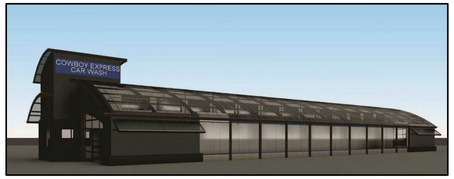
New Car Wash

for COWBOY EXPRESS CARWASH



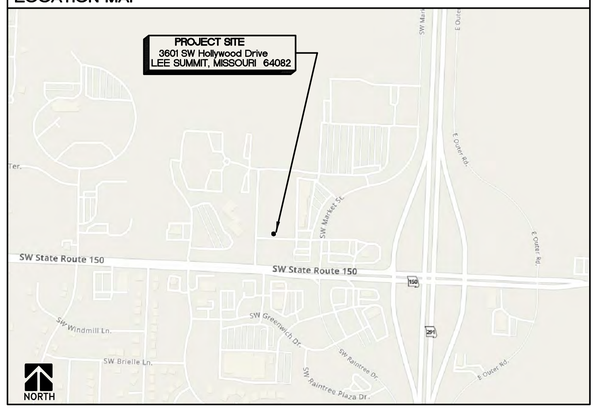
3601 SW Hollywood Drive
LEE SUMMIT, MISSOURI 64082

PROJECT - SCOPE OF WORK SUMMARY

BUILDING DESCRIPTION: NEW TYPE IIB PRE-ENGINEERED STRUCTURE. PRE-ENGINEERED BUILDING DRAWINGS TO BE SUBMITTED UNDER SEPARATE COVER.

SCOPE OF WORK DETAILS: NEW GROUND UP BUILDING TO BE USED FOR WASHING VEHICLES. SCOPE OF WORK INCLUDES ALL TRADES (PLUMB., MECH., ELECT., CIVIL AND STRUCTURAL). NOTE: EQUIPMENT DRAWINGS FOR CHAR WASH EQUIPMENT AND VACUUM EQUIPMENT ARE UNDER SEPARATE COVER. COORDINATE BUILDING PLANS WITH EQUIPMENT MANUFACTURER'S PLANS.

LOCATION MAP



GENERAL CONSTRUCTION NOTES

1. THE GENERAL CONTRACTOR SHALL OBSERVE ALL REGULATIONS IMPOSED BY THE APPROPRIATE GOVERNING BODIES, AND ALL WORK SHALL COMPLY WITH THE REQUIREMENTS OF THE LOCAL BUILDING CODES, ACCIDENT AND FIRE PREVENTION. ALL MATERIALS, EQUIPMENT, WORKMANSHIP, WORKING CONDITIONS, AND CONSTRUCTION METHODS SHALL COMPLY WITH THE LATEST APPLICABLE SECTIONS OF THE LOCAL MUNICIPAL, COUNTY, STATE, AND FEDERAL CODES AND ORDINANCES AND THE REQUIREMENTS OF THE 2018 I.B.C. BUILDING CODE, AND/OR THE LANDLORD.
2. GENERAL CONTRACTOR IS TO VERIFY ALL DIMENSIONS AND CONDITIONS PRIOR TO STARTING ANY CONSTRUCTION. NOTIFY THE ARCHITECT OF ANY DISCREPANCIES OR INCONSISTENCIES AT THE BUILDING SITE.
3. THE GENERAL CONTRACTOR SHALL ESTABLISH AND VERIFY ALL OPENINGS AND INSERTS FOR MECHANICAL AND ELECTRICAL WORK, AS REQUIRED FOR THEIR INSTALLATION BY THE APPROPRIATE TRADES AND PER THE DRAWINGS.
4. PROVIDE ALL NECESSARY TEMPORARY BRACING, SHORING, GUYING OR OTHER MEANS TO AVOID EXCESSIVE STRESSES AND TO HOLD STRUCTURAL ELEMENTS IN PLACE DURING NEW CONSTRUCTION.
5. THE GENERAL CONTRACTOR IS RESPONSIBLE FOR SAFETY AND SECURITY IN AND AROUND THE JOB SITE DURING CONSTRUCTION.
6. THE GENERAL CONTRACTOR SHALL FILE FOR AND SECURE ALL IN AND AROUND THE JOB SITE DURING CONSTRUCTION.
7. DO NOT SCALE DRAWINGS. THE DIMENSIONS SHALL ALWAYS SUPERSEDE THE DRAWING.
8. THE GENERAL CONTRACTOR SHALL LOCATE THE BUILDING AREA, BUILDING LINES, BENCH MARKS, FINISH FLOOR ELEVATIONS, LAYOUT FOR PARTITIONS, DOORS AND OPENINGS, ETC., FOR USE OF ALL SUB-CONTRACTORS AND ALL TRADES INVOLVED WITH THIS PROJECT.
9. GENERAL CONTRACTOR SHALL INSTALL ALL REQUIRED BLOCKING, FOR ALL EQUIPMENT, HANGERS, ETC.
10. ALL DIMENSIONS SHOWN ARE TO THE FACE OF GYPSUM BOARD.

CODE DATA - 2018 I.B.C.

THE FOLLOWING ARE CODES FOLLOWED WITHIN THIS SET OF DOCUMENTS:

- 2018 International Building Code
- 2018 International Plumbing Code
- 2018 International Mechanical Code
- 2018 International Fuel Gas Code
- 2018 International Residential Code
- 2018 International Fire Code
- 2017 National Electrical Code
- ICC/ANSI A117.1-2009, Accessible and Usable Buildings and Facilities

1. USE GROUP: B - BUSINESS CAR WASH
2. CONSTRUCTION TYPE: UNPROTECTED - 2B
3. HEIGHT AND AREA LIMITATIONS:
   ALLOWABLE
   3 STORY (55'-0")
   23,000 SQ. FT. / FLOOR
   ACTUAL
   1 STORY (26'-0") TOP OF CURVED ROOF
   4,875 SQ. FT. - TOTAL BUILDING
4. OVER ALL FIRE SUPPRESSION SYSTEM :
   EXISTING BUILDING NOT SPRINKLED
5. FIRE RESISTANT RATINGS (I.B.C. 2018 - TABLE 601)

STRUCTURAL FRAME	0 HOURS
BEARING WALLS	0 HOURS
NON-LOAD BEARING WALLS	0 HOURS
FLOOR CONSTRUCTION	0 HOURS
CEILING / ROOF CONSTRUCTION	0 HOURS

DRAWING INDEX

DRAWING NUMBER	DRAWING TITLE
A0	Abbreviations, Symbols, Code Block, Sheet Index and Location Map
CIVIL	
C1-01	Specifications
C1-02	Specifications
C2-01	Site Plan
C2-02	Grading Plan
C2-03	SWPPP NOTES
C3-01	Typical Details
C3-02	Typical Details
C3-03	Sidewalks, Ramps and Step Details
C3-04	Curb and Gutter Details
C3-05	Traffic Control
C4-01	Drainage Area Map
LANDSCAPE	
L-01	Landscape Plan, Schedules and Notes
ARCHITECTURAL	
SPEC1	General Project Notes
SPEC2	General Specifications and Accessible Details
A1	Floor Plan, Schedules and Notes
A2	Equipment Floor Plan and Schedules
A3	Reflected Ceiling Plan, Legend and Notes
A4	Enlarged Plan, Interior Elevations, Details
A5	Roof Plan, Details, Building Sections and Notes
A6	Exterior Elevations, Schedules and Notes
A7	Wall Sections
A8	Head, Jamb and Sill Details
STRUCTURAL	
	UNDER SEPARATE COVER
MECHANICAL - PLUMBING	
M1.1	Mechanical Floor Plan
M2.1	Schedules
M3.1	HVAC Details
P1.1	Sanitary Plumbing Floor Plan
P1.2	Domestic Water Plumbing Floor Plan
P2.1	Plumbing Schedules
P3.1	Plumbing Details
ELECTRICAL	
E-1	Electrical Site Plan
E-2	Electrical Building Elevations
E-3	Electrical Power Plan
E-4	Electrical Lighting Plan
E-5	Electrical Service Diagram - Panel Schedules

SYMBOLS

MATERIALS

SECTION / ELEVATION

- EARTH
- CONCRETE
- STONE
- BRICK
- CONCRETE MASONRY UNIT
- METAL
- WOOD
- PLYWOOD
- BATT INSULATION L.W. FILL
- BOARD INSULATION
- E.J. MATERIAL
- GLASS
- GYPSUM BOARD

PLAN

- EXIST. WALL OR PTN. TO REMAIN
- EXIST. WALL OR PTN. TO BE REMOVED
- BRICK PTN.
- C.M.U. PTN.
- METAL STUD PTN.
- WOOD STUD PTN.

P.3A — PTN. NUMBER / RE: PTN. SCHED. / DIRECTION OF VIEW
PARTITION NOTATION

A1.01 — SHEET NUMBER / DISCIPLINE CODE
SHEET CODE NOTATION

DOOR TYPE (REFER TO DOOR SCHEDULE FOR DOOR INFORMATION) (? ?)
DOOR & FRAME NOTATION

LOCATION OF MATCH LINE / MATCH LINE RE: SHEET A1.02 / SHADED PORTION IS SIDE TO BE MATCHED
MATCH LINE

KITCHEN — ROOM NAME
W1 — WINDOW NUMBER
? - ? — CEILING HT.

3-A3.01 — DETAIL OR GROUP OF DETAILS & SHEET NUMBER / DIRECTION OF VIEW / LOCATION OF SECTION
BUILDING SECTION OR WALL SECTION

3-A8.01 — DETAIL & SHEET NUMBER / DETAIL ENLARGEMENT AREA
DETAIL NOTATION

DIRECTION OF VIEW / 4-A2.01 — ELEVATION OR GROUP OF ELEVATIONS & SHEET NUMBER
ELEVATION NOTATION

8-A6.01 — DETAIL & SHEET NUMBER / DIRECTION OF VIEW / LOCATION OF VIEW
DETAIL SECTION

3-A5.01 — DETAIL & SHEET NUMBER / PLAN ENLARGEMENT AREA
ENLARGED PLAN NOTATION

ABBREVIATIONS

A

@	AT
∠	ANGLE
ABV.	ABOVE
A/C	AIR CONDITIONING
ACOUS. T.	ACOUSTICAL TILE
ADJ.	ADJACENT
ADJUST.	ADJUSTABLE
A.F.F.	ABOVE FINISH FLOOR
A.H.U.	AIR HANDLING UNIT
ALT.	ALTERNATE
ALUM.	ALUMINUM
ANC.	ANCHOR
ANC. B.	ANCHOR BOLT
APPROX.	APPROXIMATE
ARCH.	ARCHITECTURAL
ASPH. T.	ASPHALT TILE
ASSYS.	ASSEMBLIES

B

BD. , BRD.	BOARD
B.L.	BRICK LEDGE
BLDG.	BUILDING
BLK.	BLOCK
BLW.	BELOW
BM.	BEAM
B.M.	BENCH MARK
BOTT.,BTM.	BOTTOM
BRG.	BEARING
BRK.	BRICK
BUR.	BUILT UP ROOF

C

℄	CENTER LINE
C	CHANNEL
C.	COURSES (BRICK, ETC.)
CAB.	CABINET
C.B.	CHALK BOARD
CEMENT	CEMENT
C.F.	CUBIC FEET
C.I.	CAST IRON
C.J.	CONTROL JOINT
CKT.	CIRCUIT (ELECTRIC)
C.L.	CENTER LINE
CLG.	CEILING
CLR.	CLEAR
C.M.P.	CORRUGATED METAL PIPE
C.M.U.	CONCRETE MASONRY UNIT
CNTR.	COUNTER
C.O.	CLEAN OUT
COL.	COLUMN
COMP.	COMPOSITION
CONC.	CONCRETE
COND.	CONDITION
CONST.	CONSTRUCTION
CONT.	CONTINUOUS
C.R.	COLD-ROLLED
CSK.	COUNTERSUNK
CSWK.	CASEWORK
C.T.	CERAMIC TILE
CTR.	CENTER
CNTR. FLG.	COUNTER FLASHING

D

DBL.	DOUBLE
DEMO.	DEMOLITION
DEPT.	DEPARTMENT
D.F.	DRINKING FOUNTAIN
DIAM. , ⌀	DIAMETER
DIM.	DIMENSION
DISP.	DISPENSER
DN.	DOWN
DO. , "	DITTO
DR.	DOOR
D.S.	DOWNSPOUT
DTL.	DETAIL
DWG.	DRAWING
DWR.	DRAWER

E

E.	EAST
EA.	EACH
E. ANC.	EXPANSION ANCHOR
E.C.	ELECTRICAL CONTRACTOR
E.J.	EXPANSION JOINT
ELEC.	ELECTRICAL
ELEV.	ELEVATION
ENCL.	ENCLOSURE
ENTR.	ENTRANCE
EQ.	EQUAL
EQMT.	EQUIPMENT
E.R.	EXHAUST REGISTER
ETC.	ET CETERA
EX. , EXIST.	EXISTING
EXP.	EXPANSION
EXT.	EXTERIOR

F

F.A.	FRESH AIR
F.C.U.	FAN COIL UNIT
F.D.	FLOOR DRAIN
FDN.	FOUNDATION
F.E.	FIRE EXTINGUISHER
F.E.C.	FIRE EXTINGUISHER CABINET
F.H.	FLATHEAD
FIN.	FINISH
FIN. FL.	FINISH FLOOR
FL.	FLOOR
FLG.	FLASHING
F.O.C.	FACE OF CONC.
F.P.	FIREPROOFING
F.S.	FULL SIZE
FT., '	FOOT/FEET
FTG.	FOOTING
FUT.	FUTURE
F.V.	FIELD VERIFY

G

GA.	GAUGE
GALV.	GALVANIZED
G.B.	GRAB BAR
G.D.	GARBAGE DISPOSAL
G.C.	GENERAL CONTRACTOR
G.I.	GALVANIZED IRON
G.L.	GRADE LINE
GR.	GRADE
GYP.	GYPSUM

H

H.C.	HOLLOW CORE
HD.	HEAD
HD. WD.	HARDWOOD
HDWE.	HARDWARE
HGT., HT.	HEIGHT
H.M.	HOLLOW METAL
HORIZ.	HORIZONTAL
H.P.	HIGH POINT

I

I.D.	INSIDE DIAMETER
INT.	INTERIOR
INSUL.	INSULATION

J

JST.	JOIST
JT.	JOINT

K

KIT.	KITCHEN
K.P.	KICK PLATE

L

L.	LENGTH
LAV.	LAVATORY
LB	POUND
L.F.	LINEAR FEET
LOC.	LOCATION
LLH	LONG LEG HORIZONTAL
LLV	LONG LEG VERTICAL
L.P.	LOW POINT
LV.	LOUVER
L.W.	LIGHT WEIGHT

M

MAS.	MASONRY
MATL.	MATERIAL
MAX.	MAXIMUM
M.B.	MACHINE BOLT
M.C.	MECHANICAL CONTRACTOR
MECH	MECHANICAL
MFR.	MANUFACTURER
M.H.	MAN HOLE
MIN.	MINIMUM
MISC.	MISCELLANEOUS
M.L.	METAL LATH
MLDG.	MOULDING
M.O.	MASONRY OPENING
M.S.	METAL STUD
M.T.	METAL THRESHOLD
MTD.	MOUNTED
MTL.	METAL
MTR.	MOTOR

N

N.	NORTH
N.A.	NOT APPLICABLE
N.C.	NORMALLY CLOSED
N.I.C.	NOT IN CONTRACT
N.O.	NORMALLY OPEN
#, NO.	NUMBER
NOM.	NOMINAL
NON-COM.WD.	NON-COMBUSTIBLE WOOD
N.T.S.	NOT TO SCALE

O

O. TO O.	OUT TO OUT
O.A.	OVER ALL
OBS.	OBSCURE
O.C.	ON CENTERS
O.D.	OUTSIDE DIAMETER
OFF.	OFFICE
OPNG.	OPENING
OPP.	OPPOSITE

P

⌀	PHASE
PL	PLATE
P & M	PATCH AND MATCH
PART.	PARTIAL
P.C.	PLUMBING CONTRACTOR
P.L.	PLASTIC LAMINATE
PLAS.	PLASTER
PLBG.	PLUMBING
P.L.F.	POUNDS PER LINEAR FOOT
PLYWD.	PLYWOOD
P.O.C.	POINT OF CONNECTION
PR.	PAIR
PREFAB.	PREFABRICATED
PRESS.	PRESSURE
P.S.F.	POUNDS PER SQUARE FOOT
P.S.I.	POUNDS PER SQUARE INCH
PT.	POINT
PTD.	PAINTED
PTN.	PARTITION
PVC	POLY VINYL CHLORIDE

Q

Q.T.	QUARRY TILE

R

R.	RISER
R.A.	RETURN AIR
R., RAD.	RADIUS
R.D.	ROOF DRAIN
RE.	REFER
RECPT.	RECEPTACLE
REF.	REFERENCE
REFG.	REFRIGERATOR
REFL.	REFLECTED
REG.	REGULAR
REINF.	REINFORCING
REQ.	REQUIRED
REV.	REVERSE
R.G.	RETURN GRILL
R.L.	ROOF LEADER
RM.	ROOM
R.O.	ROUGH OPENING
RUST.	RUSTICATION

S

℄	STEEL LINE
□ , SQ.	SQUARE
SAN. S.	SANITARY SEWER
S.	SOUTH
S.C.	SOLID CORE
SCHED.	SCHEDULE
SECT.	SECTION
S.F.	SQUARE FEET
SHT.	SHEET
SIM.	SIMILAR
SP.	SPACES
SPEC.	SPECIFICATIONS
S.R.	SUPPLY REGISTER
S.S.	STORM SEWER
S.S.R.	STANDING SEAM ROOF
SST.	STAINLESS STEEL
STAG.	STAGGERED
STD.	STANDARD
STL.	STEEL
STRUCT.	STRUCTURAL
SUSP.	SUSPENDED
S.Y.	SQUARE YARD
SYM.	SYMMETRICAL

T

T.	TREAD
T.B.	TACK BOARD
T.O.W.	TOP OF WALL
TEL.	TELEPHONE
TEMP.	TEMPERED
TERR.	TERRAZZO
T. & G.	TONGUE AND GROOVE
THK.	THICK
THLD.	THRESHOLD
TYP.	TYPICAL

U

U.H.	UNIT HEATER
U.L.	UNDERWRITER'S LABORATORY
U.N.O.	UNLESS NOTED OTHERWISE
U.V.	UNIT VENTILATOR

V

V.C.T.	VINYL COMPOSITION TILE
V.C.P.	VITRIFIED CLAY PIPE
VERT.	VERTICAL
VEST.	VESTIBULE
VOL.	VOLUME
V.T.R.	VENT THRU ROOF
V.W.C.	VINYL WALL COVERING

W

W.	WEST
W.	WIDTH
W/	WITH
W.C.	WATER CLOSET
WD.	WOOD
WDW.	WINDOW
W.H.	WATER HEATER
W.I.	WROUGHT IRON
WNSCT.	WAINSCOT
W/O.	WITHOUT
W.P.	WATERPROOF
W.P.	WHITE PINE
W.P.	WORKING POINT
WT.	WEIGHT
WTR.	WATER
W.W.F.	WELDED WIRE FABRIC

Y

YD	YARD

PROJECT PARTICIPANTS

OWNER :

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4640 E. FM 1187
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CIVIL ENGINEERING :

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(314) 368-3040

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Adams Architectural Associates
P.O. BOX 230
CHESTERFIELD, MO 63306-0230
(636)537-9333
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LANDSCAPE DESIGN :

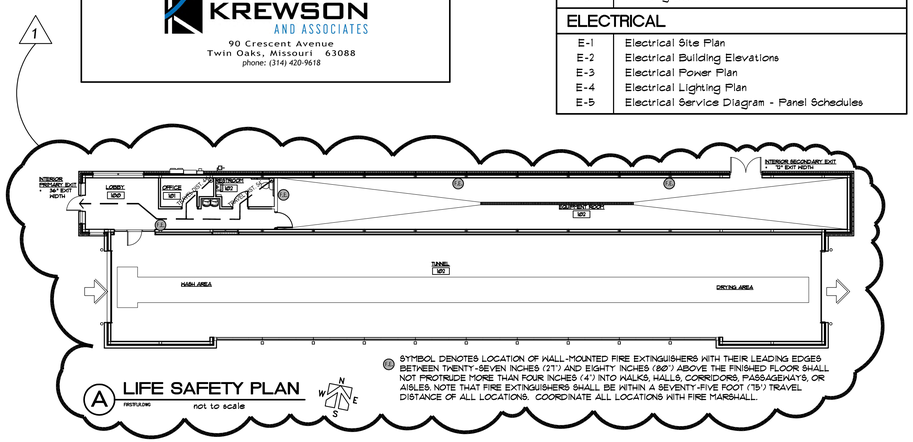
Rachel clark
Landscape Design & Consultation
316.737.8372
rachelclarkdesign@cox.net

STRUCTURAL ENGINEERING:

UNDER SEPARATE COVER

MECHANICAL - ELECTRICAL - PLUMBING ENGINEER :

KREWSON AND ASSOCIATES
90 Crescent Avenue
Twin Oaks, Missouri 63088
phone: (314) 420-9618



(2) SYMBOL DENOTES LOCATION OF WALL-MOUNTED FIRE EXTINGUISHERS WITH THEIR LEADING EDGES BETWEEN TWENTY-SEVEN INCHES (27") AND EIGHTY INCHES (80") ABOVE THE FINISHED FLOOR SHALL NOT PROTRUDE MORE THAN FOUR INCHES (4") INTO WALKS, HALLS, CORRIDORS, PASSAGEWAYS, OR AISLES. NOTE THAT FIRE EXTINGUISHERS SHALL BE WITHIN A SEVENTY-FIVE FOOT (75') TRAVEL DISTANCE OF ALL LOCATIONS. COORDINATE ALL LOCATIONS WITH FIRE MARSHALL.

Revisions

1	7-16-2024	PLAN REVIEW COMMENTS

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Seal



Project Code
CCW-2201

Project Title
New Car Wash
for COWBOY EXPRESS CARWASH
3601 SW Hollywood Drive
LEES SUMMIT, MISSOURI
64082

Drawing Title
Abbreviations, Symbols, Code Block, Sheet Index and Location Map

Date	Drawn	Checked
08-21-24	DB/mm	MM/MA

Drawing Number
A0

LANDSCAPE CALCULATIONS

STREET FRONTAGE: 540 L.F.

STREET FRONTAGE TREES REQUIRED: 18

STREET FRONTAGE TREES PROVIDED: 18

STREET FRONTAGE SHRUBS REQUIRED: 27

STREET FRONTAGE SHRUBS PROVIDED: 80 (ALSO PARKING LOT SCREENING)

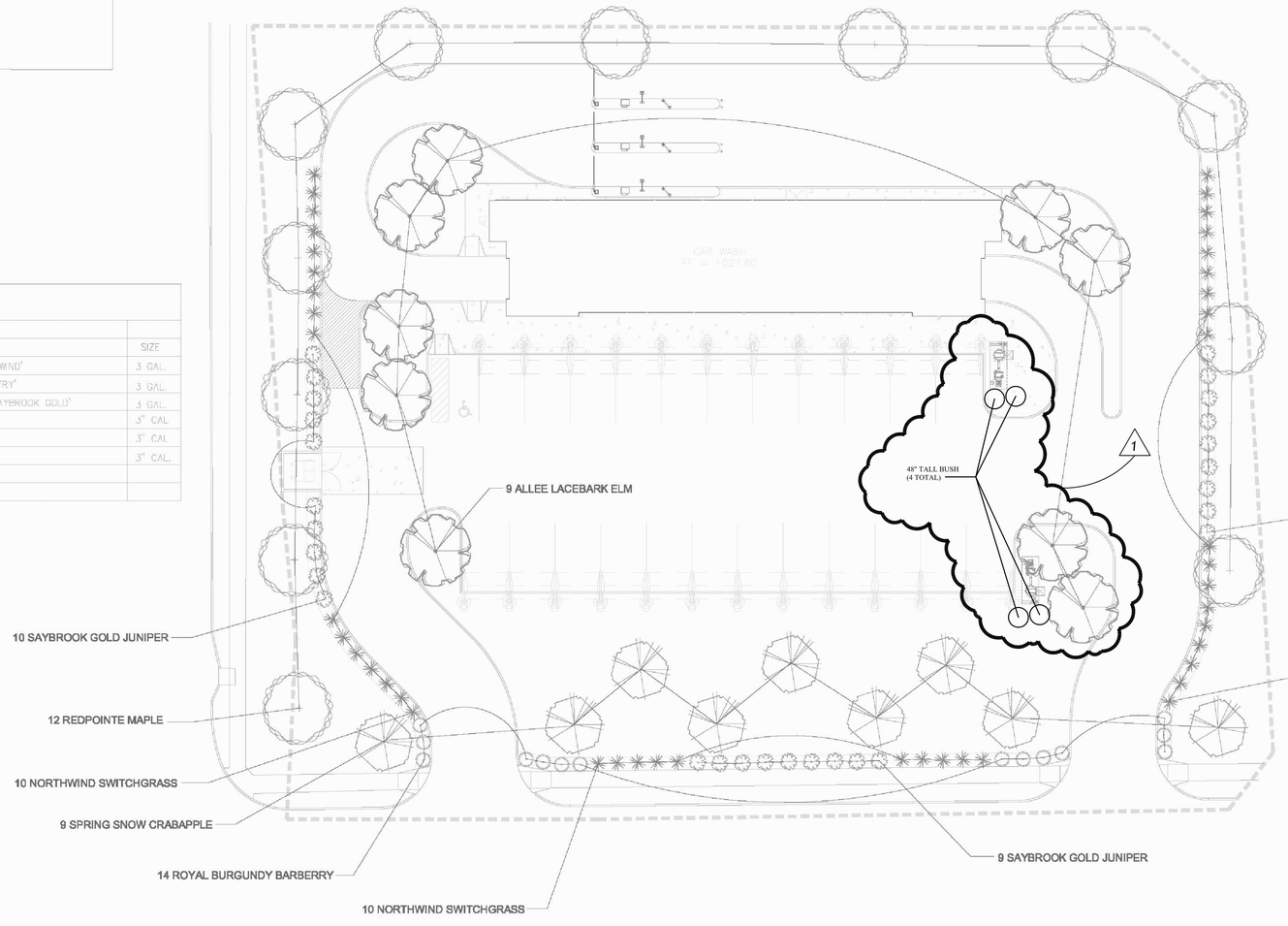
OPEN YARD AREA: 62,048 S.F.

OPEN YARD TREES REQUIRED: 12

OPEN YARD TREES PROVIDED: 12

PLANT SCHEDULE

QUANTITY	TREE/SHRUB: COMMON NAME	BOTANICAL NAME	SIZE
38	NORTHWIND SWITCHGRASS	PANICUM VIRGATUM 'NORTHWIND'	3 GAL.
14	ROYAL BURGUNDY BARBERRY	BERBERIS THUNBERGII 'GENTRY'	3 GAL.
28	SAYBROOK GOLD JUNIPER	JUNIPERUS PFITZERIANA 'SAYBROOK GOLD'	3 GAL.
9	ALLEE LACEBARK ELM	ULMUS PARVIFOLIA 'ALLEE'	3" CAL
12	REDPOINTE MAPLE	ACER RUBRUM 'REDPOINT'	3" CAL
9	SPRING SNOW CRABAPPLE	MALUS X 'SPRING SNOW'	3" CAL.



LANDSCAPE PLAN

0 20'

NOTES: TYPICAL SHURB PLANTING, INDIVIDUAL PLANTING HOLE

1. DIG PLANTING HOLE AT LEAST 2X THE WIDTH OF THE ROOT BALL OR CONTAINER.

2. SCARIFY SUBGRADE AND SIDES OF PLANTING HOLE WHEN PLANTING IN CLAY SOIL.

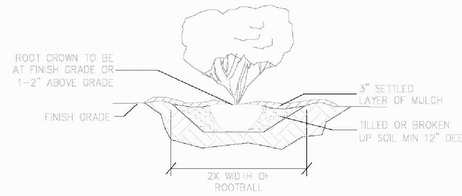
3. SET THE TOP OF THE ROOT BALL LEVEL WITH THE SOIL SURFACE, OR 1–2" ABOVE IF THE SOIL IS PRONE TO SETTLING.

4. IF CONTAINER GROWN PLANT, GENTLY SLIDE PLANT OUT OF CONTAINER. DISTURB THE ROOTS.

5. IF B&B PLANT, REMOVE BURLAP FROM AT LEAST THE TOP 12 INCHES OF THE ROOTBALL, WITHOUT DISTURBING THE ROOTBALL. REMOVE ALL CORD FROM THE TRUNK. REMOVE BURLAP AND WIRE BASKET (IF PRESENT) FROM THE ROOT BALL.

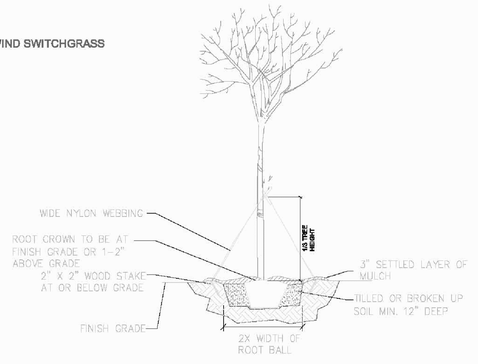
6. BACK FILL THE PLANTING HOLE WITH EXCAVATED NATIVE SOIL, BROKEN UP OR TILLED. WATER TO REMOVE AIR POCKETS. DO NOT ADD AMENDMENTS.

7. PLACE PINE STRAW OR BARK MULCH ON THE SURFACE TO A (SETTLED) DEPTH OF 1 TO 3 INCHES.



SHRUB PLANTING

NOT TO SCALE



TREE PLANTING

NOT TO SCALE

Revisions

1 7-16-2024 PLAN REVIEW COMMENTS

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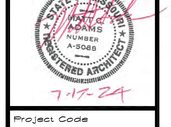
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Landscape Plan, Schedules and Notes

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©81-21-24	DB/mm	MM/MA

Drawing Number
L-01

GENERAL PROJECT NOTES

GENERAL
1. THE DRAWINGS, SPECIFICATIONS, AND BID DOCUMENTS SHALL BE CONSIDERED COMPLIMENTARY. WHAT IS REQUIRED BY ONE SHALL BE CONSIDERED TO BE REQUIRED OF ALL. WHERE CONFLICTS IN THE DOCUMENTS OCCUR, THE CONTRACTOR SHALL ASSUME THAT MORE RESTRICTIVE CONDITION OR HIGHER QUALITY OR STANDARD APPLIES. THE OWNER AND THE ARCHITECT ASSUME THE CONTRACTOR HAS INCLUDED IN HIS BID THE HIGHEST QUALITY AND GREATEST QUANTITY FOR THE PURPOSE OF RESOLVING ANY CONFLICTS IN THE DOCUMENTS WHICH ARE IMPLIED OR UNDEFINED.
2. THESE NOTES APPLY TO THE ENTIRE SCOPE OF WORK. NOT ALL SECTIONS MAY APPLY TO THIS SCOPE OF WORK.
3. DO NOT SCALE DRAWINGS, DIMENSIONS TAKE PRECEDENT. IF THE CONTRACTOR FEELS ADDITIONAL DIMENSIONAL INFORMATION IS REQUIRED, SUBMIT REQUEST TO ARCHITECT IN WRITING PRIOR TO PROCEEDING WITH THE WORK.
4. COMPLY WITH ALL OSHA, AND LOCAL, SAFETY REGULATIONS.

ADMINISTRATIVE REQUIREMENTS
1. COMPLY WITH ALL REQUIREMENTS OF THE LANDLORD, MALL SECURITY, AND MALL REGULATIONS.
2. CONTRACTOR SHALL PROVIDE THE OWNER WITH A CONSTRUCTION SCHEDULE. INCLUDE ALL ACTIVITIES AND MILESTONES RELEVANT TO THE PROJECT. INCLUDE ACTIVITIES FOR ALL SUBMITTALS.
3. CONTRACTOR SHALL COORDINATE ALL SCHEDULING, SUBMITTALS, SEQUENCING, AND WORK TO PROVIDE TIMELY INSTALLATION OF PRODUCTS AND MATERIALS AND COMPLY WITH THE OWNER'S CRITICAL DATE(S).
4. CONTRACTOR SHALL COORDINATE ALL SPACE REQUIREMENTS, SUPPORTS AND INSTALLATION AS REQUIRED TO COMPLETE THE WORK.
5. CONTRACTOR SHALL CHECK-IN AND COORDINATE ALL WORK WITH THE LANDLORD'S REPRESENTATIVE PRIOR TO PROCEEDING WITH THE WORK.
6. CONTRACTOR SHALL COORDINATE ALL WORK WITH THE TENANT'S REQUIREMENTS PRIOR TO PROCEEDING WITH THE WORK.
7. CONTRACTOR SHALL COORDINATE SUBSTANTIAL COMPLETION OF THE WORK AND FINAL CLEAN-UP WITH THE OWNER'S REQUIREMENT. AFTER SUBSTANTIAL COMPLETION, CONTRACTOR SHALL EFFECT ALL REPAIRS AND OTHER CORRECTIVE ACTIONS REQUIRED IN A TIMELY FASHION WITH MINIMAL DISRUPTION TO THE LANDLORD OR THE TENANT.
8. SUBMITTALS: ALL SUBMITTALS SHALL BE PROVIDED IN PDF FORMAT FOR REVIEW BY THE RESPONSIBLE PARTIES. PHYSICAL COPIES WILL NOT BE ACCEPTED.
9. RFIS: ALL REQUESTS FOR INFORMATION SHALL BE SUBMITTED IN WRITING, ELECTRONICALLY, FORE REVIEW BY THE RESPONSIBLE PARTIES. PHYSICAL COPIES WILL NOT BE ACCEPTED.
10. CHANGES IN THE WORK: CONTRACTOR SHALL NOT PROCEED WITH CHANGES IN THE WORK WITHOUT AUTHORIZATION BY THE LANDLORD. CONTRACTOR MUST NOTIFY THE LANDLORD AND THE ARCHITECT, IN WRITING, OF ANY COST IMPACT PRIOR TO PROCEEDING WITH THE WORK.
11. SECURITY: CONTRACTOR SHALL COMPLY WITH ALL SECURITY REQUIREMENTS OF THE LANDLORD.
12. WORK HOURS: COMPLY WITH ALL REQUIREMENTS OF THE LANDLORD AND MALL SECURITY. LANDLORD WILL REQUIRE AFTER-HOURS WORK BE PERFORMED FOR ALL LOUD WORK THAT CANNOT BE CONTAINED.
13. INTERACTION WITH THE PUBLIC / PATRONS: COMPLY WITH ALL REQUIREMENTS OF THE LANDLORD AND MALL CODE OF CONDUCT NOTIFICATIONS. CONTRACTOR SHALL LIMIT INTERACTION WITH THE PUBLIC. WHERE INTERACTION DOES OCCUR, INTERACTION WILL BE PROFESSIONAL AND COURTEOUS, RUDE OR INAPPROPRIATE BEHAVIOR WILL NOTE BE TOLERATED.
14. CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL PERMITS, APPROVALS, INSPECTIONS BY LOCAL AUTHORITIES HAVING JURISDICTION, CERTIFICATES OF COMPLIANCE, AND CERTIFICATES OF OCCUPANCY.
15. CONTRACTOR IS RESPONSIBLE SCHEDULING ALL MATERIAL AND SPECIAL INSPECTIONS PERFORMED BY THIRD PARTY ORGANIZATIONS. OWNER SHALL ENGAGE THE TESTING AGENCY AND PAY FOR THE INSPECTIONS AND REPORTS.
16. SMOKING IS PROHIBITED.
17. CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS AND DIMENSIONS PRIOR TO PROCEEDING WITH THE WORK. ANY DISCREPANCIES SHALL BE REPORTED TO THE LANDLORD AND THE ARCHITECT FOR RESOLUTION PRIOR TO PROCEEDING WITH THE WORK.
18. CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR THE REPAIR, CORRECTION, AND/OR RESTITUTION TO ADJACENT TENANTS RESULTING FROM DAMAGE TO THE TENANT SPACE, DAMAGE TO MERCHANDISE, OR LOSS OF REVENUE DUE TO UTILITY INTERRUPTION CAUSED BY CONSTRUCTION ACTIVITIES.
19. ALL WORK SHALL BE COMPLETED IN A NEAT AND PROFESSIONAL MANNER.
20. CONTRACTOR SHALL MAINTAIN A COMPLETE SET OF DOCUMENTS ON SITE AT ALL ITEMS. THIS SHALL INCLUDE ALL REVSIIONS AND ADDENDA.
21. ALL REQUIRED MODIFICATIONS TO THE FIRE ALARM AND FIRE SUPPRESSION SYSTEMS SHALL BE MADE IN COMPLIANCE WITH THE REQUIREMENTS OF THE LOCAL AUTHORITY HAVING JURISDICTION AND NFPA 13 AND 72. WHERE SYSTEMS MUST BE DEACTIVATED OR TAKEN OFFLINE TO BE MODIFIED, SAID WORK WILL OCCUR WHEN THE BUILDING IS UNOCCUPIED AND WITH PRIOR APPROVAL OF THE LOCAL AUTHORITY HAVING JURISDICTION. SYSTEMS MUST BE RESTORED PRIOR TO THE START OF THE NEXT DAY. SUBMIT ALL MODIFICATIONS REVIEW PRIOR TO PROCEEDING WITH THE WORK; OBTAIN APPROVAL OF LOCAL AUTHORITY HAVING JURISDICTION.

TEMPORARY FACILITIES AND CONTROLS
1. RESTROOMS: CONTRACTOR MAY UTILIZE RESTROOM FACILITIES IN THE MALL. CONTRACTOR SHALL THE RESTROOMS ARE MAINTAINED IN THE CONDITION THEY ARE FOUND IN. THE LANDLORD RESERVES THE RIGHT TO BACKCHARGE THE CONTRACTOR FOR ADDITIONAL CLEANING REQUIRED OF THE RESTROOMS DUE TO CONTRACTOR USE.
2. UTILITIES/SERVICES: CONTRACTOR MAY UTILIZE EXISTING ELECTRICAL/WATER SERVICES IN THE BUILDING. EXTENSION OF UTILITIES/SERVICES FROM A MAIN CONNECTION POINT IS SOLELY THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR IS RESPONSIBLE FOR PAYING FOR THESE SERVICES FOR THE DURATION OF THE CONSTRUCTION. WHERE THE BUILDING CANNOT PROVIDE AND PAY FOR THE SERVICES REQUIRED BY CONSTRUCTION ACTIVITIES, THE CONTRACTOR SHALL PROVIDE HIS OWN. THE CONTRACTOR SHALL PROVIDE ALL REQUIRED HEATING AND COOLING DURING CONSTRUCTION. EXISTING/NEW MECHANICAL EQUIPMENT MAY NOT BE UTILIZED DURING THE PERFORMANCE OF THE WORK, EXCEPT FOR INSTALLATION OF PAINT AND OTHER FINISHES. CONTRACTOR SHALL REPLACE ALL FILTERS AT THE END OF THE PROJECT.
3. VEHICULAR ACCESS AND PARKING: CONTRACTOR SHALL COMPLY WITH ALL LOCAL TRAFFIC CODE REQUIREMENTS AND REGULATIONS AND SHALL NOT BLOCK EXTERIOR EXIT PATHS TO RIGHT OF WAYS, DRIVE AISLES, AND LANES UNLESS PRIOR AUTHORIZATION HAS BEEN OBTAINED FROM THE LANDLORD. PARK VEHICLES AT LOCATION INDICATED BY THE LANDLORD.
4. PROGRESS CLEANING AND WASTE REMOVAL: CONTRACTOR SHALL MAINTAIN THE WORK AREA IN A CLEAN AND ORDERLY MANNER AND FREE OF DUST, DEBRIS, AND WASTE. AT THE END OF THE WORK DAY, THE JOB SITE MUST BE BROOM CLEAN. CONTRACTOR IS RESPONSIBLE FOR PROPERLY REMOVING AND DISPOSING OF ALL WASTE. CONTRACTOR MAY NOT USE THE LANDLORD'S DUMPSTER OR TRASH RECEPTACLES.
5. FIRE PREVENTION: CONTRACTOR SHALL PROVIDE ALL REQUIRED SAFETY EQUIPMENT AS REQUIRED BY THE LOCAL AUTHORITY HAVING JURISDICTION AND GOOD PRACTICE. MAINTAIN (1) FIRE EXTINGUISHER ON EACH FLOOR. ESTABLISH A FIRE / SAFETY WATCH FOR ALL CUTTING AND WELDING OPERATIONS.
6. TRAFFIC REGULATION: MAINTAIN PEDESTRIAN TRAFFIC AT SIDEWALKS. PROVIDE NECESSARY SAFETY EQUIPMENT AND BARRIERS WHEN REQUIRED FOR CONSTRUCTION OPERATIONS. OBTAIN APPROVAL FROM OWNER FOR ALL REQUIRED CLOSURES OF STREET OR SIDEWALK.
7. CONSTRUCTION BARRIERS:

7.1. PROVIDE TEMPORARY CONSTRUCTION BARRIERS AS REQUIRED TO COMPLETE THE SCOPE OF WORK, PROVIDE SECURITY, PREVENT UNAUTHORIZED ENTRY TO THE CONSTRUCTION SITE, ALLOW THE OWNER'S CONTINUED ACCESS AND USE OF THE SITE, TO PROTECT EXISTING FACILITIES AND PROPERTY FROM DAMAGE, AND AS REQUIRED TO SECURE THE EDGE OF FLOOR OPENINGS AND OTHER HAZARDS. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR THE DESIGN OF CONSTRUCTION BARRIERS, IN COMPLIANCE WITH THE DESIGN LOAD INFORMATION IN THE STRUCTURAL DRAWINGS. GENERAL LAYOUT MAY BE SHOWN IN THE DRAWINGS. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING THE EXACT LOCATION(S) AND EXTANT(S) WITH THEIR OWN CONSTRUCTION REQUIREMENTS AND THE OWNER'S REQUIREMENTS.
7.2. PROVIDE A FULL HEIGHT BARRICADE AT THE FRONT THE OPEN PERIMETER OF THE TENANT SPACE. COMPLY WITH OWNER REQUIREMENTS FOR CONSTRUCTION AND FINISH.
7.3. PROVIDE TEMPORARY ENCLOSURES IN THE AREA OF WORK TO CONTROL AS REQUIRED TO SEPARATE THE AREA OF WORK FROM OWNER/TENANT OCCUPIED AREAS.. ENCLOSURES SHALL BE FULL HEIGHT AND CONTROL THE MOVEMENT OF DUST. PROVIDE POSITIVE MEANS OF PREVENTING AIR-BORNE DUST FROM DISPERSING, ACTIVE VENTILATION AND FILTERING MAY BE REQUIRED. CONTAMINATION OF THE ADJACENT MALL SPACES WILL NOT BE ACCEPTED.
7.4. AT FLOOR OPENINGS, PROVIDE TEMPORARY GUARDRAILS AT THE PERIMETER OF THE OPENING. RAILS SHALL HAVE THE FOLLOWING MINIMUM CONSTRUCTION. 2x4 FIRE TREATED WOOD FRAMING, 42"H. PROVIDE VERTICAL TRIANGULAR BRACED FRAMES AT 48" O.C., SECURED TO EXISTING FLOOR CONSTRUCTION. PROVIDE (3) HORIZONTAL RAILS AT 18" O.C. (MAX.)
7.5. UNLESS INDICATED OTHERWISE, CONSTRUCTION BARRIERS (INTERIOR) SHALL HAVE THE FOLLOWING MINIMUM CONSTRUCTION: 6" METAL STUDS AT 16" O.C. WITH 5/8" GYPSUM BOARD (LEVEL 4 FINISH) AND 3" ACOUSTICAL BATT INSULATION. PROVIDE 6" METAL STUD BRACING AS REQUIRED, BRACING MAY NOT BE EXPOSED TO PUBLIC VIEW. PROPERLY FINISH ALL SURFACES AND EDGES EXPOSED TO PUBLIC VIEW. PAINT WALL NEUTRAL COLOR (WHITE). COORDINATE WITH OWNER/TENANT ON ANY REQUIRED TEMPORARY GRAPHICS OR SIGNAGE.
7.6. UNLESS INDICATED OTHERWISE, CONSTRUCTION BARRIERS (EXTERIOR) SHALL HAVE THE FOLLOWING MINIMUM CONSTRUCTION: 8" METAL STUDS AT 16" O.C. WITH 3/4" ENGINEERED WOOD PANELS (WEATHER EXPOSED RATED AND SMOOTH, NON-PATTERNED FACE) AND R13 VAPOR RETARDER FACED BATT INSULATION. PROVIDE 8" METAL STUD BRACING AS REQUIRED, BRACING MAY NOT BE EXPOSED TO PUBLIC VIEW.. PROPERLY FINISH ALL SURFACES AND EDGES EXPOSED TO PUBLIC VIEW AND SEAL WEATHER TIGHT TO EXISTING CONSTRUCTION. PAINT WALL NEUTRAL COLOR (WHITE). COORDINATE WITH OWNER/TENANT ON ANY REQUIRED TEMPORARY GRAPHICS OR SIGNAGE. IF REQUIRED BY LAYOUT, PROVIDE A ROOF: MIN. 8" METAL STUDS AT 16" O.C. WITH 3/4" PLYWOOD SHEATHING, R19 BATT INSULATION, AND A WHITE EPDM ROOF MEMBRANE WITH WHITE ALUMINUM FLASHINGS AS REQUIRED FOR WEATHER TIGHT ENCLOSURE.
7.7. UNLESS INDICATED OTHERWISE, TEMPORARY ENCLOSURES (INTERIOR) SHALL HAVE THE FOLLOWING MINIMUM CONSTRUCTION: 2x FIRE-TREATED WOOD FRAMING AT 16" O.C. WITH REINFORCED POLYETHYLENE SHEETING. PROVIDE 2x FIRE-TREATED WOOD BRACING AS REQUIRED. SEAL ALL JOINTS AND EDGES TIGHT. ALL MATERIALS SHALL HAVE A FLAME SPREAD OF 25 OR LESS AND A SMOKE DEVELOPED OF 50 OR LESS.

8. SECURITY: PROVIDE SECURITY, CONTROLS, AND FACILITIES TO PROTECT THE WORK, EXISTING FACILITIES, AND THE OWNER'S OPERATIONS FROM UNAUTHORIZED ACCESS, VANDALISM, OR THEFT.
9. REMOVAL OF UTILITIES, FACILITIES, AND CONTROLS: REMOVE ALL TEMPORARY UTILITIES, FACILITIES, AND CONTROLS AT THE COMPLETION OF THE WORK. EXCEPTIONS: MAINTAIN SAFETY RAILINGS AT ALL FLOOR OPENINGS AND BARRICADES AT ALL OPEN PERIMETER OF THE TENANT DEMISING AREA.

PRODUCT REQUIREMENTS
1. INSTALL ALL EQUIPMENT, ACCESSORIES AND MANUFACTURED ITEMS IN STRICT COMPLIANCE WITH THE MANUFACTURER'S WRITTEN INSTRUCTIONS, AND RELATED NATIONALLY RECOGNIZED STANDARDS.
2. UNLESS INDICATED FOR REINSTALLATION, OR EXISTING ITEMS PROVIDED BY THE OWNER OR TENANT, ONLY NEW MATERIALS SHALL BE UTILIZED IN THE PROJECT.
3. MATERIALS SHALL COME FROM THE SAME PRODUCT/RUN/DYE/ETC. LOT. MISMATCHED MATERIALS, ESPECIALLY FINISHED MATERIALS SHALL NOT BE ACCEPTED.
4. PROTECT AND STORE ALL ITEMS INDICATED AS "TO REMAIN" OR "TO BE REMOVED AND STORED". TURN OVER TO OWNER, IN SEALED PROTECTIVE PACKAGING THAT PROTECTS THE ITEM(S) FROM DUST, DEBRIS, AND DAMAGE.
5. ALL ITEMS INDICATED "TO BE REMOVED" BECOME THE PROPERTY OF THE CONTRACTOR. THE CONTRACTOR SHALL REMOVE THESE ITEMS FROM THE SITE AND SHALL PROPERLY DISPOSE OF THESE ITEMS IN COMPLIANCE WITH LOCAL REGULATIONS.
6. IN EXISTING SPACES, DO NOT PROVIDE A LESSER QUALITY PRODUCT THAN THE EXISTING PRODUCTS, UNLESS INDICATED OTHERWISE.
7. CONTRACTOR SHALL VERIFY ALL MATERIALS EXPOSED WITHIN PLENUM SPACES HAS A FLAME SPREAD RATING OF 25 OR LESS AND A SMOKE DEVELOPED RATING OF 50 OR LESS AS DETERMINED BY ASTM E 84 . REFER TO MECHANICAL DRAWINGS FOR PLENUM LOCATIONS.
8. PRODUCTS SPECIFIED BY REFERENCED STANDARDS OR BY DESCRIPTION ONLY: PROVIDE PRODUCTS MEETING THE PERFORMANCE REQUIREMENTS INDICATED.
9. PRODUCTS SPECIFIED BY NAMING MANUFACTURER/PRODUCT, WITH NOT SUBSTITUTIONS: PROVIDE ONLY THIS PRODUCT. NO SUBSTITUTIONS SHALL BE ACCEPTED.
10. PRODUCTS SPECIFIED BY NAMING MANUFACTURE/PRODUCT. PROVIDE THIS PRODUCT OR AN APPROVED SUBSTITUTION. SUBMIT SUBSTITUTION REQUEST TO ARCHITECT AND OWNER IN WRITING.
11. MAINTENANCE MATERIALS: PROVIDE OWNER/TENANT WITH MAINTENANCE STOCK OF ALL FINISH MATERIAL. MINIMUM SHALL BE 10% OF CONSTRUCTION MATERIAL QUANTITY OR ONE WHOLE UNIT (PACKAGE) OF THE CONSTRUCTION MATERIALS. PROVIDE COPIES OF ALL SOFTWARE, SPARE PARTS, AND SPECIALTY TOOLS SHIPPED WITH EQUIPMENT/MATERIALS.
12. SUBSTITUTION REQUESTS AND PROCEDURES: SUBSTITUTIONS SHALL BE ACCEPTED, UNLESS "NO EXCEPTIONS" IS INDICATED. SUBSTITUTIONS SHOULD BE SUBMITTED AT THE TIME OF PRICING/BIDDING BUT WILL BE CONSIDERED DURING CONSTRUCTION ON A CASE BY CASE BASE DUE TO UNFORESEEN CONDITIONS AND ISSUES.

