3-24	KITCHEN EQUIPMENT SUPPLIER
E13	3	CO2 TANK				OWNER
E17	1	MILK DISPENSER		SILVER KING	SKMAJ2	KITCHEN EQUIPMENT SUPPLIER
E20	3	TABLE, WORK; 24 X 60	W/ CASTERS ON BACK LINE	EAGLE GROUP	T2460SEB-BS	KITCHEN EQUIPMENT SUPPLIER
E21	1	TABLE, WORK; 24 X 52	W/ CASTERS ON BACK LINE	EAGLE GROUP	T2460SEB-BS	KITCHEN EQUIPMENT SUPPLIER
E22	1	COLLAR SINK		KMI	CUSTOM	KITCHEN EQUIPMENT SUPPLIER
E23	2	BLENDER		ASTRO BLENDER		KITCHEN EQUIPMENT SUPPLIER
E25	1	WAFFLE CONE MAKER	PROVIDE POWER FOR 2 WAFFLE CONE MAKERS	COBATCO	MD-10SSE-L	COBATCO
E26	1	MICROWAVE OVEN	PROGRAM PER ANDY'S FROZEN CUSTARD SPECIFICATION	PANASONIC	NE-1064	KITCHEN EQUIPMENT SUPPLIER
E26A	1	MICROWAVE SHELF; 18 X 24		METRO	1824NC	KITCHEN EQUIPMENT SUPPLIER
E27	1	DRINK MIXER	STERLING MULTIMIXER	IMH PRODUCTS	9B3CH	IMH PRODUCTS
E28	1	WARMER, FUDGE & SYRUP		SERVER PRODUCTS	82500	KITCHEN EQUIPMENT SUPPLIER
E29	3	LID W/ PUMP (FITS #10 CAN)		SERVER PRODUCTS	CP-10 83000	KITCHEN EQUIPMENT SUPPLIER
E30	2	WARMER, FUDGE & SYRUP		SERVER PRODUCTS	85070	KITCHEN EQUIPMENT SUPPLIER
E31	1	KEGERATOR	WATER SUPPLY AND CO2 TO CENTER TAP	BEVERAGE-AIR	DD48HC-1-S	KITCHEN EQUIPMENT SUPPLIER
E32	1	BOTTLE COOLER	W/CASTERS	BEVERAGE-AIR	BB24HC-1-G-S	KITCHEN EQUIPMENT SUPPLIER
E33	1	REFRIGERATOR, WORKTOP W/RAIL		TRUE	TPP-67	KITCHEN EQUIPMENT SUPPLIER
E34	1	WARMER, FUDGE & SYRUP		SERVER PRODUCTS	82060	KITCHEN EQUIPMENT SUPPLIER
E35	1	6"X48" SS SHELF				KITCHEN EQUIPMENT SUPPLIER
E36	1	31.5 x 50 ENCLOSED WORKTABLE	INCLUDES CUP DISPENSER		CUSTOM	KITCHEN EQUIPMENT SUPPLIER
E37	2	TABLE, WORK; 24 X 48	WAFFLE CONE MAKER TABLE W/ BACKSPLASH, CASTERS, UNDERSHELF	EAGLE GROUP		KITCHEN EQUIPMENT SUPPLIER
E38	1	FREEZER, REACH-IN		BEVERAGE-AIR	HF1-1HS	KITCHEN EQUIPMENT SUPPLIER
E39	1	TABLE, WORK; 24 X 78	OPEN BASE - FRONT POS. PROVIDE 2 GROMMET HOLES	EAGLE GROUP	CUSTOM	KITCHEN EQUIPMENT SUPPLIER
E39A	1	TABLE, WORK; 24 X 78	OPEN BASE - FRONT POS. PROVIDE 1 GROMMET HOLE	EAGLE GROUP	CUSTOM	KITCHEN EQUIPMENT SUPPLIER
E41	1	COFFEE MAKER, POUROVER		BUNN	13300.0002	KITCHEN EQUIPMENT SUPPLIER
E43	3	HAND SINK	PROVIDE ADA UNDERSINK PIPE PROTECTION WRAP	EAGLE	HSA-10-F	KITCHEN EQUIPMENT SUPPLIER
E45	2	CUSTARD MACHINE SHELF		KEMLEE MFG	CMSHELF	CONCEPT SERVICES
E46	4	LOW TEMPERATURE CHEST CABINET		GLOBAL REFRIGERATION. INC.	2SF	CONCEPT SERVICES
E47L	1	L-SHAPED ICE CREAM TABLE	LEFT SIDED CUP HOLDERS	KEMLEE MFG		CONCEPT SERVICES
E47R	1	L-SHAPED ICE CREAM TABLE	RIGHT SIDED CUP HOLDERS	KEMLEE MFG		CONCEPT SERVICES
E48	1	TABLE, WORK; 30 X 36		EAGLE GROUP	T3036SE-BS	CONCEPT SERVICES
E49	1	LOW TEMPERATURE CHEST CABINET		GLOBAL REFRIGERATION. INC.	6DF	CONCEPT SERVICES
E51	2	WALK-IN FREEZER			CUSTOM	KITCHEN EQUIPMENT SUPPLIER
E66	1	TABLE, WORK; 24 X 48	TABLE	EAGLE GROUP	ST6R5-2448SSK	KITCHEN EQUIPMENT SUPPLIER
E67	1	SHELVING, WIRE; 14 X 48	GREEN; WALL SHELF, RAIL TOP	METRO		KITCHEN EQUIPMENT SUPPLIER
E68	1	SHELVING, WIRE; 24 X 36	GREEN EPOXY COATED, W/ S-CLIPS. CLIP TO E78	METRO	2436NK3	KITCHEN EQUIPMENT SUPPLIER
E69	4	SHELVING, WIRE; 24 X 42; 72"	GREEN EPOXY COATED, W/ CASTERS	METRO		KITCHEN EQUIPMENT SUPPLIER
E70	1	SHELVING, WIRE; 24 X 60, 72" POSTS	GREEN EPOXY COATED, W/ CASTERS	METRO	2460NK3	KITCHEN EQUIPMENT SUPPLIER
E71	1	SHELVING, WIRE; 24 X 36; 72" POSTS	GREEN EPOXY COATED, W/ CASTERS	METRO	2436NK3	KITCHEN EQUIPMENT SUPPLIER
E72	3	SHELVING, WIRE; 24 X 60 POSTS; 74"	W/ CASTERS	METRO	2460NC	KITCHEN EQUIPMENT SUPPLIER
E73	2	SHELVING, WIRE; 18 X 42 POSTS; 27"	2 TIER - POS	METRO	1824NC	KITCHEN EQUIPMENT SUPPLIER
E74	2	RACK, DUNNAGE; 20 X 60		EAGLE GROUP	CUSTOM	KITCHEN EQUIPMENT SUPPLIER
E75	2	RACK, DUNNAGE; 28 X 48	WALK-IN COOLER - CUSTOM, SOLID TOP	EAGLE GROUP	CUSTOM	KITCHEN EQUIPMENT SUPPLIER
E76	1	RACK, DUNNAGE; 24 X 36	WALK-IN COOLER - CUSTOM, SOLID TOP	EAGLE GROUP	CUSTOM	KITCHEN EQUIPMENT SUPPLIER
E78	2	SHELVING, WIRE; 18 X 60	GREEN EPOXY COATED	METRO	1860NK3	KITCHEN EQUIPMENT SUPPLIER
E79	1	SHELVING, WIRE; 18 X 24 POSTS; 27"	W/ CASTERS & SOLID TOP SHELF - CUSTARD MACHINE	METRO	1824NC	KITCHEN EQUIPMENT SUPPLIER
E80	6	SHELVING, WIRE; 14 X 60	GREEN; WALL SHELF, RAIL TOP	METRO	1460NK3	KITCHEN EQUIPMENT SUPPLIER
E82	1	SHELVING, WIRE; 14 X 36	GREEN; WALL SHELF	METRO	1436NK3	KITCHEN EQUIPMENT SUPPLIER
E84	2	SHELVING, WIRE; 14 X 24	GREEN; WALL SHELF	METRO		KITCHEN EQUIPMENT SUPPLIER
E85	1	SHELVING, WIRE; 24 X 30 POSTS; 74"	W/ CASTERS	METRO	2430NC	KITCHEN EQUIPMENT SUPPLIER
E86	1	UTILITY SHELF	WITH MOP HANGER	EAGLE GROUP	USO814-16/3	KITCHEN EQUIPMENT SUPPLIER
E88	1	WATER PRESSURE WASHER	WALL MOUNTED PER MANUFACTURER'S DETAIL AND MOUNTING ACCESSORIES. 3/4" SCHEDULE 80 GALVANIZED PIPING, RE: MEP	HOTSY	7143	OWNER
E89	1	SAFE	UNDER OFFICE DESK	CSS	B3121DM-SR2-S G4440	KITCHEN EQUIPMENT SUPPLIER

NOTES:
1) PROVIDE BOBRICK B-211 SOAP DISPENSER AND BOBRICK B-262 PAPER TOWEL DISPENSER (WALL MOUNT) AT EACH HAND SINK
2) REFERENCE KITCHEN DWGS FOR ADDITIONAL CLARIFICATIONS

Hufft

PROJECT INFORMATION:

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www.eatandys.com

ARCHITECT:

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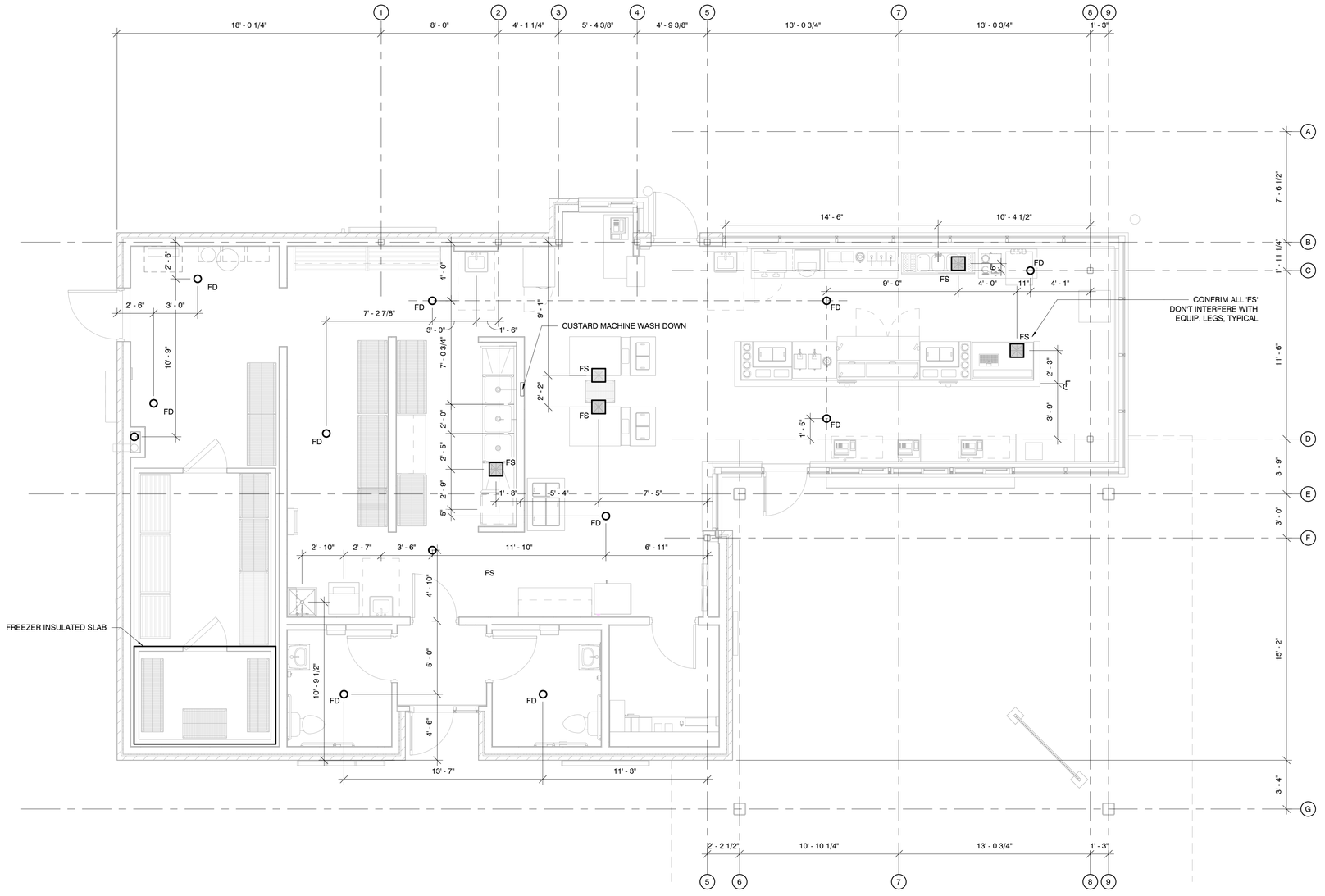
JEFFREY M. KLOCH
NUMBER A - 2016005093
ARCHITECT

05/01/2024

Architect: JEFFREY KLOCH
License Number: A-2016005093
Drawn By: MS
Project Number: 736

EQUIPMENT & FURNISHINGS PLAN

A102



1 DIMENSIONED PLUMBING PLAN
1/4" = 1'-0"

NOTE:
DIMENSIONS ARE FROM COLUMN GRID LINE TO CENTERLINE OF FIXTURE OR PLUMBING WALL. DIMENSIONS TO PLUMBING FIXTURES ARE PROVIDED FOR CONVENIENCE. CONTRACTOR RESPONSIBLE TO VERIFY LOCATIONS DURING ROUGH-IN. REFERENCE PLUMBING DRAWINGS AND EQUIPMENT DRAWINGS FOR ADDITIONAL CLARIFICATIONS.

LEGEND
FS = FLOOR SINK
FD = FLOOR DRAIN

Hufft

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ARCHITECT

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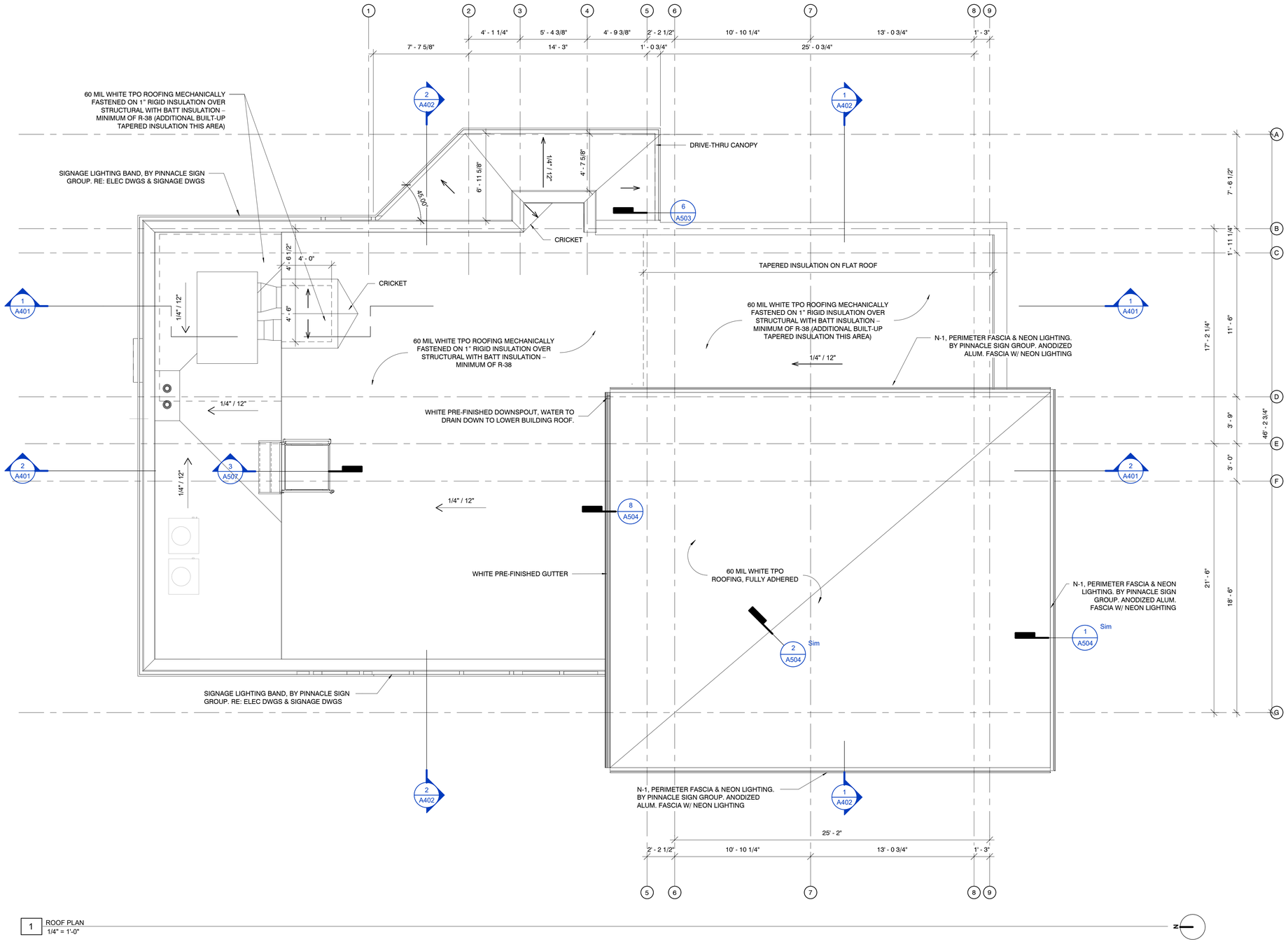
Architect: JEFFREY KLOCH
License Number: A-2016005093
Drawn By: MS
Project Number: 736

DIMENSIONED PLUMBING PLAN

A103



1 ROOF PLAN
1/4" = 1'-0"

Hufft

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License Number: A-2016005093
Drawn By: MS
Project Number: 736

ROOF PLAN

A104

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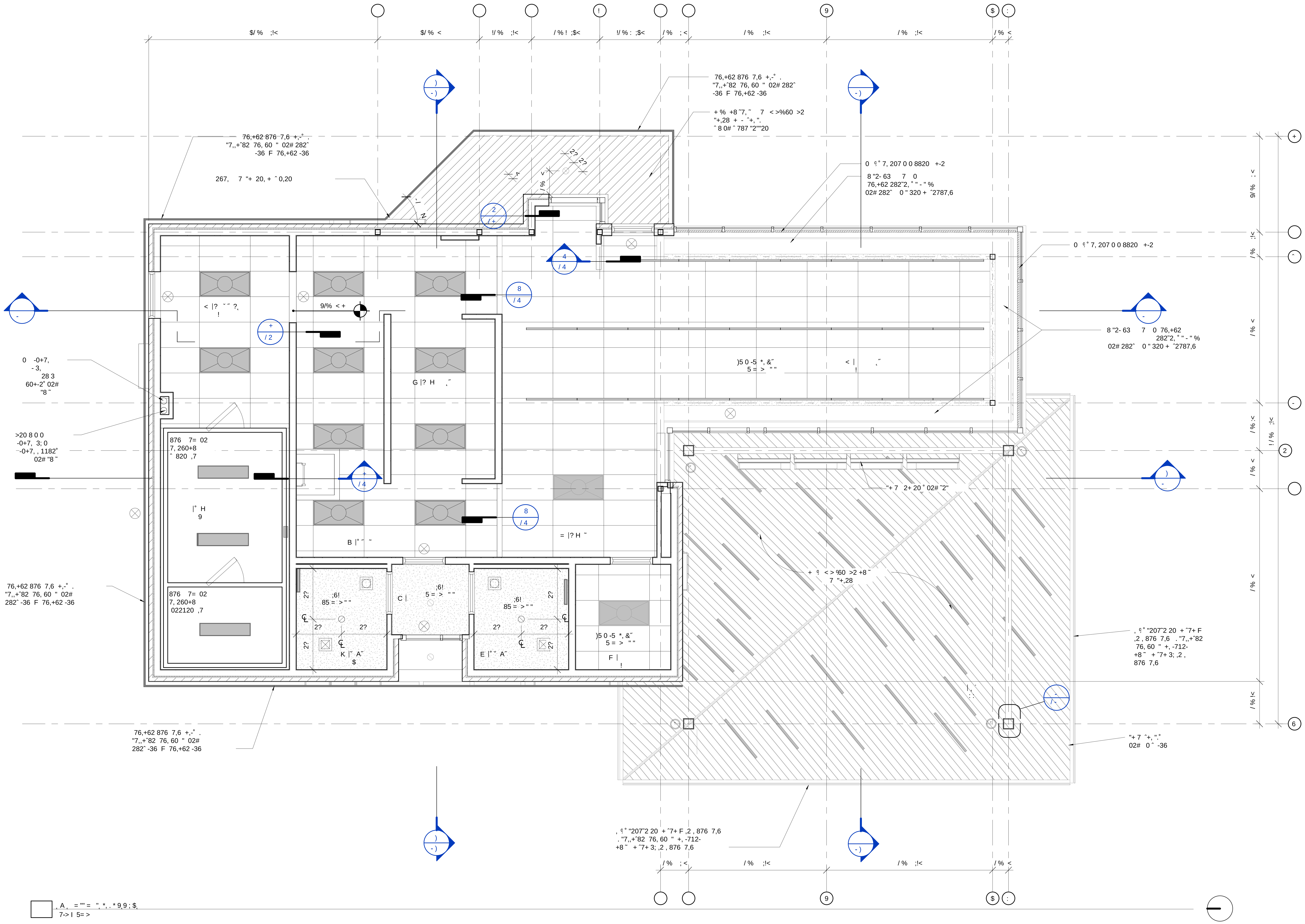

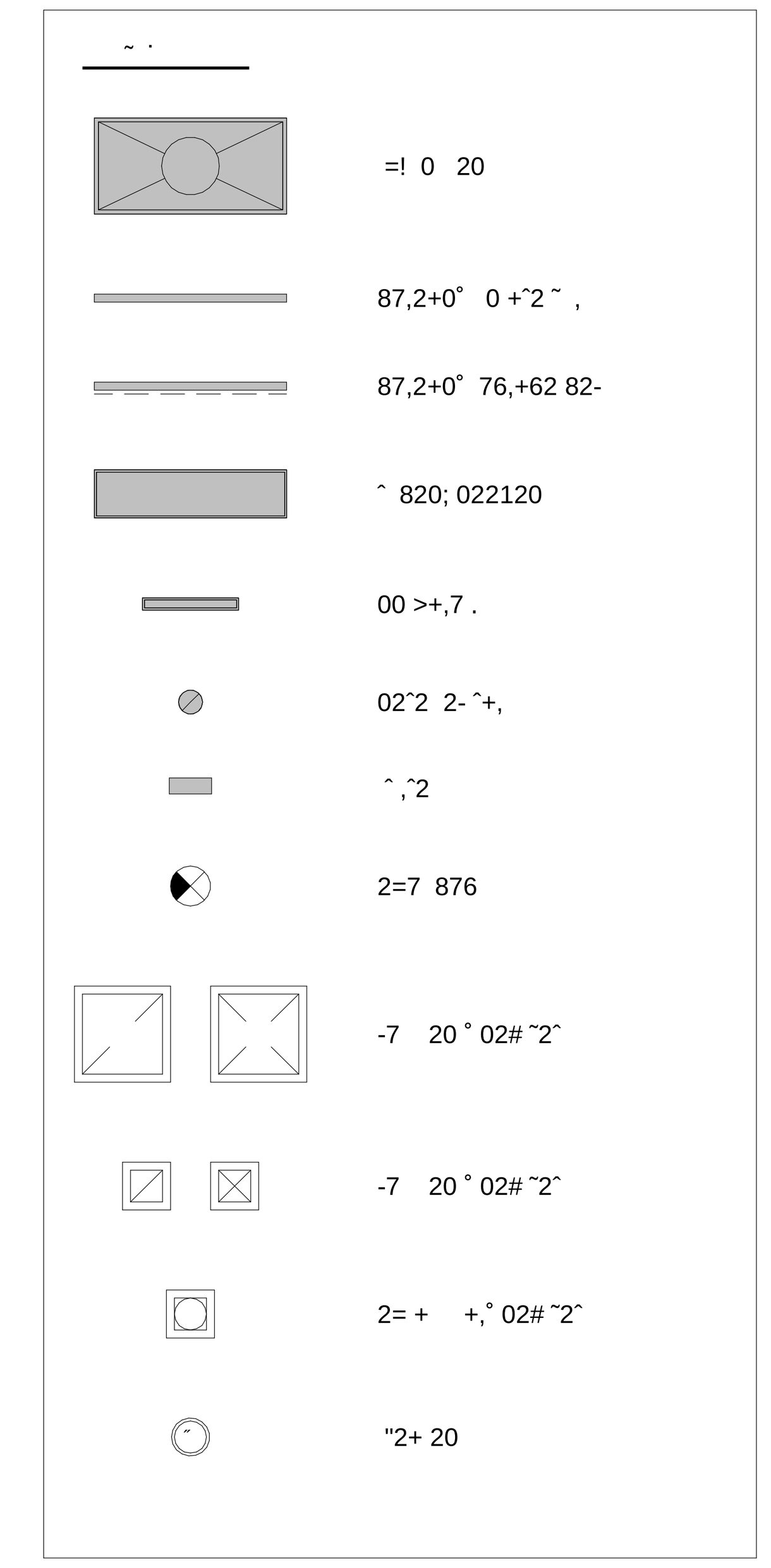

STATE OF MISSOURI
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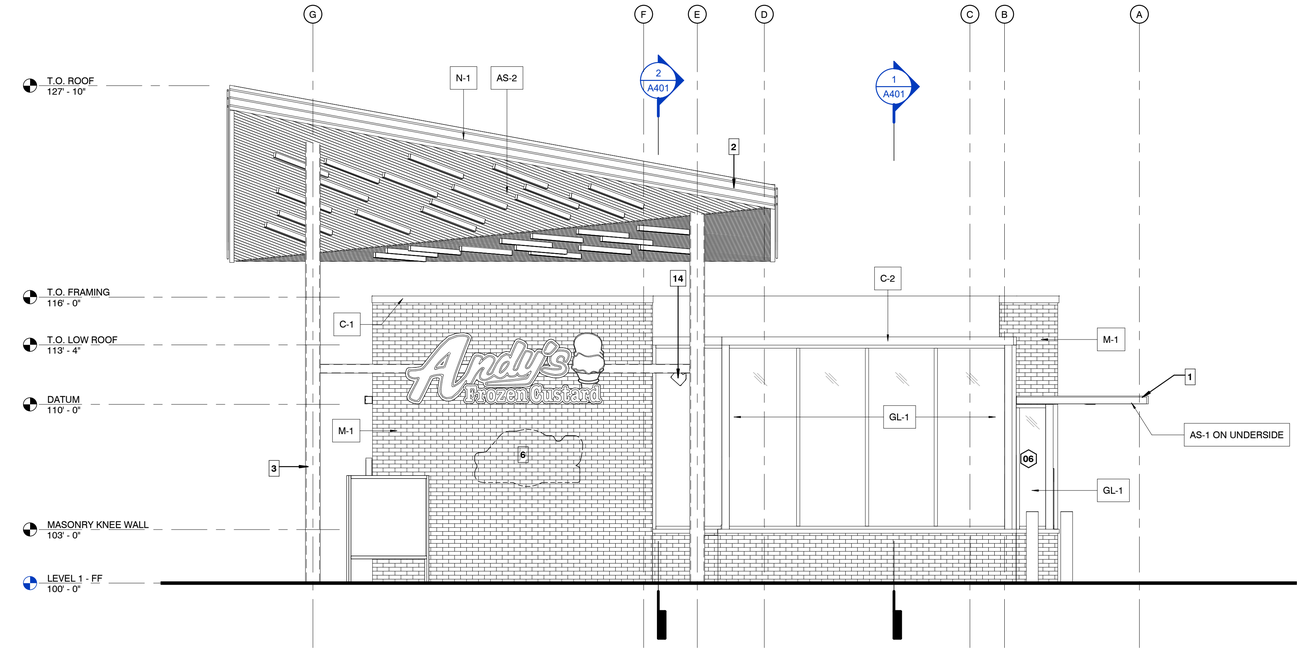
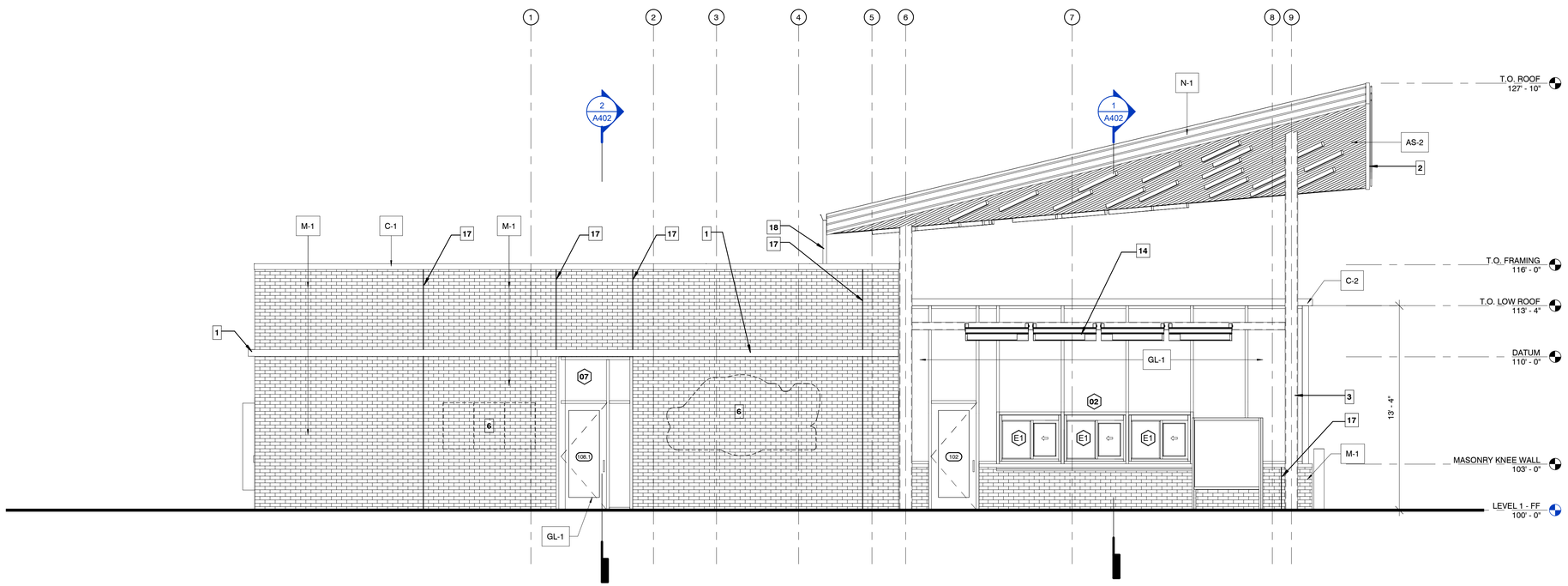
B



2 SOUTH ELEVATION
1/4" = 1'-0"



1 WEST ELEVATION
1/4" = 1'-0"

ELEVATION KEYNOTES

1	DRIVE-THRU CANOPY & SIGNAGE LIGHTING BAND. SIGNAGE LIGHTING BAND PROVIDED BY PINNACLE SIGN GROUP
2	PATIO CANOPY AND STRUCTURE. RE: STRUCT DWGS
3	EXPOSED STRUCTURAL FRAMING TO BE PAINTED, PTD PT-1
5	HM DOOR PTD. TO MATCH MASONRY WALL
6	BUILDING SIGNAGE, RE: ELEC. DWGS & SIGNAGE DWGS. ALL SIGNAGE PROVIDED BY PINNACLE SIGN GROUP
7	FULLY AUTOMATIC DRIVE-THRU WINDOW, RE: ELEC DWGS
8	ELECTRICAL EQUIP., PAINTED TO MATCH M-1 (RE: MANUF. SPECIFICATIONS), RE: MEP DWGS
11	EMERGENCY LIGHT FIXTURE
12	DOOR CHIME
13	WALL HYDRANT, RE: PLUMB. DWGS
14	EXTERIOR HEATER MOUNTED TO STEEL FRAME. RE: MEP
15	60 MIL WHITE TPO ROOFING, FULLY ADHERED
16	KEYNOTE NOT USED
17	MASONRY CONTROL JOINT
18	PRE-FINISHED GUTTER & DOWNSPOUT. DRAIN DOWN TO LOWER BUILDING ROOF. COORDINATE FASCIA W/ PINNACLE SIGN GROUP

EXTERIOR FINISH SCHEDULE

#	DESCRIPTION
AS-1	**PATIO CANOPY MATERIAL:** 6" V-GROOVE EXTRUDED ALUM SOFFIT PANELS COLOR: CHILI PEPPER
AS-2	**PATIO CANOPY MATERIAL:** 6" V-GROOVE EXTRUDED ALUM SOFFIT PANELS COLOR: BONE WHITE
C-1	**COPING/ROOF EDGE TYPE 1:** PRE-FINISHED ALUMINUM CAP AND SILL FLASHING AT MASONRY VENEER AND , TYP. COLOR: MATCH MASONRY COLOR
C-2	**COPING/ROOF EDGE TYPE 2:** ANNODIZED ALUMINUM CAP AND SILL FLASHING AT STOREFRONT, TYP. COLOR: MATCH STOREFRONT FRAMING
GL-1	**GLAZING TYPE 1:** STOREFRONT, KAWNEER 451T COLOR: CLEAR ANODIZED
M-1	**MASONRY TYPE 1:** GLEN GERY MODULAR BRICK COLOR: EBONITE VELOUR GROUT: TO MATCH BRICK
N-1	**PERIMETER FASCIA & SHIELDED LED LIGHTING:** BY PINNACLE SIGN GROUP ANODIZED ALUM. FASCIA W/ SHIELDED LED LIGHTING
VF-1	**VINYL FILM:** WHITE VINYL FILM ON INSIDE FACE OF GLASS

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05/01/2024

REVISION SCHEDULE:

NO.	DATE	ISSUE

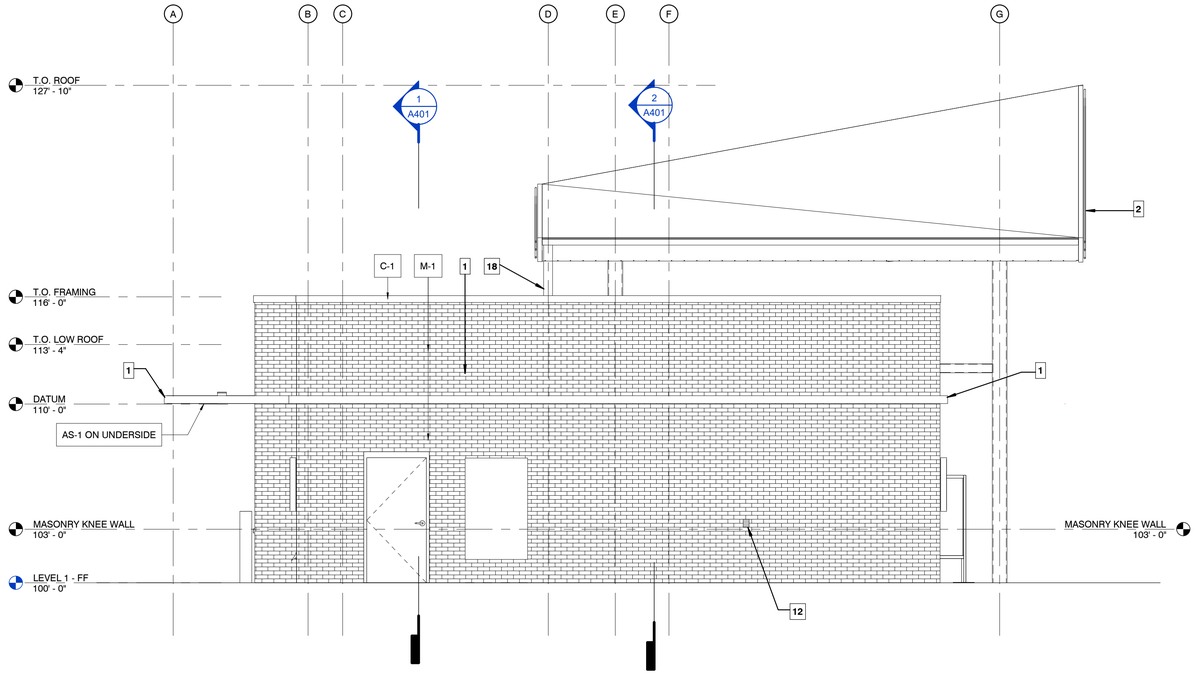
STATE OF MISSOURI
JEFFREY M. KLOCH
NUMBER A - 2016005093
ARCHITECT

05/01/2024

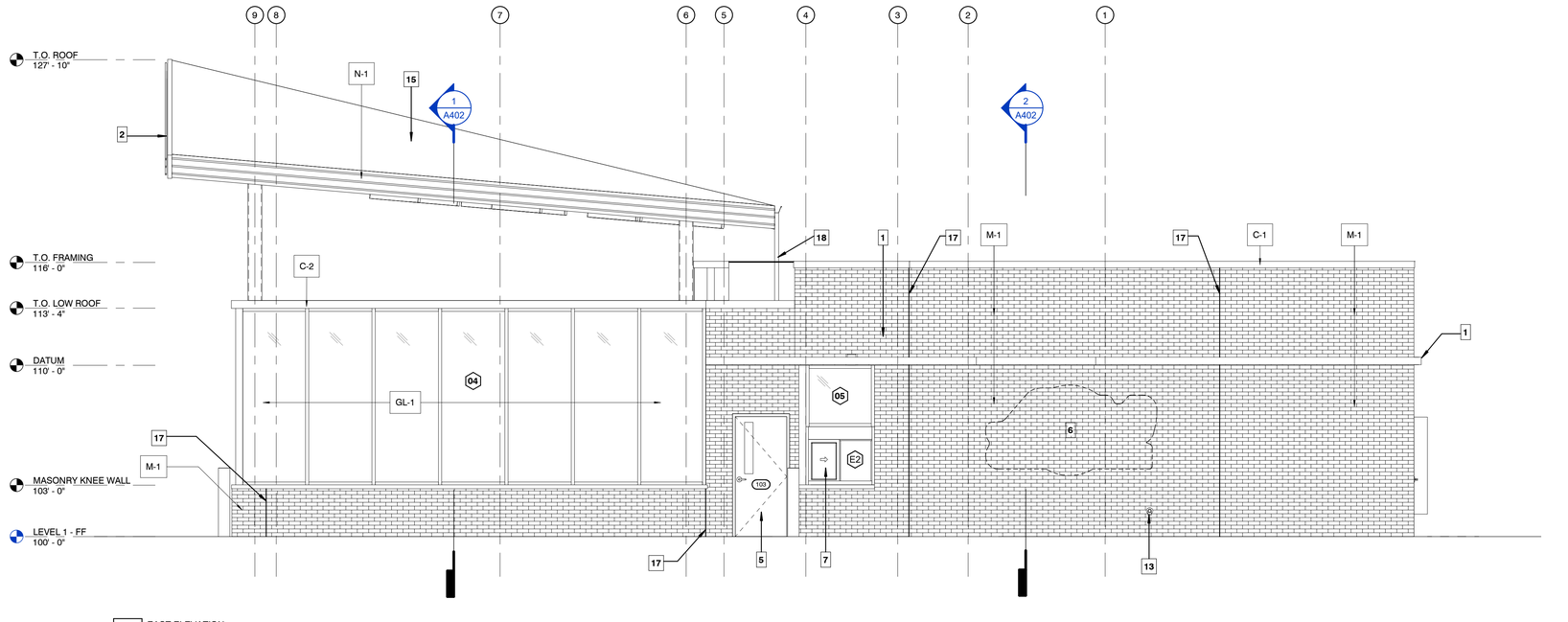
Architect: JEFFREY KLOCH
License Number: A-2016005093
Drawn By: MS
Project Number: 736

ELEVATIONS

A301



2 NORTH ELEVATION
1/4" = 1'-0"



1 EAST ELEVATION
1/4" = 1'-0"

ELEVATION KEYNOTES

1	DRIVE-THRU CANOPY & SIGNAGE LIGHTING BAND. SIGNAGE LIGHTING BAND PROVIDED BY PINNACLE SIGN GROUP
2	PATIO CANOPY AND STRUCTURE. RE: STRUCT DWGS
3	EXPOSED STRUCTURAL FRAMING TO BE PAINTED, PTD PT-1
5	HM DOOR PTD. TO MATCH MASONRY WALL
6	BUILDING SIGNAGE, RE: ELEC. DWGS & SIGNAGE DWGS. ALL SIGNAGE PROVIDED BY PINNACLE SIGN GROUP
7	FULLY AUTOMATIC DRIVE-THRU WINDOW, RE: ELEC DWGS
8	ELECTRICAL EQUIP., PAINTED TO MATCH M-1 (RE: MANUF. SPECIFICATIONS), RE: MEP DWGS
11	EMERGENCY LIGHT FIXTURE
12	DOOR CHIME
13	WALL HYDRANT, RE: PLUMB. DWGS
14	EXTERIOR HEATER MOUNTED TO STEEL FRAME. RE: MEP
15	60 MIL WHITE TPO ROOFING, FULLY ADHERED
16	KEYNOTE NOT USED
17	MASONRY CONTROL JOINT
18	PRE-FINISHED GUTTER & DOWNSPOUT. DRAIN DOWN TO LOWER BUILDING ROOF. COORDINATE FASCIA W/ PINNACLE SIGN GROUP

EXTERIOR FINISH SCHEDULE

#	DESCRIPTION
AS-1	**PATIO CANOPY MATERIAL:** 6" V-GROOVE EXTRUDED ALUM SOFFIT PANELS COLOR: CHILI PEPPER
AS-2	**PATIO CANOPY MATERIAL:** 6" V-GROOVE EXTRUDED ALUM SOFFIT PANELS COLOR: BONE WHITE
C-1	**COPING/ROOF EDGE TYPE 1:** PRE-FINISHED ALUMINUM CAP AND SILL FLASHING AT MASONRY VENEER AND , TYP. COLOR: MATCH MASONRY COLOR
C-2	**COPING/ROOF EDGE TYPE 2:** ANNODIZED ALUMINUM CAP AND SILL FLASHING AT STOREFRONT, TYP. COLOR: MATCH STOREFRONT FRAMING
GL-1	**GLAZING TYPE 1:** STOREFRONT, KAWNEER 451T COLOR: CLEAR ANODIZED
M-1	**MASONRY TYPE 1:** GLEN GERY MODULAR BRICK COLOR: EBONITE VELOUR GROUT: TO MATCH BRICK
N-1	**PERIMETER FASCIA & SHIELDED LED LIGHTING:** BY PINNACLE SIGN GROUP ANODIZED ALUM. FASCIA W/ SHIELDED LED LIGHTING
VF-1	**VINYL FILM:** WHITE VINYL FILM ON INSIDE FACE OF GLASS

Hufft

PROJECT INFORMATION:

Andy's Frozen Custard #204

700 NW Ward Road
Lee's Summit, Missouri 64086

OWNER:

ANDY'S FROZEN CUSTARD

211 E. Water Street
Springfield, MO 65806

www.eatandys.com

ARCHITECT:

HUFFT

3612 Kanes Boulevard
Kansas City, MO 64111
P: 816-531-0200

www.hufft.com

STRUCTURAL:

METTEMEYER ENGINEERING, LLC

2225 W. Chesterfield Blvd., Suite 300
Springfield, MO 65807
P: 417-890-8002

CIVIL/LANDSCAPE:

PHELPS ENGINEERING, INC.

1270 N. Winchester
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MEP:

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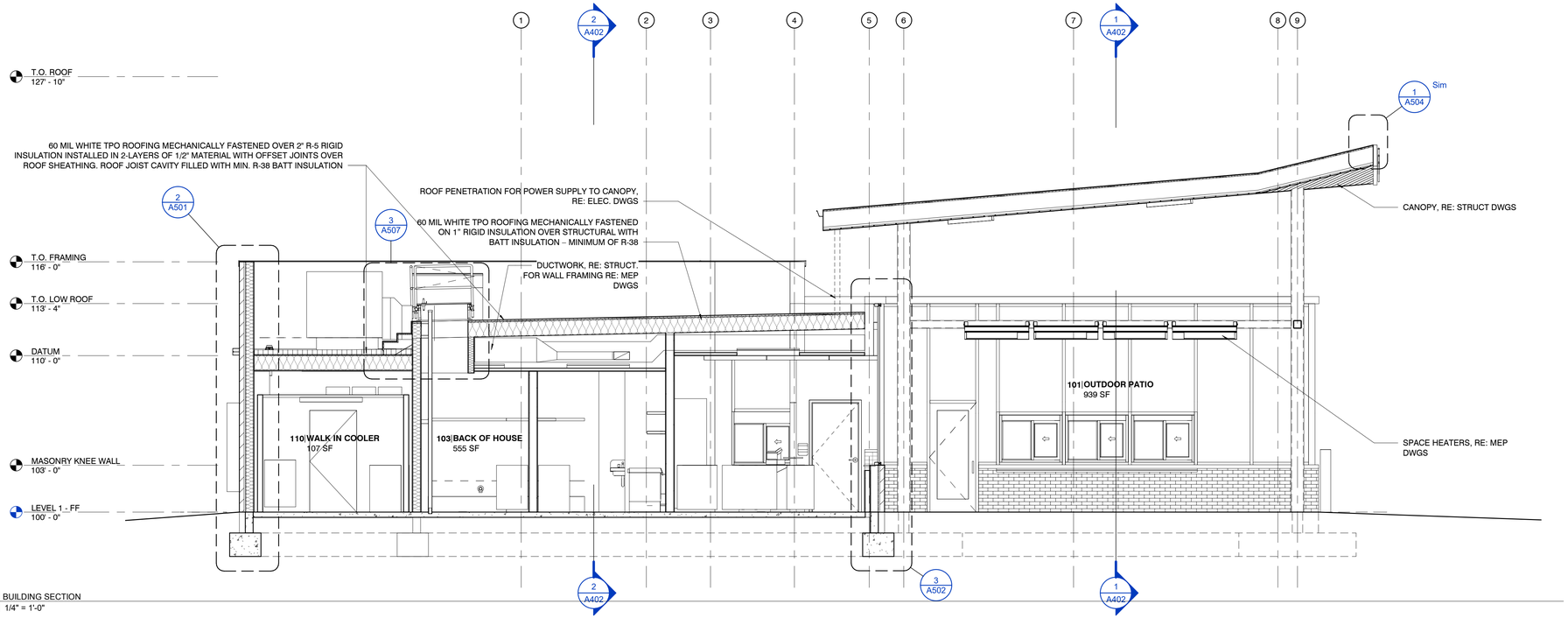
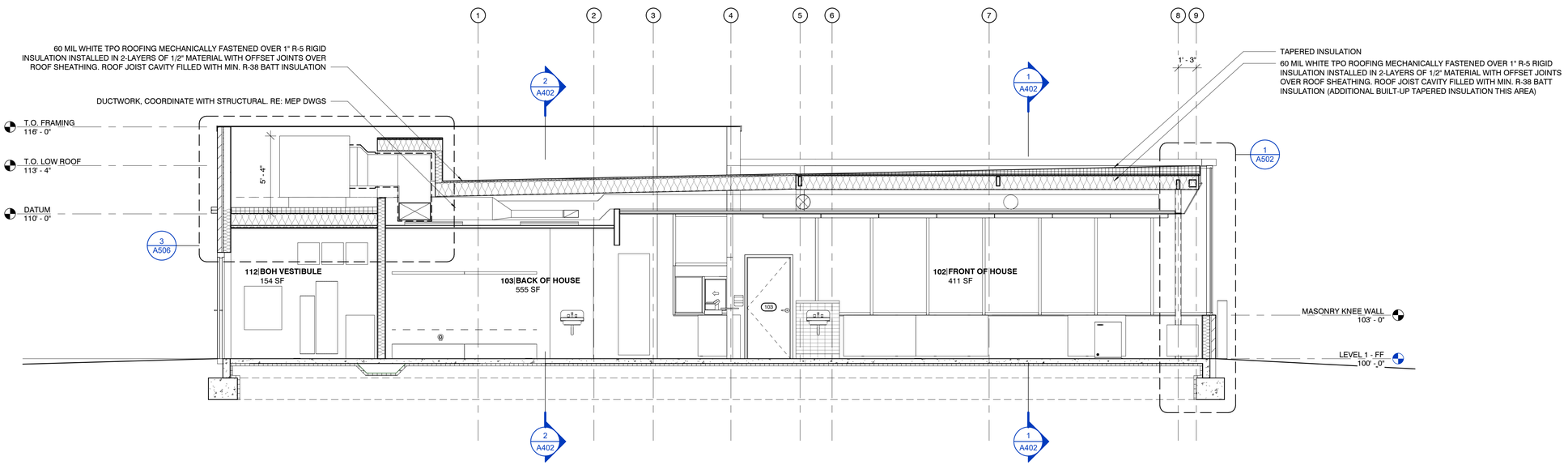
Architect: JEFFREY KLOCH
License Number: A-2016005093
Drawn By: MS
Project Number: 736

ELEVATIONS

A302



2 BUILDING SECTION
1/4" = 1'-0"



1 BUILDING SECTION
1/4" = 1'-0"

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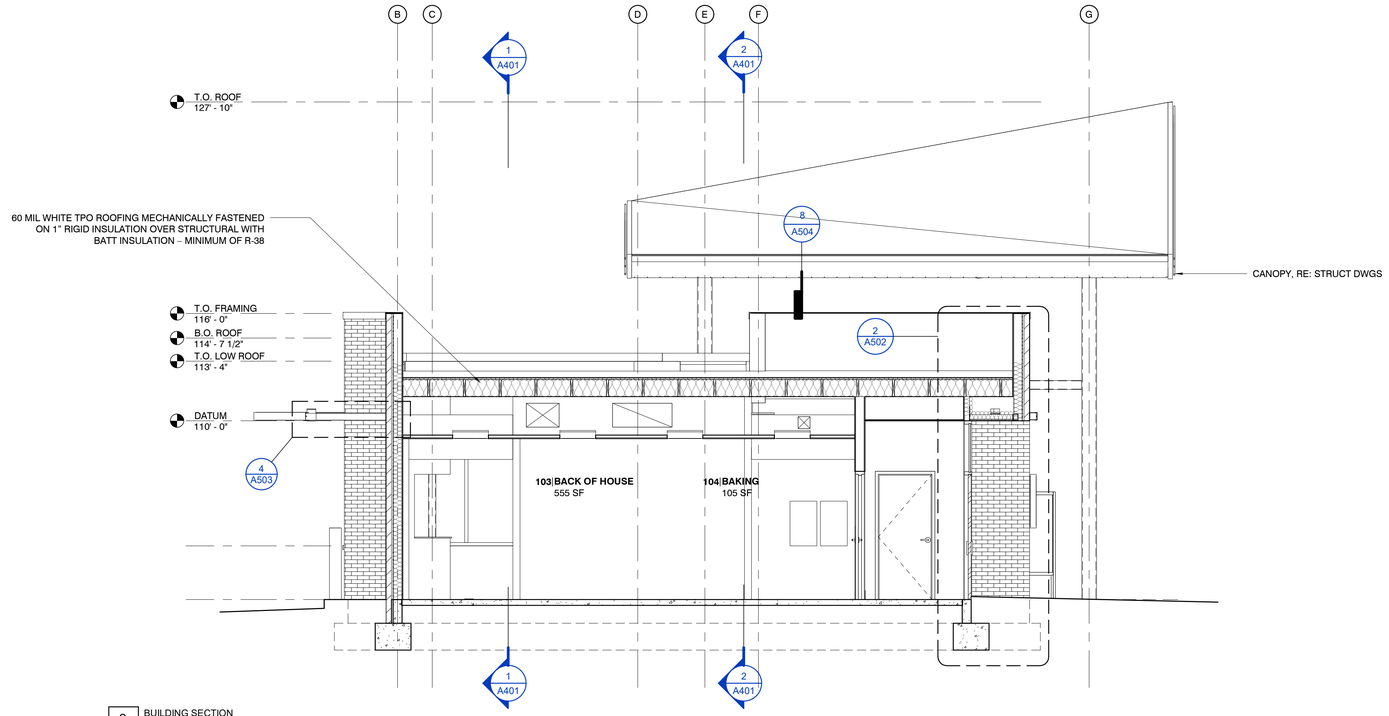
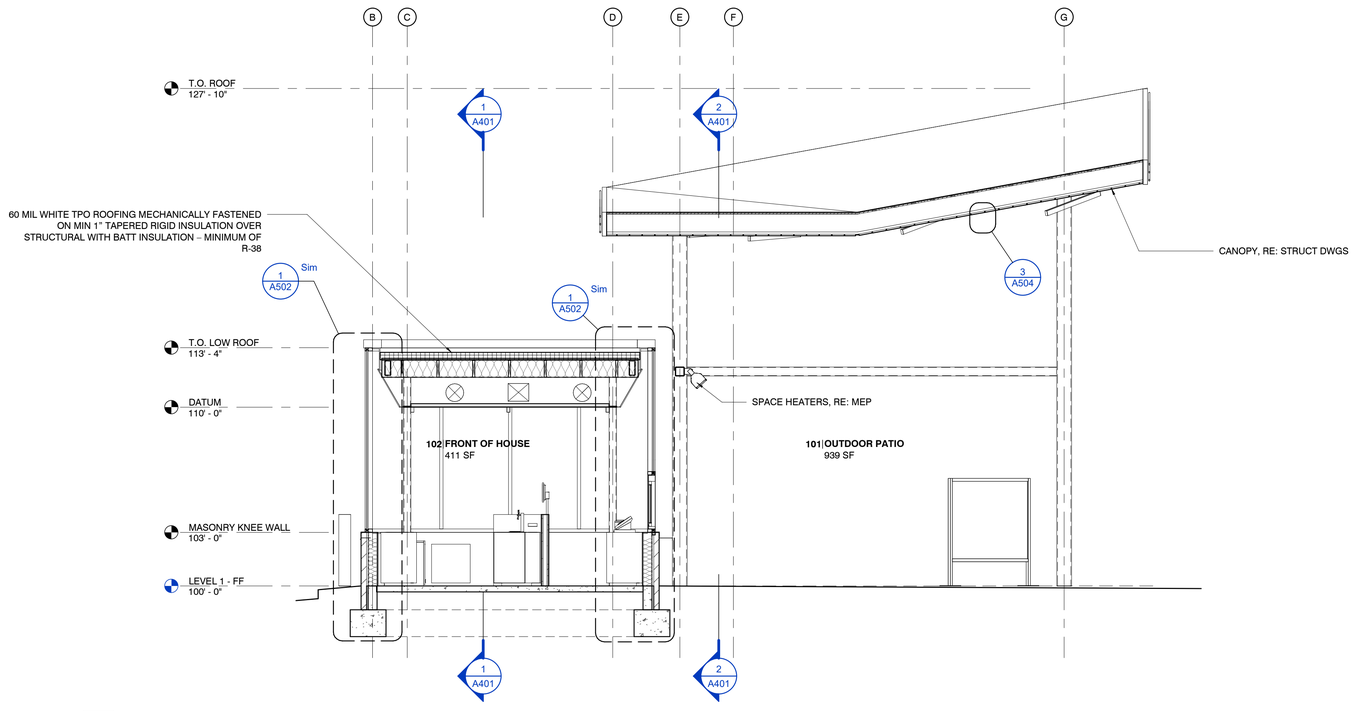
SECTIONS

A401



2 BUILDING SECTION
1/4" = 1'-0"



1 BUILDING SECTION
1/4" = 1'-0"

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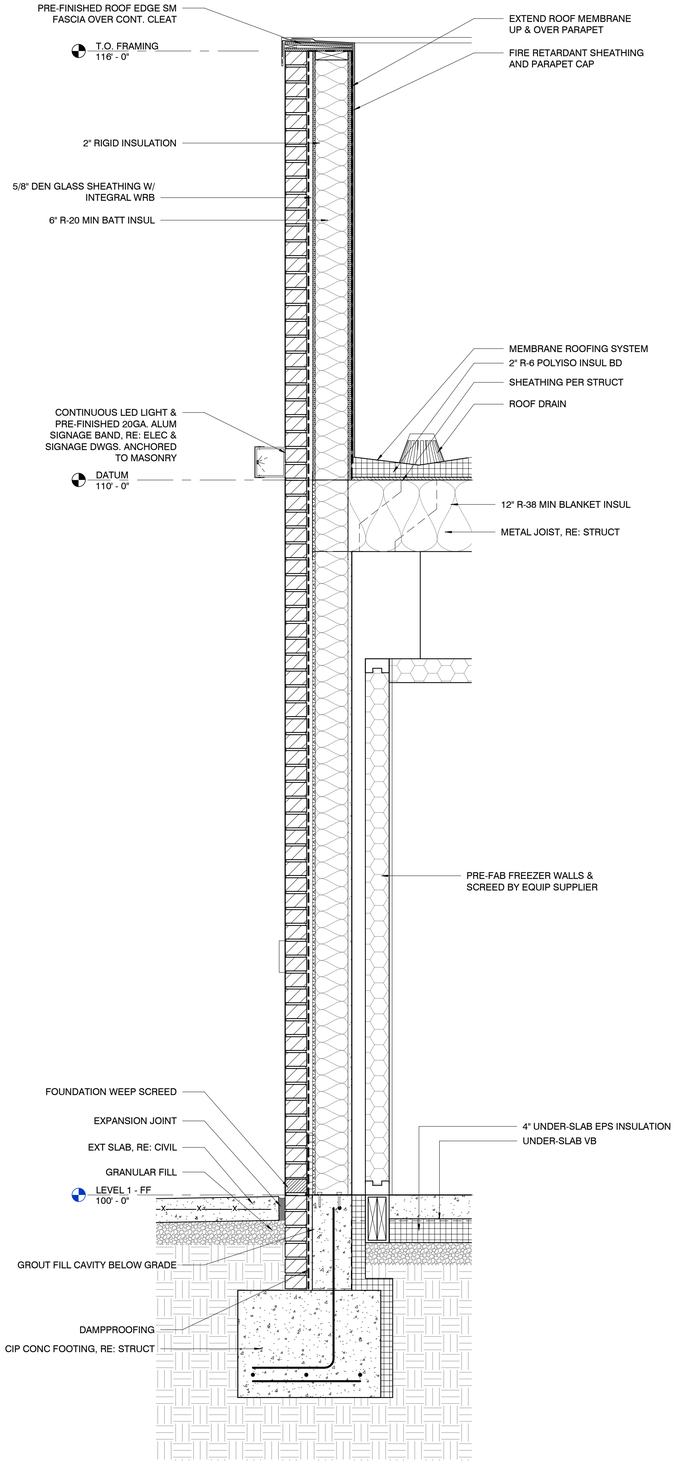
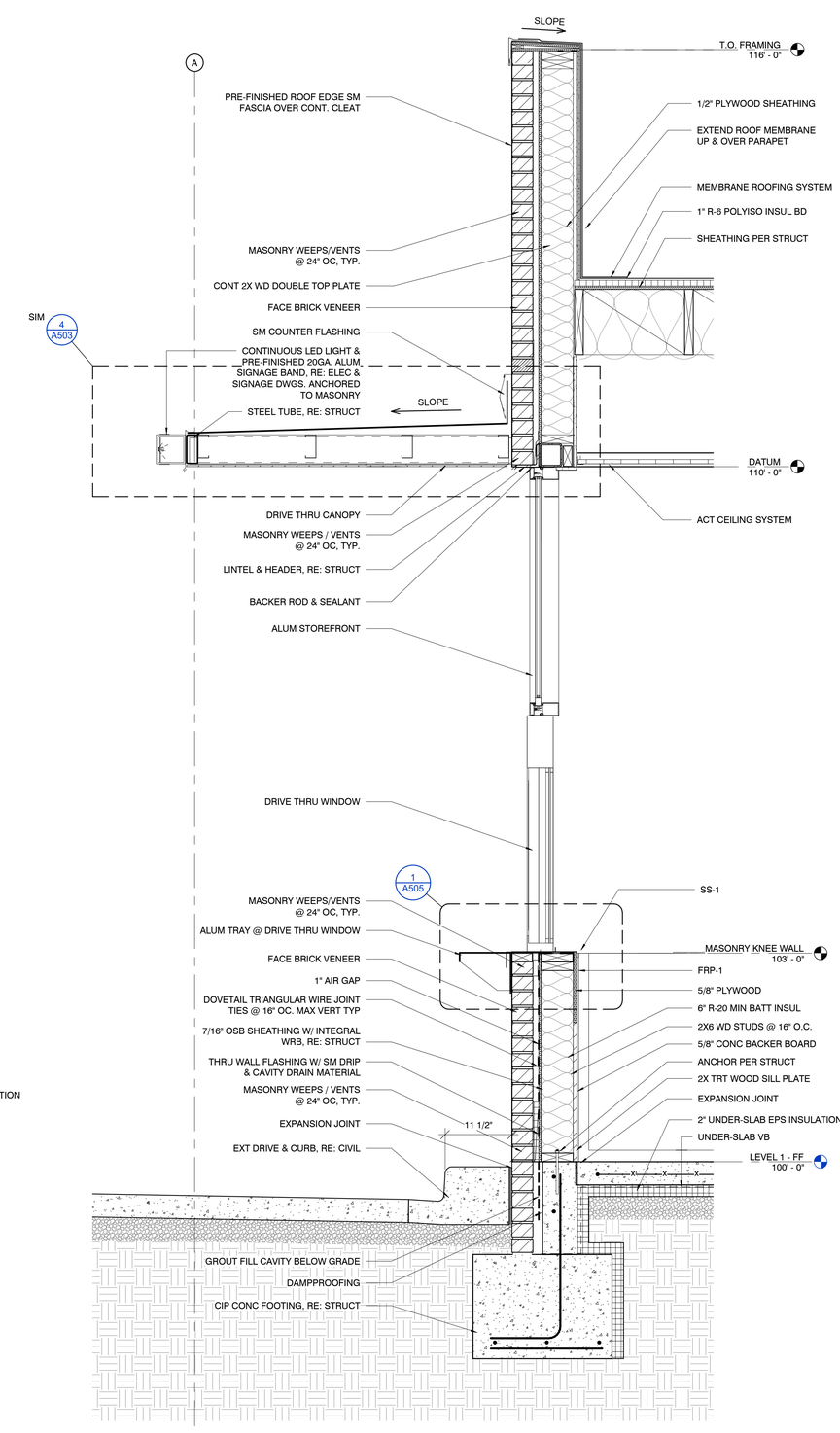
SECTIONS

A402



2 WALL SECTION - MECHANICAL AREA WALL
1" = 1'-0"



1 WALL SECTION - DRIVE THRU WINDOW
1" = 1'-0"

Hufft

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THIS DRAWING MAY BE PART of an integrated set of Construction Documents, including the Contract, the Conditions and the Specifications. The Contract Documents are complementary: what is required by one is as binding as if required by all. Application of a material or equipment item to Work installed by others constitutes acceptance of that Work. Calculate and measure dimensions – DO NOT SCALE DRAWINGS unless directed by the Architect to do so. Dimensions indicated are to the face of a material, unless noted otherwise.

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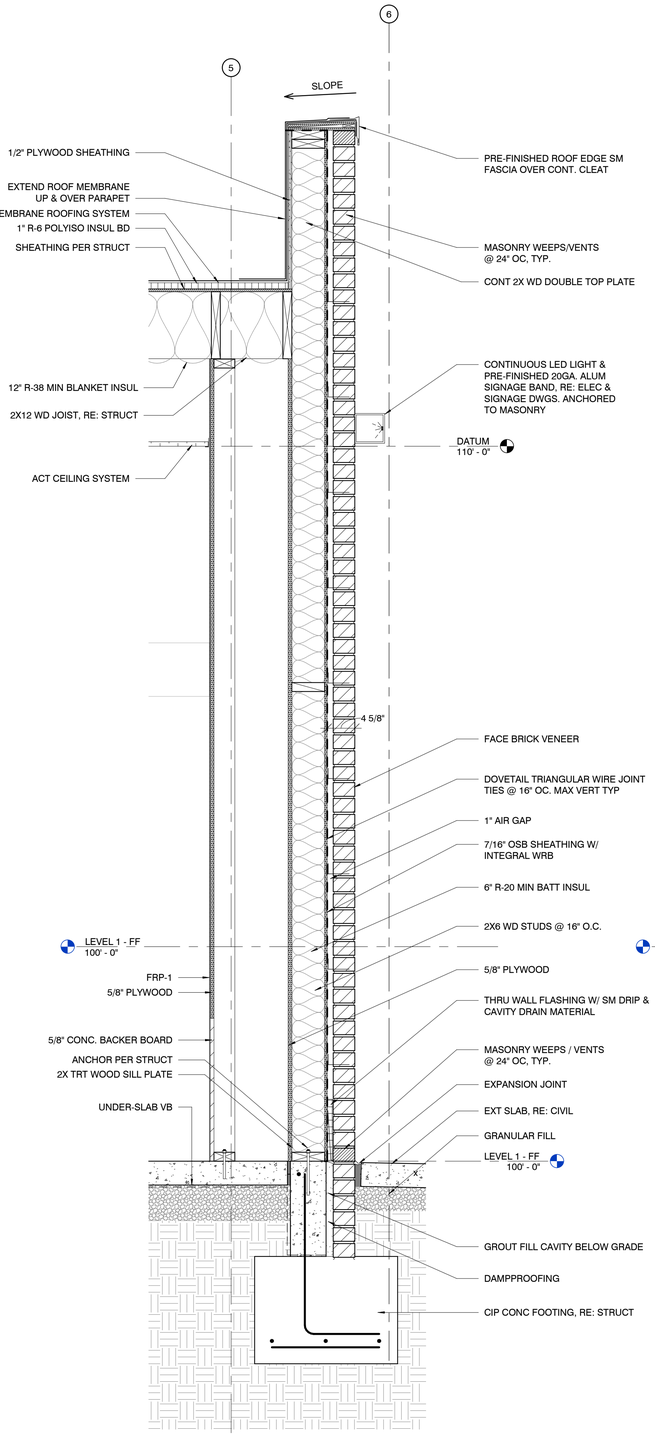
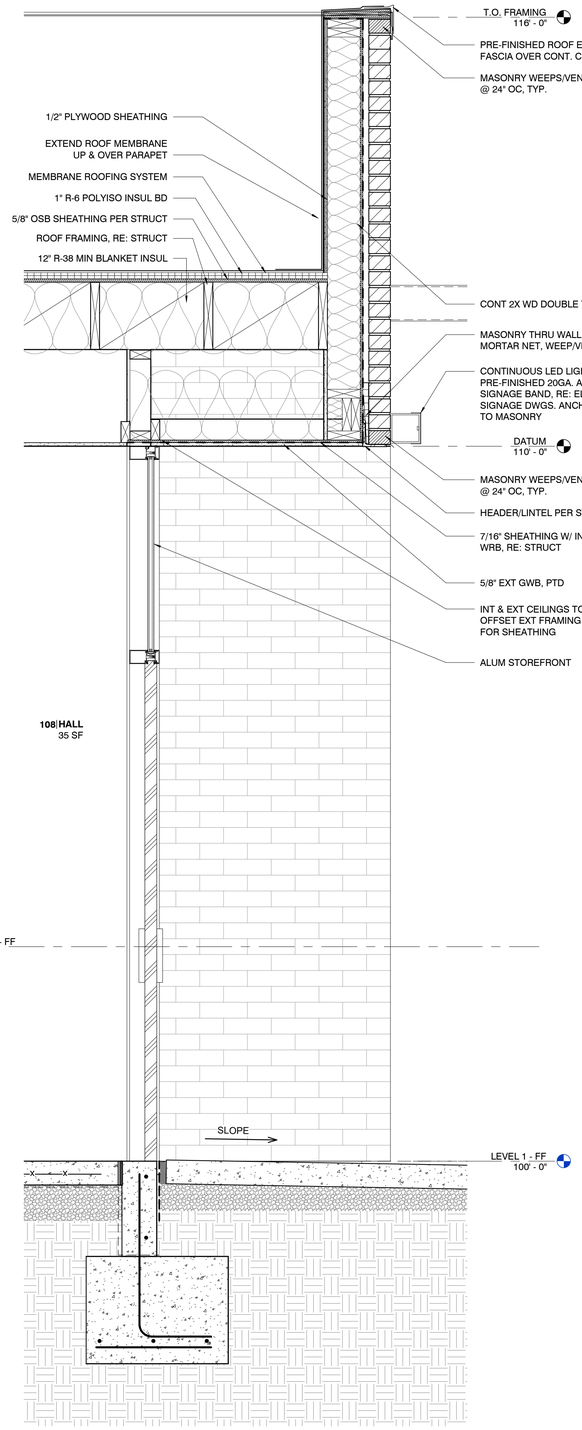
WALL SECTIONS

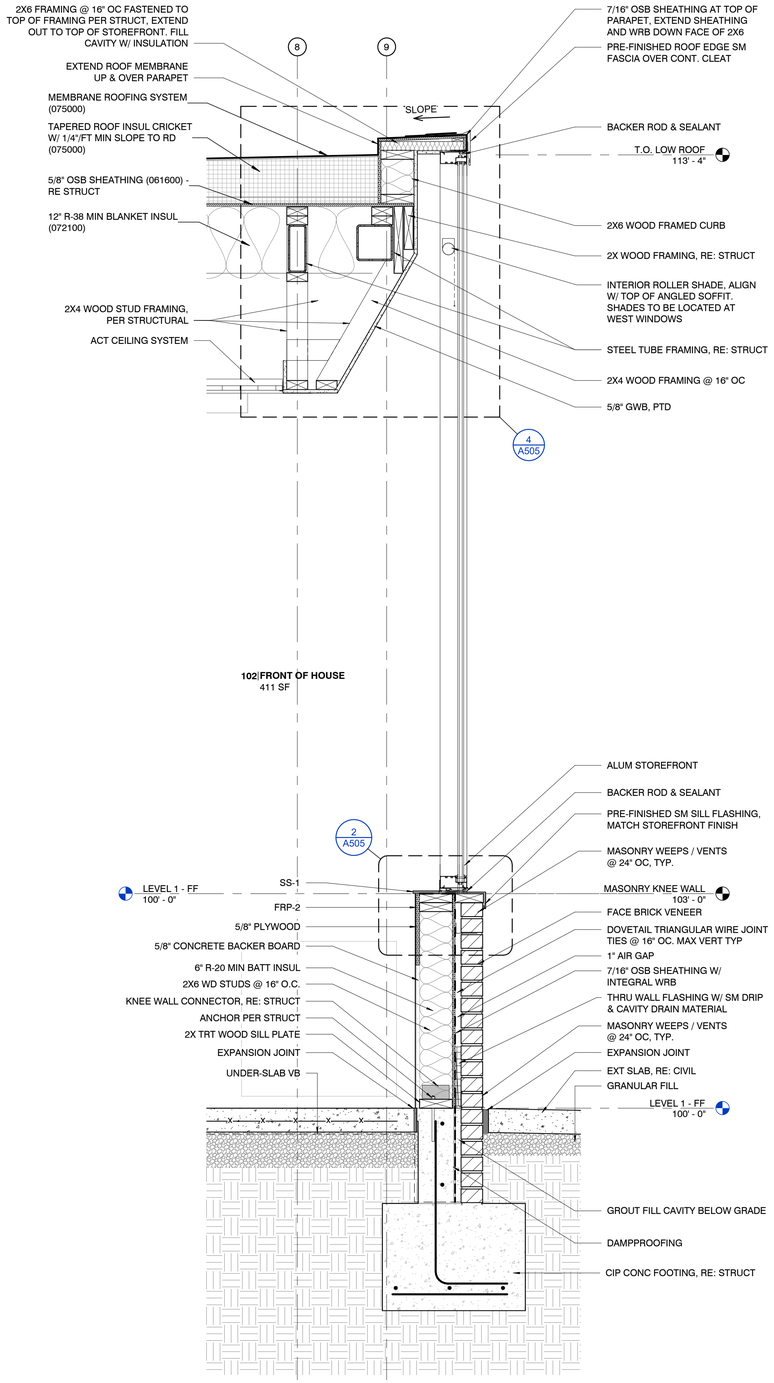
A501



3 WALL SECTION - MASONRY WALL
1" = 1'-0"



2 WALL SECTION - RECESSED ENTRY
1" = 1'-0"



1 WALL SECTION - STOREFRONT @ MASONRY KNEE WALL
1" = 1'-0"

Hufft

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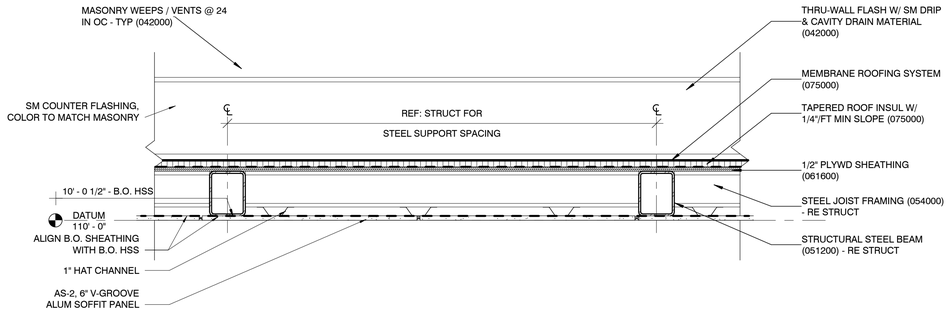
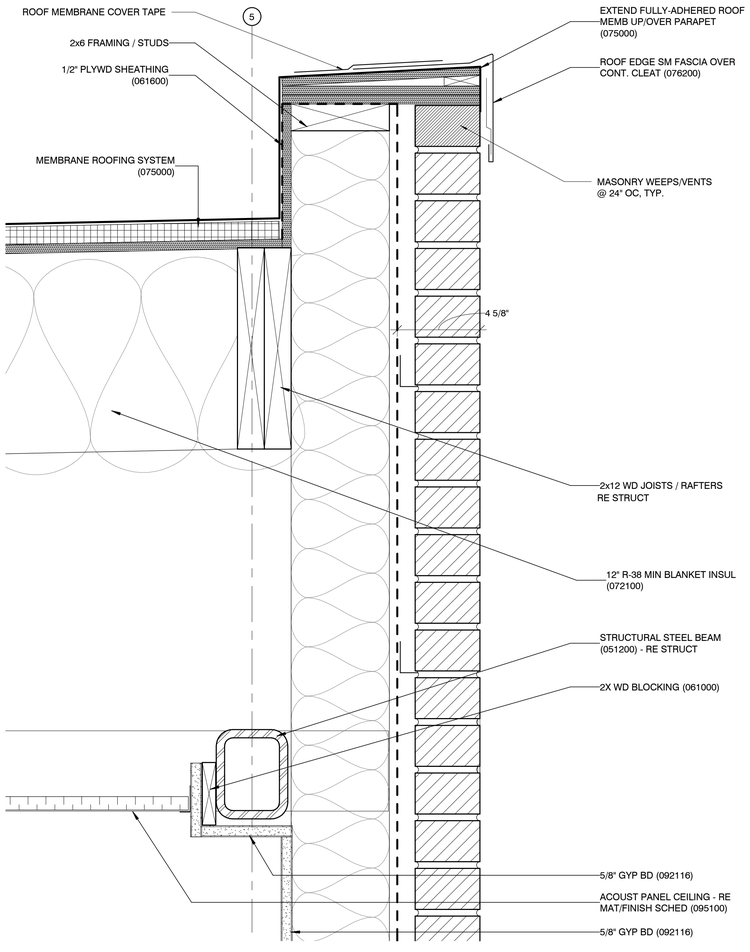
WALL SECTIONS

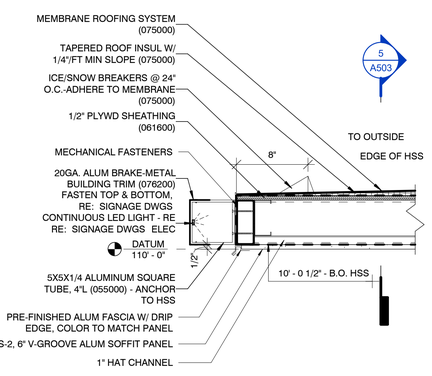
A502



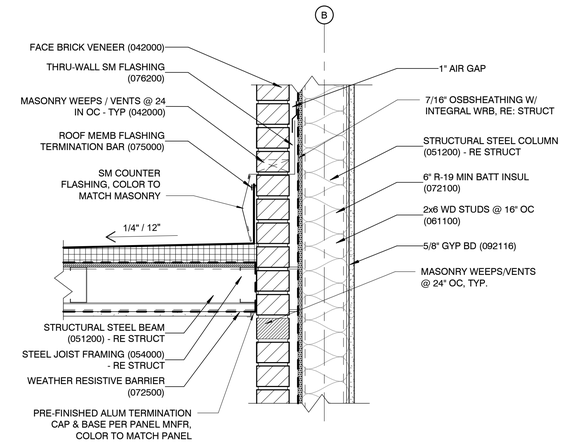
5 DETAIL - CANTILEVER CANOPY TRANSVERSE
1 1/2" = 1'-0"

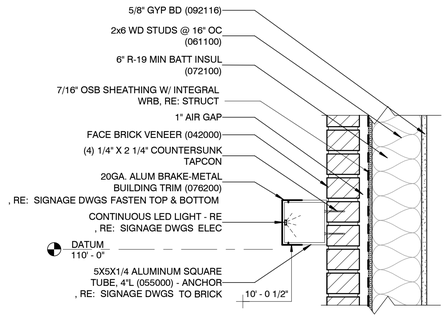


6 DRIVE THRU CANOPY STEEL @ MASONRY WALL
3" = 1'-0"

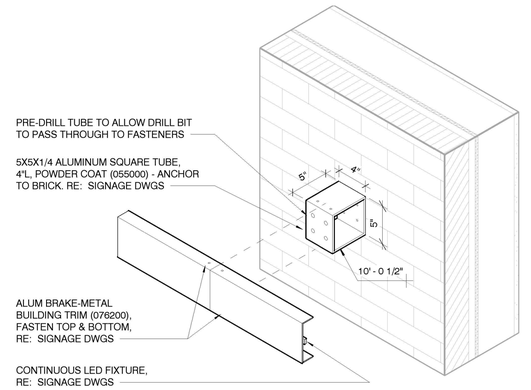


4 DETAIL - CANTILEVER CANOPY - DRIVE THRU
1 1/2" = 1'-0"





2 DETAIL - LIGHT BAND
1 1/2" = 1'-0"



NOTE: COORDINATE SIGNAGE BAND DETAILING WITH PINNACLE SIGN GROUP

1 AXON - SIGNAGE / LIGHT BAND

Hufft

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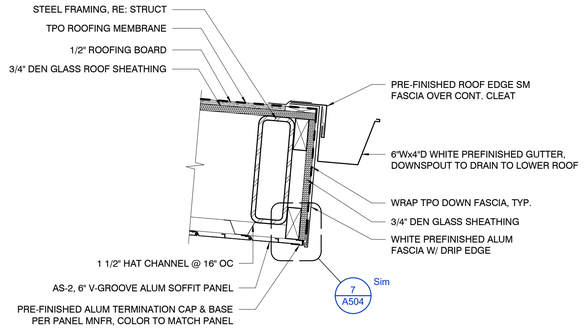
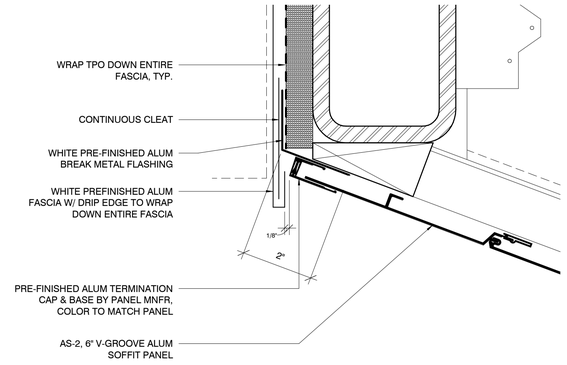
DETAILS - DRIVE THRU CANOPY