12.1. THE SUBMITTER MUST SUBMIT SUBSTITUTIONS OF EQUAL OR GREATER QUALITY TO THAT SPECIFIED. BURDEN OF PROOF IS ON THE SUBMITTER.
12.2. THE SUBMITTER SHALL MAKE A WRITTEN REQUEST TO THE ARCHITECT AND OWNER; INCLUDE ALL PERTINENT PRODUCT DATA AND COLOR SELECTION. PHYSICAL SAMPLES ARE REQUIRED FOR FINISH MATERIALS.
12.3. THE SUBMITTER SHALL SUPPLY THE SAME WARRANTY FOR THE SUBSTITUTION.
12.4. THE SUBMITTER SHALL COORDINATE INSTALLATION AND MAKE CHANGES TO THE WORK THAT MAY BE REQUIRED FOR THE SUBSTITUTION AT NO ADDITIONAL COST TO THE OWNER OR ARCHITECT.
12.5. THE SUBMITTER SHALL WAIVE ALL CLAIMS FOR ADDITIONAL COSTS AND TIME THAT MAY BECOME APPARENT.
12.6. SUBSTITUTIONS SHALL NOT BE ACCEPTED WHEN INDICATED IN SHOP DRAWINGS OR OTHER SUBMITTALS WITHOUT PRIOR WRITTEN REQUEST OR WHEN SUBSTITUTION WILL RESULT IN A CHANGE TO THE CONTRACT DOCUMENTS.
12.7. THE ARCHITECT WILL NOTIFY THE OWNER AND THE CONTRACTOR IN WRITING IF THE SUBSTITUTION IS ACCEPTABLE OR UNACCEPTABLE.

13. OWNER/TENANT SUPPLIED PRODUCTS:

13.1. THE OWNER AND/OR TENANT MAY SUPPLY PRODUCTS OR MATERIALS FOR INSTALLATION IN THE PROJECT. THESE PARTIES WILL COORDINATE ORDERING, SCHEDULING, AND DELIVERY WITH THE CONTRACTOR IN A TIMELY MANNER AND WITHIN THE REQUIREMENTS OF THE PROJECT CONSTRUCTION SCHEDULE.
13.2. THE CONTRACTOR SHALL REVIEW ALL PRODUCT DATA, SHOP DRAWINGS, AND OTHER INFORMATION FOR ALL OWNER SUPPLIED PRODUCTS OR MATERIALS AND COORDINATE DELIVERY DATE MILESTONES AND REQUIREMENTS WITH THE OWNER/TENANT. THE CONTRACTOR SHALL PREPARE ALL FIELD CONSTRUCTION TO RECEIVE THESE PRODUCTS AND MATERIALS. THE CONTRACTOR SHALL INSTALL ALL OWNER/TENANT SUPPLIED ITEMS, UNLESS INDICATED "BY OTHERS".

14. TRANSPORTATION AND HANDLING: TRANSPORT AND HANDLE IN COMPLIANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS. PROMPTLY INSPECT SHIPMENTS FOR TO ENSURE PRODUCTS AND MATERIALS COMPLY WITH THE REQUIREMENTS, QUANTITIES ARE CORRECT, AND PRODUCTS AND MATERIALS ARE UNDAMAGED. PROMPTLY REPLACE DAMAGED ITEMS.
15. STORAGE AND PROTECTION: STORE AND PROTECT PRODUCTS AND MATERIALS IN ACCORDANCE WITH THE MANUFACTURER'S WRITTEN INSTRUCTIONS.

15.1. STORE WITH SEALS, LABELS, AND PACKAGING INTACT AND LEGIBLE.
15.2. PROTECT PRODUCTS AND MATERIALS FROM ALL DAMAGE, WEATHER, CHEMICALS OTHER POTENTIALLY HARMFUL EXPOSURES.
15.3. DO NOT STORE PRODUCTS OUTSIDE, UNCOVERED. PROTECT ALL METAL MATERIALS FROM CORROSION AND OXIDATION.
15.4. ALL FINISH PRODUCTS AND MATERIALS, AND MOISTURE/WEATHER SENSITIVE MATERIALS MUST BE STORED INSIDE IN A TEMPERATURE AND HUMIDITY CONTROLLED ENVIRONMENT.

PERFORMANCE OF WORK
1. GENERAL:

1.1. ALL WORK MUST BE PERFORMED IN COMPLIANCE WITH THE PROJECT DOCUMENTS, ALL NAMED STANDARDS, AND THE RULES AND REQUIREMENTS OF THE LOCAL AUTHORIT(IES) HAVING JURISDICTION. THE CONTRACTOR SHALL PROCURE ALL REQUIRED LICENSES AND PERMITS PRIOR TO THE START OF CONSTRUCTION AND POST ALL REQUIRED DOCUMENTS ON THE JOBSITE IN AN OBVIOUS, SECURE LOCATION. OBTAIN ALL REQUIRED INSPECTIONS AND APPROVALS IN A TIMELY MANNER.
1.2. ALL WORK ON THE PROJECT SHALL BE PERFORMED BY QUALIFIED CONTRACTORS WITH A MINIMUM OF (5) YEARS OF EXPERIENCE WITH THIS TYPE AND QUALITY OF CONSTRUCTION.
1.3. FOR SURVEY WORK, THE CONTRACTOR SHALL EMPLOY A PROFESSIONAL , LICENSED SURVEYOR OF THE DISCIPLINE REQUIRED FOR THE SURVEYING. THE

SURVEYOR SHALL BE LICENSED IN THE STATE OF THE PROJECT. SURVEYING COSTS ARE THE SOLE RESPONSIBILITY OF THE CONTRACTOR
1.4 FOR FIELD OR SHOP DRAWING ENGINEERING, THE CONTRACTOR SHALL EMPLOY A PROFESSIONAL, LICENSED ENGINEER OF THE DISCIPLINE REQUIRED FOR THE ENGINEERING. THE ENGINEER SHALL BE LICENSED IN THE STATE OF THE PROJECT. ENGINEERING COSTS ARE THE SOLE RESPONSIBILITY OF THE CONTRACTOR
1.5 FOR DESIGN OF TEMPORARY SHORING AND BRACING, THE CONTRACTOR SHALL EMPLOY A PROFESSIONAL, LICENSED ENGINEER OF THE DISCIPLINE REQUIRED FOR THE ENGINEERING. THE ENGINEER SHALL BE LICENSED IN THE STATE OF THE PROJECT. ENGINEERING COSTS ARE THE SOLE RESPONSIBILITY OF THE CONTRACTOR

2. PROJECT CONDITIONS:

2.1. FOR SAFEGUARDS DURING CONSTRUCTION, COMPLY WITH IBC CHAPTER 33, NFPA 241, AND ALL LOCAL REQUIREMENTS
2.2 FOR DEMOLITION WORK, COMPLY WITH ANSI A10 6 AND ALL LOCAL REQUIREMENTS
2.3 PROTECT AREAS NOT UNDERGOING ALTERATION OR RENOVATION
2.4 VENTILATE AREAS AS REQUIRED FOR HUMIDITY CONTROL, DUST/VAPOR/GAS/ODOR REMOVAL, CURING, AND MATERIAL INSTALLATION
2.5 PROVIDE HEATING/COOLING AS REQUIRED FOR MATERIAL INSTALLATION AND TO MAINTAIN CONDITION ENVIRONMENT FOR ADJACENT AREAS NOT UNDERGOING ALTERATION OR RENOVATION
2.6 DUST CONTROL: EXECUTE WORK BY METHODS TO MINIMIZE RAISING DUST FROM DEMOLITION OR CONSTRUCTION ACTIVITIES PROVIDE POSITIVE MEANS TO PREVENT AIR-BORNE DUST FROM DISPERSING INTO THE ATMOSPHERE PROVIDE DUST-PROOF BARRIERS BETWEEN CONSTRUCTION AREAS AND AREAS BEING CONTINUED TO BE OCCUPIED.
2.7 NOISE AND VIBRATION CONTROL: PROVIDE, METHOD, MEANS, AND FACILITIES TO MINIMIZE NOISE AND VIBRATION CONTROL PRODUCED BY DEMOLITION OR CONSTRUCTION ACTIVITIES COMPLY WITH LOCAL REQUIREMENTS FOR NOISE CONTROL

2.7.1 LOUD NOISE WILL NOT BE ACCEPTED DURING HOURS OF OPERATION IF LOUD OPERATIONS MUST OCCUR, THE CONTRACTOR SHALL SCHEDULE THEM DURING OFF HOURS.
2.7.2 VIBRATIONS MAY NOT BE TRANSMITTED TO ADJACENT AREAS SHOULD DAMAGE RESULTTO ADJACENT AREAS, THE CONTRACTOR SHALL MAKE ALL REQUIRED CORRECTIONS AND REPAIRS AND HIS COST AND REIMBURSE THE AFFECTED PARTIES FOR LOST GODDS, TIME, AND REVENUE
2.7.3 CONTRACTOR SHALL TAKE SPECIAL CARE AT FLOOR/STRUCTURE/EQUIPMENT DEMOLITION AND OTHER HEAVY DEMOLITION ACTIVI.TIES
2.7.4 CONCRETE AND MASONRY CONSTRUCTION SHALL BE REMOVED WITH A WATER-COOLED CONCRETE SAW CUT MATERIAL TO SIZE INDICATED AND INTO SMALL SECTIONS FOR REMOVAL CONTRACTOR SHALL ACTIVELY WORK TO REMOVE WATER TO PREVENT LEAKAGE TO ADJACENT SPACES AND FLOORS
2.7.5 USE OF AIR HAMMERS, JACK HAMMERS, AND OTHER SUCH IMPACT EQUIPMENT WILL NOT BE ACCEPTED
2.7.6 MATERIALS TO BE REMOVED SHALL BE PROPERLY SUPPORTED AND LOWERED TO THE FLOOR BELOW DROPPING OF MATERIALS TO THE FLOOR BELOW WILL NOT BE ACCEPTED.
2.7.7 POLLUTION CONTROL: PROVIDE METHODS, MEANS, AND FACILITIES TO PREVENT CONTAMINATION OF SOIL, WATER, AND ATMOSPHERE FROM DISCHARGE OF NOXIOUS SUBSTANCES, TOXIC SUBSTANCES, OR OTHER POLLUTION CREATED BY CONSTRUCTION ACTIVITIES IF TOXIC SUBSTANCES ARE SUSPECTED OR NOTICED, STOP ALL WORK AND REPORT IMMEDIATELY TO THE OWNER AND THE ARCHITECT COMPLY WITH ALL LOCATION POLLUTION REQUIREMENTS.

LAYOUT OF THE WORK
3. VERIFY LOCATION OF SURVEY AND CONTROL POINTS PRIOR TO STARTING THE WORK CONTRACTOR SHALL PROTECT THESE POINTS THROUGHOUT CONSTRUCTION. IF THE POINTS ARE LOST, THE CONTRACTOR SHALL RESURVEY AT HIS COST
4. MAKE VERTICAL ELEMENTS PLUMB AND ALIGNED, UNLESS NOTED OTHERWISE
5. MAKE HORIZONTAL ELEMENTS LEVEL AND ALIGNED, UNLESS NOTED OTHERWISE
6. MAKE CONSISTENT TEXTURE ON SURFACES, WITH SEAMLESS TRANSITIONS, UNLESS NOTED OTHERWISE
7. MAKE NEAT TRANSITIONS BETWEEN DIFFERENT SURFACES, MAINTAINING TEXTURE AND APPEARANCE
8. WHERE MATING OR ABUTTING TO EXISTING MATERIALS, MAKE SURE FINISHED SURFACES ARE ALIGNED, FLUSH, AND SMOOTH, UNLESS NOTED OTHERWISE FEATHER OR LEVEL OUT MATERIALS AS REQUIRED WHERE TRANSITIONS GREATER THAN 1/4" OCCUR, SUBMIT RECOMMENDATION ON PROVIDING A SMOOTH TRANSITION FOR THE ARCHITECT TO REVIEW
9. INSTALL EQUIPMENT, FITTINGS, AND ACCESSORIES PLUMB AND LEVEL, NEATLY ALIGNED WITH ADJACENT VERTICAL AND HORIZONTAL LINES, UNLESS INDICATED OTHERWISE
10. COORDINATE INSTALLATION OF BUILT-IN WORK AS WORK PROCEEDS. ENSURE PROPER INSTALLATION AND PREPARATION OF SUBSTRATES FOR BUILT-IN WORK.
11. DO NOT INSTALL DEFECTIVE, DAMAGED, ROTTING, OR WET MATERIALS REPLACE ANY AND ALL DAMAGED ITEMS
12. REMOVE ALL EXISTING CONSTRUCTION AS REQUIRED, WHETHER SHOWN OR NOT, TO COMPLETE THE NEW WORK. REMOVE ALL EXISTING ABANDONED UTILITIES, EQUIPMENT, AND DUCTWORK - CONCEALED OR EXPOSED.
13. MAINTAIN ALL EXISTING UTILITIES INDICATED TO REMAIN; INTERRUPT ONLY TO MAKE NEW CONNECTIONS OR SWITCHOVERS MINIMIZE THE DURATION OF THE OUTAGES COORDINATE SCHEDULING WITH THE UTILITY DO NOT INTERRUPT SERVICE TO ADJACENT SPACES WITHOUT NOTIFYING THE AFFECTED PARTIES AND SCHEDULING ACCORDINGLY SCHEDULE AT OFF-HOURS, IF REQUIRED
14. PROTECT EXISTING WORK TO REMAIN. PREVENT MOVEMENT TO STRUCTURE, PROVIDE TEMPORARY BRACING IF REQUIRED REPAIR ADJACENT EXISTING CONSTRUCTION AND FINISHES DAMAGED DURING DEMOLITION AND CONSTRUCTION ACTIVITIES
15. ASSUMED FINISH FLOOR IS 100 00'. COORDINATE WITH CIVIL DRAWINGS NOTE THAT CIVIL MAY BE OUTSIDE OF THIS CONTRACT; EITHER CONTRACTED BY OWNER OR A THIRD PARTY
16. COORDINATE INSTALLATION OF ALL UTILITIES, PLUMBING FIXTURES, WALL LIGHT SCONCES, AND ACCESSORIES WITH THE INTERIOR DESIGN CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR CORRECTING INSTALLATION OF THESE ITEMS IF THE WORK HAS NOT BEEN PROPERLY COORDINATED
17. ALL LANDING SIZES, DOOR CLEARANCES, AND DOOR HARDWARE FOR NEW WORK SHALL COMPLY WITH LOCAL ACCESSIBILITY STANDARDS
18. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR PROPERLY LAYING OUT THE WORK. CONTRACTOR SHALL VERIFY ALL DIMENSIONS IN THE DRAWINGS CONTRACTOR SHALL NOTIFY THE ARCHITECT OF ANY DISCREPANCIES PRIOR TO THE START OF THE WORK FOR RESOLUTION THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR CORRECTING WORK THAT IS ERRONEOUSLY LAID OUT, EITHER THROUGH FAULT OF THEIR OWN OR THEIR SUBCONTRACTORS, OR THROUGH FAILURE TO NOTIFY THE ARCHITECT OF DISCREPANCIES THERE ARE SEVERAL TYPICAL ITEMS TO NOTE:

18.1. AS SHOWN IN THE DRAWINGS, MANY STRUCTURAL COLUMNS FOR THIS PROJECT ARE LOCATED WITHIN WALL CONSTRUCTION THESE COLUMNS SHALL BE CONCEALED WITHIN WALL CONSTRUCTION WITH THE FINISH WALL SURFACES FLUSH WITH ADJACENT CONSTRUCTION CONSTRUCTION NOT IN COMPLIANCE WITH THE DESIGN INTENT SHOWN IN THE DOCUMENTS WILL NOT BE ACCEPTED, UNLESS SHOWN IN THE DOCUMENTS. REPORT ANY DISCREPANCIES TO THE ARCHITECT FOR RESOLUTION PRIOR TO PROCEEDING WITH THE WORK.
18.2 AS SHOWN IN THE DRAWINGS, ALL ROOF DRAINS AND OVERFLOW ROOF DRAIN VERTICAL LINES SHALL BE CONCEALED IN WALL CONSTRUCTION WITH THE FINISH WALL SURFACES FLUSH WITH ADJACENT CONSTRUCTION CONSTRUCTION NOT IN COMPLIANCE WITH THE DESIGN INTENT SHOWN IN THE DOCUMENTS WILL NOT BE ACCEPTED. REPORT ANY DISCREPANCIES TO THE ARCHITECT FOR RESOLUTION PRIOR TO PROCEEDING WITH THE WORK
183. AS SHOWN IN THE DRAWINGS, FIRE EXTINGUISHER CABINETS ARE TO BE SEMI-RECESSED/RECESSED INTO THE WALL CONSTRUCTION. THESE CABINETS SHALL ALL BE THE SAME STYLE AND INSTALLATION; METAL BOX CABINETS WITH VISION LITE AND INTEGRAL LETTERING SEMI-RECESSED MAY BE REQUIRED DUE TO WALL FRAMING DEPTH LIMITATIONS BUBBLE TYPE CABINETS SHALL NOT BE ACCEPTED THE CONTRACTOR SHALL VERIFY FIELD CONDITIONS AND CONFIRM CABINETS AND RECESS DEPTH PRIOR TO SUBMITTING SHOP DRAWINGS AND PRODUCT DATA FOR FIRE EXTINGUISHER CABINETS REPORT ANY DISCREPANCIES TO THE ARCHITECT FOR RESOLUTION PRIOR TO PROCEEDING WITH THE WORK
18.4 PRIOR TO STARTING THE WORK, CONTRACTOR SHALL VERIFY ALL FRAMING REQUIREMENTS FOR MECHANICAL EQUIPMENT, MECHANICAL CHASES, PLENUMS, CABINETS, PLUMBING/ELECTRICAL BANKS, AND OTHER CONSTRUCTION ITEMS WITHIN THE BUILDING BUT NOT SPECIFICALLY DETAILED IN THE DOCUMENTS
18.5 CONTRACTOR SHALL COORDINATE AND LOCATE ALL UNDERGROUND UTILITIES PRIOR TO POURING THE SLAB CONTRACTOR SHALL COORDINATE WITH ALL CASEWORK AND WALL CONSTRUCTION LOCATION OF UTILITIES AT RECEPTION DESKS, SALES, DESKS, TRAINER DESKS, AND JUICE BARS SHALL BE CONSIDERED CRITICAL THIS INCLUDES, BUT IS NOT LIMITED TO, ELECTRICAL AND DATA/LOW VOLTAGE, LIFE SAFETY, CONTROLS, PLUMBING, AND FLOOR SINKS AT THE JUICE BAR.
18.6 THE OWNER OR THE TENANT MAY HAVE OUTSIDE VENDORS THAT WILL PERFORM WORK DURING THE CONSTRUCTION OF THE PROJECT THE CONTRACTOR SHALL COORDINATE ALL WORK, INCLUDING ALL REQUIRED BLOCKING, WITH THESE VENDORS
18.0 FOR PROJECTS BEING CONSTRUCTED IN EXISTING BUILDINGS OR ADJOINING EXISTING OR CONCURRENT WORK BEING PERFORMED BY OTHERS, THE CONTRACTOR SHALL CONFIRM ALL CONDITIONS AND REPORT ANY DISCREPANCIES TO THE ARCHITECT FOR RESOLUTION PRIOR TO PROCEEDING WITH THE WORK. THIS SHALL BE CONSIDERED CRITICAL WHERE DISCREPANCIES OCCUR AT THE JUNCTURE BETWEEN WORK WITH ADJACENT CONTRACTORS OR LANDLORD TENANT SPACES/LIMITS
18.1. ALL NEW CONSTRUCTION ADJOINING EXISTING SHALL BE FRAMED, ALIGNED AND FINISHED AS TO PRESENT NO EVIDENCE OF ATTACHMENT NEW CONSTRUCTION SHALL ALIGN AND BE FLUSH WITH EXISTING ADJACENT CONSTRUCTION MASONRY OR CONCRETE CONSTRUCTION SHALL BE SEPARATED FROM ADJACENT WITH A SEALED CONTROL JOINT GYPSUM BOARD SHALL BE TAPED AND FINISHED FOR FLUSH, CONTINUOUS APPEARANCE; REMOVE ALL EXISTING GYPSUM BOARD TRIM AS REQUIRED TO COMPLETE THIS

COORDINATON
1. COORDINATE THE SCHEDULING, SUBMITTALS, AND WORK TO ENSURE EFFICIENT AND ORDERLY SEQUENCE OF INSTALLATION OF INTERDEPENDENT CONSTRUCTION ELEMENTS WITH PROVISIONS FOR ACCOMMODATING ITEMS INSTALLED LATER AND TO ENSURE ON-TIME COMPLETION OF THE PROJECT
2. NOTIFY AFFECTED UTILITY COMPANIES AND COMPLY WITH THEIR REQUIREMENTS
3. VERIFY THE UTILITY REQUIREMENTS AND EQUIPMENT OF THE NEW WORK ARE COMPATIBLE WITH THE BUILDING UTILITIES. CONTACT THE ARCHITECT TO RESOLVE ALL DISCREPANCIES PRIOR TO PROCEEDING WITH THE WORK COORDINATE THE WORK OF VARIOUS SECTIONS HAVING INTERDEPENDENT RESPONSIBILITIES FOR INSTALLING, CONNECTING TO, AND PLACING IN SERVICE, SUCH EQUIPMENT
4. COORDINATE SPACE REQUIREMENTS, SUPPORTS, AND INSTALLATIONS OF MEP WORK THAT ARE INDICATED DIAGRAMMATICALLY ON THE DRAWINGS FOLLOW ROUTING SHOWN ON PLANS AS CLOSELY AS PRACTICAL; PLACE RUNS PARALLEL WITH THE LINES OF THE BUILDING UTILIZE SPACE EFFICIENTLY TO MAXIMIZE ACCESSIBILITY FOR OTHER INSTALLATIONS, FOR MAINTENANCE, AND FOR REPAIRS COORDINATE THIS WORK WITH ARCHITECTURAL CEILING REQUIREMENTS, CLEAR HEIGHT REQUIREMENTS, AND OTHER SPECIAL CLEARANCES AND REQUIREMENTS NOTED IN THE DRAWINGS THESE REQUIREMENTS MUST BE MAINTAINED THE CONTRACTOR SHALL SUPPLY FABRICATIONS AND INSTALLATIONS OF EQUIPMENT, DUCTWORK, PIPING, ACCESSORIES, CEILINGS, AND OTHER ITEMS, MEETING THE REQUIREMENTS OF THE DESIGN INTENT IN THE PROJECT DOCUMENTS. CONTRACTOR SHALL REPORT ALL DISCREPANCIES TO, AND RESOLVE ALL CONFLICTS WITH, THE ARCHITECT PRIOR TO FABRICATION AND INSTALLATION CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL CORRECTIONS AND MODIFICATIONS REQUIRED IF THE DISCREPANCIES AND CONFLICTS ARE NOT REPORTED PRIOR TO FABRICATION AND INSTALLATION
5. COORDINATE CLOSEOUT AND COMPLETION OF THE WORK, ENSURE PROPER CLEANING AND LEAVE IN A STATE READY FOR INSPECTION AND OCCUPANCY
6. ONCE THE WORK HAS BEEN OCCUPIED, COORDINATE ACCESS TO THE SPACE WITH THE OWNER FOR PUNCHLIST, CORRECTIONS, REPAIRS, AND OTHER ONGOING CONTRACTOR ACTIVITIES

SUBMITTALS
1. SUBMIT PROJECT CONSTRUCTION SCHEDULE WITHIN (5) WORKING DAYS OF PROJECT NOTICE TO PROCEED
2. UPDATE CONSTRUCTION SCHEDULE ONLY A MONTHLY BASIS, OR AS NEEDED BY THE CONTRACTOR OR REQUESTED BY THE OWNER OR ARCHITECT
3. PROVIDE PRODUCT DATA/SUBMITTALS, SHOP DRAWINGS, AND FINISH SAMPLES AS REQUIRED TO DOCUMENT MATERIALS, PRODUCTS, AND FABRICATIONS BEING USED IN THE PROJECT. SUBMIT (1) ELECTRONIC COPY OF ALL DOCUMENTS, EXCEPT FINISH SAMPLES. SUBMIT (3) PHYSICAL COPIES OF ALL FINISH SAMPLES.
4. THE ARCHITECT WILL RETURN (1) REVIEWED COPY TO ALL PARITES, AND MAINTAIN (1) COPY ON FILE.
5. WHERE REQUIRED BY LOCAL AUTHORITIES, CONTRACTOR SHALL SUBMIT ENGINEERED AND SEALED SHOP DRAWINGS AND OTHER SUBMITTALS AS REQUIRED THIS MAY INCLUDE, BUT IS NOT LIMITED TO, RAILING SUBMITTALS, STAIR SHOP SUBMITTALS, FIRE SUPPRESSION SUBMITTALS, FIRE ALARM SUBMITTALS, AND U.L RATED ASSEMBLY AND PENETRATION/JOINT ASSEMBLIES CONTRACTOR SHALL OBTAIN APPROVAL OF LOCAL AUTHORITIES FOR ALL REQUIRED SUBMITTALS PRIOR TO PROCEEDING WITH THE WORK.
6. DO NOT ORDER OR FABRICATE PRODUCTS AND MATERIALS UNTIL FINISHES, SAMPLES, COLORS, TEXTURES, AND ALL OTHER SUBMITTALS HAVE BEEN REVIEWED BY THE ARCHITECT DO NOT PERFORM ANY WORK RELATED TO PRODUCTS AND MATERIALS UNTIL SUBMITTALS HAVE BEEN REVIEWED BY THE ARCHITECT. CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR CORRECTING WORK AND REPLACING PRODUCTS AND MATERIAL WHERE THE CONTRACTOR HAS FAILED TO FOLLOW REVIEW PROCEDURE.

COORDINATION DRAWINGS:
1. THE DESIGN INTENT SHOWN IN THE PROJECT DOCUMENTS IS SCHEMATIC ONLY. THE CONTRACTOR SHALL VERIFY THE INSTALLATION OF ALL MEP SYSTEMS WITH EXISTING/NEW STRUCTURE, ARCHITECTURAL CEILINGS, ALL INDICATED REQUIRED CLEARANCES
2. FOR ALL NEW PROJECTS OR ADDITIONS, AND FOR LARGE, COMPLEX RENOVATIONS, THE CONTRACTOR SHALL SUBMIT COLOR COORDINATION DRAWINGS FOR REVIEW AS PART OF THE SUBMITTAL PROCESS THIS SHALL INCLUDE ALL MECHANICAL, ELECTRICAL, PLUMBING, AND LIFE SAFETY SYSTEMS AND THEIR RELATIONSHIP TO WALL AND CEILING CONSTRUCTION AS PART OF THE SUBMITTAL, THE CONTRACTOR SHALL CLOUD AND NOTE ALL CONFLICTS FOR THE ARCHITECT'S REVIEW AND PROVIDE SUGGESTIONS FOR CORRECTIVE ACTION CONTRACTOR SHALL NOT PROCEED WITH ANY WORK ASSOCIATED WITH THIS SUBMITTAL PRIOR TO REVIEW AND RESOLUTION OF CONFLICTS CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL CORRECTIONS REQUIRED, CAUSED BY EITHER IMPROPERLY PREPARED COORDINATION DRAWINGS OR PROCEEDING WITH WORK PRIOR TO REVIEW OF THE SUBMITTAL
3. FOR SMALL ALTERATIONS AND RENOVATIONS, COORDINATION DRAWINGS ARE NOTE REQUIRED
4. IN ALL CASES, THE CONTRACTOR SHALL SUPPLY FABRICATIONS AND INSTALLATIONS OF EQUIPMENT, DUCTWORK, PIPING, ACCESSORIES, CEILINGS, AND OTHER ITEMS, MEETING THE REQUIREMENTS OF THE DESIGN INTENT IN THE PROJECT DOCUMENTS. CONTRACTOR SHALL REPORT ALL DISCREPANCIES TO, AND RESOLVE ALL CONFLICTS WITH, THE ARCHITECT PRIOR TO FABRICATION AND INSTALLATION CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL CORRECTIONS AND MODIFICATIONS REQUIRED IF THE DISCREPANCIES AND CONFLICTS ARE NOT REPORTED PRIOR TO FABRICATION AND INSTALLATION

CLOSEOUT
1. SUBMIT ALL FINAL DOCUMENTS AS REQUIRED BY THE LOCAL AUTHORITY HAVING JURISDICTION
2. PERFORM FINAL CLEANING, PRIOR TO SUBSTANTIAL COMPLETION
3. SUBSTANTIAL COMPLETION: NOTIFY THE OWNER AND THE ARCHITECT, IN WRITING, THAT THE WORK IS SUBSTANTIALLY COMPLETE INCLUDE A CONTRACTOR'S PUNCHLIST OF MINOR ITEMS THAT NEED TO BE CORRECTED OR COMPLETED.
4. PUNCHLIST: ARCHITECT WILL PERFORM AN ARCHITECT'S PUNCHLIST INSPECTION AFTER NOTIFICATION OF SUBSTANTIAL COMPLETION AND PROVIDE A FINAL REPORT TO THE OWNER AND CONTRACTOR THE CONTRACTOR SHALL MAKE ALL CORRECTIONS INDICATED AND PROVIDE WRITTEN DOCUMENTATION OF THE CORRECTIVE ACTIONS
5. TRAINING: PROVIDE TRAINING TO DESIGNATED OWNER STAFF FOR ALL EQUIPMENT AND SYSTEMS PRIOR TO TURNOVER COORDINATE SCHEDULING WITH OWNER.
6. PROJECT RECORD DOCUMENTS: MAINTAIN A CONTRACTOR'S SET OF RECORD DOCUMENTS ON SITE

6.1. INCLUDE ALL FIELD NOTATIONS PERTAINING TO CHANGES AND MODIFICATIONS OF THE WORK ON THIS SET ENSURE ALL ENTRIES ARE ACCURATE AND COMPLETE.
62. UPDATE THE SET CONCURRENT WITH THE CONSTRUCTION PROGRESS STORE RECORD DOCUMENTS SEPARATE FROM DOCUMENTS USED FOR CONSTRUCTION
63. SUBMIT DOCUMENTS TO LANDLORD FOR REVIEW PRIOR TO MAKING APPLICATION FOR FINAL PAYMENT INCLUDE A PHYSICAL COPY AND A SCANNED ELECTRONIC COPY ON A CD.
64. INCLUDED AN OPERATIONS AND MAINTENANCE MANUAL INCLUDING ALL PRODUCT INFORMATION, WARRANTIES, OPERATING INSTRUCTIONS, AND CLEANING AND MAINTENANCE INSTRUCTIONS PROVIDE IN BINDERS, ORGANIZED BY THE STANDARD CSI 16 DIVISION HEADINGS

WARRANTY
1. CONTRACTOR SHALL WARRANT ALL WORK TO BE FREE OF DEFECTS FOR A PERIOD OF (1) YEAR PROVIDE OWNER WITH A COPY OF ALL MANUFACTURER STANDARD WARRANTIES FOR THE MATERIALS AND EQUIPMENT UTILIZED IN THE PROJECT

PROTECTION OF WORK
1. PROTECT ALL EXISTING AND INSTALLED WORK FROM DAMAGE, MARKING, OR DISCOLORATION BY CONSTRUCTION ACTIVITIES
2. PROVIDE TEMPORARY, REMOVABLE PROTECTION FOR INSTALLED PRODUCTS, SURFACES AND EQUIPMENT CONTROL ACTIVITIES IN IMMEDIATE AREA TO PREVENT DAMAGE
3. PROVIDE TEMPORARY, REMOVABLE PROTECTION ON ALL FINISH FLOORING; PROTECTION SHALL BE DURABLE, HEAVY SHEET GOOD MATERIAL DO NOT REMOVE UNTIL SUBSTANTIAL COMPLETION CONTROL ACTIVITIES IN IMMEDIATE AREA TO PREVENT DAMAGE
4. CONTROL AND LIMIT ACCESS TO FINISH ARES TO PROTECT FINISH WORK.
5. DO NOT PERMIT STORAGE ON FINISHED SURFACES AND EQUIPMENT.
6. REMOVE PROTECTIVE COVERING WHEN NO LONGER NEEDED. REUSE OR RECYCLE COVERINGS IF POSSIBLE.

ADJUSTING
1. ADJUST OPERATING PRODUCTS AND EQUIPMENT TO ENSURE SMOOTH AND UNHINDERED OPERATION. COMPLY WITH MANUFACTURER'S WRITTEN INSTRUCTIONS AND THE REQUIREMENTS OF ALL REFERENCED STANDARDS

CLEANING
1. CLEAN EXISTING SYSTEMS, EQUIPMENT, AND SURFACES TO REMAIN.
2. MAINTAIN THE CONSTRUCTION SITE IN A CLEAN AND ORDERLY MANNER AND PERFORM PROGRESS CLEANINGS ON A DAILY BASIS PROPERLY REMOVE AND DISPOSE OF ALL WASTE, DEBRIS, AND RUBBISH OFF-SITE AT AN APPROVED WASTE MANAGEMENT FACILITY COMPLY WITH ALL LOCAL, STATE, AND FEDERAL REGULATIONS MAINTAIN "BROOM CLEAN" IN WORK AREA
3. PERFORM FINAL CLEANING PRIOR TO SUBSTANTIAL COMPLETION, LEAVING THE WORK AREA CLEAN AND READY FOR PUNCHLIST INSPECTION AND OCCUPANCY. REMOVE ALL DEBRIS, DUST, DIRT, MARKS, EQUIPMENT, TOOLS, ETC IF FIELD REVIEW BY THE ARCHITECT AND OWNER FIND THE FINAL CLEANING TO BE INADEQUATE, THE CONTRACTOR SHALL PERFORM AN ADDITIONAL CLEANING, AT HIS EXPENSE

QUALITY REQUIREMENTS
1. REFERENCE STANDARDS: FOR PRODUCTS AND WORKMANSHIP SPECIFIED BY A REFERENCED STANDARD, COMPLY WITH THE REQUIREMENTS OF THE STANDARD, EXCEPT WHERE A HIGHER OR MORE RIGID REQUIREMENT IS SPECIFIED OR REQUIRED BY CODE. SHOULD SPECIFIED REFERENCE STANDARD CONFLICT WITH THE PROJECT DOCUMENTS, OBTAIN CLARIFICATION FROM THE ARCHITECT PRIOR TO PROCEEDING
2. TESTING AND INSPECTIONS:

2.1. THE OWNER WILL EMPLOY THE SERVICES OF AN INDEPENDENT TESTING AGENCY TO PERFORM ALL SPECIFIED AND CODE REQUIRED TESTING THE
2.2 THE TESTING AGENCY WILL PERFORM ALL REQUIRED TESTING AND INSPECTION AS SPECIFIED AND ALL CODE REQUIRED TESTING AND CONFIRM COMPLIANCE OF THE WORK WITH THE PROJECT DOCUMENTS AND REQUIRED TESTING. THE TESTING AGENCY WILL PROVIDE QUALIFIED PERSONNEL WITH CONSISTENT OVERSIGHT AND STAFFING
2.3 CONTRACTOR SHALL SCHEDULE ALL TESTING THROUGH THE TESTING AGENCY WITH NOTIFICATION TO THE OWNER AS WELL ENSURE ADEQUATE TIME FOR THE TESTING AGENCY TO SCHEDULE VISITS THE CONTRACTOR SHALL ALSO PROVIDE THE TESTING AGENCY WITH ALL REQUIRED PRODUCT DATA AND SUBMITTALS REQUIRED FOR THEIR REVIEW AND INSPECTIONS (I.E - CONCRETE MIX DESIGNS) THE CONTRACTOR SHALL COOPERATE WITH THE TESTING AGENCY ON ALL TESTING
2.4 THE TESTING AGENCY SHALL SUBMIT ALL REPORTS TO THE OWNER, THE ARCHITECT AND ENGINEER, AND THE CONTRACTOR THE TESTING AGENCY WILL NOTIFY ALL PARTIES OF DEFICIENT OR NON-COMPLIANT WORK IMMEDIATELY
2.5 THE TESTING AGENCY MAY NOT RELEASE, REVOKE, ALTER, OR ENLARGE ON THE REQUIREMENTS OF THE PROJECT DOCUMENTS OR THE SCOPE OF WORK NOR SHALL THE AGENCY APPROVE, ACCEPT, OR STOP ANY PORTION OF THE WORK IF THE WORK MUST BE STOPPED, THE TESTING AGENCY MUST NOTIFY THE OWNER AND THE ARCHITECT
2.6 ALL WORK FOUND TO BE DEFICIENT SHALL BE CORRECTED OR REPLACED AT THE CONTRACTOR'S EXPENSE
2.7 ALL RETESTING REQUIRED FOR DEFICIENT OR NON-COMPLIANT WORK SHALL BE PERFORMED BY THE SAME AGENCY
2.8 ALL RETESTING REQUIRED FOR DEFICIENT OR NON-COMPLIANT WORK SHALL BE PAID AT THE CONTRACTORS EXPENSE

3. CONTROL OF INSTALLATION:

3.1. CONTRACTOR SHALL MONITOR AND MAINTAIN CONTROL OF SUBCONTRACTORS, SUPPLIERS, MANUFACTURERS, PRODUCTS, SERVICES, SITE CONDITIONS, AND WORKMANSHIP, TO OBTAIN THE SPECIFIED OR IMPLIED QUALITY.
3.2. WORK SHALL BE PERFORMED BY PERSONNEL QUALIFIED TO PRODUCE THE SPECIFIED OR IMPLIED QUALITY.
3.3. FIELD VERIFY DIMENSIONS FOR ALL SHOP FABRICATED ITEMS THIS INCLUDES, BUT IS NOT LIMITED TO: DOORS, WINDOW, AND GLAZING; METAL FABRICATIONS; CASEWORK, AND FINISH ITEMS IF THERE IS A CONFLICT BETWEEN THE PROJECT DOCUMENTS AND THE FIELD CONDITIONS, CONTACT THE ARCHITECT FOR RESOLUTION PRIOR TO PROCEEDING. REVIEW OF SHOP DRAWINGS BY THE ARCHITECT DOES NOT CONSTITUTE APPROVAL OF FINISH DIMENSIONS.
3.4. SECURE ALL WORK IN PLACE WITH POSITIVE ATTACHMENT DEVICES DESIGNED AND SIZED TO WITHSTAND STRESS, VIBRATION, PHYSICAL DISTORTION, AND DISFIGUREMENT. UNLESS NOTED OTHERWISE IN THE DRAWINGS, ALL ATTACHMENTS SHALL BE FULLY CONCEALED

4. TOLERANCES:

4.1. MONITOR FABRICATION AND INSTALLATION TOLERANCE CONTROL OF PRODUCTS AND FABRICATIONS TO OBTAIN THE SPECIFIED OR IMPLIED QUALITY DO NOT PERMIT TOLERANCES TO ACCUMULATE
4.2. COMPLY WITH THE MANUFACTURER'S TOLERANCES EXCEPT WHERE REFERENCED STANDARDS ARE MORE RIGID OR HIGHER TOLERANCES, INDUSTRY STANDARDS ARE MORE RIGID OR HIGHER TOLERANCE, OR A MORE RIGID OR HIGHER TOLERANCE IS SPECIFIED IN THE DRAWINGS

CUTTING AND PATCHING
1. EACH MISCELLANEOUS INCIDENCE OF CUTTING, PATCHING, AND SELECTIVE DEMOLITION IS NOT CALLED OUT IN THESE DRAWINGS CONTRACTOR SHALL PROVIDE ALL NECESSARY CUTTING, PATCHING AND SELECTIVE DEMOLITION AS REQUIRED TO COMPLETE THE WORK

1.1. UNLESS INDICATED OTHERWISE, ALL TENANT DEMISING WALLS, FIRE-RESISTANCE RATED WALLS, SHAFT/ENCLOSURE WALLS, STAIR AND ELEVATOR WALLS, AND OTHER DEMISING ELEMENTS MUST BE RESTORED TO MATCH THE ORIGINAL CONSTRUCTION

2. ALL CUTTING, PATCHING, AND DEMOLITION WORK SHALL BE PERFORMED NEATLY AND CLEANLY AND IN COMPLIANCE WITH ALL LOCAL REGULATIONS
3. THE CONTRACTOR IS RESPONSIBLE FOR THE REPAIR, REFURBISHMENT, OR REPLACEMENT OF ALL DISTURBED MATERIALS CONTRACTOR SHALL MATCH ADJACENT CONSTRUCTION AND MATCH ADJACENT FINISHES WHERE ADJACENT FINISHES ARE NO LONGER ACCEPTABLE, CONTRACTOR SHALL PROPOSE ALTERNATE PRODUCTS FOR THE ARCHITECT TO REVIEW
4. CONTRACTOR SHALL PROPERLY LOCATE ALL REINFORCING AND STRUCTURAL ELEMENTS PRIOR TO PROCEEDING WITH ANY CUTTING OR SELECTIVE DEMOLITION.
5. CONTRACTOR SHALL PROPERLY CAP AND/OR REMOVE ALL ABANDONED UTILITIES COMPLY WITH ALL LOCAL CODE REQUIREMENTS
6. SUBMIT WRITTEN REQUEST IN ADVANCE OF CUTTING OR ALTERATION WHICH AFFECTS:

6.1. STRUCTURAL INTEGRITY OF ANY ELEMENT
6.2. INTEGRITY OF WEATHER EXPOSED OR MOISTURE RESISTANT ELEMENT
6.3. EFFICIENCY, MAINTENANCE, OR SAFETY OF ANY OPERATIONAL ELEMENT
6.4. VISUAL QUALITIES OF SIGHT EXPOSED ELEMENTS.
6.5. WORK PERFORMED BY THE OWNER OR SEPARATE CONTRACTOR
6.6. CONTINUOUS OPERATION OF UTILITIES, BUILDING SERVICES, FIRE SUPPRESSION, FIRE ALARM, OR SECURITY SYSTEM

IDENTIFY THE LOCATION, DESCRIPTION, DIMENSIONS, MEANS AND METHODS, AND OTHER PERTINENT INFORMATION TO THE PROPOSED CUTTING AND PATCHING

7. CUTTING: EXECUTE WORK BY MEANS AND METHODS TO AVOID DAMAGE TO OTHER WORK AND ADJACENT TENANT SPACES, AND WHICH WILL PROVIDE PREPARE SURFACES FOR PATCHING AND FINISHING (BY OTHERS)

7.1. IDENTIFY ALL HAZARDOUS MATERIALS PRIOR TO PROCEEDING WITH THE WORK AND REPORT TO THE LANDLORD AND ARCHITECT FOR RESOLUTION PRIOR TO PROCEEDING.
7.2 EXECUTE CUTTING AND FITTING AS REQUIRED TO COMPLETE THE WORK COORDINATE WITH TENANT REQUIREMENTS
7.3 REMOVE AND REPLACE DEFECTIVE OR NON-CONFORMING WORK

8. PATCHING: EXECUTE WORK TO COMPLEMENT ADJACENT WORK

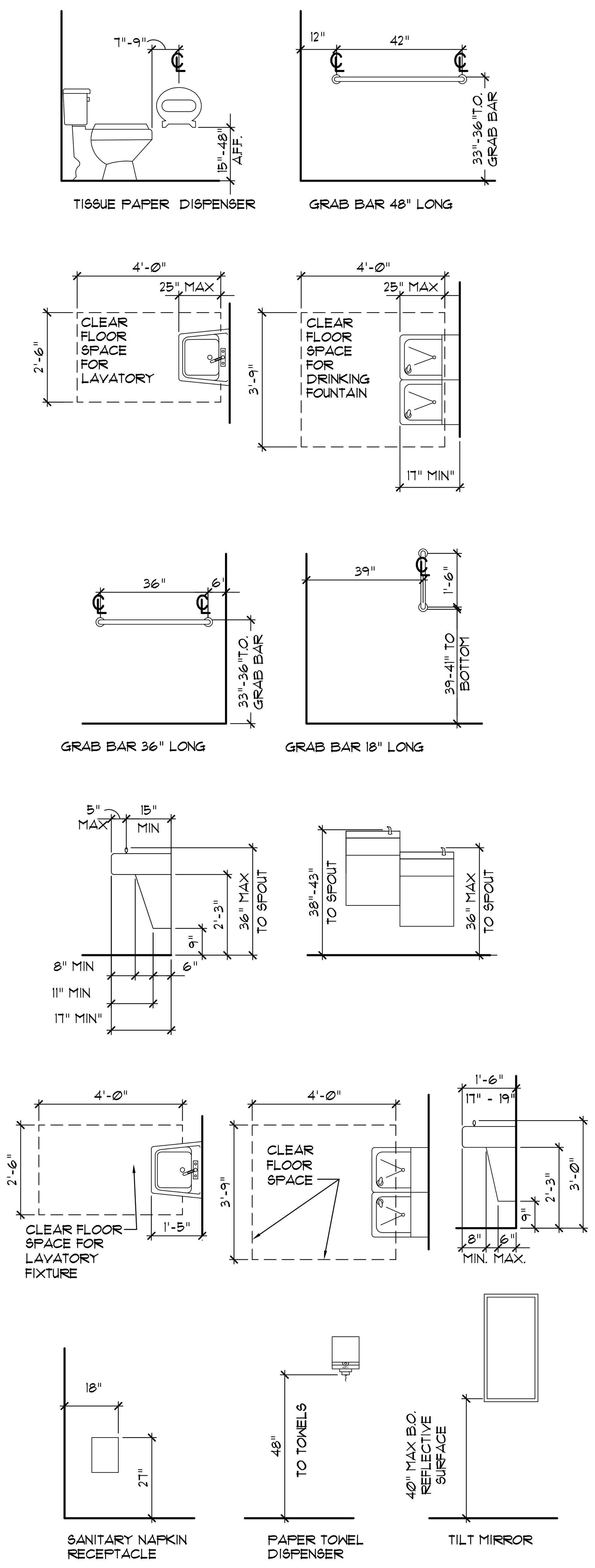
8.1. FIT PRODUCTS TOGETHER IN AN INTEGRATED WAY
8.2. RESTORE WORK WITH NEW PRODUCTS MATCHING THE EXISTING. REFINISH SURFACES TO MATCH ADJACENT FINISH FOR CONTINUOUS SURFACES, REFINISH TO THE NEAREST INTERSECTION OR NATURAL BREAK FOR AN ASSEMBLY REFINISH ENTIRE UNIT
8.3. AT PENETRATIONS OF FIRE-RESISTANCE RATED ASSEMBLIES, PROVIDE FIRE-RESISTIVE JOINT SYSTEMS MATCHING THE HOURLY FIRE RATING OF THE ASSEMBLY BEING PENETRATED SEAL TIGHT TO ADJACENT CONSTRUCTION

DEMOLITION
1. PREPARATION:

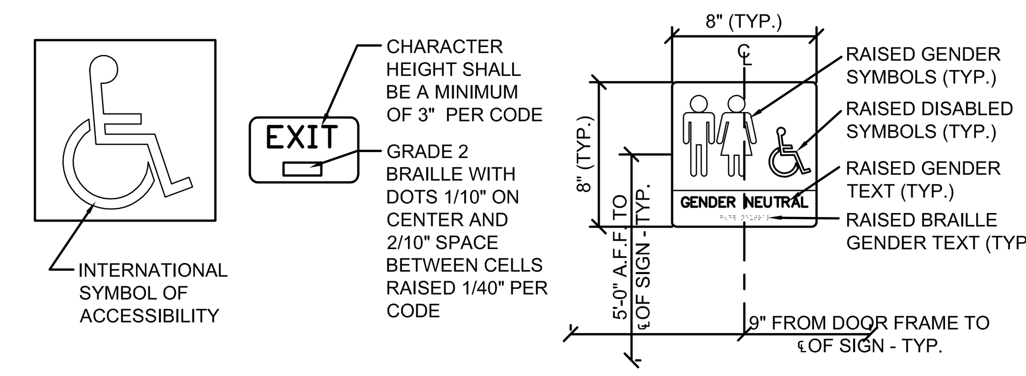
1.1. PROVIDE, ERECT, AND MAINTAIN TEMPORARY SAFEGUARDS FOR PROTECTION OF THE PUBLIC, THE OWNER, THE ARCHITECT, THE CONTRACTOR'S EMPLOYEES, NEW WORK, AND EXISTING CONSTRUCTION TO REMAIN. THIS SHALL INCLUDE, BUT NOT BE LIMITED TO: WARNING SIGNS AND LIGHTS, BARRICADES, ENCLOSURES AND GUARDRAILS, AND SIMILAR MEASURES.
1.2. PROVIDE WEATHERPROOF ENCLOSURES AT EXTERIOR OPENINGS. MAINTAIN WEATHERTIGHT, AND INSULATED UNTIL PERMANENT CONSTRUCTION IS COMPLETED.
1.3. ERECT AND MAINTAIN TEMPORARY PARTITIONS TO PREVENT THE SPREAD OF DUST, ODORS, AND NOISE TO PERMIT CONTINUED OCCUPANCY AND PREVENT DISTURBANCE OF ADJACENT TENANTS.
1.4. PROTECT ALL EXISTING CONSTRUCTION TO REMAIN AND ALL NEW WORK COMPLETED BY OTHERS.
1.5. PREVENT MOVEMENT OF STRUCTURE; PROVIDE TEMPORARY BRACING AND SHORING AS REQUIRED TO ENSURE SAFETY OF EXISTING STRUCTURE.
1.6. NOTIFY AFFECTED UTILITY COMPANIES BEFORE STARTING WORK AND COMPLY WITH THEIR REQUIREMENTS.
1.7. MARK LOCATION AND TERMINATION OF UTILITIES.
1.8. PROVIDE APPROPRIATE TEMPORARY SIGNAGE, INCLUDING SIGNAGE FOR EXIT OR BUILDING EGRESS.

2. DEMOLITION:

2.1. CONDUCT DEMOLITION ACTIVITIES TO MINIMIZE INTERFERENCE WITH ADJACENT STRUCTURES AND SURROUNDING BUILDING AREAS
2.2. CONDUCT OPERATIONS WITH MINIMUM INTERFERENCE TO PUBLIC OR PRIVATE ACCESS
2.3. MAINTAIN PROTECTED EGRESS FROM AND ACCESS TO EGRESS AT ALL TIMES
2.4. DO NOT CLOSE OR OBSTRUCT ROADWAYS AND SIDEWALKS WITHOUT PERMITS
2.5. DISCONNECT AND REMOVE DESIGNATED UTILITIES WITHIN DEMOLITION AREA, UNLESS INDICATED FOR UTILITIES TO BE RELOCATED OR MAINTAINED CAP AD IDENTIFY ABANDONED UTILITIES AT TERMINATION POINTS WHEN UTILITY IS NOT COMPLETELY REMOVED ANNOTATE RECORD DRAWINGS INDICATING LOCATION AND TYPE OF OF SERVICE FOR CAPPED UTILITIES TO REMAIN AFTER DEMOLITION
2.6. DEMOLISH IN AN ORDERLY AND CAREFUL MANNER PROTECT EXISTING CONSTRUCTION TO REMAIN AND ALL NEW WORK
2.7. WHERE INDICATED FOR REUSE, CAREFULLY REMOVE AND STORE ITEMS FOR REINSTALLATION CONTRACTOR SHALL REPLACE ALL DAMAGED OR LOST ITEMS AT HIS OWN COST.
2.8. PROPERLY REMOVE AND DISPOSE OF ALL DEMOLITION ITEMS AT AN APPROVED WASTE DISPOSAL FACILITY, UNLESS SPECIFICALLY INDICATED OTHERWISE
2.9. REMOVE DEMOLITION MATERIALS AS WORK PROGRESSES
2.10. UNLESS INDICATED OTHERWISE IN THE DOCUMENTS, CONTRACTOR SHALL REMOVE ALL FLOORING, INCLUDING ADHESIVES, MORTAR BEDS, FILL, AND OTHER ITEMS, BACK TO THE TOP OF FINISH SLAB.



1 ADA CLEARANCES
TOILETELEV.DWG
3/8" = 1'-0"



NOTES:
1. SIGNS SHALL CONFORM TO ANSI OR LOCAL ACCESSIBILITY GUIDELINES WHICHEVER IS MORE STRINGENT.
2. ALL BUILDINGS AND ENTRANCES THAT ARE ACCESSIBLE AND USABLE BY PERSONS WITH DISABILITIES SHALL BE IDENTIFIED WITH A MINIMUM OF ONE INTERNATIONAL SYMBOL OF ACCESSIBILITY.
3. G.C. TO PROVIDE TACTILE "EXIT" SIGNS AT ALL GRADE LEVEL EXIT DOORS PER CODE.
4. SIGNS TO BE INSTALLED ON THE LATCH SIDE OF THE DOOR, OR IF NO SPACE ON THE NEAREST WALL PREFERABLY ON THE RIGHT. SIGNAGE SHALL HAVE NON GLARE FINISH W/ A CONTRASTING BACKGROUND. SEE A1 FOR LOCATION OF SIGNAGE.

2 ACCESSIBLE SIGNAGE
CONCDET.DWG
1 1/2" = 1'-0"

Revisions

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Seal
STATE OF MISSOURI
MATT C. ADAMS
NUMBER A-5088
REGISTERED ARCHITECT
1.21.24

Project Code
CCW-2201

Project Title
New Car Wash
for
COWBOY EXPRESS CARWASH
3601 SW Hollywood Drive
LEE SUMMIT, MISSOURI
64082

Drawing Title
General Specification

Date	Drawn	Checked
01-21-24	DB/mm	MM/MA

Drawing Number
SPEC1

GENERAL PROJECT NOTES

SITEWORK

1. ALL SITEWORK, INCLUDING EXCAVATION, BACKFILL, AND UTILITIES SHALL BE CONSTRUCTED IN COMPLIANCE WITH LOCAL REQUIREMENTS. CONTRACTOR SHALL COORDINATE ALL SOIL AND EROSION CONTROL REQUIREMENTS WITH THE LOCAL AUTHORITIES.
2. FOR PROJECTS WHERE SITE WORK IS BY OTHERS OR IS AN EXISTING CONDITION, THE CONTRACTOR SHALL COORDINATE THE WORK WITH THE EXISTING CONDITIONS OR WITH THE WORK BEING PERFORMED BY OTHERS. CONTRACTOR SHALL REPORT ALL DISCREPANCIES TO THE ARCHITECT FOR RESOLUTION PRIOR TO PROCEEDING WITH THE WORK.
3. DISTURBED AREAS SHALL BE RETURNED TO THEIR ORIGINAL CONDITION.
4. CONTRACTOR SHALL COORDINATE ALL CONNECTIONS TO EXISTING UTILITIES OR UTILITIES BEING INSTALLED BY OTHERS.

CONCRETE

1. ALL CONCRETE WORK SHALL BE PERFORMED WITHIN ALL APPLICABLE AMERICAN CONCRETE INSTITUTE (ACI) STANDARDS, THE PROJECT SPECIFICATIONS, AND AS NOTED AND SHOWN IN THE STRUCTURAL DRAWINGS.
2. PREPARE CONCRETE SURFACES TO RECEIVE ALL FINISH FLOOR MATERIALS. COORDINATE WITH FLOORING MANUFACTURER'S REQUIREMENTS.
3. CONCRETE FINISH FLOOR LEVELNESS SHALL COMPLY WITH ACI 117/ASTM E 115 FOR FLOOR FLATNESS (FF) AND FLOOR LEVELNESS (FL). FF =30, FL = 20. CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR CORRECTING ALL AREAS NOT MEETING THESE CRITERIA. CONTRACTOR SHALL SUBMIT PROPOSED CORRECTIVE ACTIONS AND MATERIALS TO THE ARCHITECT FOR REVIEW PRIOR TO PROCEEDING WITH THE CORRECTIONS.
4. SIGNIFICANT AREAS OF THE SLAB ARE RECESSED TO RECEIVE EITHER WOOD ATHLETIC FLOORING OR THICKSET MORTAR BEDS FOR SLOPED TILE INSTALLATION. COORDINATE THE EXTENT OF THESE RECESSES WITH THE WALL LAYOUTS SHOWN AND THE (SUB)CONTRACTORS PERFORMING THE WOOD ATHLETIC FLOORING AND TILE INSTALLATIONS.
5. WHERE INDICATED IN THE DRAWINGS, PROVIDE INTEGRALLY SLOPED FLOORS. IF REQUIRED, BLOCK OUT AREAS AND POUR SEPARATELY TO ENSURE PROPER SLOPING.
6. PROVIDE CONCRETE CURBS AT LOCATIONS INDICATED IN THE DRAWINGS. COORDINATE WITH WALL LOCATIONS, RECESSED SLAB LOCATIONS, INTEGRALLY SLOPED FLOOR LOCATIONS, AND WALL OPENING LOCATIONS. SEE STRUCTURAL DRAWINGS FOR DETAILS. PROVIDE INTEGRAL WATERSTOPS AT ALL LOCATIONS.
7. PROVIDE UNDER-SLAB VAPOR BARRIER AT ALL LOCATIONS. INSTALL PER MANUFACTURER'S WRITTEN INSTRUCTIONS. TAPE AND SEAL ALL JOINTS AND PENETRATIONS PER MANUFACTURER'S WRITTEN INSTRUCTIONS, OVERLAP MATERIALS AS DIRECTED. AT JUNCTURE WITH WALLS AND OTHER IMPEDING CONSTRUCTION, SEAL VAPOR BARRIER TO THE WALL.
8. REPAIR ALL EXISTING CONCRETE SLABS AS REQUIRED, ENSURE LEVELNESS WITH ANY ADJACENT NEW WORK. GRIND JUNCTURE AS REQUIRED TO ADDRESS ANY CUPPING/RIDGES.

MASONRY

1. ALL MASONRY WORK SHALL BE PERFORMED WITHIN ALL APPLICABLE AMERICAN CONCRETE INSTITUTE (ACI) STANDARDS (ACI 530), NATIONAL CONCRETE MASONRY ASSOCIATION STANDARDS (NCMA), MASONRY INSTITUTE OF AMERICA (MIA), THE PROJECT SPECIFICATIONS, AND AS NOTED AND SHOWN IN THE STRUCTURAL DRAWINGS.
2. ALL EXISTING MASONRY WALLS TO REMAIN OR AFFECTED BY DEMOLITION SHALL MAINTAIN THEIR ORIGINAL RATING. WHERE REPAIR IS REQUIRED, INSTALL MASONRY OF EQUAL TYPE, FINISH, COLOR AND SIZE. IF SAME IS UNAVAILABLE, PROPOSE ALTERNATE MEANS OF REPAIR FOR REVIEW, WITH THE INTENT TO MATCH EXISTING AS CLOSE AS POSSIBLE.
3. PROVIDE FINISHED END UNITS AT ALL WALL OPENINGS.
4. PROVIDE SPECIAL SHAPES, FINISHES, AND COLORS AS REQUIRED FOR A COMPLETE INSTALLATION.
5. CONTRACTOR SHALL CUT UNITS TO FIT AS REQUIRED WITH A WATERCOOLED MASONRY SAW. BROKEN, CHIPPED, OR OTHERWISE DAMAGED UNITS WILL NOT BE ACCEPTED.
6. STANDARD/DECORATIVE CONCRETE MASONRY UNITS:

6.1. ASTM C90, NORMAL WEIGHT.
6.2. NOMINAL SIZE: 8X16 FACE DIMENSION, UNLESS NOTED OTHERWISE. THICKNESS AS NOTED IN THE DRAWINGS.
6.2. COLOR: GREY FOR STANDARD C.M.U. PROVIDE INTEGRAL COLOR WHERE INDICATED FOR DECORATIVE CONCRETE MASONRY UNITS.
6.3. FINISH: AS INDICATED IN DRAWINGS.
6.4. STRUCTURAL CAPACITY AS NOTED IN THE STRUCTURAL DRAWINGS.
6.5. PROVIDE WITH INTEGRAL WATER REPELLENT AT EXTERIOR LOCATIONS.
6.6. PROVIDE SPECIAL SHAPES AS REQUIRED, AT ALL 90 DEGREE CORNERS, AT WALL CAP CONDITIONS, AND AT BOND BEAMS. PROVIDE SMOOTH FACE AT SILLS AND JAMBS.

7. FACE BRICK:

7.1. UNLESS NOTED OTHERWISE IN THE DRAWINGS, PROVIDE FACE BRICK COMPLYING WITH ASTM C216; TYPE FBS FOR MOLDED BRICK AND FBX FOR EXTRUDED BRICK, GRADE SW.
7.2. MANUFACTURER, COLOR, STYLE, AND SIZE AS INDICATED IN THE DRAWINGS.

8. SINGLE WYTHE JOINT REINFORCEMENT:

8.1. ASTM A951; TRUSS TYPE, HOT DIPPED GALVANIZED STEEL; 0.148"D SIDE RODS AND 0.148"D CROSS TIES.
8.2. WIDTH AS REQUIRED BY WALL THICKNESS.
8.3. COMPLY WITH SEISMIC REQUIREMENTS INDICATED IN STRUCTURAL DRAWINGS.

9. MORTAR AND GROUT:

9.1. MORTAR MIX FOR STRUCTURAL MASONRY: ASTM C270, TYPE S.
9.2. MORTAR MIX FOR NON-STRUTURAL MASONRY: ASTM C270, TYPE S.
9.3. MIX MORTAR PER ASTM C270 IN QUANTITIES NEEDED FOR IMMEDIATE USE.
9.4. GROUT MIX: STRENGTH AS SPECIFIED IN THE STRUCTURAL DRAWINGS AT 28 DAYS; 8-11 INCH SLUMP; MIXED IN ACCORDANCE WITH ASTM C476. PROVIDE COURSE GROUT FOR SPACES WITH A MINIMUM 4" DIMENSION IN EVERY DIRECTION AND FINE GROUT FOR ALL OTHER SPACES.
9.5. MIX GROUT IN ACCORDANCE WITH ASTM C94, MODIFIED TO USE INGREDIENTS COMPLYING WITH ASTM C476. ADD ADMIXTURES; MIX UNIFORMLY.
9.6. COLORS: AS INDICATED IN THE DRAWINGS OR AS SELECTED BY THE ARCHITECT FROM THE MANUFACTURER'S FULL RANGE.

10. INSTALLATION:

10.1. ERECTION TOLERANCES:

10.1.1. C.M.U.: COMPLY WITH ACI 530 REQUIREMENTS:
10.1.2. MASONRY VENEER:

10.1.2.1. MAXIMUM VARIATION FROM PLANE OF WALL: 1/4" IN 10 FEET AND 1/2" IN 20 FEET OR MORE.
10.1.2.2. MAXIMUM VARIATION FROM PLUMB: 1/4" PER STORY, NON-CUMULATIVE; 1/2" IN TWO STORIES OR MORE.
10.1.2.3. MAXIMUM VARIATION FRM LEVEL COURSING: 1/8" IN 3 FEET AND 1/4" IN 10 FEET; 1/2 IN 30 FEET.
10.1.2.4. MAXIMUM VARIATION IN JOINT THICKNESS 1/8" IN 3FT.
10.1.2.5. MAXIMUM VARIATION IN JOINT THICKNESS FROM CROSS SECTIONAL THICKNESS OF WALLS 1/4".

10.2. MASONRY COURSING:

10.2.1. ESTABLISH LINES, LEVELS AND COURSING INDICATED. PROTECT FROM DISPLACEMENT.
10.2.2. MAINTAIN MASONRY COURSES TO UNIFORM DIMENSIONS. FORM VERTICAL AND HORIZONTAL JOINTS TO UNIFORM DIMENSION.
10.2.3. BOND: AS INDICATED. WHERE SPECIAL BONDS AND PATTERN ARE INDICATED IN THE DRAWINGS, ENSURE PROPER ALIGNMENT AND INSTALLATION AND THAT THE BOND AND PATTERN ARE CONSISTENTLY, AND SYMMETRICALLY, PLACED.
10.2.4. MORTAR JOINTS: CONCAVE, UNLESS NOTED OTHERWISE.

10.3. MASONRY PLACING AND BONDING:

10.3.1. LAY SOLID MASONRY UNITS ON FULL HEAD AND BED JOINTS. PLACE UNIFORMLY.
10.3.2. LAY HOLLOW MASONRY UNITS WITH FACE SHELL SETTING ON HEAD AND JOINTS. PLACE UNIFORMLY.
10.3.3. BUTTERING CORNERS OR JOINTS OR EXCESSIVE FURROWING OF MORTAR JOINTS IS NOT ACCEPTABLE.
10.3.4. REMOVE EXCESS MORTAR AND SMEARS AS WORK PROGRESSES.
10.3.5. REMOVE EXCESS MORTAR WITH WATER REPELLENT ADMIXTURE PROMPTLY. DO NOT USE ACIDS, SANDBLASTING, OR HIGH PRESSURE CLEANING METHODS.
10.3.6. INTERLOCK INTERSECTIONS AND EXTERNAL CORNERS, EXCEPT FOR UNITS LAID IN STACK BOND.
10.3.7. DO NOT SHIFT OR TAP MASONRY UNITS AFTER MORTAR HAS ACHIEVED INITIAL SET. WHERE ADJUSTMENT MUST BE MADE, REMOVE AND REPLACE MORTAR.
10.3.8. PERFORM JOB SITE CUTTING OF MASONRY UNITS WITH PROPER TOOLS TO PROVIDE, STRAIGHT, CLEAN, UNCHIPPED EDGES. PREVENT BROKEN MASONRY UNIT CORNERS OR EDGES. DO NOT "BREAK" MASONRY.
10.3.9. CUT MORTAR JOINTS FLUSH WHERE WALL TILE IS SCHEDULED, CEMENT PARGING IS REQUIRED, RESILIENT BASE IS SCHEDULED, CAVITY VAPOR BARRIER ADHESIVE IS APPLIED, OR BITUMEN DAMPPROOFING IS APPLIED.
10.3.10. ISOLATE MASONRY PARTITIONS FROM VERTICAL STRUCTURAL FRAMING MEMBERS WITH A CONTROL JOINT. ISOLATE TOP OF MASONRY PARTITIONS FROM HORIZONTAL STRUCTURAL FRAMING MEMBERS AND SLABS OR DECKS WITH COMPRESSIBLE JOINT FILLER.
10.3.11. PROVIDE CONTINUOUS SUPPORT AT FLASHING. AT HOLLOW MASONRY, GROUT VOIDS SOLID.
10.3.12. DO NOT ALLOW MORTAR TO ACCUMULATE IN CAVITY WALL CONSTRUCTION; PROMPTLY.
10.3.13. DO NOT ALLOW MORTAR TO ACCUMULATE ON THE SURFACE OF MASONRY; PROMPTLY REMOVE.
10.3.14. PROTECT TOP OF WALL CONSTRUCTION FROM RAIN, WEATHER, AND DEBRIS WITH PLASTIC SHEETING. ONLY EXPOSE ACTIVE SECTIONS.
10.3.15. PROVIDE SAFETY CAPS ON EXPOSED REBAR.

10.4. C.M.U. REINFORCEMENT AND ANCHORAGE:

10.4.1. UNLESS INDICATED OTHERWISE IN THE DRAWINGS, PROVIDE HORIZONTAL JOINT REINFORCEMENT AT 16" O.C. MAXIMUM.
10.4.2. PLACE REINFORCEMENT IN FIRST AND SECOND HORIZONTAL JOINTS ABOVE AND BELOW OPENINGS. EXTEND 16" MINIMUM EACH SIDE OF OPENING.
10.4.3. LAP JOINT REINFORCEMENT EACH END 6" MINIMUM.
10.4.4. FASTEN VENEER ANCHORS TO STRUCTURAL FRAMING AND EMBED IN MASONRY JOINTS AS MASONRY IS LAID. DO NOT ATTACH TO SHEATHING BOARDS. UNLESS OTHERWISE INDICATED IN THE DRAWINGS, SPACE ANCHORS AT A MAXIMUM OF 24" HORIZONTALLY AND 16" VERTICALLY.
10.4.5. REINFORCE GROUTED COMPONENTS AS NOTED IN THE DRAWINGS.

10.5. CLEANING:

10.5.1. REMOVE EXCESS MORTAR AND DROPPINGS.
10.5.2. REPLACE DEFECTIVE MORTAR AND MASONRY, MATCH EXISTING.
10.5.3. CLEAN SOILED SURFACES WITH CLEANING SOLUTION.
10.5.4. USE NON-METALLIC TOOLS FOR CLEANING OPERATIONS.

COLD FORMED AND LITE GAUGE METAL FRAMING

1. ALL COLD FORMED METAL FRAMING AND LITE GAUGE METAL FRAMING SHALL BE DESIGNED TO ALL APPLICABLE AMERICAN IRON AND STEEL INSTITUTE (AISI) STANDARDS, THE PROJECT SPECIFICATIONS, AND AS NOTED AND SHOWN IN THE STRUCTURAL DRAWINGS.

1.1. IF NOT INDICATED IN THE STRUCTURAL DRAWINGS AND SPECIFICATIONS, DESIGN CRITERIA FOR INTERIOR LITE GAUGE METAL WALL FRAMING SHALL BE L/240 FOR DEFLECTION AND 5PSF FOR PRESSURE AND FOR CEILING FRAMING SHALL BE L/360 FOR DEFLECTION AND 5 PSF FOR PRESSURE.

2. UNLESS SPECIFICALLY DESIGNED IN THE STRUCTURAL DRAWINGS, THE GAUGE AND SPACING OF METAL STUDS IS TO SHOW INTENT ONLY AND ARE THE MINIMUM DESIGN REQUIREMENT. STUD DEPTH SHALL REMAIN AS INDICATED (EXCEPTION: STUD GAUGE MAY CHANGE WHERE REQUIRED TO PROPERLY ALIGN WALL FINISH SURFACES. SUBMIT CHANGE(S) TO ARCHITECT FOR REVIEW PRIOR TO PROCEEDING WITH THE WORK). CONTRACTOR SHALL SUBMIT SEALED, ENGINEERED SHOP DRAWINGS FOR ALL COLD FORMED AND LITE GAUGE METAL FRAMING. THERE ARE SEVERAL ITEMS OF NOTE:

2.1. PROVIDE DEFLECTION TRACKS AT THE HEAD OF ALL WALLS.
2.2. WHERE RATED WALLS OCCUR, PROVIDE STUD GAUGES THAT MEET THE REQUIREMENTS OF THE INDICATED U.L. ASSEMBLY, EVEN IF THE GAUGE IS GREATER THAN INDICATED IN THE DOCUMENTS.

3. AT WET AREAS, PROVIDE METAL STRAP BLOCKING FOR WALL MOUNTED ACCESSORIES, IN LIEU OF FIRE-RETARDANT TREATED WOOD BLOCKING. THE OWNER AND THE ARCHITECT WILL NOT ACCEPT WOOD BLOCKING AT WET LOCATIONS. CORRECTION OF THE WORK WILL SOLELY BE THE RESPONSIBILITY OF THE CONTRACTOR.
4. ALL STUD FRAMING AT EXTERIOR LOCATIONS AND AT INTERIOR WET/HUMID LOCATIONS SHALL BE HOT-DIPPED GALVANIZED.

WOOD AND PLASTIC

1. PLYWOOD SHEATHING: APA RATED SHEATHING STRUCTURAL I, EXPOSURE DURABILITY. SPAN MINIMUM RATING 32/16, UNSANDED. AT EXPOSED FINISH CASEWORK, PROVIDE CLEAR, FINISH GRADE, SANDED PLYWOOD. STAGGER PANEL INSTALLATION.
2. GYPSUM SHEATHING BOARD: ASTM C117 5/8" TYPE X CORE WITH MOISTURE RESISTANT SURFACES. TAPE AND SEAL ALL JOINTS PER MANUFACTURER'S WRITTEN CONSTRUCTION. STAGGER PANEL INSTALLATION.
3. ALL WOOD BLOCKING, FRAMING, AND PLYWOOD SHEATHING/PANELS USED IN THE WORK, BOTH INTERIOR AND EXTERIOR, SHALL BE FIRE-RETARDANT TREATED. ALL EXPOSED PLYWOOD SHEATHING SHALL BE FINISH GRADE AND FREE OF DEFECTS.
4. PROVIDE WOOD BLOCKING BEHIND WALL AND CEILING MOUNTED ACCESSORIES, EQUIPMENT, AND AT ALL ANCHOR LOCATIONS. THIS INCLUDES THOSE PROVIDED BY THE OWNER, THE TENANT, OR THIRD PARTY VENDORS (EXCEPTION: PROVIDE METAL STRAP BLOCKING AT WET AREAS AS NOTED ABOVE).
5. ALL CASEWORK SHALL COMPLY WITH ARCHITECTURAL WOODWORK INSTITUTE (AWI) ARCHITECTURAL WOODWORK CONSTRUCTION AND QUALITY STANDARDS, THE PROJECT SPECIFICATIONS, AND AS NOTED AND SHOWN IN THE INTERIOR DESIGN DRAWINGS.

5.1. ALL CASEWORK SHALL BE AWI, CUSTOM GRADE.
5.2. INDICATE SEAMING LOCATIONS AND PATTERN DIRECTIONS ON ALL SHOP DRAWINGS; LOCATE SEEMS SYMMETRICALLY AND AS INCONSPICUOUSLY AS POSSIBLE. UNLESS NOTED OTHERWISE IN THE DRAWINGS, PATTERNS SHALL BE INSTALLED IN THE SAME DIRECTION.
5.3. ALL HARDWARE SHALL COMPLY WITH AMERICANS WITH DISABILITIES ACT (ADA).
5.4. ALL FINISHES SHALL MATCH THE ARCHITECT'S SAMPLE.
5.5. ALL EXPOSED SURFACES SHALL BE COVERED IN SPECIFIED FINISH MATERIAL (WOOD VENEER, PLASTIC LAMINATE, SOLID SURFACE, ETC.)
5.6. PROVIDE PLASTIC GROMMETS, WITH COVER PLATES, AT ALL WIRING LOCATIONS REQUIRED FOR ELECTRONIC EQUIPMENT. IF NOT INDICATED IN DRAWINGS, SIZE SHALL BE 2 ½"D; COLOR AS SELECTED BY THE ARCHITECT FROM THE MANUFACTURER'S FULL RANGE.
5.7. JOINTS IN SOLID SURFACE SHALL NOT BE READILY VISIBLE. FABRICATE FACES AND EDGE PROFILES AS SHOWN IN THE DRAWINGS. WHERE REQUIRED BY MATERIAL SURFACE LIMITATIONS, PROVIDE MITERED HORIZONTAL AND VERTICAL SECTIONS TO ENSURE PROPER EDGE TREATMENT.
5.8. CONCEAL ALL FASTENERS AND JOINTS.
5.9. FIELD VERIFY ALL DIMENSIONS PRIOR TO SUBMITTING SHOP DRAWINGS. NOTE ALL DISCREPANCIES IN THE SHOP DRAWINGS TO THE ARCHITECT FOR RESOLUTION.
5.10. CONSTRUCTION TOLERANCES SHALL BE 1/8" IN 10' FOR FLATNESS AND LEVELNESS.
5.11. EQUIPMENT OR PRE-MANUFACTURED ITEMS TO BE INSTALLED IN THE CASEWORK SHALL BE FULLY COORDINATED AND INSTALLED BY THE CONTRACTOR. ALL COMPONENTS SHALL BE NEATLY INSTALLED AND SET LEVEL WITH ADJACENT CONSTRUCTION. NEATLY SCRIBE AND/OR TRIM CASEWORK TO EQUIPMENT.
5.12. MILLWORK SHALL BE HANDLED WITH CLEAN GLOVES. CARRY, DO NOT DRAG CASEWORK. CONTRACTOR SHALL REPLACE ALL DAMAGED CASEWORK. SHIM CASEWORK AS REQUIRED USING CONCEALED SHIMS. SECURE TO ADJACENT CONSTRUCTION USING CONCEALED FASTENERS TO THE GREATEST EXTENT POSSIBLE. WHERE CONCEALED FASTENERS CANNOT BE USED, PROVIDE FASTENERS AT INCONSPICUOUS LOCATION APPROVED BY THE ARCHITECT. CASEWORK SHALL BE INSTALLED PROPERLY LEVELED, ALIGNED, AND SCRIBED WITH ADJACENT CONSTRUCTION.
5.13. SEAL CASEWORK TO ADJACENT CONSTRUCTION WITH A CLEAR SILICONE SEALANT OR COLOR-MATCHED SILICONE SEALANT.
5.14. UNLESS SPECIFIC MANUFACTURER AND MODEL INFORMATION IS PROVIDED IN THE DRAWINGS, METAL FABRICATIONS SHOWN IN THE ARCHITECTURAL DRAWINGS ARE FOR INTENT ONLY. CONTRACTOR SHALL MATCH DESIGN INTENT AS CLOSELY AS POSSIBLE WITH STANDARD MANUFACTURED COMPONENTS, CASTINGS, FABRICATIONS, ETC. SUBMIT PRODUCT DATA TO ARCHITECT FOR REVIEW PRIOR TO FABRICATION.

FIRE RATED ASSEMBLIES, FIRE-RESISTIVE JOINT SYSTEMS, AND FIREPROOFING

1. WHERE INDICATED IN THE DRAWINGS, PROVIDE U.L. LISTED FIRE-RESISTANCE RATED WALL, FLOOR, AND/OR CEILING ASSEMBLIES. IF THE CONTRACTOR PROPOSES TO UTILIZE DIFFERENT ASSEMBLIES, CONTRACTOR SHALL SUBMIT SAID ASSEMBLIES TO THE ARCHITECT AND THE LOCAL AUTHORITIES HAVING JURISDICTION FOR REVIEW PRIOR TO PROCEEDING WITH THE WORK.

1.1. FIRE-RESISTANCE RATED ASSEMBLIES SHALL BE CONTINUOUS; NO INTERRUPTION OF FINAL FIRE-RESISTANT MEMBRANE IS PERMITTED WITH PROTECTION WITH A FIRE-RESISTIVE PENETRATION ASSEMBLY. ENSURE ALL SURFACES ARE PROPERLY PROTECTED.
1.2. WHERE FIRE-RESISTANCE RATED WALL, FLOOR, OR CEILING ASSEMBLIES INTERSECT ADJACENT CONSTRUCTION, THE FINAL FIRE-RESISTANT MEMBRANE SHALL CONTINUE PAST THE ADJACENT CONSTRUCTION, UNINTERRUPTED.
1.3. WHERE FIRE-RESISTANCE RATED WALL, FLOOR, OR CEILING ASSEMBLIES ABUT ADJACENT CONSTRUCTION, THE FIRE-RESISTANT MEMBRANE SHALL RETURN ACROSS THE ABUTMENT, SEPARATING THE RATED ASSEMBLY FROM THE OTHER CONSTRUCTION.

2. ALL PENETRATIONS OF FIRE-RESISTANCE RATED ASSEMBLIES AND PERIMETER JOINT SYSTEMS OF FIRE-RESISTANCE RATED ASSEMBLIES SHALL BE PROTECTED WITH U.L. LISTED FIRE-RESISTIVE PENETRATION AND JOINT SYSTEMS. FIRE-RESISTIVE PENETRATION AND JOINT SYSTEMS SHALL ACHIEVE THE SAME RATING AS THE ASSEMBLY BEING PENETRATED.

2.1. IT IS THE CONTRACTORS RESPONSIBILITY TO DETERMINE THE TYPE OF PENETRATIONS AND JOINT SYSTEMS TO BE PROTECTED AND SELECT APPROPRIATE ASSEMBLIES.
2.2. PROVIDE FIRE RESISTIVE JOINT SYSTEMS AT ALL HEAD OF WALL CONDITIONS WITH 50% MOVEMENT CAPACITY; COORDINATE WITH DEFLECTION TRACKS AT METAL STUD WALLS. ALLOW FOR MOVEMENT AT ALL OTHER FIRE-RESISTIVE JOINTS.
2.3. CONTRACTOR SHALL DEVELOP AND SUBMIT A FIRE-RESISTIVE JOINT SYSTEM SCHEDULE TO THE ARCHITECT AND THE LOCAL AUTHORITIES HAVING JURISDICTION FOR REVIEW PRIOR TO PROCEEDING WITH THE WORK. INCLUDE ALL PRODUCT DATA AND U.L. ASSEMBLY DATA AND DIAGRAMS. REFER TO MECHANICAL DRAWINGS FOR LOCATION OF ALL FIRE DAMPERS. FINISH TROWEL SMOOTH ALL FINISH SURFACES.

3. WHERE INDICATED IN THE DRAWINGS, PROVIDE U.L. LISTED FIREPROOFING ASSEMBLIES FOR STRUCTURAL ELEMENTS. NOT ALL PROJECTS WILL RECEIVE FIREPROOFING; REFER TO CONSTRUCTION TYPE INFORMATION IN THE CODE INFORMATION ON THE COVER SHEET.

3.1. ASSEMBLIES AND ELEMENTS INDICATED IN THE DOCUMENTS ARE A GUIDE SHOWING GENERAL INTENT. CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING SHOP DRAWINGS TO THE ARCHITECT AND THE LOCAL AUTHORITIES HAVING JURISDICTION PRIOR TO PROCEEDING WITH THE WORK.
3.2. SHOP DRAWINGS SHALL INCLUDE, BUT NOT BE LIMITED TO, THE U.L. ASSEMBLIES USED, THE EXTENT OF THE FIREPROOFING, THE THICKNESS(ES) OF THE FIREPROOFING (INCLUDING ON SECONDARY STRUCTURAL ELEMENTS SUCH AS BRACING), POTENTIAL CONFLICTS WITH OTHER CONSTRUCTION, AND ANY SPECIAL SURFACE PREPARATION REQUIRED. IF THE CONTRACTOR PROPOSES TO UTILIZE DIFFERENT ASSEMBLIES, CONTRACTOR SHALL SUBMIT SAID ASSEMBLIES TO THE ARCHITECT AND THE LOCAL AUTHORITIES HAVING JURISDICTION FOR REVIEW PRIOR TO PROCEEDING WITH THE WORK.

4. CONTRACTOR SHALL LABEL ALL RATED ASSEMBLIES AS REQUIRED BY THE LOCAL AUTHORITIES HAVING JURISDICTION. CONFIRM REQUIREMENTS WITH THE LOCAL AUTHORITIES. WHERE LABELS WILL BE VISIBLE TO THE PUBLIC, REVIEW WITH THE ARCHITECT PRIOR TO PROCEEDING WITH THE WORK.

JOINT SEALANTS

1. CONTRACTOR SHALL INSTALL JOINT SEALANT AS NOTED IN DRAWINGS AND PER THIS SCHEDULE. PROVIDE BACKER ROD AS REQUIRED.

2. JOINT-SEALANT APPLICATION: EXTERIOR JOINTS IN HORIZONTAL TRAFFIC SURFACES. JOINT LOCATIONS:
   - JOINT LOCATIONS: CONTROL AND EXPANSION JOINTS IN BRICK PAVERS, ISOLATION AND CONTRACTION JOINTS IN CAST-IN-PLACE CONCRETE SLABS, JOINTS BETWEEN PLANT-PRECAST ARCHITECTURAL CONCRETE PAVING UNITS, JOINTS IN STONE PAVING UNITS, INCLUDING STEPS, TILE CONTROL AND EXPANSION JOINTS, JOINTS BETWEEN DIFFERENT MATERIALS LISTED ABOVE, AND OTHER JOINTS AS INDICATED.
   - JOINT SEALANT: URETHANE.
   - JOINT SEALANT BACKER ROD: PREFORMED FOAM.
   - JOINT-SEALANT COLOR: AS SELECTED BY ARCHITECT FROM MANUFACTURER'S FULL RANGE OF COLORS.

3. JOINT-SEALANT APPLICATION: EXTERIOR JOINTS IN VERTICAL SURFACES AND HORIZONTAL NON TRAFFIC SURFACES.
   - JOINT LOCATIONS: CONSTRUCTION JOINTS IN CAST-IN-PLACE CONCRETE, JOINTS BETWEEN PLANT-PRECAST ARCHITECTURAL CONCRETE UNITS, CONTROL AND EXPANSION JOINTS IN UNIT MASONRY, JOINTS IN DIMENSION STONE CLADDING, JOINTS IN GLASS UNIT MASONRY ASSEMBLIES, JOINTS IN EXTERIOR INSULATION AND FINISH SYSTEMS, JOINTS BETWEEN METAL PANELS, JOINTS BETWEEN DIFFERENT MATERIALS LISTED ABOVE, PERIMETER JOINTS BETWEEN MATERIALS LISTED ABOVE AND FRAMES OF DOORS AND WINDOWS, CONTROL AND EXPANSION JOINTS IN CEILINGS AND OTHER OVERHEAD SURFACES, AND OTHER JOINTS AS INDICATED.
   - JOINT SEALANT: POLYURETHANE
   - JOINT SEALANT BACKER ROD: PREFORMED FOAM.
   - JOINT-SEALANT COLOR: AS SELECTED BY ARCHITECT FROM MANUFACTURER'S FULL RANGE OF COLORS.

4. JOINT-SEALANT APPLICATION: INTERIOR JOINTS IN HORIZONTAL TRAFFIC SURFACES.
   - JOINT LOCATIONS: ISOLATION JOINTS IN CAST-IN-PLACE CONCRETE SLABS, CONTROL AND EXPANSION JOINTS IN STONE FLOORING, CONTROL AND EXPANSION JOINTS IN BRICK FLOORING, CONTROL AND EXPANSION JOINTS IN TILE FLOORING, AND OTHER JOINTS AS INDICATED.
   - JOINT SEALANT: URETHANE
   - JOINT SEALANT BACKER ROD: PREFORMED FOAM.
   - JOINT-SEALANT COLOR: AS SELECTED BY ARCHITECT FROM MANUFACTURER'S FULL RANGE OF COLORS.

5. JOINT-SEALANT APPLICATION: INTERIOR JOINTS IN VERTICAL SURFACES AND HORIZONTAL NON TRAFFIC SURFACE.
   - JOINT LOCATIONS: CONTROL AND EXPANSION JOINTS ON EXPOSED INTERIOR SURFACES OF EXTERIOR WALLS, PERIMETER JOINTS OF EXTERIOR OPENINGS WHERE INDICATED, TILE CONTROL AND EXPANSION JOINTS, VERTICAL JOINTS ON EXPOSED SURFACES OF INTERIOR UNIT MASONRY AND CONCRETE WALLS AND PARTITIONS, JOINTS ON UNDERSIDE OF PLANT-PRECAST STRUCTURAL CONCRETE BEAMS AND PLANKS, PERIMETER JOINTS BETWEEN INTERIOR WALL SURFACES AND FRAMES OF INTERIOR DOORS WINDOWS AND ELEVATOR ENTRANCES, AND OTHER JOINTS AS INDICATED.
   - JOINT SEALANT: POLYURETHANE
   - JOINT SEALANT BACKER ROD: PREFORMED FOAM.
   - JOINT-SEALANT COLOR: AS SELECTED BY ARCHITECT FROM MANUFACTURER'S FULL RANGE OF COLORS.

6. JOINT-SEALANT APPLICATION: MILDEW-RESISTANT INTERIOR JOINTS IN VERTICAL SURFACES AND HORIZONTAL NON TRAFFIC SURFACES.
   - JOINT LOCATIONS: JOINTS BETWEEN PLUMBING FIXTURES AND ADJOINING WALLS, FLOORS, AND COUNTERS, TILE CONTROL AND EXPANSION JOINTS WHERE INDICATED, JOINTS BETWEEN CASEWORK AND ADJOINING WALLS, FLOORS AND CEILINGS, CONTROL JOINTS IN GYPSUM BOARD CEILINGS IN THE POOL AND SPA, CONTROL AND ISOLATION JOINTS IN PORTLAND CEMENT PLASTER, ALL JOINTS IN THE SHOWER ROOMS, AND OTHER JOINTS AS INDICATED.
   - JOINT SEALANT: SILICONE.
   - JOINT-SEALANT COLOR: WHITE AT PLUMBING FIXTURES; CLEAR AT CASEWORK.

7. JOINT-SEALANT APPLICATION: INTERIOR ACOUSTICAL JOINTS IN VERTICAL SURFACES AND HORIZONTAL NON TRAFFIC SURFACES.
   - JOINT LOCATIONS: JOINTS BETWEEN ACOUSTICAL CEILING TILES AND ADJOINING WALL CONSTRUCTION, ACOUSTICAL JOINTS WHERE INDICATED, OTHER JOINTS AS INDICATED.
   - JOINT SEALANT: ACOUSTICAL ACRYLIC LATEX.
   - JOINT-SEALANT COLOR: AS SELECTED BY ARCHITECT FROM MANUFACTURER'S FULL RANGE.

DOORS, WINDOWS, HARDWARE, AND GLAZING

1. GENERAL:

1.1. ALL DOORS AND DOOR HARDWARE SHALL COMPLY WITH THE AMERICANS WITH DISABILITIES ACT (ADA), OR LOCAL ACCESSIBILITY CODES, AS APPLICABLE. COMPLY WITH OPERATING FORCE REQUIREMENTS FOR ALL OPERATION.
1.2. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS AND SUBMITTALS FOR ALL DOOR HARDWARE, FLUSH WOOD DOORS, HOLLOW METAL DOORS AND FRAMES, AN ALUMINUM STOREFRONT WINDOWS AND ENTRANCES.
1.3. ALL RATED DOORS AND FRAME SHALL BE PROVIDED WITH CODE COMPLIANT LABELS BY THE MANUFACTURER. CONTRACTOR SHALL NOT REMOVE OR PAINT OVER LABELS.
1.4. CONTRACTOR SHALL COORDINATE UNDERCUT ON ALL DOORS WITH FLOOR FINISH. ENSURE PROPER CLEARANCE AND OPERATION OF DOOR.
1.5. PROVIDE ADA COMPLIANT, THERMALLY-IMPROVED ALUMINUM THRESHOLDS AT ALL EXTERIOR LOCATIONS, COORDINATE THRESHOLD DEPTH WITH FIELD CONDITIONS PRIOR TO ORDERING. AT LOCATIONS WHERE THERE IS WOOD ATHLETIC FLOORING ADJACENT TO EXTERIOR DOORS, PROVIDE ONE PIECE, OVERSIZED THRESHOLD TO COVER THE DISTANCE BETWEEN THE EXTERIOR SILL CONSTRUCTION AND THE WOOD FLOOR. DO NOT ATTACH THE THRESHOLD TO THE WOOD FLOOR, FLOAT OVER THE FLOORING.
1.6. PROVIDE ADA COMPLIANT, THERMALLY IMPROVED ALUMINUM THRESHOLDS AT INTERIOR LOCATIONS WHERE INDICATED.
1.7. CAULK PERIMETER OF ALL DOOR FRAMES TO ADJACENT CONSTRUCTION. COLOR AS SELECTED BY THE ARCHITECT FROM THE MANUFACTURER'S FULL RANGE.
1.8. ALL DOORS SHALL BE OPERABLE FROM THE INSIDE WITHOUT THE USE OF A KEY, SPECIAL KNOWLEDGE, OR EFFORT. ALTERNATIVELY, AT MAIN ENTRANCE ONLY, PROVIDE A READILY VISIBLE AND DURABLE SIGN ADJACENT TO OR ON THE DOOR STATING THAT "THIS DOOR SHALL REMAIN UNLOCKED WHENEVER THE BUILDING IS OCCUPIED" WITH MINIMUM 1"H LETTERS ON CONTRASTING BACKGROUND.
1.9. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS AND SUBMITTALS FOR ALL DOOR HARDWARE, FLUSH WOOD DOORS, HOLLOW METAL DOORS AND FRAMES, AN ALUMINUM STOREFRONT WINDOWS AND ENTRANCES.

2. ALL HOLLOW METAL DOORS, FRAMES, AND LITES SHALL COMPLY WITH THE FOLLOWING CRITERIA:

2.1. ALL HOLLOW METAL DOORS, FRAMES, AND SIDELITES SHALL COMPLY WITH ANSI/SDI A250.8.
2.2. ALL HOLLOW METAL DOORS SHALL HAVE FLUSH FACES WITH NO SEAMS.
2.3. ALL HOLLOW METAL DOORS AND FRAMES SHALL BE GALVANIZED. ALL EXTERIOR HOLLOW METAL DOORS SHALL BE INSULATED.
2.4. ALL EXTERIOR HOLLOW METAL FRAMES SHALL BE WELDED.
2.5. WELDED FRAMES ARE PREFERRED AT INTERIOR LOCATIONS. HOWEVER, IN THE INTEREST OF OWNER SCHEDULE REQUIREMENTS, KNOCK DOWN FRAMES ARE MAY BE CONSIDERED AT INTERIOR LOCATIONS. WELDED FRAMES ARE PREFERRED.
2.6. PROVIDE SILENCERS WITH ALL HOLLOW METAL FRAMES.
2.7. PROVIDE WEATHERSTRIPPING FOR ALL HOLLOW METAL FRAMES AT ALL EXTERIOR LOCATIONS.
2.8. PROVIDE REQUIRED FIRE RATING, AND LABELS, AS INDICATED. PROVIDE POSITIVE PRESSURE WHERE INDICATED, AND WHERE REQUIRED BY CODE.
2.9. INSTALL DOORS AND FRAMES IN COMPLIANCE WITH ANSI/SDI A250.8.

3. ALL FLUSH WOOD DOORS SHALL COMPLY WITH THE FOLLOWING CRITERIA:

3.1. COMPLY WITH AWI QUALITY SECTION 1300 CUSTOM GRADE
3.2. SOLID CORE, NON-RATED: TYPE PC - PARTICLEBOARD
3.3. SOLID CORE, RATED: RATING AS INDICATED, CATEGORY A FOR POSITIVE PRESSURE MANUFACTURER'S STANDARD SOLID CORE MATERIAL FOR DOOR RATING
3.4. VENEER FACING: AWI GRADE A, UNLESS INDICATED OTHERWISE
3.5. [illegible]
3.6 CUT: ROTARY, UNLESS INDICATED OTHERWISE
3.7 FACE MATCHING: RUNNING, UNLESS INDICATED OTHERWISE.
3.8 FACING ADHESIVE: TYPE 1 - WATERPROOF
3.9 PROVIDE SOLID CORE DOORS WITH REINFORCED BLOCKING AS REQUIRED FOR HARDWARE
3.10 WHERE FIRE RATED DOORS ARE INDICATED, COMPLY WITH RATING INDICATED IN THE DRAWINGS AND THE REQUIREMENTS OF THE RATING AGENCY AND THE LOCAL AUTHORITY HAVING JURISDICTION
3.11. ALL FLUSH WOOD DOORS SHALL BE FACTORY FINISHED, UNLESS INDICATED OTHERWISE MATCH ARCHITECTS SAMPLES, OR BUILDING/TENANT SPACE STANDARD
3.12 INSTALL FLUSH WOOD DOORS PER AWI QUALITY STANDARD REQUIREMENTS AND MANUFACTURER'S WRITTEN INSTRUCTIONS
3.13 PROVIDE REQUIRED FIRE RATING, AND LABELS, AS REQUIRED PROVIDE POSSITVE PRESSURE WHERE INDICATED, AND WHERE REQUIRED BY CODE
3.14 GLAZING STOPS: MATCHING WOOD
3.15. INSTALL ALL WOOD DOORS IN COMPLIANCE WITH AWI STANDARDS.