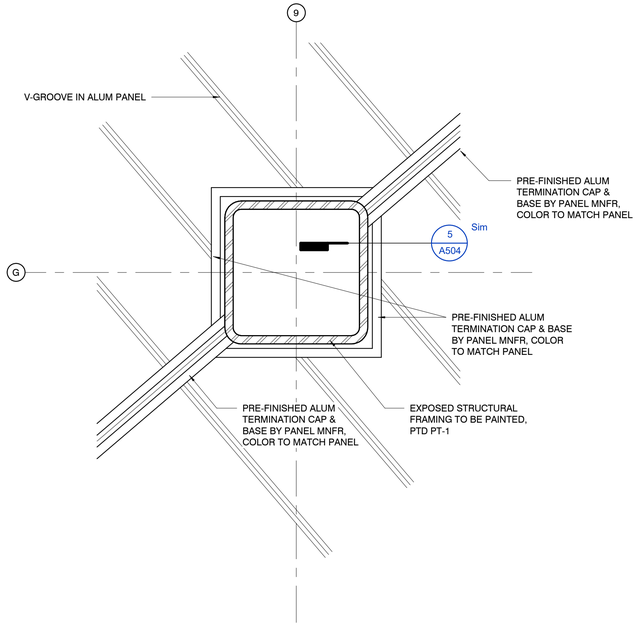
A503



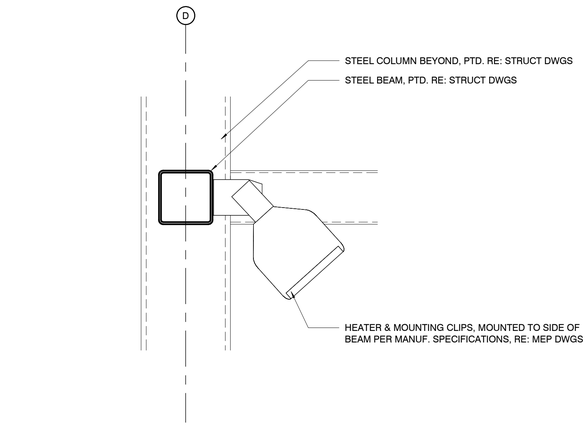
8 DETAIL - CANOPY ROOF DRAINAGE
1 1/2" = 1'-0"



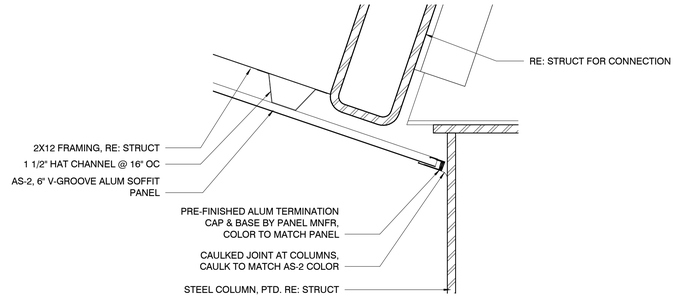
7 ENLARGED DETAIL - TYP. CANOPY FASCIA/SOFFIT
6" = 1'-0"



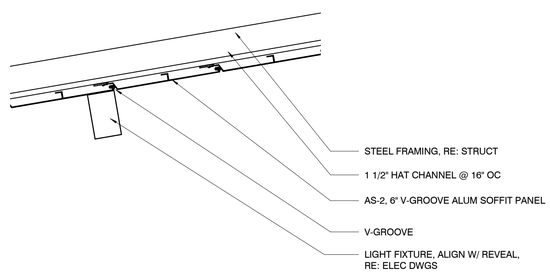
4 DETAIL - TYPICAL REVEAL @ COLUMN
3" = 1'-0"



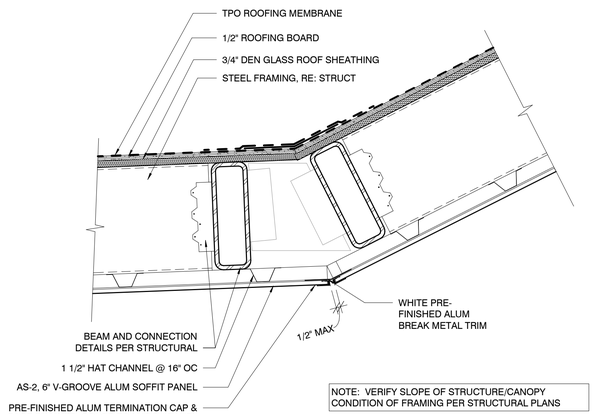
6 DETAIL - PATIO HEATER @ LOW BEAM
1 1/2" = 1'-0"



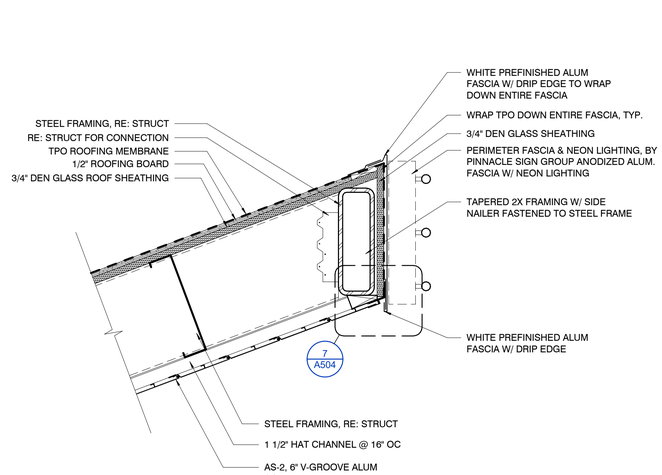
5 DETAIL - CANOPY REVEAL AT TOP OF COLUMN
3" = 1'-0"



3 DETAIL - TYP. REVEAL @ CANOPY PANEL
3" = 1'-0"



2 DETAIL - PATIO CANOPY VALLEY
1 1/2" = 1'-0"



1 DETAIL - CANOPY FASCIA/SOFFIT
1 1/2" = 1'-0"

Hufft

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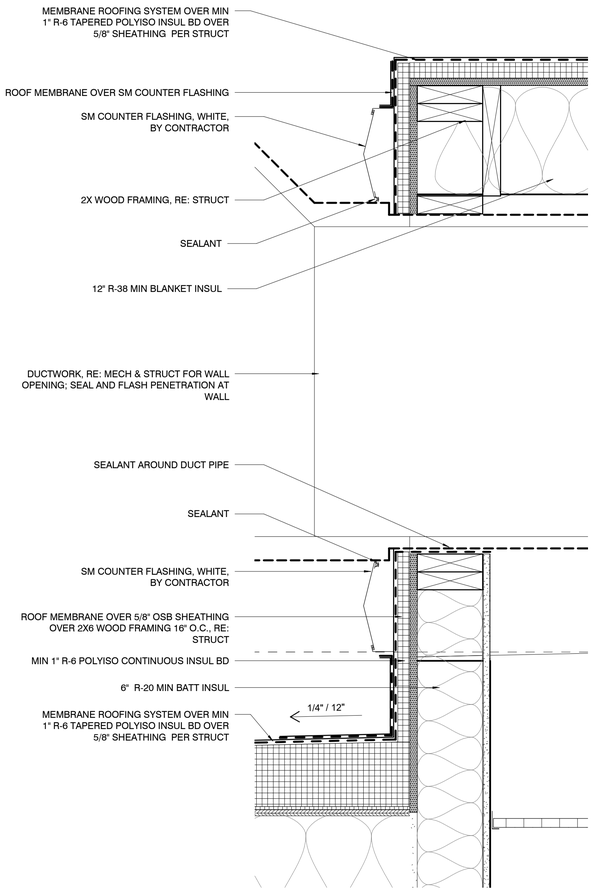
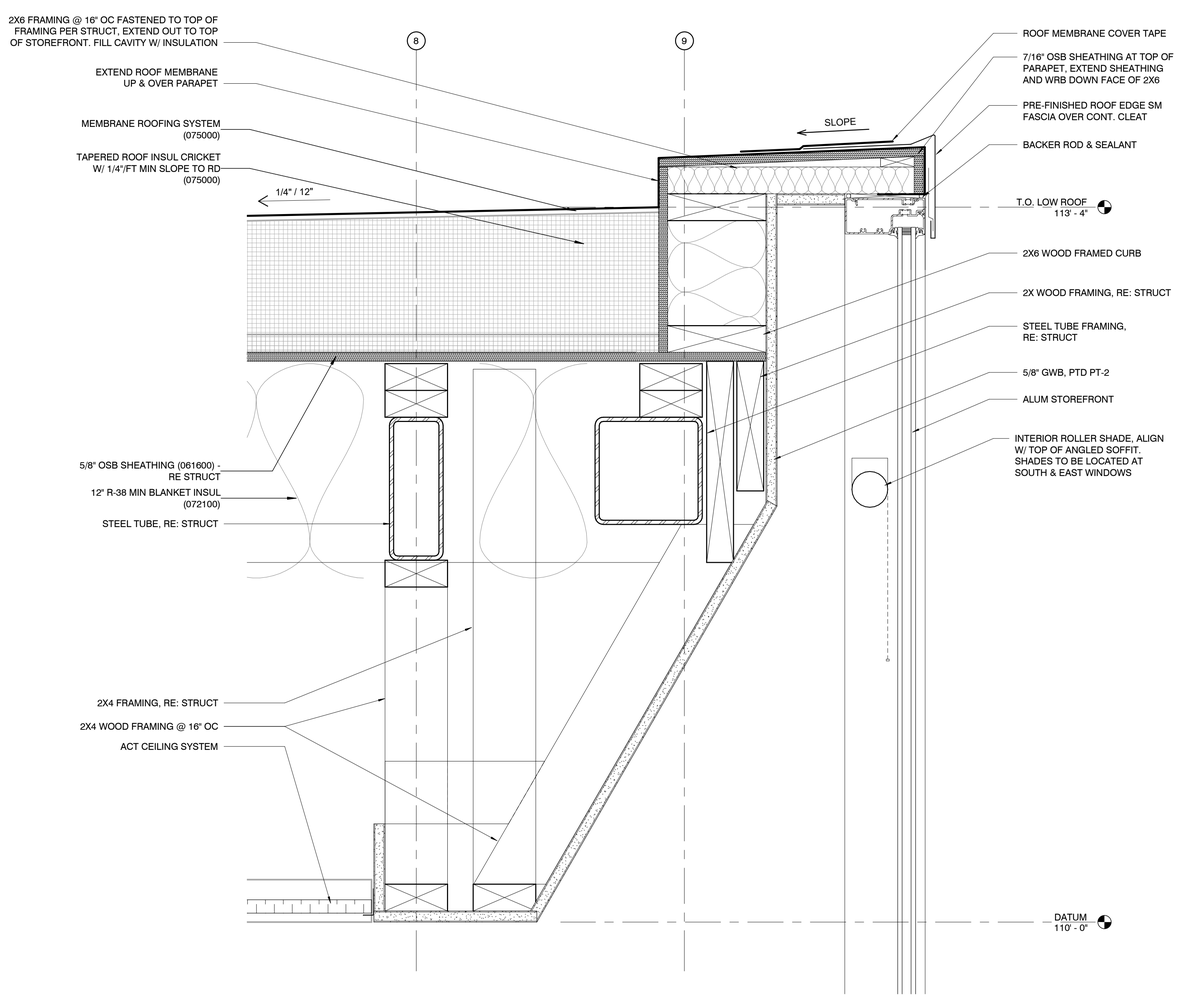
DETAILS - PATIO CANOPY

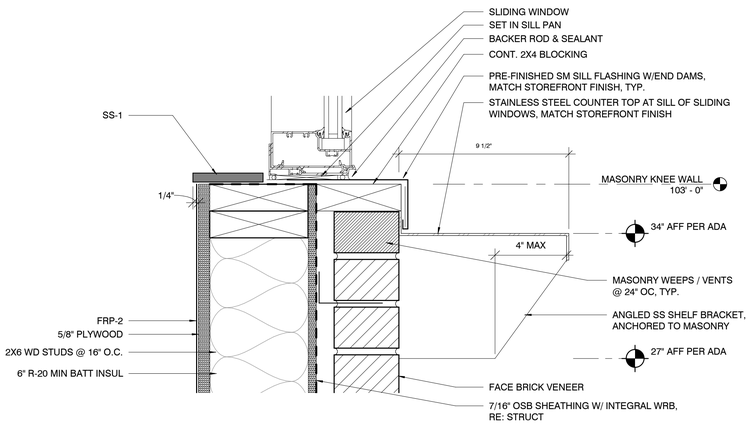
A504



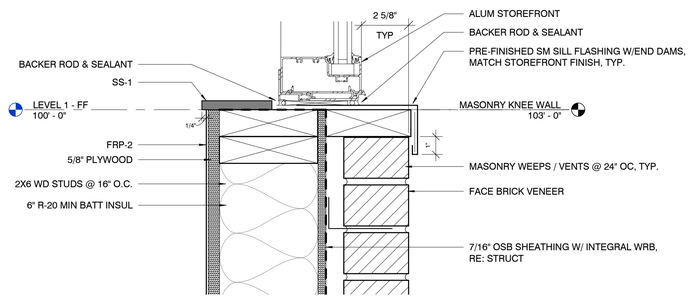
3 DETAIL - DUCT WALL PENETRATION
1 : 6



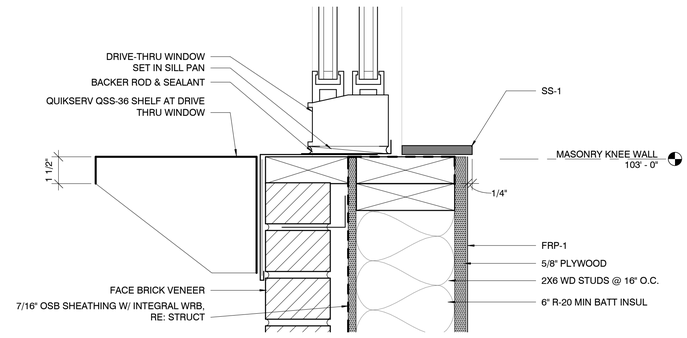
4 STOREFRONT PARAPET DETAIL
3" = 1'-0"



6 DETAIL - COUNTER @ SLIDING WINDOW
3" = 1'-0"



2 DETAIL - MASONRY KNEE WALL @ STOREFRONT
3" = 1'-0"



1 DETAIL - DRIVE THRU SILL
3" = 1'-0"

Hufft

PROJECT INFORMATION:

Andy's Frozen Custard #204

700 NW Ward Road
Lee's Summit, Missouri 64086

OWNER:

ANDY'S FROZEN CUSTARD

211 E. Water Street
Springfield, MO 65806

www.eatandys.com

ARCHITECT:

HUFFT

3612 Kannes Boulevard
Kansas City, MO 64111
P: 816-531-0200

www.hufft.com

STRUCTURAL:

METTEMEYER ENGINEERING, LLC

2225 W. Chesterfield Blvd., Suite 300
Springfield, MO 65807
P: 417-890-8002

CIVIL/LANDSCAPE:

PHELPS ENGINEERING, INC.

1270 N. Winchester
Olathe, Kansas 66061
P: 913.538.5821

MEP:

RTM ENGINEERING CONSULTANTS

3333 E. Battlefield Road, Suite 1000
Springfield, MO 65804
P: 417-881-0020

ISSUE:

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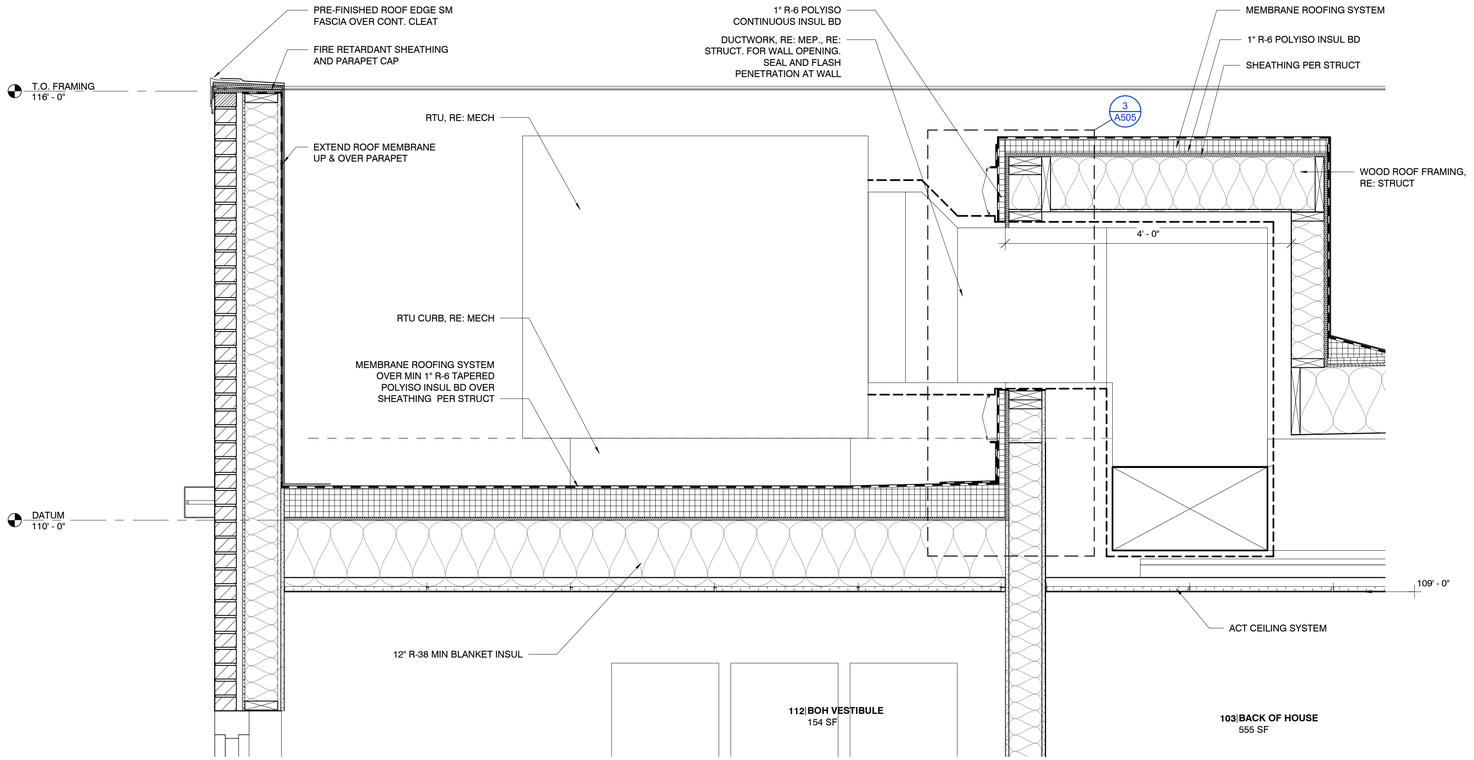
STATE OF MISSOURI
JEFFREY M. KLOCH
NUMBER A - 2016005093
ARCHITECT

05/01/2024

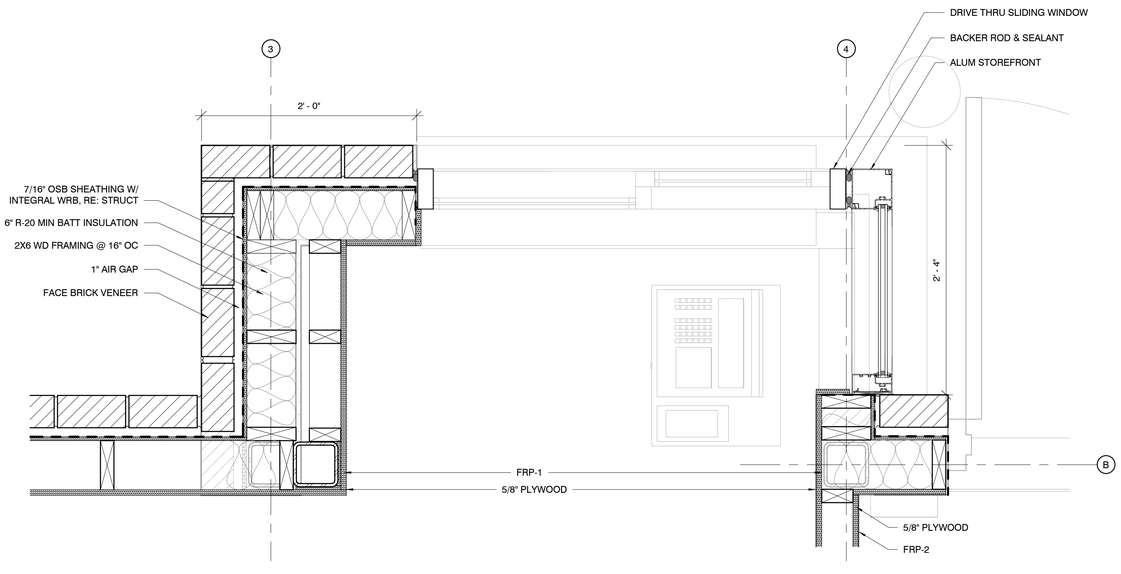
Architect: JEFFREY KLOCH
License Number: A-2016005093
Drawn By: MS
Project Number: 736

DETAILS - EXTERIOR

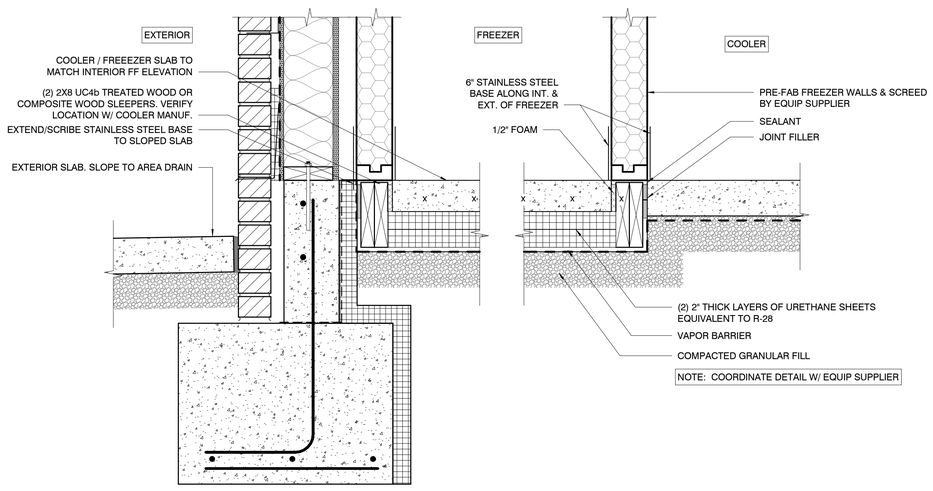
A505



3 WALL SECTION - ROOF DROP
1" = 1'-0"



2 DETAIL - DRIVE THRU
1 1/2" = 1'-0"



1 DETAIL - FREEZER INSULATED SLAB
1 1/2" = 1'-0"

Hufft

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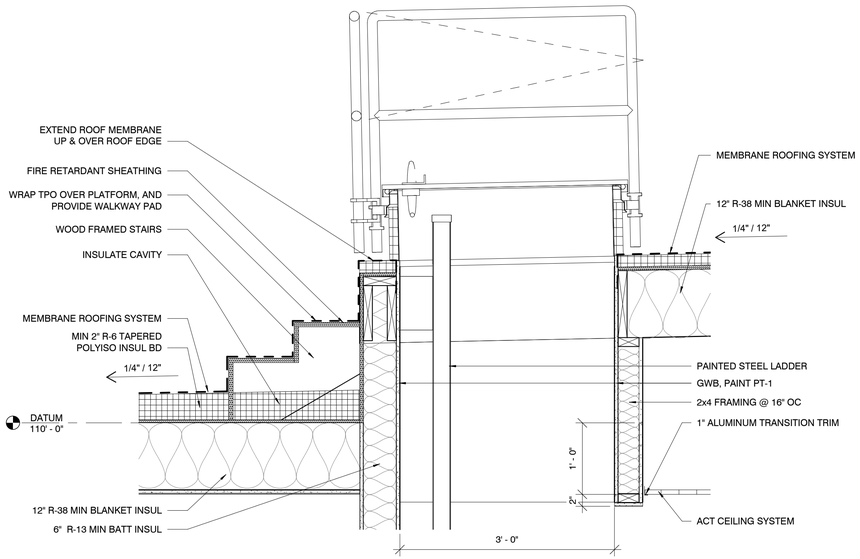
ARCHITECT

05/01/2024

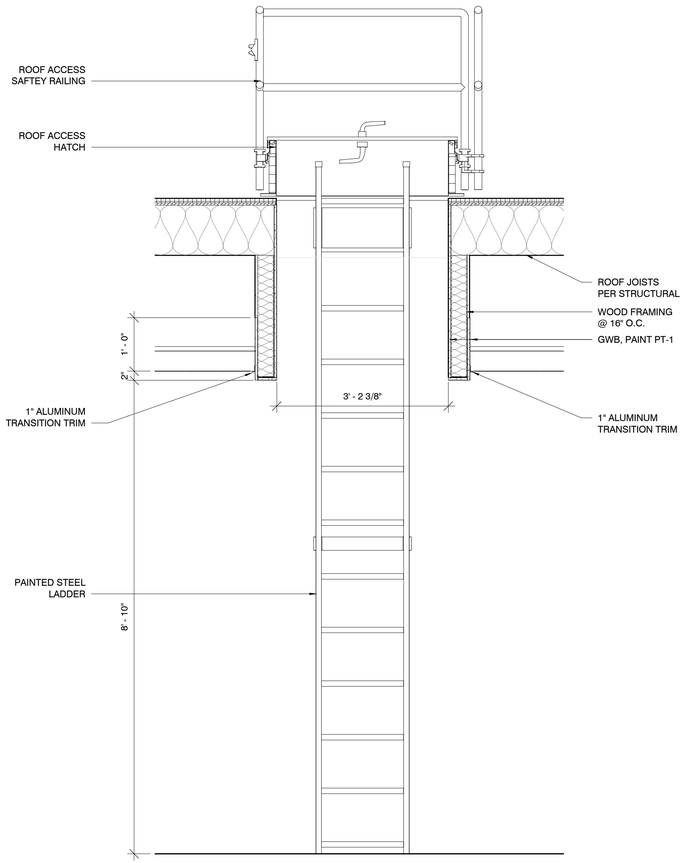
Architect: JEFFREY KLOCH
License Number: A-2016005093
Drawn By: MS
Project Number: 736

DETAILS - EXTERIOR

A506

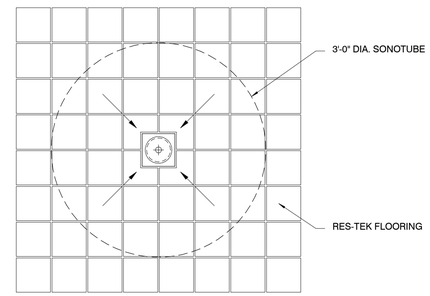


3 DETAIL - ROOF DROP
1" = 1'-0"

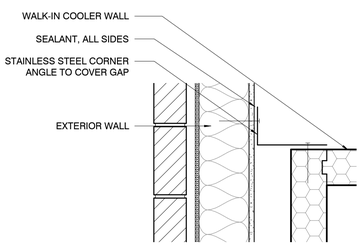


9 INTERIOR ELEVATION - ACCESS LADDER
3/4" = 1'-0"

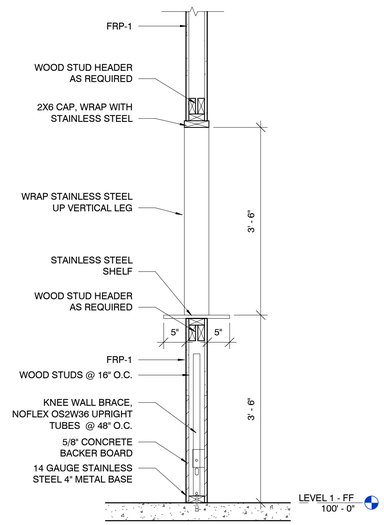
NOTE: INSTALL 3'-0" DIA. SONOTUBE CENTERED ON FLOOR DRAIN. POUR CONCRETE FLOOR SLAB OUTSIDE OF SONOTUBE ONCE CONCRETE CURES, REMOVE SONOTUBE & POUR REMAINING CONCRETE AROUND FLOOR DRAIN. SLOPE 1/4" PER FOOT TOWARDS DRAIN.



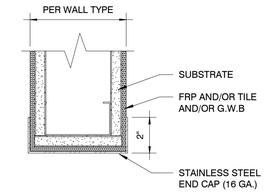
6 DETAIL @ FLOOR DRAIN
1" = 1'-0"



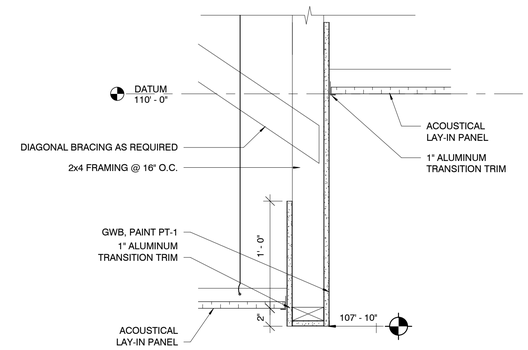
2 PLAN DETAIL - COOLER/FREEZER CLOSURE
1 1/2" = 1'-0"



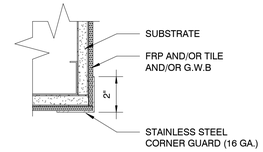
7 DETAIL @ DRIVE THRU P.O.S.
3/4" = 1'-0"



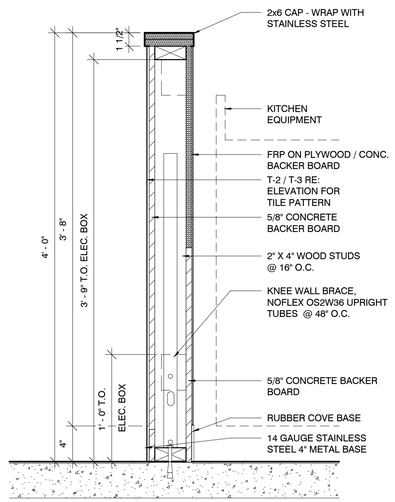
5 DETAIL @ STAINLESS STEEL END CAP
3" = 1'-0"



8 DETAIL - CEILING TRANSITION
1 1/2" = 1'-0"



4 DETAIL @ STAINLESS STEEL CNR. GUARD
3" = 1'-0"



1 SECTION @ HALF WALL
1 1/2" = 1'-0"

Hufft

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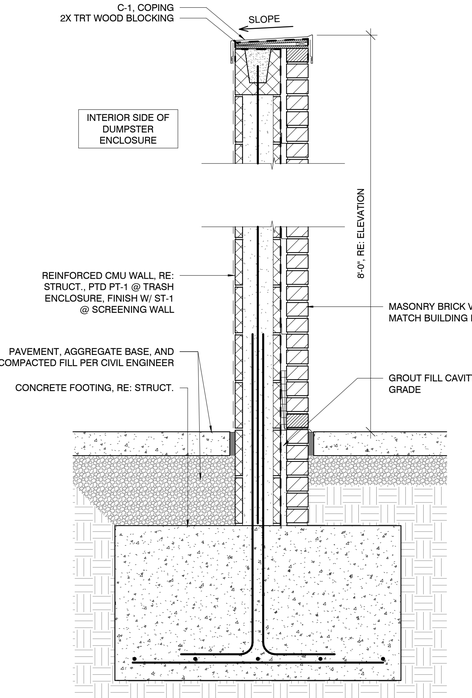
NUMBER A - 2016005093
ARCHITECT

05/01/2024

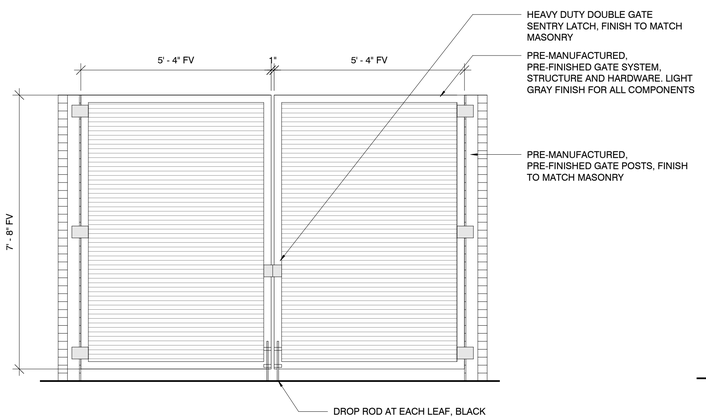
Architect: JEFFREY KLOCH
License Number: A-2016005093
Drawn By: MS
Project Number: 736

DETAILS - INTERIOR

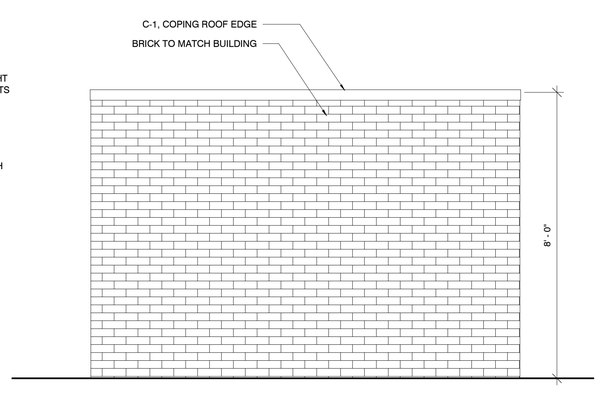
A507



4 DUMPSTER ENCLOSURE - SECTION
1" = 1'-0"

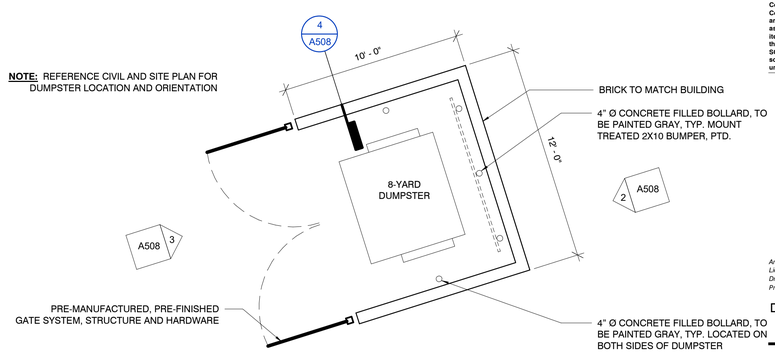


3 ELEVATION - DUMPSTER GATE
1/2" = 1'-0"



2 TYP. ELEVATION - DUMPSTER ENCLOSURE
1/2" = 1'-0"

NOTE: REFERENCE CIVIL AND SITE PLAN FOR DUMPSTER LOCATION AND ORIENTATION



1 ENLARGED PLAN - DUMPSTER ENCLOSURE
1/4" = 1'-0"

Hufft

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JEFFREY M. KLOCH
NUMBER A - 2016005093
ARCHITECT

05/01/2024

Architect: JEFFREY KLOCH
License Number: A-2016005093
Drawn By: MS
Project Number: 736

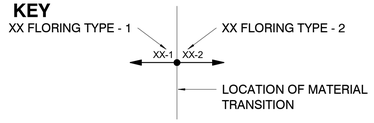
DETAILS - SITE

A508

FINISH MATERIAL KEY

	EF-1
	EPOXY FLOORING

MATERIAL TRANSITION TAG KEY



ROOM FINISH TAG KEY

WALL
BASE
FLOOR

FINISH NOTES:

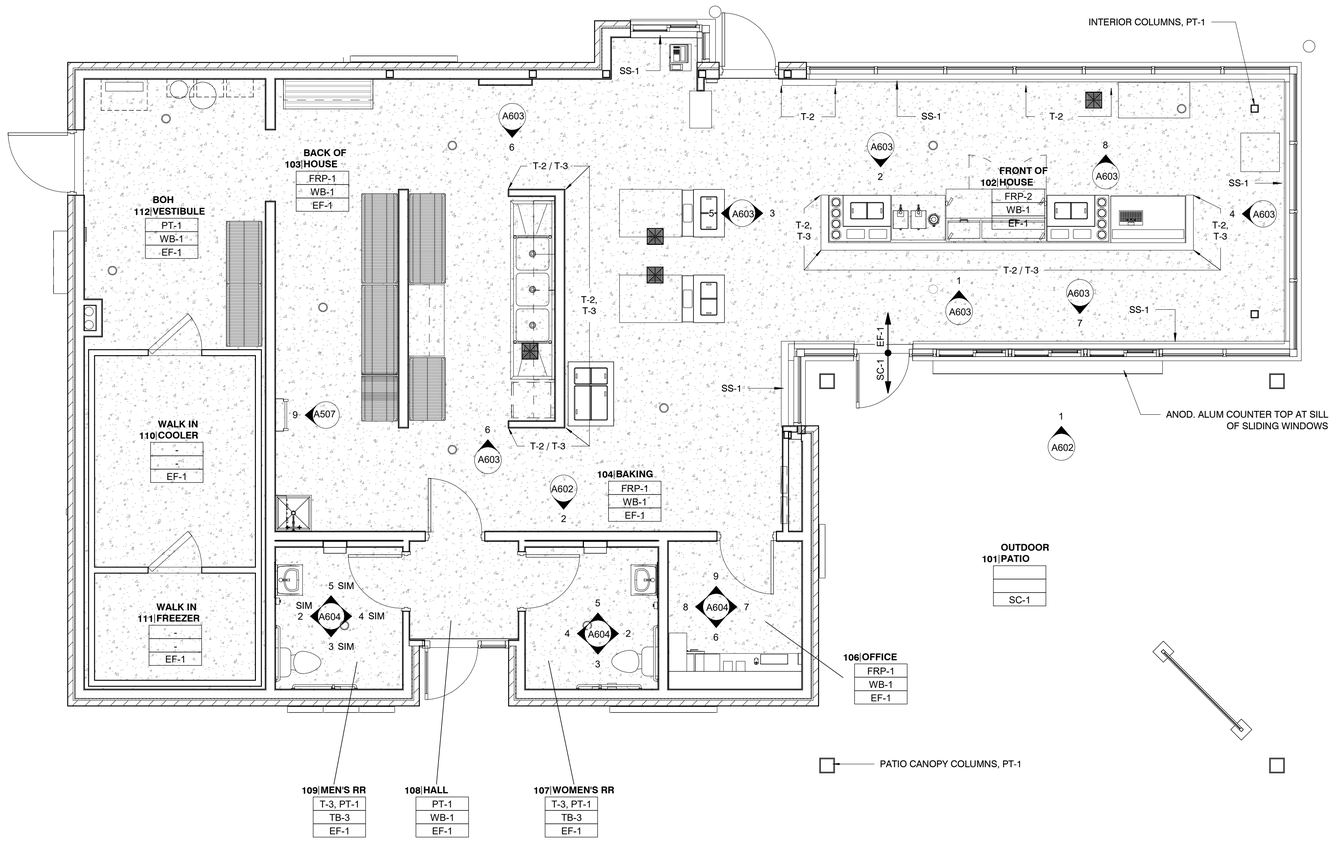
1. ALL FINISHES TO COMPLY WITH CHAPTER 8, INTERIOR FINISHES, IN THE RELEVANT INTERNATIONAL BUILDING CODE.
2. GENERAL CONTRACTOR TO ENSURE ALL FLOORS ARE PROPERLY PREPARED TO RECEIVE SPECIFIED FLOOR FINISH.
3. GENERAL CONTRACTOR TO ENSURE ALL WALLS ARE PROPERLY PREPARED FOR SPECIFIED FINISH.
4. ALL ADHESIVES, SOLVENTS, PAINTS AND SEALANTS TO COMPLY WITH VOLUNTARY SUSTAINABILITY GOALS FOR V.O.C. CONTENT PER SPECIFICATIONS IN PROJECT MANUAL.
5. PAINT ALL WALLS PT-1 U.O.N.
6. ALL FLOORING TRANSITIONS BETWEEN DIFFERING MATERIALS ARE TO HAVE PROPER TRANSITION STRIPS.
7. WHERE INSTALLING TILE PRODUCT ALL CUTS SHALL BE GREATER THAN 4".
8. ALL TILE GROUT JOINTS TO BE 1/8" U.O.N.
9. ALL TILE GROUT JOINTS TO BE PROPERLY SEALED.
10. WHERE STAGGERED OR BRICK INSTALLATION METHODS ARE USED WITH TILE, PROVIDE A 30% / 70% JOINT PLACEMENT, PER TCNA.
11. CORNER GUARDS TO BE INSTALLED AT ALL OUTSIDE CORNERS. SUPPLIED AND INSTALLED BY G.C.
12. NOT ALL FINISHES IN SCHEDULE OF FINISHES ARE NECESSARILY INCLUDED IN THIS SCOPE OF WORK. SEE ROOM FINISH PLAN AND INTERIOR ELEVATIONS FOR LOCATIONS.
13. PAINT EXPOSED STRUCTURAL COLUMNS, EXPOSED DUCTWORK PT-1, SEMIGLOSS. INTERIOR DOORS AND FRAMES TO BE PAINTED PT-1 SEMIGLOSS BOTH SIDES UNLESS OTHERWISE NOTED.
14. ALL PRELAMINATED FRP PANELS TO BE INSTALLED WITH FULL CONTACT ADHESIVE PER SPECIFICATIONS IN PROJECT MANUAL.
15. PAINT SHEEN: CEILINGS - FLAT, STRUCTURAL COLUMNS AND EXPOSED METAL DUCTS - ACRYLIC ENAMEL, SEMI-GLOSS, WALLS - SATIN (UNLESS NOTED OTHERWISE)
16. ALL BACK OF HOUSE WALL SURFACES TO BE FINISHED WITH FRP UNO.
17. CONTRACTOR TO SUBMIT FINISH SAMPLES OF ALL FINISHES TO ARCHITECT FOR APPROVAL PRIOR TO ORDERING MATERIALS.
18. ALL FOOD AND NON-FOOD SURFACES ARE TO BE SMOOTH, DURABLE, NON-ABSORBENT, LIGHT IN COLOR AND EASILY CLEANABLE PER HEALTH DEPARTMENT REGULATIONS.
19. ALL FINISHES SHOWN ARE BASIS OF DESIGN. PROPOSED ALTERNATES SHALL BE APPROVED BY ARCHITECT WITH ALTERNATE SUBMITTALS.
20. ALL TILE BASE GROUT LINES TO ALIGN WITH ADJACENT FLOOR TILE WHERE BOTH FLOOR AND WALL TILE ARE USED.

FINISH LEGEND

KEY	MANUFACTURER	DESCRIPTION	NOTES	LOCATION	FINISH TYPE	CONTACT
CASEWORK						
PL-1	FORMICA	927-58 FOLKSTONE MATTE FINISH		OFFICE	CASEWORK	
SS-1	CORIAN	1/2" SOLID SURFACE, COLOR: GLACIER WHITE	SILL AT STOREFRONT	FRONT OF HOUSE	CASEWORK	
CEILING						
ACT-1	ARMSTRONG	KITCHENZONE 2'X4' RECTANGULAR LAY-IN TILE AND GRID, WHITE		FRONT OF HOUSE & BACK OF HOUSE	CEILING	SAM ENGLE, 816-800-2582
ACT-2	ARMSTRONG	OPTIMA, 2'x4' RECTANGULAR LAY-IN TILE AND GRID, WHITE		OFFICE	CEILING	SAM ENGLE, 816-800-2582
CLG-1		GYPSUM WALL BOARD, PAINT PT-1		HALLWAY, RESTROOMS	CEILING	
RS-1	MECHOSHADE	SLIMLINE THERMOVEIL 1500 SERIES, WHITE SHADE FABRIC		FRONT OF HOUSE GLAZING	CEILING	
FLOOR						
EF-1	RES-TEK	MMA FLOORING	COLORED QUARTZ - LT GRAY CQ-5	GENERAL	FLOOR	JASON REDFIELD, 913-375-5191
SC-1		SEALED CONCRETE		OUTDOOR PATIO	FLOOR	
WALL						
FRP-1	MARLITE	STANDARD FRP, P100, WHITE		BACK OF HOUSE, OFFICE	WALL	
FRP-2	MARLITE	SMOOTH FRP, S100, S/2/S WHITE		FRONT OF HOUSE	WALL	
PT-1	SHERWIN WILLIAMS	SW 7006 EXTRA WHITE		GENERAL, EXPOSED COLUMNS	WALL	BROOK NIENSTEDT, 913-381-8633
PT-2	SHERWIN WILLIAMS	SW 6869 STOP		ACCENT, FRONT OF HOUSE SLOPED SOFFIT	WALL	BROOK NIENSTEDT, 913-381-8633
T-2	DALTILE	COLOR WHEEL COLLECTION CLASSIC, ARCTIC WHITE 0190, GLOSS, 3" X 6"	GROUT: MAPEI, FLEXCOLOR DESIGN 117 PURE WHITE	FRONT OF HOUSE ACCENT WALL TILE	WALL	JAIME RUFFING, 214-394-9498
T-3	DALTILE	COLOR MATCH COLLECTION, QF13 VALENTINE, GLOSS, 3" X 6"	GROUT: MAPEI, FLEXCOLOR DESIGN 117 PURE WHITE	FRONT OF HOUSE ACCENT WALL TILE, RESTROOMS	WALL	JAIME RUFFING, 214-394-9498
WALL BASE						
MB-1		14 GAUGE STAINLESS STEEL 4" METAL BASE		FRONT OF HOUSE ACCENT TILE WALLS	WALL BASE	
TB-3	DALTILE	COLOR MATCH COLLECTION, QF13 VALENTINE, GLOSS, 6" X 6", COVE BASE. FLAT TOP COVE BASE AT LOCATIONS WITH TILE ABOVE. SANITARY COVE BASE AT LOCATIONS WITHOUT TILE ABOVE	GROUT: MAPEI, FLEXCOLOR DESIGN 117 PURE WHITE	RESTROOMS	WALL BASE	JAIME RUFFING, 214-394-9498
WB-1	RES-TEK	4" EPOXY COVE BASE	TO MATCH EF-1	AT FRP LOCATIONS	WALL BASE	JASON REDFIELD, 913-375-5191

VENDOR LIST

ITEM	VENDOR	CONTACT
SIGNAGE	PINNACLE SIGN GROUP	TIM SWAIM, 417-869-6468
KITCHEN EQUIPMENT	CONCEPT SERVICES	SETH MIERL, 512-343-3100
WALK-IN COOLER/FREEZER	CONCEPT SERVICES	SETH MIERL, 512-343-3100
TILE	DALTILE	JAIME RUFFING, 214-394-9498
PRE-FAB TRASH ENCLOSURE GATES	AMETCO	



1 LEVEL 1 - FF - FINISH PLAN
1/4" = 1'-0"

Hufft

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NUMBER A - 2016005093
ARCHITECT

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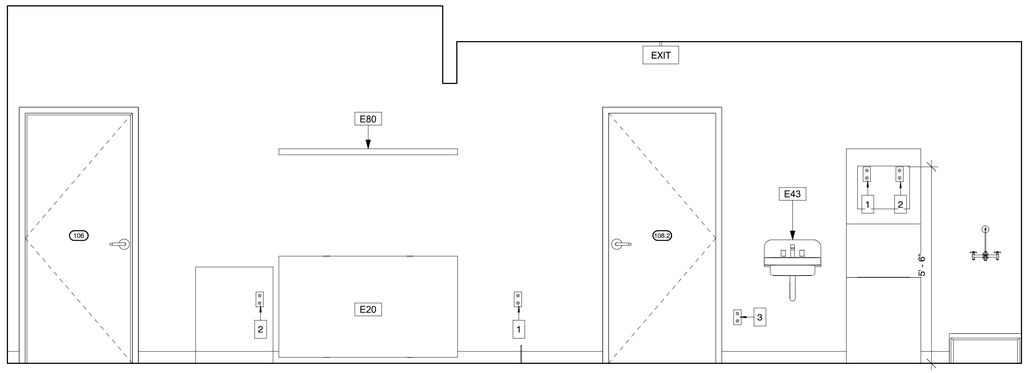
Architect: JEFFREY KLOCH
License Number: A-2016005093
Drawn By: MS
Project Nacl Number: 736

FINISH PLAN

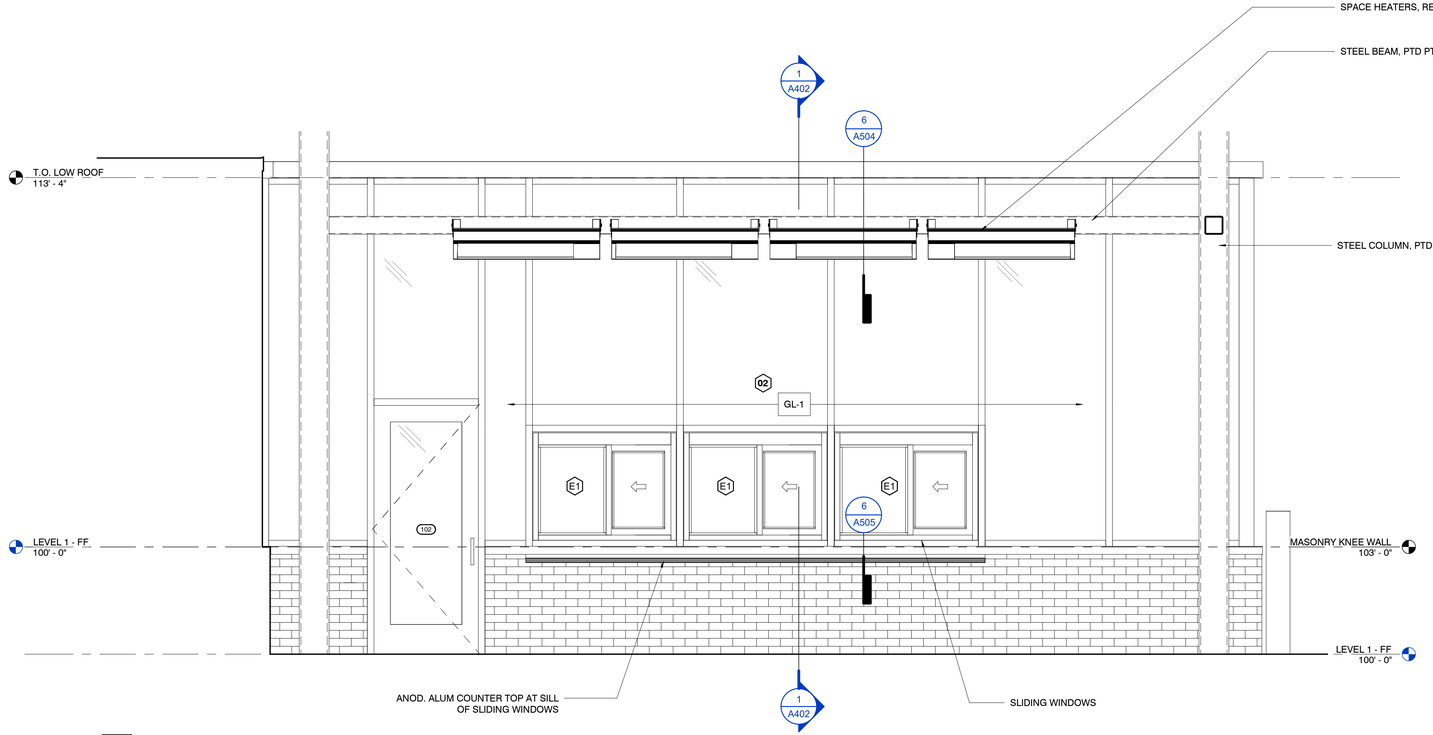
A601

EQUIP. KEYNOTES

1. DUPLEX RECEPTACLE
2. ADDTIONAL SPECIAL REPCTACLE, RE: MEP
3. DUPLEX GFI RECEPTACLE



2 INTERIOR ELEVATION - BACK OF HOUSE
1/2" = 1'-0"



1 PATIO ELEVATION
1/2" = 1'-0"

Hufft

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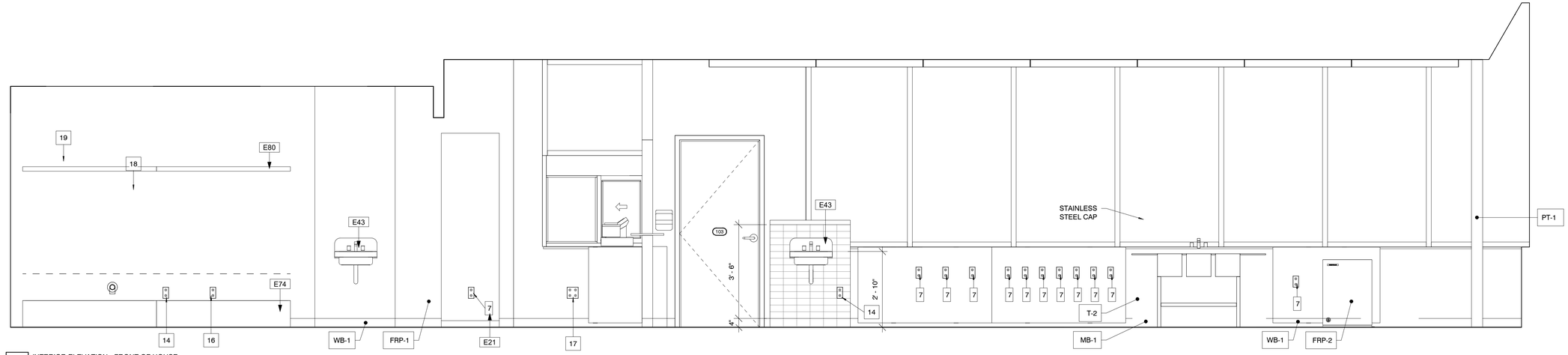
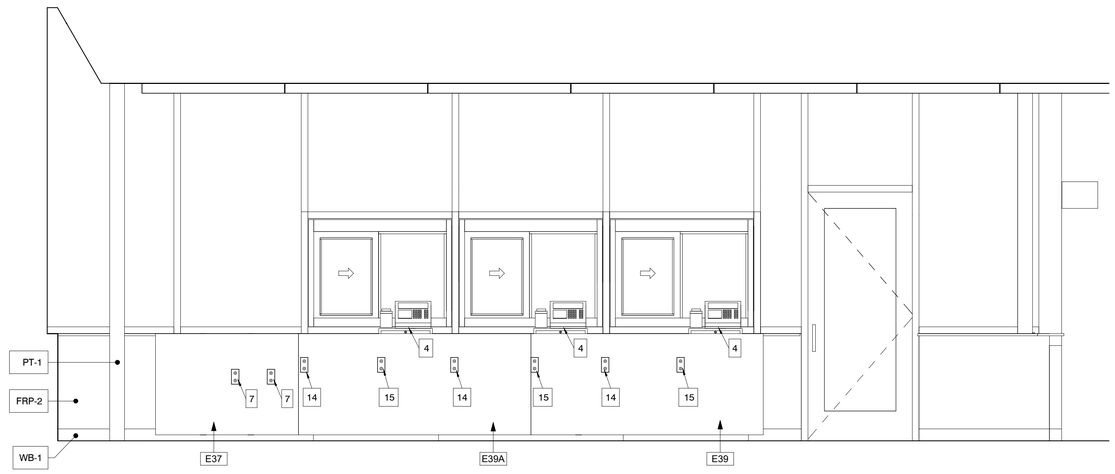
Architect: JEFFREY KLOCH
License Number: A-2016005093
Drawn By: MS
Project Number: 736

PATIO & INTERIOR ELEVATIONS

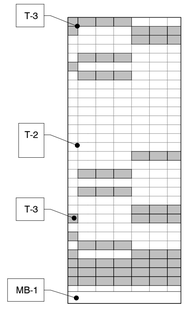
A602



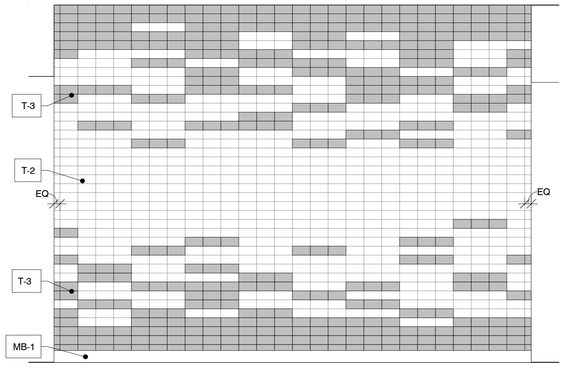
8 INTERIOR ELEVATION - FRONT OF HOUSE
1/2" = 1'-0"



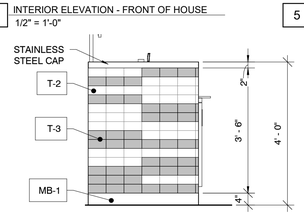
7 INTERIOR ELEVATION - FRONT OF HOUSE
1/2" = 1'-0"



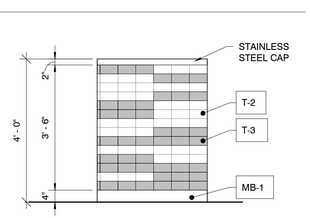
6 INTERIOR ELEVATION - FRONT OF HOUSE
1/2" = 1'-0"



5 INTERIOR ELEVATION - FRONT OF HOUSE
1/2" = 1'-0"



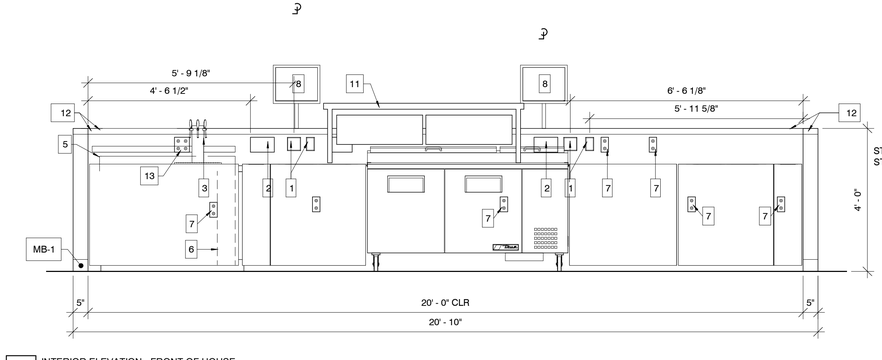
4 INTERIOR ELEVATION - FRONT OF HOUSE
1/2" = 1'-0"



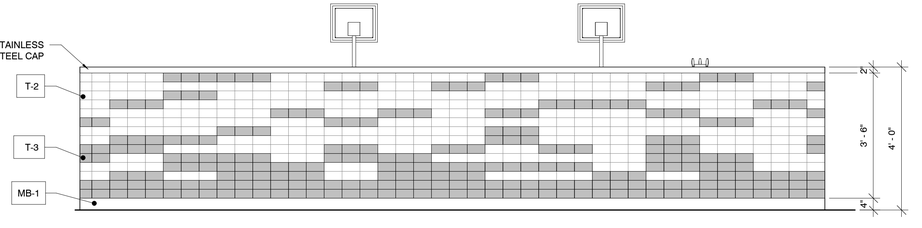
3 INTERIOR ELEVATION - FRONT OF HOUSE
1/2" = 1'-0"

EQUIP. KEYNOTES

1. QUAD OUTLETS AND DATA
2. MONITOR CONTROL BOX MOUNTED TO INSIDE FACE OF WALL
3. ROOT BEER TOWER
4. TRANSACTION CASH REGISTER
5. 5" BACKSPLASH
6. 6" CUP WELL INTEGRATED INTO CASE
7. DUPLEX OUTLET
8. DISPLAY SCREEN (ALIGN MONITORS WITH ENDS OF E-33)
9. REFRIGERATED WORK TABLE
10. DUPLEX OUTLET (2) CIRCUITS
11. STAINLESS STEEL SHELF INTEGRATED WITH WORK TABLE
12. STAINLESS STEEL WALL CAP
13. DOUBLE DUPLEX RECEPTACLE
14. DUPLEX GFI RECEPTACLE
15. IG DUPLEX RECEPTACLE FOR POS EQUIPMENT
16. DUPLEX GFI RECEPTACLE FOR WATER SOFTENER
17. IG DOUBLE DUPLEX RECEPTACLE FOR POS EQUIPMENT
18. WATER SOFTENER
19. WATER HEATER



2 INTERIOR ELEVATION - FRONT OF HOUSE
1/2" = 1'-0"



1 INTERIOR ELEVATION - FRONT OF HOUSE
1/2" = 1'-0"

Hufft

PROJECT INFORMATION:

Andy's Frozen Custard #204

700 NW Ward Road
Lee's Summit, Missouri 64086

OWNER:

ANDY'S FROZEN CUSTARD

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Springfield, MO 65806

www.eatandys.com

ARCHITECT:

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STRUCTURAL:

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STATE OF MISSOURI
JEFFREY M. KLOCH
NUMBER A - 2016005093
ARCHITECT

05/01/2024

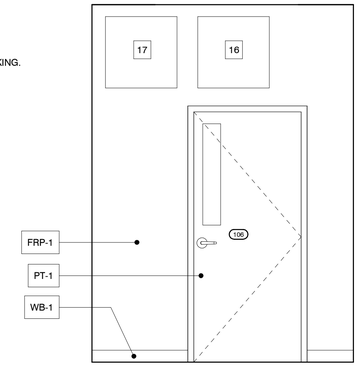
Architect: JEFFREY KLOCH
License Number: A-2016005093
Drawn By: MS
Project Number: 736

INTERIOR ELEVATIONS

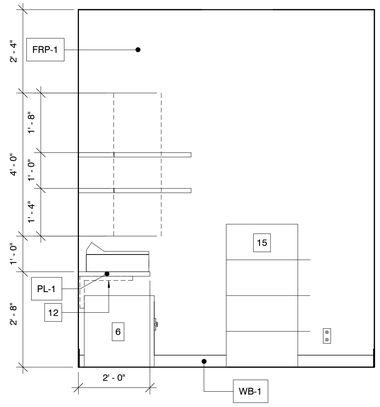
A603

OFFICE KEYNOTES

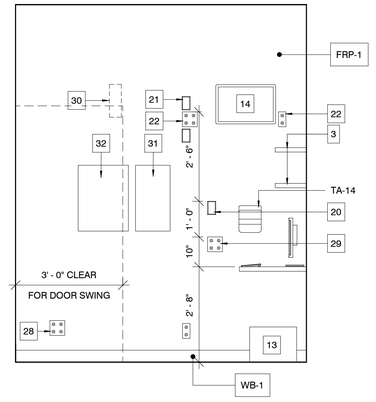
1. POS ROUTER
2. MUZAK
3. 12" MELAMINE SHELF ON BRACKETS @ 16" O.C. PROVIDE SOLID BLOCKING.
4. PRINTER
5. FAX
6. SAFE
7. PHONE SYSTEM
8. DUPLEX OUTLET AND DATA
9. MONITOR
10. COUNTER GROMET
11. MODEM AND ROUTER
12. COUNTER SUPPORT BRACKETS @ 4' O.C. PROVIDE BLOCKING
13. CPU
14. DRIVE THRU MONITOR
15. LATERAL FILES
16. NEON CONTROL PANEL
17. I.T. / INTERNET CABINET
18. 24" PLAM COUNTER
19. BUMP BAR EQUIPMENT
20. PHONE JACK @ 54" AFF
21. DATA
22. IG RECEPTACLE @ 84" AFF
23. IG RECEPTACLE FOR SOUND SYSTEM @ 84" AFF
24. IG RECEPTACLE FOR PRINTER
25. IG RECEPTACLE FOR FAX AND DATA
26. IG RECEPTACLE FOR COMPUTER SYSTEM
27. RECEPTACLE FOR SAFE
28. RECEPTACLE FOR GENERAL POWER
29. IG RECEPTACLE AT 42" AFF
30. DEMARCATION BLOCK
31. FASCIA LIGHTING ANIMATOR
32. SECURITY PANEL
33. DUPLEX GFI RECEPTACLE



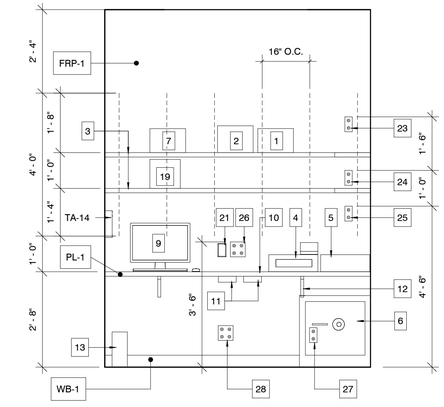
9 OFFICE ELEVATION 04
1/2" = 1'-0"



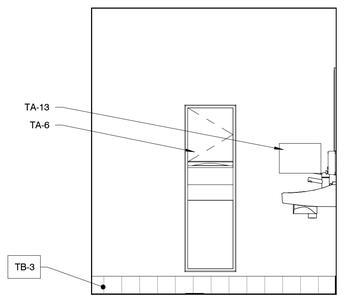
8 OFFICE ELEVATION 03
1/2" = 1'-0"



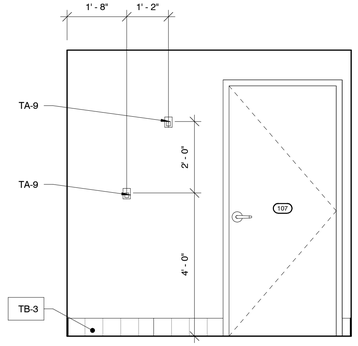
7 OFFICE ELEVATION 02
1/2" = 1'-0"



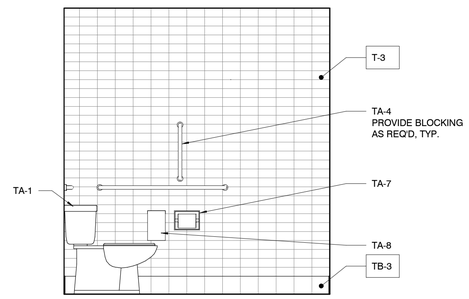
6 OFFICE ELEVATION 01
1/2" = 1'-0"



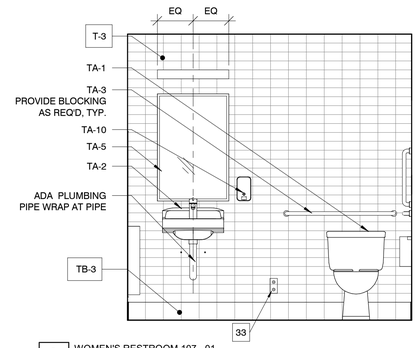
5 WOMEN'S RESTROOM 107 - 04
1/2" = 1'-0"



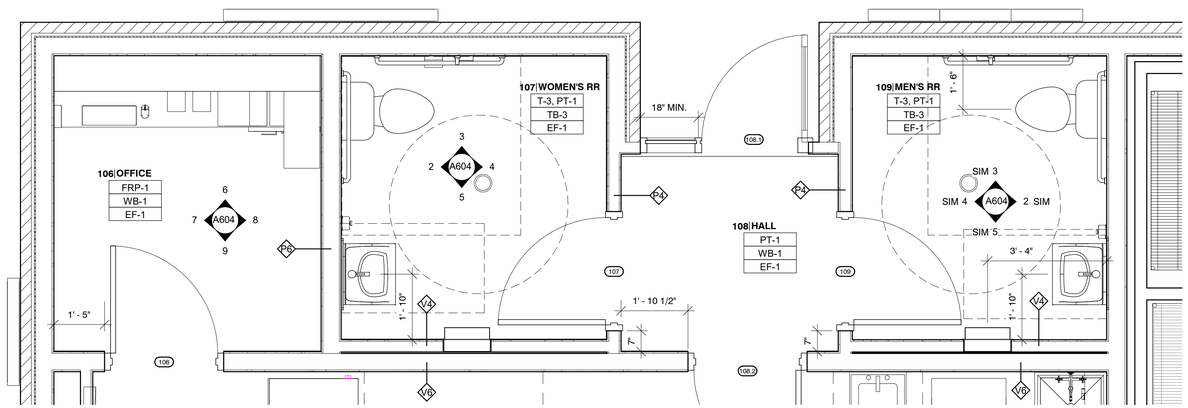
4 WOMEN'S RESTROOM 107 - 03
1/2" = 1'-0"



3 WOMEN'S RESTROOM 107 - 02
1/2" = 1'-0"



2 WOMEN'S RESTROOM 107 - 01
1/2" = 1'-0"



1 ENLARGED PLAN - OFFICE & RESTROOMS
1/2" = 1'-0"

FIXTURE & ACCESSORY LEGEND

#:	TYPE:	MANUFACTURER:	MODEL NUMBER:	MOUNTING HEIGHTS:
TA-1	TOILET	RE: PLUMB DWGS	RE: PLUMB DWGS	
TA-2	SINK	RE: PLUMB DWGS	RE: PLUMB DWGS	34" TO RIM
TA-3	GRAB BAR	BOBRICK	B-5806	36" TO TOP
TA-4	GRAB BAR	BOBRICK	B-5806	36" TO TOP
TA-5	MIRROR	BOBRICK	B-293-2436	40" TO BOTTOM
TA-6	PAPER TOWEL DISPENSOR/TRASH	BOBRICK	B-3944	8" TO BOTTOM
TA-7	TOILET TISSUE DISPENSOR	BOBRICK	B-2888	24" TO BOTTOM
TA-8	SANITARY NAPKIN DISPOSAL	BOBRICK	B-254	32" AFF TO TOP OF DISPENSOR
TA-9	HAT AND COAT HOOK	BOBRICK	B-6872	48" AFF ON DOOR - ADA, 72" ON DOOR
TA-10	SOAP DISPENSER	BOBRICK	B-2111	40" AFF TO BOTTOM
TA-11	MEN'S ACCESSIBLE RESTROOM SIGN	AMERAPRODUCTS	EP-4402	60" AFF TO CENTER
TA-12	WOMEN'S ACCESSIBLE RESTROOM SIGN	AMERAPRODUCTS	EP-4404	60" AFF TO CENTER
TA-13	EMPLOYEE HANDWASHING SIGNAGE	SMART SIGNS - JUST BATHROOM SIGNS	S-4492	BOTTOM RIGHT OF MIRROR
TA-14	IPAD HOLDER	BOBRICK	B-635	42" TO BOTTOM

NOTE: REFER TO ACCESSIBLITY DIAGRAMS ON A001 FOR ALL STANDARND MOUNTING HEIGHTS AND LOCATIONS OF GRAB BARS, TISSUE DISPENSER, ETC.

Hufft

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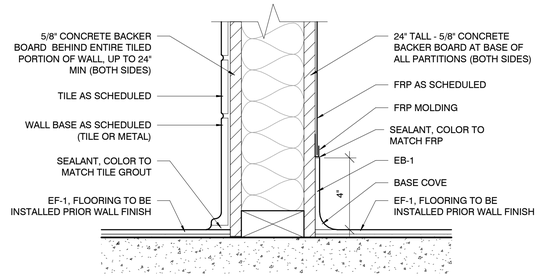
NUMBER A - 2016005093
ARCHITECT

05/01/2024

Architect: JEFFREY KLOCH
License Number: A-2016005093
Drawn By: MS
Project Number: 736

INTERIOR ELEVATIONS

A604

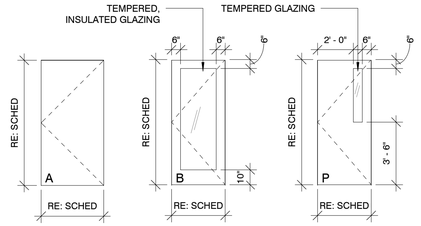


3 DETAIL @ INTERIOR PARTITION BASE
3" = 1'-0"

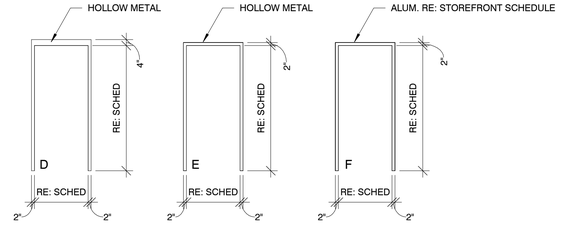
DOOR SCHEDULE:

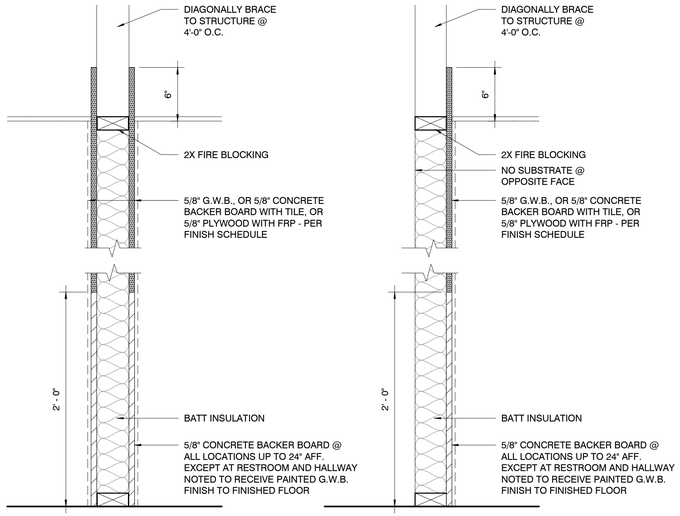
NO.	DOOR TYPE	DOOR SIZE WIDTH	DOOR SIZE HEIGHT	FRAME TYPE	DETAILS HEAD	DETAILS JAMB	DETAILS SILL	DESCRIPTION	FINISH DOOR	FINISH FRAME	FINISH REMARKS	HDWR SET	COMMENTS
102	B	36"	84"	F			4/A701	STOREFRONT	ALUM/GLASS	ALUM	EXTERIOR	1.0	
103	P	36"	84"	D	2/A701	2/A701	2/A701		HM/ PTD	HM/ PTD	EXTERIOR	2.0	TINTED FILM ON GLASS
106	P	36"	84"	E	5/A701	5/A701	-		HM/ PTD	HM/ PTD	INTERIOR (OFFICE)	5.0	
107	A	36"	84"	E	5/A701	5/A701	-		HM/ PTD	HM/ PTD	INTERIOR (RESTROOM)	6.0	
108.1	B	36"	84"	F			4/A701	STOREFRONT	ALUM/GLASS	ALUM	EXTERIOR	3.0	
108.2	P	36"	84"	E	5/A701	5/A701	-		HM/ PTD	HM/ PTD	INTERIOR	7.0	ONE WAY FILM ON GLASS
109	A	36"	84"	E	5/A701	5/A701	-		HM/ PTD	HM/ PTD	INTERIOR (RESTROOM)	6.0	
112.1	A	40"	84"	D	2/A701	2/A701	2/A701		HM/ PTD	HM/ PTD	EXTERIOR	4.0	PEEP-HOLE IN DOOR
112.3	EE	36"	12 5/8"					Roof Hatch					

DOOR TYPES:

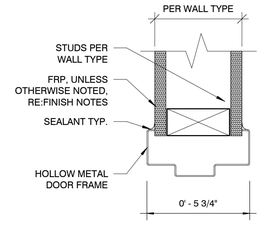


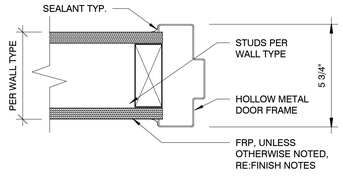
FRAME TYPES:



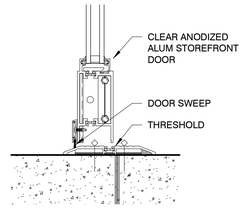


1 PARTITION TYPES
1 1/2" = 1'-0"

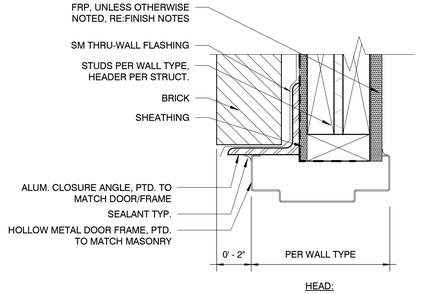


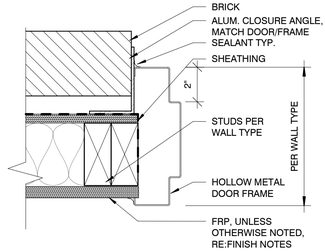


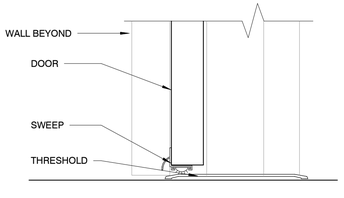
5 HEAD / JAMB / SILL @ H.M. DOOR
3" = 1'-0"



4 DETAIL - STOREFRONT DOOR SILL
3" = 1'-0"







2 DETAIL @ EXTERIOR HOLLOW METAL FRAME
3" = 1'-0"

DOOR HARDWARE SETS:

SET: 1.0
Doors: 102

1 Pivot Set	147	626	RF
1 Intermediate Pivot	M19	626	RF
1 Rim Exit Device, Classroom	7200 AU506F 1109 x 6-Pin	630	YA
1 Drop Plate	7788	689	NO
1 Surface Closer	UNI7500 2018D	689	NO
1 Threshold	171A		PE
1 Set Weatherstrip	by Door Manufacturer		
1 Sweep	by Door Manufacturer		

SET: 2.0
Doors: 103

3 Hinge (heavy weight)	T4A3386/T4A4386 NRP 4-1/2" x 4-1/2"	US32D	MK
1 Entry Lock	AU 5407LN MK	626	YA
1 Surface Closer	PR7500	689	NO
1 Threshold	2005AT		PE
1 Gasketing	2891AS		PE
1 Rain Guard	346C		PE
1 Sweep	3452AV		PE
1 Latch Protector	320/321	US32D	RO

SET: 3.0
Doors: 108.1

1 Pivot Set	147	626	RF
1 Intermediate Pivot	M19	626	RF
1 Mortise Deadlock	MS1850S	628	AD
1 Cylinder thumbturn	4066	130	AD
1 Status Indicator	4089	130	AD
1 Mortise Cylinder	2153	630	YA
1 Push Bar & Pull	BF15847	US32D	RO
1 Surface Closer	PR7500	689	NO
1 Drop Plate	7788	689	NO
1 Blade Stop	6891	689	NO
1 Door Stop	441	US26D	RO
1 Threshold	171A		PE
1 Set Weatherstrip	by Door Manufacturer		
1 Sweep	3452AV		PE

SET: 4.0
Doors: 112.1

3 Hinge, Full Mortise, Hvy Wt	T4A3386/T4A4386 NRP 5" x 4-1/2"	US32D	MK
1 Rim Exit Device, Nightlatch	7100 AU627F 1109 x 6-Pin	630	YA
1 Surface Closer	CLP7500R	689	NO
1 Threshold	2005AT		PE
1 Gasketing	2891AS		PE
1 Rain Guard	346C		PE
1 Sweep	3452AV		PE
1 Viewer	622 DCRM	DCRM	RO

SET: 5.0
Doors: 106

3 Hinge, Full Mortise	TA2714 4-1/2" x 4-1/2"	US26D	MK
1 Entry Lock	AU 5407LN MK	626	YA
1 Door Stop	441	US26D	RO
3 Silencer	608		RO
1 Coat Hook	RM812	US26D	RO

SET: 6.0
Doors: 107, 109

3 Hinge, Full Mortise	TA2714 4-1/2" x 4-1/2"	US26D	MK
1 Privacy Lock	AU 5402LN	626	YA
1 Surface Closer	8501	689	NO
1 Wall Stop	409	US32D	RO
1 Gasketing	S773D		PE

SET: 7.0
Doors: 108.2

3 Hinge (heavy weight)	T4A3786/T4A4786 4-1/2" x 4-1/2"	US26D	MK
1 Access Control Cyl Lock•	PUSHBUTTON AU NTB610-NR MK•	626 •	YA •
1 Surface Closer	8501ST	689	NO
1 Gasketing	S773D		PE
1 Sweep	315CN		PE

Notes:
ACCESS BY AUTHORIZED CODE OR MANUAL KEY. ALWAYS FREE EGRESS.
FREE EGRESS TO HALL 108.