4. ALL ALUMINUM-FRAMED WINDOWS AND DOORS (STOREFRONT AND CURTAIN WALL) SHALL COMPLY WITH THE FOLLOWING CRITERIA:

4.1. DEAD AND LIVE LOAD FROM WIND, ACTING NORMAL TO THE PLANE: AS CALCULATED IN ACCORDANCE WITH THE APPLICABLE CODES AND ASCE 7, AND AS MEASURED BY ASTM E330.
4.2. AIR INFILTRATION, COMPLY WITH ASTM E283: WINDOW FRAMING: 0.06 CFM/SQ. FT. SINGLE DOORS: 0.50 CFM PER LINEAR FOOT OF CRACK, MEASURED WITH 1.57 PSF DIFFERENTIAL PRESSURE.
4.3. DEFLECTION: LIMIT MULLION DEFLECTION TO 1/175 FOR SPANS UNDER 13'-6" AND 1/240 PLUS 1/4" FOR SPANS OVER 13'-6", WITH FULL RECOVERY OF GLAZING MATERIALS.
4.4. SEISMIC LOADS: AS CALCULATED IN ACCORDANCE WITH THE APPLICABLE CODES.
4.5. SYSTEM ASSEMBLY: ACCOMMODATE WITHOUT DAMAGE TO COMPONENTS OR DETERIORATION OF SEALS, FROM MOVEMENT WITHIN SYSTEM, MOVEMENT BETWEEN SYSTEM AND PERIPHERAL CONSTRUCTION, DYNAMIC LOADING AND RELEASE LOADS, DEFLECTION OF STRUCTURAL SUPPORT FRAMING.
4.6. MAINTAIN CONTINUOUS AIR AND VAPOR SEAL THROUGHOUT ASSEMBLY, PRIMARILY IN-LINE WITH INSIDE PANE OF GLASS.
4.7. CONDENSATION RESISTANCE FACTOR, COMPLY WITH AAMA 1503.1: THERMALLY BROKEN WINDOW FRAME, MINIMUM 50.
4.8. WATER LEAKAGE, COMPLY WITH ASTM E331: WINDOW FRAMING: NONE, WHEN TESTED WITH 8.0 PSF DIFFERENTIAL PRESSURE.
4.9. THERMAL TRANSMITTANCE OF ASSEMBLY: EXTERIOR WINDOWS AND DOORS: U VALUE PER CURRENT AND LOCAL ENERGY CODE REQUIREMENTS.
4.10. EXPANSION/CONTRACTION: PROVIDE FOR THERMAL EXPANSION AND CONTRACTION WITHIN SYSTEM COMPONENTS CAUSED BY CYCLING TEMPERATURE RANGE 170 DEG F OVER A 12 HOUR PERIOD WITHOUT CAUSING DETRIMENTAL EFFECT TO SYSTEM COMPONENTS OR ANCHORAGES.
4.11. SYSTEM INTERNAL DRAINAGE: PROVIDE INTERNAL DRAINAGE FOR ALL MOISTURE RESULTING FROM LEAKAGE OR CONDENSATION TO EXTERNAL WEEPS.
4.12. PERFORM ALL WORK IN ACCORDANCE WITH AAMA SFM-1 AND AAMA METAL CURTAIN WALL, WINDOW, STORE FRONT AND ENTRANCE GUIDE SPECIFICATIONS MANUAL.
4.13. ERECTION TOLERANCES: MAXIMUM VARIATION FROM PLUMB: 0.06 INCHES EVERY 3FT NON-CUMULATIVE OR 1/16" PER 10 FT, WHICHEVER IS GREATER. MAXIMUM MISALIGNMENT OF TWO ADJOINING MEMBERS ABUTTING IN PLANE: 1/32".
4.14. PROVIDE THERMALLY IMPROVED ALUMINUM FRAMES WITH INSULATED GLASS UNITS WHERE INDICATED IN THE DRAWINGS, AT ALL EXTERIOR LOCATIONS.
4.15. ALL ALUMINUM FRAMES SHALL BE PROVIDED WITH PERIMETER GASKETING AT INTERIOR LOCATIONS AND EXTERIOR LOCATIONS.
4.16. ALL ALUMINUM FRAMES SHALL BE SHOP FINISHED IN EITHER A ANODIC OR KYNAR FINISH. SEE WINDOW TYPES FOR FURTHER INFORMATION.

5. ALL DOOR HARDWARE SHALL COMPLY WITH THE FOLLOWING REQUIREMENTS:

5.1. THE DOOR HARDWARE SETS INDICATED IN THE REST OF DOCUMENTS ARE A PRESCRIPTIVE PERFORMANCE, FUNCTION, AND OPERATION GUIDE. THE CONTRACTOR SHALL PROVIDE A COMPLETE HARDWARE SET, INCLUDING ALL REQUIRED ACCESSORIES THAT MAY NOT BE LISTED, COMPLYING WITH THE REQUIREMENTS OF THESE NOTES AND THE HARDWARE PRESCRIPTIVE GUIDE. SUBMIT HARDWARE SETS TO THE ARCHITECT FOR REVIEW.
5.2. ALL DOOR HARDWARE SHALL COMPLY WITH BUILDERS HARDWARE MANUFACTURERS ASSOCIATION (BHMA) STANDARDS AND SHALL BE MINIMUM GRADE 2.
5.3. WHERE WORKING IN EXISTING SPACES, MATCH EXISTING HARDWARE MANUFACTUER(S), STYLE(S), AND FINISHES TO THE GREATEST EXTENT POSSIBLE.
5.4. COORDINATE ALL HARDWARE WITH DOOR AND FRAME FIRE RATING REQUIREMENTS.
5.5. INSTALL THE DOOR HARDWARE IN COMPLIANCE WITH DOOR AND HARDWARE INSTITUTE (DHI) REQUIREMENTS, THE MANUFACTURER'S WRITTEN REQUIREMENTS, AND THE REQUIREMENTS OF THE DOOR AND FRAME MANUFACTURERS. COORDINATE ALL THE WORK.
5.6. HINGES:

5.6.1. FOR DOORS UP TO 60" HIGH, PROVIDE (2) HINGES. FOR DOORS FROM 61"H TO 90"H, PROVIDE (3) HINGES. FOR DOORS 91"H TO 120"H, PROVIDE (4) HINGES. FOR DOOR WITH HEIGHTS MORE THAN 120", PROVIDE (4) HINGES PLUS (1) ADDITIONAL HINGE FOR EVERY ADDITIONAL 30" OF HEIGHT.
5.6.2. PROVIDE SPRING, PIVOT, AND CONTINUOUS HINGES WHERE INDICATED IN THE DOCUMENTS.
5.6.3. PROVIDE NON-REMOVABLE HINGE PINS AT ALL OUTSWINGING EXTERIOR DOORS AND INTERIOR CORRIDOR DOORS.
5.6.4. ALL EXTERIOR HINGES SHALL BE STAINLESS STEEL, BALL BEARING TYPE.

5.7. LOCK SETS AND LATCHES:

5.7.1. PROVIDE LEVER STYLE HANDLES ON ALL LOCK SETS.
5.7.2. PROVIDE ALL LOCK SETS WITH MATCHED, RECESSED STRIKE PLATES.
5.7.3. DO NOT PROVIDE LOCK SETS AND LATCHES THAT IMPEDE THE EGRESS FLOW FROM THE ROOM, SPACE, OR BUILDING.
5.7.4. UNLESS INDICATED OTHERWISE, ALL LOCK SETS SHALL BE MORTISE TYPE.
5.7.5. WHERE INDICATED, PROVIDE ELECTROMAGNETIC AND ELECTROMECHANICAL LOCKS. CONTRACTOR SHALL PROVIDE ELECTRIC SERVICE, TRANSFORMERS AND ALL OTHER COMPONENTS REQUIRED FOR FULL OPERATION OF THE HARDWARE.
5.7.6. WHERE INDICATED, PROVIDE PHYSICAL, PUNCH KEY TYPE LOCK SETS.

5.8. EXIT DEVICES AND EXIT ALARMS:

5.8.1. PROVIDE EXIT DEVICES WHERE INDICATED IN THE DRAWINGS, WHERE THE OCCUPANT LOAD ON A SINGLE DOOR IS GREATER THAN 50, AT ALL EXTERIOR DOORS, AND WHERE REQUIRED BY THE LOCAL AUTHORITY HAVING JURISDICTION.
5.8.2. PROVIDE SPECIAL FUNCTION WHERE INDICATED (CYLINDER DOGGING, KEYED DOGGING, ETC.).
5.8.3. WHERE INDICATED, PROVIDE ELECTRONIC EXIT DEVICES
5.8.4. PROVIDE LEVER STYLE HANDLES ON ALL LOCK SETS.
5.8.5. PROVIDE ALL EXIT DEVICES WITH MATCHED, RECESSED STRIKE PLATES.
5.8.6. WHERE INDICATED, PROVIDE SEPARATE, INTERCONNECTED AUDITORY EXIT ALARM DEVICE. CONTRACTOR SHALL PROVIDE ELECTRIC SERVICE, TRANSFORMERS AND ALL OTHER COMPONENTS REQUIRED FOR FULL OPERATION OF THE HARDWARE. PROVIDE EACH EXIT ALARM WITH A SURFACE MOUNTED SIGN STATING "EMERGENCY EXT - ALARM WILL SOUND". SIGN SHALL BE WHITE BACKGROUND WITH RED LETTERS.

5.9. LOCK CYLINDERS:

5.9.1. PROVIDE CONSTRUCTION CYLINDERS.
5.9.2. PROVIDE, AND INSTALL, PERMANENT CYLINDERS AT THE END OF CONSTRUCTION. WHERE THERE ARE EXISTING LOCK SETS, PROVIDE NEW CYLINDERS IN THE EXISTING LOCK SETS SO ALL LOCKS ARE ON THE SAME KEYING SYSTEM.

5.10. DOOR BOLTS:

5.10.1. PROVIDE MANUAL FLUSH BOLTS WHERE INDICATED. MINIMUM BOLT LENGTH IS 12".
5.10.2. PROVIDE AUTOMATIC FLUSH BOLTS WHERE INDICATED, AND WHERE FOR PAIRS OF DOORS.
5.10.3. ALL FLUSH BOLTS SHALL BE PROVIDED WITH (2) PER LEAF (TOP AND BOTTOM).
5.10.4. PROVIDE DUSTPROOF STRIKES AT FLOOR LOCATIONS.
5.10.5. ALL DOOR BOLTS SHALL BE CONCEALED TYPE. SURFACE MOUNTED IS NOT ACCEPTABLE.

5.11. CLOSERS:

5.11.4. PROVIDE CLOSERS WHERE INDICATED, AT ALL EXTERIOR DOORS, AND AT ALL FIRE RATED DOORS.
5.11.5. PROVIDE TYPE OF CLOSER AND ARM REQUIRED FOR CLOSER TO BE LOCATED ON THE NON-PUBLIC SIDE OF THE DOOR.
5.11.6. DO NOT MOUNT CLOSERS AT EXTERIOR OF BUILDING.
5.11.7. PROVIDE CLOSERS WITH SPECIAL OPERATION, WHERE INDICATED (OVERHEAD STOP, HOLD-OPEN, RECESSED CLOSERS, CONCEALED CLOSERS, ETC.)
5.11.8. PROVIDE DOOR COORDINATORS AS INDICATED AND WHERE REQUIRED TO ENSURE PROPER DOOR OPERATION.

5.12. ELECTRIC STRIKES: PROVIDE ELECTRIC STRIKES WHERE INDICATED. COORDINATE WITH LOCKSET/EXIT DEVICE OPERATION. COMPLY WITH THE REQUIREMENTS OF THE LOCAL AUTHORITY HAVING JURISDICTION.

5.13. STOPS AND HOLDERS:

5.13.1. PROVIDE TYPE INDICATED.
5.13.2. DO NOT MOUNT FLOOR STOPS WHERE THEY WILL IMPEDE TRAFFIC.
5.13.3. WHERE WALL AND FLOOR STOPS ARE NOT APPROPRIATE, PROVIDE AN OVERHEAD STOP.
5.13.4. PROVIDE MAGNETIC HOLD-OPENS WHERE INDICATED. COORDINATE TYPE WITH CLOSER AND DOOR OPERATION. CONTRACTOR SHALL PROVIDE ELECTRIC SERVICE, TRANSFORMERS AND ALL OTHER COMPONENTS REQUIRED FOR FULL OPERATION OF THE HARDWARE.

5.14. OPERATING TRIM (DOOR PULLS, PUSH PLATES, AND MISC. ITEMS): PROVIDE TYPE INDICATED, COORDINATE WITH DOOR AND FRAME CONSTRUCTION.
5.15. PROTECTION PLATES: PROVIDE AS INDICATED. WIDTH OF PROTECTION PLATE SHALL BE 2" SMALLER THAN DOOR LEAF WIDTH AND INSTALLED 1" FROM EACH EDGE OF DOOR. COORDINATE HEIGHT OF PROTECTION PLATE WITH DOOR GLAZING, IF ANY.
5.16. GASKETING, SWEEPS, AND AUTOMATIC DOOR BOTTOMS:

5.16.1. AIR LEAKAGE SHALL NOT EXCEEED 0.50 CFM PER FOOT OF CRACK LENGTH, AS TESTED PER ASTM E283.
5.16.2. PROVIDE CONTINUOUS WEATHER-STRIP GASKETING AT ALL EXTERIOR DOOR LOCATIONS.
5.16.3. PROVIDE CONTINUOUS SMOKE GASKETING WHERE INDICATED AND AT ALL STAIRWELL OR OTHER POSITIVE PRESSURE DOORS.
5.16.4. PROVIDE CONTINUOUS SOUND/LIGHT GASKETING WHERE INDICATED.
5.16.5. GASKETING, SWEEPS, AND AUTOMATIC DOOR BOTTOMS SHALL NOT USE ORGANIC MATERIALS.
5.16.6. AT WOOD AND H.M. DOORS, GASKETING SHALL BE COMPRESSION BULB TYPE.
5.16.7. AT ALUMINUM DOORS, GASKETING SHALL BE TYPE AS RECOMMENDED AND PROVIDED BY THE MANUFACTURER.
5.16.8. AT RATED DOORS AND FRAMES, GASKETING SHALL BE TYPE AS RECOMMENDED BY GASKETING MANUFACTURER. AT PAIRS OF RATED DOORS, DO NOT PROVIDE A METAL ASTRAGAL PLATE. PROVIDE INTUMESECENT TYPE CONCEALED ASTRAGAL ON EDGE OF DOOR.
5.16.9. AT ALL EXTERIOR DOORS, PROVIDE AUTOMATIC DOOR BOTTOM, LENGTH AS REQUIRED. PROVIDE AUTOMATIC DOOR BOTTOM WITH COMPRESSION BULB TYPE BOTTOM OR COMRPESSIBLE NYLON SWEEP/EDGE.
5.16.10. WHERE INDICATED AT INTERIOR DOORS, PROVIDE SURFACE MOUNTED DOOR SWEEP.
5.16.11. WHERE INDICATED AT INTERIOR DOORS, OR REQUIRED FOR SMOKE CONTROL OR POSITIVE PRESSURE, PROVIDE AN AUTOMATIC DOOR BOTTOM COMPLYING WITH THE RATING REQUIREMENT OF THE DOOR AND FRAME.

5.17. THRESHOLDS:

5.17.1. PROVIDE THRESHOLDS WHERE INDICATED AND AT ALL EXTERIOR DOOR LOCATIONS.
5.17.2. ALL EXTERIOR THRESHOLDS SHALL HAVE BE SOLID EXTRUDED ALUMINUM WITH A THERMAL BREAK.
5.17.3. ALL INTERIOR THRESHOLDS SHALL BE SOLID EXTRUDED ALUMINUM.
5.17.4. COORDINATE LENGTH OF THRESHOLD WITH DOOR AND FRAME. COORDINATE DEPTH OF THRESHOLD WITH WITH THE DOOR AND FRAME AND THE FLOOR CONSTRUCTION.

5.18. KEYING:

5.18.1. COORDINATE ALL KEYING REQUIREMENTS WITH THE LANDLORD/TENANT.
5.18.2. PROVIDE (2) COPIES OF EACH KEY.
5.18.3. PROVIDE KEY CABINET. MOUNT WHERE INDICATED BY THE LANDLORD/TENANT.

6. ALL GLAZING SHALL COMPLY WITH THE FOLLOWING REQUIREMENTS:

6.1. GENERAL:

6.1.1. PERFORM WORK IN COMPLIANCE WITH GLASS ASSOCAITION OF AMERICA (GANA) GLAZING MANUAL, GANA SEALANT MANUAL, GANA LAMINATED GLASS DESIGN GUIDE AND SEALED INSULATING GLASS MANUFACTURERS ASSOCATION (SIGMA) FOR GLAZING INSTALLATION METHODS.

GYPSUM BOARD WALLS AND CEILINGS

1. ALL METAL STUD FRAMING SHALL MEET THE FOLLOWING REQUIREMENTS:

1.1. ALL WORK SHALL COMPLY WITH ASTM C840, C754, GYPSUM ASSOCIATION STANDARDS,AND MANUFACTURER'S WRITTEN INSTRUCTIONS AND STANDARDS.
1.2. ALL RATED CONSTRUCTION SHALL COMPLY WITH ALL APPLICABLE BUILDING CODE STANDARDS.
1.3. MAXIMUM DEFLECTION L360 FOR 5PSF UNIFORM LOAD.
1.4. ALL WALL CONSTRUCTION SHALL BE PLUMB AND ALIGNED TO A TOLERANCE OF 1/8" IN 10 FEET.
1.5. CONTRACTOR SHALL SUBMIT SEALED, ENGINEERED SHOP DRAWINGS FOR ALL STUDS FRAMING, INDICATING ALL GAUGES, SIZES, AND COATINGS. THE INFORMATION BELOW IS THE MINIMUM CRITERIA REQUIRED FOR THE PROJECT:

1.5.1. MINIMUM GAUGE AND COATING (EXTERIOR STUDS): 16 GAUGE, G90 COATING.
1.5.2. MINIMUM GAUGE AND COATING (INTERIOR STUDS): 20 GAUGE, G60 COATING. PROVIDE G90 COATING AT WET LOCATIONS. COMPLY WITH MINIMUM GAUGE LISTED IN U.L. ASSEMBLIES, IF GREATER.
1.5.3. MINIMUM GAUGE AND COATING (INTERIOR FURRING): 25 GAUGE, G60 COATING. PROVIDE G90 COATING AT WET LOCATIONS. COMPLY WITH MINIMUM GAUGE LISTED IN U.L. ASSEMBLIES, IF GREATER.
1.5.4. DIRECT SUSPENSION FRAMING (INTERIOR): ASTM C635 ZINC COATED SYSTEM OF INTERLOCKING FURRING RUNNERS, TEES, AND ACCESSORIES DESIGNED FOR CONCEALED MODULAR SUPPORT OF GYPSUM BOARD CEILINGS. CHANNELS SHALL BE G90, MINIMUM 1 1/2" SIZE AND MINIMUM 0.475 LB/FT IN ACCORDANCE WITH ASTM C754. HANGER WIRE SHALL BE ASTM A641, SOFT TEMPER, CLASS I GALVANIZED STEEL, 8 GAUGE MINIMUM.
1.5.5. PROVIDE DEEP LEG DEFLECTION AT THE TOP OF ALL FULL HEIGHT INTERIOR WALLS AND AT EXTERIOR WALLS WHERE INDICATED. INSTALL SYSTEM IN COMPLIANCE WITH ASTM C636 AND MANUFACTURER'S WRITTEN INSTRUCTIONS.
1.5.6. INSTALL DOUBLE STUDS AT ALL DOOR AND WINDOW JAMBS.
1.5.7. INSTALL BLOCKING AS REQUIRED.

2. ALL GYPSUM BOARD SHALL MEET THE FOLLOWING REQUIREMENTS:

2.1. ALL GYPSUM BOARD WALL AND CEILING CONSTRUCTION SHALL COMPLY WITH ALL APPLICABLE GYPSUM ASSOCIATION STANDARDS FOR FINISH LEVEL AND INSTALLATION. EXPOSED GYPSUM BOARD SHALL BE LEVEL 4 FINISH, TYPICAL. AT WALL GRAPHICS AND WALL COVERINGS, PROVIDE LEVEL 5 FINISH.
2.4. GYPSUM BOARD: ASTM C1396/C1396M 5/8" THICK, UNLESS NOTED OTHERWISE IN THE DRAWINGS. PROVIDE FIRE RESISTANT GYPSUM BOARD (TYPE X) WHERE REQUIRED TO COMPLY WITH RATED ASSEMBLIES.
2.5. GYPSUM TILE BACKER BOARD (MOISTURE RESISTANT): ASTM C1178/C1178M MOISTURE RESISTANT GYPSUM BOARD AT ALL WALLS AND CEILINGS IN ALL RESTROOMS AND OTHER WET LOCATIONS.
2.6. CEMENTIOUS TILE BACKER BOARD (MOISTURE RESISTANT): ANSI A118.9, HIGH DENSITY, GLASS FIBER REINFORCED. LOCATINS AS INDICATED.
2.7. DRAWINGS INDICATE SPECIAL GYPSUM BOARD TRIMS, REVEALS, AND ACCESSORIES. PROVIDE ALL REQUIRED TRIMS AND ACCESSORIES AS REQUIRED FOR A COMPLETE INSTALLATION.
2.8. TAPE, MUD, AND FINISH ALL INTERIOR JOINTS. MUD AND FINISH OVER ALL FASTENERS. POPPED SCREW HEADS WILL NOT BE ACCEPTED.
2.9. TAPE AND SEAL ALL EXTERIOR JOINTS, COMPLY WITH MANUFACTURER'S RECOMMENDATIONS.
2.10. ALL ADJACENT GYPSUM BOARD SURFACES SHALL BE ALIGNED FLUSH AND LEVEL WITH NO VISIBLE JOINTS.
2.11. TO GREATEST EXTENT POSSIBLE USE SINGLE SHEETS AND ALIGN JOINT FOR CONSISTENT FINISHING AND APPEARANCE.

3. ALL ACCESSORIES SHALL MEET THE FOLLOWING REQUIREMENTS:

3.1. ACOUSTIC INSULATION: 3", ASTM C665, TYPE 1 UNFACED SEMI-RIGID MINERAL FIBER OR FIBERGLASS INSULATION. MAXIMUM FLAME SPREAD/SMOKE DEVELOPED OF 25/50.
3.2. METAL TRIM: ASTM C1047, HOT DIPPED GALVANIZED STEEL, WITH OR WITHOUT PAPER FACING. PROVIDE CORNER BEADS, EDGE, BEAMS AND OTHER SHAPES AS INDICATED OR REQUIRED FOR INSTALLATION.
3.3. JOINT MATERIALS (GYPSUM BOARD): ASTM C475, REINFORCING TAPE, JOINT COMPOUND, ADHESIVE, AND WATER.
3.4. JOINT MATERIALS (CEMENTIOUS BACKER BOARD): 2" WIDE, COATED GLASS FIBER TAPE, JOINT COMPOUND, ADHESIVE, AND WATER.
3.5. FASTENERS (GYPSUM BOARD): METAL FRAMING 33 MILS THICK OR LESS: ASTM C1002, TYPE S. METAL FRAMING GREATER THAN 33 MILS THICK: ASTM C954. WOOD FRAMING: ASTM C1002, TYPE W.
3.6. FASTENERS (CEMENTIOUS BACKER BOARD): STAINLESS STEEL TYPE.

CONCRETE AND CONCRETE MASONRY UNITS WALLS

1. COMPLY WITH THE REQUIREMENTS LISTED IN THE STRUCTURAL DRAWINGS AND THE SPECIFICATIONS.
2. ENSURE PROPER ALIGNMENT AND PLUMB OF ALL MASONRY WALLS.
3. AT ELEVATOR SHAFTS, ENSURE NO LEDGES OR OBSTRUCTIONS OCCUR INSIDE THE SHAFT; COMPLY WITH ASME A17.1, ELEVATOR INSPECTOR REQUIREMENTS, AND ELEVATOR MANUFACTURER REQUIREMENTS.

PAINT

1. PREPARE SUBSTRATES TO RECEIVE PAINTED FINISH PER MANUFACTURER'S WRITTEN INSTRUCTIONS. REMOVE ALL OIL AND GREASE FROM ALL METALS. THOROUGHLY CLEAN ALL SURFACES TO BE PAINTED.
2. CONTRACTOR SHALL TEST ALL SUBSTRATES FOR COMPATIBILITY PRIOR TO PROCEEDING WITH THE WORK. REVIEW ANY COMPATIBILITY ISSUES WITH THE MANUFACTURER; SUBMIT ALTERNATE RECOMMENDATIONS TO ARCHITECT FOR REVIEW PRIOR TO PROCEEDING.
3. NUMBER OF COATS OR MILS INDICATED IS A MINIMUM. CONTRACTOR SHALL PROVIDE NUMBER OF COATS NECESSARY TO PROVIDE FULL AND COMPLETE COVERAGE. WHERE MARKINGS ON SUBSTRATE MATERIAL BLEED THROUGH, CONTRACTOR SHALL SEAL MARKINGS PER PAINT MANUFACTURERS WRITTEN RECOMMENDATIONS AND REPAINT.
4. INSTALL PAINT PER MANUFACTURER'S WRITTENT INSTRUCTION AND AS REQUIRED TO MEET THE DESIGN INTENT.
5. SCHEDULE: REFER TO THE FOLLOWING FOR PERFORMANCE CHARACTERISTICS OF SYSTEMS OVER VARIOUS SUBSTRATES. WHERE EXISTING FINISHES ARE TO BE MAINTAINED, MATCH EXISTING MATERIAL(S), COLOR(S), FINISH(ES), AND APPLICATION(S). FIELD VERIFY THESE CONDITIONS. CONTRACTOR SHALL SUBMIT RECOMMENDATIONS FOR SURFACES AND MATERIALS NOT LISTED HEREIN:

INTERIOR SURFACES

5.1. SHOP PRIMED FERROUS METAL: SEMI-GLOSS LATEX. TWO FINISH COATS OVER SHOP PRIME. PROVIDE BASE COAT/SEALER AS REQUIRED IF SHOP PRIMER IS SHOWING THROUGH. 1.5 MIL DRY FILM THICKNESS BETWEEN EACH COAT. REPAIR SHOP PRIMING PRIOR TO PAINTING.
5.2. FERROUS METAL: SEMI-GLOSS LATEX. ONE COAT METAL PRIMER, 2 MIL DRY FILM THICKNESS. TWO FINISH COATS, 1.5 MIL DRY FILM THICKNESS BETWEEN EACH COAT. PROVIDE RUST INHIBITIVE PRIMER IF SURFACE SHOWS ANY INDICATION OF CORROSION.
5.3. GALVANIZED FERROUS METAL: SEMI-GLOSS LATEX. ONE COAT OF METAL PRIMER, 2 MIL DRY FILM THICKNESS. TWO FINISH COATS, 1.5 MIL DRY FILM THICKNESS BETWEEN EACH COAT. REPAIR GALVANIZING PRIOR TO PAINTING.
5.4. GYPSUM BOARD: FLAT LATEX. ONE COAT PRIMER, 2 MIL DRY FILM THICKNESS. TWO FINISH COATS, 1.5 MIL DRY FILM THICKNESS BETWEEN EACH COAT.
5.5. GYPSUM BOARD: EGGSHELL LATEX. ONE COAT PRIMER, 2 MIL DRY FILM THICKNESS. TWO FINISH COATS, 1.5 MIL DRY FILM THICKNESS BETWEEN EACH COAT.
5.6. GYPSUM BOARD: SEMIGLOSS LATEX. ONE COAT PRIMER, 2 MIL DRY FILM THICKNESS. TWO FINISH COATS, 1.5 MIL DRY FILM THICKNESS BETWEEN EACH COAT.
5.7. GYPSUM BOARD: UNDER VINYL WALL COVER: ONE COAT PRIMER, TYPE AND MILLAGE AS RECOMMENDED BY THE MANUFACTURER FOR THE SURFACE AND APPLICATION.
5.8. ALUMINUM: SEMI-GLOSS FINISH. CONFIRM PRODUCT RECOMMENDATIONS WITH MANUFACTURER. MINIMUM ONE PRIMER COAT OVER TWO FINISH COATS. MILLAGE AS RECOMMENDED BY MANUFACTURER FOR SURFACE AND APPLICATION.
5.9. PLASTIC: FLAT FINISH. CONFIRM PRODUCT RECOMMENDATIONS WITH MANUFACTURER. MINIMUM ONE PRIMER COAT OVER TWO FINISH COATS. MILLAGE AS RECOMMENDED BY MANUFACTURER FOR SURFACE AND LOCATION.
5.10. PLASTIC: EGGSHELL FINISH. CONFIRM PRODUCT RECOMMENDATIONS WITH MANUFACTURER. MINIMUM ONE PRIMER COAT OVER TWO FINISH COATS. MILLAGE AS RECOMMENDED BY MANUFACTURER FOR SURFACE AND LOCATION.
5.15. PLASTIC: SEMI-GLOSS FINISH. CONFIRM PRODUCT RECOMMENDATIONS WITH MANUFACTURER. MINIMUM ONE PRIMER COAT OVER TWO FINISH COATS. MILLAGE AS RECOMMENDED BY MANUFACTURER FOR SURFACE AND LOCATION.
5.15. PLASTIC: GLOSS FINISH. CONFIRM PRODUCT RECOMMENDATIONS WITH MANUFACTURER. MINIMUM ONE PRIMER COAT OVER TWO FINISH COATS. MILLAGE AS RECOMMENDED BY MANUFACTURER FOR SURFACE AND LOCATION.
5.16. WOOD: FLAT LATEX FINISH. ONE PRIMER-SEALER COAT 1.5 MIL DRY FINISH. TWO FINISH COATS, 1.5 MIL DRY FILM THICKNESS BETWEEN EACH COAT.
5.16. WOOD: EGGSHELL LATEX FINISH. ONE PRIMER-SEALER COAT 1.5 MIL DRY FINISH. TWO FINISH COATS, 1.5 MIL DRY FILM THICKNESS BETWEEN EACH COAT.
5.17. WOOD: SEMI-GLOSS LATEX FINISH. ONE PRIMER-SEALER COAT 1.5 MIL DRY FINISH. TWO FINISH COATS, 1.5 MIL DRY FILM THICKNESS BETWEEN EACH COAT.
5.18. WOOD: GLOSS LATEX FINISH. ONE PRIMER-SEALER COAT 1.5 MIL DRY FINISH. TWO FINISH COATS, 1.5 MIL DRY FILM THICKNESS BETWEEN EACH COAT.
5.19. CONCRETE TRAFFIC (FLOOR) SURFACE: LATEX ENAMEL, LOW GLOSS. ONE PRIME COAT AND TWO TOPCOATS, 1.5 TO 2.0 MIL DRY FILM THICKNESS BETWEEN EACH COAT. SLIP-RESISTANT SURFACE MEETING ADA REQUIREMENTS.
5.20. CONCRETE TRAFFIC (FLOOR) SURFACE (HIGH PERFORMANCE): EPOXY AND POLYURETHANE, SEMI-GLOSS. EPOXY PRIME COAT, 2.5-4.0 MIL DRY FILM THICKNESS. TWO POLYURETHANE TOPCOATS, 2.0-3.0 MIL DRY FILM THICKNESS BETWEEN EACH COAT. SLIP-RESISTANT SURFACE MEETING ADA REQUIREMENTS. ARCHITECT WILL CONSIDER ALTERNATE SYSTEMS FOR TRAFFIC SURFACES, AS RECOMMENDED BY THE MANUFACTURER.

NOTE: DRYFALL PAINTS WILL BE CONSIDERED FOR HIGH CEILING AREAS, EXPOSED FLOOR/ROOF STRUCTURE AREAS, AND EXPOSED MEP ITEMS. TINTING OF PRIMER COAT(S) WILL ALSO BE CONSIDERED.

FIRE EXTINGUISHERS AND CABINETS

1. FIRE EXTINGUISHERS: AS A MINIMUM PROVIDE THE QUANTITIES, TYPES, AND LOCATIONS INDICATED IN THE DRAWINGS. PROVIDE ADDITIONAL FIRE EXTINGUISHERS AS REQUIRED BY THE LOCAL AUTHORITY HAVING JURISDICTION. DO NO PROCEED WITH ADDITIONAL FIRE EXTINGUISHERS UNTIL REVIEWED BY THE LANDLORD AND THE ARCHITECT.
2. FIRE EXTINGUISHER CABINETS: TYPE AS INDICATED IN THE DRAWINGS. WHERE FIRE EXTINGUISHER CABINETS OCCUR IN RATED WALLS, PROVIDE RATED CABINETS. PROVIDE CABINETS WITH INTERGRAL LETTERING ON THE DOOR. PROVIDE ADDITIONAL SIGNAGE AS REQUIRED BY THE LOCAL AUTHORITY HAVING JURISDICTION. STICKERS/ADHESIVE LABELS SHALL NOT BE ACCEPTED.
3. FIRE EXTINGUISHER BRACKETS: FORMED STEEL TYPE WITH RED ENAMEL FINISH. TYPE AND SIZE AS REQUIRED FOR FIRE EXTINGUISHERS.
4. INSTALL CABINETS PLUMB AND LEVEL, SECURE RIGIDLY IN PLACE. INSTALL FIRE EXTINGUISHERS, WITH CURRENT, APPROVED CERTIFICATION.
5. FIRE EXTINGUISHER CABINETS, BRACKETS, AND EXTINGUISHERS SHALL BE MOUNTED AS INDICATED IN THE DRAWINGS AND IN COMPLIANCE WITH THE REQUIREMENTS OF THE AMERICANS WITH DISABILITIES ACT.
6. PROVIDE ALL FIRE EXTINGUISHER CABINETS WITH ADA COMPLIANT HANDLES/PULLS.

MECHANICAL

1. WHERE DIFFUSERS AND GRILLES ARE SMALLER THAN CEILING TILES, CENTER THESE ITEMS IN CEILING TILES. WHERE 2X4 CEILING TILES HAVE FALSE GRID LINE (SECOND LOOK), CENTER THE DIFFUSERS AND GRILLES IN THE 2X2 PORTION OF THE TILE.
2. WHERE DIFFUSERS AND GRILLES OCCUR IN GYPSUM BOARD CEILINGS, ALIGN AS SHOWN IN THE REFLECTED CEILING PLANS. WHERE THESE DIFFUSERS AND GRILLES OCCUR AT LOCATIONS SUCH AS AT THE POOL WINDOWS OR OTHER ARCHITECTURAL ITEMS, CENTER THESE ITEMS ON THE WINDOWS.
3. CONTRACTOR SHALL LOCATE ALL VALVES, SERVICE AND INSPECTION POINTS, CONTROL, RESET POINTS OUTSIDE OF GYPSUM BOARD CEILING AREAS, AND OTHER ITEMS REQUIRING ACCESS, WHERE GYPSUM BOARD CEILING AREAS CANNOT BE AVOIDED, CONTRACTOR SHALL PROVIDE FULLY RECESSED ACCESS PANELS WITH A GYPSUM BOARD FLANGE. PANEL DOOR SHALL BE RECESSED TO RECEIVE GYPSUM BOARD MATERIAL.
4. ALL DUCTWORK AND RELATED COMPONENTS SHALL BE CONCEALED IN THE CEILING CAVITY.
5. ALL DIFFUSERS AND GRILLES SHALL BE MOUNTED FLUSH AND TIGHT TO ADJACENT CONSTRUCTION. ALL DIFFUSERS AND GRILLES SHALL BE SET SQUARE AND PLUMB WITH ADJACENT CONSTRUCTION.
6. ALL VALVES AND CONTROLS SHALL BE SIGNED AND LABELED.

ALL PIPING SHALL HAVE IDENTIFICATION AND DIRECTION OF FLOW.

ELECTRICAL AND LIFE SAFETY

1. WHERE ELECTRICAL DEVICES, LIGHT FIXTURES, AND LIFE SAFETY DEVICES OCCUR IN GYPSUM BOARD PIERS, CENTER THESE ITEMS ON THE PIER.
2. WHERE ELECTRICAL DEVICES, LIGHT FIXTURES, AND LIFE SAFETY DEVICES OCCUR IN TILE WORK, COORDINATE LOCATIONS WITH LAYOUTS SHOWN IN THE INTERIOR DESIGN DRAWINGS.
3. WHERE REQUIRED DUE TO SPACE LIMITATIONS, SUCH AS AT THE BASE OF MIRRORS, INSTALL ELECTRICAL DEVICES HORIZONTALLY AT THE BASE OF WALL.
4. WHERE ELECTRICAL DEVICES, LIGHT FIXTURES, AND LIFE SAFETY DEVICES ARE SMALLER THAN CEILING TILES, CENTER THESE ITEMS IN CEILING TILES. WHERE 2X4 CEILING TILES HAVE FALSE GRID LINE (SECOND LOOK), CENTER THESE ITEMS IN THE 2X2 PORTION OF THE TILE.
5. WHERE ELECTRICAL DEVICES, LIGHT FIXTURES, AND LIFE SAFETY DEVICES OCCUR IN GYPSUM BOARD CEILINGS, ALIGN AS SHOWN IN THE REFLECTED CEILING PLANS.
6. CONTRACTOR SHALL LOCATE ALL JUNCTION BOXES, CONTROL BOXES, AND OTHER ITEMS REQUIRING ACCESS, OUTSIDE OF GYPSUM BOARD CEILING AREAS. WHERE GYPSUM BOARD CEILING AREAS CANNOT BE AVOIDED, CONTRACTOR SHALL PROVIDE FULLY RECESSED ACCESS PANELS WITH A GYPSUM BOARD FLANGE. PANEL DOOR SHALL BE RECESSED TO RECEIVE GYPSUM BOARD MATERIAL.
7. CONTRACTOR SHALL SUBMIT SEALED, ENGINEER FIRE ALARM SHOP DRAWINGS TO THE ARCHITECT AND THE LOCAL AUTHORITIES HAVING JURISDICTION FOR REVIEW PRIOR TO PROCEEDING WITH THE WORK. COORDINATE LOCATIONS OF NOTIFICATION DEVICES AT RACQUETBALL COURTS WITH THE LOCAL AUTHORITIES HAVING JURISDICTION. THE INTENT IS FOR THESE TO BE LOCATED OUTSIDE OF THE ROOMS DUE TO THE HIGH POTENTIAL FOR DAMAGE FROM RACQUETBALL ACTIVITIES.
8. ALL ELECTRICAL CONDUITS, JUNCTION BOXES, AND RELATED COMPONENTS SHALL BE CONCEALED IN THE WALL CONSTRUCTION AND THE CEILING CAVITY. ALL FINAL DEVICES SHALL BE MOUNTED FLUSH AND TIGHT TO ADJACENT CONSTRUCTION. ALL DEVICES SHALL BE SET SQUARE AND PLUMB WITH ADJACENT CONSTRUCTION.
9. ALL LIGHT FIXTURES SHALL BE INSTALLED AT A CONSISTENT, ADA COMPLIANT HEIGHT.
10. WHERE SPACE PERMITS, MOUNT ALL CONVENIENCE RECEPTACLES AT ADA COMPLIANT HEIGHT(S). HEIGHTS MAY VARY DUE TO CASEWORK BEING PRESENT IN THE ROOM. WHERE SPACE DOES NOT PERMIT, PROVIDE AT LEAST (1) ADA COMPLIANT CONVENIENCE RECEPTACLE IN THE ROOM.

PLUMBING AND FIRE SUPPRESSION

1. INSTALL PLUMBING FIXTURES AT LOCATIONS SHOWN IN THE DRAWINGS. COMPLY WITH ADA COMPLIANT MOUNTING HEIGHTS AS NOTED IN THE DRAWINGS.
2. WHERE PLUMBING FIXTURES OCCUR AT OR IN TILE WORK, COORDINATE LOCATIONS WITH LAYOUTS SHOWN IN THE INTERIOR DESIGN DRAWINGS.
3. CONTRACTOR SHALL LOCATE ALL PIPING, FITTINGS, VALVES, CONTROLS, AND OTHER ITEMS REQUIRING ACCESS, OUTSIDE OF GYPSUM BOARD WALL AND CEILING AREAS. WHERE GYPSUM BOARD WALL AND CEILING AREAS CANNOT BE AVOIDED, CONTRACTOR SHALL PROVIDE FULLY RECESSED ACCESS PANELS WITH A GYPSUM BOARD FLANGE. PANEL DOOR SHALL BE RECESSED TO RECEIVE GYPSUM BOARD MATERIAL.
4. CAULK ALL LAVATORIES, TOILETS, URINALS, SHOWER ASSEMBLIES AND OTHER PLUMBING FIXTURES TO ADJACENT CONSTRUCTION WITH WHITE SILICONE SEALANT.
5. ALL PLUMBING AND FIRE SUPPRESSION RELATED COMPONENTS SHALL BE CONCEALED IN THE WALL CONSTRUCTION AND THE CEILING CAVITY. ALL FINAL DEVICES SHALL BE MOUNTED FLUSH AND TIGHT TO ADJACENT CONSTRUCTION. ALL DEVICES SHALL BE SET SQUARE AND PLUMB WITH ADJACENT CONSTRUCTION.
6. CONTRACTOR SHALL SUBMIT SEALED, ENGINEER FIRE SUPPRESSION SHOP DRAWINGS TO THE ARCHITECT AND THE LOCAL AUTHORITIES HAVING JURISDICTION FOR REVIEW PRIOR TO PROCEEDING WITH THE WORK. ALL FIRE SUPPRESSION HEADS SHALL BE FULLY RECESSED TYPE WITH WHITE COVER PLATES (EXCEPTION: FIRE SUPPRESSION HEADS AT OPEN CEILING AREAS. PROVIDE STANDARD UPTURNED HEADS AT THESE LOCATIONS.
7. ALL FIRE SUPPRESSION HEADS SHALL BE CENTERED IN CEILING TILES. WHERE 2X4 CEILING TILES HAVE A FALSE GRID LINE (SECOND LOOK), CONTRACTOR SHALL CENTER FIRE SUPPRESSION HEAD IN THE 2X2 SECTION OF THE TILE.
8. WHERE FIRE SUPPRESSION HEADS OCCUR IN GYPSUM BOARD CEILINGS AND SOFFITS, CONTRACTOR SHALL BALANCE AND CENTER FIRE SUPPRESSION HEADS IN THE CEILINGS AND SOFFITS. THIS SHALL BE CONSIDERED CRITICAL IN THE POOL AND SPA AREA AND THE LOCKER ROOMS, RESTROOMS AND SHOWER ROOMS.
9. CONTRACTOR SHALL COMPLY WITH FIRE SUPPRESSION HEAD LAYOUT SHOWN IN THE RACQUETBALL COURT REFLECTED CEILING PLAN. LIGHT FIXTURES AND DIFFUSERS CANNOT BE RELOCATED OR ADJUSTED IN THESE ROOMS.
10. ALL VALVES AND CONTROLS SHALL BE SIGNED AND LABELED.
11. ALL PIPING SHALL HAVE IDENTIFICATION AND DIRECTION OF FLOW.

Revisions

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Seal

STATE OF MISSOURI
MATT C. ADAMS
NUMBER A-5088
REGISTERED ARCHITECT
1-21-24

Project Code
CCW-2201

Project Title
New Car Wash for COWBOY EXPRESS CARWASH
3601 SW Hollywood Drive
LEE SUMMIT, MISSOURI
64082

Drawing Title
General Project Notes

Date	Drawn	Checked
01-21-24	DB/mm	MM/MA

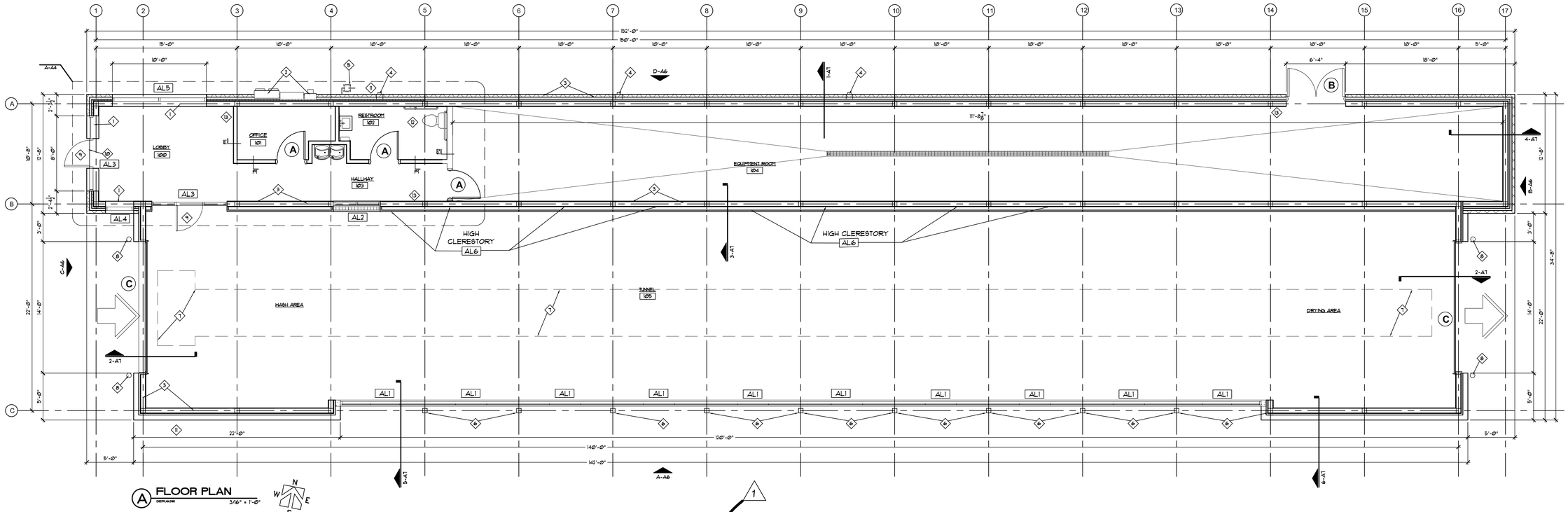
Drawing Number
SPEC2

GENERAL NOTES

1. GC SHALL VERIFY ALL DIMENSIONS AND CONDITIONS PRIOR TO BEGINNING WORK AND NOTIFY ARCHITECT OF ANY DISCREPANCIES. ALL WORK SHALL COMPLY WITH 2018 INTERNATIONAL BUILDING CODE AND OTHER APPLICABLE LOCAL CODES AND ORDINANCES.
2. FURNITURE SHOWN TO BE PROVIDED AND INSTALLED BY TENANT. FURNITURE IS MODULAR.
3. PROVIDE FIRE EXTINGUISHERS IN ALL AREAS. VERIFY QUANTITY, SIZE, TYPE AND LOCATION WITH LOCAL FIRE OFFICIALS.
4. GC TO COORDINATE WORK WITH PRE-ENGINEERED BUILDING MANUFACTURER DRAWINGS. BUILDING SHOP DRAWINGS TO BE REVIEWED BY ARCHITECT AND STRUCTURAL ENGINEER PRIOR TO FABRICATION AND CONSTRUCTION.
5. ALL NEW INTERIOR METAL STUD WALLS SHALL BE AS NOTED ON PLAN. SEE WALL SECTIONS. EXTEND GWB TO 6" ABOVE FINISHED CEILING UNLESS NOTED OTHERWISE.
6. PROVIDE FIRE RETARDANT WOOD BLOCKING IN NEW WALLS FOR SUPPORT AT NEW GRAB BARS PER INTERNATIONAL BUILDING CODE AND ADA REQUIREMENTS.
7. GC TO COORDINATE WORK WITH CIVIL SITE DESIGN BEING SUBMITTED FOR PERMIT UNDER SEPARATE COVER. SITE WORK WILL INCLUDE PAVING, DRAINAGE, NEW SITE LIGHTING, ETC.
8. GC TO COORDINATE CONNECTION OF BUILDING UTILITIES TO EXISTING SITE UTILITIES. SEE CIVIL (BY OTHERS)
9. ALL INTERIOR WALLS SHALL BE METAL STUDS WITH 5/8" GWB EACH SIDE TO 6" ABOVE CEILING OR TO STRUCTURE WHERE NOTED. SEE WALL SECTIONS AND STRUCTURAL DRAWINGS. PROVIDE 6" WALL AT PLUMBING FIXTURES.

PRE-ENGINEERED BUILDING NOTES

PRE-ENGINEERED BUILDING MANUFACTURER SHALL PROVIDE COMPLETE BUILDING DRAWINGS SEALED BY A KANSAS LICENSED ENGINEER FOR SUBMITTAL TO LOCAL AUTHORITIES FOR PERMIT REVIEW AND APPROVAL. FOUNDATION DESIGN IS BASED UPON REACTIONS PROVIDED BY THE BUILDING MANUFACTURER.



A FLOOR PLAN 3/16" = 1'-0"

KEYED PLAN NOTES

1. WINDOW STOOLS - COORDINATE MATERIAL WITH OWNER (TYP. ALL WINDOWS.)
2. ELECTRICAL SERVICE ENTRANCE COORDINATE WITH OWNER
3. REFER TO WALL SECTIONS FOR MORE INFORMATION REGARDING EXTERIOR WALL TYPE
4. THROUGH WALL SCUPPER WITH SEMI ENCLOSED DOWNSPOUTS DOWN TO 6" ABOVE GRADE. PROVIDE SPLASH BLOCK AT EACH LOCATION.
5. GAS METER LOCATION COORDINATE WITH OWNER AND PLUMBING DRAWINGS
6. EXPOSED STEEL TUBE COLUMN. REFER TO STRUCTURAL SIZE - COORDINATE COLOR WITH OWNER - PAINTED
7. DASHED LINE INDICATES GENERAL LOCATION OF TRENCH AND PIT LOCATIONS. COORDINATE EXACT LOCATIONS WITH EQUIPMENT SUPPLIER AND STRUCTURAL DRAWINGS
8. CONCRETE FILLED BOLLARD COORDINATE PAINT COLOR WITH OWNER.
9. NEW 3'-0" ALUM. AND GLASS DOOR WITH ALUM. AND GLASS SIDE LITE TO - EQUIP. WITH HARDWARE TO MEET CODE (TEMP. GLASS)
10. FLUSH ENTRY DOOR WITH ACCESSIBLE MEANS OF EGRESS - ACCESSIBLE PATH OF TRAVEL TO PUBLIC WAY / AND ACCESSIBLE PARKING SPACES.
11. FREEZE PROOF HOSE BIBB - COORDINATE EXACT LOCATION.
12. EXHAUST FAN TO EXTERIOR-(SEE GENERAL NOTES-H.V.A.C.).
13. PROVIDE 10 LB. ABC FIRE EXTINGUISHERS WITH WALL MOUNTED BRACKET - COORDINATE EXACT LOCATIONS WITH LOCAL FIRE DISTRICT.

ROOM FINISH SCHEDULE

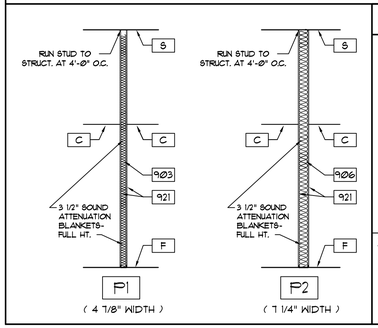
CERAMIC TILE = CT | GYPSUM BOARD - PAINTED = GBp | VINYL BASE (COVE) = V
CONCRETE STAINED / DYED = CONC. | GYPSUM BOARD (MR) - PAINT = GBmp | ACOUSTICAL 2x4 BOARD = AB

RM. #	ROOM NAME	FLOOR	BASE	WALLS	CLG. / HGT.	REMARKS
100	LOBBY	STAINED CONC.	V	GBp	AB / 9'-0"	COORDINATE WITH OWNER
101	OFFICE	STAINED CONC.	V	GBp	AB / 9'-0"	REFER FINISH SPEC.
102	RESTROOM	STAINED CONC.	V	GBp - EPOXY PAINT	AB / 9'-0"	REFER FINISH SPEC.
103	HALLWAY	STAINED CONC.	V	GBp	AB / 9'-0"	REFER FINISH SPEC.
104	EQUIPMENT ROOM	CONC.	METAL PANELS COORD. WITH OWNER		EXPOSED STRUCT.	REFER FINISH SPEC.
105	TUNNEL - CAR WASH	CONC.	METAL PANELS COORD. WITH OWNER		EXPOSED STRUCT.	REFER FINISH SPEC.

GENERAL FINISH NOTES:

1. ALL EXPOSED STRUCTURE TO BE PAINTED - COORDINATE WITH OWNER
2. COORDINATE FINISHES WITH OWNER. COORDINATE BASE LOCATION WITH OWNER.
3. GC SHALL PREP ALL SURFACES TO RECEIVE PAINT. THIS INCLUDES SCRAPING, BLOCK FILL, PRIMER, ETC. AS NEEDED TO PROVIDE A NEW PAINT FINISH.
4. ALL FLOORS SHALL BE PREPARED AS REQUIRED FOR PROPER INSTALLATION OF NEW FINISHES.
5. ALL WET WALLS TO BE (MR) WATER RESISTANT GYPSUM BOARD.
6. CONTRACTOR TO COORDINATE INSTALLATION LOCATION OF INFORMATION-PAY CENTER KIOSK AND ANY ART PACKAGE.

PARTITION SCHEDULE



KEYNOTES

- 903 - 3⅝" METAL STUDS
- 906 - 6" METAL STUDS
- 911 - DRYWALL FURRING CHANNEL (1/8" HAT)
- 921 - ⅝" GYPSUM BOARD
- 921x - ⅝" TYPE "X" GYPSUM BOARD
- S - BOTTOM OF STRUCTURE
- C - CEILING RE: FIN. SCHED.
- F - FLOOR RE: FIN. SCHED.

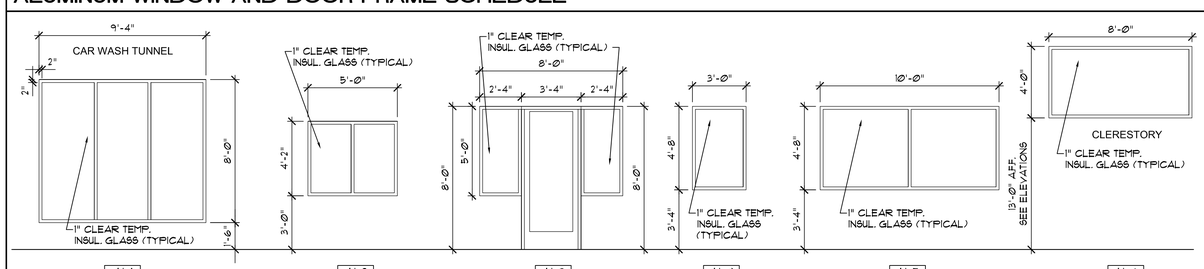
NOTE:
WATER RESISTANT GYPSUM BOARD AT ALL WET WALLS

DOOR NOTES

ALL INTERIOR DOORS SHALL BE BLDG STANDARD DOORS AND FRAMES WITH SCHLAGE OR EQUAL ADA APPROVED BRUSHED CHROME LEVER HARDWARE. THE BOTTOM 10 INCHES OF ALL DOORS SHALL HAVE A SMOOTH UNINTERRUPTED SURFACE TO ALLOW THE DOOR TO BE OPENED BY A WHEELCHAIR FOOT REST WITHOUT CREATING A TRAP OR HAZARDOUS CONDITION. DOORS AND HARDWARE SHALL BE INSTALLED PER CODE. THE LEVEL AREA SHALL HAVE A LENGTH IN THE DIRECTION OF DOOR SWING OF AT LEAST 60". THE WIDTH OF THE LEVEL AREA ON THE SIDE TO WHICH THE DOOR SWINGS SHALL EXTEND 18" OF THE INTERIOR DOORS AND BE CAPABLE OF OPENING SO THAT THE CLEAR WIDTH OF THE EXIT IS NOT LESS THAN 32". HARDWARE TO BE OPERABLE BY A SINGLE EFFORT (LEVERS, PUSH-PULLS OR PANIC DEVICES)& NO GRASPING OR WRIST MOVEMENT OPERATION ALLOWED. MAXIMUM EFFORT TO OPERATE DOORS SHALL NOT EXCEED THE FOLLOWING:

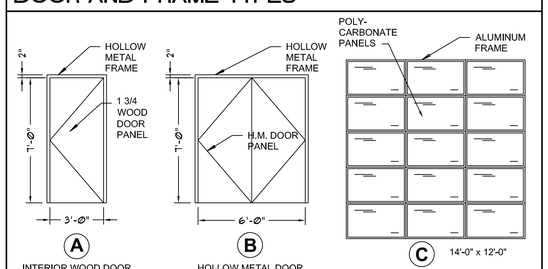
INTERIOR DOORS - 5 POUNDS

ALUMINUM WINDOW AND DOOR FRAME SCHEDULE



MARK LABEL	COUNT QUANTITY	DESCRIPTION	COMMENTS
AL1	10	1" INSULATED CLEAR TEMPERED GLASS WITH 2 1/2 x 4 1/2 CLEAR ANODIZED ALUMINUM SASH	Uo < =0.47, SHGC < = 0.70
AL2	1	1" INSULATED CLEAR TEMPERED GLASS WITH 2 1/2 x 4 1/2 CLEAR ANODIZED ALUMINUM SASH	Uo < =0.47, SHGC < = 0.70
AL3	2	1" INSULATED CLEAR TEMPERED GLASS WITH 2 1/2 x 4 1/2 CLEAR ANODIZED ALUMINUM SASH	Uo < =0.47, SHGC < = 0.70
AL4	1	1" INSULATED CLEAR TEMPERED GLASS WITH 2 1/2 x 4 1/2 CLEAR ANODIZED ALUMINUM SASH	Uo < =0.47, SHGC < = 0.70
AL5	1	1" INSULATED CLEAR TEMPERED GLASS WITH 2 1/2 x 4 1/2 CLEAR ANODIZED ALUMINUM SASH	Uo < =0.47, SHGC < = 0.70
AL6	12	1" INSULATED CLEAR TEMPERED GLASS WITH 2 1/2 x 4 1/2 CLEAR ANODIZED ALUMINUM SASH	Uo < =0.47, SHGC < = 0.70

DOOR AND FRAME TYPES



Revisions

1	7-16-2024	PLAN REVIEW COMMENTS

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Seal



Project Code
CCW-2201

Project Title
New Car Wash
for
COWBOY EXPRESS CARWASH
3601 SW Hollywood Drive
LEES SUMMIT, MISSOURI
64082

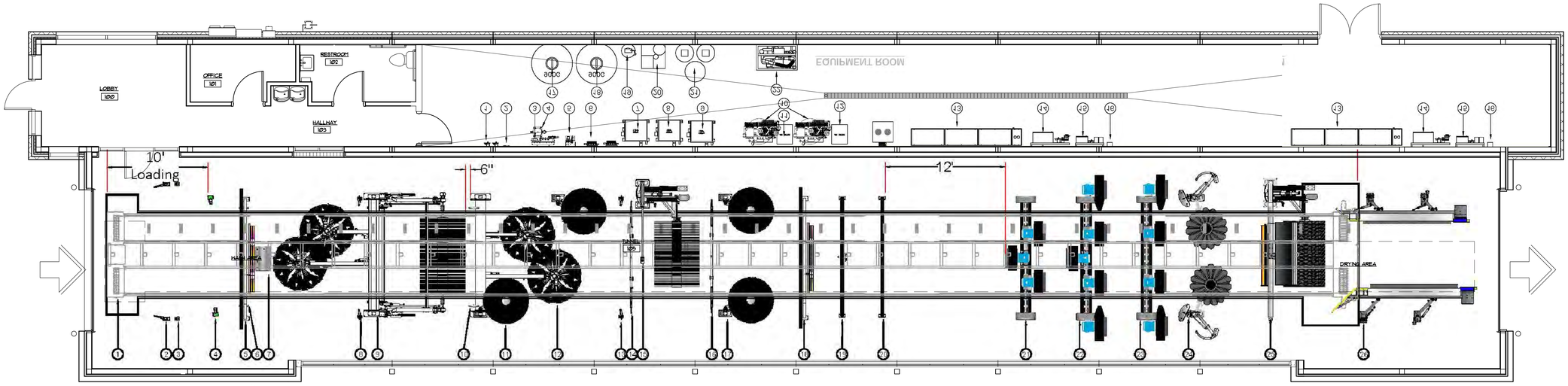
Drawing Title
Floor Plan, Schedules and Notes

Date	Drawn	Checked
Ø81-21-24	DB/mm	MM/MA

Drawing Number
A1

EQUIPMENT ROOM SCHEDULE

1 EQUIPMENT AIR PANELS (CONVEYOR, WRAP, TIRE BRUSH, TOP WHEEL, SIDE WHEELS)	2 MAIN AIR MANIFOLD (1 OF 2)	3 ACCUSHOT DILUTION SYSTEM	4 GRUNDFOS PUMP (40GPM 7.5HP)
5 SINGLE NON-FOAM DILUTION STATION (HYDROMINDER FOR BUG PREP)	6 (2) 4PORT NON-FOAM DILUTION STATION	7 SINGLE HIGH PRESSURE PUMP STATION (7.2HP 9GPM FOR PREP GUNS) (WHP PREP TIMER BUTTON BOX)	8 SINGLE HIGH PRESSURE PUMP STATION (15HP 18GPM FOR WHEEL BLASTER)
9 SINGLE HIGH PRESSURE PUMP STATION (15HP 18GPM FOR AXIS SIDE BLASTER)	10 (2) AIR COMPRESSOR (10HP, 35CFM)	11 AIR DRYER (35CFM)	12 AIR DRYER (60CFM)
13 GEN 2 PANEL - CRUZCONTROL (150HP / 239A / 208/3LA/460V)	14 DRY-N-SHINE CONTROL PANEL (ELECTRICAL / AIR / DILUTION STN ON DIAMOND PLATE BOARD)	15 SPIN SHINE CONTROL PANEL	16 ANTI-COLLISION CONTROL BOX
17 WATER STORAGE TANK (VT0600-46 9000GL 46" X 132" VERTICAL) (FOR RO "SPOT FREE")	18 WATER STORAGE TANK (VT0396-46 9600GL 46" X 132" VERTICAL) (FOR REJECT)	19 R/O REJECT CAPTURE PUMP (3HP)	20 R/O UNIT (NPRO12000 12,000GPD RO 2HP/3PH) (WITH 20GPM SFR REPRESS PUMP 3HP/3PH)
21 WATER SOFTENER (NP-CAT360-20WS 600,000 GR. 14GPM 2" DUAL TANK)	22 SOBRITE - RECLAIM UNIT (YERSO100-3)		



A EQUIPMENT PLAN
DISPLAYING 3/16" = 1'-0"

FOR REFERENCE ONLY.
REFER TO SITE SPECIFIC EQUIPMENT
MOTOR CITY WASH WORKS, INC.
48285 FRANK STREET, WIXOM, MI 48393 -
WWW.MOTORCITYWASHWORKS.COM

CARWASH TUNNEL EQUIPMENT SCHEDULE

1 125' MINDA BELT CONVEYOR	2 HIGH PRESSURE PREP GUNS	3 MANUAL BUG PREP GUNS	4 ENTRANCE PHOTO EYES
5 GRAND ENTRY ARCH (WITH FOAM WALL / LED / SINGLE FOAM ELBOW)	6 COLOR SKIN WTA	7 BUG PREP FLOOR MANIFOLD	8 HIGH PRESSURE WHEEL BLASTERS (18GPM PIVOTING)
9 ELECTRIC WRAP/TOP WHEEL MODULE (ENTRANCE WRAPS)	10 COLOR SKIN WTA	11 MOTOR CITY LOW RIDER ELECTRIC	12 EXIT WRAPS ELECTRIC
13 HIGH PRESSURE AXIS SIDE BLASTERS (18GPM PIVOTING)	14 CEILING MOUNTED RAIN BAR	15 ACCELERATOR TOP WHEEL (DRIVER SIDE WITH TRUCK SENSOR PACKAGE "SONAR")	16 CEILING MOUNTED FOAMIMG RAIN BAR
17 MOTOR CITY HIGH BOY ELECTRIC	18 GRAND ENTRY ARCH	19 COLOR SKIN ARCH (TRIPLE MANIFOLD W/2V-HNOZZLE)	20 COLOR SKIN ARCH (SINGLE V-NOZZLE RINSEWAX)
21 30HP AIR ONE DRYER SYSTEM (WITH ENERGY GATES)	22 50HP AIR ONE DRYER SYSTEM (WITH ENERGY GATES)	23 40HP AIR ONE DRYER SYSTEM (WITH ENERGY GATES)	24 DRY-N-SHINE SIDE WHEELS
25 DRY-N-SHINE TOP WHEEL (DRIVER SIDE)	26 SPIN SHINE ELECTRIC		

Revisions

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Seal



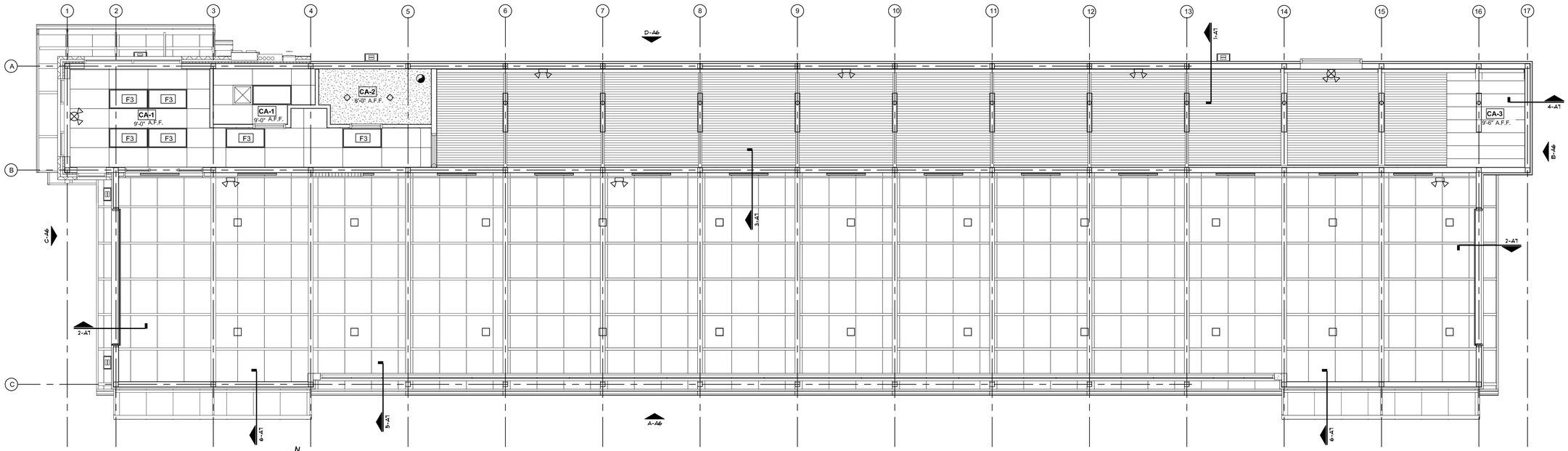
Project Code
CCW-2201

Project Title
New Car Wash for COWBOY EXPRESS CARWASH
3601 SW Hollywood Drive
LEE SUMMIT, MISSOURI
64082

Drawing Title
Equipment Plan, Schedules and Notes

Date	Drawn	Checked
01-21-24	DB/mm	MM/MA

Drawing Number
A2



A REFLECTED CEILING PLAN

DIEFFALINE

1/4" = 1'-0"

N W E S

CEILING / ELECTRICAL LEGEND

	COMBINATION EXIT AND EMERGENCY LIGHT
	EMERGENCY LIGHT
	CAN LIGHTS
1 - 1	CEILING HEIGHT
	NEW 2 x 4 ACOUSTICAL LAY-IN-CLG. BOARD AND TRACK
	2'x4' LED LIGHTING
	DIFFUSER
	RETURN AIR
	EXHAUST FAN
	TROFFER 2x2
	TROFFER 2x4
	LINEAR LIGHT FIXTURE
	EXTERIOR WALL SCONCE
	EXTERIOR SURFACE MOUNTED LIGHTING FIXTURE

	ACOUSTICAL CEILING TILE
	EXPOSED METAL DECK
	GYPSUM BOARD CEILING
	PVC CEILING
	POLYCARBONATE CEILING
	EXPOSED STEEL STRUCTURE

NOTE: PROVIDE NEW SUSPENDED CEILING GRID AND NEW CEILING PANELS THROUGHOUT AREA AS INDICATED.

CEILING PANELS SHALL BE 2'X4' SMOOTH FACED WHITE WITH WHITE 9/16" METAL GRID.

COORDINATE ALL FINISHED CEILING HEIGHTS.

ALL HVAC WORK TO BE VERIFIED AND COORDINATED WITH G.C..

COORDINATE SWITCHING OF ELECTRICAL COMPONENTS WITH ELECTRICAL PLANS

CONTRACTOR TO COORDINATE ALL PHONE JACK AND INTERNET COMMUNICATION LOCATIONS.

FIXTURE KEY LEGEND

F1	8'-0" LED STRIP-LIGHT	F5	COLOR CHANGING LED LIGHT STRIP
F2	LED WALL PACK	F6	WHITE UTILITY LIGHT MOUNTED ABOVE WINDOW
F3	RECESSED 2X4 LED TROFFER	F7	4'-0" LED STRIP-LIGHT
F4	6" RECESSED LED CAN LIGHT		

SEISMIC NOTES

1. SUSPENDED CEILINGS GREATER THAN 144 SQUARE FEET IN AREA SHALL BE BRACED IN ACCORDANCE WITH THE FOLLOWING CRITERIA:

A. A HEAVY DUTY T-BAR GRID SYSTEM SHALL BE USED.

B. THE WIDTH OF THE PERIMETER SUPPORTING CLOSURE ANGLE SHALL BE NOT LESS THAN 2". IN EACH ORTHOGONAL HORIZONTAL DIRECTION, ONE END OF THE CEILING GRID SHALL BE ATTACHED TO THE CLOSURE ANGLE. THE OTHER END IN EACH HORIZONTAL DIRECTION SHALL HAVE A 3/4" CLEARANCE FROM THE WALL AND SHALL REST UPON AND BE FREE TO SLIDE ON THE 2" CLOSURE ANGLE. THE MAIN AND CROSS RUNNERS SHALL BE TIED TOGETHER TO PREVENT TWISTING.

C. PROVIDE NO. 12 GAUGE VERTICAL SUPPORT WIRES ON THE MAIN AND CROSS RUNNERS A MAXIMUM DISTANCE OF 8" FROM THE WALL. ADDITIONAL VERTICAL SUPPORT WIRES ARE NEEDED IN THE FOLLOWING LOCATIONS:

1) 4' ON CENTER SPACING ALONG THE MAIN RUNNER.

2) LIGHT FIXTURES MUST BE POSITIVELY ATTACHED TO THE CEILING GRID WITH AN ATTACHMENT CAPABLE OF CARRYING 100% OF THE WEIGHT OF THE LIGHT FIXTURE. LIGHT FIXTURES WEIGHING UP TO 56 POUNDS REQUIRE TWO VERTICAL SUPPORT WIRES. THESE WIRES MAY BE SLACK. LIGHT FIXTURES WEIGHING MORE THAN 56 POUNDS SHALL REQUIRE INDEPENDENT SUPPORT FROM THE SHELL BUILDING STRUCTURE ABOVE THE CEILING.

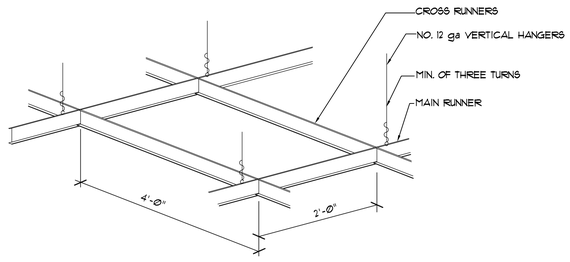
3) MECHANICAL AIR TERMINALS WEIGHING LESS THAN 20 POUNDS SHALL BE POSITIVELY ATTACHED TO THE CEILING GRID. AIR TERMINALS WEIGHING 20 POUNDS BUT NOT MORE THAN 56 POUNDS SHALL BE SECURED TO THE SHELL BUILDING STRUCTURE ABOVE THE CEILING IN ADDITION TO ATTACHING THE AIR TERMINAL TO THE CEILING GRID. THESE TWO NO. 12 GAUGE WIRES MAY BE SLACK. AIR TERMINALS WEIGHING MORE THAN 56 POUNDS SHALL REQUIRE INDEPENDENT SUPPORT FROM THE SHELL BUILDING STRUCTURE ABOVE THE CEILING.

D. SPRINKLER HEADS AND OTHER PENETRATIONS OF THE SUSPENDED CEILING SHALL HAVE A 2" OVERSIZE RING, SLEEVE, OR ADAPTER TO ALLOW 1" HORIZONTAL MOVEMENT IN ALL DIRECTIONS.

E. ALL WALL PARTITIONS GREATER THAN 6' IN HEIGHT SHALL BE INDEPENDENTLY BRACED TO THE BUILDING SHELL STRUCTURE. NALL PARTITIONS MAY NOT BE SUPPORTED BY THE BRACED SUSPENDED CEILING ALONE.

F. SUSPENDED CEILINGS EXCEEDING 1,000 SQUARE FEET IN AREA REQUIRE FOUR NO. 12 GAUGE SPLAY WIRES AND A RIGID VERTICAL COMPRESSION STRUT EVERY 12 FEET ON CENTER STARTING A MAXIMUM OF 6 FEET FROM EACH WALL. THE SPLAY WIRES SHALL BE SECURED TO THE MAIN RUNNER WITHIN 2 INCHES OF THE CROSS RUNNER INTERSECTION AND SPLAYED 90 DEGREES FROM EACH OTHER AT AN ANGLE NOT EXCEEDING 45 DEGREES FROM THE PLANE OF THE CEILING.

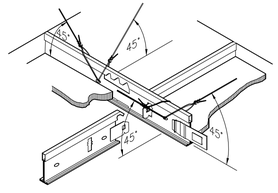
G. SUSPENDED CEILINGS EXCEEDING 2,500 SQUARE FEET SHALL HAVE A SEPARATION JOINT OR A FULL HEIGHT WALL PARTITION SEPARATING THE SUSPENDED CEILING INTO AREAS LESS THAN 2,500 SQUARE FEET.



1 SUSPENDED GRID DETAIL

GRIDDET.DWG

1/4" = 1'-0"



2 SUSPENSION SYSTEM DETAIL

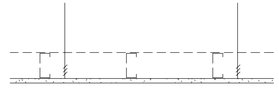
SDS-CLG.DWG

not to scale



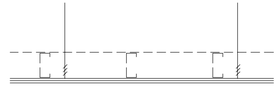
ACOUSTICAL CEILING PANEL; SEE REFLECTED CEILING PLAN

CA-1



5/8" GWB CEILING; 3 5/8" OR 6" METAL STUD FRAMING AT 16"o.c. OR SUSPENDED AS SPECIFIED

CA-2



1/2" PVC CEILING; 3 5/8" OR 6" METAL STUD FRAMING AT 16"o.c. OR SUSPENDED AS SPECIFIED

CA-3



16mm POLYCARBONATE CEILING

CA-4

CEILING TYPES

Revisions

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Seal



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CCW-2201

Project Title

New Car Wash for COWBOY EXPRESS CARWASH

3601 SW Hollywood Drive
LEE SUMMIT, MISSOURI
64082

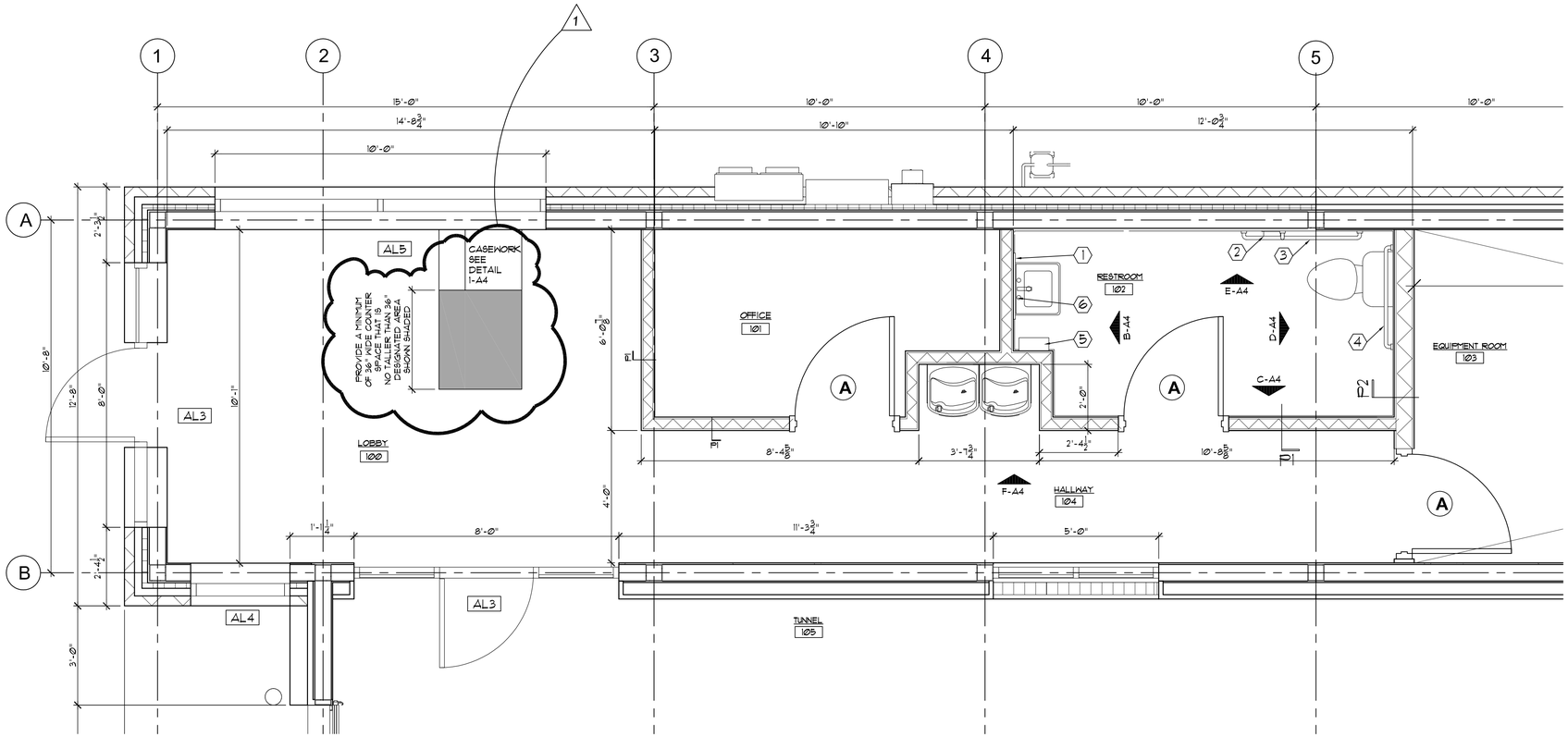
Drawing Title

Reflected Ceiling Plan, Details, Notes and Schedule

Date	Drawn	Checked
01-21-24	DB/mm	MM/MA

Drawing Number

A3



A ENLARGED BATHROOM PLANS

1/2" = 1'-0"

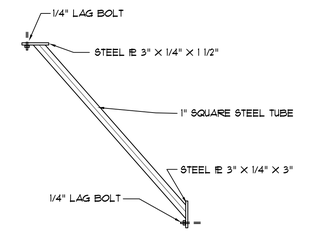
TOILET ROOM INTERIOR ELEVATIONS

3/8" = 1'-0"

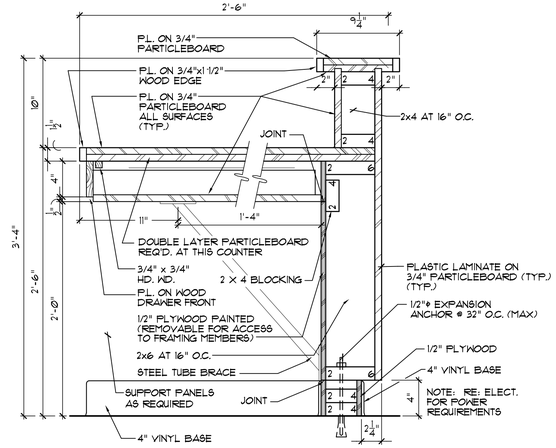
TOILET ACCESSORY SCHEDULE				
ITEM #	MFG.	MODEL NUMBER	ITEM DESCRIPTION	MOUNTING HGT. (A.F.F.)
1	BOBRICK	B-155	SOAP DISPENSER	MOUNT TOP AT 50 1/2" A.F.F.
2	BOBRICK	B2740	TOILET PAPER DISPENSER	30" TO ℄
3	GAMCO	1508x42	42" GRAB BAR	35" ℄ BAR
4	GAMCO	1508x36	36" GRAB BAR	35" ℄ BAR
5	BOBRICK	B-253	PAPER TOWEL DISPENSER	48" TO PULL
6	GAMCO	A-24x36	24" x 36" ANGLE FRAMED MIRROR	BOTTOM AT 40" AFF.

NOTES:

1. TOILET FIXTURES AND ACCESSORIES SHALL BE INSTALLED IN COMPLIANCE WITH ADA ACCESSIBILITY GUIDELINES FOR BUILDINGS AND FACILITIES.
2. GRAB BARS SHALL BE 1 1/2" DIA. WITH 1 1/2" CLEARANCE BETWEEN ADJACENT WALL OR PARTITION.
3. GRAB BARS FASTENERS AND MOUNTING SUPPORTS SHALL WITHSTAND MINIMUM 250 Lb. POINT LOAD IN BENDING, SHEAR AND TORSION.
4. GRAB BARS SHALL NOT ROTATE WITHIN THEIR FITTINGS.
5. VERIFY EXACT QUANTITIES REQUIRED WITH PLANS AND ELEVATIONS.
6. TOILETS AND TOILET ACCESSORIES SHALL COMPLY WITH UNIFORM FEDERAL ACCESSIBILITY STANDARDS.
7. TOILETS AND TOILET ACCESSORIES SHALL COMPLY WITH UNIFORM FEDERAL ACCESSIBILITY STANDARDS.
8. FIELD VERIFY DIMENSIONS, FIXTURES SHALL BE CENTERED IN STALLS UNLESS OTHERWISE NOTED.
9. PROVIDE SOLID WOOD BLOCKING BEHIND ALL TOILET ACCESSORIES.



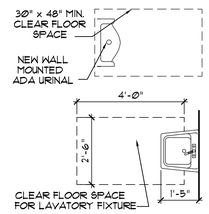
STEEL TUBE BRACE DETAIL



1 SECTION AT COUNTER

2-#3.dwg

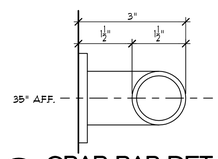
1 1/2" = 1'-0"



2 ADA CLEARANCES

TOILETELV.DWG

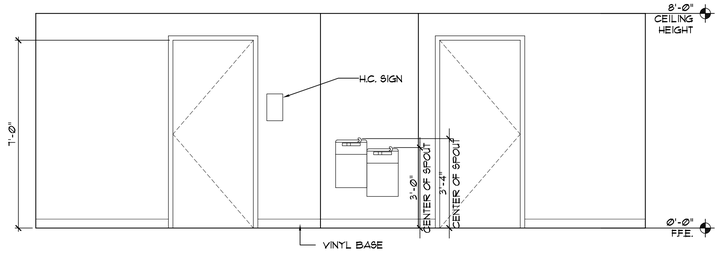
3/8" = 1'-0"



3 GRAB BAR DETAIL

GRABDET.DWG

3" = 1'-0"



F WATER FOUNTAIN ELEVATION - CORRIDOR 104

TOILETELV.DWG

3/8" = 1'-0"

Revisions

1 — 7-16-2024 — PLAN REVIEW COMMENTS

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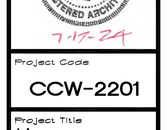
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Seal



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CCW-2201

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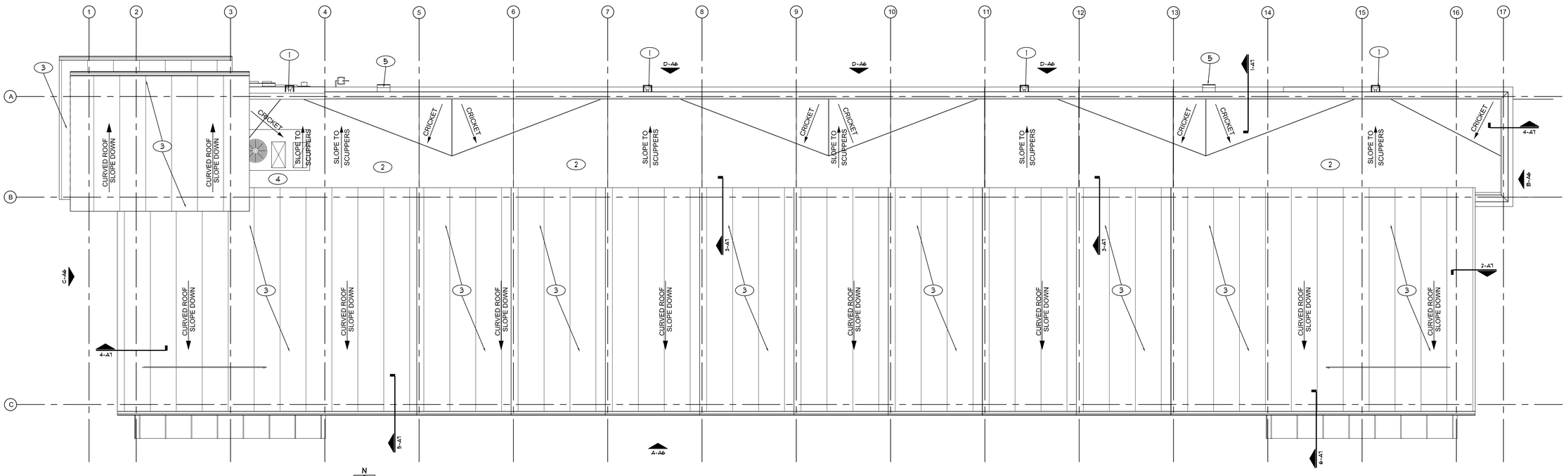
Drawing Title

Enlarged Plan, Interior Elevations, Details, Sections and Millwork

Date	Drawn	Checked
©81-21-24	DB/mm	MM/MA

Drawing Number

A4



A ROOF PLAN

3/16" = 1'-0"

N
W
E
S

KEYED ROOF NOTES

1. THROUGH WALL SCUPPER WITH SEMI-ENCLOSED DOWNSPOUTS DOWN TO 6" ABOVE GRADE. PROVIDE SPLASH BLOCK AT EACH LOCATION. PREFINISHED TO OWNER SELECTED COLOR
2. CONTINUOUS TPO MEMBRANE ROOFING.
3. 32MM CURVED TRANSPARENT POLYCARBONATE ROOF PANELS OVER STEEL FRAMING, R-1
4. MECHANICAL ROOF TOP UNIT, BY OTHERS
5. EXTERIOR WALL PACK WITH 90 DEGREE CUTOFF, RE: ELECTRICAL.

Revisions

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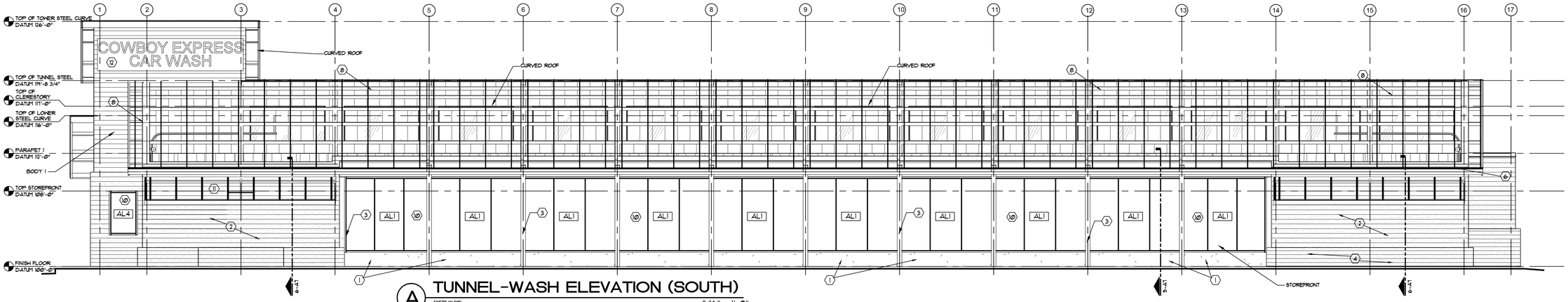
Drawing Title

Roof Plan, Details and Building Sections

Date	Drawn	Checked
01-21-24	DB/mm	MM/MA

Drawing Number

A5

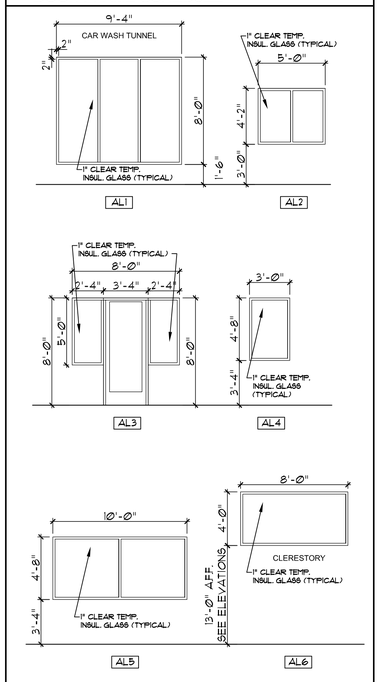


A TUNNEL-WASH ELEVATION (SOUTH)

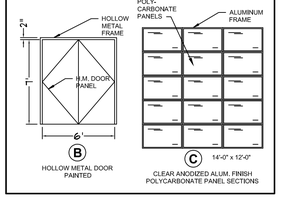
EXISTPLAN.DWG

3/16" = 1'-0"

ALUMINUM WINDOW AND DOOR FRAME SCHEDULE



DOOR AND FRAME TYPES



DOOR NOTES

ALL INTERIOR DOORS SHALL BE BLDG STANDARD DOORS AND FRAMES WITH SCHLAGE OR EQUAL ADA APPROVED BRUSHED CHROME LEVER HARDWARE. THE BOTTOM 10 INCHES OF ALL DOORS SHALL HAVE A SMOOTH UNINTERRUPTED SURFACE TO ALLOW THE DOOR TO BE OPENED BY A WHEELCHAIR FOOT REST WITHOUT CREATING A TRAP OR HAZARDOUS CONDITION. DOORS AND HARDWARE SHALL BE INSTALLED PER CODE. THE LEVEL AREA SHALL HAVE A LENGTH IN THE DIRECTION OF DOOR SWING OF AT LEAST 60". THE WIDTH OF THE LEVEL AREA ON THE SIDE TO WHICH THE DOOR SWINGS SHALL EXTEND 18" OF THE INTERIOR DOORS AND BE CAPABLE OF OPENING SO THAT THE CLEAR WIDTH OF THE EXIT IS NOT LESS THAN 32". HARDWARE TO BE OPERABLE BY A SINGLE EFFORT (LEVERS, PUSH-PULLS OR PANIC DEVICES)/I NO GRASPING OR WRIST MOVEMENT OPERATION ALLOWED. MAXIMUM EFFORT TO OPERATE DOORS SHALL NOT EXCEED THE FOLLOWING:

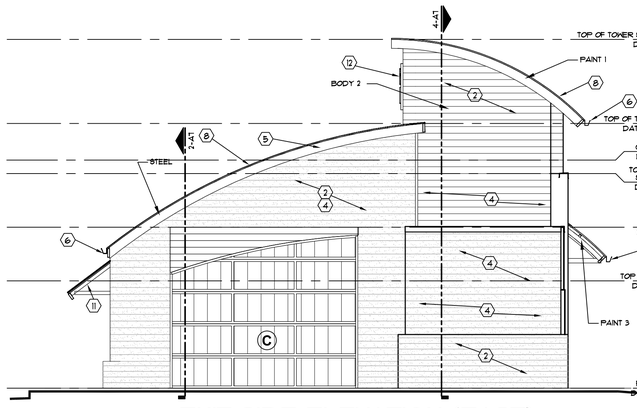
INTERIOR DOORS - 5 POUNDS

EXTERIOR FINISH SCHEDULE

REF.	DESCRIPTION	MANUFACTURER	MODEL / COLOR	REMARKS
PAINT				
PT-1	PAINT	RAL	TRAFFIC BLUE #5017	EXPOSED STEEL STRUCTURE,TRIM, GUTTERS, & BOLLARDS
PT-2	PAINT	RAL	TRAFFIC BLUE #5017	EXPOSED STEEL AT WINDOWS AND GARAGE DOORS
PT-3	PAINT	SHERWIN WILLIAMS	SW-7075, WEB GREY	EXTERIOR DOORS, FRAMES, AND DOWNSPOUTS
ROOFING				
R-1	POLYCARBONATE ROOF	POLYGAL	GALINA 626 20MM, ICE	CURVED ROOF, PC-1
R-1	TPO ROOF	FIRESTONE	80 MIL, MECH ATTACHED	FLAT ROOF AND CRICKETS
WALL				
MP-1	METAL PANEL	WESTERN STATES METAL ROOFING	T-8 PLANKWALL, DISTRESSED WOOD	COLOR AS SELECTED BY OWNER
PC-1	ALUMINUM / POLYCARBONATE	TBD	ROLL-UP SECTIONAL DOOR	COLOR AS SELECTED BY OWNER
PC-2	CLERESTORY WINDOWS	POLYGAL	SEPLUX T&G 20MM, CLEAR	CLERESTORY
CF-1	CONCRETE COATING	TBD	CONCRETE FOUNDATION	COLOR AS SELECTED BY OWNER
MISC				
SF-1	STOREFRONT ASSEMBLY	KAWNEER	451T - CLEAR ANODIZED ALUM	W/ CLEAR INSULATED GLASS

ELEVATION KEYED NOTES

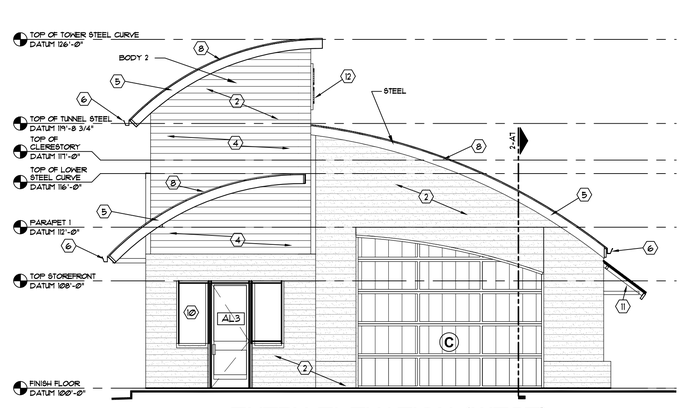
1. CONCRETE FOOTING, RE:STRUCTURAL.
2. STUCCO SURFACE AT EXTERIOR WALL- 6" METAL STUDS AT 16" O.C. WITH R-13 INSULATION AND FINISHED BUILDING - COORDINATE TEXTURE AND COLOR WITH OWNER.
3. EXPOSED STEEL TUBE COLUMN RE STRUCTURAL FOR SIZE. COORDINATE COLOR WITH OWNER
4. HORIZONTAL METAL WALL PANELS -COORDINATE COLOR WITH OWNER
5. PRE-FINISHED BREAK METAL FASCIA, WRAPS AROUND STEEL TUBE STRUCTURE. - COORDINATE COLOR WITH OWNER
6. PRE-FINISHED METAL GUTTERS, WITH PRE-FINISHED METAL DOWNSPOUTS - COORDINATE CONNECTING TO STORM SEWER
7. THROUGH WALL SCUPPER WITH SEMI-ENCLOSED METAL DOWNSPOUTS - COORDINATE CONNECTING TO STORM SEWER
8. 26MM CURVED TRANSPARENT POLYCARBONATE ROOF PANELS OVER STEEL FRAMING, R-1
9. HM INSULATED EXTERIOR DOOR, COORDINATE PAINT COLOR WITH OWNER
10. EXTERIOR ALUMINUM STOREFRONT WINDOW SYSTEM WITH 1" CLEAR INSULATED GLASS,
11. AWNING - CANOPY FEATURE - REFER TO S4-4 COORDINATE COLOR AND STYLE WITH OWNER
12. SIGNAGE BY OTHER - COORDINATE ANY SPECIAL MOUNTING REQUIREMENTS.