SET: 8.0
Doors: MISC

1 BITTING LIST KEY RECORDS			
1 KEY BLANKS BOX OF 50			
1 Key Cabinet Sized per specification documents			LU
1 Knox Box Knox Box (coordinate w/ local fire station for requirements and location)			

NOTE:
RE: PROJECT MANUAL / SPECIFICATIONS FOR ADDITIONAL INFORMATION

Hufft

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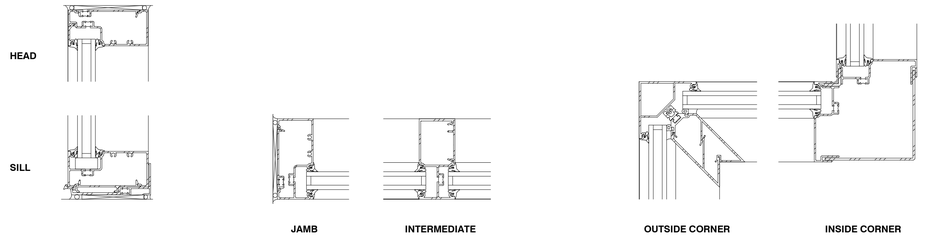
ARCHITECT

05/01/2024

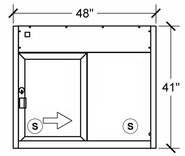
Architect: JEFFREY KLOCH
License Number: A-2016005093
Drawn By: MS
Project Number: 736

SCHEDULES AND DETAILS

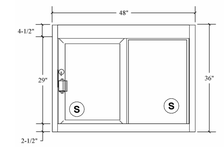
A701



3 STOREFRONT DETAILS
3" = 1'-0"



E-2
QUIK SERV SLIDING WINDOW
FULLY AUTOMATIC, IF-4035E



E-1
QUIK SERV SLIDING WINDOW
SELF-CLOSING, SC-4030

STOREFRONT LEGEND

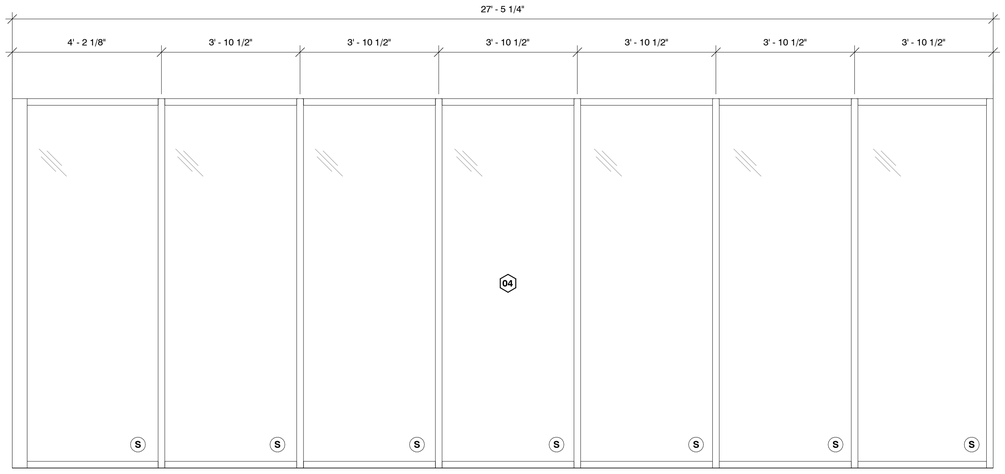
(S) = TEMPERED SAFETY GLAZING

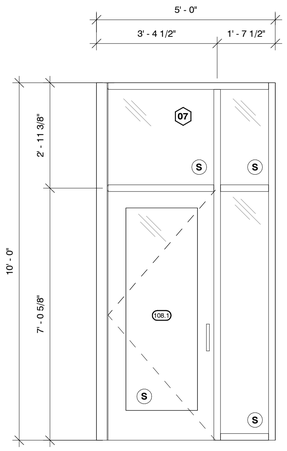
GL-1 **GLAZING TYPE 1 (TYPICAL):**
STOREFRONT, KAWNEER 451T
FRONT SET WITH 1" INSULATED GLAZING.
ALL GLAZING TO BE GL-1, UNO

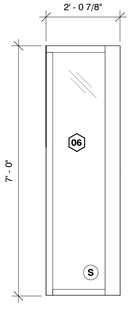
VF-1 **VINYL FILM:**
WHITE VINYL FILM ON INSIDE FACE OF GLASS

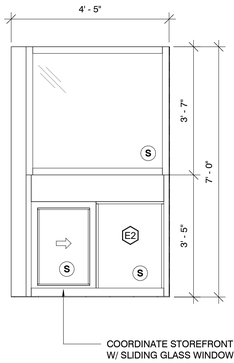
NOTE: REFERENCE SPECIFICATIONS FOR GLAZING REQUIREMENTS. FIELD VERIFY ALL DIMENSIONS.

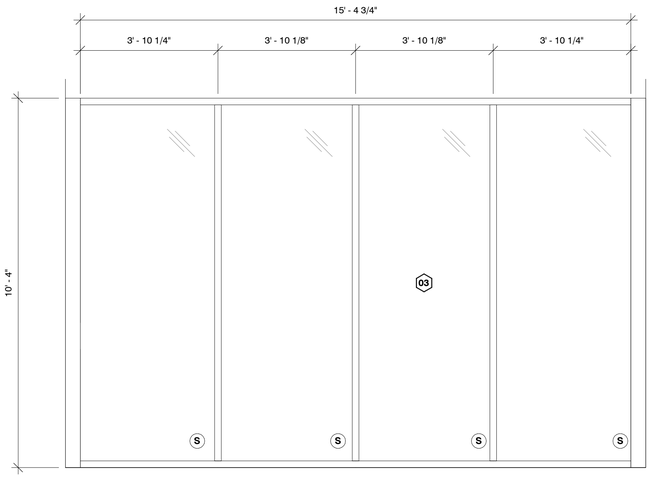
2 TYPICAL SLIDING WINDOW
1/2" = 1'-0"

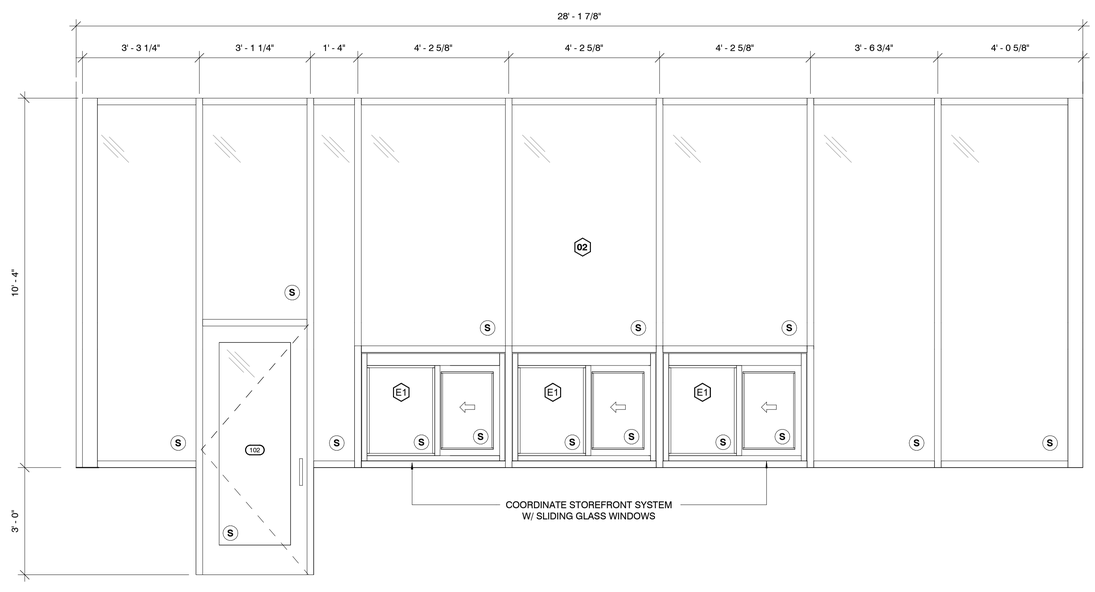


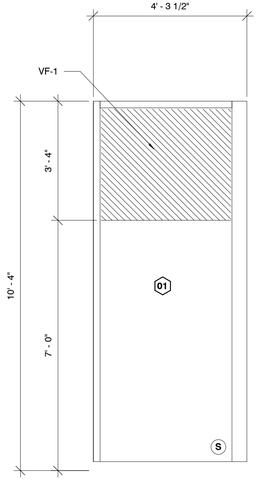












1 STOREFRONT ELEVATIONS
1/2" = 1'-0"

Hufft

PROJECT INFORMATION:

Andy's Frozen Custard #204

700 NW Ward Road
Lee's Summit, Missouri 64086

OWNER:

ANDY'S FROZEN CUSTARD

211 E. Water Street
Springfield, MO 65806

www.eatandys.com

ARCHITECT:

HUFFT

3612 Kames Boulevard
Kansas City, MO 64111
P: 816-531-0200

www.hufft.com

STRUCTURAL:

METTEMEYER ENGINEERING, LLC

2225 W. Chesterfield Blvd., Suite 300
Springfield, MO 65807
P: 417-890-8002

CIVIL/LANDSCAPE:

PHELPS ENGINEERING, INC.

1270 N. Winchester
Olathe, Kansas 66061
P: 913.538.5821

MEP:

RTM ENGINEERING CONSULTANTS

3333 E. Battlefield Road, Suite 1000
Springfield, MO 65804
P: 417-881-0020

ISSUE:

CONSTRUCTION DOCUMENTS
05/01/2024

REVISION SCHEDULE:

NO.	DATE	ISSUE

STATE OF MISSOURI
JEFFREY M. KLOCH
NUMBER A - 2016005093
ARCHITECT

05/01/2024

Architect: JEFFREY KLOCH
License Number: A-2016005093
Drawn By: MS
Project Number: 736

STOREFRONT ELEVATIONS

A702

SPECIAL CONDITIONS, REQUIREMENTS AND NOTES TO OWNER, DEVELOPER AND CONTRACTOR:

1. CONTRACTOR, BUILDER AND SUBCONTRACTORS INVOLVED IN ANY FORM OF CONSTRUCTION USING THESE CONTRACT DOCUMENTS SHALL BE INFORMED OF THE FOLLOWING RESPONSIBILITIES, PERFORMANCE CRITERIA, LIMITATIONS AND RISKS ASSOCIATED WITH CONSTRUCTION. IF THE OWNER, DEVELOPER OR CONTRACTOR IS NOT ABLE TO ACCEPT THE RESPONSIBILITIES OR PERFORMANCE CRITERIA AND LIMITATIONS, NOTIFY THE ENGINEER OF RECORD OR ARCHITECT PRIOR TO START OF CONSTRUCTION. IT SHALL BE EXPRESSLY UNDERSTOOD THAT THE ENGINEER IS NOT RESPONSIBLE OR LIABLE FOR THE LACK OF PERFORMANCE OF MATERIALS, SYSTEMS OR DESIGNS NOT BEING LIMITED TO ITEMS OUTLINED BELOW. CONTRACTORS AND SUBCONTRACTORS SHALL THOROUGHLY REVIEW ALL CONDITIONS AND RESPONSIBILITIES STATED IN THESE NOTES, PLANS, SECTIONS / DETAILS, AND SHALL NOTIFY THE ENGINEER AND OWNER IN WRITING PRIOR TO CONSTRUCTION OF ANY CONDITIONS OR RESPONSIBILITIES WHICH ARE NOT ACCEPTABLE OR NOT UNDERSTOOD.

2. THE CONTRACTOR SHALL USE ALL STANDARD MEANS TO ENSURE PROPER PROTECTION AND CURING OF ALL CEMENTITIOUS MATERIALS TO REDUCE CRACKING OR SURFACE SPALLING. PLAIN CONCRETE, REINFORCED CONCRETE, OR CONCRETE MASONRY DEVELOP CRACKS. THE CRACKS ARE DUE TO INHERENT SHRINKAGE, CREEP AND RESTRAINING EFFECTS. CRACKS ARE NORMALLY COSMETIC AND THE SYSTEM MAINTAINS SERVICEABILITY AND STRENGTH REQUIREMENTS. JOINTS MAY BE INDICATED TO CONTROL CRACKING, BUT ARE NOT MEANT TO ELIMINATE ALL CRACKING, AS THIS IS NOT PRACTICAL. EXTREME CRACKING MAY BE CAUSED BY POOR MATERIAL OR PLACEMENT. CONTACT THE ENGINEER OF RECORD FOR POSSIBLE REPAIR REQUIREMENTS.

3. FOUNDATION SETTLEMENT MAY CAUSE DISTORTION AND DISTRESS TO THE SUPPORTED STRUCTURE AS WELL AS ADJACENT UTILITIES, SLABS, FOUNDATIONS, ETC. THE GEOTECHNICAL REPORT MAY INDICATE A LEVEL OF DISPLACEMENT. ATTENTION TO PROPER SOIL PREPARATION AND GRADING, AS WELL AS PROPER DRAINAGE AWAY FROM STRUCTURE IS ESSENTIAL IN REDUCING EXPECTED SETTLEMENT. ALL REQUIREMENTS WITHIN THE GEOTECHNICAL REPORT ARE TO BE FOLLOWED. INFORM THE ENGINEER OF RECORD OF ANY CONFLICTS BETWEEN THE REPORT AND THE DRAWINGS.

4. VARIATION IN DIMENSIONS MAY OCCUR AS A RESULT OF THERMAL INFLUENCES, NATURAL DEFLECTIONS AND/OR CAMBERS OF MEMBERS. AS A RESULT, QUANTITIES MAY VARY AND ARCHITECTURAL FINISHES MAY BE AT RISK OF COSMETIC VARIATION OR DAMAGE.

5. THE ENGINEER OF RECORD SHALL NOT BE RESPONSIBLE FOR VARIATIONS TO PLANS BETWEEN BID PROCESS AND FINALIZED APPROVED DOCUMENTS RELEASED FOR CONSTRUCTION UNLESS SUCH VARIATIONS ARE ISSUED BY THE ENGINEER. ADDITIONS AND ALTERATIONS MAY BE MADE BY THE ENGINEER BETWEEN RELEASE OF BID DOCUMENTS AND FINALIZED CONSTRUCTION DOCUMENTS.

6. THESE DRAWINGS HAVE BEEN PREPARED USING STANDARDS OF PROFESSIONAL CARE AND COMPLETENESS NORMALLY EXERCISED UNDER SIMILAR CIRCUMSTANCES BY REPUTABLE STRUCTURAL ENGINEERS IN THIS OR SIMILAR LOCALITIES. THEY NECESSARILY ASSUME THAT THE WORK DEPICTED WILL BE PERFORMED BY AN EXPERIENCED CONTRACTOR, SUBCONTRACTOR AND/OR WORKPERSONS WHO HAVE A WORKING KNOWLEDGE OF THE APPLICABLE CODE STANDARDS AND REQUIREMENTS AND OF INDUSTRY ACCEPTED STANDARD GOOD PRACTICE. AS NOT EVERY CONDITION OR ELEMENT IS (OR CAN BE) EXPLICITLY SHOWN ON THESE DRAWINGS. IT IS UNDERSTOOD THAT THE CONTRACTOR WILL USE INDUSTRY ACCEPTED STANDARD GOOD PRACTICE FOR ALL WORK EXPLICITLY SHOWN.

7. CALCULATION AND DESIGN OF MISCELLANEOUS NON-STRUCTURAL ITEMS, SUCH AS RAILINGS, NON-STRUCTURAL WALLS AND PREFABRICATED STRUCTURAL ITEMS, SUCH AS CANOPIES, ARE NOT INCLUDED AND ARE TO BE PROVIDED BY OTHERS UNLESS SPECIFICALLY NOTED ON THESE DRAWINGS.

8. THESE DRAWINGS REPRESENT THE FINISHED STRUCTURE. THEY DO NOT INDICATE THE MEANS AND METHODS OF CONSTRUCTION. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO DESIGN AND PROVIDE ADEQUATE, SHORING, BRACING, FORMWORK, ETC. AS REQUIRED FOR THE PROTECTION OF LIFE AND PROPERTY DURING CONSTRUCTION.

9. CONSTRUCTION MATERIALS SHALL BE UNIFORMLY SPREAD OUT SUCH THAT DESIGN LIVE LOAD PER SQUARE FOOT AS STATED HEREIN IS NOT EXCEEDED. VISITS TO THE SITE BY THE STRUCTURAL ENGINEER SHALL NOT INCLUDE INSPECTION OF THE ABOVE ITEMS.

10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL EXCAVATION PROCEDURES INCLUDING SHORING AND PROTECTION OF ADJACENT PROPERTY, STRUCTURES, STREETS AND UTILITIES IN ACCORDANCE WITH THE LOCAL BUILDING DEPARTMENT AND SHALL COMPLY WITH ALL APPLICABLE BUILDING CODES, REGULATIONS AND SAFETY REQUIREMENTS.

11. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFICATION OF ALL DIMENSIONS, CONDITIONS AND ELEVATIONS WITH OTHER DISCIPLINES DRAWINGS PRIOR TO START OF CONSTRUCTION. THE CONTRACTOR SHALL INFORM THE ARCHITECT AND ENGINEER OF RECORD IN WRITING OF ANY DISCREPANCIES OR OMISSIONS NOTED ON THE DRAWINGS. ANY SUCH DISCREPANCY, OMISSION OR VARIATION NOT REPORTED BEFORE THE START OF CONSTRUCTION SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.

12. WHERE REFERENCE IS MADE TO VARIOUS TEST STANDARDS FOR MATERIALS, SUCH STANDARDS SHALL BE THE LATEST EDITION AND/OR ADDENDA.

13. OPTIONS ARE FOR CONTRACTOR'S CONVENIENCE. IF AN OPTION IS USED, THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL NECESSARY CHANGES AND SHALL COORDINATE ALL DETAILS.

14. TYPICAL GENERAL STRUCTURAL NOTES AND DETAILS SHALL APPLY, THOUGH NOT NECESSARILY AT A SPECIFIC LOCATION ON PLANS. WHERE NO DETAILS ARE SHOWN, CONSTRUCTION SHALL CONFORM TO SIMILAR WORK ON THE PROJECT. DETAILS MAY ONLY SHOW ONE SIDE OF CONNECTION OR MAY OMIT INFORMATION FOR CLARITY. WHERE DISCREPANCIES OCCUR IN THESE DRAWINGS, SPECIFIC NOTES AND DETAILS ON DRAWINGS SHALL TAKE PRECEDENCE OVER GENERAL STRUCTURAL NOTES AND TYPICAL DETAILS.

15. ALL OPENINGS ARE NOT SHOWN ON THESE DRAWINGS. ESTABLISH AND VERIFY ALL OPENINGS AND INSERTS FOR ARCHITECTURAL, MECHANICAL, PLUMBING AND ELECTRICAL WITH APPROPRIATE TRADES, DRAWINGS AND SUBCONTRACTORS PRIOR TO CONSTRUCTION. OPENINGS MAY REQUIRE ADDITIONAL REINFORCING OR SUPPORTS AS SHOWN ON TYPICAL DETAILS. IF TYPICAL DETAILS FOR ALL CONDITIONS ARE NOT INCLUDED HEREIN, IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO REQUEST IN WRITING ADDITIONAL INFORMATION.

16. ALL INSPECTIONS REQUIRED BY THE BUILDING CODES, LOCAL BUILDING OFFICIALS, OR BY THESE PLANS SHALL BE PROVIDED BY AN INDEPENDENT INSPECTION COMPANY OR THE BUILDING DEPARTMENT. SPECIAL INSPECTION REQUIREMENTS STATED HEREIN ARE PARTIAL. COMPLETE INSPECTION REQUIREMENTS SHALL BE AS DIRECTED BY THE LOCAL BUILDING DEPARTMENT. SITE VISITS BY THE ENGINEER DO NOT CONSTITUTE A SPECIAL INSPECTION, UNLESS SPECIFICALLY CONTRACTED FOR.

17. SHOP DRAWINGS SHALL BE SUBMITTED FOR ALL STRUCTURAL ITEMS. SHOP DRAWINGS ARE REVIEWED ONLY FOR GENERAL COMPLIANCE WITH THE STRUCTURAL DRAWINGS. REVIEW DOES NOT INDICATE THAT THE SHOP DRAWINGS ARE CORRECT OR COMPLETE. RESPONSIBILITY FOR CORRECTNESS SHALL REST WITH THE CONTRACTOR. ANY CHANGES, SUBSTITUTIONS, OR DEVIATIONS FROM CONTRACT DRAWINGS SHALL BE CLOUDED. ANY OF THE AFOREMENTIONED SHALL NOT BE CONSIDERED APPROVED AFTER ENGINEER'S REVIEW UNLESS SPECIFICALLY NOTED ACCORDINGLY. THE SHOP DRAWINGS DO NOT SUPERSEDE OR REPLACE THE ORIGINAL CONTRACT DRAWINGS. ANY ENGINEERING PROVIDED BY OTHERS AND SUBMITTED FOR REVIEW SHALL BEAR THE SEAL OF AN APPROPRIATELY REGISTERED ENGINEER. THE ENGINEER OF RECORD SHALL NOT BE RESPONSIBLE FOR THE ADEQUACY OF ENGINEERING DESIGNS PERFORMED BY OTHERS. ALLOW A MINIMUM OF 10 WORKING DAYS FOR THE ENGINEER'S REVIEW. ONE COPY OF EACH SUBMITTAL WILL BE RETAINED FOR THE ENGINEER'S RECORDS.

CONFLICTING REQUIREMENTS:

1. ANY AND ALL CONFLICTS WITHIN THE CONTRACT DOCUMENTS (PLANS, SPECIFICATIONS AND OTHER DOCUMENTS); OR BETWEEN THE DOCUMENTS AND EXISTING PROJECT CONDITIONS SHALL BE QUANTIFIED BY THE CONTRACTOR(S); AND ALL ASSOCIATED COSTS MUST BE INCLUDED IN THE CONTRACTOR(S) BASE BID; OR ANY AND/OR ALL COSTS SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR(S). IT SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR(S) TO BRING EACH CONFLICT TO THE ATTENTION OF THE ENGINEER OF RECORD. ALL CONFLICTS SHALL BE IDENTIFIED IN WRITTEN FORM AND SUBMITTED THROUGH THE "REQUEST FOR INFORMATION" (RFI) PROCESS DURING BIDDING. THE ENGINEER OF RECORD SHALL REVIEW ALL IDENTIFIED CONFLICTS AND RENDER TO THE CONTRACTOR(S) THEIR DECISION.

2. IF THE CONTRACTOR(S) DO NOT SUBMIT AN RFI AND/OR DO NOT RECEIVE A DIRECTIVE OR CLARIFICATION IN WRITING FROM THE ENGINEER OF RECORD THROUGH NO FAULT OF THEIR OWN, CONTRACTOR SHALL BE REQUIRED TO COMPLY WITH THE MORE STRINGENT STANDARD, OR HIGHER LEVEL OF QUALITY AT NO ADDITIONAL COSTS TO THE OWNER.

3. IF COMPLIANCE WITH TWO OR MORE STANDARDS IS SPECIFIED AND THE STANDARDS ESTABLISHES A DIFFERENT OR CONFLICTING REQUIREMENTS FOR MINIMUM QUANTITIES OR QUALITY LEVELS, COMPLY WITH THE MOST STRINGENT REQUIREMENT.

DEFERRED SUBMITTALS:

1. IN ACCORDANCE WITH THE IBC SECTION 106.3.4.2, SPECIALTY ITEMS, PRE-ENGINEERED COMPONENTS, AND DESIGN/ BUILD ELEMENTS MAY BE SUBMITTED FOR APPROVAL BY THE ENGINEER OF RECORD AND THE BUILDING OFFICIAL BY DEFERRED SUBMITTAL. SUCH ITEMS ARE DEFINED AS THOSE SPECIFIED IN CONSTRUCTION DOCUMENTS BUT WHICH REQUIRE DESIGN BY THE MANUFACTURER, SUPPLIER, OR INSTALLER.

2. SUBMITTALS ARE REQUIRED FOR THE FOLLOWING.

A. SIMPSON STRONG-TIE, OR EQUAL, HARDWARE (INCLUDING ALL TRUSS HANGERS)
B. LIGHT GAGE FRAMING
C. CANOPIES
D. HAND/GUARD RAILS
E. SIGNS

3. SUBMITTALS SHALL INCLUDE:

A. CALCULATIONS PREPARED AND SEALED BY AN APPROPRIATELY REGISTERED ENGINEER (THE "SPECIALTY ENGINEER").
B. DIAGRAM PREPARED AND SEALED BY THE SPECIALTY ENGINEER, SHOWING LOAD MAGNITUDES AND LOCATIONS - SEPARATED INTO DEAD, LIVE, WIND AND/OR SEISMIC COMPONENTS - THAT ARE APPLIED TO THE PRIMARY STRUCTURE.
C. ERECTION OR DESIGN DRAWINGS BEARING THE SPECIALTY ENGINEER'S SEAL AND THE ARCHITECT'S STAMP INDICATING HIS REVIEW.

4. SUBMIT (1) REPRODUCIBLE COPY, ONE (1) WET SEALED COPY FOR THE STRUCTURAL ENGINEER OF RECORD'S FILE, AND ADDITIONAL COPIES AS ARE NECESSARY FOR THE BUILDING DEPARTMENT. SUBMITTALS CONTAINING EXCEPTIONS, CORRECTIONS, OR OTHER REVIEW COMMENTS ARE NOT ACCEPTABLE FOR SUBMITTAL TO THE BUILDING DEPARTMENT.

5. THE STRUCTURAL ENGINEER OF RECORD'S REVIEW IS STRICTLY LIMITED TO THE FOLLOWING:

A. THE DRAWINGS AND CALCULATIONS ARE PROPERLY SEALED.
B. THE LOAD CRITERIA IS CONSISTENT WITH THE CONTRACT DOCUMENTS AND INTERNATIONAL BUILDING CODE REQUIREMENTS.
C. THE CONNECTIONS TO THE PRIMARY STRUCTURE ARE CONSISTENT WITH THE PRIMARY DESIGN.
D. THE BASE STRUCTURE IS CAPABLE OF SUPPORTING THE IMPOSED LOADS.

6. IF THE LOADS IMPOSED ON THE STRUCTURE EXCEED THE LOAD ALLOWANCE PROVIDED THE STRUCTURAL ENGINEER OF RECORD WILL REJECT THE SUBMITTAL. ONLY AT THE OWNER'S WRITTEN DIRECTION WILL MODIFICATIONS TO THE BASE STRUCTURE TO ACCOMMODATE THE SPECIALTY ITEM(S) BE MADE BY THE ENGINEER OF RECORD. DEFERRED SUBMITTAL ITEMS SHALL NOT BE INSTALLED UNTIL THEIR DESIGN AND THE ENGINEER OF RECORD AND THE BUILDING OFFICIAL HAVE APPROVED SUBMITTAL DOCUMENTS.

ELECTRONIC FILES:

ELECTRONIC FILES CREATED BY METTEMEYER ENGINEERING, LLC. ARE AVAILABLE FOR USE BY THE GENERAL CONTRACTOR, SUBCONTRACTORS, OR BUILDERS INVOLVED IN ANY FORM OF CONSTRUCTION AND BIDS ON THE PROJECT BASED ON THE FOLLOWING TERMS AND CONDITIONS:

BY USING THIS COMPUTER-GENERATED DRAWING, YOU WILL INDICATE YOUR ACCEPTANCE OF THE FOLLOWING TERMS AND CONDITIONS. THE PURPOSE OF THIS AGREEMENT IS TO SET FORTH THE CONDITIONS FOR THE USE BY A SECOND PARTY (USER) OF COMPUTER-GENERATED DRAWINGS PREPARED BY METTEMEYER ENGINEERING, LLC. METTEMEYER ENGINEERING, LLC RETAINS OWNERSHIP OF THE INFORMATION CONTAINED ON THE DRAWINGS; PERMISSION TO USE THESE MATERIALS IS GIVEN ONLY SUBJECT TO THE TERMS OF THIS AGREEMENT.

ARTICLE 1. THE INFORMATION RECORDED ON COMPUTER-GENERATED DRAWINGS REPRESENTS A PORTION OF STRUCTURAL ENGINEERING SERVICES PERFORMED BY METTEMEYER ENGINEERING, LLC. NO REPRESENTATION IS MADE BY METTEMEYER ENGINEERING, LLC THAT THE DATA IS WITHOUT INACCURACY. METTEMEYER ENGINEERING, LLC GRANTS PERMISSION TO USE ITS COMPUTER-GENERATED DRAWINGS WITH THIS UNDERSTANDING AND WITH NO LIABILITIES EITHER EXPRESSED OR IMPLIED FOR ACCURACY OR COMPLETENESS. THE USER AGREES TO HOLD HARMLESS AND DEFEND METTEMEYER ENGINEERING, LLC IN THE EVENT OF ANY ACTION AGAINST OR BY THE USER FOR THE PREPARATION OF INFORMATION GENERATED THROUGH THE USE OF COMPUTER-GENERATED DRAWINGS PREPARED BY METTEMEYER ENGINEERING, LLC. FURTHER, IN THE EVENT OF SUCH LEGAL ACTION, THE USER AGREES TO PAY REASONABLE ATTORNEY'S FEES AND EXPENSES INCURRED BY METTEMEYER ENGINEERING, LLC IN RESOLVING THE MATTER.

ARTICLE 2. COMPUTER-GENERATED DRAWINGS ARE MADE AVAILABLE SOLELY FOR THE FACILITATION OF THE USER'S WORK ON THE SPECIFIC PROJECT IDENTIFIED BELOW AND NO PERMISSION IS GRANTED HEREIN FOR COPYING OR REUSE. THE USER'S ACCEPTANCE OF THESE TERMS, WHICH IS COMMUNICATED BY OPENING OR USING THIS DRAWING, CONSTITUTES A WAIVER OF LIABILITY AND THE ACCEPTANCE OF RESPONSIBILITIES FOR THE COORDINATION OF ANY REVISIONS AND COMPUTER-GENERATED INTERLINEATIONS MADE TO THE INFORMATION TRANSMITTED.

ARTICLE 3. UTILIZATION OF COMPUTER-GENERATED DRAWINGS NOT IN ACCORDANCE WITH THE TERMS OF THIS AGREEMENT SHALL CONSTITUTE A BREACH OF THIS AGREEMENT; METTEMEYER ENGINEERING, LLC WILL AT SUCH TIME DEMAND RETURN OF ITS PROPERTY AND MAY SEEK LEGAL RECOURSE AND THE COST OF REASONABLE FEES.

STRUCTURAL FIELD OBSERVATION SCHEDULING:

NOTIFY THE STRUCTURAL ENGINEER OF RECORD FOR OBSERVATION OF THE FOLLOWING ITEMS:
NOTE: GENERAL CONTRACTOR SHOULD ALLOW ADEQUATE TIME FOR SCHEDULING OF A SITE OBSERVATION VISIT BY THE STRUCTURAL ENGINEER, TYPICALLY THREE TO FOUR DAYS.

THE ENGINEER OF RECORD'S PERIODIC FIELD OBSERVATIONS ARE NOT TO BE CONSIDERED SPECIAL INSPECTIONS AND ARE ONLY OBSERVATIONS OF WORK TO ASSURE GENERAL CONFORMANCE WITH THE CONTRACT DOCUMENTS.

1. OBSERVE FOUNDATION REINFORCING PRIOR TO CONCRETE POUR AT FIRST BUILDING IN PHASE AND FOR ANY BUILDING THAT IS NOT DEEMED TYPICAL.

2. OBSERVE WOOD FRAMING AFTER 2ND FLOOR FRAMING IS COMPLETE, BUT PRIOR TO COMPLETION OF 3RD FLOOR FRAMING AT FIRST BUILDING IN PHASE AND FOR ANY BUILDING THAT IS NOT DEEMED TYPICAL.

3. OBSERVE WOOD FRAMING AFTER COMPLETION OF WOOD FRAMING AND SHEAR WALL COMPONENTS, BUT PRIOR TO INSULATION AND DRYWALL INSTALLATION, OF FIRST BUILDING IN PHASE AND FOR ANY BUILDING THAT IS NOT DEEMED TYPICAL.

FOUNDATIONS:

1. GEOTECHNICAL REPORT: RONE ENGINEERING, 8206 MARSHALL DRIVE, LENEXA, KS, 66241

REPORT NO.: 24-28620

2. THE OWNER SHALL EMPLOY A GEOTECHNICAL ENGINEER TO PROVIDE SOIL TESTING AND REVIEW DURING CONSTRUCTION. THE GEOTECHNICAL ENGINEER SHALL REVIEW AND APPROVE THE FOUNDATION REQUIREMENTS OF THE CONTRACT DOCUMENTS. IF CONDITIONS VARY FROM THAT INDICATED HEREIN, THEN THE GEOTECHNICAL ENGINEER SHALL NOTIFY THE ARCHITECT AND ENGINEER PRIOR TO FOUNDATION CONSTRUCTION.

3. EXISTING FILL MATERIAL SHALL BE ENTIRELY REMOVED BENEATH THE BUILDING FOUNDTATION AND REPLACED WITH STRUCTURAL FILL PER GEOTECHNICAL REPORT.

4. THE BACKFILL SHALL BE PLACED AND COMPACTED ON EACH SIDE OF FOUNDATION WALLS SUCH THAT NO UNBALANCED LATERAL LOADS ARE INDUCED TO THE WALL. **PROVIDE CLEAN CRUSHED STONE BACKFILL PER GEOTECH REPORT.**

5. BACKFILL SHALL BE PLACED EVENLY AGAINST EACH SIDE OF SUBGRADE STRUCTURAL ELEMENTS TO PRODUCE APPROXIMATELY EQUAL AND OPPOSITE LATERAL PRESSURES.

SLAB ON GRADE SUPPORT:

1. **TYPICAL CONCRETE SLAB ON GRADE SHALL BE 4" THICK WITH 6x6 W1.4xW1.4 WWR ON CHAIRS OVER 10-MIL VAPOR BARRIER.**

2. SLAB ON GROUND SUPPORT: MINIMUM 4" LAYER OF GRANULAR BASE CONSISTING OF AN OPEN GRADED CRUSHED STONE (ASTM C33, #57 STONE OR SIMILAR), PER GEOTECHNICAL REPORT.

3. UNLESS NOTED OTHERWISE IN THE GEOTECHNICAL REPORT, CONCRETE SLABS ON GROUND SHALL BE SUPPORTED ON SELECT FILL MATERIAL AS NOTED ABOVE. FILL MATERIAL SHOULD BE MOISTENED, BUT NOT SATURATED JUST PRIOR TO PLACING CONCRETE. CARE SHALL BE TAKEN IN PLACING SLABS ON GRADE SO AS NOT TO DISTURB FILL MATERIAL OR REINFORCING. THE FILL MATERIAL SHALL BE COMPACTED TO NO LESS THAN 95% COMPACTION AT MOISTURE CONTENT RANGE OF 3% BELOW TO 3% ABOVE OPTIMUM MOISTURE CONTENT BEFORE PLACEMENT OF SLABS. REFER TO GEOTECHNICAL REPORT FOR ANY ADDITIONAL REQUIREMENTS.

SHALLOW SPREAD FOOTINGS:
1. FROST DEPTH IS 36" BELOW GRADE.

2. ALLOWABLE FOOTING BEARING CAPACITY IS 1800 PSF

3. ALL FOOTINGS SHALL EXTEND TO DEPTH NOTED ABOVE UNLESS NOTED OTHERWISE ON PLANS OR DETAIL. GRADE IS DEFINED AS TOP OF SLAB FOR INTERIOR FOOTINGS, AND LOWEST ADJACENT COMPACTED SUBGRADE (PAD GRADE BEFORE LANDSCAPING) OR NATURAL GRADE WITHIN 5 FEET OF BUILDING FOR PERIMETER FOOTINGS. GRADE IS DEFINED AS TOP OF EXTERIOR PAVING OR CONCRETE WHERE EXTERIOR PAVING OR CONCRETE IS PERMANENTLY LOCATED DIRECTLY ADJACENT TO BUILDING AND EXTENDS AT LEAST 5 FEET FROM BUILDING.

4. FOOTING EXCAVATIONS SHALL BE CLEAN AND FREE FROM LOOSE DEBRIS, STANDING WATER, OR UNCOMPACTED MATERIAL AT TIME OF CONCRETE PLACEMENT.

5. EXCAVATION FOR FOOTINGS SHALL BE CUT TO ACCURATE SIZE AND DIMENSIONS AS SHOWN ON PLANS. ALL SOIL BELOW SLABS AND FOOTINGS SHALL BE PROPERLY COMPACTED AND SUBGRADE BROUGHT TO A REASONABLE TRUE AND LEVEL PLANE BEFORE PLACING CONCRETE.

6. SITE PREPARATION AND GRADING REQUIREMENTS OF THE GEOTECHNICAL REPORT AND ANY ADDENDA SHALL BE COMPLETED PRIOR TO CONSTRUCTION OF FOUNDATIONS. ANY TESTS, INSPECTIONS, FIELD OBSERVATIONS, OR APPROVAL FROM THE GEOTECHNICAL ENGINEER SHALL BE PERFORMED PRIOR TO PLACEMENT OF FOUNDATION REINFORCING STEEL OR CONCRETE. ALTERATIONS TO SITE PREPARATION OR GRADING SHALL BE REPORTED TO THE ENGINEER PRIOR TO FOUNDATION CONSTRUCTION.

CONCRETE:

1. MINIMUM 28 DAY STRENGTH (f'c) AS FOLLOWS:

USE TYPE	STRENGTH	ACIEXPOSURECLASSIFICATIONS			
FOUNDATIONS	4000 PSI	F1	S0	W0	C0
INTERIOR SLAB ON GROUND	4000 PSI	F0	S0	W0	C0
EXTERIOR SLAB ON GROUND AND FOUNDATION WALLS	5000 PSI	F3	S0	W1	C2

2. A MIX DESIGN SHALL BE SUBMITTED FOR REVIEW FOR EACH MIX TYPE AND SHALL INCLUDE ALL MATERIALS TO BE USED, SIEVE ANALYSIS OF AGGREGATE, AND DATA FOR ALL PRODUCTS.

3. AIR ENTRAINMENT AS FOLLOWS:
A. EXTERIOR CONCRETE SHALL BE PER ASTM C260, 6% +- 1.5%
B. INTERIOR CONCRETE SHALL BE LIMITED TO 3% IN ACCORDANCE WITH ACI 302.1R

4. FLY ASH MAY BE USED AT CONTRACTOR'S OPTION. IF USED IT SHALL BE LIMITED TO 20% AND MEET ASTM 6618, CLASS C OR F.

5. CONCRETE MIXES SHALL BE DESIGNED BY A CERTIFIED LABORATORY AND APPROVED BY THE ENGINEER ACCORDING TO ACI 301.

6. THE CONCRETE SUPPLIER SHALL STATE THE SLUMP AND ADDITIVES USED IN THE MIX DESIGN.
A. MAXIMUM SLUMP FOR EXTERIOR SLABS SHALL BE 4" +/- 1".
B. MAXIMUM SLUMP FOR ALL OTHER CONCRETE SHALL BE 3" +/- 1".
C. WATER SHALL BE CLEAN AND POTABLE. IF ADDITIONAL FLOWABILITY IS REQUIRED FOR PLACEMENT OF ANY CONCRETE MIX, A WATER-REDUCING ADDITIVE CONFORMING TO ASTM C494, TYPE A OR F, SHALL BE USED. NO ADDITIONAL WATER MAY BE ADDED TO THE MIX. THE ONLY WATER WHICH MAY BE ADDED ONSITE IS MIX WATER THAT HAS BEEN LEFT OUT AT THE BATCH PLANT.
D. CONCRETE DELIVERY TICKET SHALL CLEARLY INDICATE THE AMOUNT OF MIX WATER WHICH HAS BEEN LEFT OUT. MAXIMUM SLUMP SHALL BE 8" FOR CONCRETE WITH VERIFIED SLUMP OF 2" TO 4" BEFORE ADDING HIGH-RANGE WATER-REDUCING ADMIXTURE OR PLASTICIZING ADMIXTURE. SEE DIVISION 3 SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

7. PORTLAND CEMENT SHALL CONFORM TO ASTM C 150 TYPE II CEMENT. CALCIUM CHLORIDE IS NOT ALLOWED.

8. NO MORE THAN 90 MINUTES SHALL ELAPSE BETWEEN CONCRETE BATCHING AND CONCRETE PLACEMENT, UNLESS APPROVED BY THE ENGINEER OR AUTHORIZED TESTING AGENCY.

9. CONCRETE MIXING, PLACEMENT AND QUALITY SHALL BE PER IBC SECTION 1904, ASTM C 94, ASTM C 685, AND ACI 302. MECHANICALLY VIBRATE ALL CONCRETE WHEN PLACED, EXCEPT SLABS ON GROUND NEED ONLY BE VIBRATED OR THOROUGHLY RODDED AROUND EMBEDDED STRAPS OR HARDWARE, BOLTS FOR UPLIFT ANCHORS, CURBS AND EDGES OF SLAB STEPS AND UNDER FLOOR DUCTS OR SIMILAR ELEMENTS. REMOVE ALL DEBRIS FROM FORMS BEFORE PLACING CONCRETE.

10. ALL ITEMS THAT ARE CAST INTO CONCRETE SUCH AS REINFORCING, DOWELS, BOLTS, ANCHORS, SLEEVES, EMBEDS, INSERTS, ETC. SHALL BE SECURELY POSITIONED IN THE FORMS BEFORE PLACING THE CONCRETE. SUPPORT ALL REINFORCING WITH CHAIRS AS REQUIRED. FLOATING IN OF THESE ITEMS IS NOT PERMITTED. REINFORCING, DOWELS, EMBEDS, AND INSERTS SHALL BE CLEAN OF RUST, OILS, AND DIRT PRIOR TO CASTING.

11. CONCRETE SLAB ON GROUND CONTROL JOINTS SHALL BE AS SHOWN ON THE FOUNDATION PLAN OR TYPICAL DETAILS. WHERE CONTROL JOINTS ARE NOT SHOWN ON PLANS, ALL CONCRETE SLABS ON GROUND SHALL BE BOUND BY KEYED, DOWELED OR SAWCUT CONTROL JOINTS SUCH THAT THE ENCLOSED AREA DOES NOT EXCEED 144 SQUARE FEET. RATIO OF BOUNDARY DIMENSIONS SHALL NOT EXCEED 1.5:1. LOCATE CONTROL JOINTS OFF OF CORNERS OF DIAMOND ISOLATION LEAVE OUTS AND RE-ENTRANT CORNERS. KEYED OR DOWELED CONSTRUCTION JOINTS NEED ONLY OCCUR AT EXPOSED EDGES DURING POURING. ALL OTHER JOINTS MAY BE SAWCUT. SAWCUT JOINTS SHALL BE CUT IN SLABS ON GROUND AS SOON AS POSSIBLE WITHIN 24 HOURS AFTER SLAB FINISHING AS MAY BE SAFELY DONE WITHOUT DISLODGING AGGREGATE.

12. PIPES OTHER THAN ELECTRICAL CONDUITS SHALL NOT BE EMBEDDED IN STRUCTURAL CONCRETE EXCEPT WHERE SPECIFICALLY APPROVED BY THE ENGINEER. MAXIMUM PIPE SIZE SHALL BE 1/3 OF THE SLAB THICKNESS AND LOCATED AT MID-DEPTH. MINIMUM SPACING SHALL BE 3 TIMES THE OUTSIDE PIPE DIAMETER. PIPES SHALL NOT IMPAIR THE STRENGTH OF THE MEMBER.

13. PROTECT CONCRETE FROM DAMAGE OR REDUCED STRENGTH DUE TO HOT OR COLD WEATHER IN ACCORDANCE WITH ACI 305 AND 306 AND IBC SECTION 1905.
WHERE DOWELS, BOLTS OR INSERTS ARE CALLED TO BE ANCHORED TO CAST IN PLACE CONCRETE ELEMENTS USING EPOXY ADHESIVES, FOLLOW ALL MANUFACTURERS RECOMMENDATIONS. ALTERNATE ANCHORAGE SYSTEMS MAY BE USED WITH ENGINEERS PRIOR APPROVAL.

CONCRETE TESTING SERVICES:

1. TESTING OF COMPOSITE SAMPLES OF FRESH CONCRETE OBTAINED ACCORDING TO ASTM C 172 SHALL BE PERFORMED ACCORDING TO THE FOLLOWING REQUIREMENTS:

A. FREQUENCY: OBTAIN ONE COMPOSITE SAMPLE FOR EACH DAY'S POUR OF EACH CONCRETE MIX EXCEEDING 5 CUBIC YARDS (4 CUBIC METERS), BUT LESS THAN 25 CUBIC YARDS (19 CUBIC METERS), PLUS ONE SET FOR EACH ADDITIONAL 50 CUBIC YARDS (38 CUBIC METERS) OR FRACTION THEREOF. WHEN FREQUENCY OF TESTING WILL PROVIDE FEWER THAN FIVE COMPRESSIVE-STRENGTH TESTS FOR EACH CONCRETE MIX, TESTING SHALL BE CONDUCTED FROM AT LEAST FIVE RANDOMLY SELECTED BATCHES OR FROM EACH BATCH IF FEWER THAN FIVE ARE USED.

B. SLUMP: ASTM C 143; ONE TEST AT POINT OF PLACEMENT FOR EACH COMPOSITE SAMPLE, BUT NOT LESS THAN ONE TEST FOR EACH DAY'S POUR OF EACH CONCRETE MIX. PERFORM ADDITIONAL TESTS WHEN CONCRETE CONSISTENCY APPEARS TO CHANGE.

C. AIR CONTENT: ASTM C 231, PRESSURE METHOD, FOR NORMAL-WEIGHT CONCRETE; ASTM C 173, VOLUMETRIC METHOD, FOR STRUCTURAL LIGHTWEIGHT CONCRETE; ONE TEST FOR EACH COMPOSITE SAMPLE, BUT NOT LESS THAN ONE TEST FOR EACH DAY'S POUR OF EACH CONCRETE MIX.

D. CONCRETE TEMPERATURE: ASTM C 1064; ONE TEST HOURLY WHEN AIR TEMPERATURE IS 40 DEGREES FAHRENHEIT (4.4 DEGREES CELSIUS) AND BELOW AND WHEN 80 DEGREES FAHRENHEIT (27 DEGREES CELSIUS) AND ABOVE, AND ONE TEST FOR EACH COMPOSITE SAMPLE.

E. COMPRESSION TEST SPECIMENS: ASTM C 31/C 31M; CAST AND LABORATORY CURE ONE SET OF FOUR STANDARD CYLINDER SPECIMENS FOR EACH COMPOSITE SAMPLE. FIELD-CURED SPECIMENS BELOW MAY BE REQUIRED TO VERIFY ADEQUACY OF CURING AND PROTECTION OF CONCRETE OR TO VERIFY STRENGTH FOR REMOVAL OF SHORING AND RESHORING IN MULTISTORY CONSTRUCTION.

F. COMPRESSIVE-STRENGTH TESTS: ASTM C 39; TEST TWO LABORATORY-CURED SPECIMENS AT 7 DAYS AND TWO AT 28 DAYS. A COMPRESSIVE-STRENGTH TEST SHALL BE THE AVERAGE COMPRESSIVE STRENGTH FROM TWO SPECIMENS OBTAINED FROM SAME COMPOSITE SAMPLE AND TESTED AT AGE INDICATED. ANY CONCRETE SAMPLING BEYOND THE DAYS ABOVE SHALL BE DIRECTED BY THE CONTRACTOR AT THE CONTRACTOR'S COST.

MASONRY (CONCRETE BLOCK) AND CLAY MASONRY:

1. ALL MASONRY OPERATIONS SHALL BE DONE IN ACCORDANCE WITH THE PROVISIONS OF THE ACI 530 AND THE IBC.

2. COMPRESSIVE STRENGTH OF CONCRETE MASONRY CONSTRUCTION, (CMU) SHALL BE AS FOLLOWS (PSI). MASONRY STRENGTH SHALL BE (F'm) 1500 PSI PSI.

A. MASONRY ASSEMBLY STRENGTH (F'm DESIGN)	2000 PSI
B. BLOCK STRENGTH	2000 PSI
C. TYPE S MORTAR STRENGTH	2000 PSI
D. GROUT STRENGTH	3000 PSI
E. TYPE N MORTAR STRENGTH	2650 PSI

3. CONCRETE BLOCK SHALL BE HOLLOW LOAD-BEARING CONCRETE MASONRY UNITS CONFORMING TO ASTM C90, GRADE N-II. ALL BLOCKS SHALL BE PLACED IN RUNNING BOND CONSTRUCTION (UNLESS NOTED OTHERWISE) WITH ALL VERTICAL CELLS IN ALIGNMENT.

4. MORTAR MIX SHALL CONFORM TO REQUIREMENTS OF ACI 530, TYPE M OR S, TYPE S MORTAR SHALL BE USED WHERE MASONRY IS IN CONTACT WITH SOIL.

5. USE SUFFICIENT WATER FOR GROUT TO FLOW INTO ALL CELLS OF THE MASONRY WITHOUT SEGREGATION. ALL CELLS IN CONCRETE BLOCKS CONTAINING REINFORCING SHALL BE FILLED SOLID WITH GROUT. ALL MASONRY CELLS BELOW FINISHED FLOOR OR GRADE SHALL BE GROUTED.

6. INSTALLATION OF GROUT SHALL BE COMPLETED USING A LOW LIFT GROUT PROCEDURE. STOP GROUT 1 1/2" BELOW TOP OF BLOCK AT EACH LIFT.

7. LAP REINFORCING 60 BAR DIAMETERS FOR GRADE 60.

8. MINIMUM WALL VERTICAL REINFORCING, UNLESS NOTED OTHERWISE ON PLANS OR DETAILS, SHALL BE A SINGLE #5 BAR AT 32" O.C. FULL HEIGHT IN CENTER OF GROUTED CELL. PROVIDE REINFORCING AT ALL WALL INTERSECTIONS, CORNERS, WALL ENDS, OPENING JAMBS, AND EACH SIDE OF CONTROL JOINTS. MAXIMUM SPACING SHALL NOT EXCEED 48 INCHES ON CENTER. TIE AT 8'-0" VERTICALLY, AT BOND BEAM LOCATIONS, WITH SINGLE WIRE LOOP TIE OR EQUIVALENT. DOWEL ALL VERTICAL REINFORCING TO FOUNDATION WITH DOWELS TO MATCH AND LAP VERTICAL REINFORCING.

9. MINIMUM WALL HORIZONTAL REINFORCING, UNLESS NOTED OTHERWISE ON PLANS OR DETAILS, SHALL BE A SINGLE #5 BAR IN CENTER OF 8 INCH DEEP CONTINUOUSLY GROUTED BOND BEAMS AT 8'-0" O.C. AND AT TOP OF PARAPETS OR FREE-STANDING WALLS. BOND BEAMS SHALL BE CONTINUOUS THROUGH CONTROL JOINTS. PROVIDE BENT BARS PER TYPICAL DETAILS TO MATCH AND LAP HORIZONTAL BOND BEAM REINFORCING AT CORNERS AND WALL INTERSECTIONS TO MAINTAIN BOND BEAM CONTINUITY.

10. MINIMUM LINTEL ASSEMBLY, UNLESS NOTED OR DETAILED OTHERWISE, SHALL BE 24" DEEP CONSISTING OF TWO COURSES OF 8" DEEP OPEN END CMU OVER 8" DEEP BOND BEAM OR LINTEL BLOCK. REINFORCE WITH (2) #5 IN BOTTOM OF BOND BEAM OR LINTEL BLOCK. GROUT ASSEMBLY SOLID AND EXTEND A MINIMUM OF 2'-0" PAST EACH JAMB.

11. LADDER OR TRUSS TYPE REINFORCING SHALL BE USED AT JOINTS BETWEEN MASONRY UNITS. PROVIDE GALVANIZED 9 GAUGE WIRES SPACED AT 16" O.C. AT FACE SHELLS. STOP JOINT REINFORCING EACH SIDE OF VERTICAL CONTROL JOINTS.

12. UNLESS OTHERWISE NOTED ON ARCHITECTURAL DRAWINGS PROVIDE CONTROL / EXPANSION JOINTS AT 24'-0" ON CENTER OR 1.5x HEIGHT, WHICHEVER IS LESS.

STEEL LINTELS:

1. LINTELS FOR OPENINGS LESS THAN 4'-0" ARE L5x5x3/8 W/ 8" OF BEARING ON EACH SIDE OF THE OPENING.

2. LINTELS FOR OPENINGS MORE THAN 4'-0" ARE L5x5x3/8 W/ (2) 1/4"x4-1/2" (SDS25412) SIMPSON SDS SCREW AT 16" O.C. SPACING.

3. PROVIDE 8" OF END BEARING ON EACH SIDE OF THE OPENING FOR ALL LINTELS.

4. GALVANIZE ALL STEEL LINTELS.

ABBREVIATIONS:

1. B/ = BOTTOM OF
2. BRG = BEARING
3. DBE = DECK BEARING ELEVATION
4. EL = ELEVATION
5. EOR = ENGINEER OF RECORD
6. f'c = CONCRETE COMPRESSIVE STRENGTH
7. FTG = FOOTING
8. FV = FIELD VERIFY
9. G.C. = GENERAL CONTRACTOR
10. H.A.S. = HEADED ANCHOR STUD
11. JBE = JOIST BEARING ELEVATION
12. MEP = MECHANICAL, ELECTRICAL, PLUMBING
13. MFR = MANUFACTURER
14. RTU = ROOF TOP UNIT
15. T/ = TOP OF
16. U.N.O. = UNLESS NOTED OTHERWISE

STRUCTURAL STEEL:

1. STRUCTURAL STEEL MEMBERS SHALL CONFORM WITH THE FOLLOWING STANDARDS AND MATERIAL PROPERTIES UNLESS NOTED OTHERWISE

SHAPE	STANDARD	Fy
ROLLED WIDE FLANGE SECTIONS	ASTM A992	50 KSI
CHANNELS AND ANGLES	ASTM A36	36 KSI
BARS AND PLATES	ASTM A36	36 KSI
BOLTS AT STEEL CONNECTIONS	ASTM A325 OR A490	----
ANCHOR RODS	ASTM F1554	36 KSI

2. ALL BOLTS SHALL BE INSTALLED AS BEARING-TYPE CONNECTIONS WITH THREADS EXCLUDED FROM SHEAR PLANE (TYPE "X" CONNECTION), UNLESS NOTED OTHERWISE. HIGH-STRENGTH BOLTS SHALL BE TIGHTENED USING ANY AISC APPROVED METHOD. ALL NON-SLIP CRITICAL BOLTS SHALL BE INSTALLED IN SNUG TIGHT CONDITION.

3. BOLTS FOR SLIP-CRITICAL CONNECTIONS SHALL BE LOAD INDICATOR BOLTS (LIB) OR SHALL BE EQUIPPED WITH LOAD INDICATOR WASHERS WHICH PROVIDE AN EASY MEANS OF VISUALLY VERIFYING PROPER BOLT TENSION. WHERE LOAD INDICATOR BOLTS CANNOT BE USED DUE TO SPACE RESTRICTIONS OR FOR OTHER REASONS, BOLTS MAY BE TIGHTENED USING THE TURN OF THE NUT METHOD AS OUTLINED IN THE AISC "STEEL CONSTRUCTION MANUAL". NO PAINT SHALL BE APPLIED IN THE REGION OF THE SLIP CRITICAL CONNECTIONS.

4. ALL THREADED ROD AND ALL BOLTED CONNECTIONS INVOLVING WOOD MEMBERS SHALL BE ASTM A-307 UNLESS NOTED OTHERWISE.

5. ALL BOLTS AND WASHERS IN CONTACT WITH TREATED WOOD SHALL BE HOT DIPPED GALVANIZED OR STAINLESS STEEL.

6. ALL STRUCTURAL AND MISCELLANEOUS STEEL SHALL BE FABRICATED AND ERECTED IN ACCORDANCE WITH AISC SPECIFICATIONS FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS, CODE REFERENCED EDITION.

7. WELDING SHALL BE PERFORMED BY WELDERS HOLDING VALID CERTIFICATES AND HAVING CURRENT EXPERIENCE IN THE TYPE OF WELD SHOWN ON THE DRAWINGS. ALL WELDING SHALL USE E70 SERIES LOW HYDROGEN ELECTRODES UNLESS NOTED OTHERWISE. ALL WELDS INVOLVING REINFORCING BARS SHALL USE E90 SERIES ELECTRODES. ALL WELDING SHALL CONFORM TO THE LATEST AMERICAN WELDING SOCIETY (AWS) STANDARDS. WELDS ON DRAWINGS ARE SHOWN AS SHOP WELDS. CONTRACTOR MAY SHOP WELD OR FIELD WELD AT HIS DISCRETION. ALL FULL PENETRATION WELDS SHALL BE TESTED AND CERTIFIED BY AN INDEPENDENT TESTING LABORATORY.

8. DETAILS OUTLINE BASIC CONNECTION TYPES. BEAM TO BEAM AND BEAM TO COLUMN CONNECTIONS NOT DETAILED IN DRAWINGS SHALL BE SIZED BY STEEL DETAILER AS STANDARD AISC, TYPE 2, BEARING CONNECTIONS CAPABLE OF SUPPORTING REACTIONS DEVELOPED BY MAXIMUM UNIFORM LOAD CAPACITY ON A SIMPLE SPAN FOR BEAM AND BEAM SPAN GIVEN.

9. STEEL SHALL BE DESIGNED, DETAILED, FABRICATED AND ERECTED ACCORDING TO ALL APPLICABLE SECTIONS OF THE CODE REFERENCED EDITION OF THE AISC MANUAL OF STEEL CONSTRUCTION. SHOP DRAWINGS SHALL BE SUBMITTED INDICATING COMPLETE INFORMATION REQUIRED FOR CONSTRUCTION OF STRUCTURAL STEEL AND SHALL INCLUDE LAYOUT AND DIMENSIONS OF FRAMING PLANS, CONNECTION DETAILS, AND SEQUENCE, ETC. SHOP DRAWINGS AND CALCULATIONS SHALL BE SEALED BY A STRUCTURAL ENGINEER REGISTERED IN THE STATE OF THE PROJECT SITE.

10. HEAVY LOADS THAT EXCEED 75% OF ALLOWABLE LIVE LOADS SHOWN ON THE PLANS, FOR TEMPORARY EQUIPMENT, CONSTRUCTION MATERIALS, OR OTHER LOADS NOT SHOWN IN THE CONTRACT DOCUMENTS, SHALL NOT BE PLACED OR SUPPORTED FROM ELEVATED STRUCTURE WITHOUT PRIOR WRITTEN APPROVAL OF THE STRUCTURAL ENGINEER.

11. INSPECTION OF STRUCTURAL STEEL CONNECTIONS SHALL BE PERFORMED BY A QUALIFIED INSPECTOR RETAINED BY THE CONTRACTOR, APPROVED BY THE ENGINEER AND OWNER. INSPECTOR QUALIFICATION SHALL BE BASED ON COMPLIANCE WITH APPROPRIATE PROVISIONS OF THE AWS CODE- D1.1. INSPECTION SHALL INCLUDE VISUAL INSPECTION OF ALL COMPLETED STRUCTURAL WELDED CONNECTIONS. THE INSPECTING AGENCY SHALL BE NOTIFIED BEFORE ANY WELDING WORK BEGINS AND SHALL BE RESPONSIBLE FOR VERIFICATION OF WELDERS CERTIFICATIONS, INSPECTION OF CONNECTIONS BEFORE WELDING BEGINS, AND INSPECTION DURING WELDING UNTIL THE INSPECTOR IS SATISFIED THAT THE WELDING PROCESS IS BEING PERFORMED PER AWS REQUIREMENTS.

12. FIELD CUTTING, DRILLING OR OTHER MODIFICATION OF STRUCTURAL STEEL COMPONENTS IS NOT PERMITTED WITHOUT WRITTEN APPROVAL OF THE STRUCTURAL ENGINEER. WHERE BEAM PENETRATIONS CANNOT BE AVOIDED OR WHERE CUTTING IS REQUIRED, CONTRACTOR SHALL SUBMIT TO THE ENGINEER, ALL PERTINENT INFORMATION INCLUDING PENETRATION SHAPE, SIZE LOCATION AND METHOD OF CUTTING THE OPENING.
MECHANICAL CONTRACTOR SHALL DESIGN AND SUPPLY ALL FRAMING AS REQUIRED TO SUPPORT OR SUSPEND EQUIPMENT, DUCTS, AND PIPING BETWEEN FRAMING OUTLINED IN HE CONTRACT DOCUMENTS. REFER TO MEP / HVAC DRAWINGS FOR EXACT LOCATIONS AND WEIGHTS OF ITEMS TO BE SUPPORTED OR SUSPENDED AND VERIFY CONFORMANCE WITH STRUCTURAL FRAMING PLANS.

REINFORCING STEEL (FOR CONCRETE AND MASONRY):

1. REINFORCED CONCRETE IS DESIGNED IN ACCORDANCE WITH THE "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE" (ACI 318) BY THE AMERICAN CONCRETE INSTITUTE.

2. REINFORCING BAR DETAILING, FABRICATING, AND PLACING SHALL CONFORM TO THE "ACI STANDARD: DETAILS AND DETAILING OF CONCRETE REINFORCEMENT" (ACI 315) AND THE "MANUAL OF ENGINEERING AND PLACING DRAWINGS FOR REINFORCED CONCRETE STRUCTURES" (ACI 315R) BY THE AMERICAN CONCRETE INSTITUTE. THE CODE REFERENCED EDITIONS OF CONCRETE REINFORCING STEEL INSTITUTE'S "REINFORCING BAR DETAILING" AND "PLACING REINFORCING BARS" MAY ALSO BE USED.

3. REINFORCING STEEL SHALL CONFORM TO THE REQUIREMENTS OF ASTM A615. REINFORCING SHALL BE GRADE 60 (Fy = 60 KSI) DEFORMED BARS FOR ALL REINFORCING BARS UNLESS NOTED OTHERWISE ON PLANS OR DETAILS. ALL REINFORCING TO BE WELDED SHALL BE ASTM A706 GRADE 60 LOW ALLOY WELDABLE STEEL.

4. WELDED WIRE FABRIC SHALL CONFORM TO THE REQUIREMENTS OF ASTM A185. LAPS IN WELDED WIRE FABRIC SHALL BE MADE SUCH THAT THE OVERLAP, MEASURED BETWEEN OUTERMOST CROSS WIRE OF EACH FABRIC SHEET, IS NOT LESS THAN THE SPACING OF CROSS WIRES PLUS 2 INCHES.

5. ALL DIMENSIONS SHOWING THE LOCATION OF REINFORCING STEEL NOT NOTED AS "CLEAR" OR "CLR" ARE TO CENTER OF STEEL. MINIMUM COVER FOR NON-PRESTRESSED CONCRETE REINFORCING SHALL BE AS FOLLOWS, UNLESS NOTED OTHERWISE ON PLANS OR DETAILS:

EXPOSURE CONDITION	MINIMUM COVER	TOLERANCES (+/-)
CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH	3"	3/8"
EXPOSED TO EARTH OR WEATHER:		
#5 AND SMALLER	1 1/2"	3/8"
#6 AND LARGER	2"	3/8"
SLABS ON GRADE:	1 1/2"	1/4"

6. LAP SPLICES OF REINFORCING STEEL IN ALL CONCRETE SHALL BE ACCORDING TO ACI 318 (CLASS B SPLICE), UNLESS NOTED OTHERWISE. STAGGER SPLICES A MINIMUM OF ONE LAP IN LENGTH. NO TACK WELDING OF REINFORCING BARS IS ALLOWED. CODE REFERENCED ACI CODE AND DETAIL MANUAL APPLY. PROVIDE BENT CORNER BARS TO MATCH AND LAP WITH HORIZONTAL BARS AT ALL CORNERS AND INTERSECTIONS PER TYPICAL DETAILS. VERTICAL WALL BARS SHALL BE SPLICED AT OR NEAR FLOOR LINES. SPLICE TOP BARS AT CENTER LINE OF SPAN AND BOTTOM BARS AT THE SUPPORT IN SPANDRELS, BEAMS, GRADE BEAMS, ETC. UNLESS NOTED OTHERWISE.

7. ALL CONSTRUCTION JOINTS SHOWN ON THE DRAWINGS SHALL BE INCORPORATED IN THE STRUCTURE UNLESS THEIR ELIMINATION IS APPROVED BY THE ENGINEER. ADDITIONAL CONSTRUCTION JOINTS REQUIRED TO FACILITATE CONSTRUCTION SHALL BE LOCATED AND DETAILED ON SHOP DRAWINGS. WHEN CONSTRUCTION JOINTS OTHER THAN THOSE SHOWN ON THE DRAWINGS ARE REQUIRED, THE REINFORCEMENT SHALL PASS CONTINUOUSLY THROUGH THE JOINT AND A KEY SHALL BE PROVIDED FOR ADEQUATE SHEAR TRANSFER.

8. ALL REINFORCING SHALL BE BENT COLD. BARS SHALL NOT BE STRAIGHTENED AND RE-BENT. FIELD BENDING OF REBAR SHALL NOT BE ALLOWED UNLESS SPECIFICALLY NOTED OTHERWISE.

9. WELDING OF REINFORCING BARS, METAL INSERTS, AND CONNECTIONS SHALL CONFORM WITH IBC STANDARD 19-2, AND SHALL BE MADE ONLY AT LOCATIONS SHOWN ON PLANS OR DETAILS.

10. REINFORCING BAR SPACING SHOWN ON PLANS ARE AT MAXIMUM ON CENTERS. ALL BARS SHALL BE DETAILED AND PLACED PER CONCRETE REINFORCING STEEL INSTITUTE (CRSI) SPECIFICATIONS AND HANDBOOK. DOWEL ALL VERTICAL REINFORCING TO FOUNDATION. SECURELY TIE ALL BARS IN LOCATION BEFORE PLACING CONCRETE.

11. AT CORNERS OF FOOTINGS SUPPLY CORNER BARS 4'-0" LONG MINIMUM (2'-0" EACH LEG, OR 30 BAR DIAMETERS).

12. ALL SLABS AND STAIRS NOT SHOWN OTHERWISE SHALL BE 8" THICK AND REINFORCED WITH #4 BARS AT 6" O.C. EACH WAY CENTERED. ALL EXTERIOR PORCHES AND STOOPS NOT OTHERWISE DETAILED MAY BE CONSTRUCTED IN ANY STANDARD MANNER, SOLID OR HOLLOW, BUT MUST BE REINFORCED WITH #4 BARS AT 12" O.C. MINIMUM EACH WAY. PORCHES SHALL BE DOWELED TO ADJACENT WALLS OR GRADE BEAMS WITH #4 BARS AT 12" O.C. HOOKED OR EMBEDDED 30 DIAMETERS INTO BOTH MEMBERS. SLOPE PORCHES 1/8" PER FOOT FOR DRAINAGE UNLESS NOTED OTHERWISE.

13. ACCESSORIES SHALL BE AS SPECIFIED IN CODE REFERENCED EDITION OF CRSI DESIGN HANDBOOK. MAXIMUM ACCESSORY SPACING SHALL BE 4'-0" O.C.

14. AT ALL HOLES IN CONCRETE WALLS AND SLABS, ADD 2-#5 BARS (LENGTH IS OPENING DIMENSION PLUS 3'-0" LONG EACH WAY) AT EACH OF FOUR SIDES AND ADD 2-#5x5'-0" DIAGONALLY AT EACH OF THE FOUR CORNERS OF THE HOLE. IN 8" WALL OPENINGS REINFORCE SAME, BUT 1-#5 BAR INSTEAD OF 2-#5 BARS, RESPECTIVELY.
MECHANICAL SPLICE COUPLERS, FLANGE COUPLERS, THREADED COUPLERS, ETC. SHALL HAVE CURRENT ICC APPROVAL AND SHALL BE CAPABLE OF DEVELOPING 125% OF THE STRENGTH OF THE BAR.

Hufft

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PRIMARY CONTACT:
SECONDARY CONTACT:

ISSUE:
CONSTRUCTION DOCUMENTS
05/01/2024

REVISION SCHEDULE:

NO.	DATE	ISSUE

Engineer: Alan R. Mettemeyer
License Number: MO# E-200016247
Drawn By: JCF
Project Number: 24-0121

GENERAL NOTES

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POST-INSTALLED ANCHORS:

1. POST-INSTALLED ANCHORS SHALL ONLY BE USED WHERE SPECIFIED ON THE CONSTRUCTION DOCUMENTS. SPECIAL INSPECTIONS ARE REQUIRED PER THE PROVISIONS SET FORTH IN BELOW REFERENCED IBC CODE REPORTS. ANCHORS ARE TO BE INSTALLED BY EXPERIENCED INSTALLERS OR CONTRACTOR TO CONTACT MANUFACTURER'S REPRESENTATIVE FOR PROPER PRODUCT INSTALLATION TRAINING ON INITIAL ANCHORS. SUBSTITUTION REQUESTS, FOR PRODUCTS OTHER THAN THOSE SPECIFIED BELOW, SHALL BE SUBMITTED BY THE CONTRACTOR TO THE ENGINEER OF RECORD ALONG WITH CALCULATIONS THAT ARE PREPARED AND SEALED BY A REGISTERED PROFESSIONAL ENGINEER. THE CALCULATIONS SHALL DEMONSTRATE THAT THE SUBSTITUTED PRODUCT IS CAPABLE OF ACHIEVING THE PERTINENT EQUIVALENT PERFORMANCE VALUES (MINIMUM) OF THE SPECIFIED PRODUCT USING THE APPROPRIATE DESIGN PROCEDURE AND/OR STANDARD(S) AS REQUIRED BY THE BUILDING CODE.

2. CONCRETE ANCHORS

A. MECHANICAL ANCHORS FOR USE IN CRACKED AND UNCRACKED CONCRETE SHALL HAVE BEEN TESTED AND QUALIFIED FOR USE IN ACCORDANCE WITH ACI 355.2 AND ICC-ES AC193. PRE-APPROVED MECHANICAL ANCHORS INCLUDE:

SIMPSON STRONG-TIE "TITEN-HD" (ICC-ES ESR-2713)
HILTI KWIK HUS-EZ "KH-EZ" (ICC-ES ESR-3027)

B. ADHESIVE ANCHORS FOR USE IN CRACKED AND UNCRACKED CONCRETE SHALL HAVE BEEN TESTED AND QUALIFIED FOR USE IN ACCORDANCE WITH ICC-ES AC308. PRE-APPROVED ADHESIVE ANCHORS INCLUDE:

SIMPSON STRONG-TIE "GT" (ICC-ES ESR-2508)
HILTI HIT-HY 200-A (ICC-ES ESR 3187)

3. MASONRY ANCHORS

A. ANCHORAGE TO SOLID-GROUTED CONCRETE MASONRY

MECHANICAL AND CONCRETE SCREW ANCHORS FOR USE IN SOLID-GROUTED CONCRETE MASONRY SHALL HAVE BEEN TESTED AND QUALIFIED FOR USE IN ACCORDANCE WITH ICC-ES AC01 OR AC106, RESPECTIVELY. PRE-APPROVED MECHANICAL AND CONCRETE SCREW ANCHORS INCLUDE:

SIMPSON STRONG-TIE "TITEN-HD" (ICC-ES ESR-1056)
HILTI "KH-EZ" CRC (ICC-ES ESR-3056)

ADHESIVE ANCHORS FOR USE IN SOLID-GROUTED CONCRETE MASONRY SHALL HAVE BEEN TESTED AND QUALIFIED FOR USE IN ACCORDANCE WITH ICC-ES AC58. PRE-APPROVED ADHESIVE ANCHORS INCLUDE:

SIMPSON STRONG-TIE "GT" (ICC-ES ESR-1772)
HILTI "HIT-HY 200-A (ICC-ES ESR-3963)

CONNECTION TYPE:

	NAILING:
1. JOIST TO SILL OR GIRDER, TOENAIL	3 - 8d TOENAIL
2. BRIDGING TO JOIST	2 - 8d TOENAIL EACH END
3. 1"x6" (25MMx152MM) SUBFLOOR OR LESS TO JOIST	2 - 8d FACE NAIL
4. WIDER THAN 1"X6"(25MMx152MM) SUBFLOOR TO JOIST	3 - 8d FACE NAIL
5. 2" (52MM) SUBFLOOR TO GIRDER	2 - 16d BLIND AND FACE NAIL
6. SOLE PLATE TO JOIST OR BLOCKING	16d @ 16" O.C. TYP. FACE NAIL
7. SOLE PLATE TO JOIST OR BLOCKING, AT BRACED W. PANELS	3 - 16d @ 16" O.C.
8. TOP PLATE TO STUD	2 - 16d END NAIL
9. STUD TO SOLE PLATE	4 - 8d TOENAIL OR 2 -16d END NAIL
10. DOUBLE STUDS	16d @ 24" O.C. FACE NAIL
11. DOUBLE TOP PLATES	16d @ 16" O.C. TYP. FACE NAIL
12. DOUBLE TOP PLATES, LAP SPLICE	8 - 16d
13. BLOCKING BETWEEN JOISTS OR RAFTERS TO TOP PLATE	3 - 8d TOENAIL
14. RIM JOIST TO TOP PLATE	8d @ 6" O.C. TOENAIL
15. TOP PLATES, LAPS AND INTERSECTIONS	2 - 16d FACE NAIL
16. CONTINUOUS HEADER, TWO PIECES	16d @ 16" O.C. ALONG EDGE
17. CEILING JOISTS TO PLATE	3 - 8d TOENAIL
18. CONTINOUS HEADER TO STUD	4 - 8d TOENAIL
19. CEILING JOISTS, LAP OVER PARTITIONS	3 - 16d MIN. FACE NAIL (SEE TABLE 2308.10.4.1)
20. CEILING JOISTS TO PARALLEL RAFTERS	3 - 16d MIN. FACE NAIL (SEE TABLE 2308.10.4.1)
21. RAFTER TO PLATE	3 - 8d TOENAIL
22. 1" (25MM) BRACE TO EACH STUD AND PLATE	2 - 8d FACE NAIL
23. 1"x8" SHEATHING OR LESS TO EACH BEARING	3 - 8d FACE NAIL
24. WIDER THAN 1"x8" SHEATHING TO EACH BEARING	3 - 8d FACE NAIL
25. BUILT-UP CORNER STUDS	16d @ 24" O.C.
26. 2" PLANKS	16d AT EACH BEARING
27. COLLAR TIE TO RAFTER	3 - 10d FACE NAIL
28. JACK RAFTER TO HIP	3 - 10d TOENAIL OR 2 - 16d FACE NAIL
29. ROOF RAFTER TO 2-BY RIDGE BEAM	2 - 16d TOENAIL OR 2 - 16d FACE NAIL
30. JOIST TO BAND JOIST	3 - 16d FACE NAIL
31. LEDGER STRIP	3 - 16d FACE NAIL
32. BUILT-UP GIRDER AND BEAMS	(20d @ 32" O.C. FACE NAIL AT TOP AND BOTTOM STAGGERED ON OPPOSITE SIDES AND 2 - 20d FACE NAILS AT ENDS AND AT EACH SPLICE)

STRUCTURAL LUMBER:

1. LUMBER SHALL BE GOOD SOUND, WELL SEASONED, S4S, AND MOISTURE CONTENT OF 19% MAXIMUM WITH THE FOLLOWING ALLOWABLE STRESSES:

STUDS:	BEAMS & JOISTS:	LVL BEAMS:	TREATED BEAMS & JOISTS:
#2 DOUGLAS-FIR	#2 DOUGLAS-FIR	A. F_b = 2900 PSI	#1 S.Y.P.
A. F_b = 900 PSI	A. F_b = 900 PSI	B. F_c = 2000 PSI	
B. F_c = 1350 PSI	B. F_c = 1350 PSI	C. E = 2000000 PSI	
C. F_v = 180 PSI	C. F_v = 180 PSI		
D. E = 1600000 PSI	D. E = 1600000 PSI		

A. PLATES IN CONTACT WITH CONCRETE SHALL BE TREATED #1 SOUTHERN YELLOW PINE (S.Y.P.).

B. CONTRACTOR MAY SUBSTITUTE AN ALTERNATE SPECIES ONLY WITH WRITTEN APPROVAL BY THE STRUCTURAL ENGINEER OF RECORD.

C. LUMBER SHALL BE SELECTED SUCH THAT NO PIECES WITH LARGE KNOTS, WARPS, SPLITS, OR DEFECTS ARE USED.

2. FRAMING, ROUGH CARPENTRY, AND MISCELLANEOUS CARPENTRY WORK SHALL BE GOVERNED BY THE INTERNATIONAL BUILDING CODE REQUIREMENTS. ALL SUCH WORK SHALL COMPLY WITH CONSTRUCTION, CONNECTION, AND GENERAL REQUIREMENTS OF CHAPTER 23 OF THE CODE. IT SHALL BE A REQUIREMENT OF THIS CONTRACT THAT THE GENERAL CONTRACTOR / PROJECT MANAGER PROVIDE A COPY OF THIS CHAPTER TO ALL PERTINENT PARTIES.