B EXIT SIDE ELEVATION (EAST)

EXISTPLAN.DWG

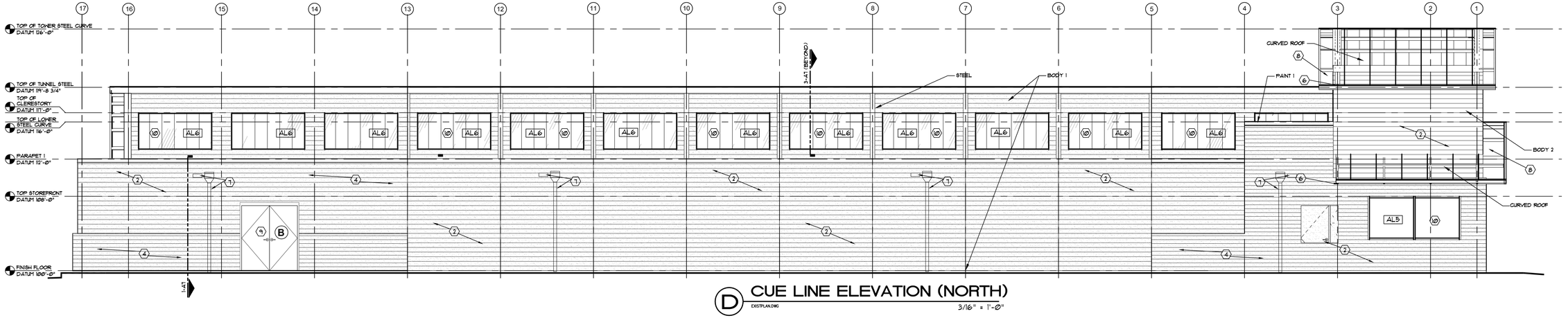
3/16" = 1'-0"



C ENTRY ELEVATION (WEST)

EXISTPLAN.DWG

3/16" = 1'-0"



D CUE LINE ELEVATION (NORTH)

EXISTPLAN.DWG

3/16" = 1'-0"

Revisions

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ADAMS ARCHITECTURAL ASSOCIATES, P.C.
MISSOURI STATE CERTIFICATE OF AUTHORITY # 2009708

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Seal



Project Code

CCW-2201

Project Title

New Car Wash for COWBOY EXPRESS CARWASH

3601 SW Hollywood Drive
LEE SUMMIT, MISSOURI
64082

Drawing Title

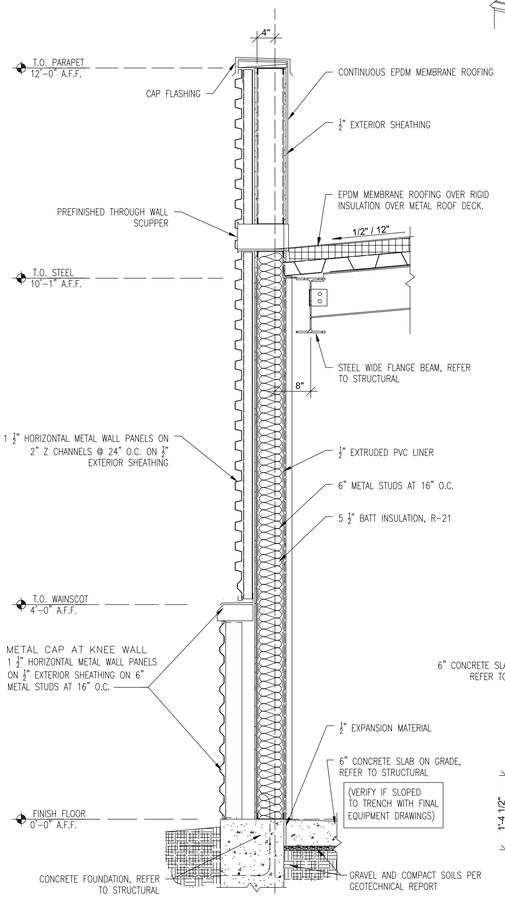
Exterior Elevations, Schedules and Notes

Date	Drawn	Checked
01-21-24	DB/mm	MM/MA

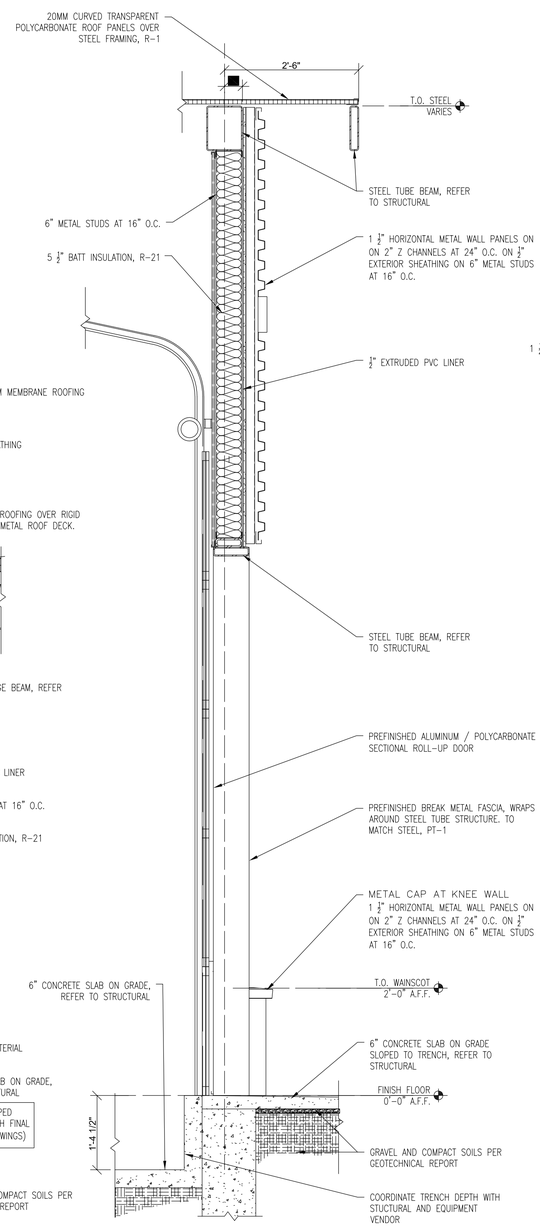
Drawing Number

A6

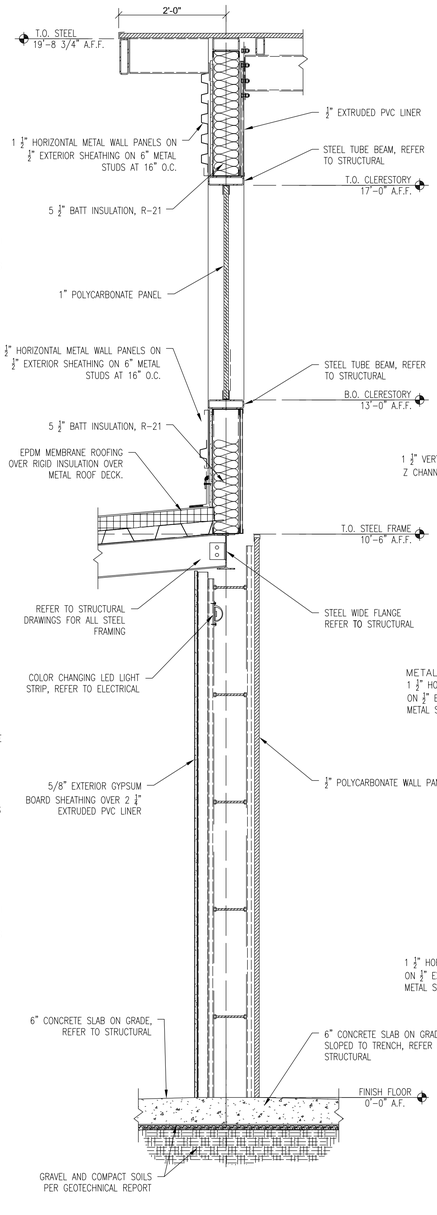
REFER TO EXTERIOR ELEVATIONS FOR LOCATION OF STUCCO PANEL SURFACES



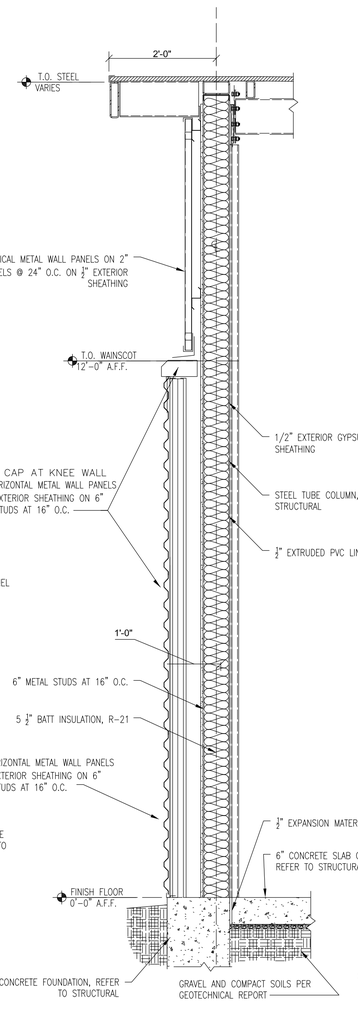
1 WALL SECTION
TTTTTTT.DWG 3/4" = 1'-0"



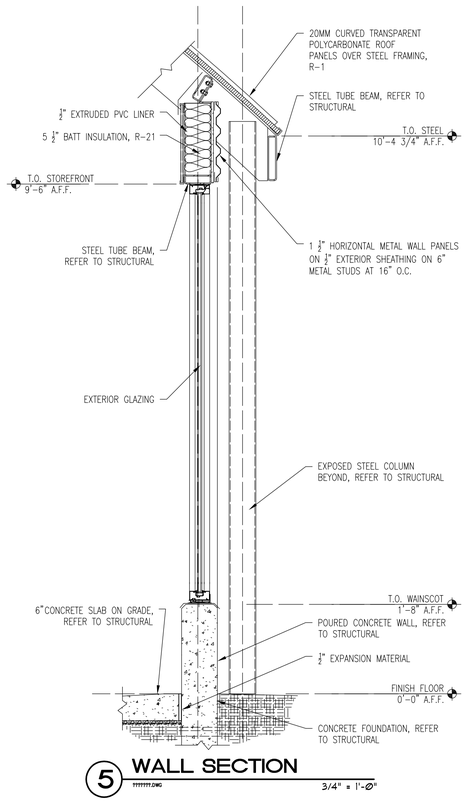
2 WALL SECTION
TTTTTTT.DWG 3/4" = 1'-0"



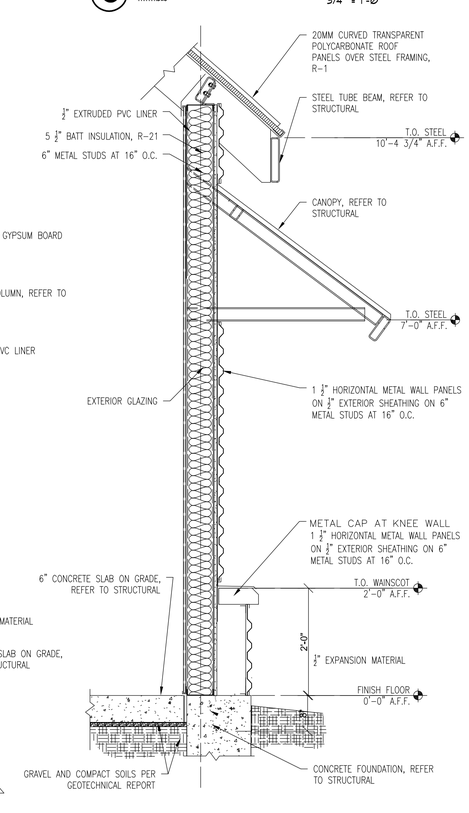
3 WALL SECTION
TTTTTTT.DWG 3/4" = 1'-0"



4 WALL SECTION
TTTTTTT.DWG 3/4" = 1'-0"



5 WALL SECTION
TTTTTTT.DWG 3/4" = 1'-0"



6 WALL SECTION
TTTTTTT.DWG 3/4" = 1'-0"

Revisions

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Seal



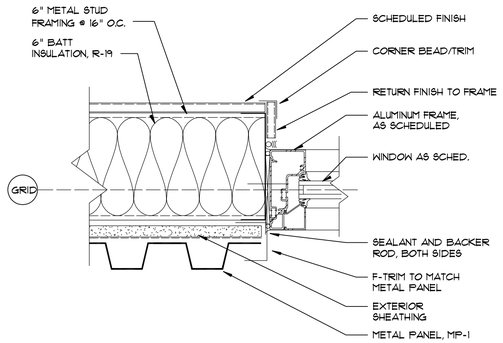
Project Code
CCW-2201

Project Title
New Car Wash
for
COWBOY EXPRESS CARWASH
3601 SW Hollywood Drive
LEE SUMMIT, MISSOURI
64082

Drawing Title
Wall Sections

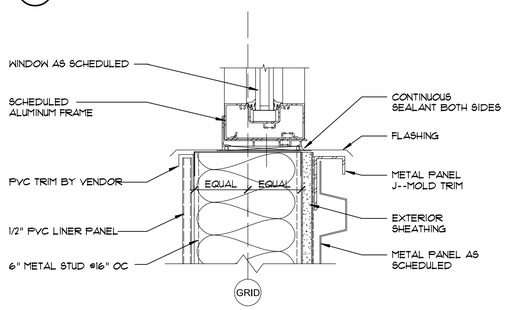
Date	Drawn	Checked
01-21-24	DB/mm	MM/MA

Drawing Number
A7



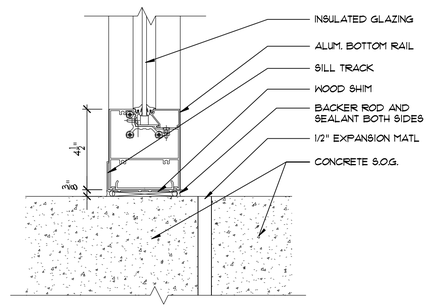
1 SECTION AT STOREFRONT JAMB AT METAL PANEL WITH PVC

vdsect.dwg — 3" = 1'-0"



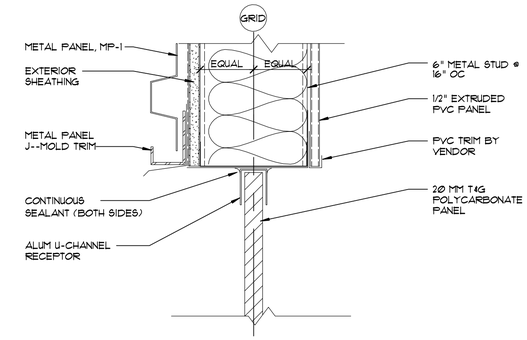
2 SECTION AT STOREFRONT SILL AT METAL PANEL WITH PVC

vdsect.dwg — 3" = 1'-0"



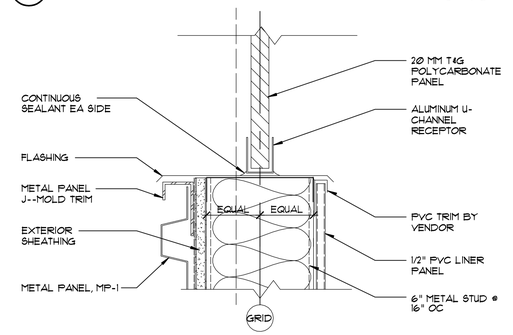
3 SECTION AT STOREFRONT SILL AT CONCRETE SLAB

vdsect.dwg — 3" = 1'-0"



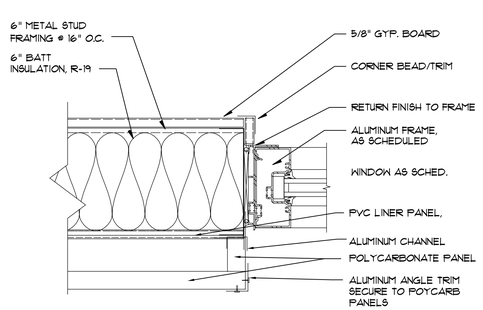
4 SECTION AT CLERESTORY WINDOW HEAD

vdsect.dwg — 3" = 1'-0"



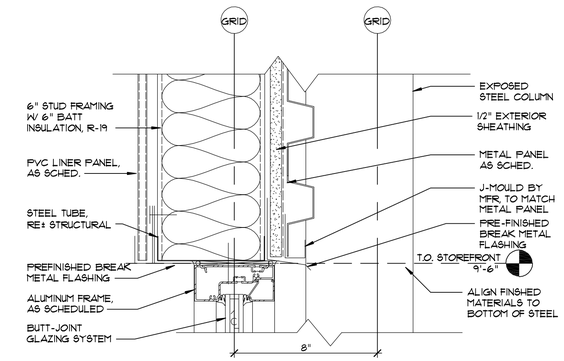
5 SECTION AT CLERESTORY WINDOW SILL

vdsect.dwg — 3" = 1'-0"



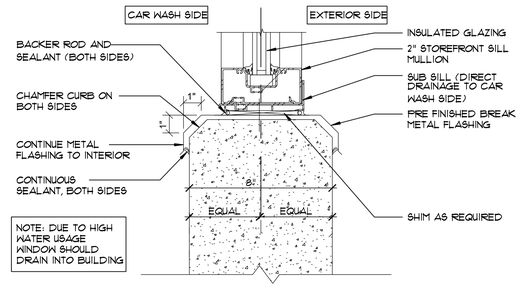
6 SECTION AT STOREFRONT JAMB AT POLYCARBONATE PANEL

vdsect.dwg — 3" = 1'-0"



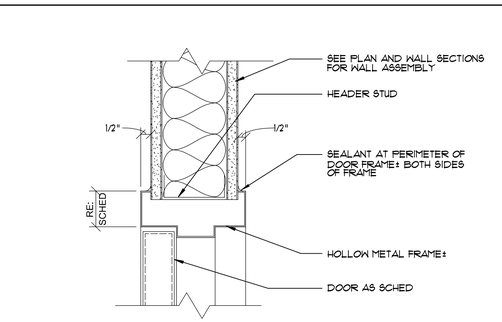
7 SECTION AT TUNNEL WINDOW HEAD

vdsect.dwg — 3" = 1'-0"



8 SECTION AT TUNNEL WINDOW SILL

vdsect.dwg — 3" = 1'-0"

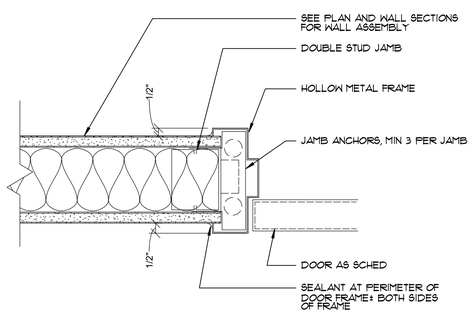


9 SECTION AT EXTERIOR DOOR AT METAL PANEL

vdsect.dwg — 3" = 1'-0"

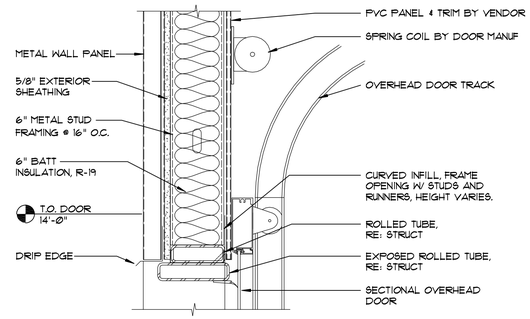
10 SECTION AT HEAD - INTERIOR DOOR

vdsect.dwg — 3" = 1'-0"



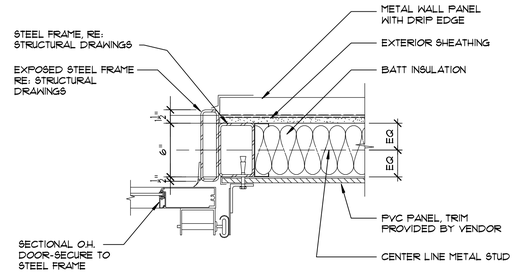
11 SECTION AT JAMB - INTERIOR DOOR

vdsect.dwg — 3" = 1'-0"



12 DETAIL AT OVER HEAD DOOR HEAD

CONCDET.DWG — 1 1/2" = 1'-0"



13 DETAIL AT OVER HEAD DOOR JAMB

CONCDET.DWG — 1 1/2" = 1'-0"

REFER TO EXTERIOR ELEVATIONS FOR LOCATION OF STUCCO PANEL SURFACES

Revisions

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Seal



Project Code

CCW-2201

Project Title

New Car Wash for COWBOY EXPRESS CARWASH

3601 SW Hollywood Drive
LEE SUMMIT, MISSOURI
64082

Drawing Title

Details, Sections and Notes

Date	Drawn	Checked
01-21-24	DB/mm	MM/MA

Drawing Number

A8

COWBOY CARWASH

3601 SW HOLLYWOOD DRIVE
LEE'S SUMMIT, MO 64082

FINAL DEVELOPMENT PLANS

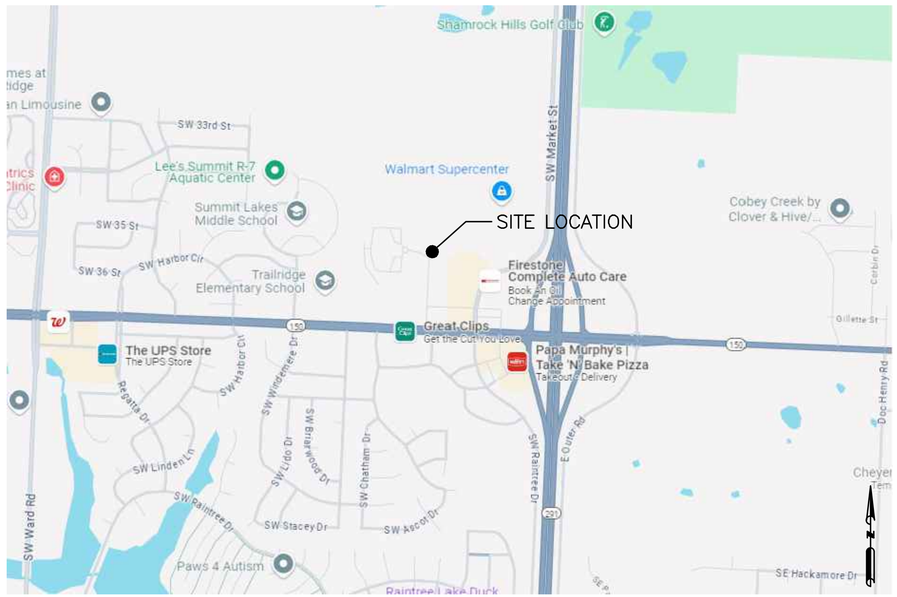
LEGEND:

		BENCH MARK
ETP		ELECTRIC TRANSFORMER PAD
FH		FIRE HYDRANT
MS		METAL SIGN
PP		POWER POLE
SSMH		SANITARY MANHOLE
STMH		STORM MANHOLE
TEP		TELEPHONE PEDESTAL
WV		WATER VALVE

BENCH MARK

BM#1 - ELEV=1028.13
A SQUARE CUT IN THE CENTER FRONT FACE OF A CURB INLET LOCATED AT THE NORTHWEST CORNER OF THE INTERSECTION OF SUMMITCREST DRIVE AND HOLLYWOOD DRIVE

BM#2 - ELEV=1018.09
A SQUARE CU IN THE CENTER FRONT FACE OF A CURB INLET LOCATED EAST OF THE EXISTING ENTRANCE OF 210 NW 150 HWY, BEING ALSO NORTHWEST OF THE NORTH ENTRANCE OF HAWKINS COMMERCIAL LOT 1, CURRENTLY ARBY'S



LOCATION MAP
NTS

SHEET INDEX	
C0-01	COVER SHEET
C1-01	SPECIFICATIONS
C1-02	SPECIFICATIONS
C2-01	SITE PLAN
C2-02	GRADING PLAN
C2-03	UTILITY PLAN
C2-04	S.W.P.P.P.
C2-05	SITE ZONING PLAN
C2-06	COMPREHENSIVE PLAN
C3-01	TYPICAL DETAILS
C3-02	TYPICAL DETAILS
C3-03	SEWER PROFILES
C3-04	NOT USED
C3-05	TYPICAL DETAILS
C3-06	TYPICAL DETAILS
C3-07	TYPICAL DETAILS
C4-01	DRAINAGE AREA MAP

MB Engineering, Inc.
606 Ryan Drive
Energy, IL 62933
(314) 368-3040

STATE OF MISSOURI
MICHAEL A BUESCHER
NUMBER E-2001018714
REGISTERED PROFESSIONAL ENGINEER
12/1/24

Michael A. Buescher, P.E. Civil Engineering
Missouri P.E. E-2001018714

MB Engineering, Inc. Missouri Authority No. E-2015041404

The Professional Engineer's seal affixed to this sheet indicates that the named Engineer has prepared or directed the preparation of the material shown only on this sheet. Other drawings and documents not exhibiting this seal shall not be considered prepared by or the responsibility of the undersigned.

PROJECT REVISION:

NO:	DATE:	DESCRIPTION:
1	11-21-22	FOR REVIEW
2	05-16-23	CITY COMMENTS
3	07-11-23	CITY COMMENTS
4	07-25-23	CITY COMMENTS
5	03-21-24	CITY COMMENTS
6	05-03-24	CITY COMMENTS
7	12-07-24	CITY COMMENTS

3601 SW Hollywood Dr.
Lee's Summit, MO 64082

DATE: 11-21-22
DRAFTED BY: KB
APPRVD. BY: MB

SHEET TITLE:
Cover Sheet

SHEET NUMBER:
C0-01

PROJECT NO: 22-752

SITE CLEARING

A. PROJECT CONDITIONS: Traffic: Conduct site-clearing operations to ensure minimum interference with roads, streets, walks, and other adjacent occupied or used facilities. Do not close or obstruct streets, walks, or other occupied or used facilities without permission from the governing City. Protection of Existing Improvements: Provide protections necessary to prevent damage to existing improvements indicated to remain in place. Protect improvements on adjoining properties and on Owner's property. Restore damaged improvements to their original condition, as acceptable to property owners. Dust Control: Contractor shall contain particulate debris generated by his work activities from polluting the atmosphere or waterways. Blasting will not be permitted.

B. EXISTING SERVICES: General: Indicated locations are approximate; determine exact locations before commencing Work. Arrange and pay for disconnecting, removing, capping, and plugging utility services. Notify affected utility companies in advance and obtain approval before starting this Work. Place markers to indicate location of disconnected services. Identify service lines and capping locations on Project Record Documents. Protect all existing utilities shown to remain and those not shown.

C. SITE CLEARING: General: Except as otherwise indicated on the plans, remove trees, shrubs, grass, and other vegetation, bollards, retaining walls, fences, other improvements, or obstructions, as required, to permit installation of new construction. Removal includes digging out and off-site disposal of stumps and roots. Cut minor roots of shrubs indicated to remain in a clean and careful manner where such roots and branches obstruct installation of new construction. Topsoil: Topsoil is defined as friable clay loam surface soil found in a depth of not less than 4 inches (100 mm). Satisfactory topsoil is reasonably free of subsoil, clay lumps, brush, weeds and other objects over 2 inches (50 mm) in diameter, and without roots, rocks, and other stones over 2 inches (50 mm) in diameter. Strip topsoil and remove from site the excess that will not be used for landscaping. Clearing and Grubbing: Clear site of trees, shrubs, and other vegetation, except for those indicated to be left standing. Completely remove stumps, roots, and other debris protruding through ground surface. Fill depressions caused by clearing and grubbing operations with satisfactory soil material, unless further excavation or earthwork is indicated. Place fill material in horizontal layers not exceeding 8 inches loose depth, and thoroughly compact each layer according to Section "EARTHWORK." All organic or other deleterious materials shall be removed from the project site prior to construction. Areas containing such material shall be over-excavated and reconstructed with engineered fill according to the requirements of Section "EARTHWORK." Removal of Improvements: Remove existing above-grade and below-grade improvements as indicated and as necessary to facilitate new construction. Removing abandoned underground piping or conduits interfering with construction is included under this Section. Remove sections of concrete pavement, concrete sidewalks, concrete aprons, or granite curb to the nearest joint when they are adjacent to those to remain.

D. DISPOSAL OF WASTE MATERIALS: Burning on Owner's Property: Burning is not permitted on Owner's property. Removal from Owner's Property: Remove waste materials from Owner's property and dispose of legally.

E. ENVIRONMENTAL PROTECTION: Prevent debris, soil erosion, pollutants and all other unacceptable material from entering the storm / sanitary sewer system. Prevent dust, smoke or other air borne material from polluting the atmosphere.

F. MONUMENT PROTECTION: Monuments, benchmarks and other reference features bounding this project shall be protected. Should these be disturbed in any manner, the Contractor shall have them replaced as approved by the Owner with no additional cost to the Owner.

EARTHWORK

A. DEFINITIONS: Excavation consists of the removal of material encountered to subgrade elevations and the reuse or disposal of materials removed. Subgrade: The uppermost surface of an excavation or the top surface of a fill or backfill immediately below subbase, drainage fill, or topsoil materials. Borrow: Soil material obtained off-site when sufficient approved soil material is not available from excavations. Subbase Course: The layer placed between the subgrade and base course in a paving system or the layer placed between the subgrade and surface of a pavement or walk. Base Course: The layer placed between the subbase and surface pavement in a paving system. Drainage Fill: Course of washed granular material supporting slab-on-grade placed to cut off upward capillary flow of pore water. Unauthorized excavation consists of removing materials beyond indicated subgrade elevations or dimensions without direction by the Engineer. Unauthorized excavation, as well as remedial work directed by the Engineer, shall be at the Contractor's expense. Structures: Buildings, footings, foundations, retaining walls, slabs, tanks, curbs, mechanical and electrical appurtenances, or other man-made stationary features constructed above or below ground surface. Utilities include on-site underground pipes, conduits, ducts, and cables, as well as underground services within building lines.

B. QUALITY ASSURANCE: Codes and Standards: Perform earthwork complying with requirements of the current IDOT Standard Specifications. Testing and Inspection Services: Coordinate timing and scheduling of all earthwork activity with Owner's geotechnical consultant who will perform soil testing and inspection service for quality control testing during earthwork operations. Preinstallation Conference: Before commencing earthwork, meet with representatives of the governing authorities, Owner, Engineer, Geotechnical Engineer, independent testing agency, and other concerned entities. Review earthwork procedures and responsibilities including testing and inspection procedures and requirements. Notify participants at least 3 working days prior to convening conference. Record discussions and agreements and furnish a copy to each participant.

C. PROJECT CONDITIONS: Existing Utilities: Do not interrupt existing utilities serving adjacent buildings except when permitted in writing by the Owner and Engineer and then only after acceptable temporary utility services have been provided. Provide a minimum 48-hours' notice to the Engineer and Owner, and receive written notice to proceed before interrupting any utility. Contact utility-locator service for area where Project is located before excavating.

D. SOIL MATERIALS: Provide approved borrow soil materials, free of contaminants, from off-site when sufficient soil materials on-site are not available from excavations. Satisfactory Soil Materials: ASTM D 2487 soil classification groups GW, GP, GM, SW, SP, and SM; free of rock or gravel larger than 2 inches in any dimension, debris, waste, frozen materials, vegetation and other deleterious matter. Unsatisfactory Soil Materials: ASTM D 2487 soil classification groups OC, SC, ML, MH, CL, CH, OL, OH, and PT. Subbase and Base Materials: Naturally or artificially graded mixture of natural or crushed gravel, crushed stone, and natural or crushed sand, ASTM D 2940, with at least 95 percent passing a 1-1/2 inch sieve and not more than 8 percent passing a No. 200 sieve. Bedding Material: Subbase or base materials with 100 percent passing a 1-inch sieve and not more than 8 percent passing a No. 200 sieve. Drainage Fill: Washed, evenly graded mixture of crushed stone, or crushed or uncrushed gravel, ASTM D 448, coarse aggregate grading size 57, with 100 percent passing a 1-1/2 inch sieve and not more than 5 percent passing a No. 8 sieve. Impervious Fill: Clayey gravel and sand mixture capable of compacting to a dense state. Engineered Fill: Naturally or artificially graded mixture of natural or crushed gravel, crushed stone, and natural or crushed sand; ASTM D 2940; with at least 90 percent passing a 1-1/2 inch (38-mm) sieve and not more than 12 percent passing a No. 200 (0.075-mm) sieve.

E. ACCESSORIES: Detectable Warning Tape: Acid- and alkali-resistant polyethylene film warning tape manufactured for marking and identifying underground utilities, 6-inches wide and 4 mils thick minimum, continuously inscribed with a description of the utility, with metallic core encased in a protective jacket for corrosion protection, detectable by metal detector when tape is buried up to 30-inches deep. Tape Colors: Provide tape colors to utilities as follows: Red: Electric. Yellow: Gas, oil, steam, and dangerous materials. Orange: Telephone and other communications. Blue: Water systems. Green: Sewer systems.

F. PREPARATION: Protect structures, utilities, sidewalks, pavements, and other facilities from damage caused by settlement, lateral movement, undermining, washout, and other hazards created by earthwork operations. Protect subgrades and foundation soils against freezing temperatures or frost. Provide protective insulating materials as necessary. Provide erosion control measures to prevent erosion or displacement of soils and discharge of soil-bearing water runoff or airborne dust to adjacent properties, walkways, and sewer systems.

G. DEWATERING: Prevent surface water and subsurface or ground water from entering excavations, from ponding on prepared subgrades, and from flooding Project site and surrounding area. Protect subgrades and foundation soils from softening and damage by rain or water accumulation.

H. EXCAVATION: Do not use explosives. Unclassified Excavation: Excavation to subgrade elevations regardless of the character of surface and subsurface conditions encountered, including rock, soil materials, and obstructions. If excavated materials intended for fill and backfill include unsatisfactory soil materials and rock, replace with satisfactory soil materials, at no additional cost to the Owner.

I. STABILITY OF EXCAVATIONS: Comply with local codes, ordinances, and requirements of authorities having jurisdiction to maintain stable excavations.

J. EXCAVATION FOR STRUCTURES: Excavate to indicated elevations and dimensions within a tolerance of plus or minus 0.1 feet. Extend excavations a sufficient distance from structures for placing and removing concrete formwork, installing services and other construction, and for inspections. Excavations for Footings and Foundations: Do not disturb bottom of excavation. Excavate by hand to final grade just before placing concrete reinforcement. Trim bottoms to required lines and grades to leave solid base to receive other work.

K. EXCAVATION FOR WALKS AND PAVEMENTS: Excavate surfaces under walks and pavements to indicated cross sections, elevations, and grades.

L. EXCAVATION FOR UTILITY TRENCHES: Excavate trenches to indicated slopes, lines, depths, and invert elevations. Beyond building perimeter, excavate trenches to allow installation of top of pipe below frost line. Excavate trenches to uniform widths to provide a working clearance on each side of pipe or conduit. Excavate trench walls vertically from trench bottom to 12 inches higher than top of pipe or conduit, unless otherwise indicated. Trench Bottoms: Excavate and shape trench bottoms to provide uniform bearing and support of pipes and conduit. Shape subgrade to provide continuous support for bells, joints, and barrels of pipes and for joints, fittings, and bodies of conduits. Remove stones and sharp objects to avoid point loading. For pipes or conduit less than 6 inches in nominal diameter and flat-bottomed, multiple-duct conduit units, hand-excavate trench bottoms and support pipe and conduit on an undisturbed subgrade. For pipes and conduit 6 inches or larger in nominal diameter, shape bottom of trench to support bottom 90 degrees of pipe circumference. Fill depressions with tamped sand backfill. Where encountering rock or another unyielding bearing surface, carry trench excavation 6 inches below invert elevation to receive bedding course.

M. APPROVAL OF SUBGRADE: Notify Engineer and Owner's Geotechnical consultant when excavations have reached required subgrade. When Owner's Geotechnical Engineer determines that unforeseen unsatisfactory soil beneath subgrade is present, continue excavation and replace with compacted backfill or fill material as directed. Unforeseen additional excavation and replacement material will be paid according to the Contract provisions for changes in Work. Proof roll subgrade with heavy pneumatic-tired equipment to identify soft pockets and areas of excess yielding. Do not proof roll wet or saturated subgrades. Reconstruct subgrades damaged by freezing temperatures, frost, rain, accumulated water, or construction activities, as directed by the Engineer.

N. UNAUTHORIZED EXCAVATION: Fill unauthorized excavation under footings by extending indicated bottom elevation of concrete foundation or footing to excavation bottom, without altering required top elevation. Lean concrete fill may be used to bring elevations to proper position when acceptable to the Engineer. Fill unauthorized excavations under other construction as directed by the Engineer. Where indicated widths of utility trenches are exceeded, provide stronger pipe, or special installation procedures, as required by the Engineer.

O. STORAGE OF SOIL MATERIALS: Stockpile excavated materials acceptable for backfill and fill soil materials, including acceptable borrow materials. Stockpile soil materials without intermixing. Place, grade, and shape stockpiles to drain surface water. Cover to prevent wind-blown dust. Stockpile soil materials away from edge of excavations.

P. BACKFILL: Backfill excavations promptly, but not before completing the following: Acceptance of construction below finish grade including, where applicable, dampproofing, waterproofing, and perimeter insulation. Surveying locations of underground utilities for record documents. Testing, inspecting, and approval of underground utilities. Concrete formwork removal. Removal of trash and debris from excavation.

Q. UTILITY TRENCH BACKFILL: Place and compact bedding course on rock and other unyielding bearing surfaces and to fill unauthorized excavations. Shape bedding course to provide continuous support for bells, joints, and barrels of pipes and for joints, fittings, and bodies of conduits. Concrete backfill trenches that carry below or pass under footings and that are excavated within 18 inches of footings. Place concrete to level of bottom of footings. Place and compact initial backfill of satisfactory soil material or subbase material, free of particles larger than 1 inch, to a height of 12 inches over the utility pipe or conduit. Backfill trenches beneath pavement with granular backfill to pavement base course. Carefully compact material under pipe haunches and bring backfill evenly up on both sides and along the full length of utility piping or conduit to avoid damage or displacement of utility system. Coordinate backfilling with utilities testing. Place and compact final backfill of satisfactory soil material to final subgrade. Install warning tape directly above utilities, 12 inches below finished grade, except 6 inches below subgrade under pavements and slabs.

R. FILL: Preparation: Remove vegetation, topsoil, debris, wet, and unsatisfactory soil materials, obstructions, and deleterious materials from ground surface prior to placing fills. Plow strip, or break up sloped surfaces steeper than 1 vertical to 4 horizontal so fill material will bond with existing surface. When subgrade or existing ground surface to receive fill has a density less than that required for fill, break up ground surface to depth required, pulverize, moisture-condition, or aerate soil and recompact to required density. Place fill material in layers to required elevations for each location listed below: Under grass, use satisfactory excavated or borrow soil material. Under walks and pavements, use subbase material, base material, satisfactory excavated material, or borrow soil material. Under steps and ramps, use subbase material. Under footings, use engineered fill.

S. MOISTURE CONTROL: Uniformly moisten or aerate subgrade and each subsequent fill or backfill layer before compaction to within 2 percent of optimum moisture content. Do not place backfill or fill material on surfaces that are muddy, frozen, or contain frost or ice. Remove and replace, or scarify and air-dry satisfactory soil material that is too wet to compact to specified density. Stockpile or spread and dry removed wet satisfactory soil material.

T. COMPACTION: Place backfill and fill materials in layers not more than 8 inches in loose depth for material compacted by heavy compaction equipment, and not more than 4 inches in loose depth for material compacted by hand-operated tampers. Place backfill and fill materials evenly on all sides of structures to required elevations. Place backfill and fill uniformly along the full length of each structure. Percentage of Maximum Dry Density Requirements: Compact soil to not less than the following percentages of maximum dry density according to ASTM D 1557: Under structures and pavements, compact the top 12 inches below subgrade and each layer of backfill or fill material at 95 percent maximum dry density. Under walkways, compact the top 6 inches below subgrade and each layer of backfill or fill material at 92 percent maximum dry density. Under lawn or unpaved areas, compact the top 6 inches below subgrade and each layer of backfill or fill material at 90 percent maximum dry density.

U. GRADING: Uniformly grade areas to a smooth surface, free from irregular surface changes. Comply with compaction requirements and grade to cross sections, lines, and elevations indicated. Provide a smooth transition between existing adjacent grades and new grades. Cut out soft spots, fill low spots, and trim high spots to conform to required surface tolerances. Site Grading: Slope grades to direct water away from buildings and to prevent ponding. Finish subgrades to required elevations within the following tolerances: Lawn or Unpaved Areas: Plus or minus 1.2 inches. Walks: Plus or minus 1.2 inches. Pavements: Plus or minus 1/2 inch.

V. FIELD QUALITY CONTROL: Testing Agency Services: Allow Owner's testing agency to inspect and test each subgrade and each fill or backfill layer. Do not proceed until test results for previously completed work verify compliance with requirements. Owner's testing agency may perform the following tests: Perform field in-place density tests according to ASTM D 1556 (sand cone method), ASTM D 2167 (rubber balloon method), or ASTM D 2937 (drive cylinder method), as applicable. Field in-place density tests may also be performed by the nuclear method according to ASTM D 2922, provided that calibration curves are periodically checked and adjusted to correlate to tests performed using ASTM D 1556. With each density calibration check, check the calibration curves furnished with the moisture gauges according to ASTM D 3017. When field in-place density tests are performed using nuclear methods, make calibration checks of both density and moisture gauges at beginning of work, on each different type of material encountered, and at intervals as directed by the Engineer. Footing Subgrade: At footing subgrades, perform at least one test of each soil stratum to verify design-bearing capacities. Subsequent verification and approval of other footing subgrades may be based on a visual comparison of each subgrade with related tested strata when acceptable to the Engineer. Paved Areas: At subgrade and at each compacted fill and backfill layer, perform at least one field in-place density test for every 2000 sq. ft. or less of paved area or building slab, but in no case fewer than three tests. Trench Backfill: In each compacted initial and final backfill layer, perform at least one field in-place density test for each 150 feet or less of trench, but no fewer than two tests. When testing agency reports that subgrades, fills, or backfills do not meet below specified density, scarify and moisten or aerate, or remove and replace soil to the depth required, recompact and retest until required density is obtained.

W. PROTECTION: Protecting Graded Areas: Protect newly graded areas from traffic, freezing, and erosion. Keep free of trash and debris. Repair and re-establish grades to specified tolerances where completed or partially completed surfaces become eroded, rutted, settled, or lose compaction due to subsequent construction operations or weather conditions. Scarify or remove and replace material to depth directed by the Engineer; reshape and recompact at optimum moisture content to the required density. Settling: Where settling occurs during the Project correction period, remove finished surfacing, backfill with additional approved material, compact, and reconstruct surfacing. Restore appearance, quality, and condition of finished surfacing to match adjacent work, and eliminate evidence of restoration to the greatest extent possible.

X. DISPOSAL OF SURPLUS AND WASTE MATERIALS Disposal: Remove surplus satisfactory soil and waste material, including unsatisfactory soil, trash, and debris, and legally dispose of it off Owner's property.

STORM AND SANITARY SEWERAGE

A. DEFINITIONS: PVC: Polyvinyl chloride plastic.

B. PERFORMANCE REQUIREMENTS: Gravity-Flow, Nonpressure-Piping Pressure Ratings equal to air system test pressure.

C. SUBMITTALS: Product Data: For the following: Pipe. Trench Drains. Shop Drawings: Include details and attachments for the following: Precast concrete manholes, including frames and covers.

D. DELIVERY, STORAGE, AND HANDLING: Do not store plastic pipe, and fittings in direct sunlight. Protect pipe, pipefittings, and seals from dirt and damage. Handle precast concrete manholes and other structures according to manufacturer's written rigging instructions.

E. PROJECT CONDITIONS: Site Information: Notify local utility location service and verify existing utility locations. Existing Utilities: Do not interrupt utilities serving facilities occupied by Owner or others unless permitted under the following conditions and then only after arranging to provide temporary utility services according to requirements indicated: Notify Owner not less than two days in advance of proposed utility interruptions. Do not proceed with utility interruptions without Owner's written permission.

F. MANUFACTURERS: Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following: Any manufacturer providing products that conform to these specifications and drawings.

G. PIPING MATERIALS: See drawings for piping materials and locations.

H. PIPES AND FITTINGS:
1. PVC Sewer Pipe and Fittings: According to the following: PVC Sewer Pipe and Fittings, PVC Sewer Pipe and Fittings, NPS 15 (DN375) and Smaller: ASTM D 3034, SDR 35, for solvent-cemented or gasketed joints. PVC Sewer Pipe and Fittings, NPS 18 (DN450) and Larger: ASTM F 679, T-1 wall thickness, bell and spigot for gasketed joints. Gaskets: ASTM F 477, elastomeric seals.
2. PVC Pressure Pipe: AWWA C900, Class 150, for gasketed joints. PVC Pressure Fittings: AWWA C907, for gasketed joints. Gaskets for PVC Piping: ASTM F 477, elastomeric seals.
3. Reinforced-Concrete Sewer Pipe and Fittings: ASTM C 76 (ASTM C 76M), Class III, Wall B, for gasketed joints. Gaskets: ASTM C 443 (ASTM C 443M), rubber.

A. SPECIAL PIPE COUPLINGS AND FITTINGS: See drawings for locations and type, if any.

B. MANHOLES: Heavy-Traffic Precast Concrete Manholes: ASTM C 913; designed according to ASTM C 890 for A-16, heavy-traffic, structural loading; of depth, shape, and dimensions indicated, with provision for rubber gasketed joints. Ballast: See drawings. Gaskets: Rubber. Grade Rings: See Drawings. Steps: See Drawings. Pipe Connectors: ASTM C 923, resilient, of size required, for each pipe connecting to base section. Cast-in-Place Concrete Manholes: Construct of reinforced-concrete bottom, walls, and top; designed according to ASTM C 890 for A-16, heavy-traffic, structural loading; of depth, shape, dimensions, and appurtenances indicated. Manhole Frames and Covers: In accordance with Governing Authorities requirements. Manhole Joint Sealing System: In accordance with Governing Authorities requirements.

C. EARTHWORK: Excavating, trenching, and backfilling are specified in "Earthwork".

D. IDENTIFICATION: Materials and their installation are specified in "Earthwork".

LAWN SEEDING

A. Provide all equipment, materials, and labor to prepare seed bed and plant seeded bed in new and existing disturbed lawn areas as shown on drawings.

B. Submittals: Seeding schedule: Submit seeding schedule before beginning of construction. Show coordination of normal planting times with construction schedule, and other related work.

C. The seasons for seeding of lawn areas shall be from March 1 to May 15 and August 15 to October 15. The actual seeding of lawns shall be done, however, only during periods within this season which are normal for such work as determined by weather conditions and by accepted practice in the locality of the project and which are approved by the Architect. Only upon written instructions by the Architect may planting begin earlier or continue later than the dates specified.

D. Dormant season seeding of slope areas is acceptable in areas designated by the Owner or Architect. Dormant season seeding to be done in conjunction with installation of erosion control blankets.

E. The preparation of lawn areas to be seeded may begin as soon as the area is designated by the Owner or Architect.

F. Commercial Fertilizer: shall meet the following requirements:
1. Shall be a complete fertilizer containing in available form by weight a minimum of 10% nitrogen, 10% phosphoric acid and 10% potash; a minimum of 50 of the nitrogen to be derived from natural organic material in a slow release form, and of a neutral character.
2. The fertilizer shall be delivered to the site in the original unopened containers which shall bear the manufacturer's guaranteed statement of analysis. Fertilizer shall be stored in a weatherproof place in such a manner that it shall be kept dry and its effectiveness will not be impaired.

G. Grass seed shall be fresh, clean, new-crop seed complying with tolerance for purity and germination established by Official Seed Analysts of North America. Provide seed mixture composed of grass species and proportions as specified. Mixture cannot contain more than .05% weed or crop seed, nor more than 3% inert matter. Seed must be furnished and delivered premixed in the proportions specified below.

H. Grass seed shall be composed of the following varieties which shall be mixed in the proportions and shall test at the minimum percentage of purity and germination specified:

1. Kentucky 31 Fescue mix (for use in non-irrigated turf areas)

Scientific Name and Common Name	Proportion By Weight	Purity	Germination
Festuca elator "Kentucky 31" Kentucky 31 Fescue	85%	98%	90%
Lolium perenne "Manhattan" Manhattan Ryegrass	10%	98%	90%
Poa pratensis Kentucky Bluegrass	5% V.N.S.	98%	85%

2. Weed seed content shall not exceed 0.25 of 1%.

I. Straw: Shall be threshed straw of hay, oats, wheat, barley, or rye, not chopped in short lengths.

J. Repair any eroded areas and make minor grading adjustments to provide good drainage and to meet all walks and paved surfaces.

K. Spread agricultural limestone over all areas to be seeded at the rate of 50 lbs. per 1000 s.f. (2178 lbs. per acre.) with an approved vehicular spreader.

L. Spread fertilizer over all areas to be seeded at the rate of 15 lbs. per 1000 s.f. (654 lbs. per acre) with an approved spreader. Do not apply fertilizer in dormant season seeding areas.

M. Disc and harrow or otherwise cultivate all areas thoroughly in at least two directions to thoroughly mix the above fertilizers into the soil to a depth of four (4) inches.

N. After cultivating, hard rake area to remove clods, rocks (over 1" in largest dimension), weeds roots and debris. Perform grading and shaping refinements to bring surface to true uniform planes free from irregularities and to provide drainage and proper slope to catch basins.

O. With topsoil in semi-dry condition, roll lawn planting areas in two directions at approximately right angles with water ballast roller weighing 100 to 300 lbs. according to soil type.

P. Sow grass seed by mechanical spreaders of approved type, doing the work in two operations at right angles to each other.

Q. Seeding shall be at the following rate:

1. Kentucky 31 Fescue mix shall be seeded at the rate of 12 lbs. per 1000 sq.ft. (523 lbs. per acre).

R. Roll the seeded areas to firmly bed the seed and then spread straw on the seeded areas at the rate of two and a half (2 1/2) tons (dry weight) per acre. It shall be spread evenly and without damage to the seeded area.

S. During seeding work, keep pavements clean and work area in an orderly condition. Upon completion of work, clean area of all debris, superfluous materials and equipment and remove them from the premises.

T. Protect seeding work. Maintain protection during installation and maintenance periods. Treat, repair or replace damaged seeding work as directed.

U. Maintenance shall begin immediately after seeding. Water regularly to keep lawn areas moist to maximize germination and maintain optimum growth and survival. Contractor is responsible to obtain necessary permits and pay fees associated with watering.

V. Maintain seeded areas by watering, fertilizing, removing weeds, mowing, trimming and reseeding as necessary, for a smooth, uniform, acceptable stand of established lawn, free of eroded or bare areas. Maintain lawn areas until final acceptance, but not less than 60 calendar days. Mowing of seeded lawn is the responsibility of the Contractor until final acceptance. The first mowing will not be attempted until the lawn is 4 inches high and thick enough to receive its first mowing.

W. The Contractor shall guarantee the production of a close stand of the specified species of lawn grass. After grass has started, repeatedly reseed areas and part of areas which fail to show uniform stands of grass until all areas are covered with a satisfactory growth of grass. All repairs and reseeding are to be done as part of this Contract and at no extra cost to the Owners.