3. THE GENERAL CONTRACTOR / PROJECT MANAGER AND FRAMING SUB-CONTRACTOR ARE RESPONSIBLE FOR INSTALLING THE CORRECT NAIL SIZE AS SPECIFIED ON THE CONTRACT DOCUMENTS AND/OR ON APPROVED TRUSS SHOP DRAWINGS. COMMON NAIL SIZES ARE AS FOLLOWS AND SHOULD BE CONSIDERED AS MINIMUMS.

DESIGNATION	DIAMETER	LENGTH
8D	0.131"	3"
10D	0.148"	3"
12D	0.148"	3 1/4"
16D	0.162"	3 1/2"

4. THE GENERAL CONTRACTOR / PROJECT MANAGER AND FRAMING SUB-CONTRACTOR ARE RESPONSIBLE FOR VERIFYING THE APPROPRIATE NAIL SIZE WHEN USING NAIL GUNS. FAILURE TO USE CORRECT NAIL SIZES, AS STATED ABOVE, MAY RESULT IN THE REMOVAL OF ALL CONSTRUCTION TO DATE AND RECONSTRUCTING AT FRAMING CONTRACTOR'S EXPENSE.

5. THE USE OF NAIL GUNS FOR JOIST HANGERS IS LIMITED PER MANUFACTURER'S RECOMMENDATIONS.

6. DRIVING NAILS INTO EXISTING HOLES IS NOT ACCEPTABLE UNLESS THE ORIGINAL NAIL SIZE IS 75% OF THE DIAMETER OF THE NEW NAIL.
7. HOLES DRILLED IN EXTERIOR WALLS, SHEAR WALLS, AND INTERIOR LOAD BEARING WALLS FOR WIRING AND/OR PLUMBING SHALL BE CENTERED. NO OTHER HOLES OR NOTCHES ARE PERMITTED. ALLOWED HOLE SIZES ARE AS FOLLOWS:

STUD OR PLATE SIZE	MAXIMUM HOLE DIAMETER
2x4	1"
2x6	1"
2x8	1 1/2"

8. HOLES DRILLED IN NON-LOAD BEARING INTERIOR WALL STUDS FOR WIRING AND/OR PLUMBING SHALL BE CENTERED. NO OTHER HOLES OR NOTCHES ARE PERMITTED. ALLOWED HOLE SIZES ARE AS FOLLOWS:

STUD OR PLATE SIZE	MAXIMUM HOLE DIAMETER
2x4	2"
2x6	3 1/4"
2x8	4 1/4"

9. HOLES OR NOTCHES IN JOISTS AND RAFTERS ARE NOT ALLOWED UNLESS SPECIFICALLY APPROVED BY THE ENGINEER OF RECORD. CONTRACTOR SHALL PROVIDE PROPOSED HOLE OR NOTCH SIZES AND LOCATIONS FOR REVIEW.

10. MULTIPLE LAMINATIONS (TRIPLE 2x MAXIMUM) SHALL BE NAILED TOGETHER WITH 2 ROWS OF 0.162x3 1/2" NAILS EACH FACE FOR THREE PLY AND ONE FACE FOR TWO PLY AT 24" O.C. STAGGERED 12". CINCH NAILS AS REQUIRED.

11. TYPICAL MINIMUM NAILING REQUIREMENTS ARE PER THE NAILING SCHEDULE ON THE CONTRACT DOCUMENTS.

12. SPECIFIED CONNECTORS ARE SIMPSON PRODUCTS PER 2019-2020 CATALOG AND ARE TO BE INSTALLED PER THE MANUFACTURER'S RECOMMENDATIONS.

13. ALL BEAMS BEARING PERPENDICULAR TO WALL FRAMING SHALL BE SUPPORTED BY MULTIPLE STUDS FOR THE FULL WIDTH OF THE BEAM. MULTIPLE STUDS SHALL CONTINUE TO FOUNDATION.

14. SILL PLATES AT ALL STRUCTURAL WALLS SHALL BE SECURED TO THE FOUNDATION WITH SIMPSON THDB62600HMG (5/8"Øx6") SCREW ANCHORS AT 4'-0" O.C. MAXIMUM SPACING UNLESS NOTED OTHERWISE. USE A MINIMUM OF TWO SCREW ANCHORS PER SECTION OF PLATE. SCREW ANCHORS SHALL BE PLACED AT A MAXIMUM OF 12" FROM END OF PLATE AND NO CLOSER THAN 4" FROM END OF PLATE, REFER TO IBC CHAPTER 23. SCREW ANCHOR SPACING MAY DIFFER AT SHEAR WALLS. REFER TO SHEAR WALL SCHEDULE, PLANS, AND DETAILS FOR ADDITIONAL INFORMATION.

15. SILL PLATES AT NON-STRUCTURAL WALLS SHALL BE SECURED TO THE FOUNDATION WITH (1) 0.157"Ø POWDER ACTUATED FASTENER AT 32" O.C. MAXIMUM SPACING. USE A MINIMUM OF TWO P.A.F. ANCHORS PER SECTION OF PLATE. P.A.F. ANCHORS SHALL BE PLACED AT A MAXIMUM OF 12" FROM END OF PLATE AND NO CLOSER THAN 4" FROM END OF PLATE, REFER TO IBC CHAPTER 23.

16. 2x FRAMED OVERBUILDS NOT OTHERWISE CALLED OUT ON PLANS SHALL BE 2x6 JOISTS AT 24" O.C. WITH MAXIMUM SPAN OF 8'-0". PROVIDE CRIPPLE WALLS AS REQUIRED. CRIPPLE WALLS SHALL BEAR DIRECTLY OVER ROOF FRAMING MEMBERS BELOW. DO NOT BEAR CRIPPLE WALLS ON SHEATHING ONLY.

17. CONCENTRATED LOADING SUCH AS CEILINGS, PIPE HANGERS, MECHANICAL DUCTWORK, ELECTRICAL FIXTURES, ETC. WHICH ARE TO BE ATTACHED TO ELEVATED FLOOR OR ROOF STRUCTURES SHALL BE SECURED TO THE JOISTS, RAFTERS, TRUSSES, OR BEAMS, NOT TO THE FLOOR OR ROOF SHEATHING.

ROOF SHEATHING
1. ROOF SHEATHING SHALL BE 5/8" THICK, 32/16 APA RATED, EXPOSURE 1. BLOCKING IS NOT REQUIRED AT EDGES. SECURE SHEATHING TO SUPPORTS WITH 0.131"Ø NAILS WITH A MINIMUM 1 5/8" PENETRATION INTO FRAMING MEMBER. PLACE NAILS AT 6" O.C. AT EDGES AND AT 12" O.C. IN THE FIELD. TYPICAL UNLESS NOTED OTHERWISE. PROVIDE SIMPSON PSCL PANEL SHEATHING CLIPS BETWEEN EVERY ROOF TRUSS OR JOIST.

2. MINIMUM SHEATHING SHEET SIZE SHALL BE 2'-0"x4'-0" AND TWO-SPAN MINIMUM. SHEATHING SHALL BE LAID HORIZONTALLY PER TYPICAL DETAILS ON S0 SHEETS.

3. NAILS USED TO ATTACH SHEATHING SHALL HAVE A MINIMUM PENETRATION OF 1 5/8" INTO THE SUPPORTING MEMBER.

4. WHERE EDGE NAILING OCCURS FOR MULTIPLE SHEETS ON A SINGLE SUPPORTING MEMBER OFFSET NAILS 1 1/2" MINIMUM.

5. CONCENTRATED LOADING SUCH AS CEILINGS, PIPE HANGERS, MECHANICAL DUCTWORK, ELECTRICAL FIXTURES, ETC. WHICH ARE TO BE ATTACHED TO ELEVATED FLOOR OR ROOF STRUCTURES SHALL BE SECURED TO THE JOISTS, RAFTERS, TRUSSES, OR BEAMS, NOT TO THE FLOOR OR ROOF SHEATHING.

6. A 6" MAXIMUM DRILLED HOLE IS ALLOWED IN SHEATHING. HOLES LARGER THAN 6" DIAMETER REQUIRE ADDITIONAL FRAMING OR REINFORCEMENT. CONTACT ENGINEER OF RECORD FOR ADDITIONAL FRAMING REQUIRED.

EXTERIOR WALL AND SHEAR WALL SHEATHING
1. SHEATHING SHALL BE AS NOTED ON THE PLANS AND SCHEDULES. AS A MINIMUM, SHEATHING SHALL BE 7/16" THICK, 32/16 APA RATED, EXPOSURE 1. BLOCKING IS REQUIRED AT EDGES AT ALL EXTERIOR WALLS, REFER TO SHEAR WALL SCHEDULE FOR PANEL EDGE BLOCKING REQUIREMENTS AT SHEAR WALLS. SECURE SHEATHING TO SUPPORTS WITH 0.131"Ø NAILS WITH A MINIMUM 1 3/8" PENETRATION INTO FRAMING MEMBER. PLACE NAILS AT 6" O.C. AT EDGES AND AT 12" O.C. IN THE FIELD AT EXTERIOR WALLS. REFER TO PLANS AND SHEAR WALL SCHEDULE FOR ADDITIONAL NAIL SPACING AND SIZE REQUIREMENTS AT SHEAR WALLS.

2. MINIMUM SHEATHING SHEET SIZE SHALL BE 2'-0"x4'-0" AND TWO-SPAN MINIMUM. SHEATHING SHALL BE LAID VERTICALLY PER TYPICAL DETAILS ON S0 SHEETS.

3. BLOCKING IS REQUIRED AT ALL EDGES AND SHALL MATCH WALL CAVITY DEPTH. USE 2x BLOCKING WHERE EDGE NAIL SPACING IS 4" O.C. OR GREATER. USE 3x BLOCKING WHERE EDGE NAIL SPACING IS LESS THAN 4" O.C. REFER TO TYPICAL DETAILS ON S0 SHEETS FOR ADDITIONAL BLOCKING REQUIREMENTS.

4. EXTERIOR NON SHEAR WALLS SHEATHING SHALL BE 7/16" THICK, 32/16 APA RATED, EXPOSURE 1. SECURE SHEATHING TO SUPPORTS WITH 0.131"Ø NAILS WITH A MINIMUM 1 3/8" PENETRATION INTO FRAMING MEMBER. PLACE NAILS AT 6" O.C. AT EDGES AND AT 12" O.C. IN THE FIELD AT EXTERIOR WALLS.

Hufft

PROJECT INFORMATION:

Andy's Frozen Custard #204

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PRIMARY CONTACT:
SECONDARY CONTACT:

ISSUE:

CONSTRUCTION DOCUMENTS
05/01/2024

REVISION SCHEDULE:

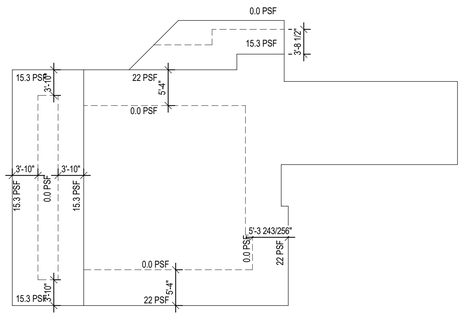
NO.	DATE	ISSUE

STATE OF MISSOURI
ALAN R. METTEMEYER
NUMBER E-2000162147
REGISTERED PROFESSIONAL ENGINEER
05/01/24

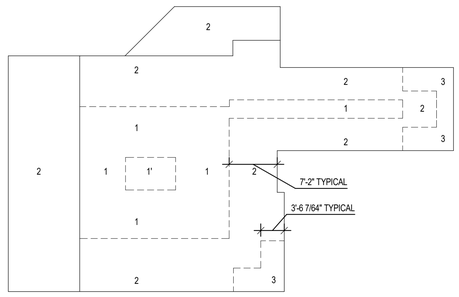
Engineer: Alan R. Mettemeyer
License Number: MO# E-2000162147
Drawn By: JCF
Project Number: 24-0121

GENERAL NOTES

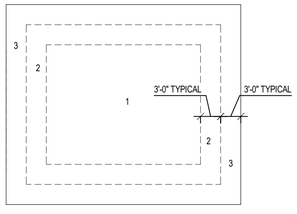
S001



DRIFTING SNOW LOADING DIAGRAM



WIND GROSS UPLIFT DIAGRAM



WIND GROSS UPLIFT DIAGRAM

BASIS FOR DESIGN:

1. BUILDING CODE: IBC 2018

2. DEAD LOADS
   - A. TYPICAL ROOF — 20 PSF

3. LIVE LOADS
   - A. ROOF (NO REDUCTION) — 20 PSF

4. SNOW LOAD
   - A. GROUND SNOW — P_g = 20 PSF
   - B. FLAT ROOF SNOW LOAD — P_f = 15.4 PSF (MAIN BUILDING); P_f = 16.8 PSF (CANOPY)
   - C. EXPOSURE FACTOR — C_e = 1.0
   - D. IMPORTANCE FACTOR — I_s = 1.0
   - E. THERMAL FACTOR — C_t = 1.0 (MAIN BUILDING); C_t = 1.2 (CANOPY)
   - F. RAIN ON SNOW — 5 PSF
   - G. MINIMUM SNOW — P_m = 20 PSF

5. WIND LOAD
   - A. WIND DESIGN PROCEDURE = METHOD 1
   - B. BASIC WIND SPEED (3-SECOND GUST): ULTIMATE, V = 109 MPH; SERVICE, V = 84 MPH
   - C. RISK CATEGORY = II
   - D. EXPOSURE = "C"
   - E. INTERNAL PRESSURE COEFFICIENT, GC_p = ±0.18 (MAIN BUILDING); GC_p = 0 (CANOPY)
   - F. WIND DESIGN PRESSURES (COMPONENTS & CLADDING)

6. SEISMIC LOAD
   - A. IMPORTANCE FACTOR, I_e = 1.0
   - B. S_S = 0.099
   - C. S_1 = 0.068
   - D. SITE CLASS = D
   - E. S_{DS} = 0.106
   - F. S_{D1} = 0.109
   - G. SEISMIC DESIGN CATEGORY = B
   - H. BASIC SEISMIC FORCE RESISTING SYSTEM: LIGHT FRAMED WOOD SHEAR WALLS (MAIN BUILDING) AND STEEL ORDINARY CANTILEVER COLUMN SYSTEM (CANOPY)
   - I. DESIGN BASE SHEAR, V = 1.8 KIPS (MAIN BUILDING); V = 2.2 KIPS (CANOPY)
   - J. RESPONSE MODIFICATION COEFFICIENT R = 6.5 (MAIN BUILDING); R = 1.25 (CANOPY)
   - L. SEISMIC RESPONSE COEFFICIENT Cs = 0.016 (MAIN BUILDING); Cs = 0.085 (CANOPY)
   - K. ANALYSIS PROCEDURE USED = EQUIV. LATERAL FORCE PROCEDURE

ROOF GROSS UPLIFT - MAIN BUILDING

AREA SUPPORT FT²	ROOF UPLIFT ZONES			
	ZONE 1	ZONE 1'	ZONE 2	ZONE 3
10	6.3 / -24.8	6.3 / -24.8	14.2 / -32.7	14.2 / -32.7
20	5.9 / -23.2	5.9 / -23.2	13.6 / -30.6	13.6 / -30.6
50	5.4 / -21.0	5.4 / -21.0	12.8 / -27.8	12.8 / -27.8
100	5.0 / -19.4	5.0 / -19.4	12.1 / -25.7	12.1 / -25.7

ROOF GROSS UPLIFT - CANOPY

AREA SUPPORT FT²	ROOF UPLIFT ZONES		
	ZONE 1	ZONE 2	ZONE 3
9	14.8/ -25.6	22.1 / -39.0	29.5 / -51.2
18	14.8/ -25.6	22.1 / -39.0	22.1 / -39.0
36	14.8/ -25.6	14.8 / -25.6	14.8 / -25.6

WALL AND PARAPET PRESSURES

AREA SUPPORT FT²	WALLS		PARAPETS	
	ZONE 4	ZONE 5	ZONE 4	ZONE 5
10	14.2 / -15.4	14.2 / -19.0	14.4 / -33.1	14.4 / -33.1
20	13.6 / -14.8	13.6 / -17.7	13.7 / -31.0	13.7 / -31.0
50	12.8 / -14.0	12.8 / -16.1	12.9 / -28.1	12.9 / -28.1
100	12.1 / -13.3	12.1 / -14.8	12.3 / -26.0	12.3 / -26.0

TYPICAL GROSS UPLIFT NOTES

1. ALL UPLIFT VALUES ARE EXPRESSED IN PSF AT SERVICE LEVEL.
2. NEGATIVE VALUE DENOTES PRESSURE AWAY FROM SURFACE.
3. POSITIVE VALUE DENOTES PRESSURE TOWARD SURFACE.
4. EFFECTIVE DEAD LOAD TO RESIST UPLIFT = 15 PSF U.N.O. FOR WOOD FRAMING.
5. EFFECTIVE DEAD LOAD TO RESIST UPLIFT = 24 PSF U.N.O. FOR STEEL FRAMING.

MASONRY CONSTRUCTION

TMS 402 AND TMS 602 LEVEL "B" QUALITY ASSURANCE

TYPE	CONTINUOUS SPECIAL INSPECTION	PERIODIC SPECIAL INSPECTION
1. MATERIAL TESTING:		
A. VERIFICATION OF SLUMP FLOW AND VISUAL STABILITY INDEX (VSI) AS DELIVERED TO THE PROJECT SITE IN ACCORDANCE WITH ARTICLE 1.5 B.1.b.3 FOR SELF-CONSOLIDATING GROUT.	-	X
B. VERIFICATION OF f'm IN ACCORDANCE WITH ARTICLE 1.4 B PRIOR TO CONSTRUCTION, EXCEPT WHERE SPECIFICALLY EXEMPTED BY THE CODE.	-	X
2. VERIFY COMPLIANCE WITH THE APPROVED SUBMITTALS.	-	X
3. AS MASONRY CONSTRUCTION BEGINS, VERIFY THAT THE FOLLOWING ARE IN COMPLIANCE:		
A. PROPORTIONS OF SITE-PREPARED MORTAR.	-	X
B. CONSTRUCTION OF MORTAR JOINTS.	-	X
C. LOCATION OF REINFORCEMENT AND CONNECTORS.	-	X
4. PRIOR TO GROUTING, VERIFY THAT THE FOLLOWING ARE IN COMPLIANCE:		
A. GROUT SPACING.	-	X
B. GRADE, TYPE, AND SIZE OF REINFORCEMENT AND ANCHOR BOLTS, AND PRESTRESSING TENDONS AND ANCHORAGE.	-	X
C. PLACEMENT OF REINFORCEMENT AND CONNECTORS.	-	X
D. PROPORTIONS OF SITE-PREPARED GROUT.	-	X
E. CONSTRUCTION OF MORTAR JOINTS.	-	X
5. VERIFY DURING CONSTRUCTION:		
A. SIZE AND LOCATION OF STRUCTURAL ELEMENTS.	-	X
B. TYPE, SIZE, AND LOCATION OF ANCHORS, INCLUDING OTHER DETAILS OF ANCHORAGE OF MASONRY TO STRUCTURAL MEMBERS, FRAMES, OR OTHER CONSTRUCTION.	-	X
C. WELDING OF REINFORCEMENT.	X	-
D. PREPARATION, CONSTRUCTION, AND PROTECTION OF MASONRY DURING COLD WEATHER OR HOT WEATHER.	-	X
E. PLACEMENT OF GROUT.	X	-
6. OBSERVATION PREPARATION OF GROUT SPECIMENS, MORTAR SPECIMENS, AND/OR PRISMS.	-	X

CONCRETE CONSTRUCTION

IBC TABLE 1705.3

TYPE	CONTINUOUS SPECIAL INSPECTION	PERIODIC SPECIAL INSPECTION
1. INSPECT REINFORCEMENT AND VERIFY PLACEMENT.	-	X
2. REINFORCING BAR WELDING:		
A. VERIFY WELDABILITY OF REINFORCING BARS OTHER THAN ASTM A706.	-	X
B. INSPECT SINGLE-PASS FILLET WELDS, MAXIMUM 5/16".	-	X
C. INSPECT ALL OTHER WELDS.	X	-
3. INSPECT ANCHORS CAST IN CONCRETE.	-	X
4. INSPECT ANCHORS POST-INSTALLED IN HARDENED CONCRETE MEMBERS:		
A. ADHESIVE ANCHORS INSTALLED IN HORIZONTALLY OR UPWARDLY INCLINED	X	-
B. MECHANICAL ANCHORS AND ADHESIVE ANCHORS NOT DEFINED IN 4.A.	-	X
5. VERIFY USE OF REQUIRED DESIGN MIX.	-	X
6. PRIOR TO CONCRETE PLACEMENT, FABRICATE SPECIMENS FOR STRENGTH TESTS, PERFORM SLUMP AND AIR CONTENT TESTS, AND DETERMINE THE TEMPERATURE OF THE CONCRETE.	X	-
7. INSPECT CONCRETE PLACEMENT FOR PROPER APPLICATION TECHNIQUES.	X	-
8. VERIFY MAINTENANCE OF SPECIFIED CURING TEMPERATURE AND TECHNIQUES.	-	X
9. INSPECT FORMWORK FOR SHAPE, LOCATION AND DIMENSIONS OF THE CONCRETE MEMBER BEING FORMED.	-	X

WOOD CONSTRUCTION

IBC TABLE 1705.5

TYPE	CONTINUOUS SPECIAL INSPECTION	PERIODIC SPECIAL INSPECTION
1. HIGH-LOAD DIAPHRAGMS (NAIL SPACING LESS THAN 6" O.C. AT EDGES):		
A. VERIFY STRUCTURAL PANEL SHEATHING GRADE AND THICKNESSES COMPLY WITH THE APPROVED CONSTRUCTION DOCUMENTS.	-	X
B. VERIFY THE NOMINAL SIZE OF FRAMING MEMBERS AT ADJOINING PANEL EDGES COMPLY WITH THE APPROVED CONSTRUCTION DOCUMENTS.	-	X
C. VERIFY THE NAIL DIAMETER AND LENGTH, THE NUMBER OF FASTENER LINES AND THE SPACING BETWEEN FASTENERS IN EACH LINE AND AT EDGE MARGINS AGREE WITH THE APPROVED CONSTRUCTION DOCUMENTS.	-	X
2. METAL-PLATE-CONNECTED WOOD TRUSSES:		
A. VERIFY THE INSTALLATION OF THE PERMANENT INDIVIDUAL TRUSS MEMBER RESTRAINT/BRACING HAS BEEN INSTALLED IN ACCORDANCE WITH THE APPROVED TRUSS SUBMITTAL PACKAGE.	-	X
B. VERIFY DURING CONSTRUCTION THAT THE TEMPORARY INSTALLATION RESTRAINT/BRACING IS INSTALLED IN ACCORDANCE WITH THE APPROVED TRUSS SUBMITTAL PACKAGE.	-	X
3. ATTACHMENT OF BRICK SHELF ANGLE TO WOOD:		
A. VERIFY SIZE AND SPACING OF SCREWS.	X	-
B. VERIFY CENTERLINE OF SCREWS INTO STUDS ARE AT CENTERLINE OF 1 WIDTH OF STUD.	X	-

STATEMENT OF SPECIAL INSPECTIONS

1. SPECIAL INSPECTIONS ARE REQUIRED FOR THIS PRIMARY BUILDING FRAME / MAIN FORCE RESISTING SYSTEM PER THE LATEST EDITION OF THE IBC.
2. REFER TO THE IBC FOR ADDITIONAL INFORMATION RELATED TO THESE TABLES.
3. INSPECTIONS AND TESTING SHALL BE PROVIDED BY A QUALIFIED TESTING LABORATORY, RETAINED BY THE OWNER AND APPROVED BY THE ENGINEER OF RECORD.
4. REPORTS SHALL INDICATE THAT WORK INSPECTED OR TESTED WAS OR WAS NOT COMPLETED IN CONFORMANCE TO APPROVED CONSTRUCTION DOCUMENTS. DISCREPANCIES SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE CONTRACTOR FOR CORRECTION. IF THEY ARE NOT CORRECT, THE DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE BUILDING OFFICIAL AND THE ENGINEER OF RECORD PRIOR TO THE COMPLETION OF THAT PHASE OF THE WORK.
5. A LETTER OF SUBSTANTIAL COMPLETION SHALL BE SUBMITTED TO THE BUILDING DEPARTMENT BY THE SPECIAL INSPECTOR PRIOR TO THE FINAL INSPECTION.

STEEL CONSTRUCTION

IBC TABLE 1705.2

TYPE	CONTINUOUS SPECIAL INSPECTION	PERIODIC SPECIAL INSPECTION
1. MATERIAL VERIFICATION OF COLD-FORMED STEEL DECK:		
A. IDENTIFICATION MARKINGS TO CONFORM TO ASTM STANDARDS SPECIFIED IN THE APPROVED CONSTRUCTION DOCUMENTS.	-	X
B. MANUFACTURER'S CERTIFICATE TEST REPORTS.	-	X
2. INSPECT OF COLD-FORMED STEEL DECK WELDING:		
A. FLOOR DECK WELDS.	-	X
B. ROOF DECK WELDS.	-	X
3. INSPECTION OF REINFORCING STEEL WELDING:		
A. VERIFICATION OF WELD ABILITY OF REINFORCING STEEL OTHER THAN A706.	-	X
B. REINFORCING STEEL RESISTING FLEXURAL AND AXIAL FORCES IN REINFORCING STEEL RESISTING FLEXURAL AND AXIAL FORCES IN OF SPECIAL REINFORCED CONCRETE SHEAR WALLS AND SHEAR REINFORCEMENT.	X	-
C. SHEAR REINFORCEMENT.	X	-
D. OTHER REINFORCING STEEL.	-	X

STRUCTURAL STEEL

AISC 360

TYPE	CONTINUOUS SPECIAL INSPECTION	PERIODIC SPECIAL INSPECTION
1. MATERIAL VERIFICATION OF HIGH-STRENGTH BOLTS, NUTS, AND WASHERS:		
A. IDENTIFICATION MARKINGS TO CONFORM TO ASTM STANDARDS SPECIFIED IN THE APPROVED CONSTRUCTION DOCUMENTS.	-	X
B. MANUFACTURER'S CERTIFICATE OF COMPLIANCE REQUIRED.	-	X
2. INSPECT OF HIGH-STRENGTH BOLTING:		
A. BEARING-TYPE CONNECTIONS.	-	X
B. SLIP-CRITICAL CONNECTIONS.	X	-
3. MATERIAL VERIFICATION OF STRUCTURAL STEEL:		
A. IDENTIFICATION MARKINGS TO CONFORM TO ASTM STANDARDS SPECIFIED IN THE APPROVED CONSTRUCTION DOCUMENTS.	-	X
B. MANUFACTURER'S CERTIFIED MILL TEST REPORTS.	-	X
4. MATERIAL VERIFICATION OF WELD FILLER MATERIALS:		
A. IDENTIFICATION MARKINGS TO CONFORM TO AWS SPECIFICATION IN THE APPROVED CONSTRUCTION DOCUMENTS.	-	X
B. MANUFACTURER'S CERTIFIED OF COMPLIANCE REQUIRED.	-	X
5. INSPECTION OF STRUCTURAL STEEL WELDING:		
A. COMPLETE AND PARTIAL PENETRATION GROOVE WELDS.	X	-
B. MULTI-PASS FILLET WELDS.	X	-
C. SINGLE-PASS FILLET WELDS > 5/16".	X	-
D. SINGLE-PASS FILLET WELDS < 5/16".	-	X
6. INSPECTION OF STEEL FRAME JOINT DETAILS FOR COMPLIANCE WITH APPROVED CONSTRUCTION DOCUMENTS:		
A. DETAILS SUCH AS BRACING AND STIFFENING.	-	X
B. MEMBER LOCATIONS.	-	X
C. APPLICATION OF JOINT DETAILS AT EACH CONNECTION.	-	X

SOILS

IBC TABLE 1705.6

TYPE	CONTINUOUS SPECIAL INSPECTION	PERIODIC SPECIAL INSPECTION
1. VERIFY MATERIALS BELOW SHALLOW FOUNDATIONS ARE ADEQUATE TO ACHIEVE THE DESIGN BEARING CAPACITY.	-	X
2. VERIFY EXCAVATIONS ARE EXTENDED TO PROPER DEPTH AND HAVE REACHED PROPER MATERIAL.	-	X
3. PERFORM CLASSIFICATION AND TESTING OF COMPACTED FILL MATERIALS.	-	X
4. VERIFY USE OF PROPER MATERIALS, DENSITIES AND LIFT THICKNESS DURING PLACEMENT AND COMPACTION OF COMPACTED FILL.	X	-
5. PRIOR TO PLACEMENT OF COMPACTED FILL, INSPECT SUBGRADE AND VERIFY THAT SITE HAS BEEN PREPARED PROPERLY.	-	X

Hufft

PROJECT INFORMATION:

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700 NW Ward Road
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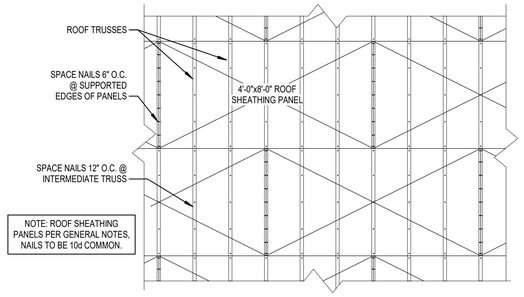
NO.	DATE	ISSUE

STATE OF MISSOURI
ALAN R. METTEMEYER
NUMBER E-2000162147
REGISTERED PROFESSIONAL ENGINEER
05/01/24

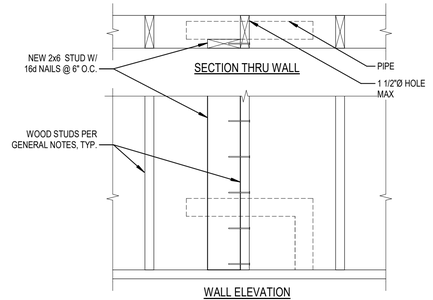
Engineer: Alan R. Mettemeyer
License Number: MO# E-2000162147
Drawn By: JCF
Project Number: 24-0121

SPECIAL INSPECTIONS / BASIS FOR DESIGN

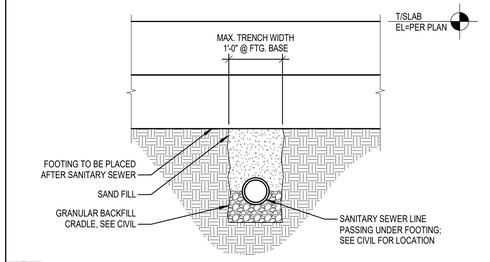
S002



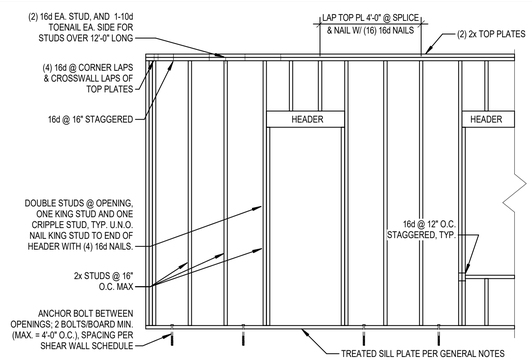
N S003 TYPICAL ROOF SHEATHING DIAPHRAGM
Scale: 3/8" = 1'-0"



J S003 STUD REINFORCING AS REQ'D @ PLUMBING
Scale: 1" = 1'-0"



E S003 TYPICAL PIPE BELOW FOUNDATION
Scale: 3/4" = 1'-0"



M S003 TYPICAL FRAME DETAIL @ OPENINGS
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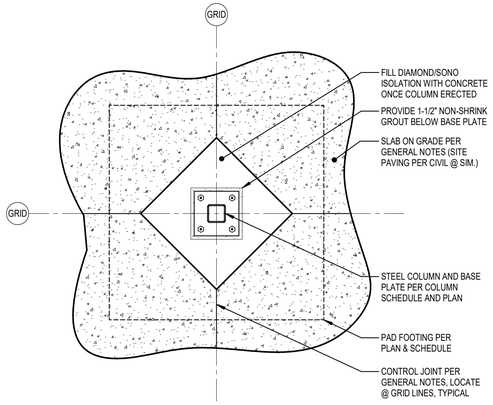
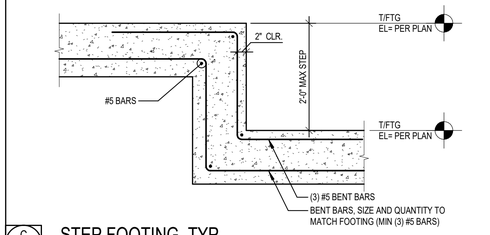
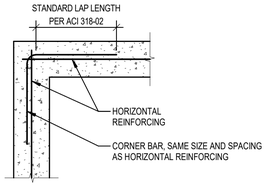


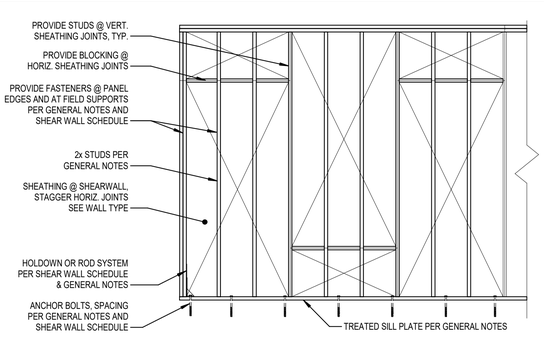
H S003 STEEL COLUMN PLAN VIEW DETAIL, TYPICAL
Scale: 3/4" = 1'-0"



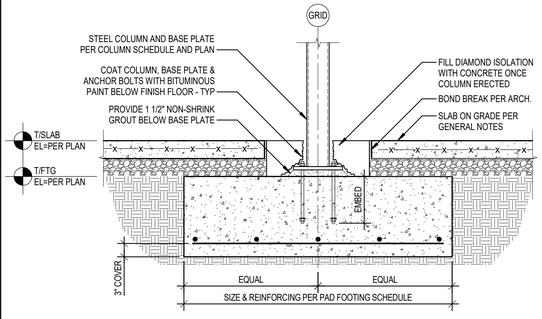
C S003 STEP FOOTING, TYP.
Scale: 3/4" = 1'-0"



D S003 CORNER BARS, TYP.
Scale: 3/4" = 1'-0"



L S003 TYPICAL INTERIOR SHEAR WALL ELEVATION
Scale: 3/8" = 1'-0"



G S003 INTERIOR STEEL COLUMN FOUNDATION, TYP.
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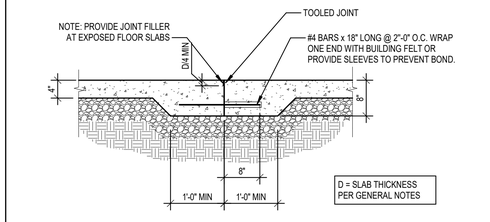
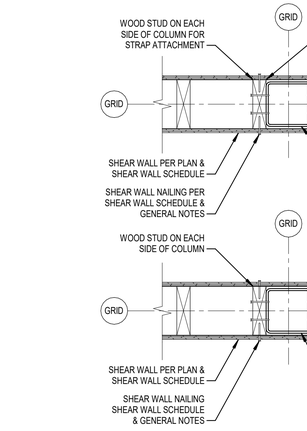
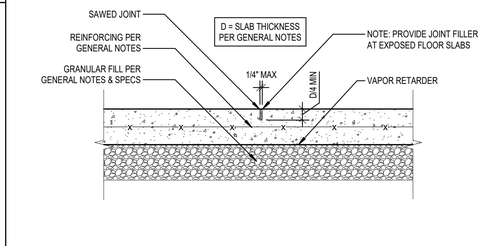


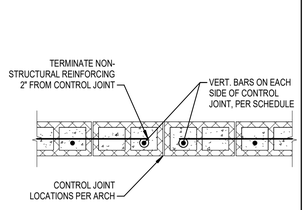
B S003 CONSTRUCTION JOINT, TYP.
Scale: 3/4" = 1'-0"



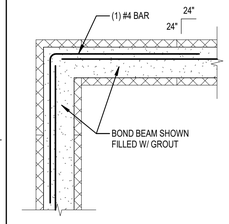
R S003 STEEL COLUMN @ SHEAR WALL, TYP.
Scale: 1 1/2" = 1'-0"



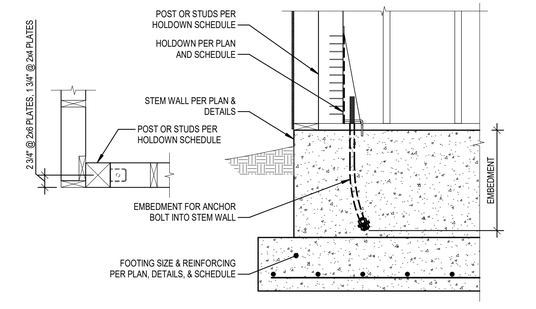
A S003 CONTROL JOINT, TYP.
Scale: 1 1/2" = 1'-0"



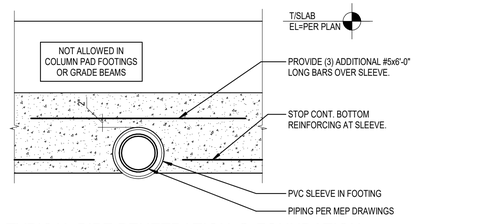
Q S003 CMU CONTROL JOINT, TYP.
Scale: 3/4" = 1'-0"



P S003 CMU B.B. CORNERS, TYP.
Scale: 1" = 1'-0"



K S003 HOLDOWN @ STEM WALL, TYP.
Scale: 3/4" = 1'-0"



F S003 TYPICAL PIPE PENETRATION @ FOUNDATION
Scale: 3/4" = 1'-0"

Hufft

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STATE OF MISSOURI
ALAN R. METTEMEYER
NUMBER E-2000162147
REGISTERED PROFESSIONAL ENGINEER
05/01/24

Engineer: Alan R. Mettemeyer
License Number: MO# E-200016247
Drawn By: JCF
Project Number: 24-0121

TYPICAL DETAILS

S003

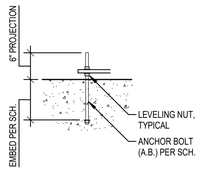
GENERAL PLAN NOTES

1. TYPICAL CONCRETE SLAB ON GRADE SHALL BE 4" THICK WITH 6x6 W1.4xW1.4 WWR ON CHAIRS OVER 10-MIL VAPOR BARRIER.
2. CJ - CONTROL OR CONSTRUCTION JOINT IN FLOOR SLAB, SEE A/S002 & B/S002 RESPECTIVELY. REFER TO GENERAL NOTES AND TYPICAL DETAILS FOR SPACING AND ISOLATION REQUIREMENTS.
3. SEE ARCHITECTURAL AND PLUMBING SHEETS FOR WATER-PROOFING AND STORM WATER DRAINAGE REQUIREMENTS.
4. SEE SHEET S000 FOR GENERAL STRUCTURAL NOTES.
5. SLOPE SLABS TO FLOOR DRAINS.
6. CENTER ALL SPREAD FOOTINGS ON CENTERLINE OF STEEL COLUMNS. PROVIDE CONCRETE DIAMOND ISOLATION CHAMBER AT ALL STEEL COLUMN LOCATIONS.
7. PRIOR TO CASTING INTERIOR THICKENED SLAB SOIL COMPACTION REPORT MUST BE APPROVED BY THE ENGINEER OF RECORD.
8. NOT ALL MECHANICAL OPENINGS AND/OR PENETRATIONS MAY BE INDICATED. REFER TO MECHANICAL DRAWINGS FOR ADDITIONAL INFORMATION.
9. THE BUILDING SHALL NOT BE LOCATED ON SITE OFF OF THE STRUCTURAL DOCUMENTS. REFER TO THE CIVIL SITE PLAN AND ARCHITECTURAL PLANS FOR BUILDING LOCATION & ORIENTATION INFORMATION.
10. PROVIDE (2) #4x4'-0" RE-ENTRANT CORNER BARS @ 4" THICK SLABS AND (2) #5x4'-0" RE-ENTRANT CORNER BARS @ 5" THICK OR THICKER SLABS, TYPICAL.
11. SEE SHEET S300 FOR SHEAR WALL SCHEDULE

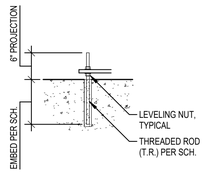
STEEL COLUMN SCHEDULE

COLUMN LOCATION	COLUMN SHAPE	BASE PLATE TYPE	PLATE THICKNESS	PLATE LENGTH	PLATE WIDTH	BOLT DIAM.	ANCHOR BOLT EMBED.	ANCHOR BOLT TYPE
B-1	HSS5-1/2X5-1/2X3/8	B	3/4"	12"	12"	3/4"	9"	F1554-GR36
B-2	HSS5-1/2X5-1/2X3/8	B	3/4"	12"	12"	3/4"	9"	F1554-GR36
B-3	HSS5-1/2X5-1/2X3/8	C	3/4"	12"	12"	3/4"	9"	F1554-GR36
B-4	HSS5-1/2X5-1/2X3/8	C	3/4"	12"	12"	3/4"	9"	F1554-GR36
B-5	HSS5-1/2X5-1/2X3/8	B	3/4"	12"	12"	3/4"	9"	F1554-GR36
C-8	HSS5X5X3/8	A	1"	12"	12"	1"	12"	F1554-GR36
D-8	HSS5X5X3/8	A	1"	12"	12"	1"	12"	F1554-GR36
E-6	HSS10X10X1/2	A	1 1/4"	16"	16"	1 1/4"	12"	F1554-GR36
E-9	HSS10X10X1/2	A	1 1/4"	16"	16"	1 1/4"	12"	F1554-GR36
F-5	HSS5-1/2X5-1/2X3/8	A	3/4"	12"	12"	3/4"	9"	F1554-GR36
G-6	HSS10X10X1/2	A	1 1/4"	16"	16"	1 1/4"	12"	F1554-GR36
G-9	HSS10X10X1/2	A	1 1/4"	16"	15"	1 1/4"	12"	F1554-GR36

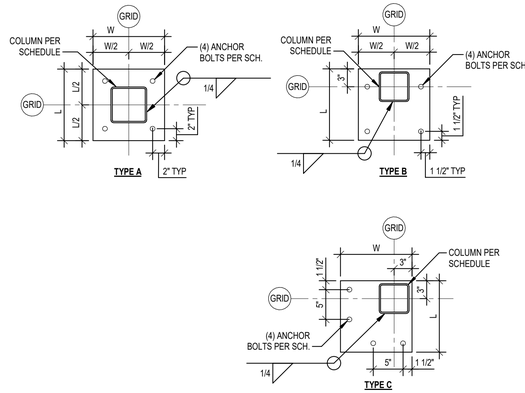
NOTES:
1. ANCHOR BOLT TYPE - A.B. = CAST-IN-PLACE ANCHOR BOLT AND T.R. = EPOXY SET THREADED ROD.
2. EPOXY SET THREADED RODS SHALL BE SET IN HILTI HIT-HY 200 EPOXY, TYP. U.N.O.



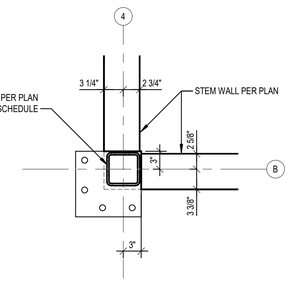
CAST-IN-PLACE ANCHOR BOLTS



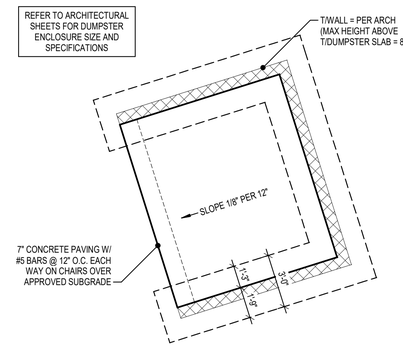
EPOXY SET ANCHOR BOLTS



D S100 BASE PLATE TYPES
Scale: 1" = 1'-0"



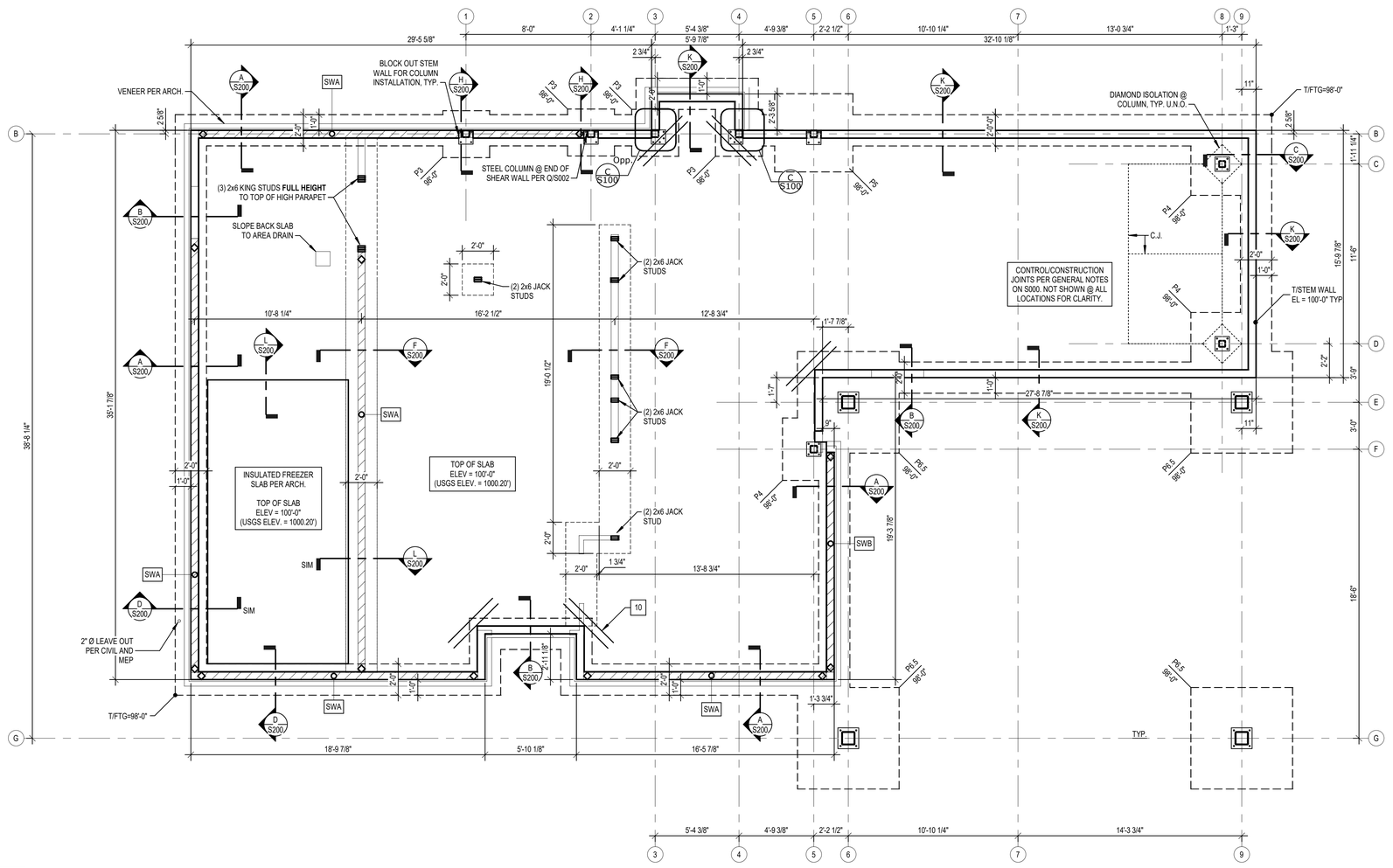
C S100 FOUNDATION PLAN - COLUMN B-4 BLOWUP
Scale: 1" = 1'-0"



B S100 DUMPSTER FOUNDATION PLAN
Scale: 1/4" = 1'-0"

PAD FOOTING SCHEDULE

PAD MARK	LENGTH	WIDTH	THICKNESS	REINFORCEMENT
P3	3'-0"	3'-0"	1'-10"	(5) #5 BARS EA WAY, TOP & BOTTOM
P4	4'-0"	4'-0"	1'-10"	(7) #5 BARS EA WAY, TOP & BOTTOM
P5	5'-0"	5'-0"	1'-10"	(6) #6 BARS EA WAY, TOP & BOTTOM
P6.5	6'-6"	6'-6"	1'-10"	(8) #6 BARS EA WAY, TOP & BOTTOM



A S100 FOUNDATION PLAN
Scale: 1/4" = 1'-0"

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05.01.24

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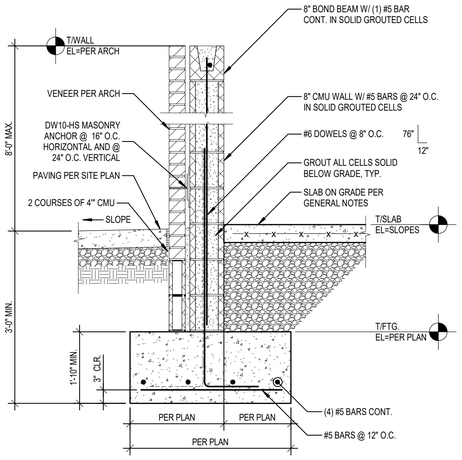
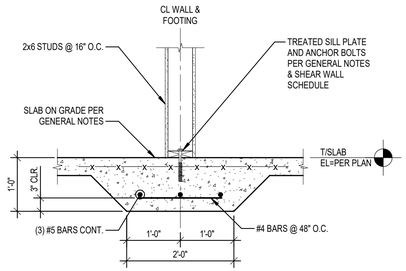
License Number: IL # 081-006428
Drawn By: JCF
Project Number: 24-0121

FOUNDATION PLAN

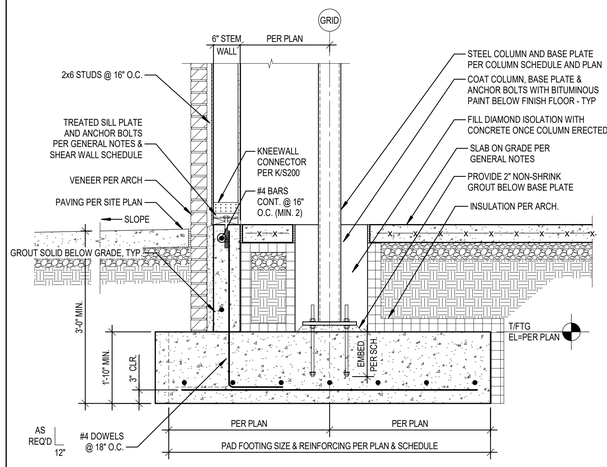
S100



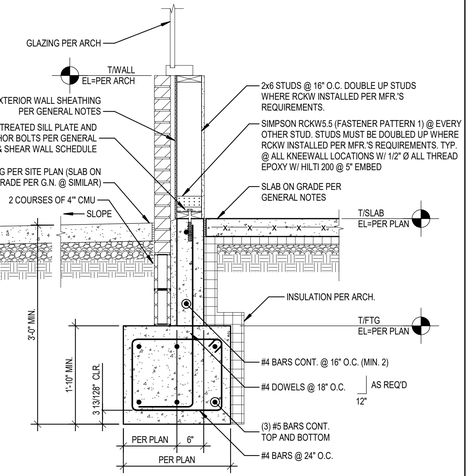
J S200 DUMPSTER CMU WALL FNDN. DETAIL
Scale: 3/4" = 1'-0"



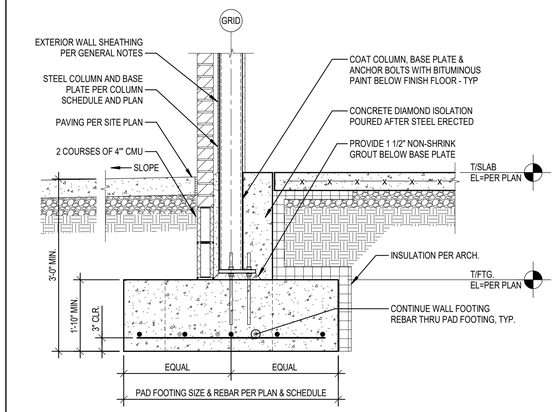
F S200 THICKENED SLAB @ INTERIOR WALLS, TYP.
Scale: 3/4" = 1'-0"



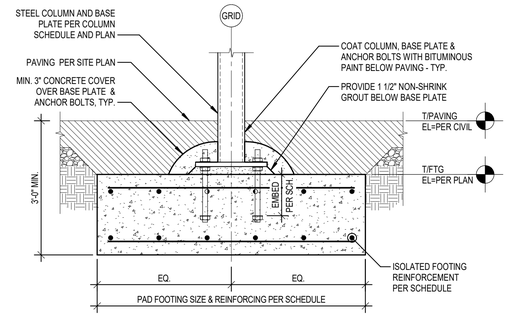
C S200 EXTERIOR STEEL COLUMN FNDN. DETAIL
Scale: 3/4" = 1'-0"



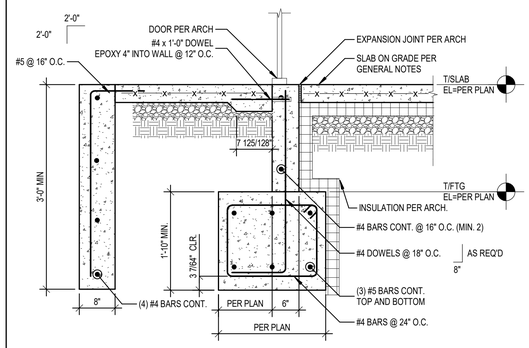
L S200 FREEZER INSULATED SLAB
Scale: 3/4" = 1'-0"



H S200 EXTERIOR STEEL COLUMN FNDN. DETAIL
Scale: 3/4" = 1'-0"

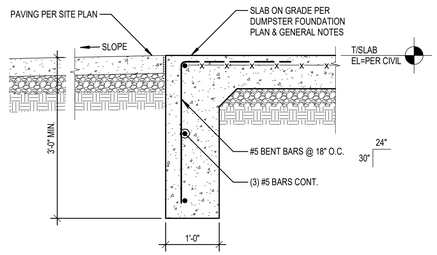


E S200 EXTERIOR STEEL COLUMN FNDN, TYP.
Scale: 3/4" = 1'-0"

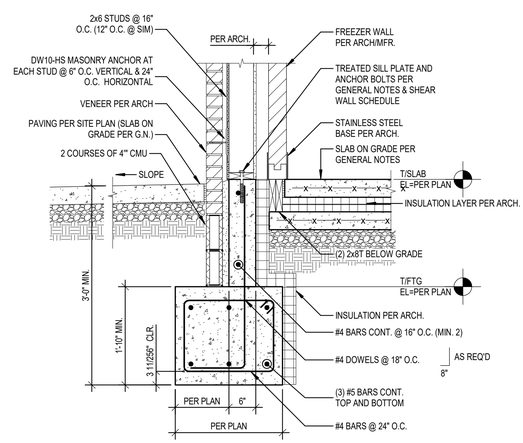


B S200 EXTERIOR WALL FNDN. @ DOOR
Scale: 3/4" = 1'-0"

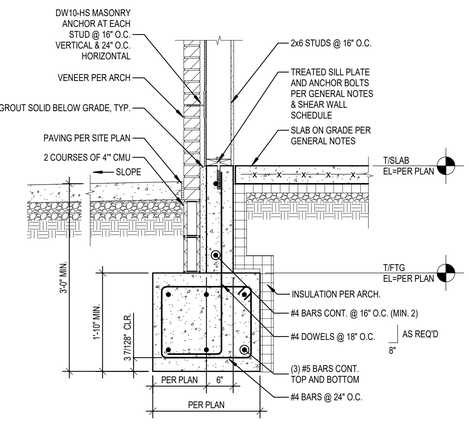
K S200 EXTERIOR WALL FNDN. @ STOREFRONT
Scale: 3/4" = 1'-0"



G S200 DUMPSTER SLAB TURNDOWN FNDN. DETAIL
Scale: 3/4" = 1'-0"



D S200 EXTERIOR WALL FNDN. DETAIL
Scale: 3/4" = 1'-0"



A S200 EXTERIOR WALL FNDN. DETAIL
Scale: 3/4" = 1'-0"

Hufft

PROJECT INFORMATION:

Andy's Frozen Custard #204

700 NW Ward Road
Lee's Summit, Missouri

OWNER:
ANDY'S FROZEN CUSTARD
211 E. Water Street
Springfield, MO 65806
www.eatandys.com

ARCHITECT:
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REVISION SCHEDULE:

NO.	DATE	ISSUE

STATE OF MISSOURI
ALAN R. METTEMEYER
NUMBER E-2000162147
REGISTERED PROFESSIONAL ENGINEER
05/01/24

Engineer: Alan R. Mettemeyer
License Number: MO# E-2000162147
Drawn By: JCF
Project Number: 24-0121

FOUNDATION DETAILS

S200

GENERAL PLAN NOTES

1. SEE SHEET S000 FOR GENERAL NOTES.
2. PROVIDE SIMPSON SJC8.25 AT EACH ROOF JOIST LOCATION.
3. FOR SHEAR WALL FRAMING, FRAME DETAIL AT OPENINGS, AND ROOF DIAPHRAGM SEE DETAILS L, M, AND N/S002.
4. REFER TO R/S002 FOR BOND BEAM DETAIL.
5. SHEAR WALLS DENOTED W/ HATCH AND DIAMONDS ON PLANS. DIAMONDS INDICATE HOLDOWNS AT THE END OF THE SHEAR WALL. REFER TO THE PLANS FOR SHEAR WALL TYPE, SHEET S200 FOR SHEAR WALL SCHEDULE AND HOLD DOWN SCHEDULE, AND TYPICAL DETAILS SHEET S002 FOR ADDITIONAL INFORMATION.

   SHEAR WALLS =
6. SEE GENERAL NOTES FOR STEEL LINTEL REQUIREMENTS.
7. ▶ = MOMENT CONNECTION PER G/S400 TYPICAL.
8. T/PARAPET WALLS = 116'-0".

WOOD BEAM/HEADER SCHEDULE

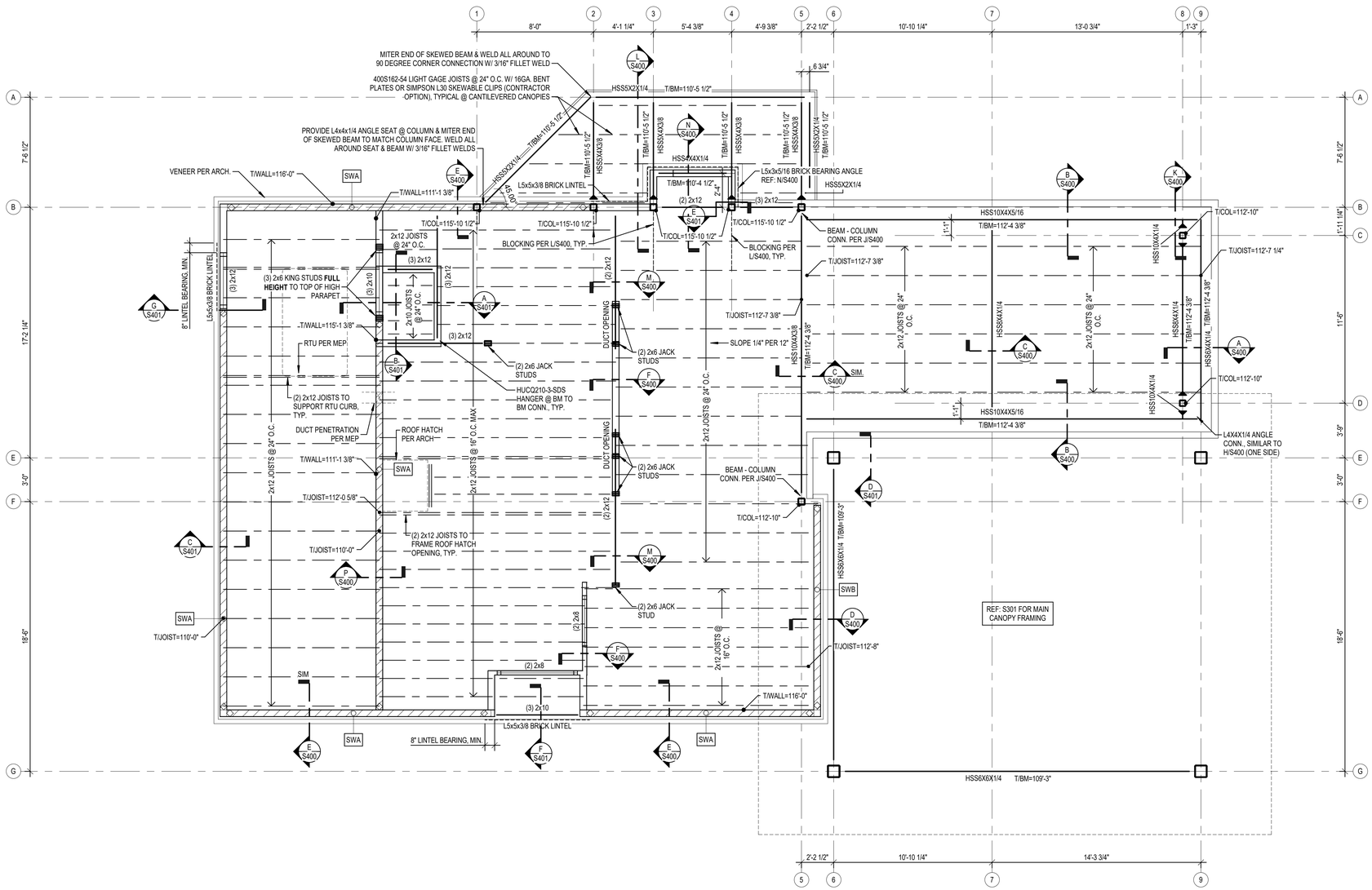
BEAM TYPE	JACK STUDS	KING STUDS
(2) 2x8	(1) 2x4	(2) 2x4
(3) 2x10	(2) 2x6	(2) 2x6
(3) 2x12	(2) 2x6	(2) 2x6

NOTES:
1. BUILT UP DOUBLE STUDS MUST BE NAILED TOGETHER WITH 16d NAILS @ 24" O.C. FACE NAILED.
2. BUILT UP TRIPLE STUDS MUST BE NAILED TOGETHER WITH 16d NAILS @ 24" O.C. FACE NAILED FROM EACH FACE, STAGGER NAILING PATTERN.
3. BUILT UP POSTS W/ MORE THAN (3) STUDS MUST BE NAILED TOGETHER WITH 16d NAILS @ 24" O.C. FACE NAILED EACH PLY, STAGGER NAILING PATTERNS.
4. WOOD BEAMS UPSET INTO TRUSS CAVITY SHALL HAVE ENOUGH BEARING STUDS BELOW BEAM TO EQUAL FULL WIDTH OF BEAM.

SHEAR WALL SCHEDULE

MARK	END POST (MIN. REQ'D)	END POST ANCHORS: HOLDOWN @ FOUNDATION	END POST ANCHORS: STRAP/HOL-DOWN @ FLOOR FRAMING	BLOCK ALL EDGES	FACES OF WALL	WHICH FACE	SHEATHING MATERIAL & NOMINAL THICKNESS	SHEATHING ATTACHMENT: SIZE/TYPE	SHEATHING ATTACHMENT: EDGES O.C. SPACING	SHEATHING ATTACHMENT: FIELD O.C. SPACING	SILL BOLTS: 5/8"Øx5" TITEN HD O.C. SPACING	SILL SCREWS: SDWS22500DB O.C. SPACING	REMARKS
LEVEL 1 WALLS													
SWA	(2) 2x6	HDU2-SDS2.5		YES	ONE	EXTERIOR	7/16" OSB	0.131"x3"	6"	12"	32"		5/8"Ø A.T. 8" INTO STEM WALL
SWB	(2) 2x6	HDU8-SDS2.5		YES	ONE	EXTERIOR	7/16" OSB	0.131"x3"	3"	12"	26"		5/8"Ø A.T. 8" INTO STEM WALL

NOTES:
1. BUILT UP DOUBLE STUD END POST MUST BE NAILED TOGETHER WITH 16d NAILS @ 24" O.C. FACE NAILED.
2. BUILT UP TRIPLE STUD END POST MUST BE NAILED TOGETHER WITH 16d NAILS @ 24" O.C. FACE NAILED FROM EACH FACE, STAGGER NAILING PATTERN.
3. BUILT UP END POSTS W/ MORE THAN (3) STUDS MUST BE NAILED TOGETHER WITH 16d NAILS @ 24" O.C. FACE NAILED EACH PLY, STAGGER NAILING PATTERNS.
4. OSB SHEATHING SHALL BE 32/16 EXPOSURE ONE SHEATHING, UNLESS NOTED OTHERWISE.
5. CONNECTORS ARE SIMPSON STRONG-TIE, UNLESS NOTED OTHERWISE.
6. REFER TO TYPICAL WOOD CONSTRUCTION DETAILS FOR ADDITIONAL REQUIREMENTS ON THE INSTALLATION OF HOLDOWNS AND STRAPS.
7. "STRAP/HOLDOWN @ END POST" REFERS TO THE CONNECTOR AT THE BOTTOM OF THE WALL FOR THE REFERENCED LEVEL.
8. PROVIDE COMMON NAILS FOR ATTACHMENT OF WOOD SHEATHING AND COOLER NAILS FOR ATTACHMENT OF GYPSUM BOARD SHEATHING.
9. HOLDOWN SHALL USE ALL THREAD (A.T.) EPOXY SET W/ SIMPSON SET-3G.



A S300 ROOF FRAMING PLAN
Scale: 1/4" = 1'-0"

Hufft

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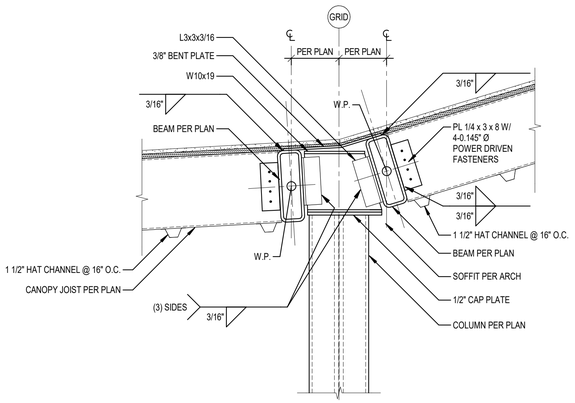
05/01/24

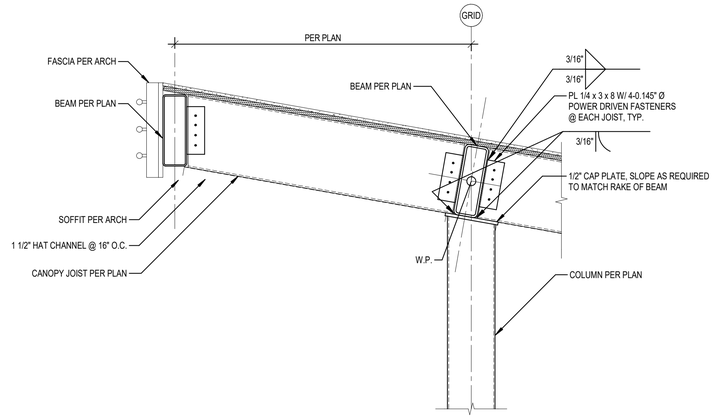
Engineer: Alan R. Mettemeyer
License Number: IL# 081-005428
Drawn By: JCF
Project Number: 24-0121

ROOF FRAMING PLAN

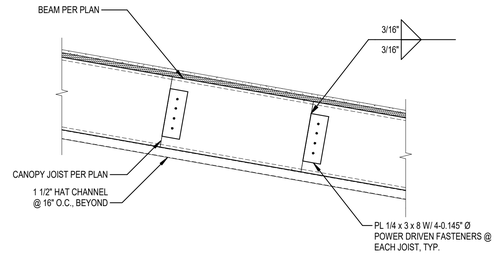
S300



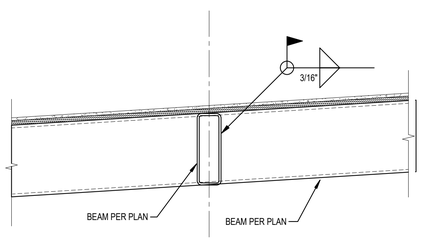
E S301 STEEL BEAM @ CANOPY VALLEY
Scale: 1" = 1'-0"



B S301 STEEL BEAM @ CANOPY OVERHANG
Scale: 1" = 1'-0"



D S301 SKEWED JOIST CONNECTION @ CANOPY
Scale: 1" = 1'-0"



F S301 CANOPY RING BEAM ATTACHMENT
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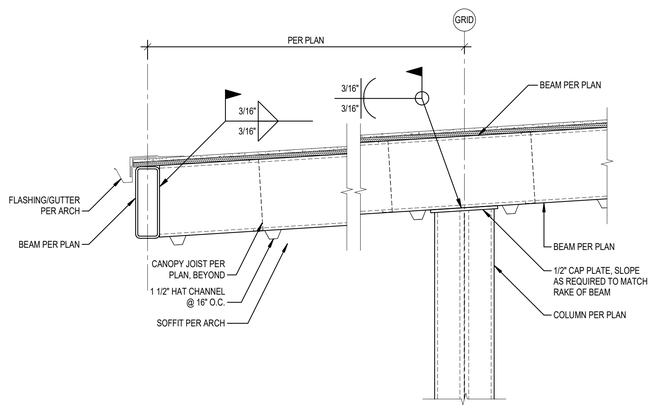
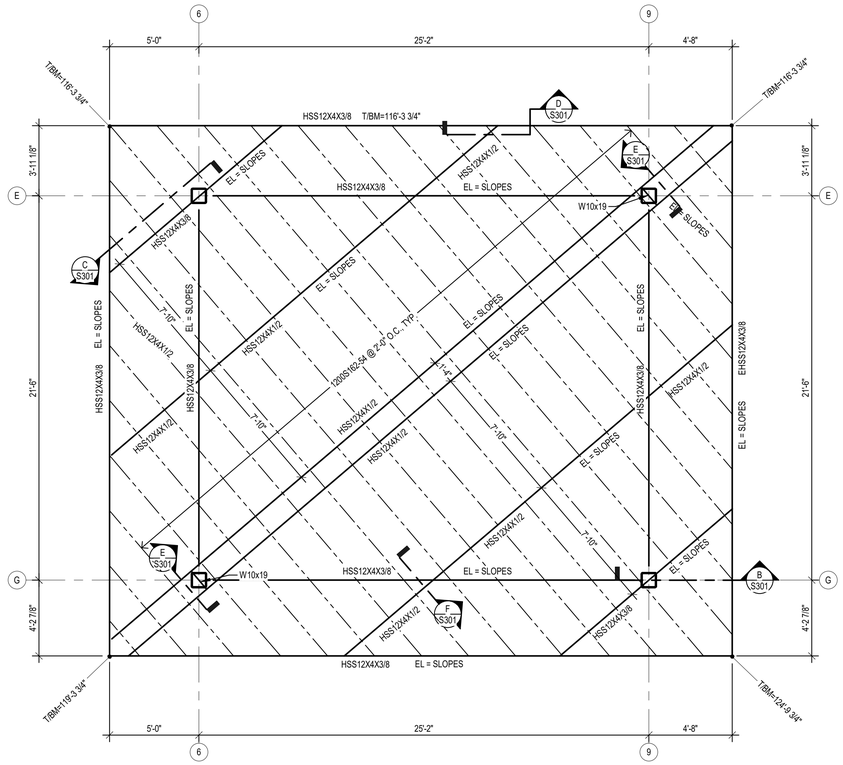


C S301 CANOPY FRAMING CORNER DETAIL
Scale: 1" = 1'-0"



A S301 CANOPY ROOF FRAMING PLAN
Scale: 1/4" = 1'-0"

Hufft

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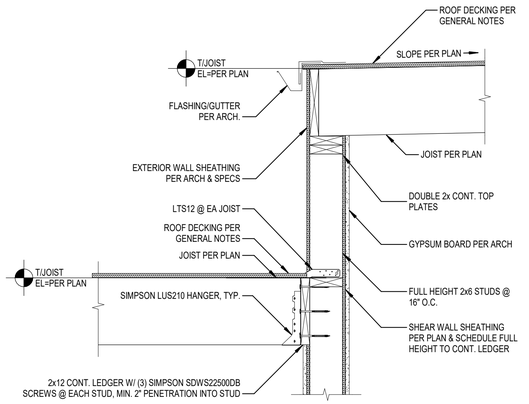
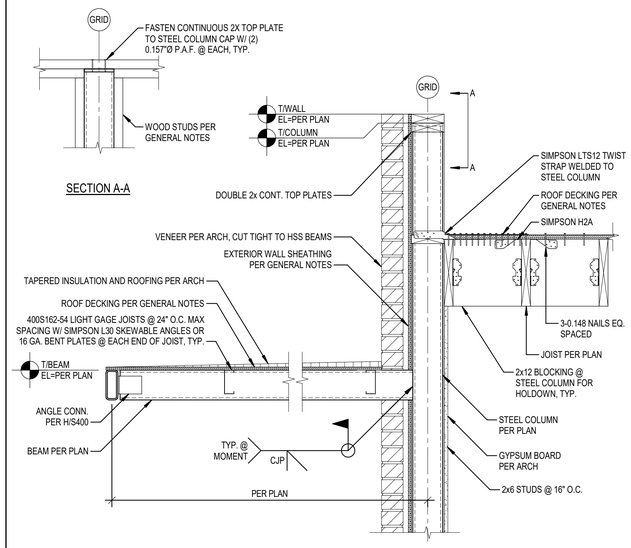
License Number: IL # 081-006428
Drawn By: JCF
Project Number: 24-0121

CANOPY FRAMING PLAN

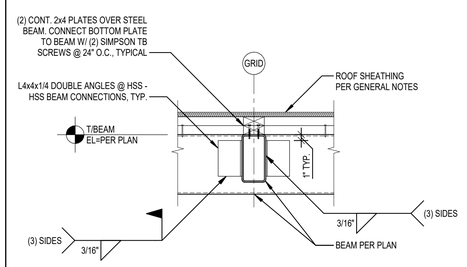
S301



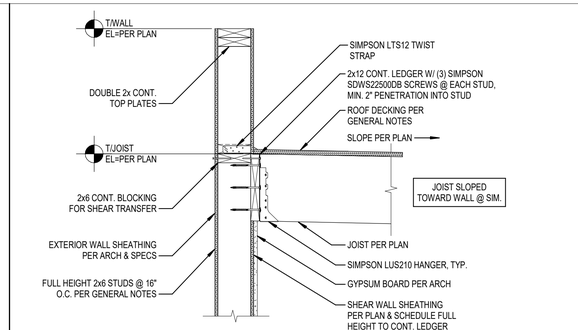
P S400 ROOF JOISTS BRG. @ WALL
Scale: 1" = 1'-0"



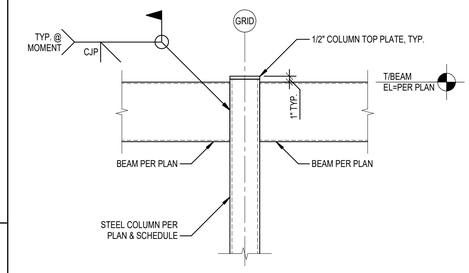
L S400 CANOPY STL. BEAM TO STL. COLUMN CONNECTION, TYP.
Scale: 1" = 1'-0"



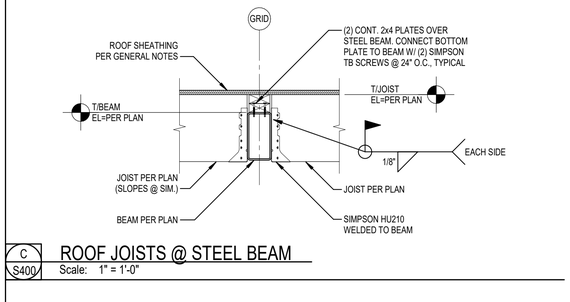
H S400 STEEL BEAM TO STEEL BEAM CONN.
Scale: 1" = 1'-0"



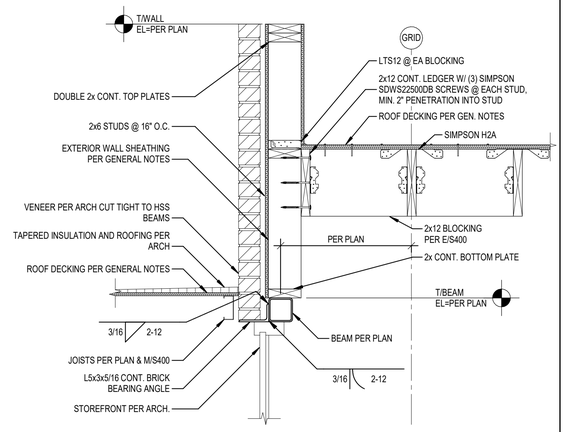
D S400 ROOF JOISTS BRG. @ PARAPET WALL
Scale: 1" = 1'-0"



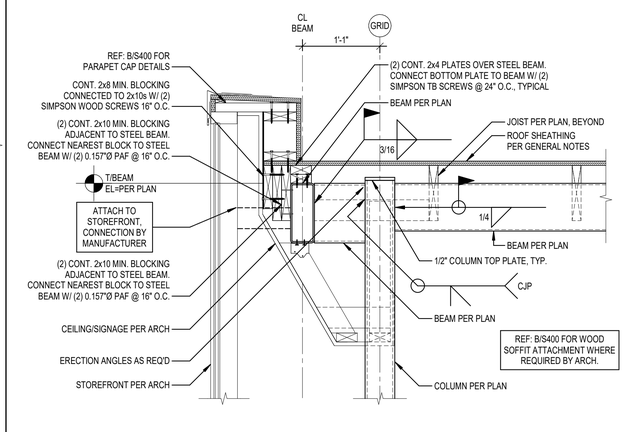
G S400 STEEL BEAM TO COL. MOMENT CONN., TYP.
Scale: 1" = 1'-0"



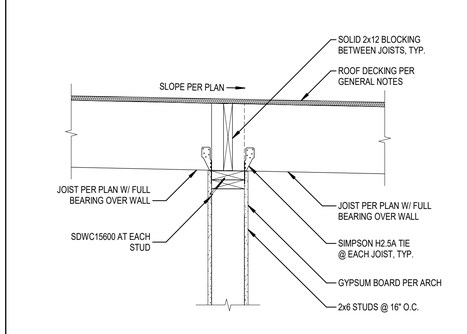
C S400 ROOF JOISTS @ STEEL BEAM
Scale: 1" = 1'-0"



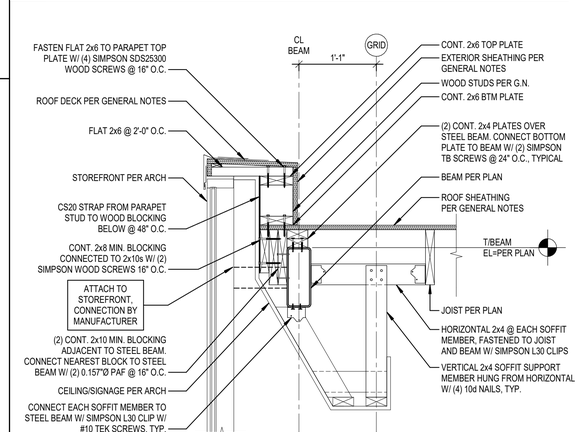
N S400 BRICK BRG @ DRIVE-THROUGH CANOPY
Scale: 1" = 1'-0"



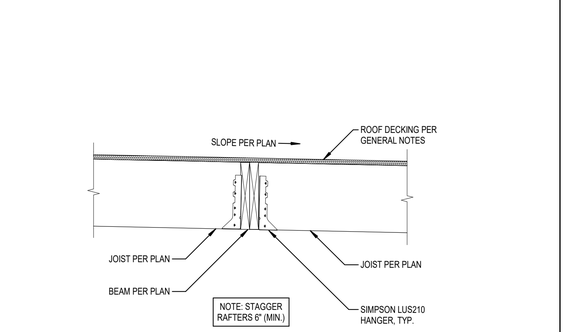
K S400 DOUBLE MOMENT CONN. @ CURTAIN WALL PARAPET
Scale: 1" = 1'-0"



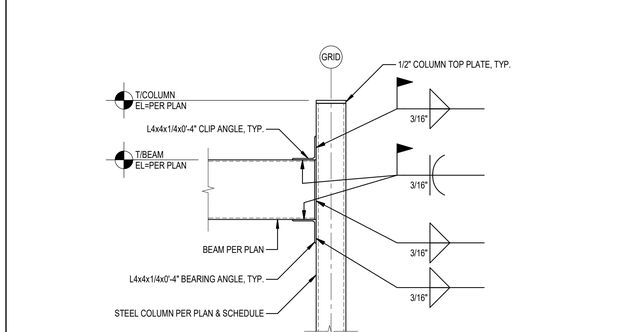
F S400 ROOF JOISTS BRG. @ INTERIOR WALL
Scale: 1" = 1'-0"



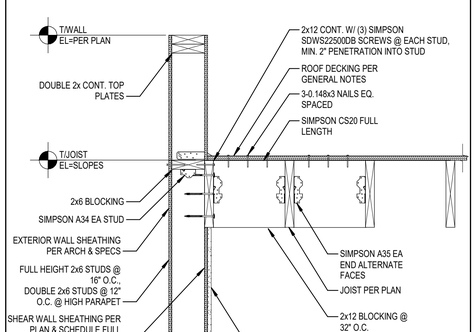
B S400 STEEL BEAM @ CURTAIN WALL PARAPET
Scale: 1" = 1'-0"



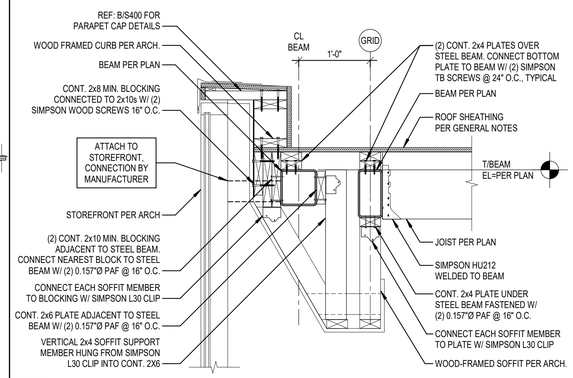
M S400 ROOF JOISTS BRG. @ WOOD BEAM
Scale: 1" = 1'-0"



J S400 STEEL BEAM TO STEEL COLUMN CONN., TYP.
Scale: 1" = 1'-0"



E S400 ROOF JOISTS PARALLEL TO PARAPET WALL
Scale: 1" = 1'-0"



A S400 STEEL BEAM @ CURTAIN WALL PARAPET
Scale: 1" = 1'-0"

Hufft

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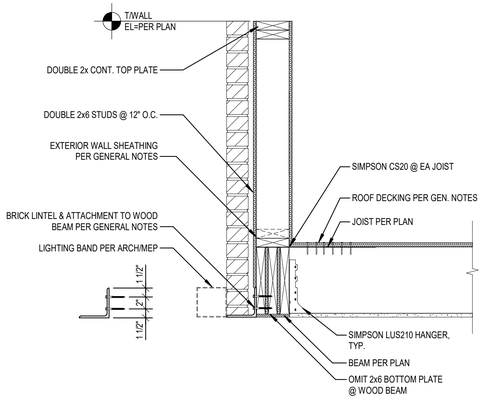
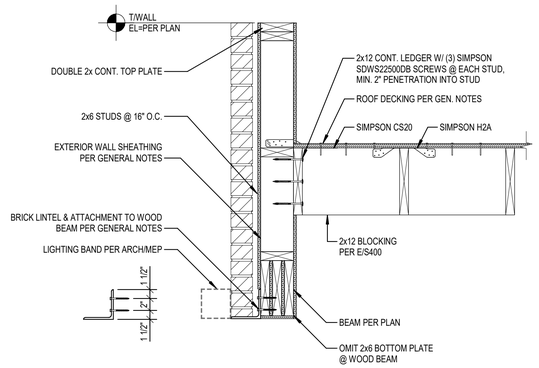
Drawn By: JCF
Project Number: 24-0121

FRAMING DETAILS

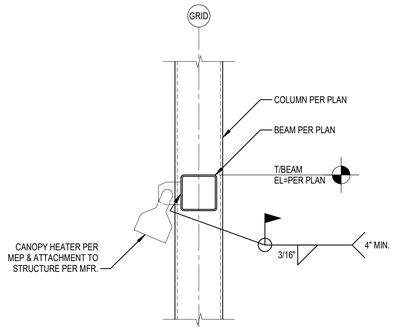
S400



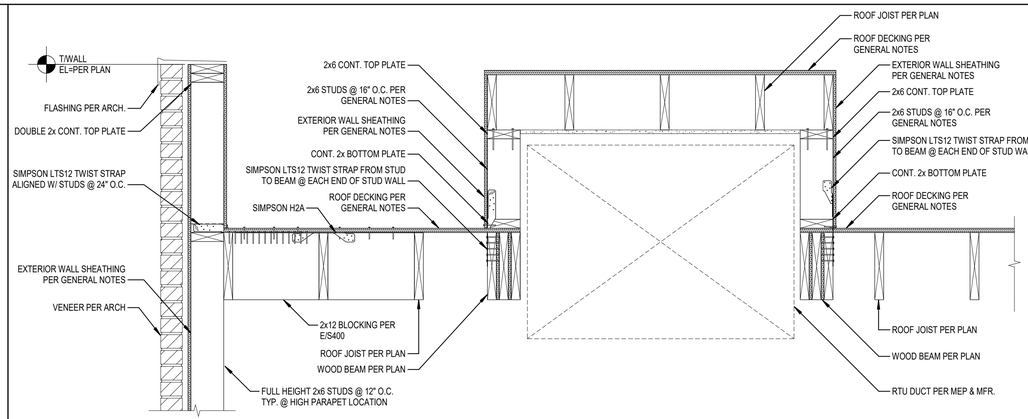
G S401 **BRICK BRG @ MASONRY WALL**
Scale: 1" = 1'-0"



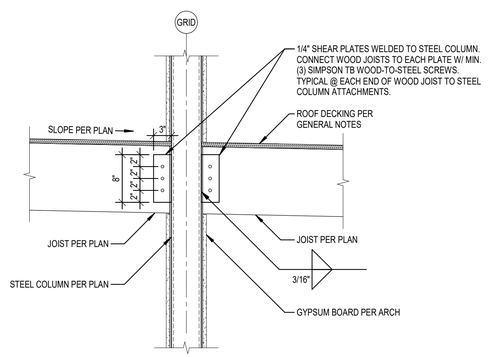
F S401 **BRICK BRG @ EXT. DOOR OPENING**
Scale: 1" = 1'-0"



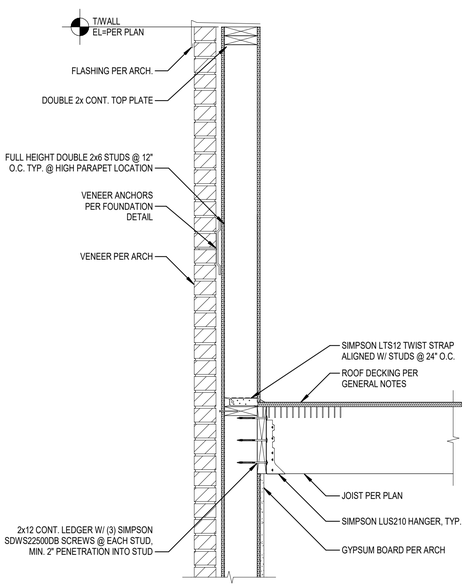
D S401 **CANOPY HEATER SUPPORT BEAM**
Scale: 1" = 1'-0"



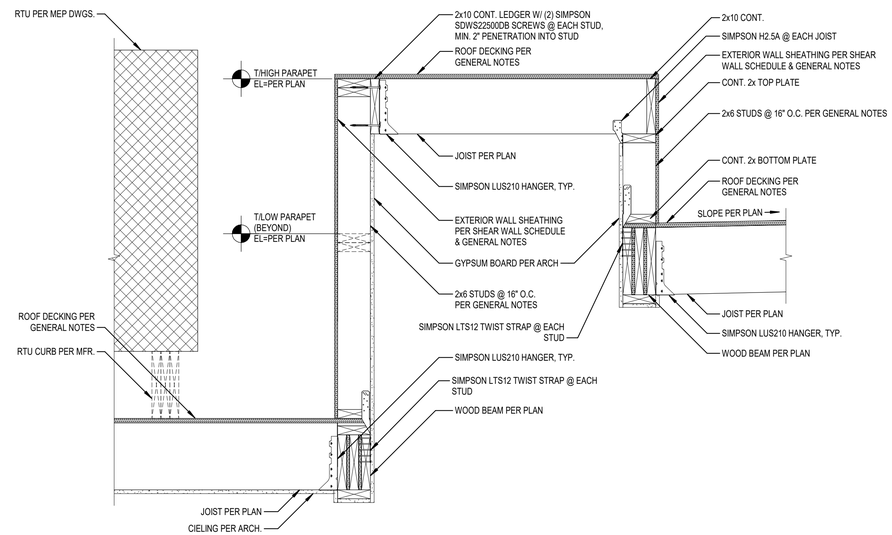
B S401 **ROOF FRAMING DETAIL @ RTU BUMP OUT**
Scale: 1" = 1'-0"



E S401 **ROOF JOISTS CONN. @ STEEL COLUMN**
Scale: 1" = 1'-0"



C S401 **ROOF JOISTS BRG. @ PARAPET**
Scale: 1" = 1'-0"



A S401 **ROOF FRAMING DETAIL @ RTU BUMP OUT**
Scale: 1" = 1'-0"

Hufft

PROJECT INFORMATION:

Andy's Frozen Custard #204

700 NW Ward Road
Lee's Summit, Missouri

OWNER:

ANDY'S FROZEN CUSTARD

211 E. Water Street
Springfield, MO 65806

www.eatandys.com

ARCHITECT:

HUFFT

3612 Kanres Boulevard
Kansas City, MO 64111
P: 816-531-0200

www.hufft.com

STRUCTURAL:

METTEMEYER ENGINEERING, LLC

1500 NW Vivion Rd, Suite D
Kansas City, MO 64118
P: 816-587-0101

www.mett-engr.com

CIVIL:

PHELPS ENGINEERING, INC.

1270 N Winchester
Olathe, KS 66061
P: 913-393-1115

MEP:

RTM ENGINEERING CONSULTANTS

3333 E. Battlefield Road, Suite 1000
Springfield, MO 65804
P: 417-881-0020

LANDSCAPE ARCHITECT:

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METTEMEYER ENGINEERING LLC
1500 NW VIVION ROAD, STE D, KANSAS CITY MO
816-587-0101 • www.mett-engr.com • MO C of A: 2002022445

PRIMARY CONTACT:
SECONDARY CONTACT:

ISSUE:

CONSTRUCTION DOCUMENTS
05/01/2024

REVISION SCHEDULE:

NO.	DATE	ISSUE

STATE OF MISSOURI
ALAN R. METTEMEYER
NUMBER E-2000162147
REGISTERED PROFESSIONAL ENGINEER
05/01/24

Engineer: Alan R. Mettemeyer
License Number: MO# E-2000162147
Drawn By: JCF
Project Number: 24-0121

FRAMING DETAILS

S401

FIXTURE "RH10"

page 2 SLD6128xxWH SLD6129xxWH

LED DRIVER
- Driver is a 120V input, high efficiency, dimmable electronic power supply providing DC power to the LED arrays
- Driver features high power factor, low THD, and has integral thermal protection in the event of over temperature or internal failure
- Driver is replaceable if it should be required

DIMMING
- Designed for continuous dimming capability to nominally 5% with many 120V Leading Edge (LE) and Trailing Edge (TE) phase control dimmers. Dimming to 5% is best assured using dimmers with low end trim adjustment. Consult dimmer manufacturer for compatibility and conditions of use. (Note some dimmers require a neutral in the wallbox.)

COMPLIANCE
- cULus Listed ceiling and wall
- cULus Damp Location listed ceiling and wall
- cULus Wet Location Listed, ceiling only (shower rated)
- Suitable for use in closets, compliant with NFPA® 70, NEC® Section 410.16 (A)(3) and 410.16 (C)(5)
- SLD may be used in compatible electrical junction boxes in direct contact with insulation including spray foam insulation
- May be installed in IC recessed housings in direct contact with insulation (Not for use in recessed housings in direct contact with spray foam insulation. Refer to NEMA LSD 57-2013)
- UL Classified when used in retrofit with listed housings (See Housing Compatibility)
- EMI/RFI: meets FCC 47CFR Part 15 Class B limits, and is suitable for use in residential and commercial installations
- Airtight certified per ASTM E283 (not exceeding 2.0 CFM under 57 Pascals pressure difference)
- 90 CRI: Can be used to comply with California Title 24 High Efficacy requirements.
- Can be used for International Energy Conservation Code (IECC) and Washington State Energy Code high efficiency luminaire compliance
- ENERGY STAR® certified luminaire - consult ENERGY STAR® Certified Product List
- Contains no mercury or lead and RoHS compliant.
- Photometric testing in accordance with IES LM-79
- Lumen maintenance projections in accordance with IES LM-80 and TM-21

SLD 1200 Series
SLD6128xxWH 80CRI 2700K, 3000K, 3500K, and 4000K
SLD6129xxWH 90CRI 2700K, 3000K, 3500K, and 4000K
6" Surface LED Downlight
High Lumen 1200 Series
Suitable for ceiling or wall electrical junction boxes
Suitable for 5" & 6" recessed housing retrofit (IC, Non-IC & AIR-TITE™)

DIMENSIONS
7.79" [197.87mm]; .8" [21.46mm]; 7.79" [197.87mm]; .7" [17.28mm]

ORDERING INFORMATION
SAMPLE NUMBER: SLD612927WH SLD6TRMSN
Junction Box Installation: Order junction box separately, as supplied by others, to complete installation.
Recessed Installation: Order Halo recessed housing separately to complete installation.

Models	Color Rendering Index	Color Temperature (CCT)	Finish	Accessories
SLD612= 6" Surface LED Downlight, 120V 1200 Series California non-E26 Models **SLD612927WH**-CA **SLD612930WH**-CA **SLD612935WH**-CA **SLD612940WH**-CA	8=80 CRI 9=90 CRI	27=2700K 30=3000K 35=3500K 40=4000K	WH=White	Designer Trims Fit over the SLD for a designer finish SLD6TRMSN=6" SLD Satin Nickel SLD6TRMTBZ=6" SLD Tuscan Bronze SLD6TRMWH=6" SLD White (paintable) *SLD accessory trims attach with permanent adhesion and are not interchangable after installation J-Box Spacer Extension Ring Add 15/16" depth when SLD driver cannot fit into installed junction box SLD6EXT=6" Surface LED J-Box Extender, 9.5" O.D. RAD Adapters When junction box is mounted flat on a ceiling or beam surface (not recessed in ceiling) SLD6RAD=6" SLD Round Surface J-Box Adapter, 7.92" O.D. (for 4-inch round or octagon junction boxes.) SLD6SADPLT=6" SLD Square Surface J-Box Adapter Plate (For 4-inch square junction boxes, use with SLD6RAD.) Spare Parts SLD6ACCKIT=6" Accessory Parts Replacement Kit (Screwbase adapter, torsion springs, friction blades) SLD6BRKT=6" Junction Box Bracket & Screws Refer to SLD Accessories specification sheet for further information.

COOPER Lighting Solutions

FIXTURE "L1"

Product in development. Information contained herein is subject to change. Valid for 30 days from date provided. Extended lead times apply. Expect 8-10 week lead time upon receipt of order.

MX4IP LED 4" Ambient – IP Rated — Williams

4-13/16"; 4-1/8"; Surface Mounting Type Shown

CATALOG #: TYPE: PROJECT:

FEATURES
QuickLock™
- Ensure a simple and secure installation with QuickLock™ surface mount technology
- Lens spans the entire fixture for clean aesthetic
- Welded aluminum enclosure provides for watertight service
- Custom designed one-piece gasket to prevent water intrusion
- Pressure equalization vent to eliminate vacuum that can draw in moisture
- Diffuse acrylic lens provides uniform illumination for visual comfort
- Made Right Here® in the USA

SPECIFICATIONS
- HOUSING – Extruded aluminum housing and end caps comprise welded enclosure.
- SHIELDING – Extruded, flat, diffuse acrylic lens.
- GASKETING – Continuous extruded silicone with molded corners
- FINISH – Super durable polyester powder coat bonded to phosphate-free multi-stage pretreated metal; Meets and exceeds AAMA 2604 specification for outdoor durability.
- ELECTRICAL – High quality mid-power LED boards. L70 >60,000 hours per IES TM-21. Temperature rated from -20°C – 40°C.
- MOUNTING – Surface or pendant
- LISTINGS –
  - cCSAus certified as luminaire suitable for wet locations.
  - IP65 rated
- WARRANTY – 5-year limited warranty, see hew.com/warranty.

ORDERING EXAMPLE: MX4IP - 8 - L8/835 - P - F - OPTIONS - DIM - UNV

SERIES	LENGTH	LUMENS [1]	CRI	CCT	MOUNTING TYPE	SHIELDING
MX4IP	Stand-alone – 2', 4', 6' & 8' nominal lengths, fixture ships assembled. Example: 4 = 4'	L4 400lm L7 700lm L9 900lm L15 1,500lm	8 80 9 90 [2]	27 2700K 30 3000K 35 3500K 40 4000K 50 5000K	S Surface P Pendant	F Flat, diffuse acrylic

OPTIONS	CONTROL	VOLTAGE
See page 3 for FINISH OPTIONS. Custom colors available upon request.	DIM Dimming driver DRV Non-dimming driver	120 120V 277 277V UNV 120-277V

PRELIMINARY 09/16/22

NOTES
1 Lumens per foot output based on 3500K CCT and F shielding. Actual lumens may vary ± 5%.
2 Extended lead times may apply. Consult factory for availability.

H.E. Williams, Inc. ▪ Carthage, Missouri ▪ www.hew.com ▪ 417-358-4065 ▪ Designed and Manufactured in the USA
Information contained herein is subject to change without notice. REV.09/16/22. PRELIMINARY.JL
Garage Page 1 of 3

FIXTURE "RH09"

6DR LED 6" Downlight – Round — Williams

L10 - L40: 6-5/8"; L50 - L80: 7-3/8"; 1/2" min 2-1/4" max; ø6"; 16-1/2"

CATALOG #: TYPE: PROJECT:

NEW CONSTRUCTION AND REMODEL

FEATURES
TrimLock®
- Innovative TrimLock reflector retention system ensures trim remains flush with ceiling plane
- Available on QuickShip

SPECIFICATIONS
- HOUSING – Die-cast aluminum trim housing with forged aluminum heat sink. Galvanized steel splice compartment with driver mounting plate/enclosure. Swing-out mounting arms field adjust for ceiling thickness from 1/2" – 2-1/4".
- TRIMLOCK – Innovative TrimLock reflector retention system ensures the trim remains flush with the ceiling plane.
- OPEN REFLECTOR – Low-iridescent anodized aluminum. Clear semi-specular finish standard.
- LENSED TRIM – Die-cast aluminum frame with micro-prismatic, acrylic lens.
- ELECTRICAL – High-performance Class 2 C.O.B. LED array. Modular quick-connect plug for easy field-connection of LED light assembly to driver. Reported L70>55,000 hours. Reported L90>55,000 hours. Estimated L70 = 200,000 hours.
- MOUNTING – Recessed. 20 ga. galvanized steel mounting pan for new construction or IC-rated enclosure. Remodel kit option includes receiver bracket hardware. Minimum 24" O.C. marked spacing required for L60 - L80 lumen packages.
- LISTINGS –
  - cCSAus conforms to UL STD 1598; Certified to CAN/CSA STD C22.2 No. 250.0 for damp locations. LED light assembly conforms to UL 2108 for remote installation.
  - Suitable for wet location under covered ceiling when specified with WET/CC or TD options.
  - ENERGY STAR® certified in select configurations, see www.energystar.gov
  - IC-rated for direct contact with insulation when specified with I Mounting Type.
  - City of Chicago Environmental Air approved when specified with CP option.
  - Complies with ASTM-E283 when specified with ATH option.
  - RoHS compliant.
  - Title 24 (JA8) compliant in select configurations, see www.cacertappliances.energy.ca.gov.
- WARRANTY – 5-year limited warranty, see hew.com/warranty.

Available with BIOS® consult factory

ORDERING EXAMPLE: 6DR - TL - L20/835 - OPTIONS - DIM - UNV - OW - OF - CS - TRIM OPTIONS - N - F1 (HOUSING / TRIM / MOUNT.)

HOUSING

SERIES	LUMENS [1]	CRI	CCT	OPTIONS	CONTROL [2]	VOLTAGE
6DR - TL TrimLock	L10 1,000lm [3] L15 1,500lm L20 2,000lm L30 3,000lm L40 4,000lm L50 5,000lm L60 6,000lm L70 7,000lm L80 8,000lm	8 80 9 90 [4]	27 2700K 30 3000K 35 3500K 40 4000K 50 5000K	SCA__ Sloped ceiling adapter [5] ATH Airtight construction F Fuse EM/7W 7-watt emergency battery [7] EM/10W 10-watt emergency battery [8] EM/10W/RTS 10-watt emergency battery with regressed test switch [9] CP Chicago plenum (CCEA) [10] SDT Stepdown transformer [11]	DIM Dimming driver, 0-10V DIM1 1% Dimming driver, 0-10V	UNV 120-277V 347 347V [6]

TRIM [12]

TRIM TYPE	DISTRIBUTION [13]	FLANGE TYPE	REFLECTOR FINISH	TRIM OPTIONS
O Open reflector L Flush lens R Regressed lens A Angled lens [14] S Non-conductive flush lens for shower applications [15]	W Wide: 65° Open, 55° Flush, 55° Regressed M Medium [16]: 35° Open, 35° Flush, 35° Regressed N Narrow [17]: 10° Open, 25° Flush, 25° Regressed WW Wall wash [18]	OF 1/2" standard flange SF 1/4" mud-in flange [19]	Open trim types: CS Clear semi-specular anodize; SG Satin-glow anodize; GD Gold anodize; CG Champagne gold anodize; PW Pewter anodize; SPC Clear specular anodize; RG Rose gold anodize; WH White texture powder coat; BL Black texture powder coat Lens trim types: CS Clear semi-specular powder coat; WH White texture powder coat; BL Black texture powder coat; MB Black texture splay with white flange [27]	MWT Textured white trim flange [20] IP IP65 rated trim [21] AD Diffuse acrylic lens [22] PD Diffuse 1/8" polycarbonate lens [23] TD Diffuse polycarbonate lens media at top of open reflector [24] WET/CC Wet location, covered ceiling listed [25] AM Anti-microbial [26]

MOUNTING

MOUNTING TYPE [28]	MOUNTING HARDWARE [29]
N Open pan for new construction I IC-rated enclosure for new construction [30] R Remodel kit [31]	F1 Integral 2-position fixed pan bracket, universal bar hanger included [32] BA1 Adjustable butterfly pan bracket, bar hanger not included [33] CA1 Adjustable caterpillar pan bracket, universal bar hanger included [34]

NOTES
1 Lumen output based on O trim type, W distribution and CS finish, 3500K/80CRI. Actual lumens may vary +/-5%. See page 2 for FIXTURE PERFORMANCE DATA.
2 See page 3 for ADDITIONAL CONTROL OPTIONS.
3 Not available with EM/10W emergency batteries.
4 Extended lead times may apply. Consult factory for availability.
5 11-1/2" aperture, specify degrees of slope in 5° increments, 05°-30°. Not available with I Mounting Type, ATH or WET/CC options. Painted white. Other colors available, consult factory. See page 3 for SLOPED CEILING ADAPTOR DETAILS.
6 Not available with EM batteries or DMX controls.
7 N and R Mounting Types only. Not available with ATH or IP options.
8 N and R Mounting Types only. Not available with ATH or IP options.
9 Not available with WET/CC, ATH or IP options. N and R Mounting Types only. See page 5 for EM/10W/RTS DETAILS.
10 I Mounting Type required.
11 May be required for 347V, see product builder at hew.com/product-builder.
12 Trim ships separately.
13 Beam angle based on CS or WH reflector finish. See page 2 for FIXTURE PERFORMANCE DATA.
14 Available with WW Distribution only.
15 W Distribution, OF Flange Type and WH Reflector Finish only. Standard with AD diffuse acrylic lens. IP and WET/CC options standard.
16 Not available with lumen stops L50 and higher when specified with flush or regressed trim types.
17 Not available with lumen stops L50 and higher when specified with flush or regressed trim types.
18 O and A Trim Types only.
19 For use with mud-in plaster construction only, supplied with mud flange installation kit. See page 4 for FLANGE TYPE DETAILS. Not available with ATH or IP options.
20 Not available with WH Reflector Finish, L or S Trim Types.
21 L and R trim types only.
22 Not available with O trim type. W and WW distributions only.
23 Not available with O trim type. W and WW distributions only.
24 O Trim Type only. WET/CC standard unless ordered with EM/RTS. L50 lumen package max.
25 L50 lumen package max with O Trim Type. Not available with PD trim option.
26 WH and BL Reflector Finishes only. Not available with S Trim Type.
27 R Trim Type only. Not available with MWT.
28 Mounting hardware required (N and I only), ordered separately, see MOUNTING HARDWARE ordering info. See page 4 for MOUNTING TYPE DETAILS.
29 Additional mounting hardware options available. See page 5 for MOUNTING HARDWARE DETAILS.
30 L30 lumen package max.
31 Also used in new construction sheetrock ceilings.
32 N and I Mounting Types only. I Mounting requires external brackets.
33 N Mounting Type only.
34 N Mounting Type only.

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Information contained herein is subject to change without notice. REV.06/01/22.70700.LA
Downlights Page 1 of 5

FIXTURE "SP_"

RZR SERIES - LED

SPECIFICATIONS

POLE DRILLING TEMPLATE: 2.75" (70mm) FOR RZRM; 2" (51mm); 1.25" (32mm); WIREWAY .563" DIA. (14mm); 4" (102mm) FOR RZR & RZR-G; .406" DIA. (10mm) (3) HOLES

EPA & WEIGHT:
- RZR-G Max Weight = 43lbs, Max EPA = 0.76, 120 LED Max
- RZR Max Weight = 34lbs, Max EPA = 0.67, 80 LED Max
- RZRM Max Weight = 26lbs, Max EPA = 0.45, 48 LED Max
- RZR-MAF Max Weight = 36lbs, Max EPA = 0.56, 80 LED Max

PLED™ MODULES: 120 LED Module; 80 LED Module; 48 LED Module; 40 LED Module; 24 LED Module

ORDERING INFORMATION
Spec/Order Example: RZR/PLED-IV/80LED-700mA/CW/277/RAL-8019-S

Luminaire	Optics	LED	Voltage	Mounting	Finish	Options
☐ RZR-G ☐ RZR ☐ RZR-MAF ☐ RZRM	PLED™ Distribution Type: ☐ Type II PLED-II ☐ Type II Front Row PLED-II-FR ☐ Type III Median Illuminator PLED-II-MIL ☐ Type III Med. PLED-III ☐ Type III Wide PLED-III-W ☐ Type IV PLED-IV ☐ Type IV PLED-IV-FT ☐ Type V Narrow PLED-VSQ-N ☐ Type V Med. PLED-V-SQ-M ☐ Type V Wide PLED-V-SQ-W	# of LEDs — RZR-G: ☐ 120LED ☐ 80LED; RZR/RZR-MAF: ☐ 80LED ☐ 40LED; RZRM: ☐ 48LED ☐ 24LED Drive Current: ☐ 1050mA[1] ☐ 875mA[1] ☐ 700mA[1] ☐ 525mA ☐ 350mA Color Temp - CCT: ☐ 27K (2700K) ☐ 30K (3000K) ☐ 40K (4000K) ☐ 50K (5000K) ☐ TRA True Amber[2] Consult Factory for Other LED Color, CCT, & CRI Options NOTES: 1 - 700mA and 1050mA not for use with TRA LED's; 2 - Available in 350mA & 525mA drive currents only Consult Factory for Other Drive Currents	☐ 120 ☐ 208 ☐ 240 ☐ 277 ☐ 347 ☐ 480	Arm Mount: ☐ 1 ☐ 2-180 ☐ 2-90 ☐ 3-90 ☐ 3-120 ☐ 4-90 Wall Mount: ☐ WM WM - Wall Mount provided with mounting bracket and cover.	Standard Textured Finish: ☐ Black RAL-9005-T ☐ White RAL-9003-T ☐ Grey RAL-7004-T ☐ Dark Bronze RAL-8019-T ☐ Green RAL-6005-T Premium Finishes: ☐ Rust ☐ Patina Copper PC For smooth finish replace suffix "T" with suffix "S" (Example: RAL-9500-S) Consult factor for custom colors	☐ Internal House Side Shield inc. LED Count (Example: HS-PLED/48) HS-PLED ☐ External Glare Shield 4 Sided EGS4 ☐ External Glare Shield 3 Sided Rear Wedge EGS3W ☐ Round Pole Adapter RPA ☐ Twist Lock Receptable Only TPR ☐ 7-Pin Twist Lock Receptable Only TPR7 ☐ High-Low Dimming for Switch by Others/Select Levels 50/100 or 25/100 (Example: HLSW/25) HLSW ☐ Photo Cell + Voltage (Example: PC120V) PC+V ☐ Single Fuse (120V, 277V) SF ☐ Double Fuse (208V, 240V) DF ☐ Blue-Tooth Programmable Photo/Motion Sensor (Factory - Motion 50/100; Photo 75fc) MS-F311

U.S. Pole Company Inc. An Employee Owned Company | 660 West Avenue O, Palmdale, CA 93551 Phone (661) 233-2000 www.usaltg.com — MADE IN THE USA — U.S. ARCHITECTURAL LIGHTING

1 ME1 **SITE PHOTOMETRICS PLAN**
SCALE: 1" = 20'-0"
NORTH

Hufft

PROJECT INFORMATION:
Andy's Frozen Custard #204
700 NW Ward Road
Lee's Summit, MO 64806

OWNER:
ANDY'S FROZEN CUSTARD
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P: 913-393-1155

ISSUE:
100% CDs
05-02-2024

REVISION SCHEDULE:

NO.	DATE	ISSUE

STATE OF MISSOURI — CAMERON K. COLLINS — NUMBER E-24493 — REGISTERED PROFESSIONAL ENGINEER

Cameron Collins — Digitally signed by Cameron Collins, E=cameron.collins@rtmassociates.com, O=RTM Engineering, OU=RTM, CN=Cameron Collins, Date: 2024.05.03 12:40:02-05'00'

Architect: Matthew Hufft
License Number: MO#
Drawn By: Author
Project Number: 736

SITE PHOTOMETRIC PLAN

ME1

PIPE MATERIAL SCHEDULE

SYSTEM	PIPING						FITTINGS		MAX. WORKING		FIELD TEST	
	SIZE	TYPE	SCHEDULE	GRD	ASTM	MATERIAL	MATERIAL	TYPE	PRESS. (PSI)	TEMP. (°F)	PRESS. (PSI)	TIME
ROOF DRAIN ABOVE GRADE	ALL	DWV	40	-	2665	PVC	PVC	DR\SW	10 FT	40-80	10 FT	1 HR
ROOF DRAIN BELOW GRADE	ALL	DWV	40	-	2665	PVC	PVC	DR/SW	10 FT	40-80	10 FT	1 HR
DOMESTIC WATER SERVICE	0.75" - 3"	PVC	40	-	D1785	PVC	PVC	SW	125	50-90	200	1 HR
DOMESTIC WATER ABOVE GRADE	0.5" - 2"	CPVC	SDR11	-	D2846	CPVC	CPVC	SW	120	40-180	150	1 HR
DOMESTIC WATER BELOW GRADE	ALL	PEX	SDR9	-	F876	PEX	--	--	100	40-180	150	1 HR
TEMPERATURE & PRESSURE RELIEF DRAIN	ALL	M	-	-	B88	CP	CP	DR\S	10 ft	140-210	10 ft	1 HR
WASTE & VENT BELOW GRADE	ALL	DWV	40	-	2665	PVC	PVC	DR\SW	10 ft	50-180	10 ft	1 HR
WASTE & VENT ABOVE GRADE (DUCTED RETURN)	ALL	DWV	40	-	2665	PVC	PVC	DR\SW	10 FT	50-180	10 FT	1 HR
GREASE WASTE & VENT BELOW GRADE	ALL	NG/BS	SS	-	A74	CI	CI	DR\NG	10 FT	50-180	10 FT	1 HR
GREASE WASTE & VENT BELOW GRADE (CONTRACTOR OPTION)	ALL	DWV	40	-	F1784	CPVC	CPVC	DR\SW	10 FT	50-180	10 FT	I HR
REFRIGERANT PIPING	ALL	ACR	-	-	B280	CP	CP	S	150	40-140	200	4 HR
CONDENSATE DRAIN ABOVE GRADE	ALL	M	-	-	B88	CP	CP	DR\S	10 FT	40-70	10 FT	1 HR
NATURAL GAS ABOVE GRADE	0.5" - 2.5"	CW	40	A	A53	CSBLK	MI	THRD	1	-	100	1 HR
NATURAL GAS BELOW GRADE	0.5"-2"	PEX	SDR11	3408	D2513	PEX	PEX	HF	80	--	100	1 HR

GREASE INTERCEPTOR CALCULATIONS

Reference No. 67160 — Project Name: Andy's Lee's Summit

Step 1: Flow rate to grease interceptor

Fixture flow rate: (cu in / 231) = gal x 0.75 / 2 min = 2 min flow rate

NAME	TYPE	DIMENSIONS	QTY	CU IN	FLOW RATE
11	3 Compartment Sink	22" x 23" x 16" (3)	1	24,288	39.43 GPM
22	3 Compartment Sink	14" x 10" x 14" (3)	1	5,880	9.55 GPM
3	Mop Basin	24" x 24" x 10"	1	5,760	9.35 GPM
7	Ice Machine (with drain)	N/A	1	N/A	0.5 GPM
A	Floor Drain	N/A	6	N/A	0 GPM
Custard Machine Drain	Floor Sink	N/A	2	N/A	2 GPM
Floor Sinks - Front of House Area	Floor Sink	N/A	2	N/A	0 GPM
Total					**60.82 GPM**

Step 2: Grease Production

Servings per day x Grease production value x Days between pump-outs = Grease output

Servings per day: 350
Grease production value: 0.005 lbs per serving (Ice Cream / Yogurt / Smoothies: Low / No flatware)
Days between pump-outs: 90 days

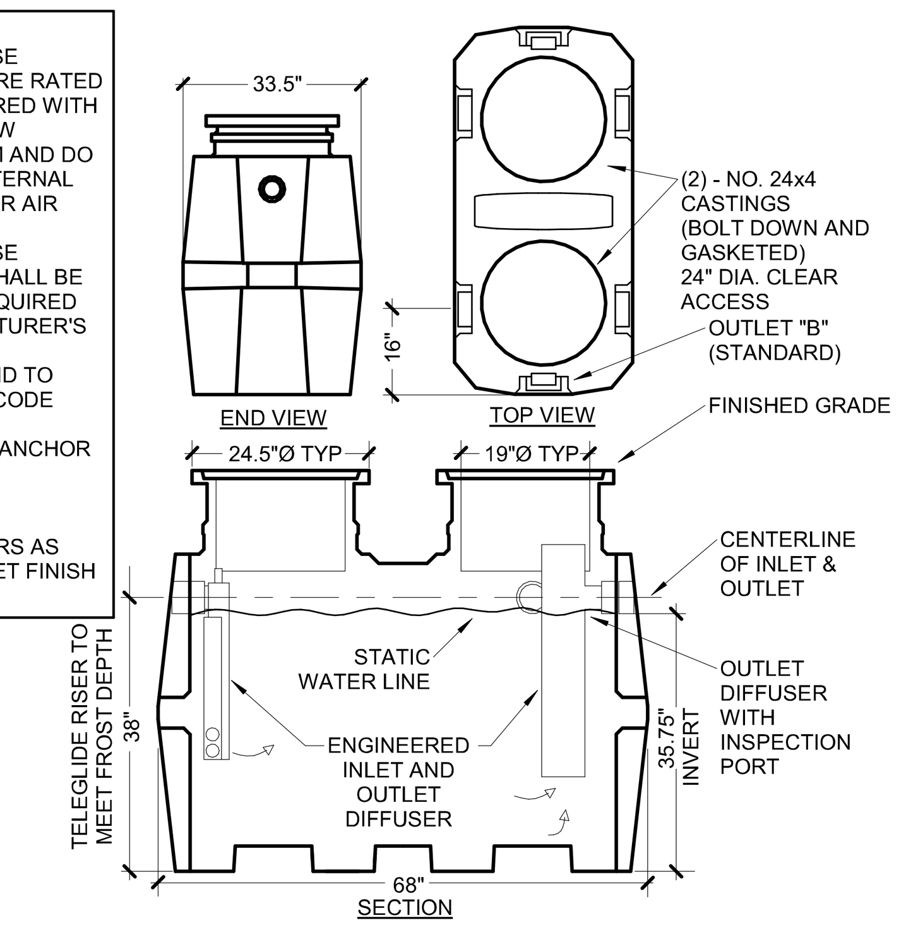
350 x 0.005 x 90 = 157.5 lbs of FOG

SCHIER MODEL	
GB-50	**Description:** GREASE INTERCEPTOR 50 GPM / 75 GPM, 4" PLAIN/FPT CONNECTIONS, H-20 RATED PICKABLE CAST IRON COVER **Dimensions:** Length: 37", Width: 32.25", Height: 28.5" **Flow Rate/Grease Capacity:** 75 GPM / 287 lbs **Liquid Capacity:** 65 gal

Specification Note: This Great Basin model has been sized to the flow rate and grease production requirements of the application and may not be substituted by liquid capacity alone. Any substitution requests must be approved by the specifying engineer and the authority having jurisdiction.

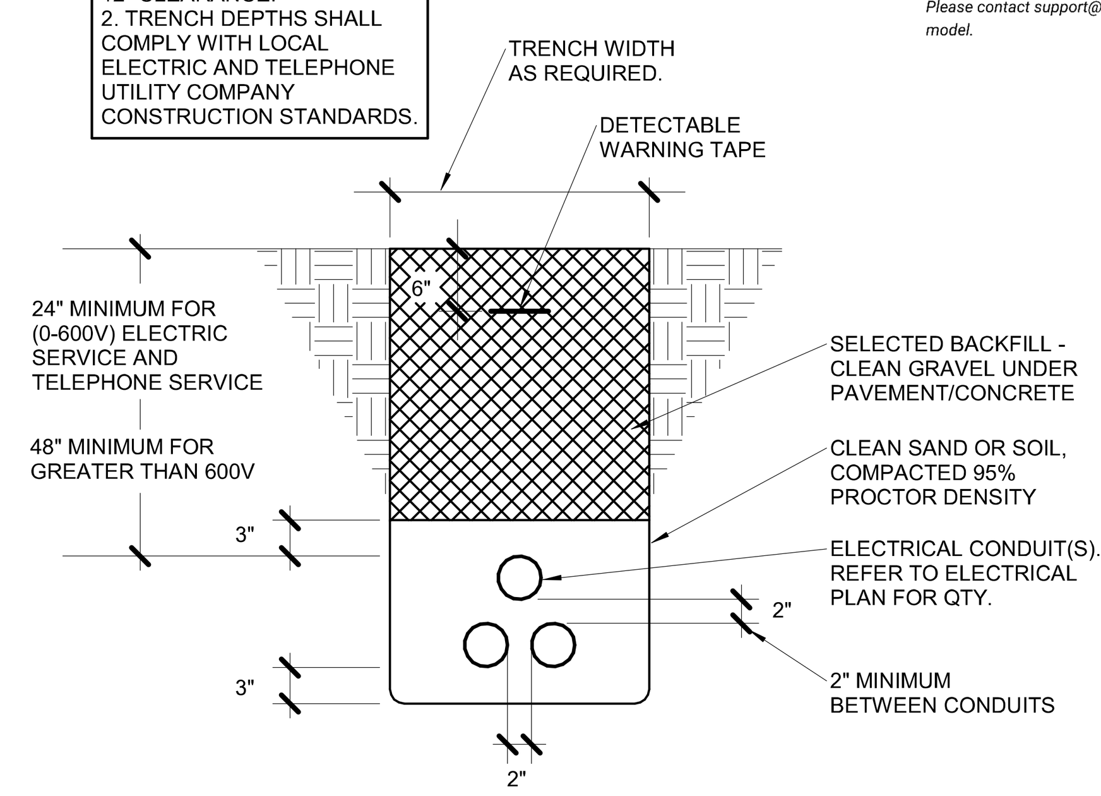
Please contact support@schierproducts.com for technical and procurement support for the specified Great Basin model.

NOTES:
1. SCHIER GREASE INTERCEPTORS ARE RATED AND MANUFACTURED WITH AN INTERNAL FLOW CONTROL SYSTEM AND DO NOT REQUIRE EXTERNAL FLOW CONTROL OR AIR INTAKE VENT.
2. SCHIER GREASE INTERCEPTORS SHALL BE INSTALLED AS REQUIRED BY THE MANUFACTURER'S INSTALLATION INSTRUCTIONS AND TO MEET ALL LOCAL CODE REQUIREMENTS.
3. PROVIDE AK-1 ANCHOR KIT. INSTALL PER MANUFACTURER INSTRUCTIONS.
4. PROVIDE RISERS AS REQUIRED TO MEET FINISH GRADE HEIGHT.

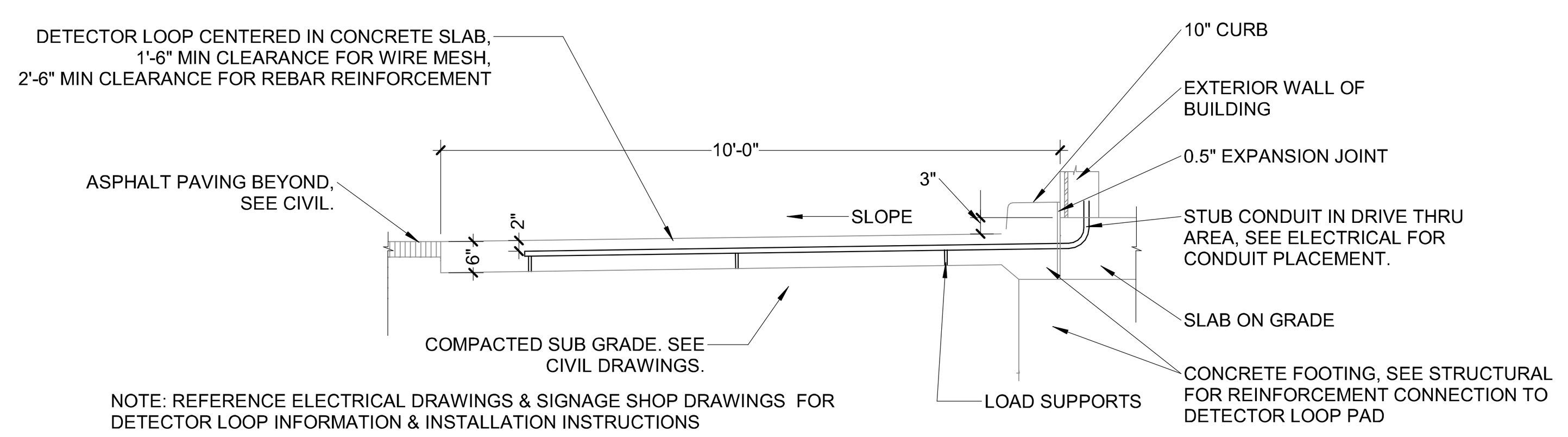


2 / ME2
GREASE INTERCEPTOR DETAIL
SCALE: NOT TO SCALE

NOTES:
1. WHERE CROSSING OTHER UTILITIES, MAINTAIN 12" CLEARANCE.
2. TRENCH DEPTHS SHALL COMPLY WITH LOCAL ELECTRIC AND TELEPHONE UTILITY COMPANY CONSTRUCTION STANDARDS.

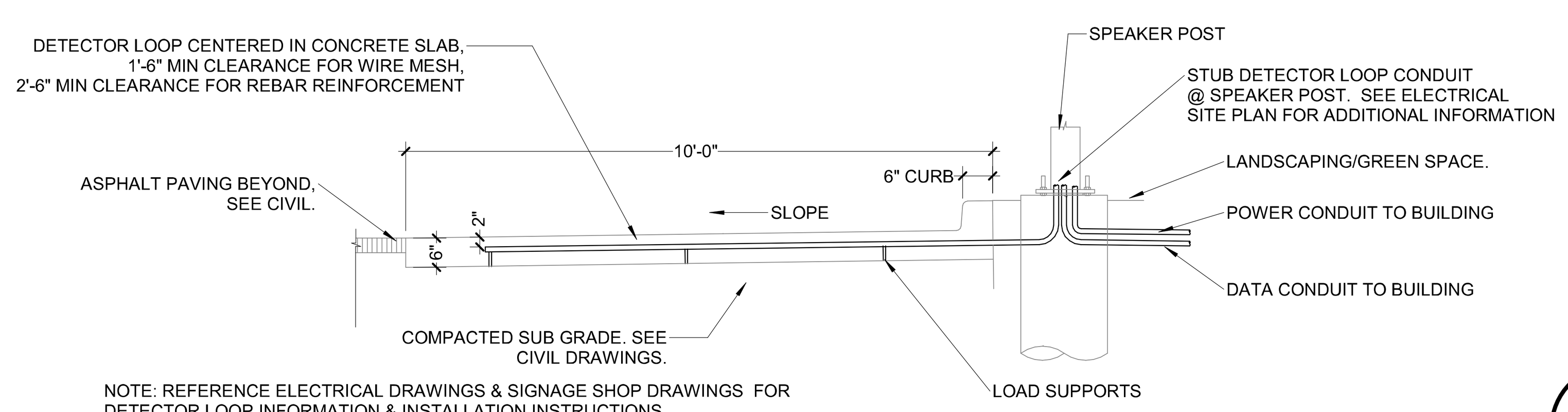


5 / ME2
UNDERGROUND UTILITY ELECTRICAL CONDUITS
SCALE: NOT TO SCALE



NOTE: REFERENCE ELECTRICAL DRAWINGS & SIGNAGE SHOP DRAWINGS FOR DETECTOR LOOP INFORMATION & INSTALLATION INSTRUCTIONS

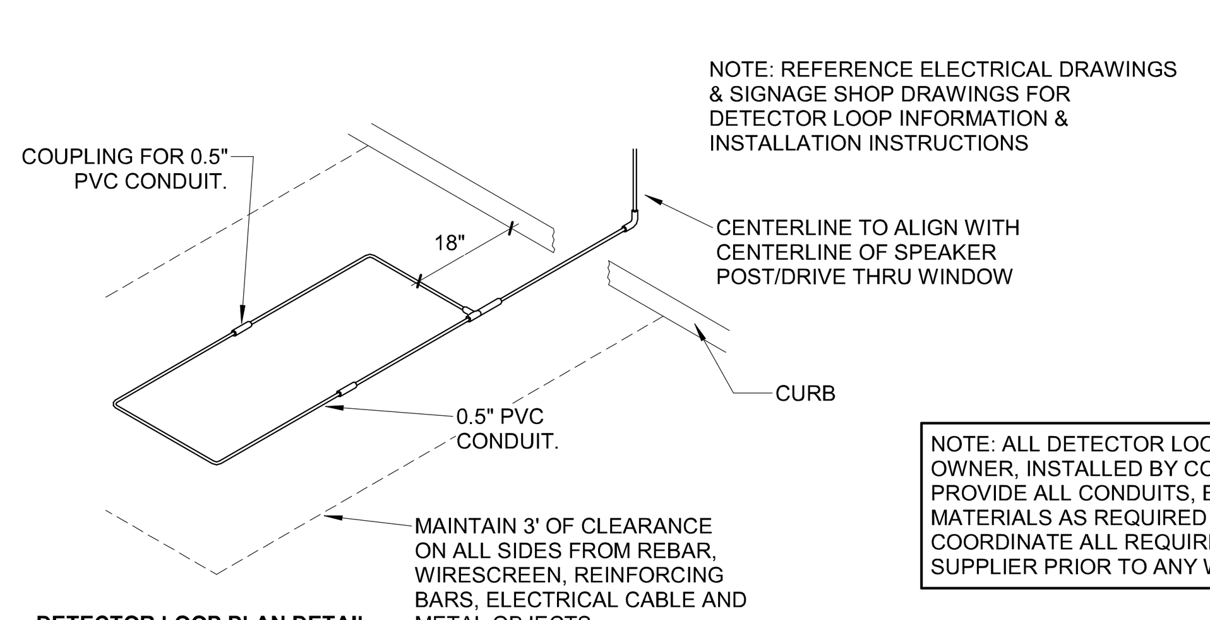
SECTION @ DETECTOR LOOP IN CONCRETE PAD AT THE DRIVE THRU WINDOW



NOTE: REFERENCE ELECTRICAL DRAWINGS & SIGNAGE SHOP DRAWINGS FOR DETECTOR LOOP INFORMATION & INSTALLATION INSTRUCTIONS

SECTION @ DETECTOR LOOP IN CONCRETE PAD AT THE MENU BOARD

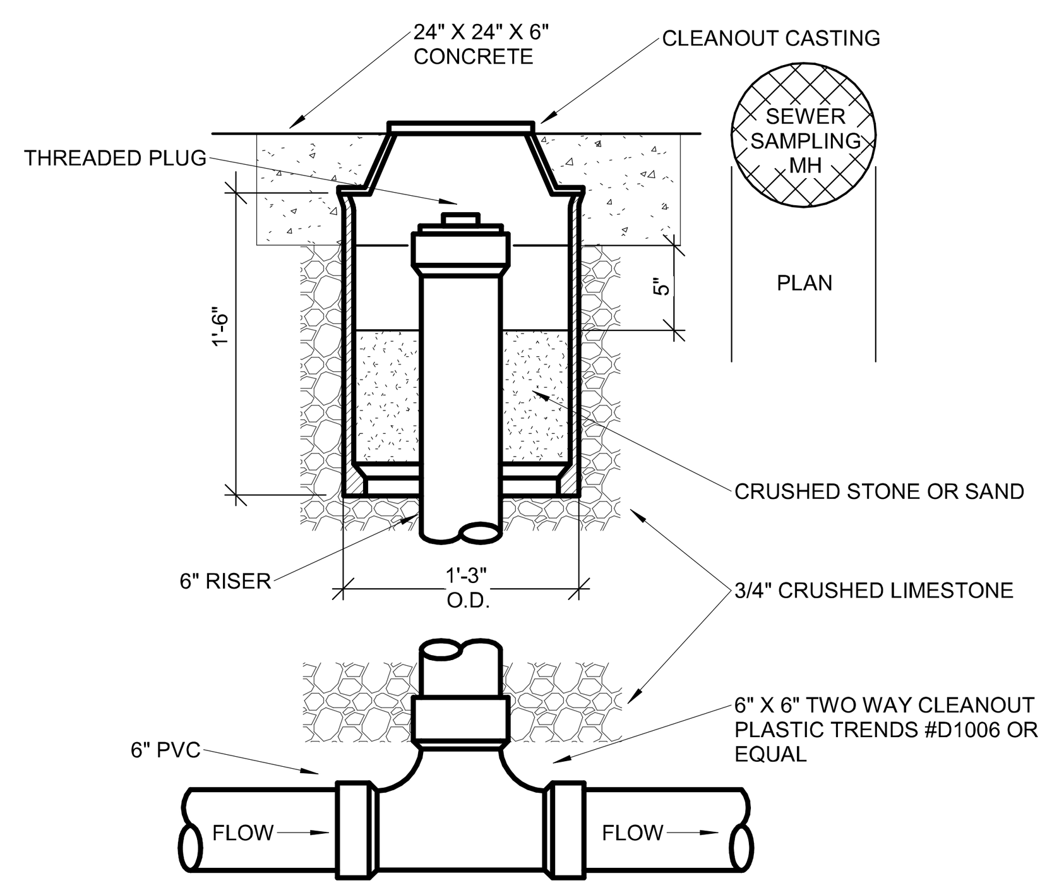
NOTE: REFERENCE ELECTRICAL DRAWINGS & SIGNAGE SHOP DRAWINGS FOR DETECTOR LOOP INFORMATION & INSTALLATION INSTRUCTIONS



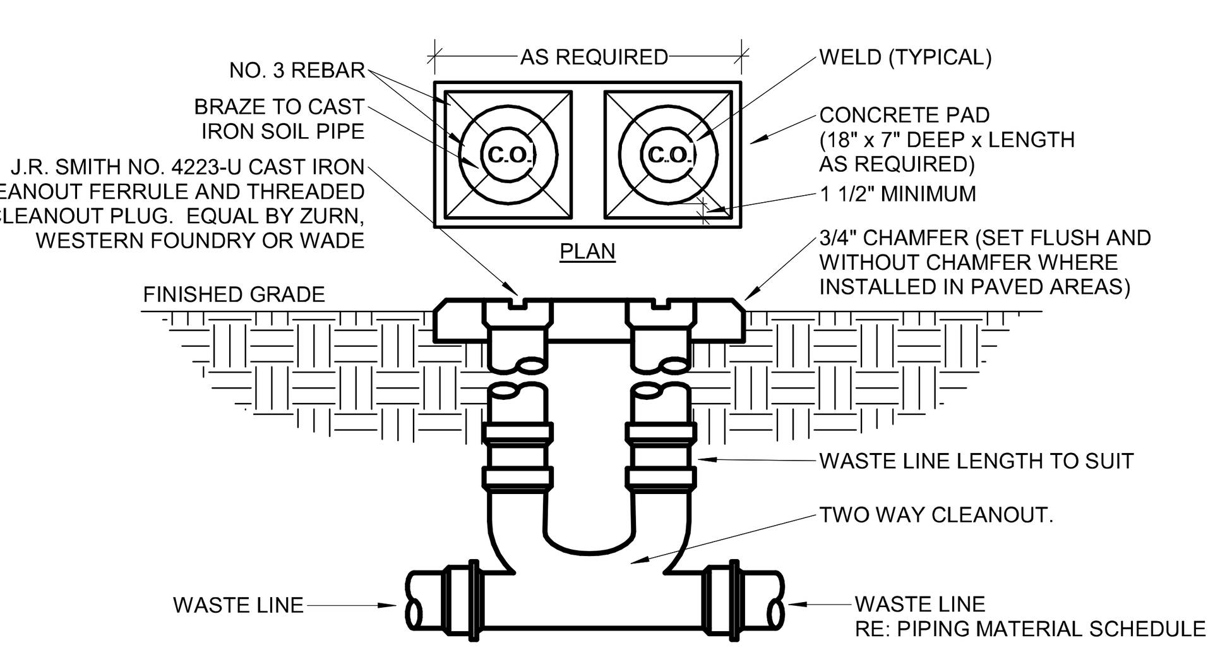
DETECTOR LOOP PLAN DETAIL

NOTE: ALL DETECTOR LOOP EQUIPMENT FURNISHED BY OWNER, INSTALLED BY CONTRACTOR. CONTRACTOR SHALL PROVIDE ALL CONDUITS, BOXES, AND OTHER ELECTRICAL MATERIALS AS REQUIRED FOR INSTALLATION OF EQUIPMENT. COORDINATE ALL REQUIREMENTS WITH OWNER'S EQUIPMENT SUPPLIER PRIOR TO ANY WORK.

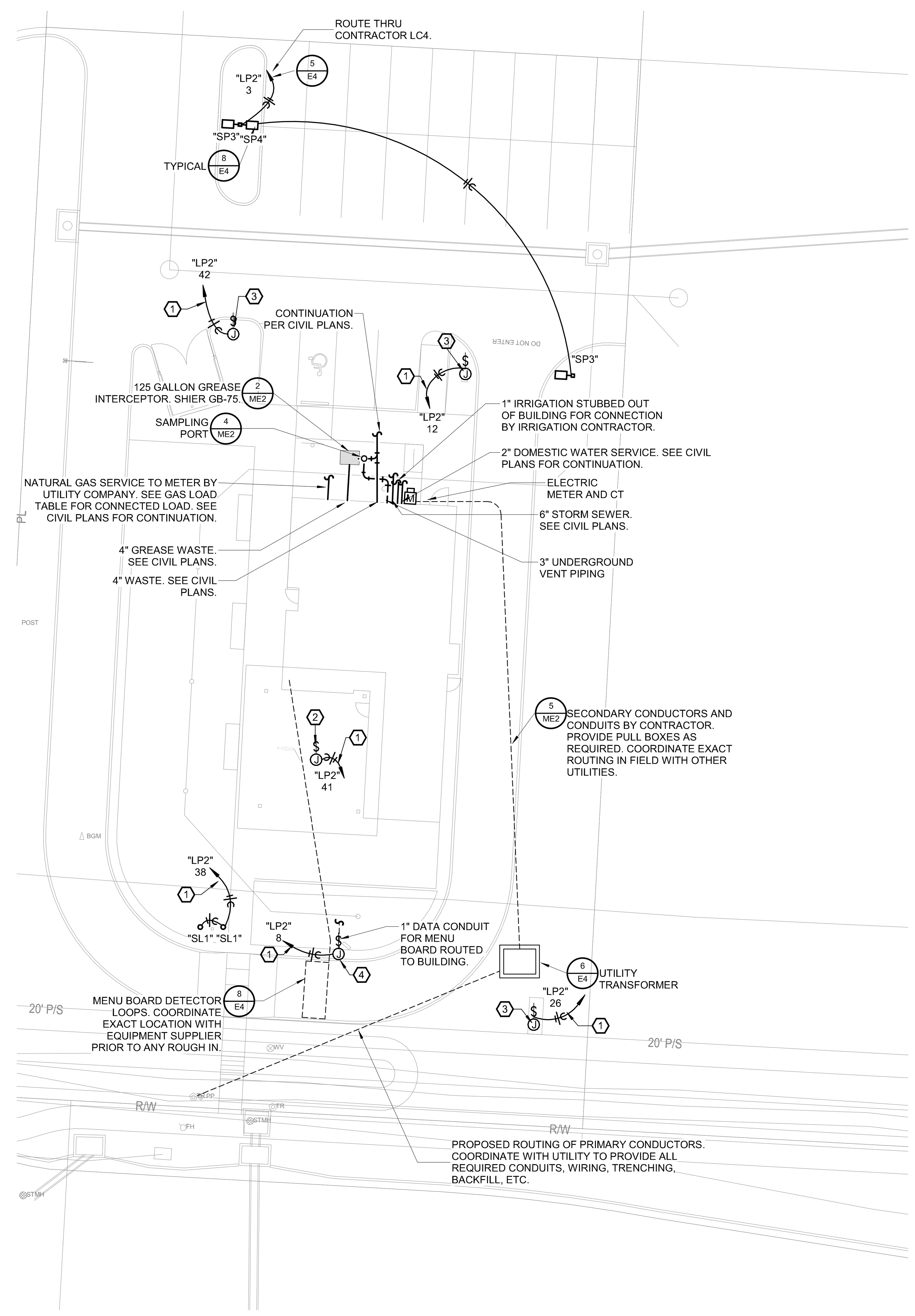
6 / ME2
DETECTOR LOOP DETAIL
SCALE: NOT TO SCALE



4 / ME2
SAMPLING MANHOLE DETAIL
SCALE: NOT TO SCALE



3 / ME2
2-WAY FINISH GRADE CLEANOUT DETAIL
SCALE: NOT TO SCALE



1 / ME2
MEP SITE PLAN
SCALE: 1" = 20'-0"
NORTH

PLAN HEX NOTES:

1. ROUTE THRU TIME CLOCK CONTROLLED LIGHTING CONTACTOR "LC3".
2. PROVIDE STUB UP FROM BELOW GRADE FOR DOUBLE SIDED MENU BOARD. COORDINATE ALL ROUGH IN REQUIREMENTS AND LOCATION WITH EQUIPMENT SUPPLIER.
3. PROVIDE STUB-UP AND CIRCUITING FOR INTERNALLY LIT DIRECTIONAL SIGNAGE THROUGH SIGNAGE FOOTING. COORDINATE EXACT STUB-UP LOCATION WITH SIGNAGE SUPPLIER AND FOOTING CONSTRUCTION. PROVIDE WEATHERPROOF DISCONNECTING MEANS.
4. PROVIDE STUB-UP AND CIRCUITING FOR MENU BOARD FOOTING CLOSEST TO BUILDING COORDINATE EXACT STUB UP AND ALL ROUGH IN REQUIREMENTS WITH EQUIPMENT SUPPLIER AND WITH FOOTING CONSTRUCTION. PROVIDE WEATHERPROOF DISCONNECTING MEANS.

GENERAL NOTES:

A. ALL EXTERIOR J-BOXES SHALL BE WEATHERPROOF.
B. COORDINATE ALL GAS, WATER, ELECTRICAL, AND SEWER SERVICES WITH CIVIL ENGINEERING PLANS. INCLUDE ALL FEES, COSTS, AND CHARGES INCURRED FROM THE UTILITY COMPANY IN THE BASE BID. ARRANGE FOR ALL SERVICES TO THE BUILDING.
C. FOR ALL MEP QUESTIONS, CONTACT RTM ENGINEERING CONSULTANTS 417-881-0020. CONTACT PERSON: TYLER ENSERRO. tyler.enserro@rtmec.com

CONNECTED GAS LOAD TABLE	
PLAN MARK	GAS LOAD (MBH)
IH1	50.0
IH2	50.0
RTU1	200.0
WH1	199.0
WH2	199.0
WH3	199.0
TOTAL GAS LOAD	897.0

Hufft

PROJECT INFORMATION:
Andy's Frozen Custard #204
700 NW Ward Road
Lee's Summit, MO 64806

OWNER:
ANDY'S FROZEN CUSTARD
211 E. Water Street
Springfield, MO 65806
www.eatandys.com

ARCHITECT:
HUFFT
3612 Karnes Boulevard
Kansas City, MO 64111
P: 816-531-0200
www.hufft.com

STRUCTURAL:
METTEMEYER ENGINEERING, LLC
2101 W. Chesterfield Blvd., Suite B105
Springfield, MO 65807
P: 417-890-8002

CIVIL:
PHELPS ENGINEERING INC
1270 N Winchester St #5878
Olathe, KS 66061
P: 913-393-1155

MEP:
RTM ENGINEERING CONSULTANTS
3333 E. Battelfield Road, Suite 1000
Springfield, MO 65804
P: 417-881-0020

LANDSCAPE ARCHITECT:
PHELPS ENGINEERING INC
1270 N Winchester St #5878
Olathe, KS 66061
P: 913-393-1155

ISSUE:
100% CDs
05-02-2024

REVISION SCHEDULE:

NO.	DATE	ISSUE

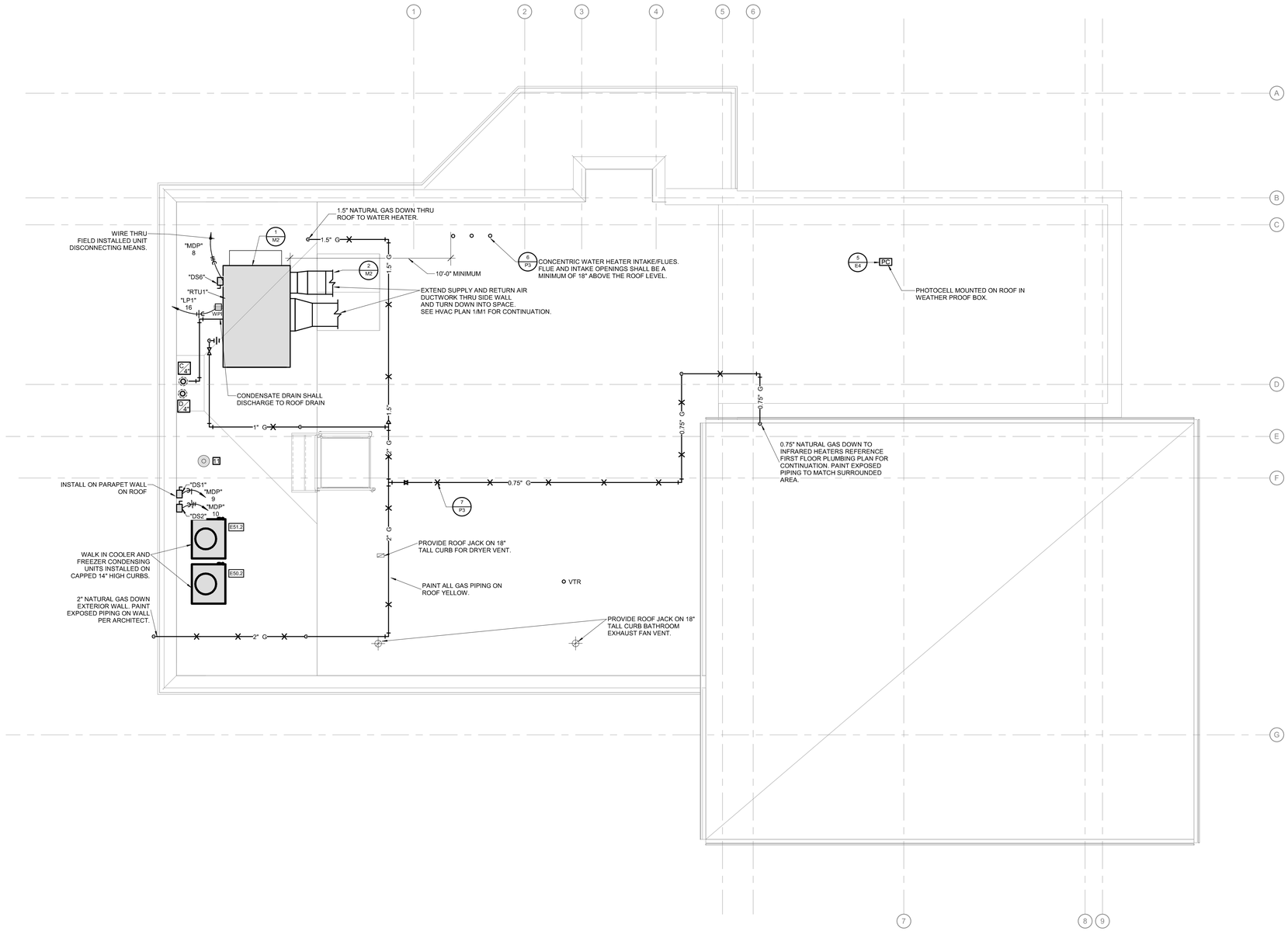
STATE OF MISSOURI
CAMERON K. COLLINS
NUMBER E-24493
REGISTERED PROFESSIONAL ENGINEER

Cameron Collins
Digitally signed by Cameron Collins
E=cameron.collins@rtmassociates.com, O=RTM Engineering, OU=RTM, CN=Cameron Collins
Date: 2024.05.03 12:39:44-05'00'

Architect: Matthew Hufft
License Number: MO#
Drawn By: TSE
Project Number: 736

MEP SITE PLAN

ME2



1 ME3

MEP ROOF PLAN

SCALE: 1/4" = 1'-0"

NORTH

Hufft

PROJECT INFORMATION:

Andy's Frozen Custard #204

700 NW Ward Road
Lee's Summit, MO 64806

OWNER:

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211 E. Water Street
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LANDSCAPE ARCHITECT:

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ISSUE:

100% CDs

05-02-2024

REVISION SCHEDULE:

NO.	DATE	ISSUE

STATE OF MISSOURI
CAMERON K. COLLINS
NUMBER E-24493
REGISTERED PROFESSIONAL ENGINEER

Cameron Collins

Digitally signed by Cameron Collins
DN: cn=Cameron Collins, o=RTM Engineering, OU=MEP, email=cameron.collins@rtmassociates.com, c=US
Date: 2024.05.07 12:39:12-05'00'

Architect: Matthew Hufft
License Number: MO#
Drawn Author
Project Number: 736

MEP ROOF PLAN

ME3

ELECTRICAL

1 UNDERGROUND POWER CIRCUITS AND FEEDERS: TYPE THHN/TWHN, 600 VOLT, 75 DEGREE C (167 DEGREES F) WET RATING AND 90 DEGREES C (194 DEGREES F) DRY RATED THERMOSETTING FILLED INSULATING CABLE.

2 ELECTRICAL CONTRACTOR SHALL FURNISH AND INSTALL CONDUIT, WIRE, BOXES, ETC. FOR THE INSTALLATION OF ALL FIRE ALARM DEVICES, DUCT DETECTORS, RELAYS, ETC. AS REQUIRED TO INSTALL A COMPLETE WORKING SYSTEM. COORDINATE ALL FIRE ALARM INSTALLATION REQUIREMENTS WITH EQUIPMENT MANUFACTURER.

3 ALL ELECTRICAL WORK SHALL BE IN ACCORDANCE WITH 2017 NATIONAL ELECTRICAL CODE AS ADOPTED BY THE CITY OF LEE'S SUMMIT, MO.

4 THE CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS AT SITE PRIOR TO SUBMITTING HIS BID. NO EXTRAS WILL BE PAID DUE TO UNANTICIPATED EXISTING CONDITIONS.

5 PLANS ARE DIAGRAMMATIC AND SHALL NOT BE SCALED. REFER TO ARCHITECTURAL DRAWINGS FOR DIMENSIONS.

6 PROVIDE CONDUCTORS FOR LISTED APPLICATIONS AS FOLLOWS:

LIGHTING AND RECEPTACLE CIRCUITS: TYPE THHN, 600 VOLT, 75 DEGREE C (194 DEGREES F) THERMOPLASTIC INSULATED BUILDING CONDUCTOR.

POWER CIRCUITS AND FEEDERS: TYPE THHN, 600 VOLT, 75 DEGREE C (194 DEGREES F) THERMOPLASTIC INSULATED BUILDING CONDUCTOR.

LOW VOLTAGE AND LINE VOLTAGE CONDUCTORS SIZES NO. 16 AND NO. 18 AWG: TYPE TFFN, 600 VOLT 90 DEGREES C (194 DEGREE F) THERMOPLASTIC INSULATED BUILDING CONDUCTOR.

UNDERGROUND POWER CIRCUITS AND FEEDERS: TYPE THHN/TWHN, 600 VOLT, 75 DEGREE C (167 DEGREES F) WET RATING AND 90 DEGREES C (194 DEGREES F) DRY RATED THERMOSETTING FILLED INSULATING CABLE.

7 CONDUIT CONNECTORS AND COUPLINGS SHALL BE COMPRESSION TYPE. SET SCREW TYPE CONDUIT FITTINGS SHALL NOT BE ALLOWED.

8 ALL POWER CIRCUITS SHALL HAVE A GROUNDING CONDUCTOR.

9 ALL RECEPTACLES SHALL BE AT 18" AFF UNLESS NOTED OTHERWISE.

10 DUPLEX RECEPTACLES SHALL BE HUBBELL MODEL 5352-GRY 20A, 125V, NEMA CONFIGURATION 5-20R GREY DUPLEX RECEPTACLE. WEATHER PROOF RECEPTACLES SHALL BE GFI TYPE MOUNTED IN APPROPRIATE WEATHERPROOF BOX WITH LIFT COVERPLATE.

11 SWITCHES SHALL BE RATED FOR 20A, 120-277V, GREY IN COLOR AND SHALL BE AS FOLLOWS:

THREE WAY HUBBELL 1223

SINGLE POLE HUBBELL 1221

12 ALL DEVICES AND COVERPLATES SHALL BE STAINLESS STEEL.

13 RECESSED FLOOR BOXES SHALL BE STEEL CITY (REFER TO KEY NOTE FOR MODEL AND TYPE) CONCEALED SERVICE FLOOR BOX WITH CARPET PLATE AND DEVICE FACEPLATES AS REQUIRED FOR DEVICES TO BE INSTALLED AS SHOWN ON PLANS. EQUIVALENT FLOOR BOXES BY HUBBELL OR RACEWAY COMPONENTS.

14 EQUIVALENT MANUFACTURERS OF LIGHTING CONTROL PANEL AND ASSOCIATED ACCESSORIES (PHOTOCELLS, LOW VOLTAGE SWITCHES, ETC.) SHALL BE DOUGLAS LIGHTING CONTROLS, WATTSTOPPER, AND HUBBELL CONTROLS.

15 ELECTRICAL CONTRACTOR SHALL PROVIDE A TYPED CIRCUIT DIRECTORY FOR ALL PANELS. DIRECTORY INFORMATION SHALL INCLUDE CIRCUIT NUMBER AND EQUIPMENT SERVED.

16 PROVIDE HEAVY DUTY AND GENERAL DUTY HORSEPOWER RATED SAFETY SWITCHES RATED IN ACCORDANCE WITH NEMA ENCLOSED SWITCH STANDARD KS-1-1957 AND UL 98 STANDARD AS SCHEDULED. ENCLOSURE SHALL BE NEMA TYPE REQUIRED BY SWITCH LOCATION AND ENVIRONMENT. DOOR SHALL HAVE LATCH WITH MEANS OF PADLOCKING. SWITCH SHALL HAVE AN EMBOSSED NAMEPLATE PERMANENTLY ATTACHED TO DOOR FRONT WITH SWITCH RATING, SHORT CIRCUIT INTERRUPTING CAPACITY AND APPLICATION INFORMATION. FUSE HOLDERS FOR 1-600 AMPERES SHALL BE HIGH PRESSURE TYPE FOR USE WITH CLASS R CURRENT LIMITING FUSES. FUSE HOLDERS SHALL BE COMPLETELY ACCESSIBLE FROM FRONT OF SWITCH. PROVIDE SWITCHES BY CUTLER-HAMMER, GENERAL ELECTRIC, ITE/SIEMENS, SQUARE D, OR WESTINGHOUSE.

17 PROVIDE 600 VOLT MECHANICALLY OR ELECTRICALLY HELD LIGHTING CONTACTORS WITH PROPER NEMA ENCLOSURE REQUIRED BY CONTACTOR LOCATION AND ENVIRONMENT. CONTACTORS SHALL HAVE SILVER ALLOY, DOUBLE BREAK POWER CONTACTS REPLACEABLE WITHOUT REMOVING POWER WIRING OR CONTACTOR FROM ENCLOSURE. COILS SHALL BE MOLDED CASE CONSTRUCTION PERMANENTLY MARKED WITH COIL VOLTAGE AND FREQUENCY AND BE REPLACEABLE WITHOUT REMOVING CONTACTOR FROM ENCLOSURE. CONTACTOR SHALL BE SUITABLE FOR ADDITION OF AT LEAST TWO ELECTRICAL INTERLOCKS OF ANY ARRANGEMENT OF NORMALLY OPEN OR CLOSED CONTACTS. PROVIDE CONTACTOR WITH ACCESSORIES SUCH AS AUXILIARY CONTACTS, PILOT LIGHTS, ON-OFF, OR H.O.A. SWITCHES REQUIRED TO OBTAIN CONTROL SEQUENCE SHOWN ON PLANS OR SPECIFIED. WHERE THREE OR MORE CONTACTORS ARE INSTALLED AT ONE LOCATION CONTACTORS MAY BE INSTALLED IN GROUP CONTROL PANEL IN LIEU OF SEPARATE DEVICES. CONTACTORS BY ALLEN BRADLEY, CUTLER-HAMMER, ITE/SIEMENS, SQUARE D, OR GENERAL ELECTRIC.

18 ALL ELECTRICAL BOXES SHALL BE GALVANIZED STEEL. BACK BOXES MOUNTED ON GALVANIZED STUDS AND SHALL HAVE BETWEEN-STUD MOUNTING BRACKETS EQUAL TO CADDY RBS16 OR RBS24. PROVIDE 3/4" MUD RINGS WHERE LOCATED IN WALLS WITH 5/8" THICK GYPSUM WALLBOARD. ALL MUD/PLASTER RINGS SHALL BE FLUSH WITH FINISHED WALL.

19 THE COVERS OF ALL BOXES SHALL BE LABELED WITH PERMANENT MARKER INDICATING THE PANELBOARD NAME AND CIRCUIT NUMBER(S) OF ALL INTERNAL WIRING.

20 ALL CONDUIT STUBS SHALL BE TERMINATED WITH BUSHINGS.

21 CONTRACTOR SHALL GUARANTEE ALL EQUIPMENT, ACCESSORIES, AND MATERIAL FURNISHED BY HIM FOR A PERIOD OF ONE YEAR FROM FINAL ACCEPTANCE AGAINST ALL DEFECTS.

22 PANELBOARDS SHALL BE SQUARE D TYPE NQOD PANELBOARDS WITH DEAD-FRONT CONSTRUCTION, TIN-PLATED COPPER BUS BARS, EQUIPMENT GROUND BUS, AND BOLT-ON HEAVY DUTY QUICK BREAK CIRCUIT BREAKERS. EQUIVALENT BY GENERAL ELECTRIC, SIEMENS, CUTLER-HAMMER. PANELS SHALL BE LABELED WITH PERMANENTLY AFFIXED ARC-FAULT WARNING LABELS.

23 PROVIDE TRANSFORMERS WITH RATINGS AND CAPACITIES AS LISTED IN SCHEDULE. MATERIALS AND PERFORMANCE SHALL COMPLY WITH APPLICABLE ANSI, NEMA AND UL-506 STANDARDS. EQUIVALENT TRANSFORMERS BY SQUARE D, GENERAL ELECTRIC, HEAVY-DUTY, SIEMENS, CHALLENGER.