X. When seed work is completed, including maintenance, Architect will, upon request, make an on-site evaluation to determine acceptability.

CAST-IN-PLACE CONCRETE

A. SUBMITTALS: In addition to the following, comply with submittal requirements in ACI 301. Product Data: For each type of manufactured material and product indicated. Design Mixes: For each concrete mix.

B. QUALITY ASSURANCE: Installer Qualifications: An experienced installer who has completed concrete work similar in material, design, and extent to that indicated for this Project and whose work has resulted in construction with a record of successful in-service performance. Manufacturer Qualifications: A firm experienced in manufacturing ready-mixed concrete products complying with ASTM C 94 requirements for production facilities and equipment. Source Limitations: Obtain each type of cement of the same brand from the same manufacturer's plant, each aggregate from one source, and each admixture from the same manufacturer. Comply with ACI 301, "Specification for Structural Concrete," including the following, unless modified by the requirements of the Contract Documents. General requirements, including submittals, quality assurance, acceptance of structure, and protection of in-place concrete. Formwork and form accessories. Steel reinforcement and supports. Concrete mixtures. Handling, placing, and constructing concrete.

C. FORMWORK: Furnish formwork and form accessories according to ACI 301.

D. STEEL REINFORCEMENT: Reinforcing Bars: ASTM A 615/A 615M, Grade 60, deformed. Plain-Steel Wire: ASTM A 82, as drawn. Plain-Steel Welded Wire Fabric: ASTM A 185, fabricated from as-drawn steel wire into flat sheets.

E. CONCRETE MATERIALS: Portland Cement: ASTM C 150, Type I or II. Normal-Weight Aggregate: ASTM C 33, uniformly graded, not exceeding 1-1/2-inch nominal size. Water: Potable and complying with ASTM C 94.

F. ADMIXTURES: Admixtures certified by manufacturer to contain not more than 0.1 percent water-soluble chloride ions by mass of cement and to be compatible with other admixtures. Do not use admixtures containing calcium chloride. Air-Entraining Admixture: ASTM C 260. Water-Reducing Admixture: ASTM C 494, Type A.

G. RELATED MATERIALS: Joint-Filler Strips: ASTM D 1751, asphalt-saturated cellulosic fiber, or ASTM D 1752, cork or self-expanding cork.

H. CURING MATERIALS: Evaporation Retarder: Waterborne, monomolecular film forming, manufactured for application to fresh concrete. Absorptive Cover: AASHTO M 182, Class 2, burlap cloth made from jute or kenaf, weighing approximately 9 oz./sq. yd dry. Moisture-Retaining Cover: ASTM C 171, polyethylene film or white burlap-polyethylene sheet. Water: Potable. Clear, Solvent-Borne, Membrane-Forming Curing and Sealing Compound: ASTM C 1315, Type 1, Class A. Clear, Waterborne, Membrane-forming Curing and Sealing Compound: ASTM C 1315, Type 1, Class A.

I. CONCRETE MIXES: Comply with ACI 301 requirements for concrete mixtures. Prepare design mixes, proportioned according to ACI 301, for normal-weight concrete determined by either laboratory trial mix or field test data bases, as follows: Compressive Strength (28 Days): 4000 psi. Slump: 3 inches. Add air-entraining admixture at manufacturer's prescribed rate to result in concrete at point of placement having an air content of 5.0 percent within a tolerance of plus 1.0 or minus 1.5 percent.

J. CONCRETE MIXING: Ready-Mixed Concrete: Comply with ASTM C 94. When air temperature is between 85 and 90 deg F, reduce mixing and delivery time from 1-1/2 hours to 75 minutes; when air temperature is above 90 deg F, reduce mixing and delivery time to 60 minutes.

K. FORMWORK: Design, construct, erect, shore, brace, and maintain formwork according to ACI 301.

L. STEEL REINFORCEMENT: Comply with CRSI's "Manual of Standard Practice" for fabricating, placing, and supporting reinforcement. Do not cut or puncture vapor retarder. Repair damage and reseal vapor retarder before placing concrete.

M. JOINTS: Construct joints true to line with faces perpendicular to surface plane of concrete. Construction Joints: Locate and install so as not to impair strength or appearance of concrete, at locations indicated or as approved by Engineer. Isolation Joints: Install joint-filler strips at junctions with slabs-on-grade and vertical surfaces, such as column pedestals, foundation walls, grade beams, and other locations, as indicated. Extend joint fillers full width and depth of joint, terminating flush with finished concrete surface, unless otherwise indicated.

N. CONCRETE PLACEMENT: Comply with recommendations in ACI 304R for measuring, mixing, transporting, and placing concrete. Do not add water to concrete during delivery, at Project site, or during placement. Consolidate concrete with mechanical vibrating equipment.

O. FINISHING FORMED SURFACES: Smooth-Formed Finish: As-cast concrete texture imparted by form-facing material, arranged in an orderly and symmetrical manner with a minimum of seams. Repair and patch tie holes and defective areas. Completely remove fins and other projections. See Drawings for areas of concrete to receive smooth rubbed finish.

P. FINISHING UNFORMED SURFACES: Comply with ACI 302.1R for screeding, restraightening, and finishing operations for concrete surfaces. Do not wet concrete surfaces. Smooth Rubbed Finish: See Drawings for areas of concrete to receive smooth rubbed finish.

Q. TOLERANCES: Comply with ACI 117, "Specifications for Tolerances for Concrete Construction and Materials."

R. CONCRETE PROTECTION AND CURING: Protect freshly placed concrete from premature drying and excessive cold or hot temperatures. Comply with ACI 306.1 for cold-weather protection, and follow recommendations in ACI 305R for hot-weather protection during curing. Evaporation Retarder: Apply evaporation retarder to concrete surfaces if hot, dry, or windy conditions cause moisture loss approaching 0.2 lb/sq. ft. x h before and during finishing operations. Apply according to manufacturer's written instructions after placing, screeding, and bull floating or darbying concrete, but before float finishing. Begin curing after finishing concrete, but not before free water has disappeared from concrete surface. Curing Methods: Cure formed and unformed concrete for at least seven days by moisture curing, moisture-retaining-cover curing, curing compound, or a combination of these as follows: Moisture Curing: Keep surfaces continuously moist for not less than seven days with the following materials: Water. Continuous water-fog spray. Absorptive cover, water saturated and kept continuously wet. Cover concrete surfaces and edges with 12-inch lap over adjacent absorptive covers. Moisture-Retaining-Cover Curing: Cover concrete surfaces with moisture-retaining cover for curing concrete, placed in widest practicable width, with sides and ends lapped at least 12 inches, and sealed by waterproof tape or adhesive. Immediately repair any holes or tears during curing period using cover material and waterproof tape. Curing Compound: Apply uniformly in continuous operation by power spray or roller according to manufacturer's written instructions. Recoat areas subjected to heavy rainfall within three hours after initial application. Maintain continuity of coating and repair damage during curing period.

S. FIELD QUALITY CONTROL: Testing Agency: Owner will engage a qualified independent testing and inspecting agency to sample materials, perform tests, and submit test reports during concrete placement. Tests will be performed according to ACI 301. Testing Frequency: Obtain one composite sample for each day's pour of each concrete mix exceeding 5 cu. yd., but less than 25 cu. yd., plus one set for each additional 50 cu. yd. or fraction thereof.

T. REPAIRS: Remove and replace concrete that does not comply with requirements in this Section.

MB Engineering, Inc.
606 Ryan Drive
Energy, IL 62933
(314) 368-3040

STATE OF MISSOURI
MICHAEL A BUESCHER
NUMBER E-2001018714
REGISTERED PROFESSIONAL ENGINEER

2/11/24

Michael A. Buescher, P.E. Civil Engineering
Missouri P.E. E-2001018714

MB Engineering, Inc. Missouri Authority No. E-2015041404

The Professional Engineer's seal affixed to this sheet indicates that the named Engineer has prepared or directed the preparation of the material shown only on this sheet. Other drawings and documents not exhibiting this seal shall not be considered prepared by or the responsibility of the undersigned.

PROJECT REVISION:

NO:	DATE:	DESCRIPTION:
1	11-21-22	FOR REVIEW
2	05-16-23	CITY COMMENTS
3	07-11-23	CITY COMMENTS
4	07-25-23	CITY COMMENTS
5	03-21-24	CITY COMMENTS
6	05-03-24	CITY COMMENTS
7	12-07-24	CITY COMMENTS

3601 SW Hollywood Dr.
Lee's Summit, MO 64082

DATE: 11-21-22
DRAFTED BY: KB
APPRVD. BY: MB

SHEET TITLE:
Specifications

SHEET NUMBER:
C1-01

PROJECT NO: 22-752

JOINT SEALANTS

A. PERFORMANCE REQUIREMENTS: Provide elastomeric joint sealants that establish and maintain watertight and airtight continuous joint seals without staining or deteriorating joint substrates.

B. SUBMITTALS: Product Data: For each joint-sealant product indicated. Samples for Initial Selection: Manufacturer's color charts consisting of strips of cured sealants showing the full range of colors available for each product exposed to view. Samples for Verification: For each type and color of joint sealant required, provide Samples with joint sealants in 1/2 inch (13 mm) wide joints formed between two 6-inch (150 mm) long strips of material matching the appearance of exposed surfaces adjacent to joint sealants. Product Certificates: For each type of joint sealant and accessory, signed by product manufacturer. Qualification Data: For Installer. Compatibility and Adhesion Test Reports: From sealant manufacturer, indicating the following: Materials forming joint substrates and joint-sealant backings have been tested for compatibility and adhesion with joint sealants. Interpretation of test results and written recommendations for primers and substrate preparation needed for adhesion. Warranties: Special warranties specified in this Section.

C. QUALITY ASSURANCE: Installer Qualifications: Manufacturer's authorized Installer who is approved or licensed for installation of elastomeric sealants required for this Project. Source Limitations: Obtain each type of joint sealant through one source from a single manufacturer. Preinstallation Conference: Conduct conference at Project site to comply with requirements in Division 1 Section "Project Management and Coordination."

D. PROJECT CONDITIONS: Do not proceed with installation of joint sealants under the following conditions: When ambient and substrate temperature conditions are outside limits permitted by joint-sealant manufacturer. When joint substrates are wet. Where joint widths are less than those allowed by joint-sealant manufacturer for applications indicated. Contaminants capable of interfering with adhesion have not yet been removed from joint substrates.

E. WARRANTY: Special Installer's Warranty: Installer's standard form in which Installer agrees to repair or replace elastomeric joint sealants that do not comply with performance and other requirements specified in this Section within specified warranty period. Warranty Period: Two years from date of Substantial Completion. Special warranties specified in this Article exclude deterioration or failure of elastomeric joint sealants from the following: Movement of the structure resulting in stresses on the sealant exceeding sealant manufacturer's written specifications for sealant elongation and compression caused by structural settlement or errors attributable to design or construction. Disintegration of joint substrates from natural causes exceeding design specifications. Mechanical damage caused by individuals, tools, or other outside agents. Changes in sealant appearance caused by accumulation of dirt or other atmospheric contaminants.

F. MANUFACTURERS: Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following: Any manufacturer providing products that conform to these specifications and drawings.

G. MATERIALS, GENERAL: Compatibility: Provide joint sealants, backings, and other related materials that are compatible with one another and with joint substrates under conditions of service and application, as demonstrated by sealant manufacturer, based on testing and field experience. Colors of Exposed Joint Sealants: As selected by Owner from manufacturer's full range.

H. ELASTOMERIC JOINT SEALANTS: Elastomeric Sealants: Comply with ASTM C 920 and other requirements indicated for each liquid-applied chemically curing sealant specified, including those referencing ASTM C 920 classifications for type, grade, class, and uses related to exposure and joint substrates. Multicomponent Nonsag Urethane Sealant: Products: Pecora Corporation; Dynatrol II. Tremco; Dymeric 511. Tremco; Vulkem 922. ype and Grade: M (multicomponent) and NS (nonsag). Class: 50. Use Related to Exposure: NT (nontraffic). Multicomponent Nonsag Urethane Sealant: Products: Pacific Polymers, Inc.; Elasto-Thane 227 High Shore Type II (Gun Grade). Pacific Polymers, Inc.; Elasto-Thane 227 Type II (Gun Grade). Pecora Corporation; Dynatred. Polymeric Systems Inc.; PSI-270. Type and Grade: M (multicomponent) and NS (nonsag). Class: 25. Use Related to Exposure: T (traffic). Uses Related to Joint Substrates: M, [G,]A, and, as applicable to joint substrates indicated.

I. JOINT-SEALANT BACKING: Provide sealant backings of material and type that are nonstaining; are compatible with joint substrates, sealants, primers, and other joint fillers; and are approved for applications indicated by sealant manufacturer based on field experience and laboratory testing. Cylindrical Sealant Backings: ASTM C 1330, Type C (closed-cell material with a surface skin) and of size and density to control sealant depth and otherwise contribute to producing optimum sealant performance.

J. MISCELLANEOUS MATERIALS: Primer: Material recommended by joint-sealant manufacturer where required for adhesion of sealant to joint substrates indicated, as determined from preconstruction joint-sealant-substrate tests and field tests.

K. EXAMINATION: Examine joints indicated to receive joint sealants, with Installer present, for compliance with requirements for joint configuration, installation tolerances, and other conditions affecting joint-sealant performance. Proceed with installation only after unsatisfactory conditions have been corrected.

L. PREPARATION: Surface Cleaning of Joints: Clean out joints immediately before installing joint sealants to comply with joint-sealant manufacturer's written instructions and the following requirements: Remove all foreign material from joint substrates that could interfere with adhesion of joint sealant, including dust, paints (except for permanent, protective coatings tested and approved for sealant adhesion and compatibility by sealant manufacturer), old joint sealants, oil, grease, waterproofing, water repellents, water, surface dirt, and frost. Clean porous joint substrate surfaces by brushing, grinding, blast cleaning, mechanical abrading, or a combination of these methods to produce a clean, sound substrate capable of developing optimum bond with joint sealants. Remove loose particles remaining after cleaning operations above by vacuuming or blowing out joints with oil-free compressed air. Porous joint substrates include the following: Concrete. Masonry. Remove laitance and form-release agents from concrete. Joint Priming: Prime joint substrates, where recommended in writing by joint-sealant manufacturer. Apply primer to comply with joint-sealant manufacturer's written instructions. Confine primers to areas of joint-sealant bond; do not allow spillage or migration onto adjoining surfaces.

M. INSTALLATION OF JOINT SEALANTS: Comply with joint-sealant manufacturer's written installation instructions for products and applications indicated, unless more stringent requirements apply. Sealant Installation Standard: Comply with recommendations in ASTM C 1193 for use of joint sealants as applicable to materials, applications, and conditions indicated. Install sealant backings of type indicated to support sealants during application and at position required to produce cross-sectional shapes and depths of installed sealants relative to joint widths that allow optimum sealant movement capability. Do not leave gaps between ends of sealant backings. Do not stretch, twist, puncture, or tear sealant backings. Remove absorbent sealant backings that have become wet before sealant application and replace them with dry materials. Install sealants using proven techniques that comply with the following and at the same time backings are installed: Place sealants so they directly contact and fully wet joint substrates. Completely fill recesses in each joint configuration. Produce uniform, cross-sectional shapes and depths relative to joint widths that allow optimum sealant movement capability. Tooling of Nonsag Sealants: Immediately after sealant application and before skinning or curing begins, tool sealants according to requirements specified below to form smooth, uniform beads of configuration indicated; to eliminate air pockets; and to ensure contact and adhesion of sealant with sides of joint. Remove excess sealant from surfaces adjacent to joints. Use tooling agents that are approved in writing by sealant manufacturer and that do not discolor sealants or adjacent surfaces. provide concave joint configuration per Figure 5A in ASTM C 1193, unless otherwise indicated.

N. PROTECTION: Protect joint sealants during and after curing period from contact with contaminating substances and from damage resulting from construction operations or other causes so sealants are without deterioration or damage at time of Substantial Completion. If, despite such protection, damage or deterioration occurs, cut out and remove damaged or deteriorated joint sealants immediately so installations with repaired areas are indistinguishable from original work.

O. JOINT-SEALANT SCHEDULE: Joint-Sealant Application: Exterior vertical and horizontal nontraffic construction joints in cast-in-place concrete. Joint Sealant: Multicomponent nonsag urethane sealant. Joint-Sealant Color: As selected by Owner from manufacturer's full range.

WATER SERVICE

A. Specification includes water systems piping for domestic service outside the building.

B. Minimum Working Pressure Ratings: Underground Piping: 150 psig (1035 kPa).

C. Submit product data, including pressure rating and rated capacity for the following: Piping. Valves. Curb stops.

D. Comply with requirements of Local Water Division, including tapping of service lines and backflow prevention.

E. Comply with standards of authorities having jurisdiction for potable water piping and plumbing systems. Include materials, installation, testing, and disinfection.

F. Perform site survey, research public utility records, and verify existing utility locations. Contact utility-locating service for area where Project is located prior to excavation.

G. Verify that water system piping may be installed in compliance with original design and referenced standards.

H. Coordinate connection to water service line with the Owner.

I. Coordinate with pipe materials, sizes, entry locations, and pressure requirements of building piping system.

J. Coordinate with other utility work.

K. Curb Stops: Bronze body, ground key plug or ball, and wide tee head, with inlet and outlet to match service piping material.

L. Service Boxes for Curb Stops: Cast-iron box with telescoping top section of length required for depth of bury of valve. Include cover having lettering "WATER," and bottom section with base of size to fit over curb stop and barrel approximately 3 inches (75 mm) in diameter. Provide steel tee-handle shutoff rod with each service box. Shutoff rod shall have tee handle with 1 pointed end, stem of length to operate curb stop, and slotted end fitting curb stop head.

M. Use pipe, tube, fittings, and joining methods according to following applications: Domestic Water Service: Ductile-Iron, Push-on-Joint Pipe, AWWA C151, with cement-mortar lining and seal coat according to AWWA C104. Include rubber compression gasket according to AWWA C111.

N. Ductile-Iron Piping: Push-on Joints, AWWA C111 rubber gaskets and lubricant.

O. Plastic Pipe-Flange Gasket, Bolts, and Nuts: Type and material recommended by piping system manufacturer, unless otherwise indicated.

P. Nonrising-Stem, Resilient-Seated Gate Valves, 3-Inch NPS (DN80) and Larger: AWWA C509, gray- or ductile-iron body and bonnet; with bronze or gray- or ductile-iron gate, resilient seats, bronze stem, and stem nut. Include 200-psig (1380-kPa) minimum working-pressure design, interior coating according to AWWA C550, and push-on or mechanical-joint ends.

Q. Install components having pressure rating equal to or greater than system operating pressure.

R. Install fittings for changes in direction and branch connections.

S. Install continuous plastic underground warning tape during back-filling of trench for underground water service piping. Locate 6 inches (150 mm) to 8 inches (200 mm) below finished grade, directly over piping.

T. Hydrostatic Tests: Test at not less than 1-1/2 times working pressure for 2 hours. Increase pressure in 50-psig (350-kPa) increments and inspect each joint between increments. Hold at test pressure for 1 hour; decrease to 0 psig (0 kPa). Slowly increase again to test pressure and hold for 1 more hour. Maximum allowable leakage is 2 quarts (1.89 L) per hour per 100 joints. Remake leaking joints with new materials and repeat test until leakage is within above limits.

U. Clean and disinfect water distribution piping as follows:

V. Purge new water distribution piping systems and parts of existing systems that have been altered, extended, or repaired prior to use.

W. Use purging and disinfecting procedure prescribed by authority having jurisdiction or, if method is not prescribed by that authority, use procedure described in AWWA C651

X. Prepare reports for purging and disinfecting activities.

HOT-MIX ASPHALT PAVING

A. Provide hot-mix asphalt pavement according to the materials, workmanship, and other applicable requirements of the standard specifications of the state or of authorities having jurisdiction.
1. Standard Specification: the current Missouri Standard Specifications for Highway Construction.
2. Measurement and payment provisions and safety program submittals included in standard specifications do not apply to this Section.

B. Job-Mix Designs: Provide certification, by authorities having jurisdiction, of approval of each job mix proposed for the Work.

C. Material Certificates: Provide certificates signed by manufacturers certifying that each material complies with requirements.

D. Installer Qualifications: Engage an experienced installer who has completed hot-mix asphalt paving similar in material, design, and extent to that indicated for this Project and with a record of successful in-service performance.

E. Manufacturer Qualifications: Engage a firm experienced in manufacturing hot-mix asphalt similar to that indicated for this Project and with a record of successful in-service performance.
1. Firm shall be a registered and approved paving mix manufacturer with MoDOT.

F. Asphalt-Paving Publication: Comply with Al's "The Asphalt Handbook," except where more stringent requirements are indicated.

G. General: All materials shall conform to the current Missouri Standard Specifications for Highway Construction.

H. Coarse Aggregate:
1. Asphaltic Concrete Pavement: This material shall conform to Section 1002.2 of the current Missouri Standard Specifications for Highway Construction.

I. Fine Aggregate:
1. Asphaltic Concrete Pavement: This material shall conform to Section 1002.3 of the current Missouri Standard Specifications for Highway Construction.

J. Asphalt Cement: This material shall conform to Section 1015.5 of the current Missouri Standard Specifications for Highway Construction. Penetration Grade 60 to 70 shall be used from approximately June 15 to September 20 or when the average ambient temperature is 70 degrees F. or higher. Penetration Grade 85 to 100 shall be used at other times during the year when the average ambient temperature ranges from 40 degrees to 70 degrees F.

K. Prime Coat: The prime coat shall be Type MC Liquid Asphalt, Grade 30, and shall conform to Section 1015.20.4 of the current Missouri Standard Specifications for Highway Construction. Liquid asphalt may be changed one grade by the engineer during construction at no change in unit price.

L. Tack Coat: The tack coat shall be Type SS-1H Emulsified Asphalt and shall conform to Section 1015.10 of the current Missouri Standard Specifications for Highway Construction.

M. Water: Potable.

N. Verify that subgrade is dry and in suitable condition to support paving and imposed loads.

O. Proof-roll subbase using heavy, pneumatic-tired rollers to locate areas that are unstable or that require further compaction.

P. Notify Engineer in writing of any unsatisfactory conditions. Do not begin paving installation until these conditions have been satisfactorily corrected.

Q. Immediately before placing asphalt materials, remove loose and deleterious material from substrate surfaces. Ensure that prepared subgrade is ready to receive paving.
1. Sweep loose granular particles from surface of unbound-aggregate base course. Do not dislodge or disturb aggregate embedded in compacted surface of base course.

S. Prime Coat: Apply uniformly over surface of compacted-aggregate base at a rate of 0.15 to 0.50 gal./sq. yd.. Apply enough material to penetrate and seal, but not flood, surface. Allow prime coat to cure for 72 hours minimum.
1. If prime coat is not entirely absorbed within 24 hours after application, spread sand over surface to blot excess asphalt. Use just enough sand to prevent pickup under traffic. Remove loose sand by sweeping before pavement is placed and after volatiles have evaporated.
2. Protect primed substrate from damage until ready to receive paving.

T. Complete compaction before mix temperature cools to 185 deg F.

U. Thickness: Compact each course to produce the thickness indicated within the following tolerances:
1. Base Course: Plus or minus 1/2 inch.
2. Surface Course: Plus 1/4 inch, no minus.

V. Surface Smoothness: Compact each course to produce a surface smoothness within the following tolerances as determined by using a 10-foot straightedge applied transversely or longitudinally to paved areas:
1. Base Course: 1/4 inch.
2. Surface Course: 1/8 inch.
3. Crowned Surfaces: Test with crowned template centered and at right angle to crown. Maximum allowable variance from template is 1/4 inch.

W. Testing Agency: Owner will engage a qualified independent testing agency to perform field inspections and tests and to prepare test reports.
1. Testing agency will conduct and interpret tests and state in each report whether tested Work complies with or deviates from specified requirements.

MB Engineering, Inc.
606 Ryan Drive
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(314) 368-3040

STATE OF MISSOURI
MICHAEL A BUESCHER
NUMBER E-2001018714
REGISTERED PROFESSIONAL ENGINEER
2/1/24

Michael A. Buescher, P.E. Civil Engineering
Missouri P.E. E-2001018714

MB Engineering, Inc. Missouri Authority No. E-2015041404

The Professional Engineer's seal affixed to this sheet indicates that the named Engineer has prepared or directed the preparation of the material shown only on this sheet. Other drawings and documents not exhibiting this seal shall not be considered prepared by or the responsibility of the undersigned.

PROJECT REVISION:

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7	12-07-24	CITY COMMENTS

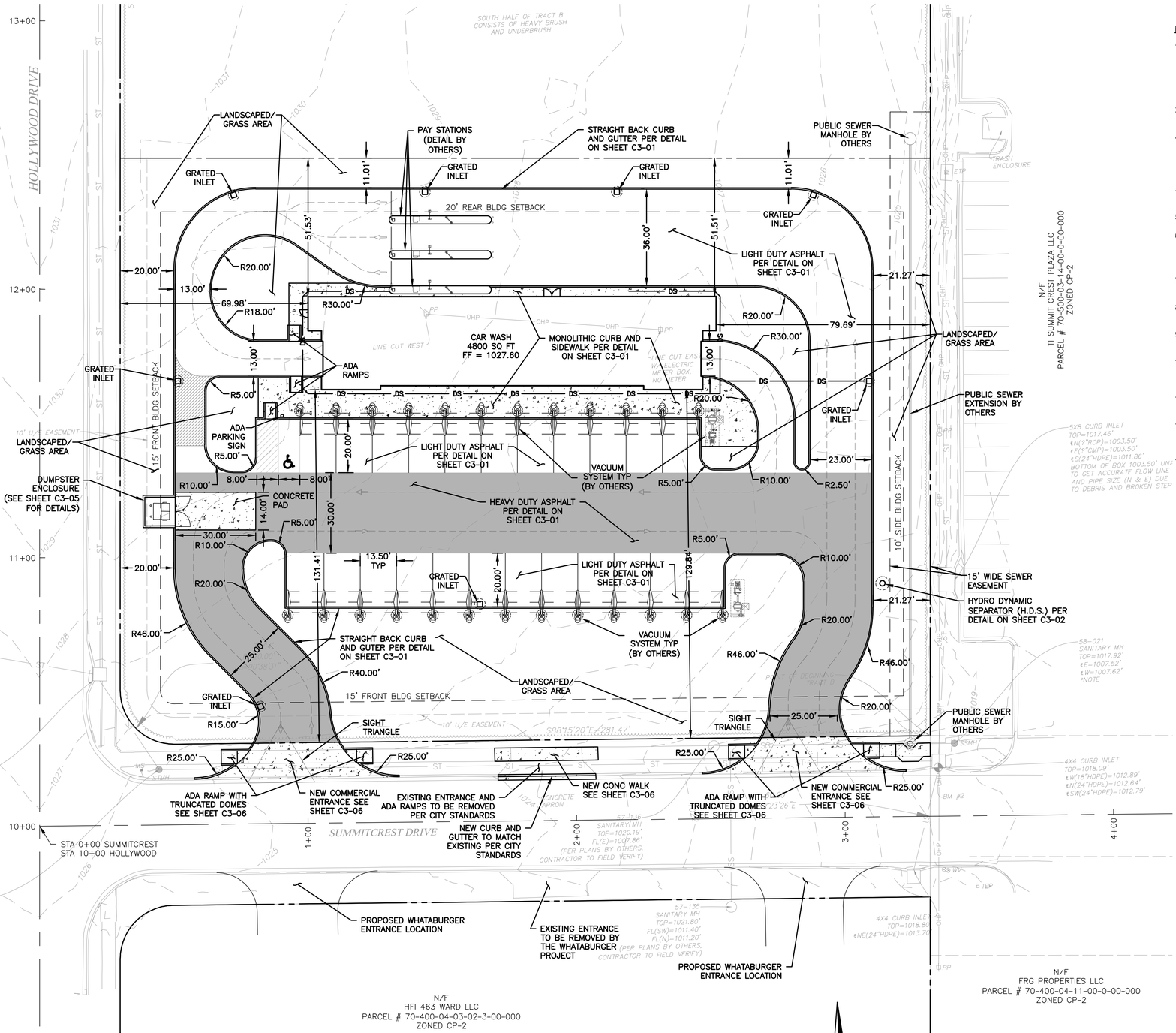
3601 SW Hollywood Dr.
Lee's Summit, MO 64082

DATE: 11-21-22
DRAFTED BY: KB
APPRVD. BY: MB

SHEET TITLE:
Specifications

SHEET NUMBER:
C1-02

PROJECT NO: 22-752



NOTES:

1. UNDERGROUND FACILITIES, STRUCTURES AND UTILITIES HAVE BEEN PLOTTED FROM AVAILABLE SURVEYS AND RECORDS AND THEREFORE THEIR LOCATIONS MUST BE CONSIDERED APPROXIMATE ONLY. IT IS POSSIBLE THAT THERE MAY BE OTHER, THE EXISTENCE OF WHICH IS PRESENTLY NOT KNOWN OR SHOWN. IT IS THE CONTRACTORS RESPONSIBILITY TO DETERMINE THEIR EXISTENCE AND EXACT LOCATION BEFORE EXCAVATION OR TRENCHING TO AVOID DAMAGE THERETO.
2. ALL DEMOLITION DEBRIS SHALL BE REMOVED FROM THE SITE AND PROPERLY DISPOSED OF ACCORDING TO ALL FEDERAL, STATE, AND LOCAL REGULATIONS.
3. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS NOT TO DAMAGE ANY EXISTING SITE FEATURES TO REMAIN. IF ANY DAMAGE OCCURS, THE CONTRACTOR SHALL CONTACT THE OWNERS REPRESENTATIVE IMMEDIATELY. THE CONTRACTOR SHALL REPAIR ALL DAMAGED ITEMS TO THE SATISFACTION OF THE OWNER AT NO ADDITIONAL COST.
4. CONTRACTOR SHALL CALL 1-800-DIG-RITE OR MO1CALL.COM 3 DAYS BEFORE ANY EXCAVATION WORK.
5. SEE SHEET C2-03 FOR UTILITY PLAN
6. ALL CONSTRUCTION SHALL FOLLOW THE CITY OF LEE'S SUMMIT DESIGN AND CONSTRUCTION MANUAL AS ADOPTED BY ORDINANCE 5813. WHERE DISCREPANCIES EXIST BETWEEN THESE PLANS AND THE DESIGN AND CONSTRUCTION MANUAL, THE DESIGN AND CONSTRUCTION MANUAL SHALL PREVAIL.
7. NO OIL OR GAS WELLS ARE ON SITE PER MISSOURI DEPARTMENT OF NATURAL RESOURCES G.I.S. OIL AND GAS WELL INTERACTIVE MAP
8. CONTRACTOR TO MAKE SURE ACCESSIBLE PARKING HAS A VERTICAL CLEARANCE OF 98 INCHES MINIMUM AT THE SPACE AND ALONG THE VEHICULAR ROUTE THERETO
9. ALL ACCESSIBLE PARKING SHALL COMPLY WITH THE REQUIREMENTS OF THE FEDERAL AMERICANS WITH DISABILITIES ACT
10. 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
11. ALL ASPHALT MATERIALS SHALL CONFORM TO THE KCMMB ASPHALT MATERIAL SPECIFICATION, CURRENT EDITION.
12. ALL CONCRETE MATERIALS FOR PAVING CURB AND GUTTER, SIDEWALKS, PATHS, COMMERCIAL DRIVEWAYS AND OTHER PAVEMENTS IN THE RIGHT OF WAY SHALL CONFORM TO THE KCMMB SPECIFICATIONS.
13. ONLY ORNAMENTAL TREES AND SHRUBS MAY BE PLANTED WITHIN ANY EASEMENTS

SITE DATA

	SQ. FT	ACRES	PERCENT
TOTAL BUILDING FLOOR AREA	4,881	0.11	7.47
TOTAL SITE AREA	65,296	1.50	100.00
LIMITS OF DISTURBANCE	66,876	1.54	102.42
EXISTING PERVIOUS	65,296	1.50	100.00
EXISTING IMPERVIOUS	0	0.00	0.00
TOTAL PROPOSED PERVIOUS	18,949	0.44	29.02
TOTAL PROPOSED IMPERVIOUS	46,347	1.06	70.98
EXISTING ZONING IS AG-AGRICULTURAL			
PROPOSED ZONING IS CP-2 PLANNED COMMUNITY COMMERCIAL			
FLOOR AREA RATIO = 0.075			

PHASING PLAN

PROJECT PHASE	BP DESCRIPTION	DATE
A - PRE CONSTRUCTION	PREPARE SITE FOR CONSTRUCTION INCLUDING ESTABLISHING E&S PERIMETER CONTROLS	UNKNOWN AT THIS TIME
B - PHASE I CONSTRUCTION	TOP SOIL STOCK PILE PROTECTION, SITE CLEARING, TEMPORARY SEEDING, GENERAL SITE PREP	UNKNOWN AT THIS TIME
C - PHSE II CONSTRUCTION	CONSTRUCT BUILDING ASPHALT PAVING, STORM STRUCTURES INSTALLATIONS	UNKNOWN AT THIS TIME
D - FINAL STABILIZATION	PERMANENT SEEDING	UNKNOWN AT THIS TIME

PARKING DATA

	REQUIRED	PROVIDED
STANDARD	2	23
HANDICAP	1	1
TOTAL	3	24
1 PARKING SPACE REQUIRED FOR EACH EMPLOYEE ON MAXIMUM SHIFT		
1 ADA SPACE PER 25 STANDARD SPACES		

GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)
1 INCH = 20 FT.

LAND DESCRIPTION AS SURVEYED

TRACT B:
PART OF THE SOUTHEAST QUARTER OF THE SOUTHEAST QUARTER OF SECTION 30, TOWNSHIP 47, RANGE 31, LEE'S SUMMIT, JACKSON COUNTY, MISSOURI, DESCRIBED AS FOLLOWS:
COMMENCING AT THE SOUTHWEST CORNER OF HAWKINS' COMMERCIAL LOT 1, RECORDED AS DOCUMENT NO. 2000I0062550, BEING ALSO THE INTERSECTION OF THE NORTH RIGHT OF WAY LINE OF MISSOURI 150 HIGHWAY AS SHOWN IN RIGHT OF WAY DEED DOCUMENT NO. 2014E0080868 AND THE EASTERLY LINE OF THE DOCUMENT RECORDED AS 1988I0875030; THENCE NORTH 02°23'26" EAST, ALONG THE WEST LINE OF SAID HAWKINS' COMMERCIAL LOT 1, A DISTANCE OF 208.16 FEET, TO THESOUTHEAST CORNER OF RIGHT OF WAY TAKEN OF SUMMITCREST DRIVE AS ESTABLISHED BY SAID RIGHT OF WAY DOCUMENT NO. 2014E0080868 AND PROLONGATION OF THE WEST LINE OF SAID HAWKINS' COMMERCIAL LOT 1; THENCE NORTH 02°23'26" EAST,A DISTANCE OF 60.00 FEET, TO THE INTERSECTION OF THE NORTH RIGHT OF WAY LINE OF SAID SUMMITCREST DRIVE AND THE EASTERLY LINE OF THE DOCUMENT RECORDED AS 1988I0875030 AND THE WEST LINE OF SUMMITCREST PLAZA LOT 1 RECORDED AS DOCUMENT NO. 2001I0010320, BEING ALSO THE TRUE POINT OF BEGINNING OF TRACT B; THENCE ALONG THE WEST LINE OF SAID SUMMITCREST PLAZA, NORTH 2°23'26" EAST, A DISTANCE OF 583.70 FEET, TO THE POINT OF INTERSECTION OF KENBRIDGECROSSING AS ESTABLISHED IN SAID RIGHT OF WAY DEED IN DOCUMENT NUMBER 2014E0080868 AND THE EASTERLY LINE OF THE SAID DOCUMENT NO. 1988I0875030, BEING ALSO SAID WEST LINE OF SUMMITCREST PLAZA; THENCE ALONG SAID RIGHT OF WAY THE FOLLOWING FIVE (5) COURSES: NORTH 87°54'56" WEST, A DISTANCE OF 281.79; THENCE ALONG A CURVE TO THE LEFT,HAVING A RADIUS OF 20.00 FEET, AN ARC LENGTH OF 31.31 FEET, AND A DELTA OF 89°41'48"; THENCE SOUTH 2°23'24" WEST,A DISTANCE OF 545.37 FEET; THENCE ALONG A CURVE TO THE LEFT, WITH A RADIUS OF 20.00 FEET, AN ARC LENGTH OF 31.64 FEET, AND A DELTA OF 90°38'31"; THENCE SOUTH 88°15'20" EAST, A DISTANCE OF 281.47 FEET, TO THE POINT OFBEGINNING. ALSO KNOWN AS TRACT B, AS SHOWN ON THE CERTIFICATE OF SURVEY RECORDED 7/27/2021 AS DOCUMENT NO. 2021E0081920 IN SURVEY BOOK 51 AT PAGE 95, AND CORRECTED BY THE AFFIDAVIT RECORDED 1/10/2022 AS DOCUMENT NO. 2022E0002897.

MB Engineering, Inc.
606 Ryan Drive
Energy, IL 62933
(314) 368-3040

STATE OF MISSOURI
REGISTERED
MICHAEL A. BUESCHER
NUMBER E-2001018714
PROFESSIONAL ENGINEER
12/11/24

Michael A. Buescher, P.E. Civil Engineering
Missouri P.E. E-2001018714

MB Engineering, Inc. Missouri Authority No. E-2015041404

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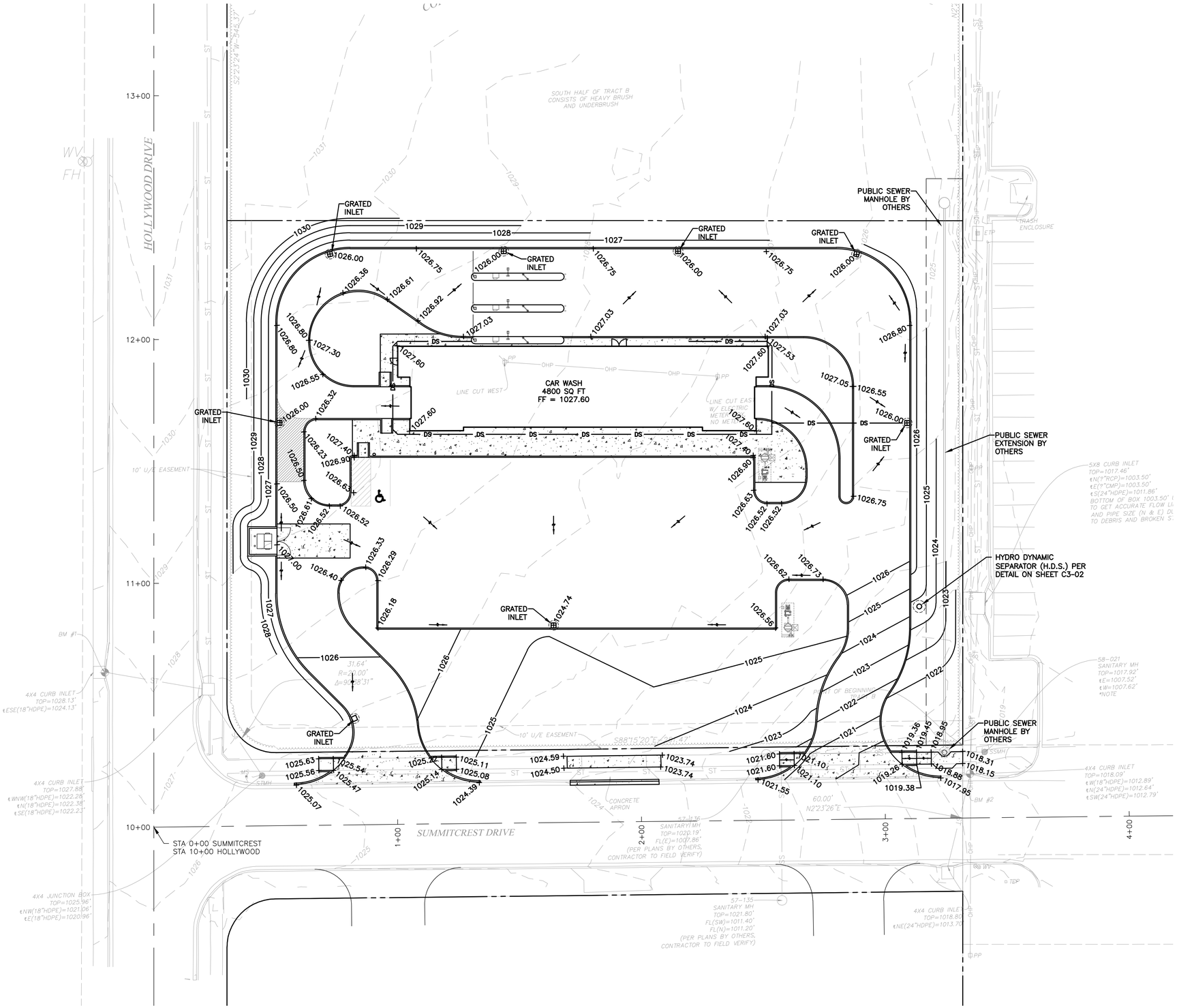
3601 SW Hollywood Dr.
Lee's Summit, MO 64082

DATE: 11-21-22
DRAFTED BY: KB
APPRVD. BY: MB

SHEET TITLE:
SITE PLAN

SHEET NUMBER:
C2-01

PROJECT NO: 22-752



679.00 PROPOSED SPOT ELEVATION

679 PROPOSED CONTOUR

679 EXISTING CONTOUR

EARTHWORK QUANTITY ESTIMATE

TOTAL CUT REQUIRED = 3185 CY

EARTHWORK QUANTITY ESTIMATES ARE FOR REFERENCE ONLY. NO SHRINK OR FILL HAS BEEN INCORPORATED, NO UTILITY CUTS HAVE BEEN INCORPORATED. CONTRACTOR SHALL CALCULATE THEIR OWN EARTHWORK QUANTITIES. MB ENGINEERING, INC. ASSUMES NO LIABILITY FOR THESE ESTIMATES

GRADING NOTES:

1. TOP SOIL SHALL BE STRIPPED FROM ALL CUT AND FILL AREAS, STOCKPILED AND REDISTRIBUTED OVER GRADED AREAS. PROVIDE EROSION AND SEDIMENTATION CONTROLS AROUND STOCKPILES DURING CONSTRUCTION.
2. TILL SOIL TO A DEPTH OF 4" MINIMUM.
3. REMOVE ALL ROCKS LARGER THAN 1" MEASURED IN LARGEST DIRECTION.
4. GRADE ALL AREAS TO MAINTAIN POSITIVE SLOPE AWAY FROM BUILDING.
5. ALL GRADED AREAS TO RECEIVE SEED OR SOD, TOP SOIL, STRAW AND WATER UNTIL A HEALTHY STAND OF GRASS IS OBTAINED.

LAWN SEEDING & SODDING NOTES

1. ALL LAWNS FROM FACE OF THE BUILDING AND ON THE SIDE WHERE THERE IS PARKING OR A STREET ARE REQUIRED TO BE FULLY SODDED. ALL OTHER LANDSCAPE AREAS TO RECEIVE SEED.
2. AREAS TO RECEIVE SEED OR SOD SHALL BE CLEAN OF DEBRIS AND FREE OF WEEDS.
3. SEED MIX TO BE DROUGHT TOLERANCE FESCUE OR REGIONAL SPECIFIC BLEND. 1/4 TO 1/3 OF THE SEED MIXTURE TO BE ANNUAL RYE TO AIDE IN LIMITING EROSION OF PERENNIAL SEED DURING GERMINATION
4. STRAW SHALL BE THRESHED STRAW OF HAY, OATS, WHEAT, BARLEY, OR RYE. SPREAD AT A RATE OF 2 ½ TONS PER ACRE. STRAW, NETTING, AND OTHER ANTI-EROSION MATERIALS TO BE REMOVED AFTER ESTABLISHED LAWN.
5. MAINTENANCE SHALL BEGIN IMMEDIATELY AFTER SEEDING. WATER REGULARLY TO KEEP LAWN AREAS MOIST TO MAXIMIZE GERMINATION AND MAINTAIN OPTIMUM GROWTH AND SURVIVAL TO ACHIEVE AN ACCEPTABLE STAND OF ESTABLISHED LAWN PRIOR TO THE STORE POSSESSION DATE, FREE OF ERODED OR BARE AREAS.

NOTES:

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2. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS NOT TO DAMAGE ANY EXISTING SITE FEATURES TO REMAIN. IF ANY DAMAGE OCCURS, THE CONTRACTOR SHALL CONTACT THE OWNERS REPRESENTATIVE IMMEDIATELY. THE CONTRACTOR SHALL REPAIR ALL DAMAGED ITEMS TO THE SATISFACTION OF THE OWNER AT NO ADDITIONAL COST.
3. THE CONTRACTOR WILL PROVIDE SEDIMENTATION AND EROSION CONTROL DEVISES SUCH AS STRAW BALE, SILT FENCES, ETC. AT ALL DOWNSLOPE LOCATIONS AND AROUND ALL STORM WATER INLETS. CONTRACTOR SHALL INSPECT SUCH CONTROLS AFTER EACH RAINFALL EVENT AND REPLACED AS REQUIRED.
4. SILTATION CONTROL DEVICES TO REMAIN IN PLACE UNTIL ADEQUATE VEGETATIVE GROWTH INSURES NO FURTHER EROSION OF THE SOIL.
5. ALL ELEVATION ARE BASED ON U.S.G.S. DATUM
6. PROPOSED CONTOURS SHOWN ARE FINISHED ELEVATIONS ON PAVED AREAS.
7. SEE SHEET C2-03 FOR UTILITY PLAN

GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)
1 INCH = 20 FT.