24 ALL WIRING SHALL BE IN CONDUIT AND SHALL BE CONCEALED.

25 ALL LIGHTING FIXTURES SHALL BE PROVIDED WITH APPROPRIATE LAMPING.

26 ALL ELECTRICAL EQUIPMENT INSTALLED IN AN EXTERIOR LOCATION SHALL BE PROVIDE WITH A NEMA 3R RATED ENCLOSURE.

27 PROVIDE DISTRIBUTION PANELBOARDS AS MANUFACTURED BY SQUARE-D, I-LINE TYPE. PANELBOARDS SHALL BE EQUIPPED WITH THERMAL-MAGNETIC, MOLDED CASE CIRCUIT BREAKERS OF FRAME AND TRIP RATINGS AS SHOWN ON THE SCHEDULE. PANEL BUS STRUCTURE AND MAIN BREAKER SHALL HAVE CURRENT RATINGS AS SHOWN ON THE PANEL SCHEDULE. BRANCH CIRCUIT BREAKERS SHALL BE SQUARE "D" FA, KA, LA, MA, NH, PA AND/OR PC ONE, TWO OR THREE POLE MOLDED CASE CIRCUIT BREAKERS RATED 15 THROUGH 2500 AMPERES (VOLTAGE AS SHOWN WITHIN SCHEDULE), AS SPECIFIED ON THE DRAWINGS. ALL BUS, BREAKERS, ETC. TO BE UL AND CSA LISTED, IEC RATED, MEET NEMA STANDARDS. BREAKERS SHALL HAVE OVER CENTER TOGGLE-TYPE MECHANISMS, PROVIDING QUICK-MAKE, QUICK- BREAK ACTION. CIRCUIT BREAKERS WITH FRAME SIZES GREATER THAN 100 AMPERES SHALL HAVE VARIABLE MAGNETIC TRIP ELEMENTS. UNLESS INDICATED OTHERWISE, BRANCH BREAKERS UP TO 100 AMPS SHALL HAVE 10,000 RMS SHORT CIRCUIT AMP SYMMETRICAL INTERRUPTING CAPACITY AND GREATER THAN 100 AMPS SHALL HAVE 42,000 RMS CAPACITY.

ELECTRICAL

PANELBOARD ASSEMBLY SHALL BE ENCLOSED IN STEEL CABINET. CABINET SHALL MEET UL STANDARD 50 AND 67. ALL LOCKS SHALL BE KEYED ALIKE. ENDWALLS SHALL BE REMOVABLE. FRONTS SHALL BE OF CODE GAUGE STEEL. GRAY BAKED ENAMEL FINISH ELECTRO-DEPOSITED OVER CLEANED PHOSPHATIZED STEEL. INTERIOR SHALL BE DEAD FRONT WITH PANELBOARD FRONT REMOVED. MAIN LUGS OR MAIN BREAKERS SHALL HAVE BARRIERS ON FIVE SIDES. THE END OF THE BUS STRUCTURE OPPOSITE THE MAINS SHALL HAVE BARRIERS.

PROVIDE UL LISTED GROUND SENSOR RELAY (GSR) SYSTEM WITH GROUND-BREAK COMPONENTS FOR MAIN BREAKER, IF 1000-AMPS OR LARGER. EACH UNIT SHALL CONSIST OF A COORDINATED GROUND SENSOR (CT) WITH INTEGRAL TEST WINDING, SOLID STATE RELAY TO OPERATE SHUNT TRIP CIRCUIT ON CIRCUIT PROTECTIVE DEVICE AND MONITOR PANEL. RELAY SHALL BE OF THE ZONE SELECTIVE INTERLOCK TYPE AND HAVE CONTINUOUSLY ADJUSTED CURRENT PICK-UP SETTINGS OF 100-1200 AMPERE AND CONTINUOUSLY ADJUSTABLE TIME DELAY SETTING FROM INST. (.03 SEC) TO 1 SECOND. RELAY SHALL PROVIDE TWO INDEPENDENT OUTPUT CONTACTS EACH RATED FIVE AMPERES CONTINUOUS AND 30 AMPERES INRUSH AT (24,36,48,125 V DC OR 120,120/208,120/240 V AC). RELAY SHALL INCLUDE A MEMORY FUNCTION TO RECOGNIZE AND INITIATE TRIPPING ON INTERMITTENT GROUND FAULTS. MONITOR PANELS SHALL INDICATE RELAY OPERATION AND PROVIDE MEANS FOR TESTING SYSTEM WITH OR WITHOUT INTERRUPTION OF SERVICE AND MUST NOT PERMIT GROUND FAULT SYSTEM TO BE INADVERTENTLY LEFT IN AN INACTIVE OR AFF STATE. GROUND SENSOR SHALL BE INSTALLED FOR GROUND RETURN OR ZERO SEQUENCE ARRANGEMENT AS REQUIRED ON MAIN SERVICE DEVICE. ON FEEDER AND BRANCH DEVICES, FURNISH ZERO SEQUENCE SENSOR ARRANGEMENTS. SYSTEM SHALL BE G.E. TYPE "GROUND-BREAK" OR EQUIVALENT BY SQUARE "D" COMPANY.

THE PANELBOARD SHALL BE PROVIDED WITH SURGE SUPPRESSION AND TVSS PROTECTION INSTALLED IN THE PANELBOARD OR DIRECTLY ADJACENT TO THE PANEL. SURGE ARRESTORS SHALL BE U.L. LISTED, 3-PHASE, 4-WIRE, RATED FOR THE SYSTEM VOLTAGE AND SHORT CIRCUIT LEVELS AVAILABLE AND SHALL BE EQUIVALENT TO THE CURRENT TECHNOLOGY MODEL CG-60 CURRENT GUARD-60 WITH DISCONNECT SWITCH AND PHASE PROTECTION RATING AS SUGGESTED BY E/M. SURGE ARRESTORS SHALL COME WITH ANSI/IEEE 62.11-1987 CERTIFICATION. TVSS SHALL MEET ALL THE REQUIREMENTS AND TEST PROCEDURES AS OUTLINED IN NEMA LS-1 STANDARDS "LOW VOLTAGE SURGE PROTECTIVE DEVICES". INSTALL PER MANUFACTURER AND N.E.C. REQUIREMENTS. EQUIVALENT BY NATIONAL LIGHTING PROTECTION, INNOVATIVE TECHNOLOGY.

PANELS SHALL BE PROVIDED WITH PERMANENTLY AFFIXED ARC FAULT WARNING LABELS.

EQUIVALENT MANUFACTURER'S SHALL BE SQUARE "D", GENERAL ELECTRIC, ITE/SIEMENS, CUTLER-HAMMER OR WESTINGHOUSE.

28 PROVIDE TIME SWITCHES AS INDICATED ON DRAWINGS AND IN SCHEDULE. EQUIVALENT BY INTERMATIC, TORK, OR RAINBIRD. ALL INTERLOCK WIRING BETWEEN THE LIGHTING CONTACTOR, TIME SWITCHES AND PHOTOCELLS SHALL BE PROVIDED BY THE CONTRACTOR AS PART OF THE BASE BID.

29 VOICE AND DATA CABLE SYSTEMS TO BE PROVIDED AND INSTALLED BY OWNER.

30 SUBMIT A MINIMUM OF SIX (6) COPIES OF SHOP DRAWINGS ON ALL FIXTURES AND EQUIPMENT FURNISHED UNDER THIS CONTRACT.

31 CONTACT THE VENDOR FOR THE DRIVE THRU LOOP AND TIMER AND INCLUDE ALL VENDOR COSTS ASSOCIATED WITH THIS WORK IN BASE BID. COORDINATE ALL RELATED WORK WITH VENDOR. CONTACT INFORMATION:

JOE DOBBINS
CSI OF OKLAHOMA, INC,
8455 E 590 RD
CATOOSA, OK 74015
918-266-1785, EMAIL: JOE.CSI@SBCGLOBAL.NET

32 CONTRACTOR IS RESPONSIBLE FOR PROVIDING ALL SHORT-CIRCUIT CALCULATIONS FOR ALL ELECTRIC EQUIPMENT INCLUDING BUT NOT LIMITED TO ELECTRICAL PANELS AND ELECTRICAL DISCONNECT SWITCHES AND FOR ALL MOTORS AS NECESSARY TO ENSURE PROPER EQUIPMENT RATINGS AND AS REQUIRED BY THE AUTHORITY HAVING JURISDICTION.

MECHANICAL

1 ALL MECHANICAL WORK SHALL BE IN ACCORDANCE WITH THE 2018 MECHANICAL CODE AS ADOPTED BY LEE'S SUMMIT, MO.

2 DUCT MATERIALS SHALL BE AS FOLLOWS:

RECTANGULAR SUPPLY AIR DUCT - 1" PRESSURE CLASS OR LESS: GALVANIZED SHEET METAL WITH 1/2" THICK, 3 LB. DENSITY DUCT LINER.

ROUND SUPPLY AIR DUCT - 1" PRESSURE CLASS OR LESS: GALVANIZED SNAPLOCK PIPE WITH TRANSVERSE JOINTS TAPED. WRAP WITH 1.5", 1.0 LB DENSITY FIBERGLASS DUCT WRAP WITH FOIL-SCRIM-KRAFT FACING.

RECTANGULAR EXHAUST DUCT: GALVANIZED SHEET METAL WITH 1/2", 3 LB. DENSITY DUCT LINER.

ROUND EXHAUST DUCT: GALVANIZED SNAP-LOCK PIPE WITH TRANSVERSE JOINTS TAPED.

ROUND FLEXIBLE DUCT: UL LISTED CLASS 1 PRE-INSULATED FLEX DUCT. RUNS OF FLEXIBLE DUCT SHALL NOT EXCEED 5 LINEAR FEET. FLEXIBLE DUCT SHALL NOT BE USED ON SYSTEMS WITH PRESSURE CLASS GREATER THAN 1".

AT CONTRACTOR'S OPTION DUCTWORK MAY BE JOINED WITH PREFABRICATED GALVANIZED "DUCTMATE" SECTIONS. THE JOINT PACKING MATERIAL AND JOINT CONSTRUCTION DETAILS USING THIS METHOD SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW.

ALL DUCT PRESSURE CLASSES SHALL BE THE SAME AS THE EXTERNAL STATIC PRESSURE (ESP) OF THE EQUIPMENT SUPPLYING THE DUCT. THE EQUIPMENT ESP SHALL BE THE PRESSURE CLASS FOR THE ENTIRE SUPPLY DUCT SYSTEM.

3 TURNING VANES SHALL BE EQUAL TO AERO-DYNE OR EQUAL 26 GAUGE H-E-P HIGH EFFICIENCY PROFILE AIR FOIL VANES MOUNTED 2-1/8 INCHES ON CENTER ON 24 GAUGE RUNNERS. AIR TURNS BY BARBER COLEMAN WILL BE ACCEPTABLE ON LOW PRESSURE ONLY.

4 VOLUME DAMPERS (ROUND - VELOCITIES OVER 1500 FPM) SHALL BE EQUAL TO RUSKIN MODEL CDR25. DAMPERS SHALL BE BUTTERFLY TYPE CONSISTING OF CIRCULAR BLADE MOUNTED TO AXLE. VOLUME DAMPERS (ROUND - VELOCITIES 1500 FPM AND LESS) SHALL BE EQUAL TO RUSKIN MODEL MDRS35. VOLUME DAMPERS (RECTANGULAR - OVER 1500 FPM) SHALL BE EQUAL TO RUSKIN MODEL CD60 LOW LEAKAGE DAMPERS. VOLUME DAMPERS (RECTANGULAR - 1500 FPM AND LESS) SHALL BE EQUAL TO RUSKIN MODEL CD35.

5 COUNTERBALANCED BACKDRAFT DAMPERS SHALL BE EQUAL TO RUSKIN MODEL CBS7. BACKDRAFT DAMPERS SHALL BE EQUAL TO RUSKIN MODEL BDZ/A2.

6 FLEXIBLE CONNECTIONS SHALL BE EQUAL TO METALEDGE VENTGLAS PREFABRICATED FLEXIBLE CONNECTION OF 3-1/4 INCH WIDE HEAT AND FIRE RESISTANT NEOPRENE COATED GLASS FABRIC WITH TWO 3-INCH WIDE 24 GAUGE METAL STRIPS ATTACHED TO EACH EDGE. EQUAL BY VENT FABRICS INC OR DURO-DYNE CORP.

7 ACCESS DOORS SHALL BE CONCEALED FRAME, ACCESS DOORS IN CEILINGS, WALLS, OR FLOORS FOR ACCESS TO DUCTWORK, VALVES, CONTROLS, PIPING, ETC, INSTALLED UNDER THIS CONTRACT. DOORS SHALL NOT BE FORMED OF NOT LIGHTER THAN USS #14 GAUGE AND FRAMES SHALL NOT BE LESS THAN #16 GAUGE STEEL. HINGES SHALL BE CONCEALED LOOSE PIN SPRING TYPE. LOCKS SHALL BE FLUSH, SCREWDRIVER, CAM ACTION TYPE. DOORS AND FRAMES SHALL BE FURNISHED IN PRIME COAT OF GRAY RUST INHIBITIVE PAINT. EQUAL BY CESCO, NAILOR, HIGGINS, MILCOR, DONLEY.

8 ALL DUCTWORK SHALL BE FABRICATED AND INSTALLED IN ACCORDANCE WITH SMACNA STANDARDS, MANUAL 15d. ALL SUPPLY AIR DUCT PRESSURE CLASSES SHALL BE THE SAME AS THE EXTERNAL STATIC PRESSURE (ESP) OF THE EQUIPMENT SUPPLYING THE DUCT. THE EQUIPMENT ESP SHALL BE THE PRESSURE CLASS FOR THE ENTIRE SUPPLY DUCT SYSTEM.

9 ALL METAL DUCTWORK SPECIFIED TO RECEIVE INTERIOR THERMAL AND ACOUSTICAL LINER IS NOT SIZED ON PLANS TO INCLUDE THE PROPER THICKNESS OF INSULATION. ADD 1" OR 2" IN HEIGHT AND WIDTH OF DUCTWORK TO ACCOMMODATE THICKNESS OF INSULATION.

10 BRANCH DUCTS SHALL BE THE SAME SIZE AS DIFFUSER NECK UNLESS NOTED OTHERWISE.

11 ROUND TAKE-OFF FITTINGS FROM RECTANGULAR DUCTWORK SHALL BE MADE WITH WESCO BELL MOUTH FITTINGS, OR APPROVED EQUAL.

12 PROVIDE TURNING VANES IN ALL ELBOWS.

13 ALL THERMOSTATS SHALL BE SUPPLIED BY THE HVAC CONTRACTOR. THE ELECTRICAL CONTRACTOR SHALL FURNISH AND INSTALL THE NECESSARY CONDUIT, WIRE, BOXES, ETC. FOR THE INSTALLATION OF THERMOSTATS. THE HVAC CONTRACTOR SHALL BE RESPONSIBLE FOR THE INSTALLATION AND CONNECTION OF THERMOSTATS. THERMOSTAT SHALL HAVE AUTOMATIC SET BACK CONTROLS, 5 DEG F DEADBAND, AND SETPOINT OVERLAP RESTRICTIONS. PROGRAM THERMOSTAT TO MEET ALL 2018 IECC REQUIREMENTS.

14 EQUIVALENT MANUFACTURERS OF GRILLES REGISTERS AND DIFFUSERS SHALL BE CARNES, TITUS, KRUEGER, OR ANEMOSTAT.

15 EQUIVALENT MANUFACTURERS OF EXHAUST FANS SHALL BE CARNES, LOREN COOK, PENN VENTILATOR, JENN INDUSTRIES, ACME, OR GREENHECK.

16 EQUIVALENT MANUFACTURERS OF ROOFTOP UNITS SHALL BE YORK OR TRANE.

17 EQUIVALENT MANUFACTURERS OF ELECTRIC UNIT HEATERS SHALL BE TRANE, REZNOR, LENNOX, OR MODINE.

18 BEFORE ANY PIPING, DUCTWORK CONDUIT, ETC. IS INSTALLED, IT SHALL BE COORDINATED CAREFULLY BETWEEN ALL TRADES.

19 ALL REFRIGERANT LINES SHALL EITHER BE TYPE ACR COPPER OR PRE-CHARGED LINES. PRE-CHARGED LINES SHALL BE SUPPLIED BY REFRIGERATION EQUIPMENT MANUFACTURER. SIZING AND INSTALLATION OF REFRIGERANT LINES SHALL BE AS RECOMMENDED BY E/M. ALL ACCESSORIES REQUIRED DUE TO EXCESSIVE LENGTHS OR HEIGHTS SHALL BE PROVIDED BY M/C. ALL SHALL BE TESTED. CONTACTOR SHALL EVACUATE PIPING SYSTEM WITH VACUUM PUMP, CHARGE WITH REFRIGERANT PRESSURE OF 10 PSIG, AND THEN ADMIT DRY NITROGEN UNTIL THE PRESSURE IS 150 PSIG. FINAL PRESSURE SHALL BE LEFT ON SYSTEM FOR A MINIMUM OF 4 HOURS. AFTER SYSTEM IS FOUND TO BE LEAK FREE, DOUBLE EVACUATE SYSTEM, LEAVING FINAL EVACUATION ON SYSTEM A MINIMUM OF 12 HOURS PRIOR TO CHARGING. PRE-CHARGED LINES NEED NOT BE TESTED EXCEPT WHERE LEAKS ARE SUSPECTED.

20 COORDINATE DIFFUSER AND GRILLE LOCATIONS WITH REFLECTED CEILING PLANS.

21 PROVIDE MANUAL VOLUME DAMPERS ON ALL SUPPLY AND EXHAUST BRANCH DUCTS.

22 CONTRACTOR SHALL GUARANTEE ALL EQUIPMENT, ACCESSORIES, AND MATERIAL FURNISHED BY HIM FOR A PERIOD OF ONE YEAR FROM FINAL ACCEPTANCE AGAINST ALL DEFECTS.

23 THE MECHANICAL CONTRACTOR SHALL OBTAIN THE SERVICES OF AN INDEPENDENT FIRM TO PERFORM THE HVAC SYSTEM TESTING AND BALANCING. THE TESTING AND BALANCING FIRM SHALL BE A CERTIFIED MEMBER OF THE ASSOCIATED AIR BALANCING COUNCIL OR NEBB AND ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE AABC NATIONAL STANDARDS. BALANCING AND TEST REPORTS SHALL BE SUBMITTED ON STANDARD AABC FORMS OR EQUIVALENT FORMS BY NEBB OR SMACNA.

THE M/C SHALL PREPARE THE SYSTEM FOR TEST AND BALANCE AS FOLLOWS:

INSTALL, START-UP, CHECK OUT, AND ADJUST ALL HVAC SYSTEM PER DRAWINGS AND SPECIFICATIONS AND HAVE FULLY OPERATIONAL WITH ALL DEFICIENCIES CORRECTED ON OR BEFORE OWNER'S SUBSTANTIAL COMPLETION DATE.

VERIFY THAT MECHANICAL CONTACTOR HAS INSTALLED NEW FILTERS NO MORE THAN ONE DAY PRIOR TO STARTING TEST AND BALANCE PROCEDURE.

MECHANICAL

VERIFY ALL DUCTWORK IS CLEAN AND SEALED TIGHT AGAINST LEAKS.

VERIFY THAT ALL CONTROLS, DAMPERS AND ACTUATORS ARE INSTALLED, ADJUSTED AND CALIBRATED.

SECURE CONTROL DAMPERS AFTER TEST AND BALANCE.

THE TEST AND BALANCE CONTRACTOR SHALL TEST AND BALANCE OF ALL AIR DISTRIBUTION SUPPLY, AND RETURN DUCT SYSTEMS, AND EXHAUST SYSTEMS TO THE DESIGN CONDITIONS IN ACCORDANCE WITH THE FOLLOWING:

AIR HANDLING SYSTEMS: CLEAR SYSTEM OF ALL FOREIGN OBJECTS AND CLEAN SYSTEM, VERIFY FAN ROTATION, CHECK BEARING CONDITION AND LUBRICATION, CHECK FAN WHEEL CLEARANCES AND ALIGNMENT, CHECK MOTOR SECURITY TO MOUNTING BASE, ALIGNMENT OF DRIVE, VIBRATION ISOLATOR ADJUSTMENT, PROPER FILTER MEDIA IS INSTALLED, CONFIRM ALL FIRE AND VOLUME DAMPERS ARE INSTALLED AND IN FULL OPEN POSITION, ALL AIR TERMINAL UNITS ARE INSTALLED, CHECK FOR LEAKS IN DUCT SYSTEMS, AT EQUIPMENT CONNECTIONS AND AT COILS.

MAKE ADJUSTMENTS TO IN PULLEYS, BELTS, DAMPERS, ETC AS REQUIRED BY THE BALANCE CONTRACTOR.

MAKE ADJUSTMENTS IN TERMINAL AND DAMPER SETTINGS AS REQUIRED TO OBTAIN DESIGN SUPPLY, EXHAUST, AND RETURN CFM AS INDICATED ON DRAWINGS.

MEASURE AND ADJUST ALL OUTLETS (OR INLETS) TO OBTAIN DESIGN CFM.

MEASURE AND ADJUST ALL BRANCH DUCTS TO OBTAIN DESIGN CFM.

ADJUST OUTLET DEFLECTION VANES TO MINIMIZE DRAFTS.

IT IS THE MECHANICAL CONTRACTOR'S RESPONSIBILITY UPON FINDING ANY DEFICIENCIES IN CAPACITIES TO IMMEDIATELY CALL TO ENGINEER'S ATTENTION FOR DIRECTION. NEW AIR QUANTITIES MAY BE ASSIGNED.

PLUMBING

1 ALL PLUMBING WORK SHALL BE IN ACCORDANCE WITH THE 2018 INTERNATIONAL PLUMBING CODE AS ADOPTED BY THE CITY OF LEE'S SUMMIT, MO.

2 COOPERATE CLOSELY WITH ALL OTHER TRADES TO EXPEDITE CONSTRUCTION AND AVOID INTERFERENCES AND CONFLICTS. BEFORE ANY PIPING, DUCTWORK, CONDUIT, ETC. IS INSTALLED, IT SHALL BE COORDINATED CAREFULLY BETWEEN ALL TRADES.

3 INSULATE ALL DOMESTIC COLD WATER, ROOF DRAIN, AND HVAC CONDENSATE DRAIN PIPING WITH 1/2" AP ARMAFLEX. ALL INSULATION MATERIALS SHALL HAVE A FLAME SPREAD RATING NO GREATER THAN 25 AND A SMOKE DEVELOPED RATING NO GREATER THAN 50.

INSULATE ALL DOMESTIC HOT WATER AND HOT WATER RECIRCULATION PIPING 1.25" AND LESS WITH 1" AP ARMAFLEX ELASTOMERIC INSULATION. ALL DOMESTIC HOT WATER AND HOT WATER RECIRCULATION PIPING 1.5" AND GREATER SHALL BE INSULATED WITH 1.5" AP ARMAFLEX ELASTOMERIC INSULATION.

4 HOSE BIBBS SHALL BE WOODFORD MODEL 24P-3/4 OR EQUAL ANGLE HOSE BIBB WITH MODEL 34HF VACUUM BREAKER AND LOOSE TEE HANDLE. EQUIVALENT BY WADE, ZURN, J.R. SMITH.
CONDENSATE DRAIN PIPING WITH 1/2" AP ARMAFLEX. ALL INSULATION MATERIALS SHALL HAVE A FLAME SPREAD RATING NO GREATER THAN 25 AND A SMOKE DEVELOPED RATING NO GREATER THAN 50.

5 FINISHED FLOOR CLEANOUTS SHALL BE J.R. SMITH MODEL 4031 CAST IRON CLEANOUT WITH ROUND NICKEL BRONZE SCORIATED COVER, PROVIDE CARPET MARKERS IN AREAS SCHEDULED TO RECEIVE CARPETING. EQUIVALENT FINISHED FLOOR CLEANOUTS BY WADE, OR ZURN.

6 FINISHED WALL CLEANOUTS SHALL BE J.R. SMITH SERIES 4710 STAINLESS STEEL WALL CLEANOUT COVER WITH CENTER SCREW AND PVC CLEANOUT TEE WITH THREADED PLUG. EQUIVALENT BY WADE, OR ZURN.

7 FLOOR DRAIN TYPE "A" SHALL BE J.R. SMITH MODEL 2005-A INSIDE CAULK CAST IRON BODY FLOOR DRAIN WITH INTEGRAL FLASHING COLLER AND ADJUSTABLE ROUND NICKEL BRONZE STRAINER HEAD; NEOPRENE PUSH ON GASKET MAY BE USED IN LIEU OF INSIDE CAULK AT CONTRACTOR'S OPTION. PROVIDE A P-TRAP FOR ALL FLOOR DRAINS. EQUIVALENT FLOOR DRAINS BY WADE, OR ZURN. PROVIDE TRAP SEAL PRIMER PRESSURE DROP TYPE MI-FAB MODEL M2-500 PRESSURE DROP ACTIVATED BRASS TRAP SEAL PRIMER OR EQUAL. TRAP PRIMER SHALL SERVE UP TO 3 FLOOR DRAIN TRAPS AND REQUIRES NO ADJUSTMENTS AND NO AIR PRE-CHARGE. PRIMER VALVES SHALL BE LOCATED BENEATH NEAREST SINK OR LAVATORY AND SHALL BE CONNECTED TO TRAP PRIMERS WITH COPPER TUBING ROUTED BELOW GRADE FROM PRIMER TO FLOOR DRAIN TRAP.

8 FLOOR SINK TYPE "A" SHALL BE J.R. SMITH, ACID RESISTANT COATED, MODEL 3161Y-NB-F-C WITH REMOVABLE STRAINER AND SEEPAGE CONTROL FLANGE. SEE ARCHITECTURAL PLANS FOR SINK TOP ELEVATIONS AND FLOOR DRAINAGE. EQUIVALENT FLOOR SINKS BY JOSAM, WADE, OR ZURN.

9 FLOOR SINK TYPE "B" SHALL BE J.R. SMITH, ACID RESISTANT COATED, MODEL 3120Y-NB-F-C WITH REMOVABLE STRAINER AND SEEPAGE CONTROL FLANGE. SEE ARCHITECTURAL PLANS FOR SINK TOP ELECATIONS AND FLOOR DRAINAGE. EQUIVALENT FLOOR SINKS BY JOSAM, WADE, OR ZURN.

10 ALL SHUTOFF VALVES ON DOMESTIC WATER SHALL BE APOLLO SERIES 70-100 BRONZE FULL PORT BALL VALVE 600 PSI-WOG WITH TEFLON SEATS, BRONZE BALL, SILICON BRONZE STEM INSULATED HANDLE, LEAD FREE, AND SCREWED OR SOLDER ENDS. EQUIVALENT VALVES BY NIBCO-SCOTT, CRANE, FAIRBANKS, HALE, MUESCO, STOCKHAM, KENNEDY, KEYSTONE, OR POWELL.

11 STOPS AND SUPPLIES SHALL BE 1/2" THREADED BY 3/8" COMPRESSION ANGLE STOP VALVES WITH 3/8" O.D. FLEXIBLE RISER WITH CHROME PLATED WALL FLANGE.

12 PROVIDE JOSAM ABSORBTRON SHOCK ABSORBERS ON ALL PLUMBING FIXTURE BATTERIES WHERE SHOWN N PLANS SIZED IN ACCORDANCE WITH PLUMBING AND DRAINAGE INSTITUTE STANDARD P.D.I. WH201. EQUIVALENT SHOCK ABSORBERS BY WADE, SIOUX CHIEF, OR J.R. SMITH.

13 EQUIVALENT PLUMBING FIXTURES BY AMERICAN STANDARD, TOTO, KOHLER, ELJER, OR CRANE.

14 EQUIVALENT FAUCETS AND FITTINGS BY AMERICAN STANDARD, KOHLER, ELJER, CRANE, MOEN, TOTO OR DELTA.

15 EQUIVALENT WATER HEATERS BY RHEEM, NATIONAL, BRADFORD- WHITE, LOCHINVAR, AND PVI.

16 ALL WATER HEATERS SHALL BE PROVIDED WITH AN EXPANSION TANK. EQUAL TANKS BY WADE, AMTROL.

17 CONTRACTOR SHALL GUARANTEE ALL EQUIPMENT, ACCESSORIES AND MATERIAL FURNISHED BY HIM FOR A PERIOD OF ONE YEAR FROM FINAL ACCEPTANCE AGAINST ALL DEFECTS.

18 PROVIDE A MINIMUM OF SIX (6) COPIES OF SHOP DRAWINGS FOR ALL FIXTURES AND EQUIPMENT FURNISHED UNDER THIS CONTRACT.

19 ROOF DRAIN TYPE "A" SHALL BE J.R. SMITH MODEL 1010-C-R-A-U WITH DECK CLAMP, DRAIN RECEIVER, AND ALUMINUM VANDAL PROOF DOME. PROVIDE EXTENSIONS AS REQUIRED FOR ROOF INSULATION THICKNESS. ROOF DRAIN SUMP TO BE INSULATED. ROOF DRAINS SHALL BE AS MANUFACTURED BY WADE, WATTS, OR ZURN

20 GREASE INTERCEPTOR SHALL BE SCHIER GB-75 SEAMLESS MOLDED POLYETHYLENE TANK WITH HIGHWAY RATED ACCESS COVERS. CONTRACTOR TO BE PROVIDE ADDITIONAL RISERS, AS REQUIRED, TO INSTALL COVERS FLUSH WITH GRADE AND THE INTERCEPTOR AT THE REQUIRED INVERT. MAX GREASE CAPACITY SHALL EXCEED 1000 LBS WITH A LIQUID CAPACITY OF AT LEAST 250 GALLONS AND SOLIDS CAPACITY OF AT LEAST 100 GALLONS. FLOW RATE SHALL BE RATED FOR 100 GPM. EQUAL INTERCEPTORS BY JOSAM AND ZURN.

NATURAL GAS

1 ALL NATURAL GAS WORK SHALL BE IN ACCORDANCE WITH THE 2018 INTERNATIONAL FUEL GAS CODE AS ADOPTED BY THE CITY OF LEE'S SUMMIT, MO.

2 CONTRACTOR SHALL ARRANGE FOR GAS SERVICE WITH TAPS, PIT AND METER WITH LOCAL ENERGY COMPANY. CONTRACTOR SHALL INCLUDE ALL FEES, COSTS AND CHARGES INCURRED BY THE UTILITY IN THE BASE BID.

3 PAINT ALL EXTERIOR NATURAL GAS PIPING WITH ONE (1) PRIMER COAT AND TWO (2) FINISH COATS. EQUIPMENT AND MATERIALS EXPOSED TO INTERIOR DRY ENVIRONMENT SHALL HAVE A MINIMUM OF ONE (1) PRIMER AND ONE (1) FINISH COAT.

4 WHERE MATERIALS OR EQUIPMENT ARE DESCRIBED BUT NOT NAMED, PROVIDE REQUIRED ITEMS OF FIRST QUALITY, ADEQUATE IN EVERY RESPECT FOR INTENDED USE. SUCH ITEMS SHALL BE SUBMITTED TO A/E FOR REVIEW PRIOR TO PROCUREMENT.

5 ALL NATURAL GAS VALVES ON GAS PIPING SIZED UP TO 1" SHALL BE EITHER:

APOLLO SERIES 77C-10X-UL, BRONZE (MSS SP-110, UL-258 LISTED VGCU) FULL PORT BALL VALVE 600 PSI-WOB, PTFE SEATS AND SEALS, CHROME-PLATE BALL, STEM WITH INSULATED HANDLE WITH SCREWED ENDS.

HAYS 7400 SERIES IRON BODY GAS COCK, 175 PSI-WOG BRONZE PLUG WASHER AND NUT, SCREWED ENDS.

6 ALL NATURAL GAS VALVES 1.25" TO 2.5" SHALL BE HOMESTEAD FIG. 651, SEMI-STEEL LUBRICATED PLUG VALVE, 200 PSI-WOG, COATED PLUG, SHORT PATTERN SCREWED ENDS. PROVIDE COMPLETE WITH STANDARD PATTERN CAST HANDLE.

7 ALL NATURAL GAS PRESSURE GAUGES SHALL BE MARCH/MARCHALTOWN WUALITY GAUGES AND SHALL HAVE A BRASS CASE WITH A CHROME PLATED FINISH. ALL NATURAL GAS PRESSURE GAUGE BOURDON TUBES SHALL BE COPPER ALLOY WITH BRASS TIP. EQUIVALENTS ARE MUELLER, ROCHESTER, TAYLOR, TRERICE, WEKSLER, WEISS, OR WESTON.

8 ALL NATURAL GAS PRESSURE GAUGES SHALL BE COPPER ALLOY WITH BRASS TIP.

9 WITH REGARDS TO CARBON STEEL PIPE:

PROVIDE CONTINUOUS WELD OR ELECTRIC RESISTANCE WELDED CARBON STEEL PIPE CONFORMING TO ASTM A120 OR A53, AS SCHEDULED.

PIPE JOINTS SHALL BE THREADED CONFORMING TO ANSI B2.1, BEVELED FOR WELDING, OR GROOVED FOR USE WITH VICTAULIC COUPLINGS.

PIPE BY AMCO, YOUNGSTOWN, UNITED STATES STEEL, OR EQUAL.

10 ALL GAS LINES DOWNSTREAM OF THE METER WITH PRESSURE ABOVE 7" WC SHALL BE CLEARLY MARKED WITH A LABEL THAT READS "ELEVATED PRESSURE". PROVIDE LABEL THAT MEETS UTILITY COMPANY STANDARDS.

Hufft

PROJECT INFORMATION:

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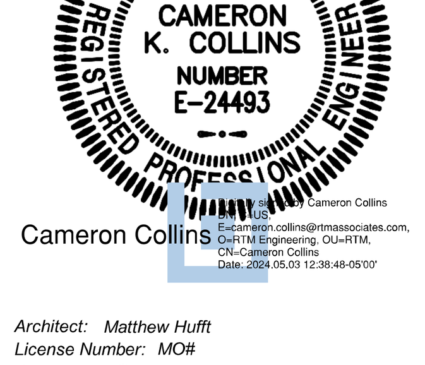
ISSUE:

100% CDs

05-02-2024

REVISION SCHEDULE:

NO.	DATE	ISSUE



Cameron Collins
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Date: 2024.05.03 12:38:48-05'00'

Architect: Matthew Hufft
License Number: MO#
Drawn By: TSE
Project Number: 736

MEP SPECIFICATIONS

ME4

PLUMBING PIPES:

- DOMESTIC COLD WATER
- DOMESTIC HOT WATER
- DOMESTIC HOT WATER RECIRCULATION
- 140 DOMESTIC HOT WATER - 140 DEGREES
- 180 DOMESTIC HOT WATER - 180 DEGREES
- T DOMESTIC TEMPERED WATER
- DW DOMESTIC CHILLED DRINKING WATER
- W DOMESTIC WATER SERVICE
- WASTE PIPING - ABOVE FLOOR
- WASTE PIPING - BELOW FLOOR
- RD ROOF DRAIN - ABOVE FLOOR
- RD ROOF DRAIN - BELOW FLOOR
- AW ACID WASTE - ABOVE FLOOR
- AW ACID WASTE - BELOW FLOOR
- GW GREASE WASTE - ABOVE FLOOR
- GW GREASE WASTE - BELOW FLOOR
- VENT PIPING
- AV ACID VENT PIPING
- CA COMPRESSED AIR
- G NATURAL GAS
- LPG LIQUEFIED PETROLEUM GAS

FIRE PROTECTION PIPES:

- F FIRE SERVICE
- SP FIRE PROTECTION STANDPIPE
- F FIRE SPRINKLER - WET
- FD FIRE SPRINKLER - DRY
- FP FIRE SPRINKLER - PREACTION
- FG FIRE SPRINKLER - GASEOUS

MEDICAL GAS PIPES:

- V MEDICAL VACUUM PIPING
- O MEDICAL OXYGEN PIPING
- NO MEDICAL NITROUS OXIDE PIPING
- N MEDICAL NITROGEN PIPING
- A MEDICAL AIR PIPING
- WAGD MEDICAL WAGD PIPING

HVAC PIPES:

- CWS CHILLED WATER SUPPLY
- CWR CHILLED WATER RETURN
- CHS CHILLED / HOT WATER SUPPLY
- CHR CHILLED / HOT WATER RETURN
- C CONDENSER WATER SUPPLY
- CR CONDENSER WATER RETURN
- HWS HEATING HOT WATER SUPPLY
- HWR HEATING HOT WATER RETURN
- HTWS HIGH TEMPERATURE WATER SUPPLY
- HTWR HIGH TEMPERATURE WATER RETURN
- HPS HEAT PUMP SUPPLY
- HPR HEAT PUMP RETURN
- LP STEAM - LOW PRESSURE SUPPLY
- LP STEAM - LOW PRESSURE CONDENSATE RETURN
- MP STEAM - MEDIUM PRESSURE SUPPLY
- MP STEAM - MEDIUM PRESSURE CONDENSATE RETURN
- HP STEAM - HIGH PRESSURE SUPPLY
- HP STEAM - HIGH PRESSURE CONDENSATE RETURN
- FW BOILER FEEDWATER PUMP DISCHARGE
- PC CONDENSATE PUMP DISCHARGE
- D CONDENSATE (DRAIN) PIPING
- RL REFRIGERANT LIQUID
- RS REFRIGERANT SUCTION
- RD REFRIGERANT DISCHARGE (HOT GAS)
- RDB REFRIGERANT DISCHARGE (BYPASS)
- IN INTAKE PIPING
- EX EXHAUST PIPING
- FOS FUEL OIL SUPPLY
- FOR FUEL OIL RETURN
- FOG FUEL OIL GAUGE LINE
- FOV FUEL OIL VENT

PIPE PHASING:

- IMPROVEMENT - SERVICE AS NOTED ABOVE
- IMPROVEMENT - SERVICE AS NOTED ABOVE
- IMPROVEMENT - SERVICE AS NOTED ABOVE
- IMPROVEMENT - SERVICE AS NOTED ABOVE
- IMPROVEMENT - SERVICE AS NOTED ABOVE
- IMPROVEMENT - SERVICE AS NOTED ABOVE
- EXISTING - SERVICE AS NOTED ABOVE
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- EXISTING - SERVICE AS NOTED ABOVE
- EXISTING - SERVICE AS NOTED ABOVE
- EXISTING - SERVICE AS NOTED ABOVE
- EXISTING - SERVICE AS NOTED ABOVE
- DEMOLISHED - SERVICE AS NOTED ABOVE
- FUTURE - SERVICE AS NOTED ABOVE

PIPE FITTINGS AND VALVES:

- SHUT-OFF VALVE (BALL OR GATE AS SPECIFIED)
- CHECK VALVE
- BALANCING VALVE WITH PRESSURE PORTS
- TRIPLE DUTY VALVE WITH PRESSURE PORTS
- PLUG VALVE
- SOLENOID VALVE
- MOTORIZED TWO-WAY VALVE
- MOTORIZED THREE-WAY VALVE
- AUTOMATIC FLOW CONTROL VALVE
- DOMESTIC WATER MIXING VALVE
- TEMPERATURE REGULATING VALVE
- PRESSURE REDUCING VALVE
- RELIEF VALVE
- TEMPERATURE AND PRESSURE RELIEF VALVE
- THERMOMETER
- TEMPERATURE SENSOR
- PRESSURE GAUGE
- FLOW SWITCH
- STRAINER
- FLOAT TRAP
- FLOAT AND THERMOSTATIC TRAP
- BUCKET TRAP
- IMPULSE TRAP
- SLIDING EXPANSION JOINT
- BELLOWS EXPANSION JOINT
- PIPE GUIDE
- PIPE ANCHOR
- PIPING SUPPORT ON ROOF
- UNION
- REDUCER
- CAP
- BREAK
- ELBOW UP
- ELBOW DOWN
- TEE UP
- TEE DOWN
- SIAMESE CONNECTION
- SHOCK ABSORBER
- METER
- BACKFLOW PREVENTER

PLUMBING FIXTURES:

- PLUMBING FIXTURE PLAN MARK TAG (REFERENCE PLUMBING FIXTURE SCHEDULE)
- FLUSH TANK WATER CLOSET
- FLOOR MOUNT FLUSH VALVE WATER CLOSET
- WALL MOUNT FLUSH VALVE WATER CLOSET
- URINAL
- WALL MOUNTED LAVATORY
- COUNTERTOP LAVATORY
- SINGLE BOWL SINK
- DOUBLE BOWL SINK
- TRIPLE BOWL SINK
- BATHTUB
- SHOWER
- SHOWER HEADS
- DRINKING FOUNTAIN OR ELECTRIC WATER COOLER
- JANITOR'S BASIN
- EMERGENCY EYEWASH
- EMERGENCY EYEWASH & SHOWER
- EMERGENCY SHOWER
- LAUNDRY SINK
- ROUGH-IN BOX (LAUNDRY OR CONDENSATE DRAIN)
- ROUGH-IN BOX (ICE-MAKER)
- HOSE BIBB
- WALL HYDRANT

PIPE SPECIALTIES:

- DRAINAGE PIPE SPECIALTY TAG X DENOTES PLAN MARK x" DENOTES INLET PIPE SIZE (REFERENCE DRAINAGE PIPE SPECIALTY SCHEDULE)
- FLUSH FLOOR CLEANOUT
- FLUSH GRADE CLEANOUT
- FINISH WALL CLEANOUT
- ROOF DRAIN
- FLOOR DRAIN
- FLOOR SINK
- FLOOR TROUGH / TRENCH DRAIN

DUCTWORK:

- BRANCH DUCT WITH 45 DEGREE BOOT FITTING
- BRANCH DUCT WITH BELLMOUTH SPIN-IN FITTING
- BRANCH DUCT WITH HIGH EFFICIENCY TAKE-OFF
- EQUIPMENT WITH FLEXIBLE DUCT CONNECTION
- ELBOW WITH TURNING VANES
- RETURN, EXHAUST OR FRESH AIR DUCT UP
- RETURN, EXHAUST OR FRESH AIR DUCT DOWN
- SUPPLY AIR DUCT UP
- SUPPLY AIR DUCT DOWN
- INSULATED FLEXIBLE DUCT
- LINEAR SLOT DIFFUSER, TYPE, SIZE, & CFM
- SUPPLY GRILLE- SQUARE CONNECTION, TYPE, SIZE, & CFM
- SUPPLY GRILLE - ROUND CONNECTION, TYPE, SIZE, & CFM
- RETURN GRILLE - SQUARE CONNECTION, TYPE, SIZE, & CFM
- RETURN GRILLE - ROUND CONNECTION, TYPE, SIZE, & CFM
- RETURN GRILLE - DUCTLESS, TYPE, SIZE, & CFM
- EXHAUST GRILLE - SQUARE CONNECTION, TYPE, SIZE, & CFM
- EXHAUST GRILLE - ROUND CONNECTION, TYPE, SIZE, & CFM
- LOUVER - INTAKE, TYPE, SIZE, & CFM
- LOUVER - EXHAUST, TYPE, SIZE, & CFM

DAMPERS:

- VOLUME DAMPER WITH LOCKING QUADRANT
- FD FIRE DAMPER
- SD SMOKE DAMPER
- FS FIRE / SMOKE DAMPER
- MD MOTORIZED DAMPER
- CD CONTROL DAMPER
- RD RELIEF DAMPER
- BD BACKDRAFT DAMPER

TEMPERATURE CONTROLS:

- "RTU-X" TH THERMOSTAT AT 4'-0" A.F.F. U.N.O. SERVING "UNIT"
- STH TEMPERATURE SENSOR AT 4'-0" A.F.F. U.N.O.
- HTH HUMIDITY SENSOR AT 4'-0" A.F.F. U.N.O.
- CTH CARBON DIOXIDE SENSOR AT 4'-0" A.F.F. U.N.O.
- FS FREEZE STAT

LUMINAIRES:

- "A" (x) RECESSED LIGHT FIXTURE, TYPE & CONTROL ZONE
- "A" (x) LIGHT FIXTURE, TYPE & CONTROL ZONE - EMERGENCY
- "A" (x,z) LIGHT FIXTURE, TYPE & CONTROL ZONE - DUAL LEVEL SWITCHING
- "A" NL LIGHT FIXTURE AND TYPE - NIGHT LIGHT - UNSWITCHED

HORIZONTAL LINE IN SYMBOL INDICATES ORIENTATION OF CENTER "BASKET" IN ARCHITECTURAL FIXTURES WHERE APPLICABLE.

- "A" RECESSED ROUND CAN LIGHT FIXTURE AND TYPE
- "A" SUSPENDED ROUND LIGHT FIXTURE AND TYPE
- "A" WALL MOUNTED LIGHT FIXTURE AND TYPE
- "A" SURFACE MOUNTED LINEAR LIGHT FIXTURE AND TYPE
- "A" SUSPENDED LINEAR LIGHT FIXTURE AND TYPE
- "D" "E" "F" TRACK LIGHT AND TYPE
- "X" "X" CEILING AND WALL MOUNTED EXIT LIGHT AND TYPE -ARROW INDICATES CHEVRON DIRECTION(S) -FILLED SEGMENT INDICATES FACE DIRECTION(S)
- "EM" EMERGENCY LIGHT AND TYPE
- "X" CEILING MOUNTED COMBINATION EXIT / EMERGENCY LIGHT AND TYPE
- "X1" WALL MOUNTED COMBINATION EXIT / EMERGENCY LIGHT AND TYPE
- "A" EXTERIOR POLE MOUNTED LIGHT FIXTURE AND TYPE WITH NUMBER OF HEADS INDICATED ON DRAWINGS.
- (x) DESIGNATION OF CONTROL ZONE FOR LUMINARE. DESIGNATION IS ASSOCIATED WITH BOTH CONTROL DEVICES AND LUMINAIRES.

RACEWAYS:

- CONDUIT OR CIRCUIT CONCEALED IN CEILING OR WALL
- CONDUIT OR CIRCUIT CONCEALED IN FLOOR SLAB
- EXPOSED CONDUIT OR CIRCUIT
- EXPOSED METAL RACEWAY - WIREMOLD
- HOME RUN - LINES INDICATE NUMBER OF WIRES, ARROWS INDICATE NUMBER OF CIRCUITS. HOT NEUTRAL GROUND
- #14 WIRE
- #16 WIRE
- #18 WIRE
- SHEATHED CABLE
- UGE UNDERGROUND ELECTRIC
- OHE OVERHEAD ELECTRIC
- UGT UNDERGROUND TELEPHONE
- OHT OVERHEAD TELEPHONE

POWER EQUIPMENT:

- LIGHTING AND APPLIANCE PANEL
- DISTRIBUTION, FEEDER OR POWER PANEL
- DISCONNECT SWITCH
- MAGNETIC MOTOR CONTROLLER
- COMBINATION MAGNETIC MOTOR CONTROLLER
- ELEVATOR POWER MODULE
- T TIME SWITCH
- LC LIGHTING CONTACTOR
- PC PHOTOCELL
- PP POWER POLE
- TRANSFORMER - THIN OUTLINE INDICATES EQUIPMENT PAD WHERE FLOOR MOUNTED.

WIRING DEVICES AND OUTLETS:

REFER TO SPECIFICATION SECTION 260533 RACEWAYS AND BOXES FOR INSTALLATION HEIGHTS AND COORDINATION OF LOCATION REQUIREMENTS.

- $ 20 AMP, SINGLE POLE, 120/277 VOLT SWITCH
- $3 THREE-WAY 120/277 VOLT SWITCH
- $4 FOUR-WAY 120/277 VOLT SWITCH
- $P 120/277 VOLT SWITCH WITH PILOT LIGHT
- $K KEYED 120/277 VOLT SWITCH
- $WP WEATHERPROOF 120/277 VOLT SWITCH
- $2 DOUBLE POLE, 120/277 VOLT SWITCH
- $D 120/277 VOLT DIMMER SWITCH
- $M MOMENTARY CONTACT 120/277 VOLT SWITCH
- $HOA HAND-OFF-AUTO SELECTOR SWITCH
- $TO MANUAL STARTER WITH THERMAL OVERLOADS
- $OT 120/277 VOLT SPRING WOUND TIMER SWITCH
- $ET 120/277 VOLT ELECTRIC TIMER SWITCH
- $N 120/277 VOLT NARROW SWITCH
- $LV LOW VOLTAGE SWITCH - REFER TO LIGHTING DEVICE SCHEDULE
- $VA1 WALL MOUNT VACANCY SENSOR SWITCH AND TYPE
- VA1 WALL MOUNT VACANCY SENSOR AND TYPE
- VA1 CEILING MOUNT VACANCY SENSOR AND TYPE
- $ OC1 WALL MOUNT OCCUPANCY SENSOR SWITCH AND TYPE
- OC1 WALL MOUNT OCCUPANCY SENSOR AND TYPE
- OC1 CEILING MOUNT OCCUPANCY SENSOR AND TYPE

FOR ALL OCCUPANCY AND VACANCY DEVICES - REFER TO LIGHTING DEVICE SCHEDULE
OCCUPANCY SENSORS SHALL BE PROGRAMMED TO BE AUTOMATIC ON - AUTOMATIC OFF.
VACANCY SENSORS SHALL BE PROGRAMMED

- RC1 ROOM CONTROL DEVICE FOR DISTRIBUTED LIGHTING CONTROLS
- PP1 POWER PACK FOR LIGHTING CONTROLS
- SWITCHED RECEPTACLE, HALF OF OUTLETS SWITCHED, NEMA TYPE AS INDICATED
- SIMPLEX, 20 A, 125 V, 2 P, 3 W, GROUNDING RECEPTACLE - NEMA 5-20R
- CEILING MOUNTED DUPLEX, 20 A, 125 V, 2 P, 3 W, GROUNDING RECEPTACLE - NEMA 5-20R
- DUPLEX, 20 A, 125 V, 2 P, 3 W, GROUNDING RECEPTACLE - NEMA 5-20R
- DOUBLE DUPLEX, 20 A, 125 V, 2 P, 3 W, GROUNDING RECEPTACLE - NEMA 5-20R
- DUPLEX, 20 A, 125 V, 2 P, 3 W, GROUND FAULT INTERRUPTER TYPE GROUNDING RECEPTACLE - NEMA 5-20R
- DOUBLE DUPLEX, 20 A, 125 V, 2 P, 3 W, GROUND FAULT INTERRUPTER TYPE GROUNDING RECEPTACLE - NEMA 5-20R
- DUPLEX, 20 A, 125 V, 2 P, 3 W, GROUNDING TYPE RECEPTACLE WITH DUAL USB PORTS
- 20AMP, 125V, 2P, 3W GROUNDING 4-PORT USB CHARGING OUTLET
- A 20 IN ADDITIONAL SPECIAL RECEPTACLE DESIGNATORS - REFER TO RECEPTACLE SCHEDULE OR PLAN NOTES FOR RECEPTACLE REQUIREMENTS.
- FB1 RECESSED RECTANGULAR FLOOR BOX - MAY INCLUDE DATA AND POWER - REFER TO FLOOR BOX SCHEDULE FOR DETAILS
- FB1 RECESSED ROUND FLOOR BOX - MAY INCLUDE DATA AND POWER - REFER TO FLOOR BOX SCHEDULE FOR DETAILS
- FB1 SURFACE MOUNTED FLOOR BOX - MAY INCLUDE DATA AND POWER - REFER TO FLOOR BOX SCHEDULE FOR DETAILS
- CH CLOCK OUTLET (RECEPTACLE)
- APPROPRIATE RECEPTACLE(S) ON STUBBED UP CONDUIT, OUTLET BOX TO BE FS BOX
- J JUNCTION BOX 4" SQUARE UNLESS NOTED OTHERWISE
- J JUNCTION BOX ON STUBBED UP CONDUIT
- 1 2 3 4 PRE-FABRICATED MULTI-OUTLET ASSEMBLY - OUTLETS 12" O.C. UNLESS OTHERWISE NOTED - REFER TO SCHEDULE FOR ADDITIONAL REQUIREMENTS
- PB PUSHBUTTON STATION
- EL EMERGENCY LIGHTING CONTROL UNIT - REFER TO LIGHTING DEVICE SCHEDULE.
- INV LIGHTING INVERTER

SECURITY:

- DC DOOR ALARM CONTACT
- DAA DOOR ALARM ANNUNCIATOR
- M MONITOR JUNCTION BOX
- M MOTORIZED DAMPER
- CTV CLOSED CIRCUIT TELEVISION CAMERA
- M MOTION DETECTOR
- C CLOSED CIRCUIT TELEVISION OUTLET
- DPS DOOR POSITION SWITCH
- PB PUSH BUTTON
- PA PANIC BUTTON

FIRE ALARM:

- WS WATER FLOW SWITCH
- TS VALVE TAMPER SWITCH
- FR FAN SHUTDOWN RELAY
- R FIRE ALARM RELAY
- FIRE ALARM STROBE - WALL MOUNTED
- FIRE ALARM STROBE - CEILING MOUNTED
- F MANUAL FIRE ALARM PULL STATION
- C F FIRE ALARM BELL
- FIRE HORN AND STROBE - WALL MOUNTED
- FIRE HORN
- C S FIRE SPEAKER - CEILING MOUNTED
- S FIRE SPEAKER - WALL MOUNTED
- FIRE SPEAKER AND STROBE - WALL MOUNTED
- C FIRE SPEAKER AND STROBE - WALL MOUNTED

INSTALLATION HEIGHT OF ALL FIRE ALARM DEVICES SHALL BE AS REQUIRED BY THE LATEST EDITION OF NFPA 72. COORDINATE WITH EQUIPMENT MANUFACTURER BASED ON ACTUAL PROVIDED EQUIPMENT.

- FACP FIRE ALARM CONTROL PANEL
- FAA FIRE ALARM ANNUNCIATOR PANEL
- CO CARBON DIOXIDE SENSOR
- D DUCT SMOKE DETECTOR
- CEILING SMOKE DETECTOR
- THERMAL DETECTOR (HEAT)
- DH ELECTRIC DOOR HOLDER
- F FIREMAN'S TELEPHONE OUTLET

NURSE CALL:

- NCMS NURSE CALL MASTER STATION
- NCA NURSE CALL ANNUNCIATION PANEL
- SL S NURSE CALL SWITCH PANEL
- W SL H NURSE CALL ROOM STATUS CORRIDOR LIGHT - WALL MOUNT
- SL C NURSE CALL ROOM STATUS CORRIDOR LIGHT - CEILING MOUNT
- W N H NURSE CALL CORRIDOR LIGHT - WALL MOUNT
- N C NURSE CALL CORRIDOR LIGHT - CEILING MOUNT
- N 1 NURSE CALL PATIENT STATION - SINGLE CALL CORD
- N 2 NURSE CALL PATIENT STATION - DOUBLE CALL CORD
- N D NURSE CALL DUTY STATION
- N E NURSE CALL EMERGENCY STATION - PULL CORD
- N PB NURSE CALL EMERGENCY STATION - PUSH BUTTON
- N CB NURSE CALL CODE BLUE STATION

COMMUNICATIONS:

- 1 **TELEPHONE OUTLET - NUMBER INDICATES QTY OF CABLE AND JACK OUTLETS. WHERE NO NUMBER IS INDICATED, ONE CABLE AND JACK OUTLET IS STANDARD.
- 3/2 **DATA / TELEPHONE COMBINATION OUTLET - NUMBERS INDICATES QTY OF CABLE AND JACK OUTLETS FOR DATA/TELEPHONE. WHERE NO NUMBER IS INDICATED, TWO CABLES AND JACK OUTLETS IS STANDARD.
- 3 **DATA OUTLET - NUMBER INDICATES QTY OF CABLE AND JACK OUTLETS. WHERE NO NUMBER IS INDICATED, ONE CABLE AND JACK OUTLET IS STANDARD.
- WAP **WIRELESS ACCESS POINT.
- TV **TELEVISION OUTLET - WALL MOUNT

** THESE OUTLETS REQUIRE 4/S - 3/4 BOX WITH SINGLE GANG PLASTER RING AND 0.75" CONDUIT WITH 90 DEGREE SWEEP ABOVE CEILING WITH DE-BURRED END

- TELEPHONE TERMINAL CABINET ("TTC")
- TP TELEPHONE - POWER POLE
- MASTER CLOCK
- ACU INTERCOM ADMINISTRATIVE CONTROL UNIT
- MA MUSIC SYSTEM AMP
- PA PAGING SYSTEM AMP
- WALL SPEAKER
- C COMBINATION CLOCK SPEAKER
- CEILING SPEAKER
- COLUMN SPEAKER
- HORN TYPE SPEAKER
- M MICROPHONE OUTLET - WALL
- M MICROPHONE OUTLET - FLOOR
- A LOCAL AMPLIFIER
- V REMOTE VOLUME CONTROL
- CALL-IN STATION
- CABLE TRAY

ELECTRICAL NOTATIONS:

- AC THESE LETTERS ADJACENT TO ANY SYMBOL INDICATE DEVICE BOTTOM TO BE 4" ABOVE COUNTERTOP BACKSPLASH
- IG THESE LETTERS ADJACENT TO ANY SYMBOL INDICATE ISOLATED GROUND DEVICE
- SS THESE LETTERS ADJACENT TO ANY SYMBOL INDICATE SURGE SUPPRESSION DEVICE
- TR THESE LETTERS ADJACENT TO ANY SYMBOL INDICATE TAMPER RESISTANT DEVICE
- WP THESE LETTERS ADJACENT TO ANY SYMBOL INDICATE WEATHER-PROOF ENCLOSURE
- WPI THESE LETTERS ADJACENT TO ANY SYMBOL INDICATE WEATHER-PROOF IN-USE ENCLOSURE
- XP THESE LETTERS ADJACENT TO ANY SYMBOL INDICATE EXPLOSION-PROOF ENCLOSURE
- 60" DIMENSIONS ADJACENT TO ANY SYMBOL INDICATE MOUNTING HEIGHT TO CENTER OF DEVICE
- (TIE) INDICATES HOMERUNS WITH SAME CIRCUIT NUMBER TO BE WIRED TOGETHER ON SAME CIRCUIT.

ABBREVIATIONS:

- AD ACCESS DOOR
- AFF ABOVE FINISHED FLOOR
- AFG ABOVE FINISHED GRADE
- AHU AIR HANDLING UNIT
- C CONDUIT
- CO CLEANOUT
- CU CONDENSING UNIT
- CUH CABINET UNIT HEATER
- CW DOMESTIC COLD WATER
- CWR CHILLED WATER RETURN
- CWS CHILLED WATER SUPPLY
- DF DRINKING FOUNTAIN
- DN DOWN
- EF EXHAUST FAN
- EWC ELECTRIC WATER COOLER
- FCU FAN COIL UNIT
- FD FLOOR DRAIN
- FFCO FINISHED FLOOR CLEANOUT
- FGCO FINISHED GRADE CLEANOUT
- FTR FIN TUBE RADIATION
- FWCO FINISHED WALL CLEANOUT
- G GROUND WIRE
- HHP HYDRONIC HEAT PUMP
- HP HEAT PUMP
- HW DOMESTIC HOT WATER
- HWR HEATING HOT WATER RETURN
- HWS HEATING HOT WATER SUPPLY
- OA OUTSIDE AIR
- OC ON CENTER
- RA RETURN AIR
- SA SUPPLY AIR
- UH UNIT HEATER
- UNO UNLESS NOTED OTHERWISE
- UV UNIT VENTILATOR
- V VENT
- VTR VENT THROUGH ROOF
- W WASTE

PLAN NOTATIONS:

- NORTH INDICATES DIRECTION OF NORTH
- 1 / M1 DETAIL REFERENCE - UPPER NUMBER INDICATES DETAIL NUMBER, LOWER NUMBER INDICATES SHEET NUMBER
- 1 PLAN NOTE REFERENCE
- INDICATES CONNECTION TO EXISTING SYSTEM
- 1 / M1 SECTION REFERENCE - UPPER NUMBER INDICATES DETAIL NUMBER, LOWER NUMBER INDICATES SHEET NUMBER

Hufft

PROJECT INFORMATION:

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ISSUE:

100% CDs

05-02-2024

REVISION SCHEDULE:

NO.	DATE	ISSUE

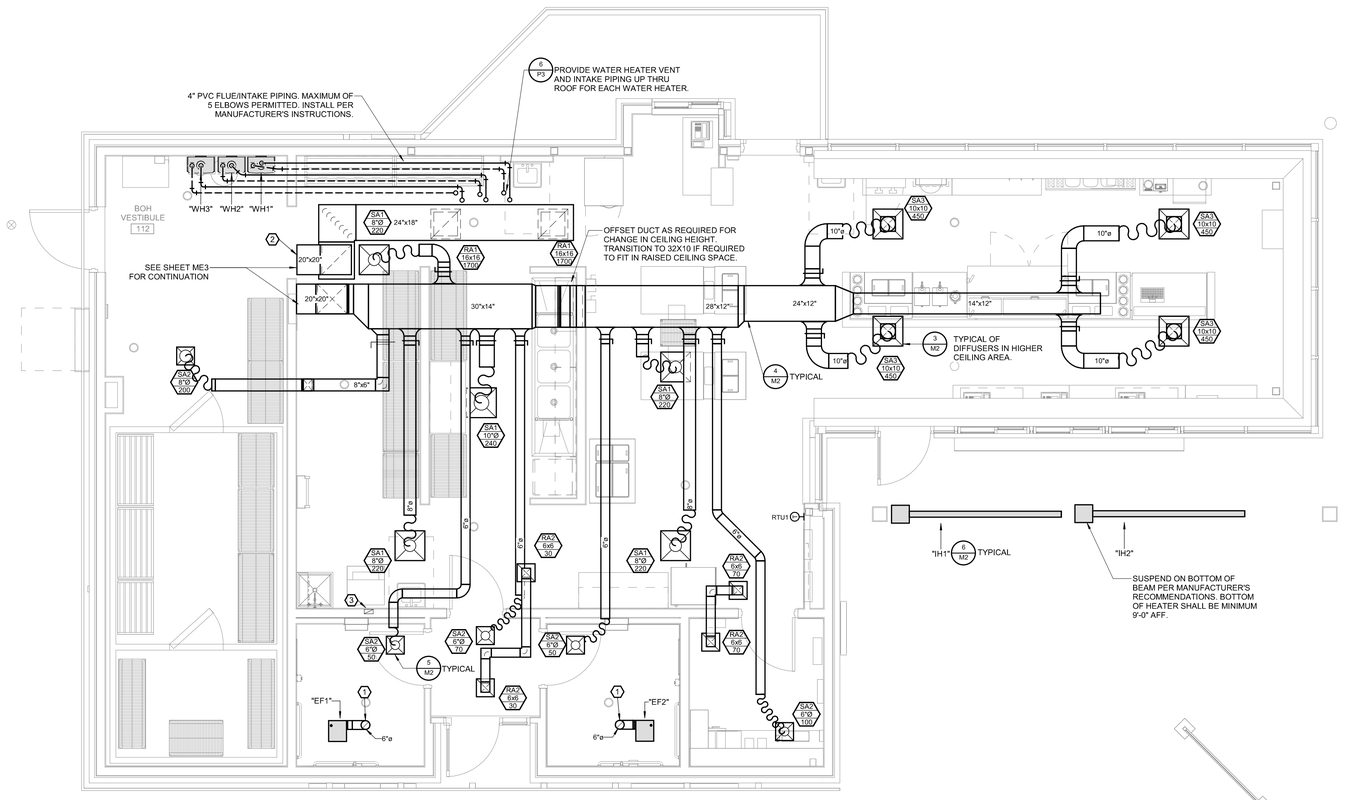
STATE OF MISSOURI REGISTERED PROFESSIONAL ENGINEER CAMERON K. COLLINS NUMBER E-24493

Cameron Collins

Architect: Matthew Hufft
License Number: MO8
Drawn TSE
Project Number: 736

MEP SYMBOLS LEGEND

ME5



1 M1 **FIRST FLOOR HVAC PLAN**

SCALE: 1/4" = 1'-0"

NORTH

PLAN HEX NOTES:

1. 6" EXHAUST DUCT UP TO ROOF CAP.
2. SUPPLY AND RETURN DUCTS SHALL PENETRATE EXTERIOR WALL ABOVE LAY-IN CEILING.
3. GALVANIZED STEEL DRYER VENT UP THROUGH ROOF. TERMINATE WITH CAP/RAIN SHIELD.

GENERAL NOTES:

A. ALL MECHANICAL WORK SHALL BE IN ACCORDANCE WITH THE 2018 MECHANICAL CODE AS ADOPTED BY LEE'S SUMMIT, MO.

B. PLANS ARE DIAGRAMMATIC AND SHALL NOT BE SCALED. REFER TO ARCHITECTURAL DRAWINGS FOR DIMENSIONS.

C. ALL DUCTWORK SHALL BE FABRICATED AND INSTALLED IN ACCORDANCE WITH SMACNA STANDARDS, MANUAL 15d. ALL SUPPLY AIR DUCT PRESSURE CLASSES SHALL BE THE SAME AS THE EXTERNAL STATIC PRESSURE (ESP) OF THE EQUIPMENT SUPPLYING THE DUCT. THE EQUIPMENT ESP SHALL BE THE SAME PRESSURE CLASS FOR THE ENTIRE SUPPLY DUCT SYSTEM.

D. ALL METAL DUCTWORK SPECIFIED TO RECEIVE INTERIOR THERMAL AND ACOUSTICAL LINER IS NOT SIZED ON PLANS TO INCLUDE THE PROPER THICKNESS OF INSULATION. ADD 1" OR 2" IN HEIGHT AND WIDTH OF DUCTWORK TO ACCOMMODATE THICKNESS OF INSULATION.

E. BRANCH DUCTS SHALL BE THE SAME SIZE AS DIFFUSER NECK UNLESS NOTED OTHERWISE.

F. ROUND TAKE-OFF FITTINGS FROM RECTANGULAR DUCTWORK SHALL BE MADE WITH BUCKLEY BELLMOUTH FITTINGS, OR APPROVED EQUAL.

G. PROVIDE TURNING VANES IN ALL ELBOWS.

H. THERMOSTATS SHALL BE SUPPLIED BY THE HVAC CONTRACTOR. THE ELECTRICAL CONTRACTOR SHALL FURNISH AND INSTALL THE NECESSARY CONDUIT, WIRING, BOXES, ETC. FOR THE INSTALLATION OF THERMOSTATS. THE HVAC CONTRACTOR SHALL BE RESPONSIBLE FOR THE INSTALLATION AND CONNECTION OF THERMOSTATS.

I. MECHANICAL SYSTEM SHALL BE TESTED AND BALANCED PRIOR TO FINAL CITY INSPECTION. FILE COMPLETED REPORT WITH CITY PRIOR TO FINAL CITY INSPECTION.

J. CLOSELY COORDINATE WITH ALL OTHER TRADES.

GENERAL NOTES:

A. FOR ALL HVAC QUESTIONS CONTACT RTM ENGINEERING CONSULTANTS, 417-881-0020. CONTACT PERSON: TYLER ENSERRO. tyler.enserro@rtmec.com

Hufft

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ISSUE:

100% CDs

05-02-2024

REVISION SCHEDULE:

NO.	DATE	ISSUE

STATE OF MISSOURI REGISTERED PROFESSIONAL ENGINEER
CAMERON K. COLLINS
NUMBER E-24493

Cameron Collins

Digitally signed by Cameron Collins
DN: cn=Cameron Collins, o=RTM Engineering, OU=RTM, email=Cameron Collins
Date: 2024.05.03 12:40:41-05'00'

Architect: Matthew Hufft
License Number: MO#
Drawn TSE
Project Number: 736

FIRST FLOOR HVAC PLAN

M1

PACKAGED ROOFTOP UNIT SCHEDULE

PLAN MARK	MANUFACTURER	MODEL	SUPPLY AIR FLOW (CFM)	EST. ESP (IN WG)	OUTDOOR AIR FLOW		COOLING CAPACITY						GAS HEATING			ELECTRICAL DATA					NOTES
					MAX (CFM)	MIN (CFM)	E.A.T. DB (°F)	E.A.T. WB (°F)	MIN. SHC (BTU/H)	MIN. THC (BTU/H)	MIN. EER	AMBIENT TEMPERATURE (°F)	GAS LOAD (BTU/H)	OUTPUT (BTU/H)	EFFICIENCY (%)	VOLTAGE	PHASE	MCA	MOCP (A)	MIN. SCCR (A)	
RTU1	TRANE	YHC102	3,400	1	3,400	350	78	63	74	88	12.4	105	200,000	160,000	80	208	3	42	50	5000	2SH, BRD, CCH, CURB, DS, CR , HG, F, MOAE, MSF, R410A, T, H, SZVAV, S/S CONT.

EQUIVALENT RTUS BY YORK ONLY. IF ANY UNIT OTHER THAN THE SPECIFIED UNIT IS SUBMITTED, THE CONTRACTOR MUST SUBMIT A SKETCH (DRAWN TO SCALE) SHOWING THE UNIT LAYOUT, DUCT ROUTING (BOTH INTERIOR AND EXTERIOR), AND ALL CODE AND MANUFACTURER REQUIRED CLEARANCES.

GRILLE, REGISTER AND DIFFUSER SCHEDULE

PLAN MARK	MANUFACTURER	MODEL	APPLICATION	FINISH	FRAME TYPE	VOLUME DAMPER	MAXIMUM NC	MINIMUM THROW (FT)	MAXIMUM THROW (FT)	MAXIMUM ΔP (IN WG)	NOTES
RA1	TITUS	PAR-24 x 24	RETURN	PER ARCHITECT	LAY-IN	No	30	0	0	0.10	24X24 SQUARE PERFORATED FACE WITH SQUARE DUCT CONNECTION. FEILD PAINT PER ARCHITECTURAL PLANS.
RA2	TITUS	PAR-12 x 12	RETURN	PER ARCHITECT	SURFACE	No	30	0	0	0.10	12X12 SQUARE PERFORATED FACE WITH SQUARE DUCT CONNECTION. FEILD PAINT PER ARCHITECTURAL PLANS.
SA1	TITUS	TDCA-24 x 24	SUPPLY	PER ARCHITECT	LAY-IN	No	30	0	0	0.10	24x24 SQUARE LOUVER FACE WITH ROUND DUCT CONNECTION. FEILD PAINT PER ARCHITECT.
SA2	TITUS	TDCA-12 x 12	SUPPLY	PER ARCHITECT	SURFACE	No	30	0	0	0.10	12x12 SQUARE LOUVER FACE WITH ROUND DUCT CONNECTION. FEILD PAINT PER ARCHITECT.
SA3	TITUS	TDCA-12 x 12	SUPPLY	PER ARCHITECT	LAY-IN	No	30	0	0	0.10	2424SQUARE LOUVER FACE WITH SQUARE DUCT CONNECTION. FIELD PAINT PER ARCHITECT.

FAN SCHEDULE

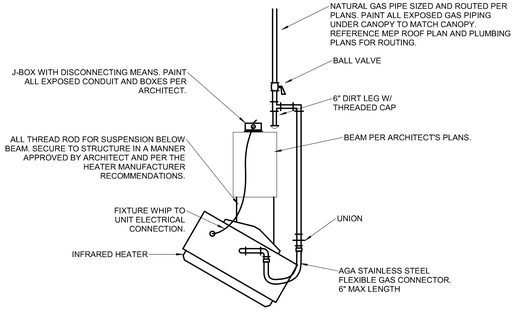
PLAN MARK	MANUFACTURER	MODEL	AIR FLOW (CFM)	EST. ESP (IN WG)	VOLTAGE	PHASE	MOTOR (HP)	NOTES
EF1	COOK	GC	75	0.25	120	1	0.17	DS, GBD, RC
EF2	COOK	GC	75	0.25	120	1	0.17	DS, GBD, RC

INFRARED HEATER SCHEDULE

PLAN MARK	MANUFACTURER	MODEL	TYPE	GAS HEATING		ELECTRICAL DATA				NOTES
				GAS LOAD (BTU/H)	MIN. OUTPUT (BTU/H)	VOLTAGE	PHASE	MCA	MOCP (A)	
IH1	REVERBERRAY	DSRS	GAS	50,000	40,000	120	1	1	15	MB, DS, BF
IH2	REVERBERRAY	DSRS	GAS	50,000	40,000	120	1	1	15	MB, DS, BF

SCHEDULE LEGEND

ABBREVIATED SCHEDULE HEADINGS	
A	AMPS
CAP	CAPACITY
CFM	CUBIC FEET PER MINUTE
DB	DRY BULB
E.A.T.	ENTERING AIR TEMPERATURE
E.S.P.	EXTERNAL STATIC PRESSURE INCLUDES ALL WORK EXTERNAL TO UNIT
E.W.T.	ENTERING WATER TEMPERATURE
EER	ENERGY EFFICIENCY RATIO
EST.	ESTIMATED
FLA	FULL LOAD AMPS
FPM	FEET PER MINUTE
GPH	GALLONS PER HOUR
GPM	GALLONS PER MINUTE
GR/LB	GRAINS OF MOISTURE PER POUND OF DRY AIR
HP	HORSEPOWER
IN	INCH
ISP	INLET STATIC PRESSURE
L.A.T.	LEAVING AIR TEMPERATURE
L.W.T.	LEAVING WATER TEMPERATURE
LBS	POUNDS
LOAD	NOMINAL CONNECTED GAS LOAD TO UNIT, USED TO SIZE GAS PIPING
MCA	MINIMUM CIRCUIT AMPACITY
MIN.	MINIMUM
MOCP	MAXIMUM OVERCURRENT PROTECTION
NC	MAXIMUM NOISE CRITERIA RATING
NPSH	NET PRESSURE SUCTION HEAD
OA	OUTSIDE AIR
OUTPUT	MINIMUM REQUIRED OUTPUT TO SATIFY SCHEDULED HEATING REQUIREMENTS
PPH	POUNDS PER HOUR
PSI	POUNDS PER SQUARE INCH
RPM	REVOLUTIONS PER MINUTE
SEER	SEASONAL ENERGY EFFICIENCY RATIO
SHC	SENSIBLE HEAT CAPACITY
TEMP.	TEMPERATURE
THC	TOTAL HEAT CAPACITY
WB	WET BULB
WPD	WATER PRESSURE DROP
EXHAUST FAN SCHEDULE	
AF	ALUMINUM FINISH
BD	BELT DRIVE MOTOR
DD	DIRECT DRIVE MOTOR
DM	DISCONNECT MEANS
GBD	GRAVITY BACKDRAFT DAMPER
RC	ROOF CAP TERMINATION
SC	SPEED CONTROLLER
INFRARED HEATER SCHEDULE	
AR	ALUMINUM REFLECTORS
BF	BLACK FINISH
CAK	COMBUSTION AIR KIT
DS	DISCONNECT MEANS
MB	ANGLED MOUNTING BRACKET
ST	STRAIGHT TUBE
T	MODULATING, HEATING ONLY THERMOSTATS WITH INFRARED SHIELD - REFER TO PLANS FOR EXACT QUANTITY
UT	U TUBE
PACKAGED ROOFTOP UNIT SCHEDULE	
2SH	2-STAGE NATURAL GAS HEATING
BRD	BAROMETRIC RELIEF DAMPER WITH HOOD
CCH	CRANKCASE HEATER
CR	FACTORY INSTALLED 120V CONVENIENCE RECEPTACLE
CURB	INSULATED GROUND MOUNT CURB (MINIMUM 18" HEIGHT). CURB MOUNTED ON CAPPED 3.5" CONCRETE PAD.
DS	FUSED ELECTRICAL DISCONNECTING MEANS FURNISHED AND INSTALLED BY CONTRACTOR.
F	PROVIDE 2" MERV 13 PLEATED FILTER WITH HOLDING FRAME
H	SPACE MOUNTED HUMIDISTAT.
HG	CONDENSER HAIL GUARDS
MOAE	0-100% MODULATING OUTDOOR AIR ECONOMIZER WITH BAROMETRIC RELIEF AND ECONOMIZER FAULT DETECTION CONTROLS
MSF	MULTI SPEED FAN
R410A	PROVIDE UNIT WITH R410 REFRIGERANT
S/S CONT	OPTIMAL START/STOP CONTROL WITH SC+ CONTROLLER
SZVAV	SINGLE ZONE VAV CONTROL
T	7 DAY PROGRAMMABLE THERMOSTAT PER SPECIFICATIONS.THERMOSTAT SHALL INDEPENDENTLY CONTORL 2 POSITION OUTSIDE AIR INTAKE DAMPER BASED ON THE TIME OF DAY AND UNIT ON/OFF STATUS.
VVE	VERTICAL VENT EXTENSION KIT
PUMP SCHEDULE	
AB	ALL BRONZE
AI	ALL IRON
BF	BRONZE FITTED
BMCGES	BASE MOUNTED CLOSED COUPLED END SUCTION
BMES	BASE MOUNTED END SUCTION
BMHSC	BASE MOUNTED HORIZONTAL SPLIT CASE
BMVSC	BASE MOUNTED VERTICAL SPLIT CASE
C	CONDENSER WATER
CH	CHILLED/HOT WATER
CW	CHILLED WATER
DCW	DOMESTIC COLD WATER
DHW	DOMESTIC HOT WATER
HW	HEATING HOT WATER
IL	IN-LINE

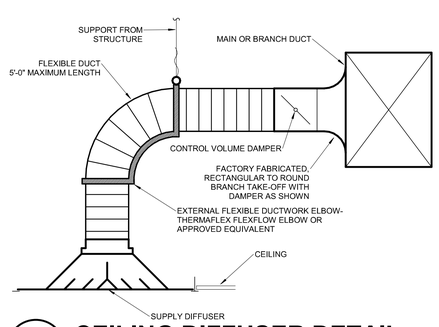


NOTE:
MAINTAIN ALL REQUIRED CLEARANCES AS SHOWN ON HEATER DATA PLATE. MANUFACTURER'S INSTRUCTIONS ARE TO TAKE PRECEDENCE WHEREVER ANY DISCREPANCY BETWEEN THOSE INSTRUCTIONS AND THIS SPECIFICATION MAY OCCUR. REFER TO PLUMBING PLANS FOR GAS PIPE ROUTING.

INFRARED TUBE HEATER BURNER INSTALLATION DETAIL

6 / M2

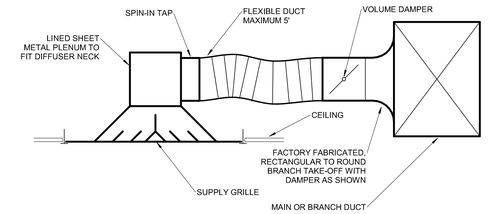
SCALE: NOT TO SCALE



CEILING DIFFUSER DETAIL

5 / M2

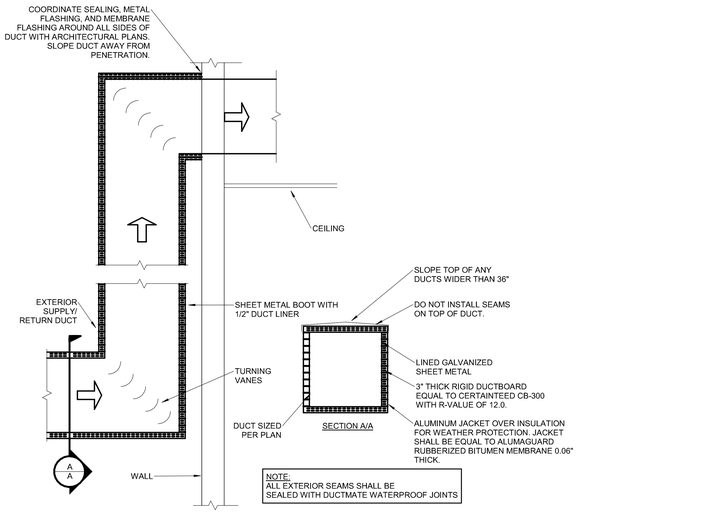
SCALE: NOT TO SCALE



CEILING DIFFUSER DETAIL - PLENUM

3 / M2

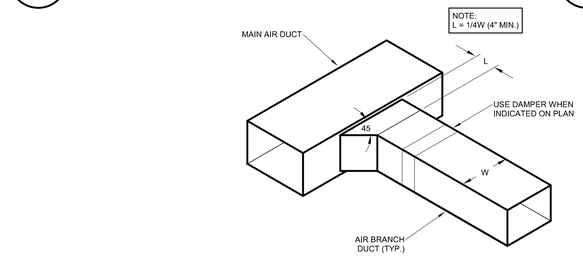
SCALE: NOT TO SCALE

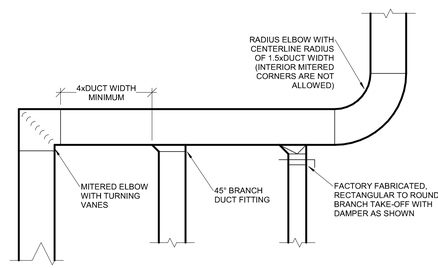


EXTERIOR SUPPLY AND RETURN AIR DUCT DETAIL

2 / M2

SCALE: NOT TO SCALE





DUCTWORK CONSTRUCTION DETAIL

4 / M2

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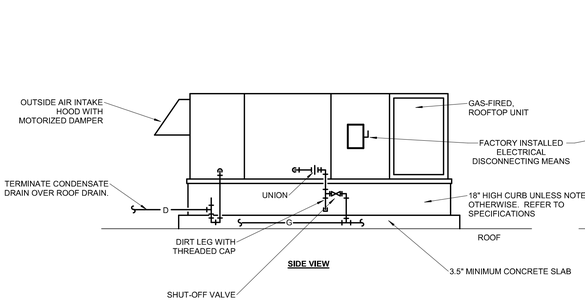

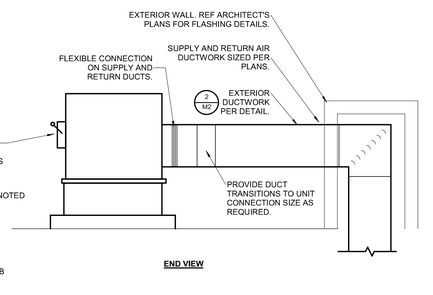

ROOFTOP UNIT DETAIL

1 / M2

SCALE: NOT TO SCALE

Hufft

PROJECT INFORMATION:

Andy's Frozen Custard #204

700 NW Ward Road
Lee's Summit, MO 64806

OWNER:

ANDY'S FROZEN CUSTARD

211 E. Water Street
Springfield, MO 65806

www.eatandys.com

ARCHITECT:

HUFFT

3612 Kannes Boulevard
Kansas City, MO 64111
P: 816-531-0200

www.hufft.com

STRUCTURAL:

METTEMEYER ENGINEERING, LLC

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CIVIL:

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ISSUE:

100% CDs

05-02-2024

REVISION SCHEDULE:

NO.	DATE	ISSUE

STATE OF MISSOURI REGISTERED PROFESSIONAL ENGINEER
CAMERON K. COLLINS
NUMBER E-24493

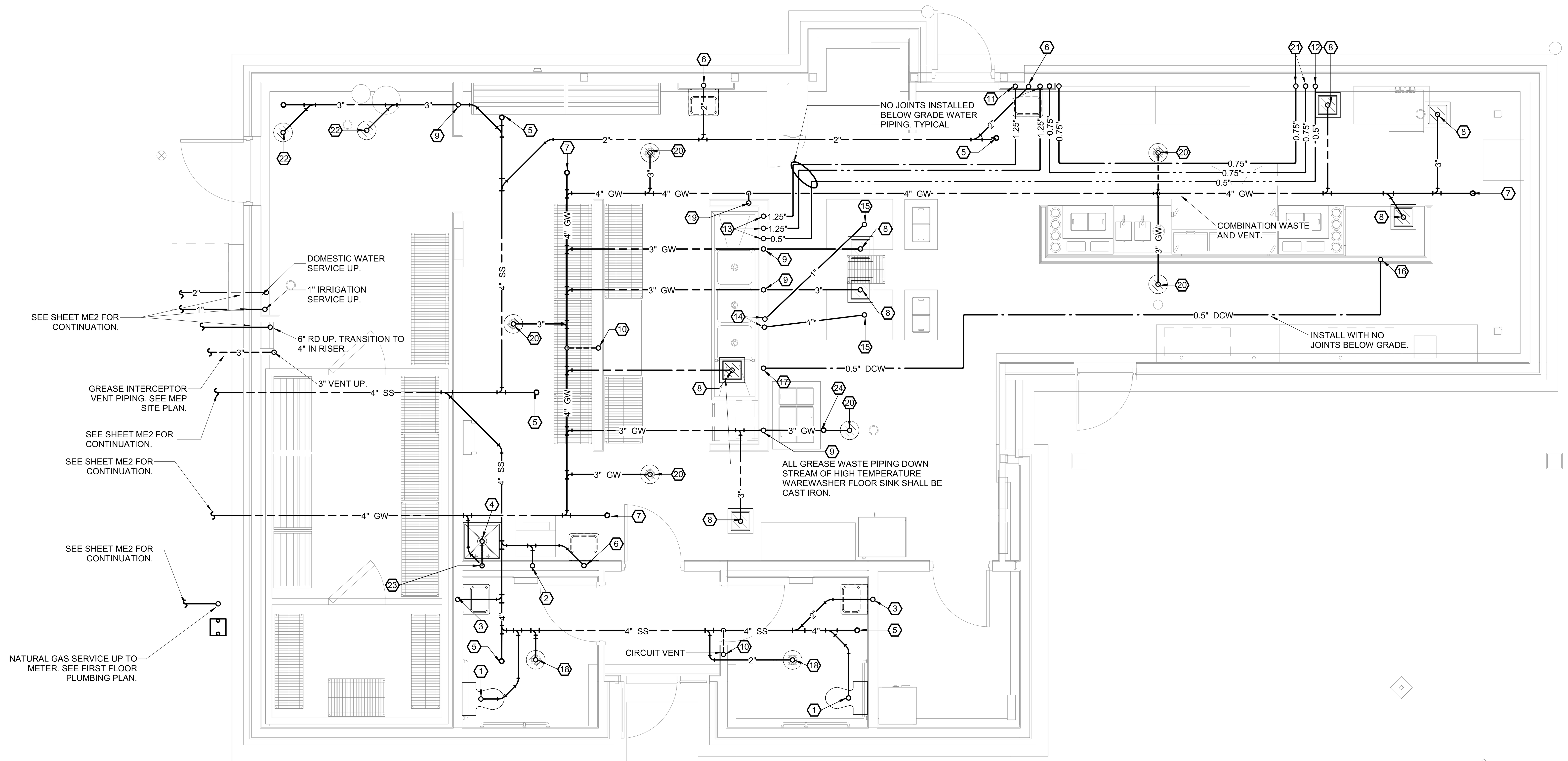
Cameron Collins

Digitally signed by Cameron Collins
Date: 2024.05.03 12:40:23 -05'00'

Architect: Matthew Hufft
License Number: MO#
Drawn TSE
Project Number: 736

HVAC DETAILS AND SCHEDULES

M2



1 P1 **UNDERGROUND PLUMBING PLAN**
SCALE: 1/4" = 1'-0"
NORTH

PLAN HEX NOTES:

1	4" WASTE UP TO WATER CLOSET.
2	2" WASTE UP TO WASHER DRAIN BOX.
3	2" WASTE UP TO LAVATORY.
4	3" TRAPPED GREASE WASTE UP TO MOP SINK.
5	4" WASTE UP TO FINISH FLOOR CLEANOUT.
6	2" WASTE UP TO HAND SINK.
7	4" GREASE WASTE UP TO FINISH FLOOR CLEANOUT.
8	3" TRAPPED GREASE WASTE UP TO FLOOR SINK.
9	1.5" VENT UP IN WALL.
10	2" VENT UP IN WALL. OFFSET AT MINIMUM 45 DEGREE ANGLE TO WASTE PIPE AS SHOWN.
11	1.25" HOT AND COLD WATER UP IN WALL. PROVIDE 0.75" HOT AND COLD WATER TAPS OFF LINES ABOVE GRADE AND ROUTE BELOW GRADE TO ADJACENT 3-COMP SINK FAUCET AS SHOWN. PROVIDE 0.5" HOT AND COLD WATER CONNECTIONS TO HAND SINK FAUCET.
12	0.5" RECIRC LINE UP IN WALL. CONNECT TO HOT WATER LINE ABOVE GRADE.
13	1.25" HOT AND COLD WATER AND 0.5" RECIRC LINE UP IN WALL.
14	1" COLD WATER UP IN WALL.
15	1" COLD WATER SUPPLY UP THRU SLAB FOR CUSTARD MACHINE.
16	0.5" COLD WATER UP IN WALL TO DRAFT BEER DISPENSER.
17	0.5" COLD WATER UP IN WALL.
18	2" TRAPPED WASTE UP TO FLOOR DRAIN WITH TRAP GUARD INSERT.
19	3" VENT UP. OFFSET FROM COMBO WASTE AND VENT AT MINIMUM 45 DEGREES.
20	3" GREASE TRAPPED GREASE WASTE UP TO FLOOR DRAIN WITH TRAP GUARD INSERT.
21	0.75" COLD WATER AND 0.75" HOT WATER UP IN WALL TO 3-COMP SINK FAUCET. TAP OFF OF COLD WATER LINE AND ROUTE 0.5" COLD WATER BELOW GRADE AS SHOWN TO ICE MAKER.
22	3" TRAPPED WASTE UP TO FLOOR DRAIN WITH TRAP GUARD INSERT.
23	3" GREASE WASTE UP. OFFSET TO MOP SINK DRAIN CONNECTION AND PROVIDE TRAPPED CONNECTION TO MOP SINK AS SHOWN. EXTEND 3" VENT UP IN WALL AND PROVIDE WALL CLEANOUT IN ACCESSIBLE LOCATION AT BASE OF RISER. AFTER CLEANOUT, EXTEND 1.5" VENT UP IN WALL.
24	3" GREASE WASTE UP TO FINISH FLOOR CLEANOUT.

GENERAL NOTES:

A. PLANS ARE DIAGRAMMATIC AND SHALL NOT BE SCALED. REFER TO ARCHITECTURAL DRAWINGS FRO DIMENSIONS.

B. SLEEVE ALL FOUNDATION WALL PENETRATIONS OR WHERE PASSING BELOW FOOTINGS.

C. ALL WATER CONNECTIONS TO KITCHEN EQUIPMENT REQUIRE A WATTS SD-3 DUAL CHECK VALVE WITH ATMOSPHERIC VENT AND DRAIN ROUTED TO NEAREST FLOOR SINK.

D. WASTE LINES FROM STORAGE SECTION OF ICE MAKERS AND DISPENSERS MUST BE ROUTED SEPARATELY FROM THE DUMP, OVERFLOW, AND/OR CONDENSER LINES. ALL LINES ARE REQUIRED TO BE INDIRECTLY DISCHARGED INTO AN APPROVED RECEPTOR AND MAINTAIN PROPER AIR GAP.

E. CONDENSATE LINES IN WALK-IN REFRIGERATOR AND FREEZER SHALL BE PROVIDED WITH A DETACHABLE UNION NEAR THE EVAPORATOR PAN. SECURE WASTE LINES TO WALL WITH SPACING BRACKETS AND PROVIDE AIR GAP TO FLOOR DRAIN.

F. DO NOT INSTALL JOINTS IN UNDERGROUND WATER OR GAS PIPING.

G. ALL HORIZONTAL PIPING PENETRATIONS THROUGH GRADE BEAMS SHALL BE SLEEVED AND LOCATED IN THE CENTER THIRD OF THE GRADE BEAM.

H. ALL VERTICAL PIPING PENETRATIONS THROUGH THE GRADE BEAMS SHALL BE THROUGH THE CENTER OF THE GRADE BEAM VERTICALLY WITH A SLEEVE BELOW AND THROUGH THE GRADE BEAM. USE OVERSIZED WASTE FITTINGS WITH BOTTOM HALF REMOVED OVER WASTE FITTINGS WITH VERTICAL RISE THROUGH GRADE BEAM.

I. ALL PIPING 2" AND SMALLER ELBOWING INTO THE GRADE BEAMS SHALL BE SLEEVED AND ENTER THE MIDDLE THIRD OF THE GRADE BEAM BEFORE TURNING VERTICALLY THROUGH THE CENTER OF THE GRADE BEAM.

J. BRANCH PIPING SHALL BE OFFSET UP TO ANY TRAPPED FIXTURE TO LIMIT DISTANCE ABOVE THE TRAP WEIR TO THE FIXTURE OUTLET TO 24" OR LESS.

K. ALL SANITARY PIPING OUTSIDE THE BUILDING FOUNDATION IS SHOWN ON THE CIVIL SITE PLAN. THIS PIPING SHALL MEET THE JOHNSON COUNTY WASTEWATER STANDARDS AND SHALL BE INSPECTED BY JOHNSON COUNTY WASTEWATER.

GENERAL NOTES:

A. FOR ALL PLUMBING QUESTIONS CONTACT RTM ENGINEERING CONSULTANTS, 417-881-0020. CONTACT PERSON: TYLER ENSERRO. tyler.enserro@rtmec.com

Hufft

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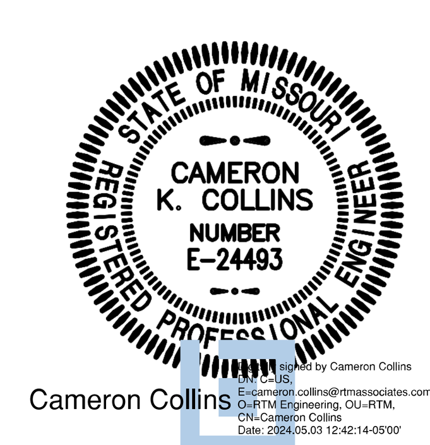
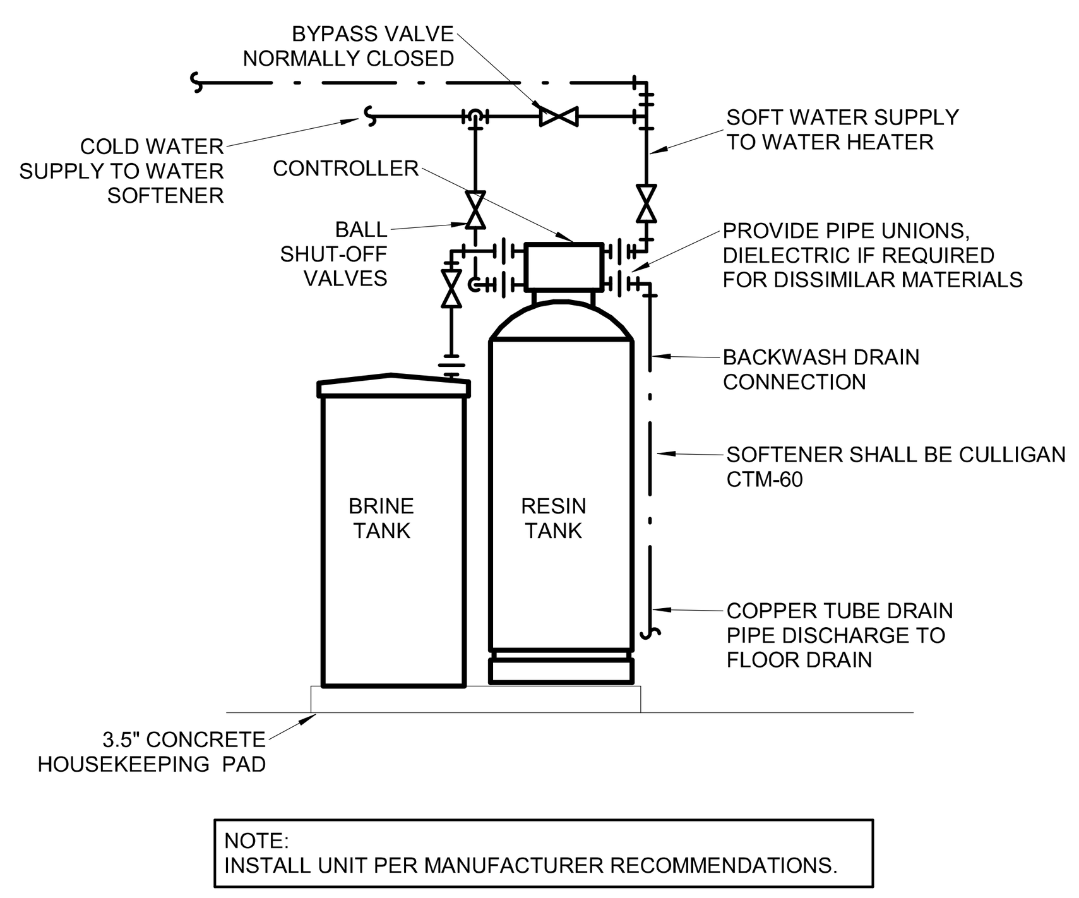


Cameron Collins
Digitally signed by Cameron Collins
DN: C=US, E=cameron.collins@rtmassociates.com, O=RTM Engineering, OU=RTM, CN=Cameron Collins
Date: 2024.05.03 12:42:14-05'00'

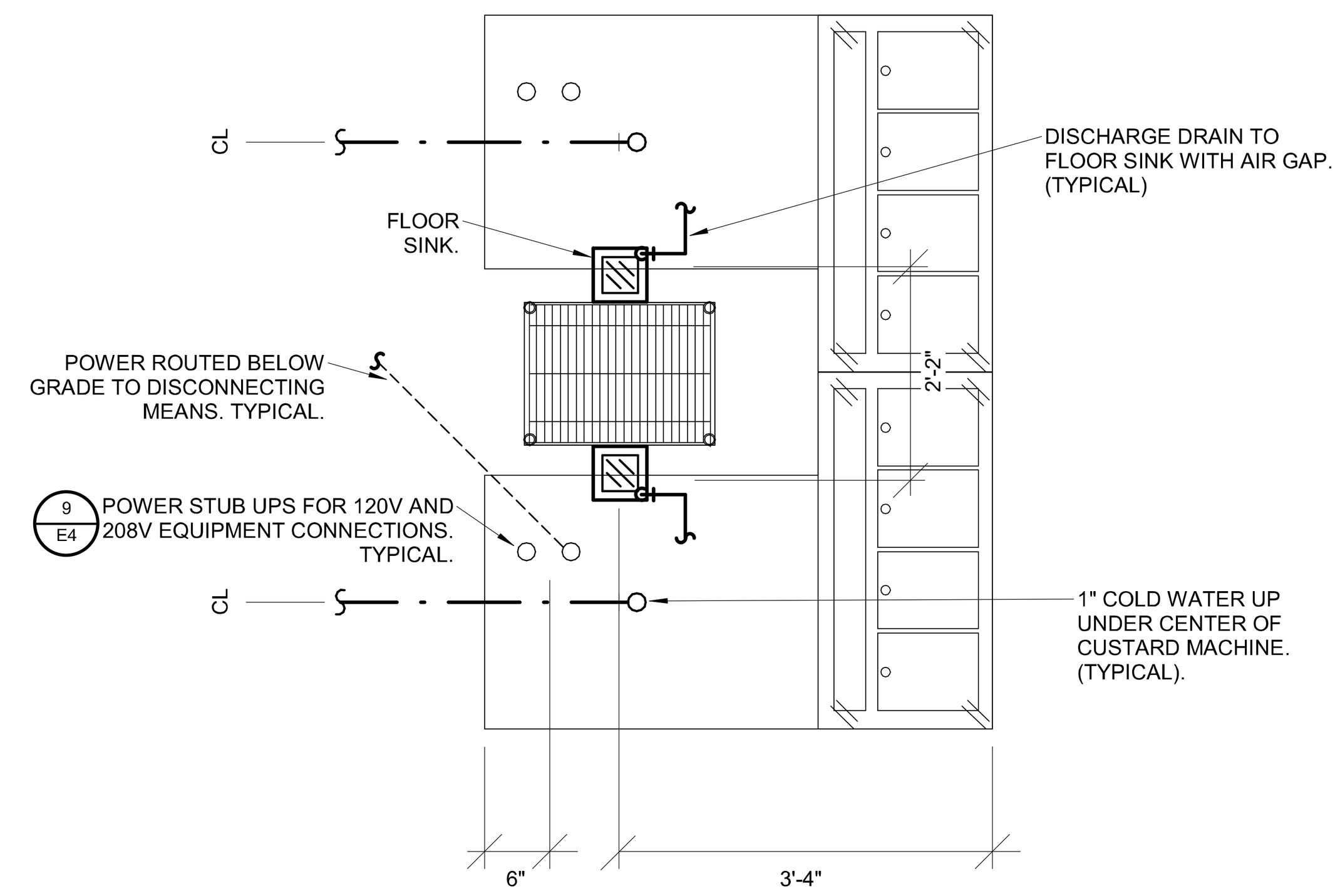
Architect: Matthew Hufft
License Number: MO#
Drawn By: TSE
Project Number: 736

UNDERGROUND PLUMBING PLAN

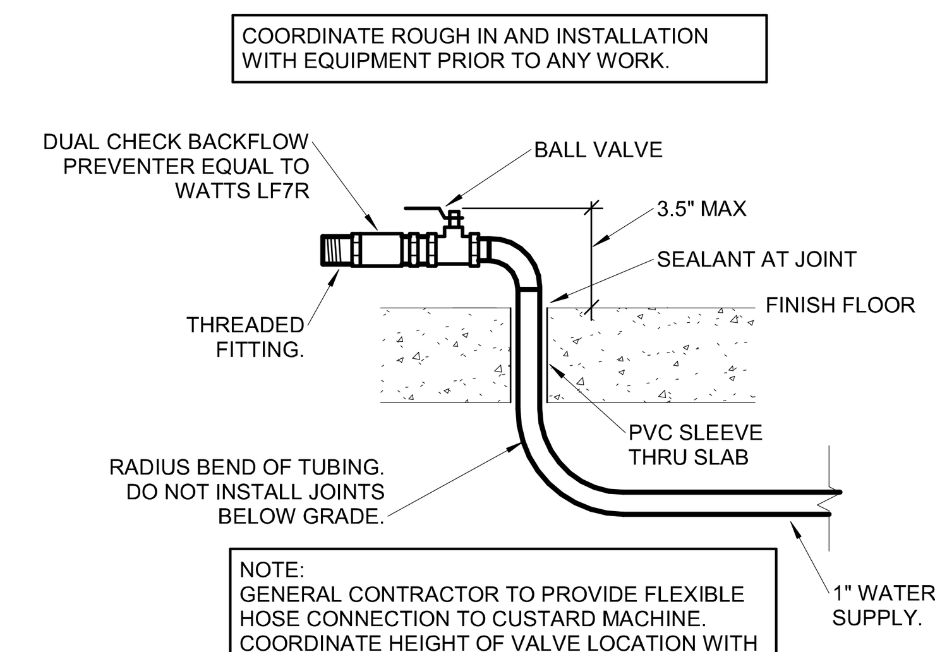
P1



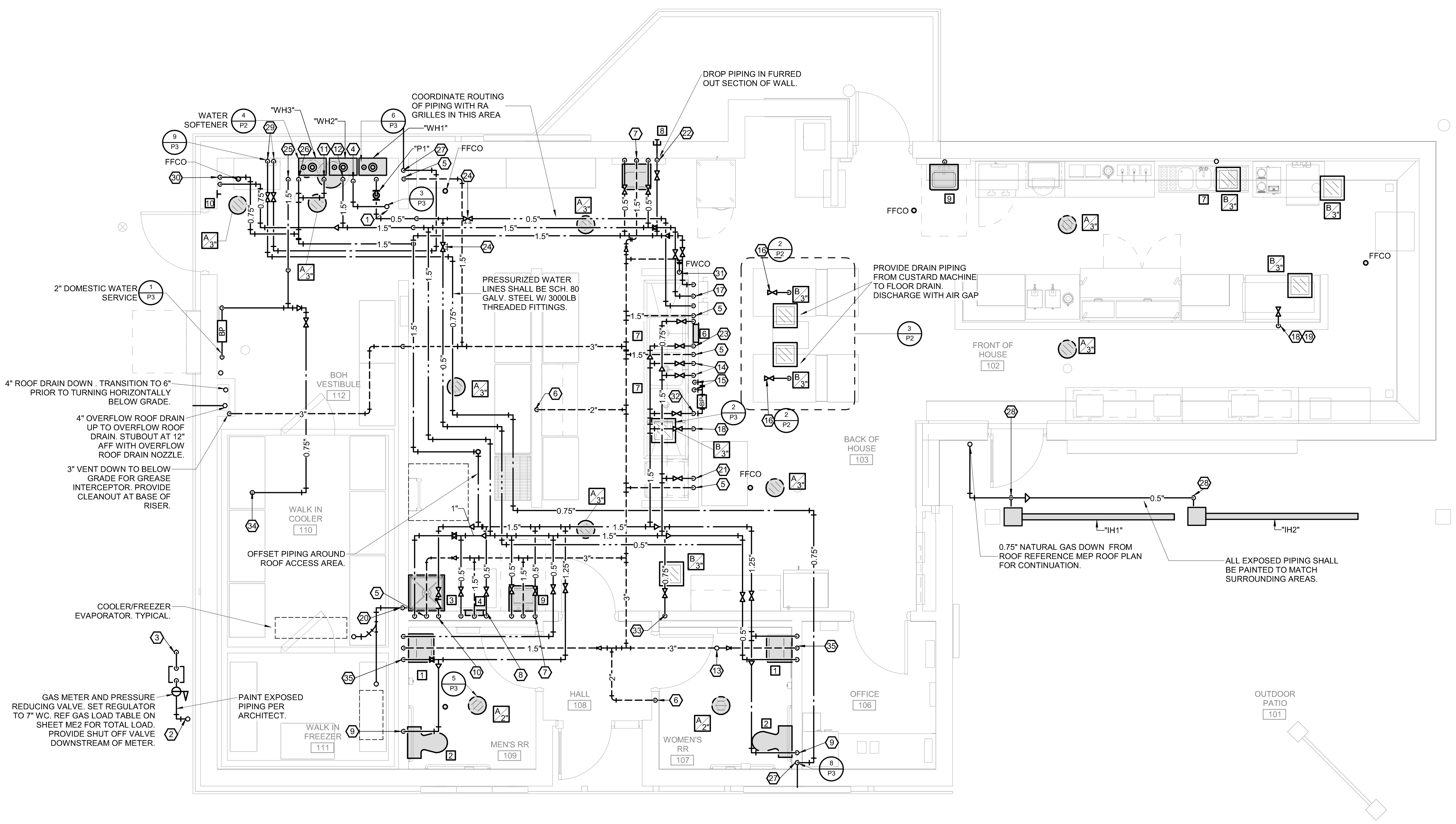
4 / P2 **WATER SOFTENER DETAIL**
SCALE: NOT TO SCALE



3 / P2 **CUSTARD MACHINE WATER/POWER DETAIL**
SCALE: NOT TO SCALE



2 / P2 **CUSTARD MACHINE STUB-UP DETAIL**
SCALE: NOT TO SCALE



1 / P2 **FIRST FLOOR PLUMBING PLAN**
SCALE: 1/4" = 1'-0"

GENERAL NOTES:

A. ALL PLUMBING WORK SHALL BE IN ACCORDANCE WITH THE 2018 EDITION OF THE INTERNATIONAL PLUMBING CODE AS ADOPTED BY THE CITY OF LEE'S SUMMIT, MO.

B. PLANS ARE DIAGRAMMATIC AND SHALL NOT BE SCALED. REFER TO ARCHITECTURAL DRAWINGS FOR DIMENSIONS.

C. CONTRACTOR SHALL CONTACT THE LOCAL WATER DEPARTMENT AND ARRANGE FOR WATER SERVICE AND FIRE SERVICE AS INDICATED ON THE DRAWINGS. INCLUDE ALL COSTS, CHARGES, FEES, ETC. INCURRED BY LOCAL AUTHORITIES INTO BID. PROVIDE ALL MATERIALS AS REQUIRED BY LOCAL AUTHORITIES FOR WATER SERVICE INSTALLATION. ALL WORK SHALL BE IN ACCORDANCE WITH REQUIREMENTS OF LOCAL AUTHORITIES.

D. CONTRACTOR SHALL CONTACT THE LOCAL AUTHORITIES AND ARRANGE FOR SEWER SERVICE AS INDICATED ON THE DRAWINGS. INCLUDE ALL COSTS, CHARGES, FEES, ETC. INCURRED BY LOCAL AUTHORITIES INTO BID. PROVIDE ALL MATERIALS AS REQUIRED BY LOA AUTHORITIES FOR SEWER SERVICE INSTALLATION. ALL WORK SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF LOCAL AUTHORITIES.

E. CONTRACTOR SHALL CONTACT THE LOCAL GAS COMPANY AND ARRANGE FOR GAS SERVICE AS INDICATED ON DRAWINGS. INCLUDE ALL COSTS, CHARGES, FEES, ETC. INCURRED BY UTILITY COMPANY INTO BID. PROVIDE ALL MATERIALS AS REQUIRED BY LOCAL AUTHORITIES FOR GAS SERVICE INSTALLATION. ALL WORK SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF LOCAL AUTHORITIES.

F. CLOSELY COORDINATE WORK WITH ALL OTHER TRADES

G. REFER TO SCHEDULE FOR ALL DRAINS AND FLOOR SINKS. TYPE IS GIVEN IN DESIGNATION AND SIZE REFERS TO WASTE PIPING CONNECTION.

H. MAINTAIN MANDATORY 10'-0" CLEARANCE FROM ALL VENTS AND OUTSIDE AIR INTAKES. REFER TO HVAC PLANS FOR LOCATIONS PRIOR TO VENT ROUGH-IN.

I. ALL WATER, VENT, AND WASTE PIPING SHALL BE ROUTED TIGHT TO THE CEILING STRUCTURE OR THRU THE BAR JOISTS. COORDINATE ROUGH-IN WITH ALL TRADES.

J. ALL FIXTURES SHALL HAVE SHUT-OFF VALVES INSTALLED ABOVE ACCESSIBLE CEILING, WHETHER OR NOT SPECIFICALLY SHOWN ON THE DRAWINGS.

K. INSULATE ALL DOMESTIC WATER AND HVAC CONDENSATE DRAIN PIPING WITH 0.5" ARMAFLEX. ALL INSULATION MATERIALS SHALL HAVE A FLAME SPREAD RATING NO GREATER THAN 25 AND A SMOKE DEVELOPED RATING NO GREATER THAN 50.

L. ALL WATER CONNECTIONS TO KITCHEN EQUIPMENT WILL REQUIRE A WATTS SD-3 DUAL CHECK VALVE WITH ATMOSPHERIC VENT AND DRAIN ROUTED TO THE NEAREST FLOOR DRAIN OR SINK.

M. INSTALL AN ASSE 1012, 1022, OR EQUIVALENT BACKFLOW PREVENTER ON WATERLINE TO CARBONATOR.

N. WASTE LINE FROM STORAGE SECTION OF SIZE MAKERS AND DISPENSERS MUST BE ROUTED SEPARATELY FROM THE DUMP, OVERFLOW, AND/OR CONDENSER LINES. ALL LINES ARE REQUIRED TO BE INDIRECTLY DRAINED IN AN APPROVED RECEPTOR AND MAINTAIN A PROPER AIR GAP.

O. ON ANY FIXTURE WITH A THREADED FAUCET, A BACKFLOW PREVENTER IS REQUIRED. 16" CONDENSATE LINES IN WALK-IN REFRIGERATOR AND FREEZER SHALL BE PROVIDED WITH A DETACHABLE UNION NEAR THE EVAPORATOR PAN. SECURE WASTE LINES TO WALL WITH SPACING BRACKETS AND PROVIDE AIR GAP TO FLOOR DRAIN.

P. CONTRACTOR SHALL COMPLY WITH SECTION 610.10F OF THE 2018 IPC. A THIRD PARTY BACTERIOLOGICAL REPORT SHALL BE SUBMITTED TO THE PLUMBING INSPECTOR PRIOR TO C/O.

Q. WHERE IN CONTACT WITH MATERIAL OR ATMOSPHERE EXERTING A CORROSIVE ACTION, METALLIC PIPING AND FITTINGS COATED WITH A CORROSION RESISTANT MATERIAL SHALL BE USED. EXTERNAL OR INTERNAL COATINGS OR LININGS USED ON PIPING OR COMPONENTS SHALL NOT BE CONSIDERED AS ADDING STRENGTH.

R. CONTRACTOR IS RESPONSIBLE FOR CONNECTIONS TO ALL KITCHEN EQUIPMENT. INCLUDE ALL FITTINGS, SLEEVES, STOPS, VALVES, TRAPS, CLEANOUTS, INSULATION, VACUUM BREAKERS,AND HARDWARE AS REQUIRED. CONTRACTOR IS RESPONSIBLE FOR ALL INDIRECT DRAIN CONNECTIONS TO FLOOR SINKS.

S. CONTRACTOR SHALL SHUTOFF VALVES AT EACH CONNECTION TO KITCHEN EQUIPMENT.

T. CONTRACTOR SHALL PROVIDE INTERCONNECTION OF VENTILATORS AND CONTROL PANELS, DETERGENT SYSTEMS, WASTE SYSTEMS, AND DISH MACHINE BOOSTER HEATER.

U. CONTRACTOR SHALL INSTALL ALL ACCESSORIES AND FITTINGS PROVIDED LOOSE WITH KITCHEN EQUIPMENT. PROVIDE CHROME ESCUTCHEON RINGS AT ALL WALL PENETRATIONS.

PLAN HEX NOTES:

1 1.5" NATURAL GAS DOWN THRU ROOF.

2 2" GAS DOWN TIGHT ON EXTERIOR WALL TO GAS METER. PROVIDE SHUTOFF VALVE AFTER METER ON SECONDARY SERVICE. PROVIDE PRESSURE REDUCING VALVE AND SET TO 7" WC. SEE GAS LOAD TABLE ON SHEET ME2.

3 NATURAL GAS SERVICE DOWN TO BELOW GRADE. SEE MEP SITE PLAN FOR CONTINUATION. PROPERLY SUPPORT GAS PIPING AND PERMANENTLY FIX SUPPORTS TO CONCRETE PAD.

4 1.5" NATURAL GAS DOWN TO WATER HEATER MANIFOLD. SEE WATER HEATER DETAIL

5 1.5" VENT DOWN.

6 2" VENT DOWN.

7 0.5" HOT AND COLD WATER AND 1.5" VENT DOWN TO HAND SINK.

8 0.5" HOT AND COLD WATER AND 1.5" VENT DOWN TO WASHER BOX.

9 0.5" COLD WATER DOWN TO WATER CLOSET.

10 0.75" HOT AND COLD WATER DOWN IN WALL TO MOP SINK FAUCET.

11 1.5" SOFT WATER DOWN TO WATER HEATER MANIFOLD.

12 1.5" HOT WATER DOWN TO WATER HEATER MANIFOLD.

13 3" VENT UP TO 4" VENT THRU ROOF.

14 1.5" HOT AND COLD WATER DOWN TO 3-COMP SINK FAUCETS. PROVIDE 0.75" HOT AND COLD WATER CONNECTION TO EACH OF (2) FAUCETS.

15 1" COLD WATER DOWN TO BELOW GRADE FOR CUSTARD MACHINE.

16 SHUT OFF VALVE FOR CONNECTION TO CUSTARD MACHINE.

17 1.25" HOT AND COLD WATER AND 0.5" RECIRC LINE DOWN IN WALL TO BELOW GRADE.

18 0.5" COLD WATER DOWN TO BELOW GRADE.

19 0.5" COLD WATER CONNECTION TO DRAFT BEER DISPENSER. STUB OUT AT 18" AFF AND PROVIDE SHUTOFF VALVE AND WATTS 009 RPZ. NO COPPER PIPING SHALL BE PERMITTED DOWNSTREAM OF BACKFLOW DEVICE. PROVIDE INDIRECT DRAIN TO FLOOR DRAIN.

20 FULL SIZE CONDENSATE DRAIN FROM WALK IN COOLER/FREEZER DOWN TO INDIRECT DRAIN AT MOPSINK.

21 0.5" HOT WATER DOWN TO HIGH TEMP WAREWASHER. STUB OUT 12" AFF. PROVIDE 0.75" DRAIN TO INDIRECT DRAIN AT FLOOR SINK.

22 0.75" COLD WATER DOWN TO WALL HYDRANT.

23 0.75" HOT AND COLD WATER DOWN TO HOSE BOX.

24 BALANCE CIRCUIT SETTER TO 1 GPM.

25 1.5" COLD WATER DOWN TO WATER SOFTENER.

26 1.5" SOFT WATER TO OUTLET SIDE OF WATER SOFTENER. ROUTE TO WATER HEATER MANIFOLD AND TO BUILDING FIXTURES AS SHOWN. ALL HOT AND COLD WATER CONNECTIONS FOR THE BUILDING SHALL BE FED FROM THE SOFT WATER SYSTEM.

27 0.75" PRESSURIZED WATER DOWN CONCEALED IN WALL WITH SHUTOFF VALVE IN RISER JUST BELOW CEILING. PROVIDE TEE BELOW SHUT OFF VALVE WITH 3/8" SHUTOFF VALVE TEE FOR MANUAL AIR VENT FOR SYSTEM DRAINING. PROVIDE ACCESS PANEL IN WALL FOR VALVE ACCESS. STUB 0.75" WATER LINE IN ACUDOR ARVB RECESSED VALVE BOX AT 36" AFG IN EXTERIOR WALL. PROVIDE THREADED CONNECTION TO QUICK CONNECT DEVICE IN VALVE BOX. ALL VALVES SHALL BE 8.709 STAINLESS STEEL HIGH PRESSURE BALL VALVES RATED FOR 5800 PSI.

28 0.5" GAS DOWN TO HEATER WITH SHUT OFF VALVE, UNION, AND DIRT LEG WITH THREADED CAP. PAINT EXPOSED PIPING TO MATCH SURROUNDING AREA.

29 (2) 0.75" PRESSURIZED WATER LINES DOWN TO PRESSURE WASHER. PROVIDE COUPLER AND FLEXIBLE CONNECTION FOR CONNECTION TO OUTLET SIDE OF PRESSURE WASHER. ALL PRESSURIZED WATER LINES SHALL BE SCHEDULE 80 GALVANIZED STEEL PIPE WITH 30000LB THREADED FITTINGS.

30 0.75" HOT AND COLD WATER DOWN TO THERMOSTATIC MIXING VALVE WITH VACUUM BREAKERS AND SHUT OFF VALVES FOR CONNECTION TO PRESSURE WASHER EQUIPMENT. VERIFY HOSE BIBB MOUNT HEIGHT AND LOCATION WITH EQUIPMENT PRIOR TO ANY ROUGH IN.

31 3" VENT DOWN. PROVIDE CLEANOUT AT BASE OF WALL PRIOR TO PENETRATING FLOOR.

32 1.25" COLD WATER DOWN IN WALL. OFFSET OUT OF WALL AND ROUTE THRU RPZ BACKFLOW PREVENTER ALONG WALL AS SHOWN. MAX HEIGHT OF BACKFLOW PREVENTER SHALL BE 36" AFF. ROUTE (2) 1" COLD WATER LINES DOWN IN WALL AS SHOWN UNDER GROUND TO EACH CUSTARD MACHINE.

33 0.75" CW DOWN TO ICE MAKER.

34 0.75" CW UP TO ROOF HYDRANT.

35 0.5" HW AND CW AND 1.5" VENT DOWN AND LAVATORY.

GENERAL NOTES:

A. FOR ALL PLUMBING QUESTIONS CONTACT RTM ENGINEERING CONSULTANTS, 417-881-0020. CONTACT PERSON: TYLER ENSERRO. tyler.enserro@rtmec.com

Hufft

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STATE OF MISSOURI
CAMERON K. COLLINS
NUMBER E-24493
REGISTERED PROFESSIONAL ENGINEER

Cameron Collins
Digitally signed by Cameron Collins
DN: C=US, E=cameron.collins@rtmassociates.com, O=RTM Engineering, OU=RTM, CN=Cameron Collins
Date: 2024.05.03 12:41:55-05'00'

Architect: *Matthew Hufft*
License Number: *MO#*
Drawn By: *TSE*
Project Number: *736*

FIRST FLOOR PLUMBING PLAN

P2

WATER HEATER SCHEDULE

PLAN MARK	MANUFACTURER	MODEL	TYPE	GPM @ 90F	GAS HEATING			ELECTRICAL DATA				NOTES
					INPUT (BTU/H)	OUTPUT (BTU/H)	EFFICIENCY (%)	VOLTAGE	PHASE	MCA	MOCP (A)	
WH1	STATE	SCT-199I-N	TANKLESS	4.2	199000	191000	96	120	1	1	15	PTRV, CRTK
WH2	STATE	SCT-199I-N	TANKLESS	4.2	199000	191000	96	120	1	1	15	PTRV, CRTK
WH3	STATE	SCT-199I-N	TANKLESS	4.2	199000	191000	96	120	1	1	15	PTRV, CRTK

PUMP SCHEDULE

PLAN MARK	MANUFACTURER	SERIES	SIZE	INLET (IN)	FLOW (GPM)	TOTAL HEAD (FT HD)	TYPE	WORK CLASS (PSI)	ELECTRICAL DATA				BODY CONSTRUCTION	FLUID PUMPED	FLUID TEMPERATURE (°F)	NOTES
									MOTOR (HP)	RPM	VOLTAGE	PHASE				
P1	BELL & GOSSETT	PL	30	0.5"	2	10	IL	150	0.06	2650	120	1	ALL BRONZE	DHW	140	AB, ATC

PLUMBING FIXTURE SCHEDULE

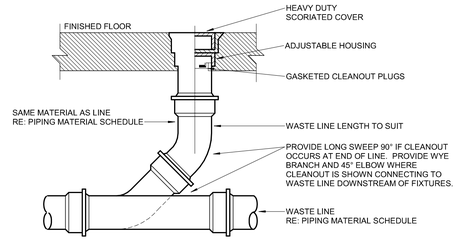
PLAN MARK	DESCRIPTION	MANUFACTURER	MODEL	TRIM	CONNECTION SIZES				NOTES
					CW (IN)	HW (IN)	W (IN)	V (IN)	
1	20 X 18 WALL HUNG LAVATORY	AMERICAN STANDARD	LUCERINE 0355.012	FAUCET: AMERICAN STANDARD 5400.172, CONCEALED ARM CARRIER. PROVIDE ASSE 1070 MIXING VALVE SET TO 105°F IF NOT INTEGRAL TO FAUCET.	0.5	0.5	1.5	1.5	FAUCET HOLES TO MATCH FAUCET SPECIFIED. PROVIDE INSULATION KIT ON ALL ADA FIXTURES WITH EXPOSED TRAP AND SUPPLIES.
2	ADA FLOOR MOUNTED, FLUSH TANK, BOTTOM OUTLET WATER CLOSET	GERBER	DF-21-318	CLOSE-COUPLED, 1.28 GALLONS PER FLUSH, CHURCH #9500C OPEN FRONT WHITE SEAT LESS COVER	0.5	-	4	2	FIXTURE ASSEMBLY MUST BE APPROVED AND INSTALLED PER ADA. PROVIDE ALTERNATIVE TANK AS NECCESSARY FOR TRIP LEVER TO BE INSTALLED ON OPPOSITE SIDE WALL GRAB BAR.
3	FLOOR MOUNT, 24X24X10, JANITOR'S BASIN	FIAT	MSB-2424	FAUCET: FIAT MODEL 830AA, 832-AA HOSE AND HOSE BRACKET, 889-CC MOP HANGER, QDC-35N QUICK DRAIN CONNECTOR, 3" GRID DRAIN. MOLDED STONE BASIN.	0.5	0.5	3	1.5	MOP BASIN WITH CONTINUOUS STAINLESS STEEL CAPS ON ALL CURBS.
4	OULET BOX WASHING MACHINE, NON-RATED WALL INSTALL TOP VALVES	GUY GRAY	T200	ACCESSORIES: 2" SLIPNUT DRAIN KIT. PROVIDE PDI 'A' HOT AND COLD WATER HAMMER ARRESTORS. WHITE POWDER COAT FINISH.	0.5	0.5	2	1.5	
6	HOSE BOX	ACORN	8145-SSLF	LEAD FREE VALVE AND STOPS, VACUUM BREAKER, WASTE OUTLET, LESS LOCKABLE COVER.	0.75	0.75	-	-	PROVIDE WITHOUT LOCKABLE COVER
7	3-COMP SINK FAUCET	CHICAGO FAUCET	322-CP	SINGLE HOLE CAST SWING SPOUT, 396 INDEXED LEVER HANDLE, 2.2 GPM PRESSUREIZED COMPENSATING SOFT FLOW AERATOR, INTEGRAL WALL FLANGE	0.75	0.75	-	-	MEETS ADA, ASME A112.18.1 AND NSF 61 CODES AND STANDARDS.
8	FREEZE LESS WALL HYDRANT	WOODFORD	MODEL 67	LOOSE TEE HANDLE, MODEL 50H DOUBLE CHECK BACKFLOW PREVENTER, CHROME EXTERIOR FINISH.	0.75	-	-	-	PROVIDE OPERATING ROD ASSEMBLY PER MANUFACTURER'S RECOMMENDATIONS BASED ON WALL THICKNESS
9	HAND SINK BY KES.	--	--	--	0.5	0.5	1.5	1.5	HAND SINK, TRAP, SUPPLIES, FAUCET, ETC, BY KITCHEN EQUIPMENT SUPPLIER. P/C SHALL PROVIDE TRUEBRO LAVGUARD 2 UNDERSINK ADA TRAP AND SUPPLY COVERS AND ASSE 1070 MIXING VALVE FOR EACH HAND SINK LOCATION.
10	CHROME HOSE BIBB	WOODFORD	MODEL 24P-3/4	LOOSE TEE KEY, MODEL 34HF VACUUM BREAKER, CHROME EXTERIOR FINISH.	0.75	-	-	-	
11	ROOF HYDRANT	MAPA	MPH-24FP		-	-	-	-	COORDINATE ROOF DETAILS WITH ARCHITECT AND STRUCTURAL ENGINEER.

DRAINAGE PIPE SPECIALTY SCHEDULE

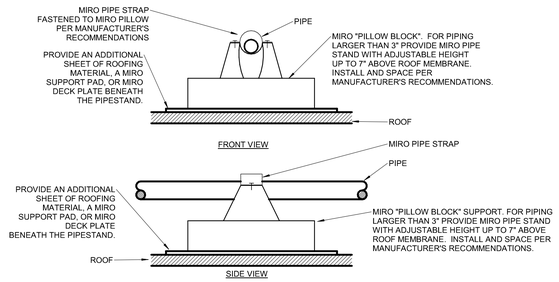
PLAN MARK	DESCRIPTION	MANUFACTURER	MODEL	TRIM	NOTES
A	7" ROUND FLOOR DRAIN	J.R. SMITH	2010-A	NICKEL BRONZE STRAINER, DEEP SEAL TRAP, SURE SEAL WATERLESS TRAP PRIMER	DRAIN SIZE SHALL MATCH SANITARY BRANCH SERVING DRAIN. REFERENCE PLANS FOR SIZE.
B	FLOOR SINK	J.R. SMITH	305-F-15	12" SQUARE, USDA ACCEPTED, IAPMO LISTED, PVC BODY RATED TO 200-DEGREES WITH ANCHOR FLANGE, SEDIMENT TRAY, AND 1/2 PVC GRATE.	DRAIN SIZE SHALL MATCH SANITARY BRANCH SERVING DRAIN. REFERENCE PLANS FOR SIZE. PROVIDE WITH TRAP GUARD INSERT.
C	CAST IRON ROOF DRAIN AND DOME	J.R. SMITH	1010-C-R-A-U	UNDERDECK CLAMP, SUMP RECEIVER, ALUMINUM DOME, VANDAL PROOF DOME	ROOF DRAIN TO BE FULL SIZE OF STORM DRAIN LEADER.
D	CAST IRON OVERFLOW DRAIN WITH WATER DAM AND DOME	J.R. SMITH	1080-C-R-A-U	UNDERDECK CLAMP, SUMP RECEIVER, ALUMINUM DOME, VANDAL PROOF DOME, WATER DAM	ROOF DRAIN TO BE FULL SIZE OF STORM DRAIN LEADER.
FFCO	FINISHED FLOOR CLEANOUT	J.R. SMITH	4023	HARD FLOOR: ROUND CHROME PLATED SCORIATED COVER, CARPET AREAS: NICKEL BRONZE TOP AND CARPET CLAMP OR CARPET MARKER.	VERIFY FLOOR MATERIALS USED FROM ARCHITECTURAL PLANS. CLEANOUT TO BE FULL SIZE OF SOIL PIPE UP TO AND INCLUDING 4-INCH ID. REFERENCE PLANS FOR SOIL PIPE SIZE.
FWCO	WALL CLEANOUT	J.R. SMITH	4532 WITH CLEANOUT PLUG OR 4512 WITH COUNTERSUNK PLUG	PROVIDE CLEANOUT PLUG AND STAINLESS STEEL ACCESS COVER IN FINISHED AREAS. PROVIDE COUNTER SUNK PLUG IN UNFINISHED AREAS.	CLEANOUT TO BE FULL SIZE OF SOIL PIPE UP TO AND INCLUDING 4-INCH ID. REFERENCE PLANS FOR SOIL PIPE SIZE.

SCHEDULE LEGEND

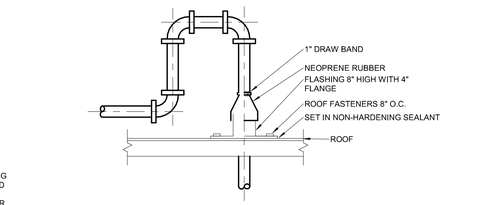
ABBREVIATED SCHEDULE HEADINGS	
EFFICIENCY	MINIMUM EFFICIENCY OF WATER HEATER
GPH	GALLONS PER HOUR
HP	HORSEPOWER
LOAD	NOMINAL CONNECTED GAS LOAD TO UNIT, USED TO SIZE GAS PIPING.
NPSH	NET POSITIVE SECTION HEAD
OUTPUT	MINIMUM REQUIRED OUTPUT TO MEET GPH RISE AS SCHEDULED
RPM	REVOLUTIONS PER MINUTE
PIPE MATERIAL SCHDULE	
ATP	ARMCO TRUSS PIPE
BLK	BLACK
BS	BELL & SPIGOT
CF	CRIMPED FITTING
CI	CAST IRON
CP	COPPER
CS	CARBON STEEL
CTD	PIPE LINE SERVICE COMPANY X-TRU-COAT HIGH DENSITY POLYETHYLENE COATING EXTRUDED OVER PIPE
CW	CONTINOUS WELD
DI	DUCTILE IRON
DR	DRAINAGE FITTING
GLV	GALVANIZED
HF	HEAT FUSED
LC	LEAD CAULKING
MI	MALLEABLE IRON
MJ	MECHANICAL JOINT
NG	NEOPREME GASKET
NH	NO-HUB
PE	POLYETHYLENE
PVC	POLYVINYL CHLORIDE
S	BRAZED JOINT - SILVER BRAZING ALLOY
SJ	SPOLDER JOINT 95-5 TIN-ANTIMONY
SL	SEAMLESS STEEL
SS	STANDARD STRENGTH - SERVICE WEIGHT
SW	SOLVENT WELD
THRD	THREADED
TS	TY-SEAL
VCP	VITRIFIED CLAY PIPE
WELD	WELDED
XH	EXTRA HEAVY
PUMP SCHEDULE	
AB	ALL BRONZE
ATC	AUTOMATIC TEMP CONTROL WITH AQUASTAT
BF	BRONZE FITTED
BMCCES	BASE MOUNTED CLOSED COUPLED END SUCTION
BMES	BASE MOUNTED END SUCTION
BMHSC	BASE MOUNTED HORIZONTAL SPLIT CASE
BMVSC	BASE MOUNTED VERTICAL SPLIT CASE
C	CONDENSER WATER
CH	CHILLED/HOT WATER
CW	CHILLED WATER
DCW	DOMESTIC COLD WATER
DHW	DOMESTIC HOT WATER
HW	HEATING HOT WATER
IL	IN-LINE
WATER HEATER SCHEDULE	
CNK	CONDENSATE NEUTRALIZATION KIT
CRTK	CONCENTRIC ROOF TERMINATION KIT
PTRV	PRESSURE & TEMPERATURE RELIEF VALVE
SS	STAINLESS STEEL STAND



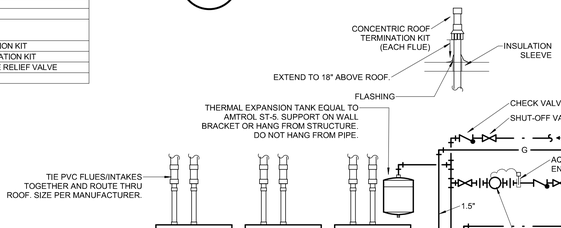
4 P3 **FLOOR CLEANOUT DETAIL**
SCALE: NOT TO SCALE



7 P3 **ROOF PIPE SUPPORT DETAIL**
SCALE: NOT TO SCALE

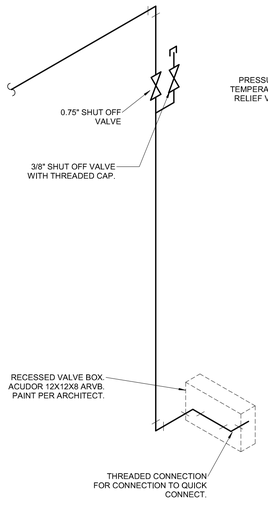


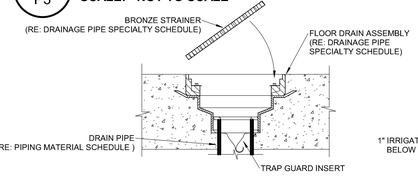
3 P3 **GAS PIPE THRU ROOF DETAIL**
SCALE: NOT TO SCALE



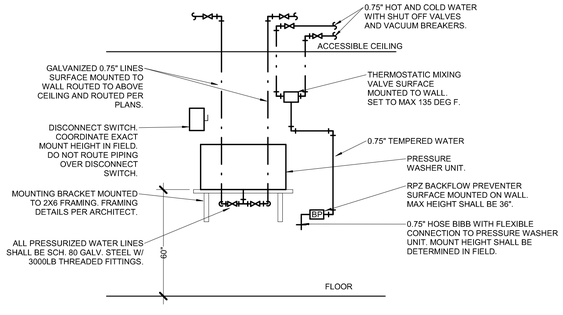
6 P3 **WATER HEATER DETAIL**
SCALE: NOT TO SCALE

2 P3 **THREE-COMPARTMENT SINK DETAIL**
SCALE: NOT TO SCALE





NOTES:
1. TRAP GUARD SHALL BE INSTALLED PER MANUFACTURER'S INSTRUCTIONS.
2. REFER TO PLANS FOR TRAP GUARD SIZE AND QUANTITY.
3. FLOOR DRAINS IN THE KITCHEN SHALL NOT HAVE TRAP GUARD.
4. TRAP GUARDS BY SURE SEAL OR PROSET.

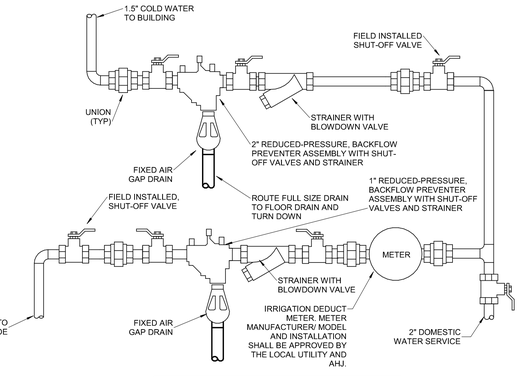


COORDINATE ALL INSTALLATION AND ROUGH IN WITH ANDY'S REPRESENTATIVE AND EQUIPMENT SUPPLIER.

9 P3 **PRESSURE WASHER ELEVATION**
SCALE: NOT TO SCALE

8 P3 **PRESSURIZED WATER DROP**
SCALE: NOT TO SCALE

5 P3 **FLOOR DRAIN DETAIL**
SCALE: NOT TO SCALE



NOTE: ALL WATER SERVICE INSTALLATIONS INCLUDING BACKFLOW DEVICES ARE SUBJECT TO FIELD VERIFICATION AND APPROVAL BY THE WATER DEPARTMENT INSPECTOR.

1 P3 **DOMESTIC WATER SERVICE DETAIL**
SCALE: NOT TO SCALE

Hufft

PROJECT INFORMATION:

Andy's Frozen Custard #204

700 NW Ward Road
Lee's Summit, MO 64806

OWNER:

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www.eatandys.com

ARCHITECT:

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P: 417-890-8002

CIVIL:

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1270 N Winchester St #5878
Olathe, KS 66061
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RTM ENGINEERING CONSULTANTS
3333 E. Battlefield Road, Suite 1000
Springfield, MO 65804
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LANDSCAPE ARCHITECT:

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ISSUE:

100% CDs
05-02-2024

REVISION SCHEDULE:

NO.	DATE	ISSUE

STATE OF MISSOURI — CAMERON K. COLLINS — NUMBER E-24493 — REGISTERED PROFESSIONAL ENGINEER

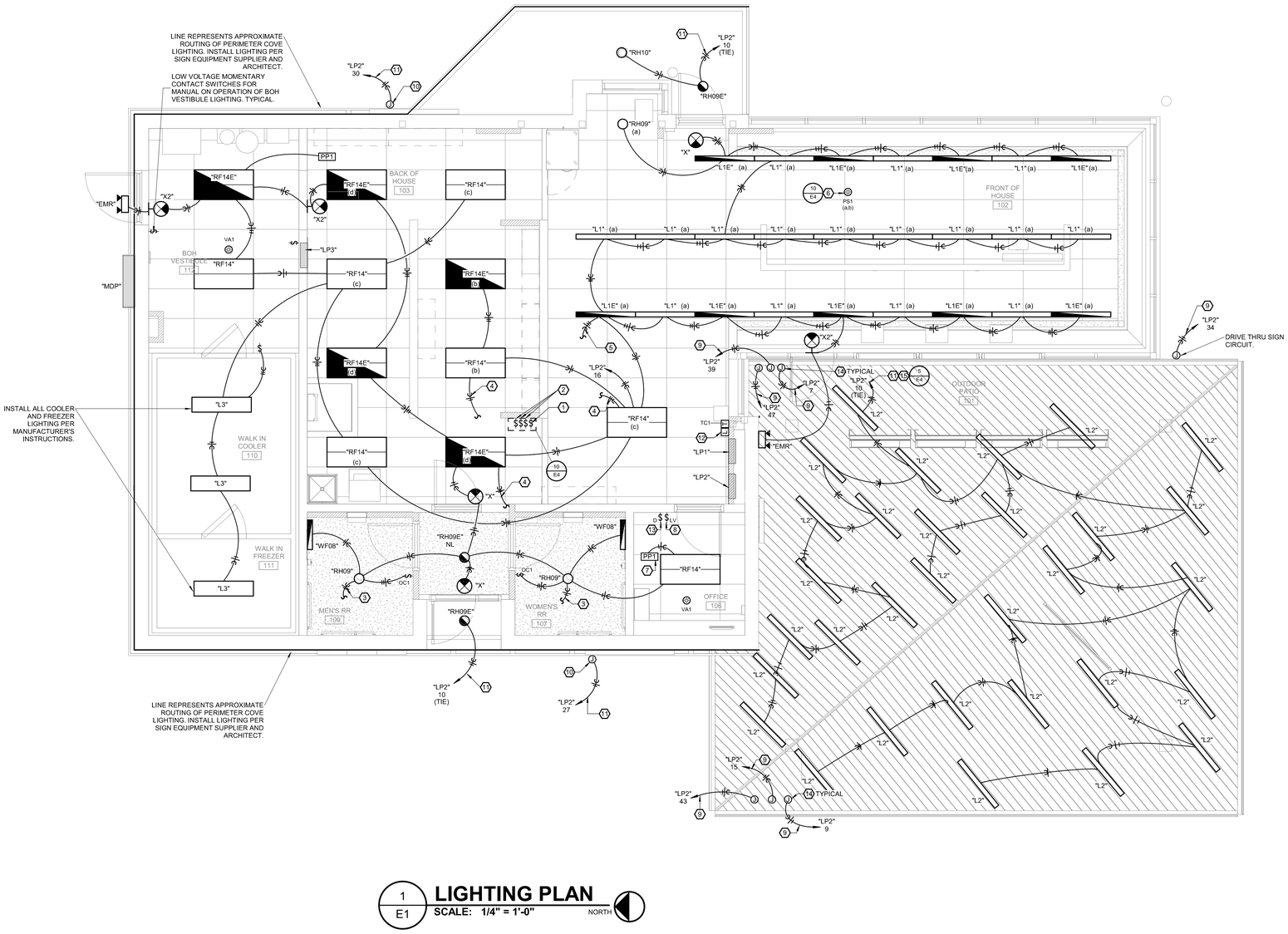
Cameron Collins

Digitally signed by Cameron Collins
DN: cn=Cameron Collins, o=RTM Engineering, OU=RTM, email=ccollins@rtmassociates.com, c=US
Date: 2024.05.02 12:42:09-05'00'

Architect: Matthew Hufft
License Number: MO#
Drawn TSE
Project Number: 736

PLUMBING DETAILS AND SCHEDULES

P3



LIGHTING PLAN

1 / E1

SCALE: 1/4" = 1'-0"

NORTH

PLAN HEX NOTES:

1. PROVIDE 60 MIN TIME OUT LIGHT SWITCHES FOR FRONT OF HOUSE LIGHTING (SWITCH ID (A)) IN SINGLE BOX WITH "FRONT-OF-HOUSE" SCREENED ON COVERPLATE. SWITCHES SHALL BE HUBBELL DT5060W OR EQUIVALENT.
2. PROVIDE 60 MIN TIME OUT LIGHT SWITCHES FOR BACK OF HOUSE LIGHTING (SWITCH ID (B), (C), AND (D)) IN A SINGLE BOX WITH "BACK-OF-HOUSE" SCREENED ON COVERPLATE. SWITCHES SHALL BE HUBBELL DT5060W OR EQUIVALENT.
3. EXTEND CIRCUITRY TO RESTROOM EXHAUST FAN. WIRE FAN SUCH THAT IT IS CONTROLLED WITH THE RESTROOM LIGHT FIXTURES. SEE POWER PLAN FOR EXHAUST FAN LOCATION.
4. ROUTE SWITCHLEG THRU CONTACTOR "LC1". SEE LIGHTING CONTROL WIRING DIAGRAM.
5. ROUTE SWITCHLEG THRU CONTACTOR "LC1" AND DAYLIGHT SENSOR "PS1". SEE LIGHTING CONTROL WIRING DIAGRAM.
6. FRONT OF HOUSE LIGHTING SHALL BE AUTOMATICALLY DIMMED VIA DAYLIGHT SENSOR. INSTALL SENSOR IN LOCATION AS RECOMMENDED BY THE MANUFACTURER.
7. PROVIDE LIGHTING AND PLUG LOAD CONTROLLERS INSTALLED ABOVE ACCESSIBLE CEILING. LIGHTING SHALL BE TURNED ON MANUALLY AT SWITCH BY OCCUPANT AND TURNED OFF MANUALLY BY SWITCH OR AUTOMATICALLY BY VACANCY SENSOR AFTER 20 MINUTES OF INACTIVITY. LIGHTING POWER PACK SHALL BE CONNECTED WITH PLUG LOAD POWER PACK SHOWN ON THE POWER PLANS. WIRE PER MANUFACTURER'S INSTRUCTIONS. PROVIDE ALL REQUIRED COMPONENTS TO MEET DESIGN INTENT.
8. PROVIDE LOW VOLTAGE MOMENTARY CONTACT SWITCH. WATTSTOPPER DCC2 OR EQUIVALENT FOR CONTROL OF ROOM LIGHTING.
9. PULL FASCIA LIGHTING CIRCUIT THRU LIGHTING CONTACTOR "LC2" AND FASCIA LIGHTING ANIMATOR.
10. POWER FOR PERIMETER COVE LIGHTING. LIGHTING FURNISHED BY SIGNAGE SUPPLIER, INSTALLED BY CONTRACTOR.
11. ROUTE THRU TIME CLOCK CONTROLLED CONTACTOR "LC2".
12. CONTACTORS "LC1", "LC2", "LC3", AND "LC4" IN SINGLE ENCLOSURE.
13. 0-10V DIMMER SWITCH FOR CONTROL OF CANOPY LIGHTING. PROVIDE PERMANENT LABEL THAT READS "CANOPY LIGHTING DIMMER".
14. PROVIDE POWER AND ROUGH-IN TO J-BOX AND (3) 6-FOOT LONG FIXTURE WHIPS TO FASCIA LIGHTING ON SIDE OF OVERHEAD CANOPY. COORDINATE EXACT ROUGH IN LOCATION AND REQUIREMENTS WITH SIGNAGE SUPPLIER. PROVIDE WEATHERPROOF DISCONNECTING MEANS.
15. ROUTE THRU DIMMER SWITCH LOCATED IN THE OFFICE. PROVIDE ALL 0-10V WIRING REQUIRED.

GENERAL NOTES:

A. FOR ALL ELECTRICAL QUESTIONS CONTACT RTM ENGINEERING CONSULTANTS, 417-881-0020. CONTACT PERSON: TYLER ENSERRO. tyler.enserro@rtmec.com

Hufft

PROJECT INFORMATION:

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05-02-2024

REVISION SCHEDULE:

NO.	DATE	ISSUE

STATE OF MISSOURI
CAMERON K. COLLINS
NUMBER E-24493
REGISTERED PROFESSIONAL ENGINEER

Cameron Collins

Digitally signed by Cameron Collins
Date: 2024.05.02 12:56:55 -05'00'

Architect: Matthew Hufft
License Number: MO#
Drawn TSE
Project Number: 736

LIGHTING PLAN

E1

KITCHEN ELECTRICAL SCHEDULE

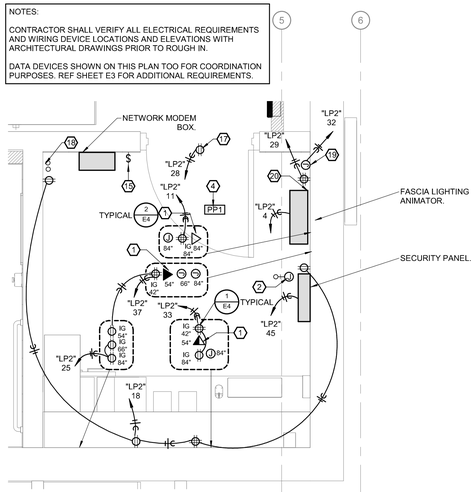
ITEM NO	EQUIPMENT CATEGORY	DIRECT	AMPS	KW	HP	VOLTS	PHASE	NEMA	ELECTRICAL (E) OR (I)	ELEC REMARKS	ITEM NO
1	CUSTARD MACHINE	X							CS	VERIFY ALL	1
2	ICE CREAM DIPPING CABINET		7.8			115	1	5-15P	CS		2
4	WASHER/DRYER - ELECTRIC		15.0			120	1		50		4
7	ICE MAKER W/BIN		6.5			115	1	5-15P	24		7
8	OVEN, CONVECTION, ELECTRIC	X	27.0	5.6		208	1		24		8
10	WAREWASHER, UNDERCOUNTER, HIGH TEMP	X	37.7			120/208	1		24		10
17	MILK DISPENSER		1.2		0.1	115	1	5-15P	50		17
23	BLENDER		2.1			115	1	5-15P	50		23
25	WAFFLE MAKER		10			115	1	5-15P	24		25
26	MICROWAVE OVEN		13.4	1.0		120	1	5-15P	60		26
27	DRINK MIXER		11.4			115	1	5-15P	50	VERIFY ALL	27
31	KEGERATOR		2.5			115	1	5-15P	24		31
32	REFRIGERATOR, GLASS DOOR		5		0.2	115	1	5-15P	24		32
33	REFRIGERATOR, WORKTOP W/RAIL		8.6		0.33	120	1	5-15P	24		33
34A	WARMER, FUDGE & SYRUP		4.2	0.5		120	1	5-15P	50		34A
34C	WARMER, FUDGE & SYRUP		2.9			120	1	5-15P	50		34C
34E	WARMER, FUDGE & SYRUP		4.2	0.5		120	1	5-15P	50		34E
38	FREEZER, REACH-IN		7.8		0.5	115	1	5-15P	24		38
40	DROP-IN, FREEZER/ICE CREAM		1.6		0.2	115	1	5-15P	24		40
41	COFFEE MAKER, POUROVER		13.1	1.6		120	1	5-15P	24		41
42	DROP-IN, FREEZER/ICE CREAM		1.6		0.2	115	1	5-15P	24		42
44	REFRIGERATOR, UNDERCOUNTER, COMPACT		4.5		0.2	115	1	5-15P	24		44
50	WALK-IN COOLER LIGHTS	X							DFA	SEE MANUFACTURER'S DRAWINGS FOR SPECS	50
50.1	WALK-IN COOLER COIL	X							DFA	SEE MANUFACTURER'S DRAWINGS FOR SPECS	50.1
50.2	WALK-IN COOLER REMOTE CONDENSER	X							DFA	SEE MANUFACTURER'S DRAWINGS FOR SPECS	50.2
51	WALK-IN FREEZER LIGHTS	X							DFA	SEE MANUFACTURER'S DRAWINGS FOR SPECS	51
51.1	WALK-IN FREEZER COIL	X							DFA	SEE MANUFACTURER'S DRAWINGS FOR SPECS	51.1
51.2	WALK-IN FREEZER REMOTE CONDENSER	X							DFA	SEE MANUFACTURER'S DRAWINGS FOR SPECS	51.2
CO1	CONVENIENCE OUTLET		7.0			115	1	5-15P	24		CO1
CO2	CONVENIENCE OUTLET		7.0			115	1	5-15P	50		CO2

NOTE: PROVIDE DISCONNECTING MEANS OR CORD AND PLUG SET FOR ALL EQUIPMENT THAT IS NOT FURNISHED WITH ONE.

NOTES:

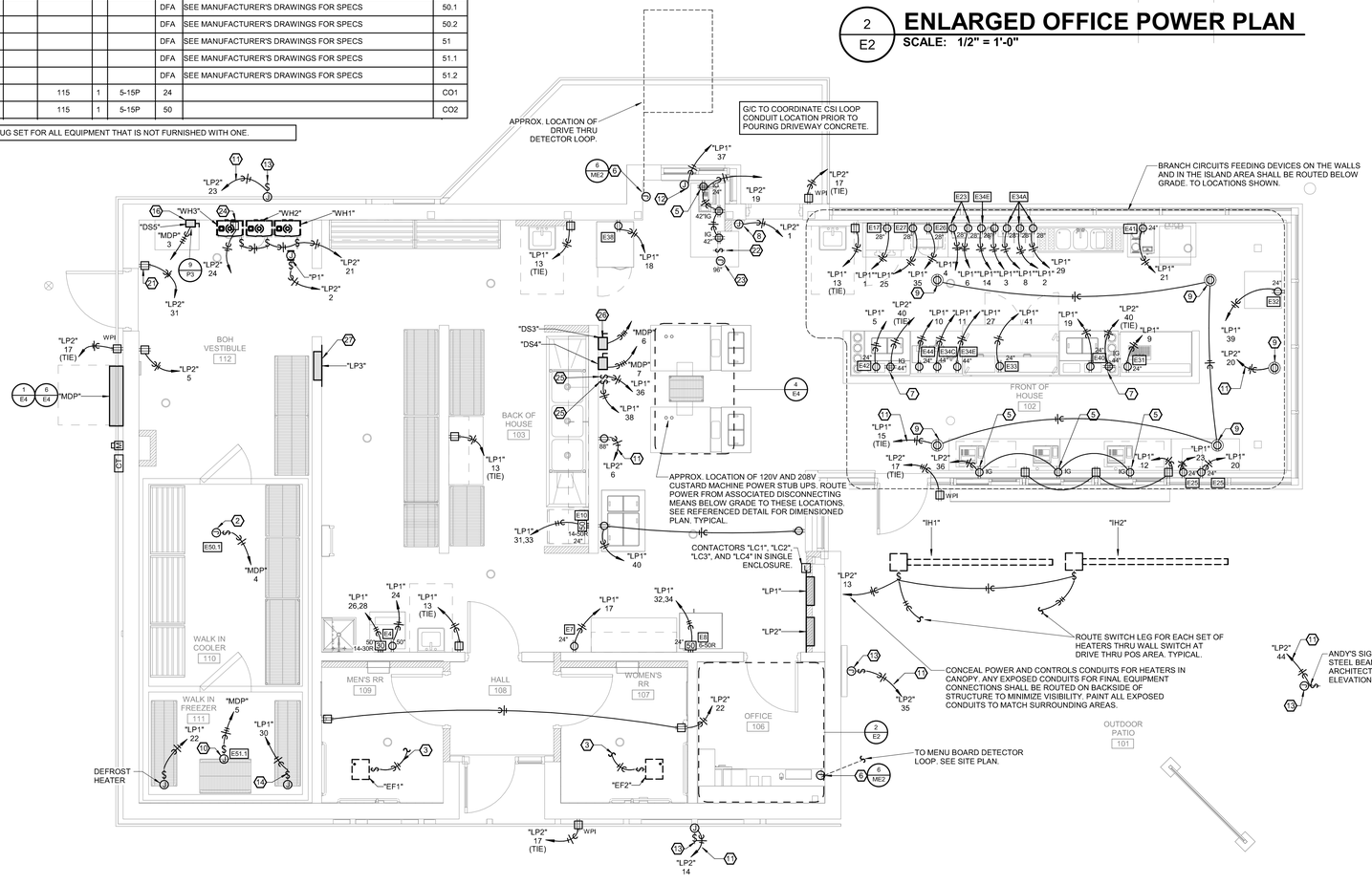
CONTRACTOR SHALL VERIFY ALL ELECTRICAL REQUIREMENTS AND WIRING DEVICE LOCATIONS AND ELEVATIONS WITH ARCHITECTURAL DRAWINGS PRIOR TO ROUGH IN.

DATA DEVICES SHOWN ON THIS PLAN TOO FOR COORDINATION PURPOSES. REF SHEET E3 FOR ADDITIONAL REQUIREMENTS.



2 E2 ENLARGED OFFICE POWER PLAN

SCALE: 1/2" = 1'-0"



1 E2 FIRST FLOOR POWER PLAN

SCALE: 1/4" = 1'-0"

NORTH

PLAN HEX NOTES:

1. ROUTE (2) CAT5S CABLES TO NETWORK BOX MODEM LOCATED IN OFFICE. CABLES ROUTED ABOVE HARD CEILINGS SHALL BE IN 0.75" CONDUIT. CABLE ABOVE LAY-IN CEILINGS IS NOT REQUIRED TO BE IN CONDUIT.
2. PROVIDE 1.5" RIGID GALVANIZED WEATHER HEAD THROUGH ROOF ADJACENT TO MUZAK SYSTEM SATELLITE DISH MOUNTING LOCATION. ROUTE CONDUIT TO ABOVE ACCESSIBLE CEILING SPACE BELOW. COORDINATE EXACT LOCATIONS AND ROUGH-IN WITH MUZAK SYSTEM VENDOR PRIOR TO ROUGH-IN.
3. EXHAUST FAN POWERED ON RESTROOM LIGHTING CIRCUIT. FAN SHALL BE CONTROLLED VIA RESTROOM LIGHTING CONTROLS.
4. INSTALL PLUG LOAD CONTROLLER ABOVE ACCESSIBLE CEILING. CONNECT WITH LIGHTING CONTROLS SHOWN ON LIGHTING PLANS. ONE OUTLET OF EACH DUPLEX RECEPTACLE ON CIRCUIT SHALL BE TURNED ON AUTOMATICALLY BY VACANCY SENSOR SHOWN ON LIGHTING PLANS. OUTLET SHALL BE TURNED OFF AUTOMATICALLY BY VACANCY SENSOR AFTER 20 MINUTES OF INACTIVITY.
5. RECEPTACLE FOR POS EQUIPMENT. FIELD COORDINATE EXACT MOUNTING LOCATION WITH KITCHEN EQUIPMENT AND CASH REGISTER LAYOUT PRIOR TO ROUGH IN.
6. PROVIDE WALL MOUNTED JUNCTION BOX AT 80" AFF WITH 0.75" CONDUIT WITH PULL WIRE ROUTED BELOW GRADE TO DRIVE THRU AREA FOR DRIVE THRU LOOP. ROUTE SECOND 0.75" CONDUIT WITH PULL WIRE ROUTED BELOW GRADE TO INTERIOR WALL AND THEN TO ABOVE ACCESSIBLE CEILING SPACE. VERIFY REQUIREMENTS AND JUNCTION BOX LOCATION WITH EQUIPMENT SUPPLIER. DRIVE THRU LOOP FURNISHED BY OWNER, INSTALLED BY CONTRACTOR.
7. PROVIDE RECEPTACLE AND DATA CONNECTIONS FOR MAKE-TABLE MONITOR. COORDINATE LOCATION WITH DETAILS ON FOOD SERVICE EQUIPMENT DRAWINGS.
8. PROVIDE SERVICE DOOR CHIME (2 TONES), ROUGH IN AT 12" BELOW FINISH CEILING.
9. PROVIDE ROUGH IN AND CIRCUITING FOR INTERNALLY LIT FRONT WINDOW SIGNAGE. VERIFY LOCATION WITH ARCHITECT'S DRAWINGS PRIOR TO ROUGH IN. SIGNAGE WILL BE INSTALLED NEAR WINDOWS. RECEPTACLE MAY BE SHOWN OFFSET FOR CLARITY.
10. VERIFY EXACT ROUGH-IN LOCATIONS AND REQUIREMENTS FOR WALK-IN COOLER/FREEZER EQUIPMENT/CONNECTIONS WITH EQUIPMENT MANUFACTURER. E/C IS RESPONSIBLE FOR FINAL CONNECTIONS TO ALL EQUIPMENT.
11. ROUTE CIRCUIT THRU CONTACTOR "LC3".
12. PROVIDE POWER FOR AUTOMATIC DRIVE THRU WINDOW. PROVIDE ALL WIRING BOXES, CONDUITS, AND CONNECTIONS AS REQUIRED. VERIFY ROUGH IN LOCATION WITH EQUIPMENT SUPPLIER.
13. POWER FOR STORE SIGNAGE. COORDINATE EXACT NUMBER OF BOXES, CIRCUITS, AND LOCATIONS WITH SIGNAGE SUPPLIER PRIOR TO ANY ROUGH IN.
14. PROVIDE POWER FOR FREEZER HEAT TRACE. PROVIDE TOTAL NUMBER OF CIRCUITS AS REQUIRED FOR LENGTH OF HEAT TRACE.
15. PROVIDE J-BOX ADJACENT TO ROOM LIGHT SWITCH FOR WIRELESS MOTORIZED SHADE CONTROLLER. PROVIDE COVERPLATE AS REQUIRED. PROVIDE ENGRAVED LABEL AT SWITCH THAT READS "MOTORIZED SHADES."
16. POWER FOR PRESSURE WASHER. VERIFY EXACT MOUNT HEIGHT AND LOCATION IN FIELD WITH OWNER PROVIDED EQUIPMENT.
17. POWER FOR LED SIGN CONTROLLER ABOVE DOOR.
18. PROVIDE 2" EMPTY CONDUIT STUBBED UP TIGHT TO WALL TO 12" AFF FOR TELEPHONE SERVICE. COORDINATE EXTERIOR ROUTE TO SERVICE PEDESTAL WITH UTILITY.
19. PROVIDE #6 GROUND FOR CONNECTION TO TELE/DATA EQUIPMENT.
20. FASCIA LIGHT ANIMATOR. WIRE ALL FASCIA LIGHTING THROUGH ANIMATOR. CONTACTOR "LC2" SHALL CONTROL ON/OFF FUNCTION.
21. POWER FOR IRRIGATION CONTROLLER HIGH ON WALL. COORDINATE EXACT LOCATION WITH IRRIGATION CONTRACTOR. PROVIDE 1" CONDUIT WITH PULL WIRE TO IRRIGATION VALVE BOX. REFERENCE CIVIL DRAWINGS FOR EXACT LOCATION OF IRRIGATION VALVE BOX.
22. PROVIDE (2) 4-HOUR DIGITAL TIMER SWITCHES WITH 1HR, 2HR, AND 4HR OPTIONS FOR CONTROL OF INFRARED HEATERS. PROVIDE PERMANENT LABELS AT EACH SWITCH. SWITCHES SHALL READ "MAIN CANOPY HEATERS".
23. 2-GANG BOX WITH 1" CONDUIT TO ABOVE ACCESSIBLE CEILING.
24. POWER FOR WATER SOFTENER. COORDINATE EXACT LOCATION AND MOUNT HEIGHT WITH EQUIPMENT.
25. 120V, 1P SWITCH ON WALL ADJACENT TO CUSTARD MACHINE DISCONNECTS FOR 120V POWER TO CUSTARD MACHINES. PROVIDE PERMANENT LABEL AT SWITCH THAT READS "120V CUSTARD MACHINE POWER".
26. PROVIDE PERMANENT LABEL AT DISCONNECT SWITCHES "DS3" AND "DS4" THAT READ "208V CUSTARD MACHINE POWER".
27. LOCATION OF PANEL "LP3" IF ALTERNATE ELECTRICAL DISTRIBUTION CONFIGURATION IS INSTALLED. UNDER STANDARD ELECTRICAL DISTRIBUTION CONFIGURATION, OMIT THIS PANEL.

GENERAL NOTES:

A. FOR ALL ELECTRICAL QUESTIONS CONTACT RTM ENGINEERING CONSULTANTS, 417-881-0020. CONTACT PERSON: TYLER ENSERRO. tyler.enserro@rtmec.com

Hufft

PROJECT INFORMATION:

Andy's Frozen Custard #204

700 NW Ward Road
Lee's Summit, MO 64806

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ISSUE:

100% CDs
05-02-2024

REVISION SCHEDULE:

NO.	DATE	ISSUE

STATE OF MISSOURI
CAMERON K. COLLINS
NUMBER E-24493
REGISTERED PROFESSIONAL ENGINEER

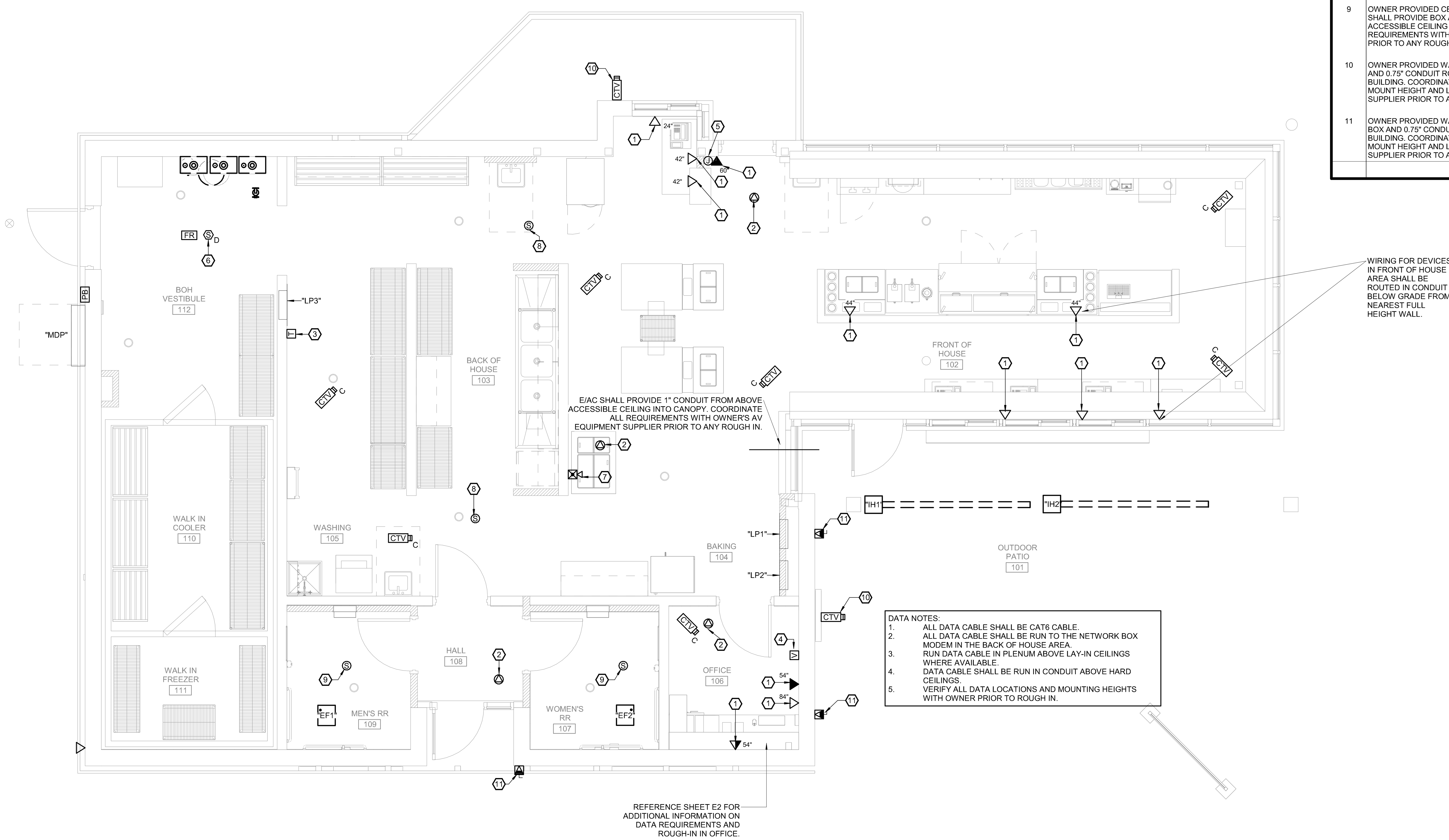
Cameron Collins

Digitally signed by Cameron Collins
Date: 2024.05.03 12:57:24 -05'00'

Architect: Matthew Hufft
License Number: MO#
Drawn TSE
Project Number: 736

POWER PLAN

E2



DATA NOTES:

1. ALL DATA CABLE SHALL BE CAT6 CABLE.
2. ALL DATA CABLE SHALL BE RUN TO THE NETWORK BOX MODEM IN THE BACK OF HOUSE AREA.
3. RUN DATA CABLE IN PLENUM ABOVE LAY-IN CEILINGS WHERE AVAILABLE.
4. DATA CABLE SHALL BE RUN IN CONDUIT ABOVE HARD CEILINGS.
5. VERIFY ALL DATA LOCATIONS AND MOUNTING HEIGHTS WITH OWNER PRIOR TO ROUGH IN.

1 / E3 **SPECIAL SYSTEMS PLAN**

SCALE: 1/4" = 1'-0"

NORTH

PLAN HEX NOTES:

1	ROUTE (2) CAT6S CABLES TO NETWORK BOX MODEM LOCATED IN OFFICE. CABLES ROUTED ABOVE HARD CEILINGS SHALL BE IN 0.75" CONDUIT. CABLE ABOVE LAY-IN CEILINGS IS NOT REQUIRED TO BE IN CONDUIT.
2	ROUTE (2) CAT6 CABLES FROM CEILING JUNCTION BOX TO NETWORK BOX MODEM LOCATED IN OFFICE. CABLE ROUTED ABOVE HARD CEILINGS SHALL BE IN 0.75" CONDUIT. CABLE ABOVE LAY-IN CEILINGS IS NOT REQUIRED TO BE IN CONDUIT.
3	REMOTE TEST STATION AND INDICATOR FOR DUCT SMOKE DETECTOR INSTALLED LOW ON WALL IN A LOCATION APPROVED BY THE AUTHORITY HAVING JURISDICTION.
4	PROVIDE BACK BOX WITH 0.75" CONDUIT ROUTED IN WALL TO ABOVE ACCESSIBLE CEILING FOR MUZAK SYSTEM VOLUME CONTROL. COORDINATE EXACT LOCATION AND ROUGH IN REQUIREMENTS WITH MUZAK SYSTEM VENDOR PRIOR TO ROUGH IN.
5	PROVIDE ROUGH IN AND FINAL CONNECTIONS TO SECURITY SYSTEM KEYPAD AT 60" AFF. EXTEND CONDUIT IN WALL UP TO ABOVE CEILING. COORDINATE LOCATION AND MOUNTING HEIGHT WITH OWNER PRIOR TO ROUGH IN.
6	DUCT SMOKE DETECTOR (EQUAL TO NOTIFIER DH100LP) SHALL BE INSTALLED IN RETURN AIR DUCT. COORDINATE WITH M/C FOR DUCTWORK SIZE AND ADDITIONAL LENGTH AS REQUIRED FOR DETECTOR INSTALLATION. UPON DETECTION OF SMOKE IN THE RETURN AIR DUCT ALL UNIT OPERATION SHALL BE SHUT OFF. PROVIDE FAN SHUTDOWN RELAYS AND ACCESSORIES AS REQUIRED FOR UNIT SHUTDOWN. PROVIDE RTS-451 REMOTE KEYED TEST STATION AND INDICATOR IN BOX ON WALL CLOSE TO THE FLOOR WHERE SHOWN ON THE PLANS.
7	REMOTE SOUNDER/LED ANNUNCIATOR. NOTIFIER MODEL APA-451 TO SIGNAL "RTU1" DUCT SMOKE DETECTOR ACTIVATION. LABEL COVERPLATE "RTU1 DETECTOR".
8	OWNER PROVIDED CEILING SPEAKER IN LAY-IN CEILING. SHOWN FOR REFERENCE ONLY.
9	OWNER PROVIDED CEILING SPEAKER IN GYP CEILING. E/C SHALL PROVIDE BOX AND 0.75" CONDUIT ROUTED TO ACCESSIBLE CEILING IN OFFICE. COORDINATE ALL REQUIREMENTS WITH OWNER'S AV EQUIPMENT SUPPLIER PRIOR TO ANY ROUGH IN.
10	OWNER PROVIDED WALL CAMERA. E/C SHALL PROVIDE WP BOX AND 0.75" CONDUIT ROUTED TO ACCESSIBLE CEILING IN BUILDING. COORDINATE ALL REQUIREMENTS INCLUDING MOUNT HEIGHT AND LOCATION WITH OWNER'S AV EQUIPMENT SUPPLIER PRIOR TO ANY ROUGH IN.
11	OWNER PROVIDED WALL SPEAKER. E/C SHALL PROVIDE WP BOX AND 0.75" CONDUIT ROUTED TO ACCESSIBLE CEILING IN BUILDING. COORDINATE ALL REQUIREMENTS INCLUDING MOUNT HEIGHT AND LOCATION WITH OWNER'S AV EQUIPMENT SUPPLIER PRIOR TO ANY ROUGH IN.

GENERAL NOTES:

A.	THESE GENERAL NOTES APPLY TO ALL ELECTRICAL AND SPECIAL SYSTEMS DRAWINGS. REFER TO DIVISION 26 SPECIFICATIONS FOR ADDITIONAL ELECTRICAL AND SPECIAL SYSTEMS SPECIFICATIONS AND REQUIREMENTS.
B.	ALL ELECTRICAL WORK SHALL BE IN ACCORDANCE WITH THE 2017 NATIONAL ELECTRICAL CODE AS ADOPTED BY THE CITY OF LEE'S SUMMIT, MO.
C.	PROVIDE PULL BOXES AS REQUIRED TO PROPERLY INSTALL THE RACEWAYS AND CIRCUITS INDICATED.
D.	REFER TO ARCHITECTURAL DRAWINGS FOR TYPICAL ROOM INTERIOR ELEVATIONS. COORDINATE EXACT DEVICE LOCATIONS AND MOUNTING HEIGHTS WITH ARCHITECT PRIOR TO ROUGH-IN.
E.	ALL EMPTY CONDUITS SHALL BE PROVIDED WITH ROT-PROOF PULL-TAPE, LABELED AT EACH END. ALL CONDUITS SHALL BE PROVIDED WITH PLASTIC BUSHINGS WHERE TERMINATED OPEN-ENDED.
F.	COORDINATE ALL WIRING DEVICE LOCATIONS SHOWN AT MILLWORK LOCATIONS WITH THE MILLWORK CONTRACTOR AND GENERAL CONTRACTOR PRIOR TO ANY ROUGH-IN OR INSTALLATION. ALL WIRING DEVICES SHALL BE INSTALLED IN ACCESSIBLE LOCATIONS AND SHALL NOT BE CONCEALED.
G.	SEAL ALL PENETRATIONS THROUGH FIRE-RATED ASSEMBLIES AS NECESSARY TO RESTORE FIRE-RESISTANCE RATING OF ASSEMBLY. REFER TO ARCHITECTURAL PLANS AND SPECIFICATIONS FOR RATED ASSEMBLIES, FIRE STOPPING MATERIALS, AND REQUIREMENTS.
H.	EACH CONTRACTOR AND SUB-CONTRACTOR OR TRADE IS REQUIRED TO REVIEW THE CONSTRUCTION DOCUMENTS AS A WHOLE, INCLUDING ALL OTHER TRADES' DRAWINGS AND PROVIDE ANY MISC. ITEMS, MATERIALS, WORK, ETC. REQUIRED TO COMPLETE THE WORK AS SHOWN ON ALL DOCUMENTS. THIS REQUIREMENT APPLIES TO ALL TRADES. STRUCTURAL, MECHANICAL, ELECTRICAL, PLUMBING, EQUIPMENT VENDORS, ETC. REQUIREMENTS AND RELATED WORK ARE INDICATED THROUGHOUT THE DOCUMENTS AND SHOULD BE REVIEWED WITH THE SPECIFIC MEP, STRUCTURAL, ARCHITECTURAL, AND EQUIPMENT DRAWINGS FOR OVERALL SCOPE OF WORK.
I.	REFER TO THE MECHANICAL DRAWINGS FOR EXACT LOCATIONS AND QUANTITY OF ALL MECHANICAL EQUIPMENT AND FIRE/SMOKE AND/OR SMOKE DAMPERS. LOCATIONS AND QUANTITY SHOWN ON THE ELECTRICAL DRAWINGS ARE APPROXIMATE AND MAY NOT REFLECT FINAL POSITION OR QUANTITY.
J.	ELECTRICAL CONTRACTOR SHALL PROVIDE FINAL CONNECTION TO ALL MECHANICAL EQUIPMENT. WHERE EQUIPMENT IS SHOWN ON THE MECHANICAL PLANS, BUT NOT SHOWN ON THE ELECTRICAL PLANS, ELECTRICAL CONTRACTOR SHALL PROVIDE POWER TO THE EQUIPMENT BASED ON EQUIPMENT REQUIREMENTS AND INCLUDE ALL COSTS IN THE BASE BID.
K.	LOCATION SHOWN OF ELECTRICAL CONNECTION TO MECHANICAL EQUIPMENT IS SCHEMATIC AND MAY NOT REFLECT ACTUAL CONNECTION POINTS. ROUGH-IN AND CONNECTION TO EQUIPMENT SHALL BE PER THE EQUIPMENT MANUFACTURER'S REQUIREMENTS AND THE NATIONAL ELECTRICAL CODE. PROVIDE STRUCTURAL SUPPORTS AS REQUIRED FOR MOUNTING OF DISCONNECTING MEANS. VERIFY ALL ROUGH-IN REQUIREMENTS WITH THE MECHANICAL CONTRACTOR AND EQUIPMENT MANUFACTURER PRIOR TO ANY ROUGH-IN.
L.	PROVIDE FINAL CONNECTION TO ALL EQUIPMENT, INCLUDING ANY CORD AND PLUG SETS FOR EQUIPMENT NOT PROVIDED WITH IT (WHETHER SPECIFICALLY NOTED OR NOT). COORDINATE ALL WORK WITH THE EQUIPMENT SUPPLIER AND OWNER; AND VERIFY ALL ROUGH-IN LOCATIONS AND REQUIREMENTS PRIOR TO ANY ROUGH-IN.
M.	THERMOSTATS AND ALL ASSOCIATED LOW VOLTAGE CONTROL WIRING SHALL BE SUPPLIED AND INSTALLED BY THE HVAC CONTRACTOR. THE ELECTRICAL CONTRACTOR SHALL FURNISH AND INSTALL THE NECESSARY CONDUIT, BOXES, ETC. FOR THE INSTALLATION OF THERMOSTATS. THE HVAC CONTRACTOR SHALL BE RESPONSIBLE FOR THE INSTALLATION AND CONNECTION OF THE THERMOSTATS AND ALL CONTROL WIRING. REFER TO MECHANICAL PLANS FOR THERMOSTAT LOCATIONS.
N.	PROVIDE UNSWITCHED HOT FROM NEAREST CIRCUIT TO EXIT SIGNS AND EMERGENCY FIXTURES.
O.	CONTRACTOR SHALL CONTACT THE LOCAL ELECTRIC UTILITY COMPANY AND ARRANGE FOR ELECTRICAL SERVICE AS INDICATED ON DRAWINGS. INCLUDE ALL COSTS, CHARGES, FEES, ETC. INCURRED BY UTILITY COMPANY INTO BID. PROVIDE ALL MATERIALS AS REQUIRED BY LOCAL AUTHORITIES FOR ELECTRIC SERVICE INSTALLATION. ALL WORK SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF LOCAL AUTHORITIES.

GENERAL NOTES:

A.	FOR ALL ELECTRICAL QUESTIONS CONTACT RTM ENGINEERING CONSULTANTS, 417-881-0020. CONTACT PERSON: TYLER ENSERRO. tyler.enserro@rtmec.com

Hufft

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05-02-2024

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STATE OF MISSOURI
CAMERON K. COLLINS
NUMBER E-24493
REGISTERED PROFESSIONAL ENGINEER

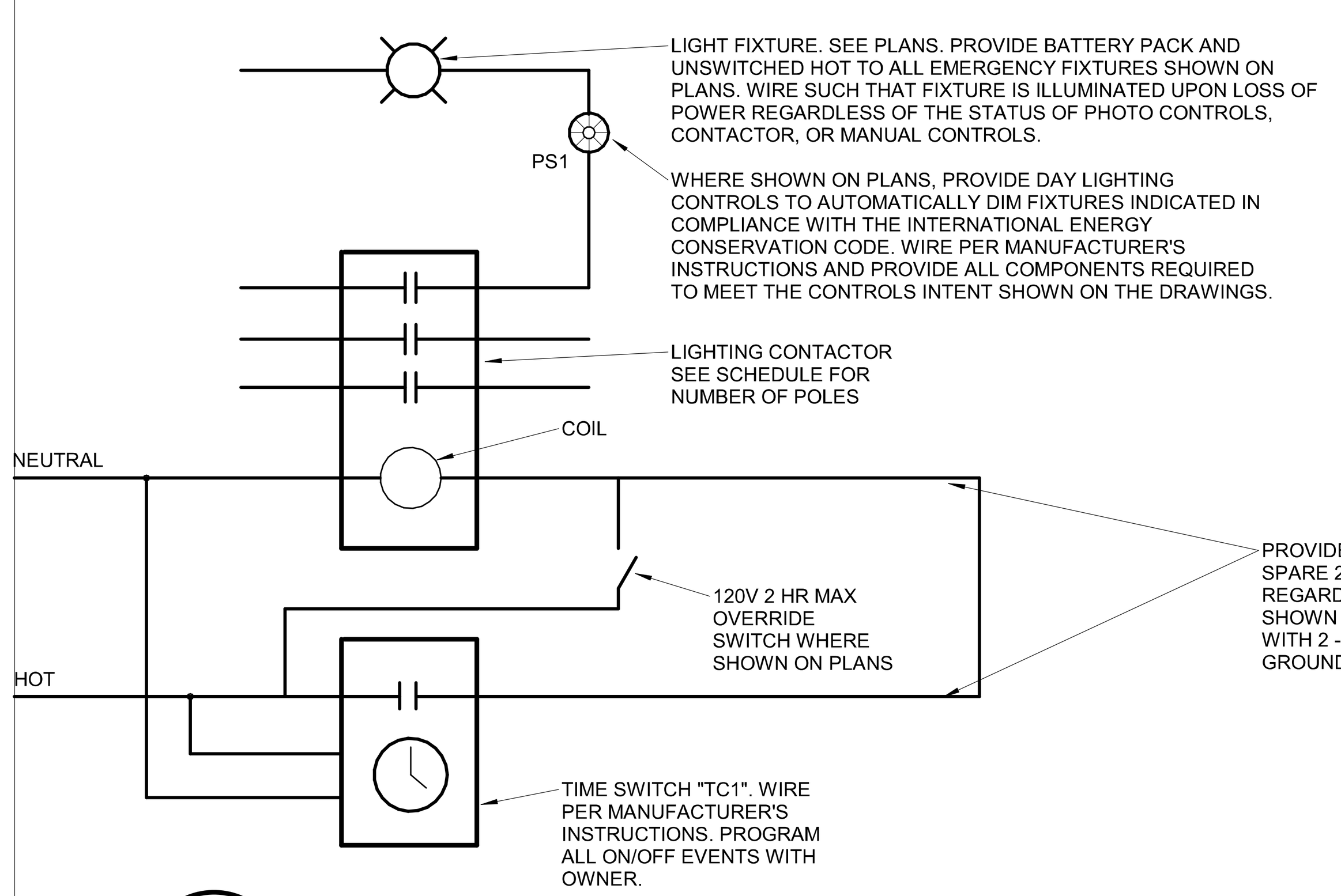
Cameron Collins

Digitally signed by Cameron Collins
DN: C=US, E=cameron.collins@rtmassociates.com, O=RTM Engineering, OU=RTM, CN=Cameron Collins
Date: 2024.05.03 12:37:13-05'00'

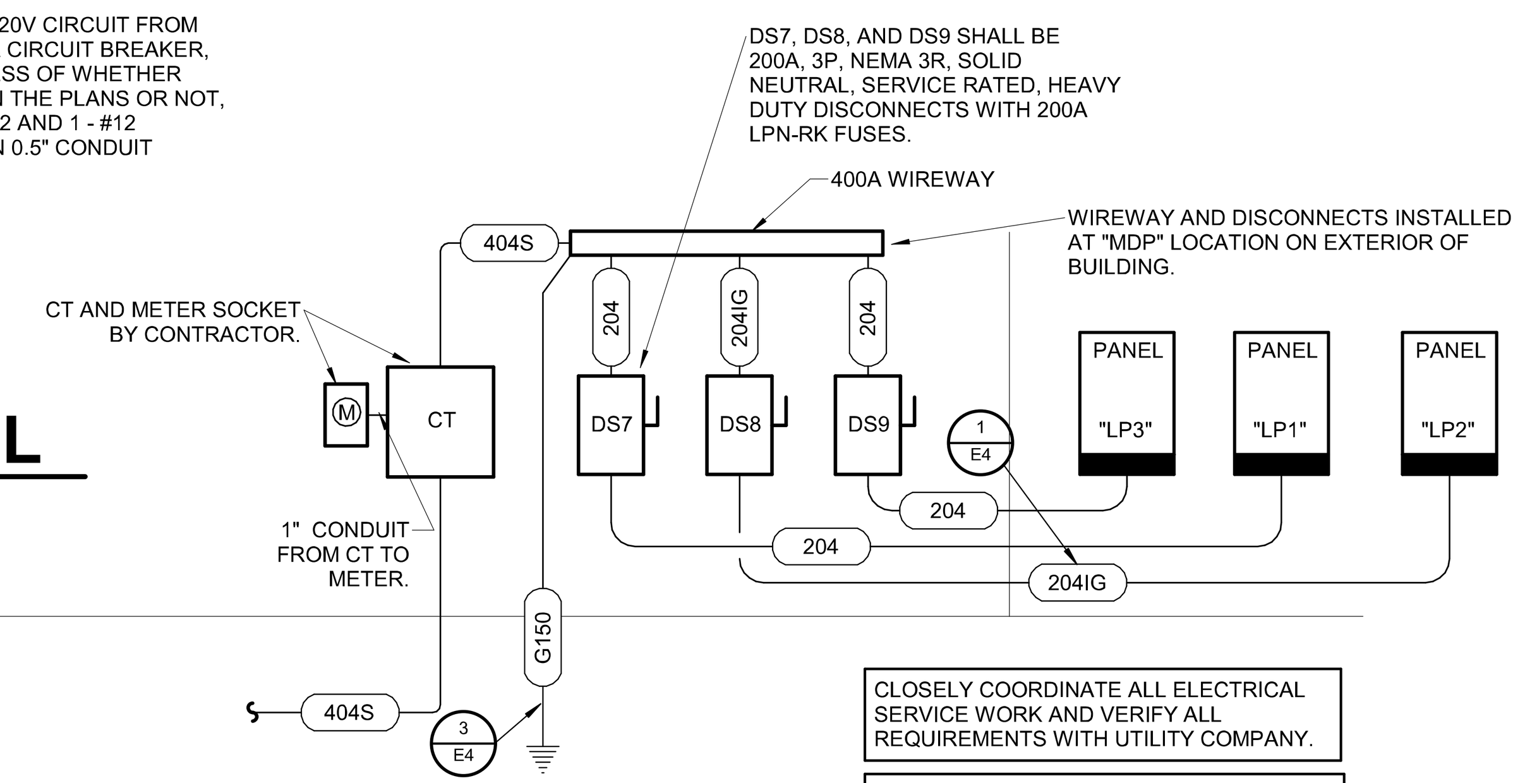
Architect: Matthew Hufft
License Number: MO#
Drawn By: Author
Project Number: 736

SPECIAL SYSTEMS PLAN

E3



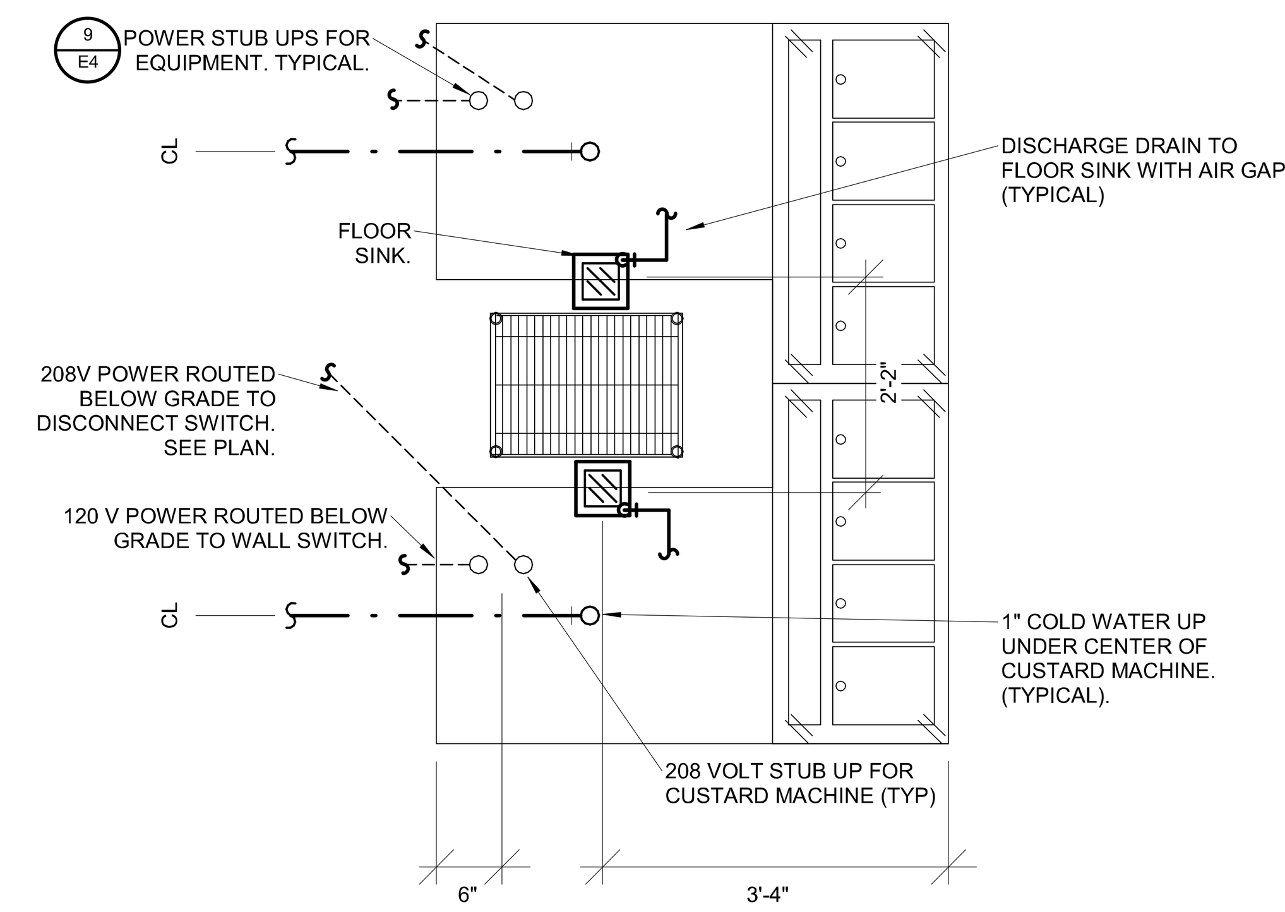
10 / E4 **INDOOR LIGHTING CONTROL DETAIL**
SCALE: NOT TO SCALE



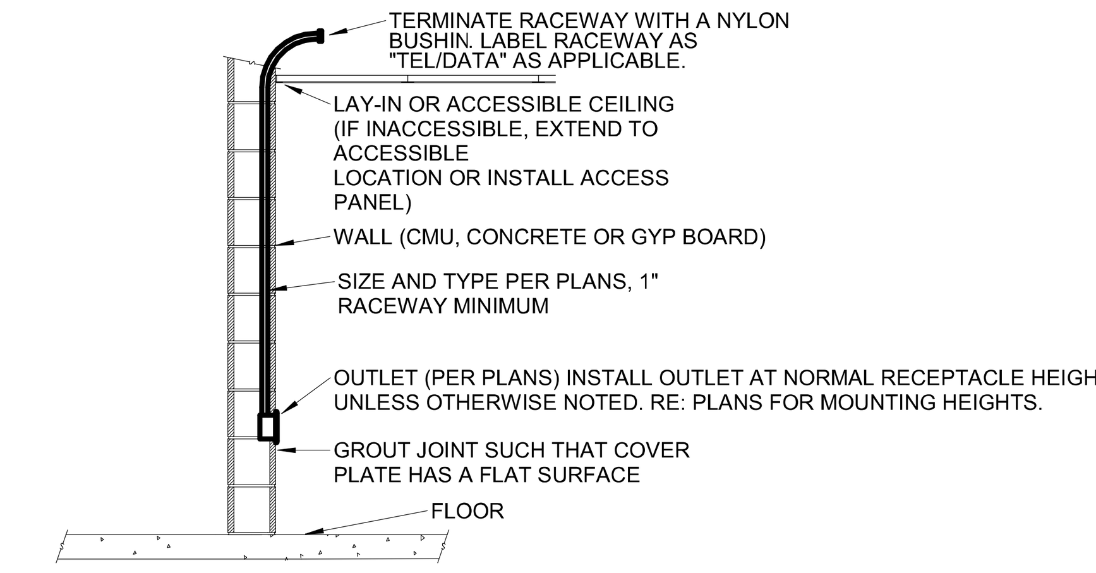
CLOSELY COORDINATE ALL ELECTRICAL SERVICE WORK AND VERIFY ALL REQUIREMENTS WITH UTILITY COMPANY.

ALTERNATE ELECTRICAL DISTRIBUTION CONFIGURATION MAY ONLY BE INSTALLED AFTER CONTRACTOR'S WRITTEN REQUEST AND SUBSEQUENT APPROVAL BY A/E.

7 / E4 **ELECTRICAL RISER DIAGRAM - ALTERNATE**
SCALE: NOT TO SCALE

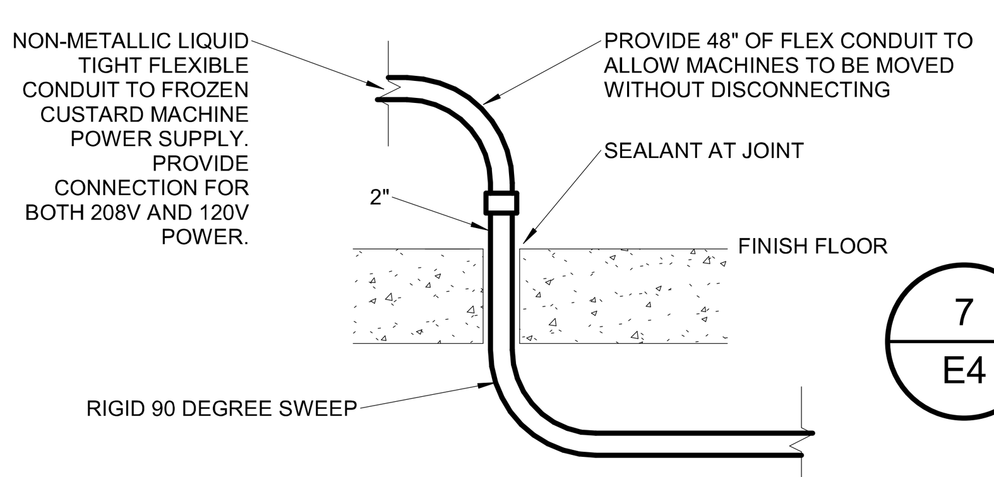


4 / E4 **CUSTARD MACHINE POWER/WATER DETAIL**
SCALE: NOT TO SCALE



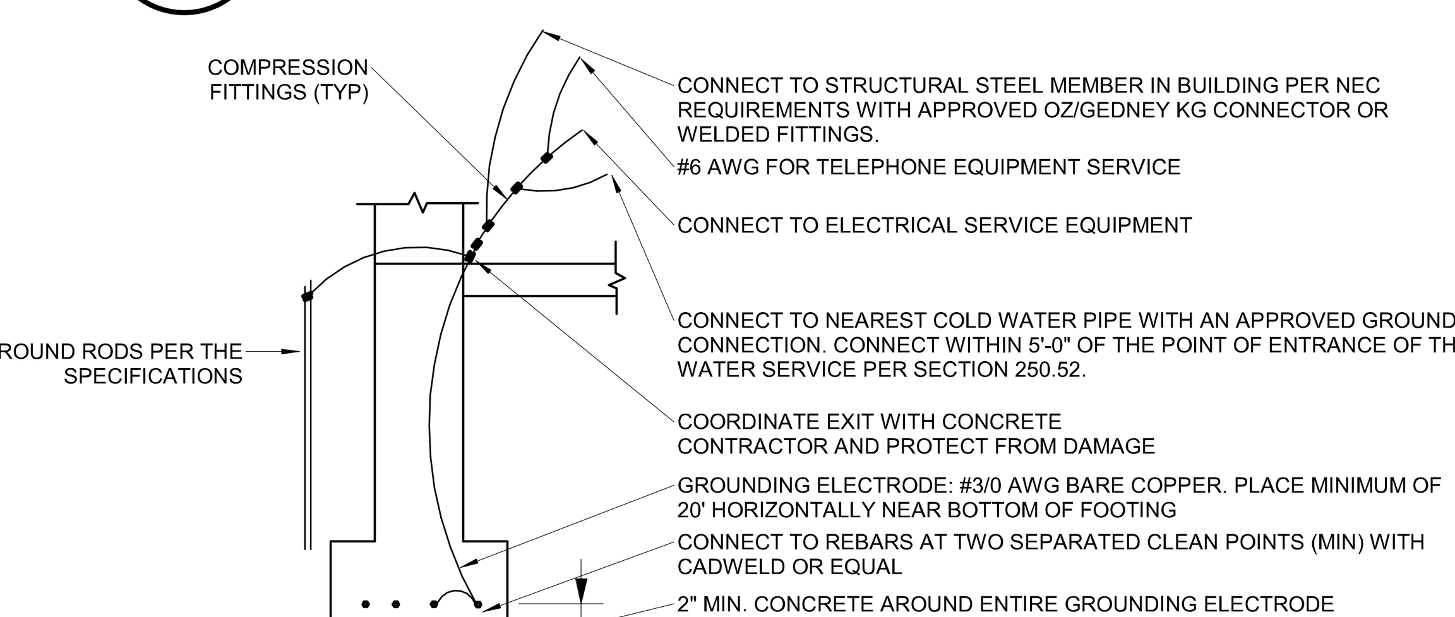
2 / E4 **LOW VOLTAGE CONDUIT STUB UP IN ACCESSIBLE CEILING**
SCALE: NOT TO SCALE

COORDINATE ROUGH IN AND INSTALLATION WITH EQUIPMENT PRIOR TO ANY WORK.



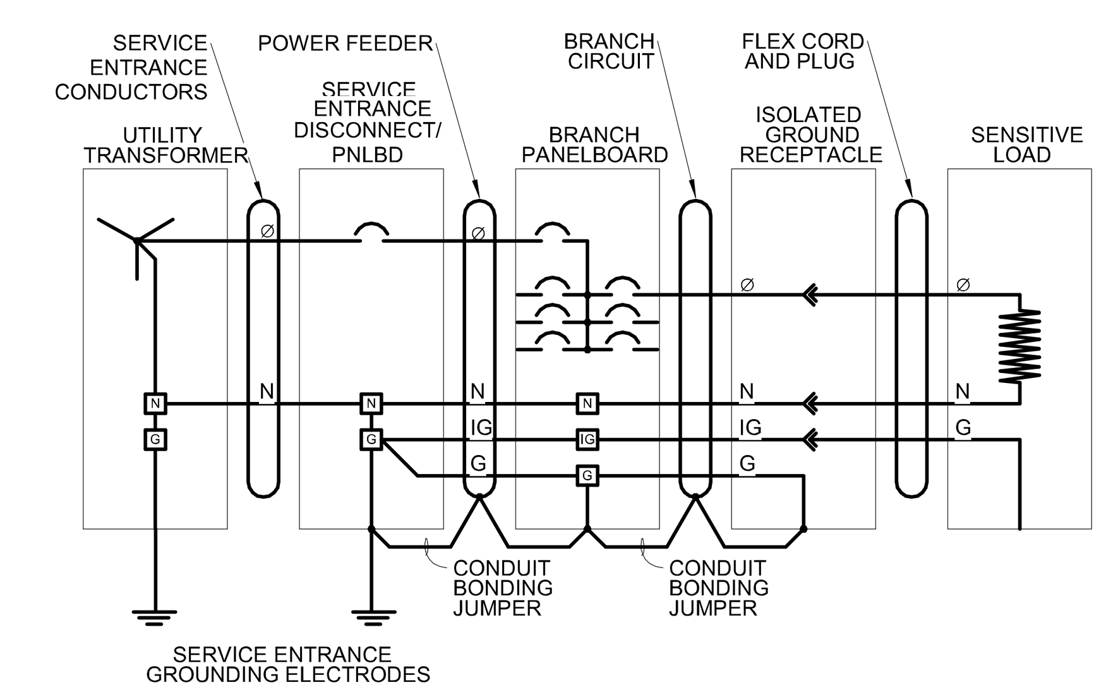
NOTE:
GENERAL CONTRACTOR TO PROVIDE CLEAN CONDUIT PENETRATION AT FLOOR HHE SO WATER TIGHT SEALANT CAN BE PROVIDED AT THE FLOOR.

9 / E4 **CUSTARD MACHINE STUB-UP DETAIL**
SCALE: NOT TO SCALE



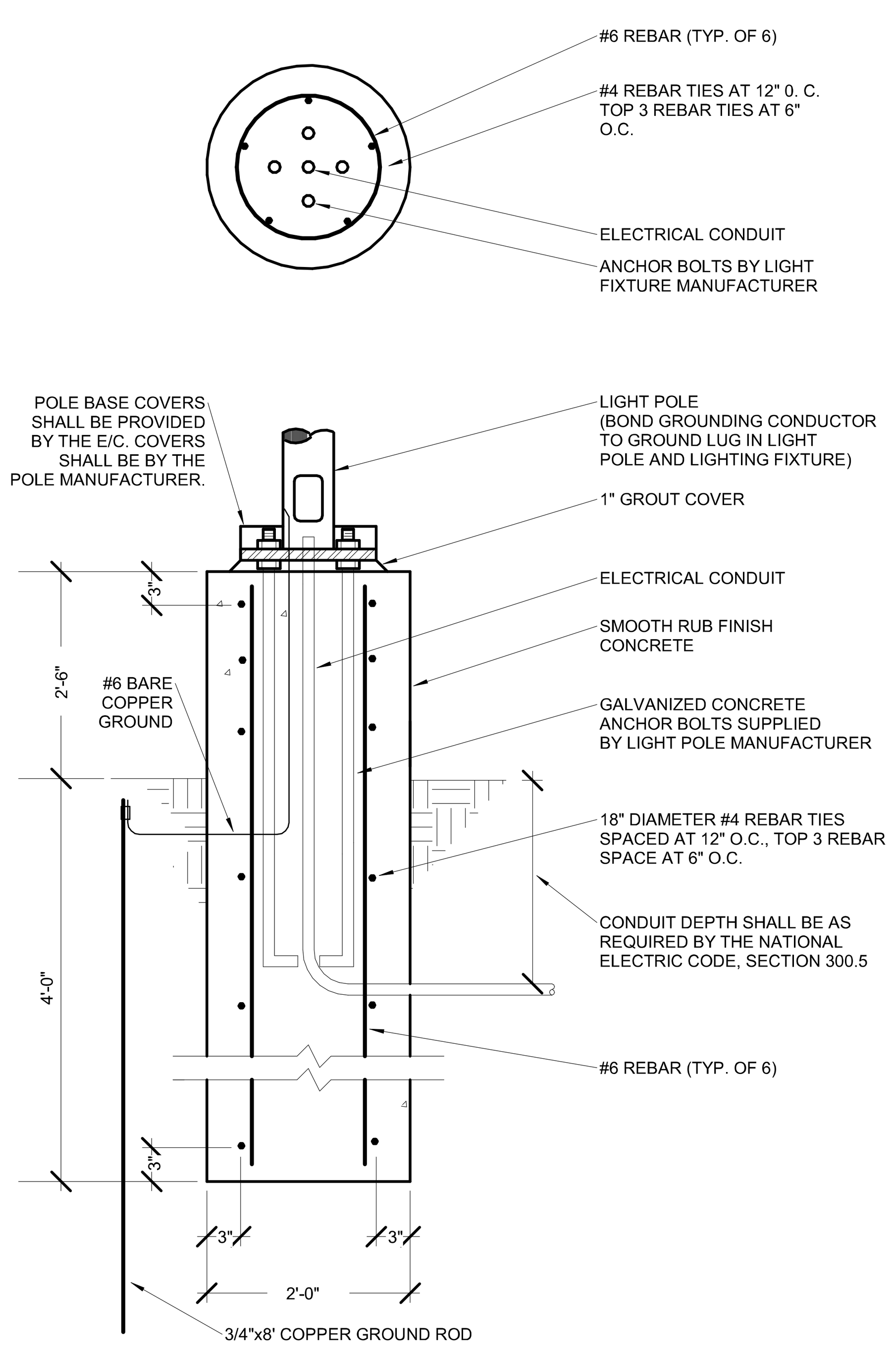
NOTE:
1. GROUNDING ELECTRODE CONDUCTORS: #2/0 AWG BARE COPPER.
2. ALL MATERIALS AND INSTALLATION REQUIREMENTS PER CURRENT NEC SECTION 250.

3 / E4 **GROUNDING ELECTRODE DETAIL**
SCALE: NOT TO SCALE

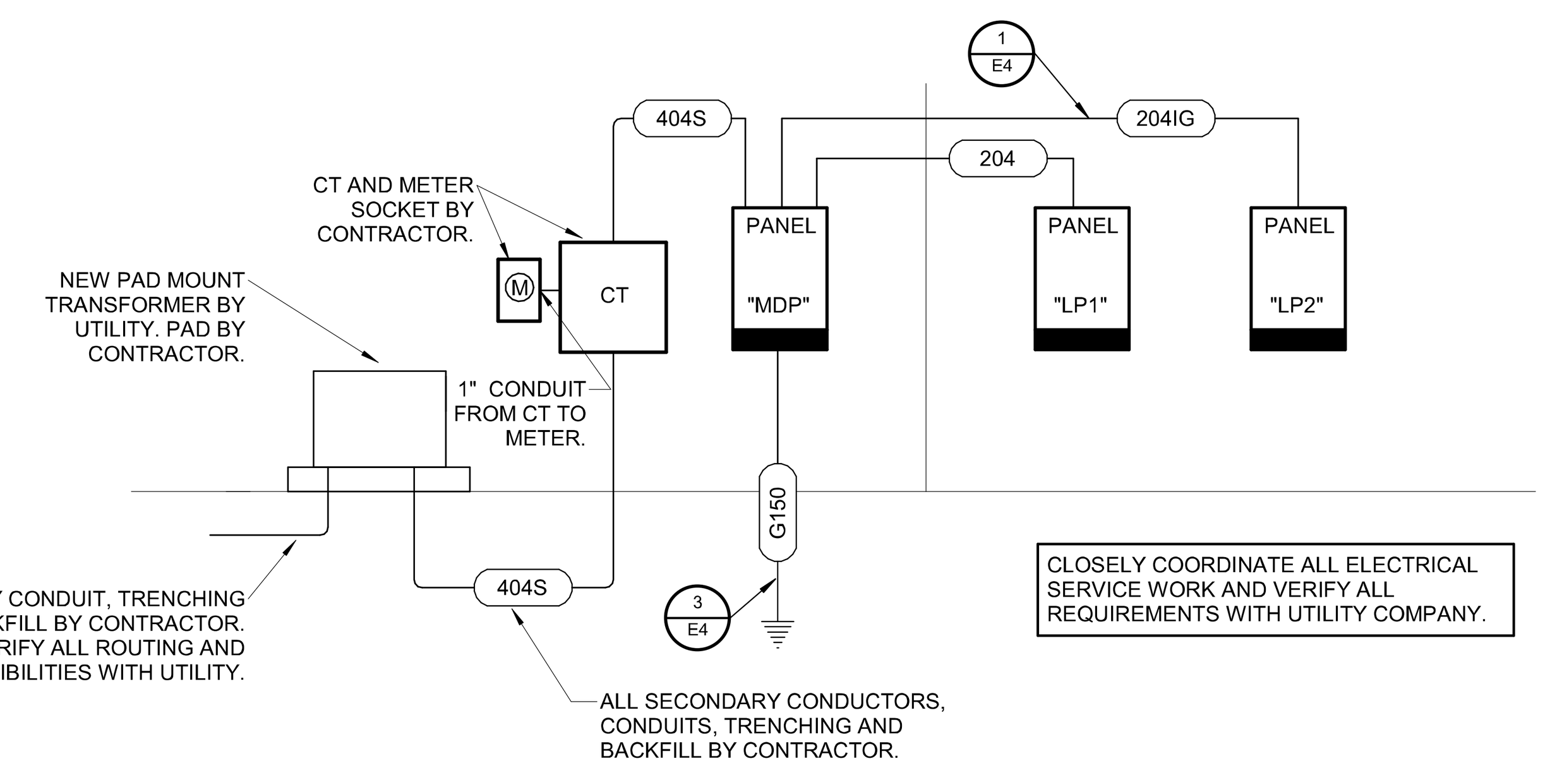


1 / E4 **ISOLATED GROUND CONDUCTOR WIRING TO SERVICE ENTRANCE DETAIL**
SCALE: NOT TO SCALE

AVAILABLE FAULT CURRENT:
THE FOLLOWING ASSUMPTIONS HAVE BEEN MADE TO CALCULATE THE AVAILABLE FAULT CURRENT: 150KVA TRANSFORMER, 1.2% IMPEDANCE, AND 116 FEET OF SECONDARY CONDUCTORS FROM THE TRANSFORMER TO THE SERVICE DISCONNECTION MEANS. CONTRACTOR SHALL CONTACT ENGINEER IF MODIFICATIONS ARE MADE TO THE CONSTRUCTION DOCUMENT SPECIFIED CONDUCTOR TYPE, CONDUCTOR QUANTITY, AND/OR TRANSFORMER LOCATION INFORMATION. IF NO MODIFICATIONS HAVE BEEN MADE AFTER THE LISTED CALCULATION DATE, THE CONTRACTOR SHALL PROVIDE PLACARD AT THE SERVICE DISCONNECTION MEANS. THE PLACARD SHALL MEET THE REQUIREMENTS OF THE AUTHORITY HAVING JURISDICTION. PLACARD SHALL READ: "MAXIMUM AVAILABLE FAULT CURRENT: 17,423 AMPS, CALCULATED ON APRIL 23, 2024."

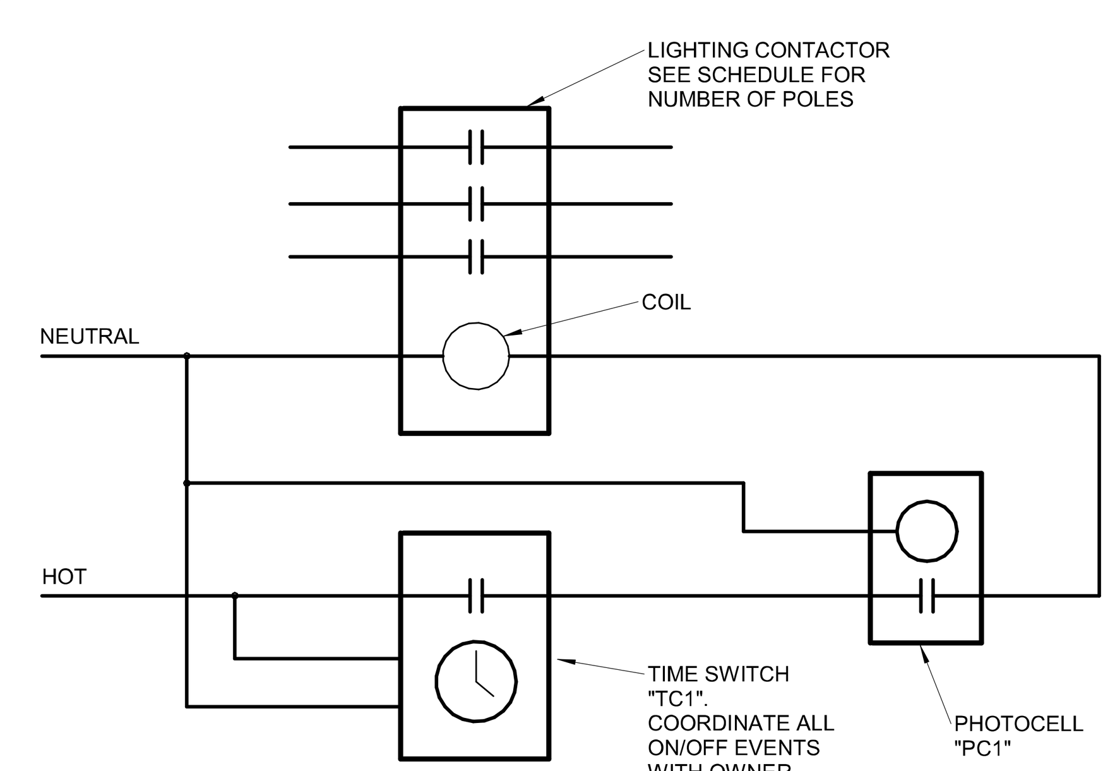


8 / E4 **LIGHT POLE BASE DETAIL**
SCALE: NOT TO SCALE



CLOSELY COORDINATE ALL ELECTRICAL SERVICE WORK AND VERIFY ALL REQUIREMENTS WITH UTILITY COMPANY.

6 / E4 **ELECTRICAL RISER DIAGRAM - BASE BID**
SCALE: NOT TO SCALE



5 / E4 **OUTDOOR LIGHTING CONTROL DETAIL**
SCALE: NOT TO SCALE

DISCONNECT SCHEDULE

PLAN MARK	LOAD		SWITCH			FUSE		ENCLOSURE NEMA TYPE	NOTES
	EQUIPMENT SERVED	VOLTAGE	DUTY	AMP	POLES	AMP	TYPE		
DS1	WALK IN FREEZER	208	GD	30	2	30	LPN-RK	NEMA 3R	
DS2	WALK IN COOLER	208	GD	60	2	35	LPN-RK	NEMA 3R	
DS3	CUSTARD MACHINE	208	GD	60	3	60	LPN-RK	NEMA 1	
DS4	CUSTARD MACHINE	208	GD	60	3	60	LPN-RK	NEMA 1	
DS5	PRESSURE WASHER	208	HD	60	3			NEMA 1	
DS6	"RTU1"	208	HD	60	3	50	LPN-RK	NEMA 3R	

REFER TO ALTERNATE RISER DIAGRAM FOR DISCONNECT SWITCHES PROVIDED UNDER ALTERNATE ELECTRICAL DISTRIBUTION CONFIGURATION.

FEEDER SCHEDULE

FEEDER TAG	FEEDER SIZE
204	4-#3/0, 1-#6 G, 2" C
204IG	4-#3/0, 2-#6 G, 2" C
404	(2) sets of 4-#3/0, 1-#3 G, 2" C
404S	(2) sets of 4-3/0, 2" C
G150	#2/0 COPPER GEC

LIGHTING DEVICE SCHEDULE

PLAN MARK	MOUNTING TYPE	MANUFACTURER	MODEL	FINISH	NOTES
OC1	CEILING	WATTSTOPPER	DT-305	(WHITE)	(LOW VOLTAGE DUAL TECH CEILING OCCUPANCY SENSOR PROGRAMMED TO AUTO ON/AUTO OFF.)
PS1	CEILING	LEVITON	PCC2D-00W	WHITE	LINE VOLTAGE 0-10V DIMMING 2-ZONE DAYLIGHT SENSOR.
VA1	CEILING	WATTSTOPPER	DT-305	WHITE	DUAL TECHNOLOGY VACANCY SENSOR.
PP1	PLENUM	WATTSTOPPER	BZ-200		LIGHTING AND PLUG LOAD CONTROLLER. INSTALL IN ACCESSIBLE CEILING AREA.
OC1	WALL	WATTSTOPPER	DW-100	(WHITE)	(LINE VOLTAGE DUAL TECH OCCUPANCY SWITCH PROGRAMMED TO AUTU ON/AUTO OFF)

LUMINAIRE SCHEDULE

PLAN MARK	MANUFACTURER	MODEL	MOUNTING TYPE	FINISH	LUMINAIRE SOURCE				ELECTRICAL		NOTES
					SOURCE TYPE	LUMENS	COLOR TEMP (K)	CRI	VOLTAGE	LOAD (VA)	
EMR	H.E. WILLIAMS	WETDRHL-T-BLK	SURFACE	WHITE	LED				120	5	REMOTE EGRESS FIXTURE POWERED THRU EXIT SIGN "X2"
L1	H.E. WILLIAMS	MX2S-4-L8/850-F-L6-DIM-UNV	SURFACE	WHITE	LED	2400	5000	80	120	26	PROVIDE WITH CUSTOM LUMEN PACKAGE AS SHOWN
L1E	H.E. WILLIAMS	MX2S-4-L8/850-F-L6-EM/10WLP-DIM-UNV	SURFACE	WHITE	LED	2400	5000	80	120	26	PROVIDE WITH CUSTOM LUMEN PACKAGE AS SHOWN. PROVIDE WITH INTEGRAL 90 MIN EMERGENCY BATTERY BACKUP.
L2	H.E. WILLIAMS	MX4IP-4-L7/850-S-F-L6-DIM-UNV	SURFACE	WHITE	LED	2400	5000	80	120	23	PROVIDE WITH CUSTOM LUMEN PACKAGE AS SHOWN
L3	H.E. WILLIAMS	96-4-L40/840-PCFR-DIM-UNV	SURFACE	WHITE	LED	4000	4000	80	120	30	INSTALL IN WALK-IN COOLER/FREEZER IN A MANNER APPROVED BY REFRIGERATION EQUIPMENT MANUFACTURER.
RF14	H.E. WILLIAMS	LPT-24-L75/850-SAF12095-(L50)-INVERTED LENSE-DIM-UNV	RECESSED	WHITE	LED	5000	5000	80	120	40	CUSTOM LUMEN PACKAGE. PROVIDE WITH DRYWALL TRIM KIT IN LOCATIONS WHERE INSTALLED IN GYP CEILINGS.
RF14E	H.E. WILLIAMS	LPT-24-L75/850-SAF12095-EM/10W-(L50)-INVERTED LENSE-DIM-UNV	RECESSED	WHITE	LED	5000	5000	80	120	40	CUSTOM LUMEN PACKAGE. PROVIDE WITH INTEGRAL 90 MIN EMERGENCY BATTERY PACK.
RH09	H.E. WILLIAMS	6DR-TL-L20/840-DIM1-UNV-OW-OF-CS-N-F1	RECESSED	WHITE	LED	2000	4000	80	120	19	
RH09E	H.E. WILLIAMS	6DR-TL-L20/840-EM/7W-DIM1-UNV-OW-OF-CS-N-F1	RECESSED	WHITE	LED	2000	4000	80	120	19	PROVIDE WITH INTEGRAL 90 MIN EMERGENCY BATTERY PACK.
RH10	HALO	SLD612840WHUNVJB	RECESSED	WHITE	LED	1215	4000	80	120	14	
SL1	VISTA PROFESSIONAL	1188-GT-NS-40-B-MV-CX-010	IN GRADE	STAINLESS STEEL	LED	2000	4000	80	120	31	RECESSED IN GRADE FLAG POLE FIXTURE.
SP3	US ARCHITECTURAL	RZRM-PLED-III-48LED-700MA-50K-120-1-RAL-8019-T-HS-PLED	POLE	DARK BRONZE	LED	14000	5000	80	120	105	PROVIDE WITH 16' (18'-6" TOTAL HEIGHT INCLUDING CONCRETE BASE) POLE BY FIXTURE MANUFACTURER.
SP4	US ARCHITECTURAL	RZRM-PLED-IV-48LED-700MA-50K-120-1-RAL-8019-T-HS-PLED	POLE	DARK BRONZE	LED	14000	5000	80	120	105	PROVIDE WITH 16' (18'-6" TOTAL HEIGHT INCLUDING CONCRETE BASE) POLE BY FIXTURE MANUFACTURER
WF08	H.E. WILLIAMS	75S-2-L42/940-EM/10WRM-DIM-UNV	WALL	WHITE	LED	4000	4000	80	120	32	PROVIDE WITH 16' (18'-6" TOTAL HEIGHT INCLUDING CONCRETE BASE) POLE BY FIXTURE MANUFACTURER.
X	H.E. WILLIAMS	EXIT-R-EM-WHT-SDT-D	UNIVERSAL	WHITE	LED				120	5	
X2	H.E. WILLIAMS	EXIT/REMOTE-R-WHT-D-WETDRHL-T-BLK	UNIVERSAL	WHITE	LED				120	5	PROVIDE WITH FIXTURE TYPE "EMR" WHERE SHOWN ON PLANS. PROVIDE WALL OR CEILING MOUNT AS REQUIRED BY THE PLANS.

NOTE: LIGHTING FIXTURE PACKAGE SHALL BE FURNISHED THROUGH MERCER-ZIMMERMAN. CONTACT MARY COOPER AT marycooper@mzltg.com, (913) 438-4546 FOR PRICING AND ORDERING INFORMATION.

Hufft

PROJECT INFORMATION:
Andy's Frozen Custard #204
700 NW Ward Road
Lee's Summit, MO 64806

OWNER:
ANDY'S FROZEN CUSTARD
211 E. Water Street
Springfield, MO 65806
www.eatandys.com

ARCHITECT:
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STRUCTURAL:
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P: 417-890-8002

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MEP:
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ISSUE:
100% CDs
05-02-2024

REVISION SCHEDULE:

NO.	DATE	ISSUE

STATE OF MISSOURI
CAMERON K. COLLINS
NUMBER E-24493
REGISTERED PROFESSIONAL ENGINEER

Cameron Collins
Digitally signed by Cameron Collins
DN: C=US, E=cameron.collins@rtmassociates.com, O=RTM Engineering, OU=RTM, CN=Cameron Collins
Date: 2024.05.03 12:36:54-05'00'

Architect: Matthew Hufft
License Number: MO#
Drawn By: TSE
Project Number: 736

ELECTRICAL SCHEDULES AND DETAILS

E4

PANELBOARD NOTES

-GENERAL NOTES	
1	PROVIDE 20 AMP 1-POLE SPARE BREAKERS FOR ALL UNUSED POLES UNLESS NOTED OTHERWISE.
2	
3	
CIRCUIT BREAKER ACCESSORY ABBREVIATION	
AC	AUXILIARY CONTACTS
AF	ARC-FAULT INTERRUPTING
AT	ALARM TRIP
EPD	EQUIPMENT PROTECTION DEVICE
EX	EXISTING CIRCUIT BREAKER
GF	GROUND FAULT CIRCUIT INTERRUPTING BREAKER
HACR	HACR RATING
HLF	HANDLE LOCK-OFF
HLN	HANDLE LOCK-ON
SR	SWITCH RATING
ST	SHUNT TRIP BREAKER
PANELBOARD ACCESSORY ABBREVIATION	
CH	CONCEALED HINGE
CL	COMPRESSION LUGS
CW	COLUMN WIDTH PANEL
DD	HINGED DOOR WITHIN A DOOR
EGB	EXTENDED GUTTER BOTTOM
EGL	EXTENDED GUTTER LEFT
EGR	EXTENDED GUTTER RIGHT
EGT	EXTENDED GUTTER TOP
FL	FLUSH LOCK(S)
FTL	FEED-THRU LUGS
GB	EQUIPMENT GROUND BAR
GBI	GROUND BAR INSULATOR
NBK	NEUTRAL BOND KIT
SER	SERVICE ENTRANCE RATING
SFB	SUB-FEED CIRCUIT BREAKER
SFL	SUB-FEED LUGS
SGB	SECOND GROUND BAR KIT
SPD	SURGE PROTECTION DEVICE
TRN	200% RATED NEUTRAL BAR

CIRCUIT BREAKER PANELBOARD SCHEDULE

PANEL NAME: "LP1"

LOCATION: BAKING 104 | **FED BY:** "MDP" | **MOUNTING:** RECESSED

VOLTAGE: 120/208V, 3Ph, 4W | **ENCLOSURE:** NEMA 1 | **MANUFACTURER:** SQUARE D | **PANEL TYPE:** NQ

MAIN TYPE: MLO | **BUS RATING (A):** 225 A | **MCB RATING (A):** MLO | **MIN. AIC RATING (A):** 22000

CKT	LOAD DESCRIPTION	C	W	G	CB	P	TYPE	A		B		C		TYPE	P	CB	G	W	C	LOAD DESCRIPTION	CKT
1	E17 - MILK DISPENSER	0.75"	#12	#12	20	1	GF	144	504					GF	1	20	#12	#12	0.75"	E34A - FUDGE WARMER	2
3	REC - CONVENIENCE	0.75"	#12	#12	20	1	GF			180	252			GF	1	20	#12	#12	0.75"	E23 - BLENDER	4
5	E42 - DROP IN FREEZER	0.75"	#12	#12	20	1	GF					936	252	GF	1	20	#12	#12	0.75"	E23 - BLENDER	6
7	SPARE	--	--	--	20	1	--	0	504					GF	1	20	#12	#12	0.75"	E34A - FUDGE WARMER	8
9	E36 - DRAFT BEER DISPENSER	0.75"	#12	#12	20	1	GF			312	540			GF	1	20	#12	#12	0.75"	E44 - U/C REFRIGERATOR	10
11	E34C - FUDGE WARMER	0.75"	#12	#12	20	1	GF					348	540		1	20	#12	#12	0.75"	REC - CONVENIENCE	12
13	REC - CONVENIENCE	0.75"	#12	#12	20	1		720	1032					GF	1	20	#12	#12	0.75"	E34E - FUDGE WARMER	14
15	REC - FRONT WINDOW SIGNAGE	0.75"	#12	#12	20	1				720	180			GF	1	20	#12	#12	0.75"	RTU RECEPTACLE	16
17	E7 - ICE MAKER WITH BIN	0.75"	#12	#12	20	1	GF					1572	936	GF	1	20	#12	#12	0.75"	E38 - REACH IN FREEZER	18
19	E40 - DROP IN FREEZER	0.75"	#12	#12	20	1	GF	192	1200					GF	1	20	#12	#12	0.75"	E25 - WAFFLE MAKER	20
21	E41 - COFFEE MAKER	0.75"	#12	#12	20	1	GF			1572	1500				1	20	#12	#12	0.75"	TIMED DEFROST HEATER	22
23	E25 - WAFFLE MAKER	0.75"	#12	#12	20	1	GF					1200	1800	GF	1	20	#12	#12	0.75"	E4 - WASHER/DRYER	24
25	E27 - DRINK MIXER	0.75"	#12	#12	20	1	GF	1368	2080					GF	2	30	#10	#10	0.75"	DRYER	26
27	E34E - FUDGE WARMER	0.75"	#12	#12	20	1	GF			504	2080			--	--	--	--	--	--	--	28
29	E34A - FUDGE WARMER	0.75"	#12	#12	20	1	GF					504	1500	GF	1	20	#12	#12	0.75"	FREEZER HEAT TRACE	30
31	E10 - HIGH TEMP WAREWASHER	0.75"	#8	#1...	40	2	GF	2262	1620					GF	2	35	#10	#8	0.75"	E8 - CONVECTION OVEN	32
33	--	--	--	--	--	--	--			2262	1620			--	--	--	--	--	--	--	34
35	E26 - MICROWAVE	0.75"	#12	#12	20	1	GF					1608	897	GF	1	20	#12	#12	0.75"	CUSTARD MACHINE	36
37	AUTOMATIC DRIVE THRU WINDOW	0.75"	#12	#12	20	1		360	897					GF	1	20	#12	#12	0.75"	CUSTARD MACHINE	38
39	E32 - REFRIGERATOR	0.75"	#12	#12	20	1	GF			1032	1000			GF	1	20	#12	#12	0.75"	FREEZERS	40
41	E33 - WORKTOP REFRIGERATOR	0.75"	#12	#12	20	1	GF					1032	0	--	1	20	--	--	--	SPARE	42
43	SPARE	--	--	--	20	1	--	0	0					--	1	20	--	--	--	SPARE	44
45	SPARE	--	--	--	20	1	--			0	0			--	1	20	--	--	--	SPARE	46
47	SPARE	--	--	--	20	1	--					0	0	--	1	20	--	--	--	SPARE	48
49	SPARE	--	--	--	20	1	--	0	0					--	1	20	--	--	--	SPARE	50
51	SPARE	--	--	--	20	1	--			0	0			--	1	20	--	--	--	SPARE	52
53	SPARE	--	--	--	20	1	--					0	0	--	1	20	--	--	--	SPARE	54

	A	B	C
CONNECTED PHASE LOAD	12883 VA	13754 VA	13125 VA
*PHASE DIVERSIFIED LOAD	8958 VA	9564 VA	9127 VA
*PHASE DIVERSIFIED AMPS	75 A	80 A	76 A

CALCULATED PANEL AMPS: 100 A

(*DIVERSIFIED LOADS CALCULATED PER THE NATIONAL ELECTRIC CODE.)

NOTES/ACCESSORIES:
1. PROVIDE SPARE 20A, SINGLE-POLE BREAKERS IN ALL UNUSED SPACES.

PANEL TOTALS	
TOTAL CONNECTED LOAD:	39762 VA
TOTAL DIVERSIFIED LOAD:	27649 VA
CONTROLLING LOAD:	N/A

CIRCUIT BREAKER PANELBOARD SCHEDULE

PANEL NAME: "LP2"

LOCATION: BAKING 104 | **FED BY:** "MDP" | **MOUNTING:** RECESSED

VOLTAGE: 120/208V, 3Ph, 4W | **ENCLOSURE:** NEMA 1 | **MANUFACTURER:** SQUARE D | **PANEL TYPE:** NQ

MAIN TYPE: MLO | **BUS RATING (A):** 225 A | **MCB RATING (A):** MLO | **MIN. AIC RATING (A):** 22000

CKT	LOAD DESCRIPTION	C	W	G	CB	P	TYPE	A		B		C		TYPE	P	CB	G	W	C	LOAD DESCRIPTION	CKT
1	DOOR CHIME	0.75"	#12	#12	20	1		100	200						1	15	#12	#12	0.75"	RECIRC PUMP	2
3	LTG - SITE	0.75"	#10	#10	20	1				210	200				1	20	#12	#12	0.75"	FASCIA LIGHTING ANIMATOR	4
5	REC - BOH	0.75"	#12	#12	20	1						180	240	GF	1	20	#12	#12	0.75"	INTERIOR SIGNAGE	6
7	FASCIA LIGHTING	0.75"	#12	#12	20	1		330	500						1	20	#10	#10	0.75"	MENU SIGNAGE	8
9	FASCIA LIGHTING	0.75"	#12	#12	20	1				330	765				1	20	#12	#12	0.75"	LTG - CANOPY	10
11	REC - MANAGER'S OFFICE	0.75"	#12	#12	20	1	IG					360	500		1	20	#12	#12	0.75"	DIRECTIONAL SIGNAGE	12
13	INFRARED HEATERS	0.75"	#12	#12	15	1		0	240						1	20	#12	#12	0.75"	POSTER AND LOGO SIGNS	14
15	FASCIA LIGHTING	0.75"	#12	#12	20	1				990	1400				1	20	#12	#12	0.75"	LTG - INTERIOR	16
17	REC - EXTERIOR	0.75"	#12	#12	20	1						720	1220		1	20	#12	#12	0.75"	REC - MANGER'S OFFICE	18
19	REC - DRIVE THRU POS	0.75"	#12	#12	20	1	IG,GF	1080	180						1	20	#12	#12	0.75"	VEGAS SIGN	20
21	WATER HEATERS	0.75"	#12	#12	20	1				360	360				1	20	#12	#12	0.75"	REC - RESTROOMS	22
23	POSTER AND LOGO SIGNS	0.75"	#12	#12	20	1						240	180		1	20	#12	#12	0.75"	WATER SOFTENER	24
25	REC - MANAGER'S OFFICE	0.75"	#12	#12	20	1	IG	360	1200						1	20	#10	#10	0.75"	MONUMENT SIGNAGE	26
27	PERIMETER COVE LIGHTS	0.75"	#12	#12	20	1				500	180				1	20	#12	#12	0.75"	NEON SIGN CONTROLLER	28
29	REC - TELE/DATA	0.75"	#12	#12	20	1						360	500		1	20	#12	#12	0.75"	PERIMETER COVE LIGHTS	30
31	IRRIGATION CONTROLLER	0.75"	#12	#12	20	1		180	1200						1	20	#12	#12	0.75"	REC - TELE/DATA	32
33	REC - MANAGER'S OFFICE	0.75"	#12	#12	20	1	IG			540	330				1	20	#12	#12	0.75"	DRIVE THRU SIIGN	34
35	PATIO SIGNAGE	0.75"	#12	#12	20	1						500	540	IG,GF	1	20	#12	#12	0.75"	REC - POS	36
37	REC - MANAGER'S OFFICE	0.75"	#12	#12	20	1	IG	540	62						1	20	#12	#12	0.75"	FLAG POLE LIGHTS	38
39	FASCIA LIGHTING	0.75"	#12	#12	20	1				1320	720			IG,GF	1	20	#12	#12	0.75"	REC - MONITORS	40
41	MENU BOARD	0.75"	#10	#10	20	1						500	500		1	20	#10	#10	0.75"	DIRECTIONAL SIGNAGE	42
43	FASCIA LIGHTING	0.75"	#12	#12	20	1		1320	250						1	20	#12	#12	0.75"	ANDYS BEAM SIGN	44
45	SECURITY SYSTEM	0.75"	#12	#12	20	1				400	0			--	1	20	--	--	--	SPARE	46
47	FASCIA LIGHTING	0.75"	#12	#12	20	1						1320	0	--	1	20	--	--	--	SPARE	48
49	SPARE	--	--	--	20	1	--	0	0					--	1	20	--	--	--	SPARE	50
51	SPARE	--	--	--	20	1	--			0	0			--	1	20	--	--	--	SPARE	52
53	SPARE	--	--	--	20	1	--					0	0	--	1	20	--	--	--	SPARE	54

	A	B	C
CONNECTED PHASE LOAD	7742 VA	8605 VA	7860 VA
*PHASE DIVERSIFIED LOAD	8048 VA	8945 VA	8170 VA
*PHASE DIVERSIFIED AMPS	67 A	75 A	68 A

CALCULATED PANEL AMPS: 93 A

(*DIVERSIFIED LOADS CALCULATED PER THE NATIONAL ELECTRIC CODE.)

NOTES/ACCESSORIES:
1. PROVIDE SPARE 20A, SINGLE-POLE BREAKERS IN ALL UNUSED SPACES.
2. ISOLATED GROUND KIT

PANEL TOTALS	
TOTAL CONNECTED LOAD:	24207 VA
TOTAL DIVERSIFIED LOAD:	25163 VA
CONTROLLING LOAD:	N/A

CIRCUIT BREAKER SWITCHBOARD SCHEDULE

PANEL NAME: "MDP"

VOLTAGE: 120/208V, 3Ph, 4W | **FED BY:** SERVICE | **LOCATION:** EXTERIOR | **ENCLOSURE:** NEMA 3R | **MOUNTING:** SURFACE | **BREAKER MOUNTING SPACE:** 66 in

MAINS TYPE: MCB | **BUS RATING (A):** 400 A | **MCB RATING(A):** 400 A | **MIN. AIC RATING (A):** 22000 A | **MANUFACTURER / TYPE:** SQUARE D / I-LINE

CKT	LOAD DESCRIPTION	TYPE	C	W	G	P	CB	A	B	C
1	PANEL "LP1"					3	200 A	12883 VA	13754 VA	13125 VA
2	PANEL "LP2"					3	200 A	7742 VA	8605 VA	7860 VA
3	PRESSURE WASHER		0.75"	#8	#10	3	40 A	3759 VA	3759 VA	3759 VA
4	WALK IN COOLER COIL		0.75"	#12	#12	1	20 A		300 VA	
5	WALK IN FREEZER COIL		0.75"	#12	#12	2	20 A	620 VA		620 VA
6	CUSTARD MACHINE		1.25"	#4	#8	3	60 A	3603 VA	3603 VA	3603 VA
7	CUSTARD MACHINE		1.25"	#4	#8	3	60 A	3603 VA	3603 VA	3603 VA
8	"RTU1"		1"	#6	#8	3	50 A	5044 VA	5044 VA	5044 VA
9	E51.2 - WALK IN FREEZER		0.75"	#10	#10	2	30 A	2495 VA	2495 VA	
10	E50.2 - WALK IN COOLER		0.75"	#8	#10	2	35 A	2900 VA		2900 VA
11										
12										
13										
14										
15										

NOTES/ACCESSORIES:
REFERENCE ELECTRICAL RISER DIAGRAM FOR FEEDER SIZES BETWEEN PANELS.

	A	B	C
CONNECTED PHASE LOAD:	42648 VA	41162 VA	40513 VA
PHASE DIVERSIFIED LOAD:	36225 VA	34963 VA	34412 VA
PHASE DIVERSIFIED AMPS:	303 A	292 A	292 A
CALCULATED PANEL AMPS:	378 A		
CONTROLLING LOAD:	N/A		

UNDER ALTERNATE ELECTRICAL DISTRIBUTION CONFIGURATION, ALL BRANCH CIRCUITS FED FROM PANEL "MDP" SHALL BE FED FROM PANEL "LP3". PANEL "LP3" SHALL BE EQUAL TO SQUARE D MODEL NQ, 120/208V, 3PH, 4W, 225A MLO, 42 CKT, 22kA AIC, WITH RECESSED MOUNTING KIT. PROVIDE SPARE 20A, 1P BREAKERS IN ALL UNUSED SPACES.

TIME SWITCH SCHEDULE

PLAN MARK	LOAD: EQUIPMENT SERVED	LOAD: VOLTAGE	SWITCH: MANUFACTURER	SWITCH: MODEL	SWITCH: TYPE	SWITCH: AMP	SWITCH: POLES	SWITCH: ENCLOSURE	NOTES
TC1	CONTACTORS "LC1", "LC2", "LC3", AND "LC4"	120	ITNERMATIC	ET2145C	SPST	20	4	NEMA 1	--

LIGHTING CONTACTOR SCHEDULE

PLAN MARK	LOAD: EQUIPMENT SERVED	LOAD: VOLTAGE	CONTACTOR: TYPE	CONTACTOR: AMPERAGE	CONTACTOR: POLES	CONTACTOR: NEMA RATING	CONTACTOR: NOTES	INTERLOCK: CONTROL TYPE	INTERLOCK: CONTROLLED BY
LC1	INTERIOR LIGHTING	120	NORMALLY OPEN ELECTRICALLY HELD	20	4	NEMA 1	--	120V Coil	"TC1"
LC2	EXTERIOR LIGHTS/SIGNS	120	NORMALLY OPEN ELECTRICALLY HELD	20	12	NEMA 1		120V Coil	"TC1"
LC3	SIGNAGE	120	NORMALLY OPEN ELECTRICALLY HELD	20	20	NEMA 1		120V Coil	"TC1"
LC4	SITE LIGHTING	120	NORMALLY OPEN ELECTRICALLY HELD	20	4	NEMA 1	--	120V Coil	"TC1"

NOTES:
PROVIDE ALL CONTACTORS IN A SINGLE NEMA 1 ENCLOSURE. PROVIDE QUANTITY OF CONTACTORS REQUIRED TO MEET THE NUMBER OF POLES LISTED IN THE SCHEDULE.

Hufft

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ISSUE:
100% CDs
05-02-2024

REVISION SCHEDULE:

NO.	DATE	ISSUE

STATE OF MISSOURI
CAMERON K. COLLINS
NUMBER E-24493
REGISTERED PROFESSIONAL ENGINEER

Cameron Collins
Digitally signed by Cameron Collins
DN: C=US, E=cameron.collins@rtmassociates.com, O=RTM Engineering, OU=RTM, CN=Cameron Collins
Date: 2024.05.03 12:37:51-05'00'

Architect: Matthew Hufft
License Number: MO#
Drawn By: TSE
Project Number: 736

ELECTRICAL SCHEDULES

E5