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STATE OF MISSOURI
MICHAEL A. BUESCHER
NUMBER E-2001018714
REGISTERED PROFESSIONAL ENGINEER

12/11/24

Michael A. Buescher, P.E. Civil Engineering
Missouri P.E. E-2001018714

MB Engineering, Inc. Missouri Authority No. E-2015041404

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7	12-07-24	CITY COMMENTS

3601 SW Hollywood Dr.
Lee's Summit, MO 64082

DATE: 11-21-22
DRAFTED BY: KB
APPRVD. BY: MB

SHEET TITLE:
GRADING PLAN

SHEET NUMBER:
C2-02

PROJECT NO: 22-752

Grated Inlet (1)
TOP=1026.02
FL=1022.02

Grated Inlet (4)
TOP=1026.03
FL=1020.81

Grated Inlet (5)
TOP=1026.03
FL=1019.59

Grated Inlet (6)
TOP=1026.05
FL=1018.36

PUBLIC SEWER
MANHOLE BY OTHERS
SANITARY STATION 2+23

67.22' of
12" HDPE Pipe
@ 1.00%

67.51' of
12" HDPE Pipe
@ 1.00%

69.19' of
12" HDPE Pipe
@ 1.00%

68.36' of
12" HDPE Pipe
@ 1.00%

PROPOSED DOMESTIC WATER
METER PER CITY OF LEE'S
SUMMIT STANDARD DRAWING
WAT-11. SEE SHEET C3-05

Station=11+94.99
Offset=29.00

EX 8" WATER MAIN NOT
SHOWN ON SURVEY AT TIME
OF DESIGN. CONTRACTOR
SHALL VERIFY LOCATION
PRIOR TO START OF
CONSTRUCTION

CONNECTION SHALL
BE MADE WITH A
CORPORATION STOP

2" DOMESTIC
WATER SERVICE.
SEE NOTE 5

Grated Inlet (2)
TOP=1026.02
FL=1022.02

DOMESTIC BACKFLOW
SHALL BE INSIDE
BUILDING SEE MEP DWGS

CAR WASH
4800 SQ FT
FF = 1027.60

DOWNSPOUT
PIPE

DOWNSPOUT
PIPE

CLEANOUT

6" SDR 26 PVC SANITARY
SEWER LATERAL @ 2.0%
MIN SLOPE

CUT-IN WYE SEWER
CONNECTION
SANITARY STATION 1+43 LT

PUBLIC SEWER
EXTENSION BY
OTHERS

Grated Inlet (7)
TOP=1026.03
FL=1017.14

LINE CUT EA
W/ ELECTRIC
METER BOX,
NO METER

5X8 CURB INLET
TOP=1017.46'
↑N(9"RCP)=1003.50'
↑E(?"CMP)=1003.50'
↑S(24"HDPE)=1011.86'
BOTTOM OF BOX 1003.50' I
TO GET ACCURATE FLOW LI
AND PIPE SIZE (N & E) DU
TO DEBRIS AND BROKEN S

70.93' of
18" PVC Pipe
@ 1.00%

15' WIDE SEWER
EASEMENT

19.50' of
18" PVC Pipe
@ 1.00%

135.78' of
12" PVC Pipe
@ 1.00%

145.64' of
18" PVC Pipe
@ 1.00%

BOTTOM OF 12" STORM PIPE=1014.60±
TOP OF EX 8" SEWER PIPE=1008.43±
H.D.S. - (12)
TOP=1024.67
FL=1006.66

86.17' of
12" HDPE Pipe
@ 1.00%

Grated Inlet (8)
TOP=1024.77
FL=1020.12

Grated Inlet - (14)
TOP=1025.66
FL=1021.52

Station=2+51.46
Offset=-27.03

PUBLIC SEWER
MANHOLE BY OTHERS
SANITARY STATION 0+00

Station=3+41.11
Offset=-26.96

Station=3+35.04
Offset=-20.55

Station=3+24.53
Offset=-26.99

Station=0+44.69
Offset=-20.58

NEW SEWER LATERAL BY THE
WHATABURGER PROJECT

STA 0+00 SUMMITCREST
STA 10+00 HOLLYWOOD

NEW FIRE HYDRANT BY THE
WHATABURGER PROJECT

WATER LINE EXTENSION BY
THE WHATABURGER PROJECT

13+00
12+00
11+00
10+00
1+00
2+00
3+00
4+00

HOLLYWOOD DRIVE
SUMMITCREST DRIVE
SOUTH HALF OF TRACT B
CONSISTS OF HEAVY BRUSH
AND UNDERBRUSH
10' U/E EASEMENT
POINT OF BEGINNING
TRACT B
TRASH
ENCLOSURE
CONCRETE
APRON
4X4 CURB INLET
TOP=1028.13'
↑ESE(18"HDPE)=1024.13'
4X4 CURB INLET
TOP=1027.88'
↑WNW(18"HDPE)=1022.28'
↑N(18"HDPE)=1022.38'
↑SE(18"HDPE)=1022.23'
4X4 JUNCTION BOX
TOP=1025.96'
↑NW(18"HDPE)=1021.06'
↑E(18"HDPE)=1022.96'
4X4 CURB INLET
TOP=1018.09'
↑W(18"HDPE)=1012.89'
↑N(24"HDPE)=1012.64'
↑SW(24"HDPE)=1012.79'
4X4 CURB INLET
TOP=1018.68'
↑NE(24"HDPE)=1013.70'
58-021
SANITARY MH
TOP=1017.92'
↑E=1007.52'
↑W=1007.62'
*NOTE
57-136
SANITARY MH
TOP=1020.19'
FL(E)=1007.86'
(PER PLANS BY OTHERS,
CONTRACTOR TO FIELD VERIFY)
57-135
SANITARY MH
TOP=1021.80'
FL(SW)=1011.40'
FL(N)=1011.20'
(PER PLANS BY OTHERS,
CONTRACTOR TO FIELD VERIFY)
31.64'
R=20.00'
Δ=90°38'31"
S22°23'24"W 545.37'
S88°15'20"E 281.47'
60.00'
N2°23'26"E
BM #1
BM #2

NOTES:

1. UNDERGROUND FACILITIES, STRUCTURES AND UTILITIES HAVE BEEN PLOTTED FROM AVAILABLE SURVEYS AND RECORDS AND THEREFORE THEIR LOCATIONS MUST BE CONSIDERED APPROXIMATE ONLY. IT IS POSSIBLE THAT THERE MAY BE OTHER, THE EXISTENCE OF WHICH IS PRESENTLY NOT KNOWN OR SHOWN. IT IS THE CONTRACTORS RESPONSIBILITY TO DETERMINE THEIR EXISTENCE AND EXACT LOCATION BEFORE EXCAVATION OR TRENCHING TO AVOID DAMAGE THERETO.
2. ALL DEMOLITION DEBRIS SHALL BE REMOVED FROM THE SITE AND PROPERLY DISPOSED OF ACCORDING TO ALL FEDERAL, STATE, AND LOCAL REGULATIONS.
3. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS NOT TO DAMAGE ANY EXISTING SITE FEATURES TO REMAIN. IF ANY DAMAGE OCCURS, THE CONTRACTOR SHALL CONTACT THE OWNERS REPRESENTATIVE IMMEDIATELY. THE CONTRACTOR SHALL REPAIR ALL DAMAGED ITEMS TO THE SATISFACTION OF THE OWNER AT NO ADDITIONAL COST.
4. SANITARY SEWER SERVICE: NEW SANITARY SEWER LATERAL SHALL BE A 6" PVC @ 2% MINIMUM SLOPE. CONTRACTOR SHALL COORDINATE WITH GOVERNING SEWER COMPANY ON CONNECTING TO SEWER MAIN.
5. PROPOSED TYPE K COPPER 2" DOMESTIC WATER SERVICE. THE CONTRACTOR SHALL COORDINATE WITH THE GOVERNING WATER COMPANY THE SIZE OF EXCAVATION NECESSARY FOR INSTALLATION OF THE WATER SERVICE LINE, VALVE AND TAP.
6. ALL UTILITY CONNECTION TO THE BUILDING ARE APPROXIMATE.
7. CONTRACTOR SHALL CALL 1-800-DIG-RITE OR MO1CALL.COM 3 DAYS BEFORE ANY EXCAVATION WORK.

GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)
1 INCH = 20 FT.

MB Engineering, Inc.
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STATE OF MISSOURI
REGISTERED
MICHAEL A.
BUESCHER
NUMBER
E-2001018714
PROFESSIONAL ENGINEER

12/17/24

Michael A. Buescher, P.E. Civil Engineering
Missouri P.E. E-2001018714

MB Engineering, Inc. Missouri Authority No.
E-2015041404

The Professional Engineer's seal affixed to this sheet indicates that the named Engineer has prepared or directed the preparation of the material shown only on this sheet. Other drawings and documents not exhibiting this seal shall not be considered prepared by or the responsibility of the undersigned.

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6	05-03-24	CITY COMMENTS
7	12-07-24	CITY COMMENTS

3601 SW Hollywood Dr.

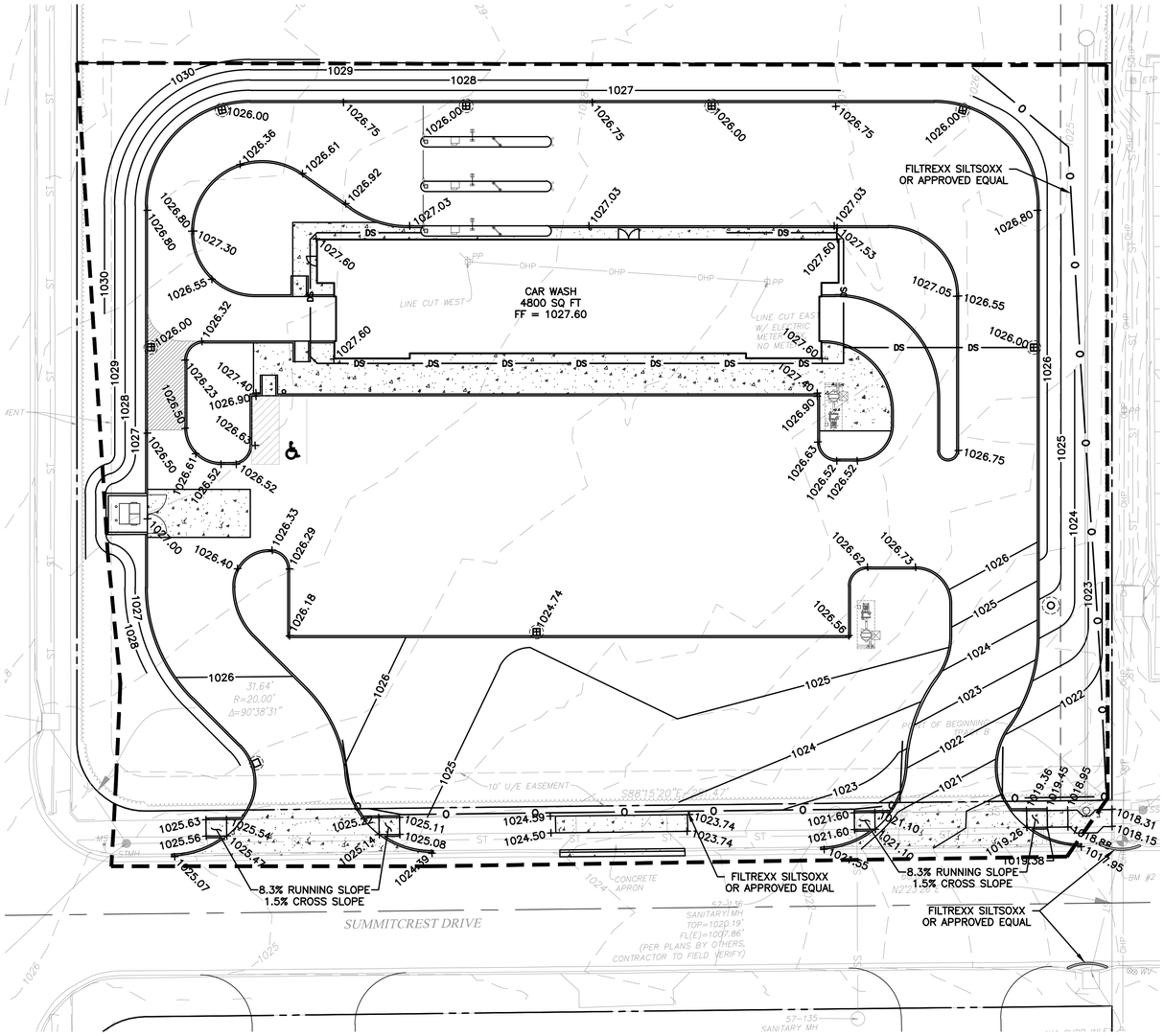
Lee's Summit, MO 64082

DATE: 11-21-22
DRAFTED BY: KB
APPRVD. BY: MB

SHEET TITLE:
UTILITY PLAN

SHEET NUMBER:
C2-03

PROJECT NO: 22-752



SWPPP NOTES

1. SITE OWNER:
   KC COWBOY PROPERTIES, LLC
   4640 E FM 1187
   BURLESON, TX 76028
   CONTACT: JIMMY PURSELLEY
   PH: (817) 205-8676
2. TOTAL LAND ESTIMATED TO BE DISTURBED = 1.54 ACRES ±
3. THE PERMIT HOLDER SHALL ENSURE AND/OR CONDUCT REGULAR INSPECTIONS OF LAND DISTURBANCE SITES, INCLUDING ALL EROSION AND SEDIMENT AND OTHER POLLUTANT CONTROL MEASURES, OUTFALL, AND OFFSITE RECEIVING WATERS OR SEWER SYSTEMS.
4. REGULAR INSPECTIONS MUST BE CONDUCTED AT LEAST ONCE PER WEEK. IN ADDITION, INSPECTIONS MUST BE CONDUCTED AND REPORTED WITHIN 24 HOURS OF A 1/2" RAINFALL EVENT THAT CAUSES STORM WATER RUNOFF ON SITE, AND AS RELATED TO OTHER SPECIAL LAND DISTURBANCE CONCERNS. THE PERMIT HOLDER / SITE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY BMP DEFICIENCIES. BMP DEFICIENCIES MUST BE CORRECTED WITHIN SEVEN (7) CALENDAR DAYS.
5. LOCATE STATE AND COUNTY LAND DISTURBANCE PERMITS, BMP INSPECTION REPORTS, ETC. WITH THE ONSITE WITH THE SWPPP.
6. ANY LAND CLEARING, CONSTRUCTION, OR DEVELOPMENT INVOLVING THE MOVEMENT OF EARTH SHALL BE IN ACCORDANCE WITH THE STORM WATER POLLUTION PREVENTION PLAN, AND THE PERSON ISSUED A LAND DISTURBANCE PERMIT ASSUMES AND ACKNOWLEDGES RESPONSIBILITY FOR COMPLIANCE WITH THE LOCAL LAND DISTURBANCE CODE AND THE APPROVED STORM WATER POLLUTION PLAN AT THE SITE OF THE PERMITTED ACTIVITY.
7. PRIOR TO ANY MAJOR LAND DISTURBANCE ACTIVITY, A LAND DISTURBANCE PERMIT FROM THE STATE OF MISSOURI DEPARTMENT OF NATURAL RESOURCES IS REQUIRED.
8. SEDIMENT SHALL BE WASHED FROM ALL VEHICLES AT WASH DOWN STATION PRIOR TO LEAVING THE SITE. NOT TRACKING OF MUD ONTO ANY ROADS SHALL BE ALLOWED.
9. DESCRIPTION OF BMP'S (INTERIM AND PERMANENT STABILIZATION PRACTICES/SCHEDULE
   A. CONTRACTOR SHALL ESTABLISH PERIMETER SILTATION CONTROL PRIOR TO ANY CONSTRUCTION ACTIVITIES. AREAS REQUIRING MINOR CLEARING AND/OR GRADING PRIOR TO INSTALLATION OF SILTATION CONTROL SHALL BE COMPLETED IN A TIMELY MANNER AND SILTATION CONTROL ESTABLISHED IMMEDIATELY FOLLOWING.
   B. TEMPORARY CONSTRUCTION ENTRANCE SHALL BE INSTALLED WHERE THE ACCESS AREAS INTERSECT WITH PUBLIC ACCESS WAYS. DRIVERS OF VEHICLES WILL BE REQUIRED TO WASH THEIR WHEELS BEFORE ENTERING THE ROADWAY. WHERE SEDIMENT IS TRANSPORTED ONTO PUBLIC ACCESS WAYS, THE ROAD SHALL BE CLEANED THOROUGHLY AT THE END OF EACH DAY. SEDIMENT SHALL BE REMOVED FROM THE ROAD BY SHOVELING OR SWEEPING, OR OTHER APPROVED MEASURES. STREET WASHING SHALL BE ALLOWED ONLY AFTER SEDIMENT IS REMOVED IN THIS MANNER.
   C. UPON COMMENCEMENT OF INITIAL CLEARING AND GRUBBING OPERATIONS, AS WELL AS FUTURE GRADING OPERATIONS, TOPSOIL MUST BE STRIPPED FROM GRADED AREAS AND STOCKPILED FOR USE IN FINAL GRADING AND/OR EXCESS REMOVAL. THE STOCKPILES WILL BE KEPT ON SITE BUT MUST STAY CLEAR OF ALL CONSTRICTION ACTIVITY. THE STOCKPILES WILL BE STABILIZED WITH TEMPORARY VEGETATION TO PREVENT SOIL LOSS AND SEDIMENT TRANSPORT FROM THE STOCKPILE ITSELF UNTIL NEEDED. KDOT REQUIRES THAT ONE THE SITE OR A STOCKPILE IS "INACTIVE", THE SITE OR STOCKPILE WILL BE STABILIZED WITHIN 7 CALENDAR DAYS FROM DEEMING SITE OR STOCKPILE "INACTIVE".
   D. TEMPORARY ROADS SHALL FOLLOW THE CONTOUR OF THE NATURAL TERRAIN TO THE EXTENT POSSIBLE. SLOPES SHALL NOT EXCEED 10 PERCENT SLOPE.
   E. CONTRACTOR SHALL CLEAR AND GRUB THOSE AREAS OF THE SITE SCHEDULED FOR CONSTRUCTION. AREAS NOT SCHEDULED FOR IMMEDIATE CONSTRUCTION SHALL NOT BE CLEARED OF ESTABLISHED VEGETATION UNTIL REQUIRED. REMAINDER OF SITE SHALL BE GRADED, AS REQUIRED. CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLATION AND MAINTENANCE OF SILTATION CONTROL THROUGHOUT THE DURATION OF THE PROJECT.
   F. ALL PROPOSED TURF AREAS, ONCE CONSTRUCTED TO FINAL GRADES SHALL BE SEEDED/SODDED WITHIN FIVE (5) DAYS AFTER FINAL GRADING. SHOULD WEATHER CAUSE DELAYS IN EARTHWORK OPERATIONS, ADDITIONAL SILTATION CONTROL MEASURES MAY BE REQUIRED.
   G. ANY DISTURBED AREAS WHICH WILL REMAIN UNWORKED FOR 30 DAYS OR MORE SHALL BE STABILIZED WITH SEEDING AND MULCHING PER SPECIFICATIONS WITHIN FIVE (5) DAYS. IF SEASONAL CONDITIONS PROHIBIT SEEDING, MULCHING OR MATTING SHALL BE USED.
   H. INSPECTION OF SILTATION CONTROL DEVICES SHALL TAKE ONCE PLACE EVERY SEVEN DAYS AND WITHIN 24 HOURS OF ANY HEAVY RAIN EVENT. ANY SILTATION CONTROL IN NEED OF REPAIR OR REPLACEMENT SHALL OCCUR IMMEDIATELY.
   I. ALL GRADING OPERATIONS ARE SUBJECT TO THE RECOMMENDATIONS OF THE GEOTECHNICAL ENGINEERING REPORT IF ONE HAS BEEN PREPARED.
   J. SEDIMENTATION CONTROLS SHALL ONLY BE REMOVED AFTER THE SITE IS COMPLETELY STABILIZED, VEGETATION IS WELL ESTABLISHED, AND ALL PAVEMENT AREAS ARE INSTALLED.
13. PLANNED RESPONSE TO LOSS OF CONTAINED SEDIMENT
   A. BMP'S SHALL BE REPAIRED AND/OR REPLACED IMMEDIATELY, AS REQUIRED, TO STABILIZE SITE AND CONTAIN SEDIMENT LADEN RUNOFF. OFFSITE AREAS SHALL BE REVIEWED FOR EXTENT OF IMPACT FROM BMP FAILURE. PERMIT HOLDER SHALL BE REQUIRED TO PROVIDE DOCUMENTATION OF THE BMP MEASURES INSTALLED AND SCHEDULED MAINTENANCE AND REPAIRS. DOCUMENTATION OF ACTIONS AND REPORTING ARE REQUIRED TO BE PROVIDED TO THE CITY IF REQUESTED.
   B. CONTRACTOR IS RESPONSIBLE FOR INSTALLING ADDITIONAL BMP MEASURES BEYOND THOSE SHOWN IF CONDITIONS DICTATE OR CURRENT MEASURES ARE INSUFFICIENT.
14. DESCRIPTION OF PERMANENT BMP'S TO REMAIN AFTER CONSTRUCTION
   A. STORM DRAINS – THE FACILITY WILL BE SERVED BY A STORM WATER SYSTEM CONSISTING OF INLETS, MANHOLES, AND PVC PIPE. THE STORM SYSTEM WILL CONVEY STORM WATER TO AN EXISTING STORM WATER SYSTEM LOCATED AT THE NORTH OF THE PROPERTY WITHIN KDOT RIGHT-OF-WAY. THE STORM WATER SYSTEM DESIGNATED AS "PRIVATE" SHALL BE OPERATED AND MAINTAINED BY THE OWNER.
   B. TURF AREAS – TURF AREAS SHALL BE MAINTAINED TO INSURE SITE AREAS REMAIN STABILIZED UPON COMPLETION OF CONSTRUCTION ACTIVITIES.
   C. PAVED AREAS – AREAS SUBJECT TO VEHICULAR AND PEDESTRIAN TRAFFIC SHALL BE PAVED AND KEPT IN GOOD REPAIR FOLLOWING COMPLETION OF CONSTRUCTION ACTIVITIES. MAINTENANCE SHALL BE THE OWNER'S RESPONSIBILITY.
15. DESCRIPTION OF BMP'S TO PREVENT POTENTIAL POLLUTANTS (CONSTRUCTION WASTES, TOXIC OR HAZARDOUS SUBSTANCES, PETROLEUM PRODUCTS, PESTICIDES, HERBICIDES, SITE LITTER, SANITARY WASTES, ETC.)
   A. SOLID NON-HAZARDOUS CONSTRUCTION WASTE – DISPOSE OF IN TRASH DUMPSTERS OR APPROVED EQUIVALENT IN A LOCATION APPROVED BY THE OWNER. POTENTIALLY SOLUBLE OR LEACHABLE SOLID WASTE SHALL BE STORED OFF THE GROUND AND IN COVERED LEAK-PROOF CONTAINERS. SOLID WASTE SHALL BE PROPERLY DISPOSED OF OFF-SITE ON A REGULAR BASIS.
   B. HAZARDOUS WASTE – HAZARDOUS WASTE SHALL BE SEGREGATED FROM NON-HAZARDOUS CONSTRUCTION SITE DEBRIS. LIQUID OR SEMI-LIQUID HAZARDOUS WASTE SHALL BE STORED IN APPROPRIATE CONTAINERS (CLOSED DRUMS OR SIMILAR) AND SHALL BE KEPT UNDER COVER. GRANULAR, SOLUBLE OR LEACHABLE HAZARDOUS WASTE MATERIALS SHALL BE STORED OFF THE GROUND AND IN COVERED LEAK-PROOF CONTAINERS. THE OWNER SHALL APPROVE ANY HAZARDOUS WASTE STORAGE AREAS.
   C. HAZARDOUS WASTE SHALL BE PROPERLY DISPOSED OF OFFSITE ON A REGULAR BASIS BY A REPUTABLE, LICENSED HAZARDOUS WASTE HAULER.
   D. IT IS NOT THE INTENT OF THIS SWPPP TO SUPERSEDE OR REPLACE NORMAL SITE ASSESSMENT AND REMEDIATION PROCEDURES CONCERNING HAZARDOUS MATERIALS. SIGNIFICANT SPILLS AND/OR CONTAMINATION WARRANT AN IMMEDIATE RESPONSE BY TRAINED PROFESSIONALS. SUSPECTED JOB SITE CONTAMINATION SHOULD IMMEDIATELY BE REPORTED TO REGULATORY AUTHORITIES AND PROTECTIVE MEASURES TAKEN.
   E. FRESH CONCRETE WASTE AND CONCRETE EQUIPMENT WASHDOWNS SHALL BE CONTAINED AND SHALL BE STORED AWAY FROM DRAINAGE DITCHES, SWALES AND DRAINAGE STRUCTURES. WHERE APPROPRIATE, CONTAINMENT BERMS SHALL BE PLACED AROUND WASTE STORAGE AREAS.
   F. ONSITE FUELING FACILITIES ARE REQUIRED TO ADHERE TO ALL APPLICABLE FEDERAL AND STATE REGULATIONS CONCERNING STORAGE AND DISPENSERS.
   G. PROVISIONS SHALL BE MADE SO THAT A SUFFICIENT NUMBER OF TEMPORARY TOILET FACILITIES ARE AVAILABLE TO SERVE THE NUMBER OF WORKERS ONSITE.
17. THE FOLLOWING NON-STORM WATER DISCHARGES ARE AUTHORIZED BY THE EPA, PROVIDED IT HAS BEEN DETERMINED BY THE PERMITTEE THAT THEY ARE NOT SIGNIFICANT CONTRIBUTORS OF POLLUTANTS TO THE MUNICIPAL SEPARATE STORM SEWER SYSTEM. IMPLEMENTATION OF POLLUTION PREVENTION MEASURES FOR NON-STORM DISCHARGES IS REQUIRED FOR SIGNIFICANT CONTRIBUTORS:
   a. WATER LINE FLUSHING
   b. LANDSCAPE IRRIGATION
   c. DIVERTED STREAM FLOWS
   d. RISING GROUND WATERS
   e. UNCONTAMINATED GROUND WATER INFILTRATION (AS DEFINED AT 40CFR 35.2005(20))
   f. UNCONTAMINATED PUMPED GROUND WATER
   g. DISCHARGE FROM POTABLE WATER SOURCES
   h. FOUNDATION DRAINS
   i. AIR CONDITIONING CONDENSATION
   j. WATER FROM CRAWL SPACE PUMPS
   k. FOOTING DRAINS
   l. LAWN WATERING
   m. INDIVIDUAL RESIDENT CAR WASHING
   n. FLOW FROM RIPARIAN HABITATS & WETLANDS
   o. DECHLORINATED SWIMMING POOL DISCHARGE
   p. STREET WASH WATER
   q. RESIDENTIAL BUILDING WASH WATERS (WITHOUT DETERGENTS)
18. ANTICIPATED DEWATERING METHODS, SUBJECT TO CONTRACTOR'S ANTICIPATED MEANS & METHODS,:
   A. CONTRACTOR TO USE CARE WHEN PUMPING WATER FROM CONSTRUCTION EXCAVATIONS AND ATTENTION MUST BE PAID TO THE FINAL DESTINATION OF THIS WATER. SEDIMENT CONTAINED IN THE WATER MUST FIRST BE REMOVED. ONCE IT IS PUMPED OUT OF THE EXCAVATION, THIS WATER MUST THEN BE PREVENTED FROM ERODING SOIL.
   B. AN OIL/WATER SEPARATOR OR OTHER SUITABLE FILTRATION METHOD WILL BE REQUIRED PRIOR TO DISCHARGE IF THE COLLECTED WATER HAS BEEN CONTAMINATED WITH PETROLEUM PRODUCTS, OIL OR GREASE. A LICENSED TRANSPORTER WILL BE REQUIRED TO BOTH CONTAIN AND TO TRANSPORT THE COLLECTED WATER AWAY FROM THE CONSTRUCTION SITE IF IT HAS BEEN CONTAMINATED BY HAZARDOUS OR TOXIC CHEMICALS. IN THE CASE OF CONTAMINATED WATER BEING TRUCKED FROM THE CONSTRUCTION SITE, THE REQUIREMENTS OF FEDERAL, STATE AND LOCAL AGENCIES MUST BE ADHERED TO.
   C. THE DEWATERING METHODS OF EXCAVATED AREAS ANTICIPATED TO BE USED TO REMOVE WATER FROM THE CONSTRUCTION SITE ARE THE FOLLOWING:
      - BUCKET CONNECTED TO SPECIFIC PIECES OF CONSTRUCTION EQUIPMENT TO MECHANICALLY SCOOP THE WATER FROM THE EXCAVATIONS
      - PUMPING OR SIPHONING WATER FROM THE COLLECTION SITES
      - THE USE OF A GRAVITY DRAIN THROUGH CHANNELS

SWPPP CERTIFICATION

I CERTIFY UNDER PENALTY OF LAW THAT THIS STORM WATER POLLUTION PREVENTION PLAN (SWPPP) HAS BEEN PREPARED IN ACCORDANCE WITH THE REQUIREMENTS AND REGULATIONS OF THE LOCAL GOVERNING AUTHORITY AND THE MISSOURI DEPARTMENT OF NATURAL RESOURCES. TO THE BEST OF MY KNOWLEDGE AND BELIEF, THE INFORMATION CONTAINED IN THIS PLAN IS TRUE, ACCURATE, AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT FOR KNOWN VIOLATIONS.

SIGNATURE: M Buescher DATE: 3/21/24

GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)
1 INCH = 20 FT.

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606 Ryan Drive
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(314) 368-3040

STATE OF MISSOURI
REGISTERED
MICHAEL A. BUESCHER
NUMBER
E-2001018714
PROFESSIONAL ENGINEER
3/21/24

Michael A. Buescher, P.E. Civil Engineering
Missouri P.E. E-2001018714

MB Engineering, Inc. Missouri Authority No.
E-2015041404

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7	12-07-24	CITY COMMENTS

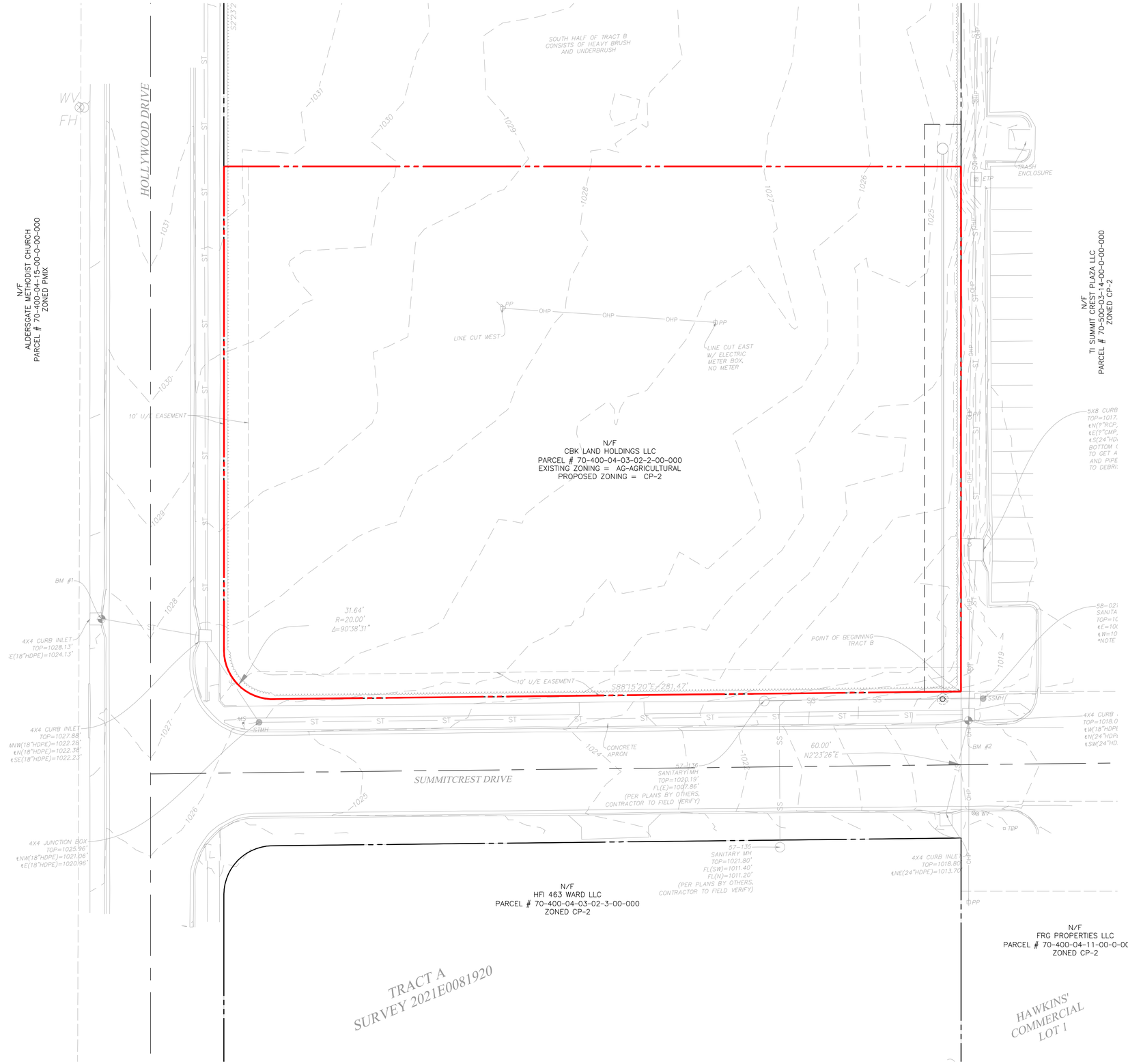
3601 SW Hollywood Dr.
Lee's Summit, MO 64082

DATE: 11-21-22
DRAFTED BY: KB
APPRVD. BY: MB

SHEET TITLE:
S.W.P.P.P.

SHEET NUMBER:
C2-04

PROJECT NO: 22-752



LAND DESCRIPTION AS SURVEYED

TRACT B:
PART OF THE SOUTHEAST QUARTER OF THE SOUTHEAST QUARTER OF SECTION 30, TOWNSHIP 47, RANGE 31, LEE'S SUMMIT, JACKSON COUNTY, MISSOURI, DESCRIBED AS FOLLOWS:
COMMENCING AT THE SOUTHWEST CORNER OF HAWKINS' COMMERCIAL LOT 1, RECORDED AS DOCUMENT NO. 2000I0062550, BEING ALSO THE INTERSECTION OF THE NORTH RIGHT OF WAY LINE OF MISSOURI 150 HIGHWAY AS SHOWN IN RIGHT OF WAY DEED DOCUMENT NO. 2014E0080868 AND THE EASTERLY LINE OF THE DOCUMENT RECORDED AS 1988I0875030; THENCE NORTH 02°23'26" EAST, ALONG THE WEST LINE OF SAID HAWKINS' COMMERCIAL LOT 1, A DISTANCE OF 208.16 FEET, TO THESOUTHEAST CORNER OF RIGHT OF WAY TAKEN OF SUMMITCREST DRIVE AS ESTABLISHED BY SAID RIGHT OF WAY DOCUMENT NO. 2014E0080868 AND PROLONGATION OF THE WEST LINE OF SAID HAWKINS' COMMERCIAL LOT 1; THENCE NORTH 02°23'26" EAST,A DISTANCE OF 60.00 FEET, TO THE INTERSECTION OF THE NORTH RIGHT OF WAY LINE OF SAID SUMMITCREST DRIVE AND THE EASTERLY LINE OF THE DOCUMENT RECORDED AS 1988I0875030 AND THE WEST LINE OF SUMMITCREST PLAZA LOT 1 RECORDED AS DOCUMENT NO. 2001I0010320, BEING ALSO THE TRUE POINT OF BEGINNING OF TRACT B; THENCE ALONG THE WEST LINE OF SAID SUMMITCREST PLAZA, NORTH 2°23'26" EAST, A DISTANCE OF 583.70 FEET, TO THE POINT OF INTERSECTION OF KENBRIDGECROSSING AS ESTABLISHED IN SAID RIGHT OF WAY DEED IN DOCUMENT NUMBER 2014E0080868 AND THE EASTERLY LINE OF THE SAID DOCUMENT NO. 1988I0875030, BEING ALSO SAID WEST LINE OF SUMMITCREST PLAZA; THENCE ALONG SAID RIGHT OF WAY THE FOLLOWING FIVE (5) COURSES: NORTH 87°54'56" WEST, A DISTANCE OF 281.79; THENCE ALONG A CURVE TO THE LEFT,HAVING A RADIUS OF 20.00 FEET, AN ARC LENGTH OF 31.31 FEET, AND A DELTA OF 89°41'48"; THENCE SOUTH 2°23'24" WEST,A DISTANCE OF 545.37 FEET; THENCE ALONG A CURVE TO THE LEFT, WITH A RADIUS OF 20.00 FEET, AN ARC LENGTH OF 31.64 FEET, AND A DELTA OF 90°38'31"; THENCE SOUTH 88°15'20" EAST, A DISTANCE OF 281.47 FEET, TO THE POINT OFBEGINNING. ALSO KNOWN AS TRACT B, AS SHOWN ON THE CERTIFICATE OF SURVEY RECORDED 7/27/2021 AS DOCUMENT NO. 2021E0081920 IN SURVEY BOOK 51 AT PAGE 95, AND CORRECTED BY THE AFFIDAVIT RECORDED 1/10/2022 AS DOCUMENT NO. 2022E0002897.



ZONING MAP
NTS



GRAPHIC SCALE
20 0 10 20 40 80
(IN FEET)
1 INCH = 20 FT.

MB Engineering, Inc.
606 Ryan Drive
Energy, IL 62933
(314) 368-3040

STATE OF MISSOURI — REGISTERED — MICHAEL A. BUESCHER — NUMBER E-2001018714 — PROFESSIONAL ENGINEER
12/11/24

Michael A. Buescher, P.E. Civil Engineering
Missouri P.E. E-2001018714

MB Engineering, Inc. Missouri Authority No. E-2015041404

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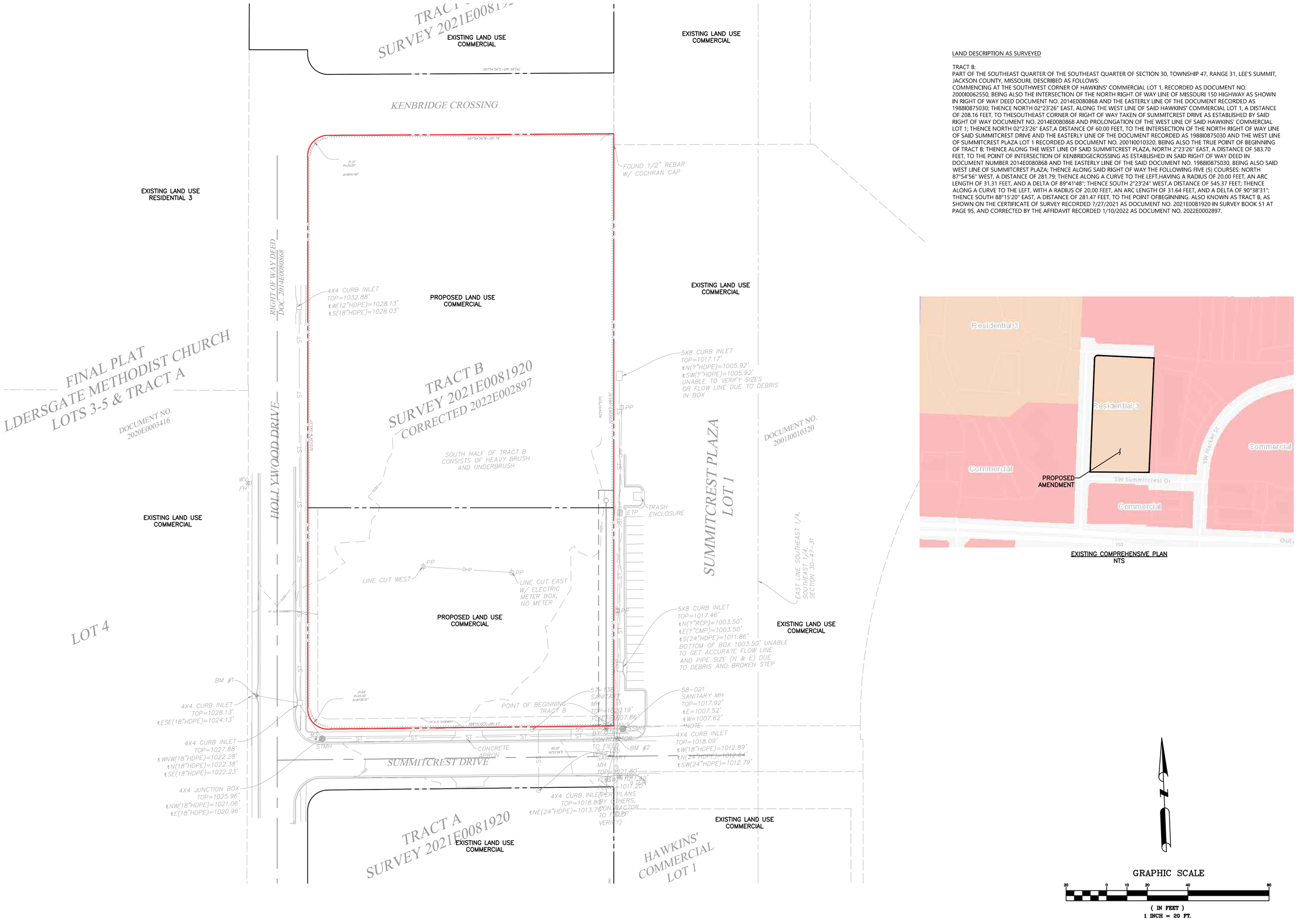
3601 SW Hollywood Dr.
Lee's Summit, MO 64082

DATE: 11-21-22
DRAFTED BY: KB
APPRVD. BY: MB

SHEET TITLE:
SITE ZONING PLAN

SHEET NUMBER:
C2-05

PROJECT NO: 22-752



LAND DESCRIPTION AS SURVEYED

TRACT B:
PART OF THE SOUTHEAST QUARTER OF THE SOUTHEAST QUARTER OF SECTION 30, TOWNSHIP 47, RANGE 31, LEE'S SUMMIT, JACKSON COUNTY, MISSOURI, DESCRIBED AS FOLLOWS:
COMMENCING AT THE SOUTHWEST CORNER OF HAWKINS' COMMERCIAL LOT 1, RECORDED AS DOCUMENT NO. 2000I0062550, BEING ALSO THE INTERSECTION OF THE NORTH RIGHT OF WAY LINE OF MISSOURI 150 HIGHWAY AS SHOWN IN RIGHT OF WAY DEED DOCUMENT NO. 2014E0080868 AND THE EASTERLY LINE OF THE DOCUMENT RECORDED AS 1988I0875030; THENCE NORTH 02°23'26" EAST, ALONG THE WEST LINE OF SAID HAWKINS' COMMERCIAL LOT 1, A DISTANCE OF 208.16 FEET, TO THESOUTHEAST CORNER OF RIGHT OF WAY TAKEN OF SUMMITCREST DRIVE AS ESTABLISHED BY SAID RIGHT OF WAY DOCUMENT NO. 2014E0080868 AND PROLONGATION OF THE WEST LINE OF SAID HAWKINS' COMMERCIAL LOT 1; THENCE NORTH 02°23'26" EAST,A DISTANCE OF 60.00 FEET, TO THE INTERSECTION OF THE NORTH RIGHT OF WAY LINE OF SAID SUMMITCREST DRIVE AND THE EASTERLY LINE OF THE DOCUMENT RECORDED AS 1988I0875030 AND THE WEST LINE OF SUMMITCREST PLAZA LOT 1 RECORDED AS DOCUMENT NO. 200110010320, BEING ALSO THE TRUE POINT OF BEGINNING OF TRACT B; THENCE ALONG THE WEST LINE OF SAID SUMMITCREST PLAZA, NORTH 2°23'26" EAST, A DISTANCE OF 583.70 FEET, TO THE POINT OF INTERSECTION OF KENBRIDGECROSSING AS ESTABLISHED IN SAID RIGHT OF WAY DEED IN DOCUMENT NUMBER 2014E0080868 AND THE EASTERLY LINE OF THE SAID DOCUMENT NO. 1988I0875030, BEING ALSO SAID WEST LINE OF SUMMITCREST PLAZA; THENCE ALONG SAID RIGHT OF WAY THE FOLLOWING FIVE (5) COURSES: NORTH 87°54'56" WEST, A DISTANCE OF 281.79; THENCE ALONG A CURVE TO THE LEFT,HAVING A RADIUS OF 20.00 FEET, AN ARC LENGTH OF 31.31 FEET, AND A DELTA OF 89°41'48"; THENCE SOUTH 2°23'24" WEST,A DISTANCE OF 545.37 FEET; THENCE ALONG A CURVE TO THE LEFT, WITH A RADIUS OF 20.00 FEET, AN ARC LENGTH OF 31.64 FEET, AND A DELTA OF 90°38'31"; THENCE SOUTH 88°15'20" EAST, A DISTANCE OF 281.47 FEET, TO THE POINT OFBEGINNING. ALSO KNOWN AS TRACT B, AS SHOWN ON THE CERTIFICATE OF SURVEY RECORDED 7/27/2021 AS DOCUMENT NO. 2021E0081920 IN SURVEY BOOK 51 AT PAGE 95, AND CORRECTED BY THE AFFIDAVIT RECORDED 1/10/2022 AS DOCUMENT NO. 2022E0002897.

EXISTING COMPREHENSIVE PLAN
NTS

GRAPHIC SCALE
20 0 10 20 40 60
(IN FEET)
1 INCH = 20 FT.

MB Engineering, Inc.
606 Ryan Drive
Energy, IL 62933
(314) 368-3040

STATE OF MISSOURI
REGISTERED
MICHAEL A.
BUESCHER
NUMBER
E-2001018714
PROFESSIONAL ENGINEER
12/17/24

Michael A. Buescher, P.E. Civil Engineering
Missouri P.E. E-2001018714

MB Engineering, Inc. Missouri Authority No.
E-2015041404

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6	05-03-24	CITY COMMENTS
7	12-07-24	CITY COMMENTS

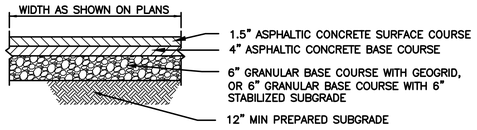
3601 SW Hollywood Dr.
Lee's Summit, MO 64082

DATE: 11-21-22
DRAFTED BY: KB
APPRVD. BY: MB

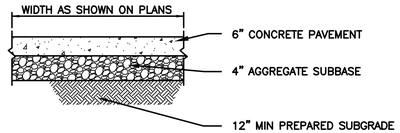
SHEET TITLE:
COMPREHENSIVE PLAN

SHEET NUMBER:
C2-06

PROJECT NO: 22-752

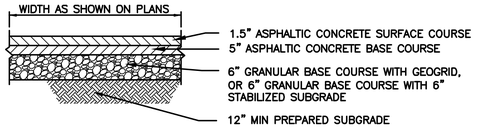


ASPHALT

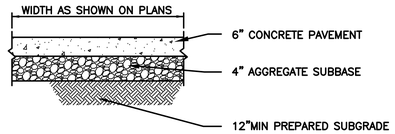


CONCRETE ALTERNATE

A LIGHT DUTY PAVEMENT
NOT TO SCALE



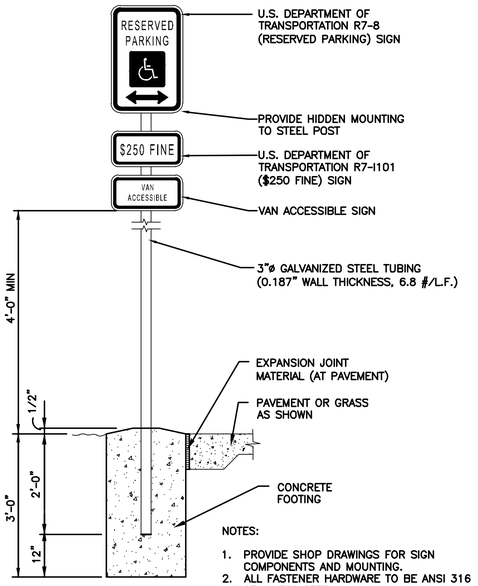
ASPHALT



CONCRETE ALTERNATE

B HEAVY DUTY PAVEMENT
NOT TO SCALE

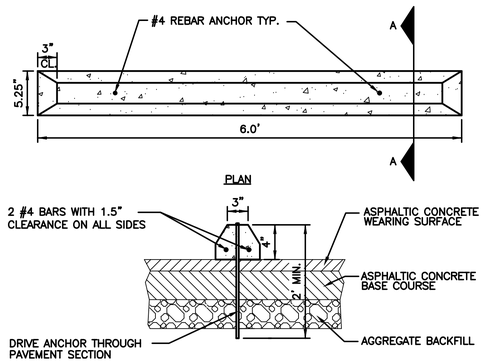
** CONTRACTOR TO VERIFY PAVEMENT SECTION IS CAPABLE OF SUPPORTING 75,000-POUND IMPOSED LOADS OF A FIRE APPARATUS



NOTES:

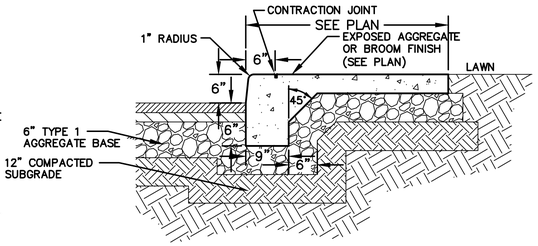
1. PROVIDE SHOP DRAWINGS FOR SIGN COMPONENTS AND MOUNTING.
2. ALL FASTENER HARDWARE TO BE ANSI 316 STAINLESS STEEL.
3. ALL SIGNS TO BE 18 GUAGE PRIMED AND PAINTED WITH BAKED ENAMEL AND SCREEN PRINTED.

F ACCESSIBLE PARKING SIGN
NOT TO SCALE



SECTION A-A

G WHEEL STOP DETAIL
NOT TO SCALE



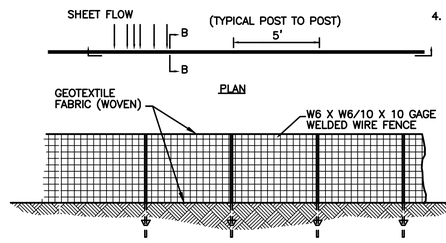
NOTES:

1. EXPANSION JOINTS SHALL BE PLACED AT 30' SPACING, TANGENT POINTS AT RADII, AND OTHER LOCATIONS AS INDICATED.
2. CONTRACTION JOINTS SHALL BE SPACED AT ±5' OR THE WIDTH OF THE WALK. CONTRACTION JOINTS SHALL BE TOOLED.

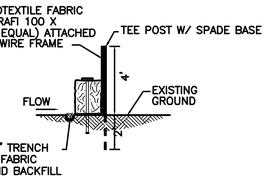
C MONOLITHIC CURB AND SIDEWALK DETAIL
NOT TO SCALE

GENERAL NOTES

1. DO NOT SCALE DRAWING. FOLLOW DIMENSIONS.
2. SILTATION CONTROL DEVICES TO REMAIN IN PLACE FURTHER EROSION OF THE SOIL.
3. SILTATION FENCES SHALL BE INSPECTED PERIODICALLY FOR DAMAGE AND FOR THE AMOUNT OF SEDIMENTATION WHICH HAS ACCUMULATED. REMOVAL OF SEDIMENT WILL BE REQUIRED WHEN IT REACHES 1/2 OF THE HEIGHT OF THE SILTATION FENCE.
4. ATTACHMENT OF WELDED WIRE FENCE AND GEOTEXTILE FABRIC TO BE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATION.

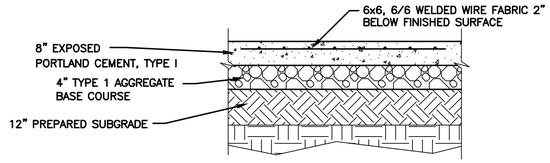


SECTION A-A

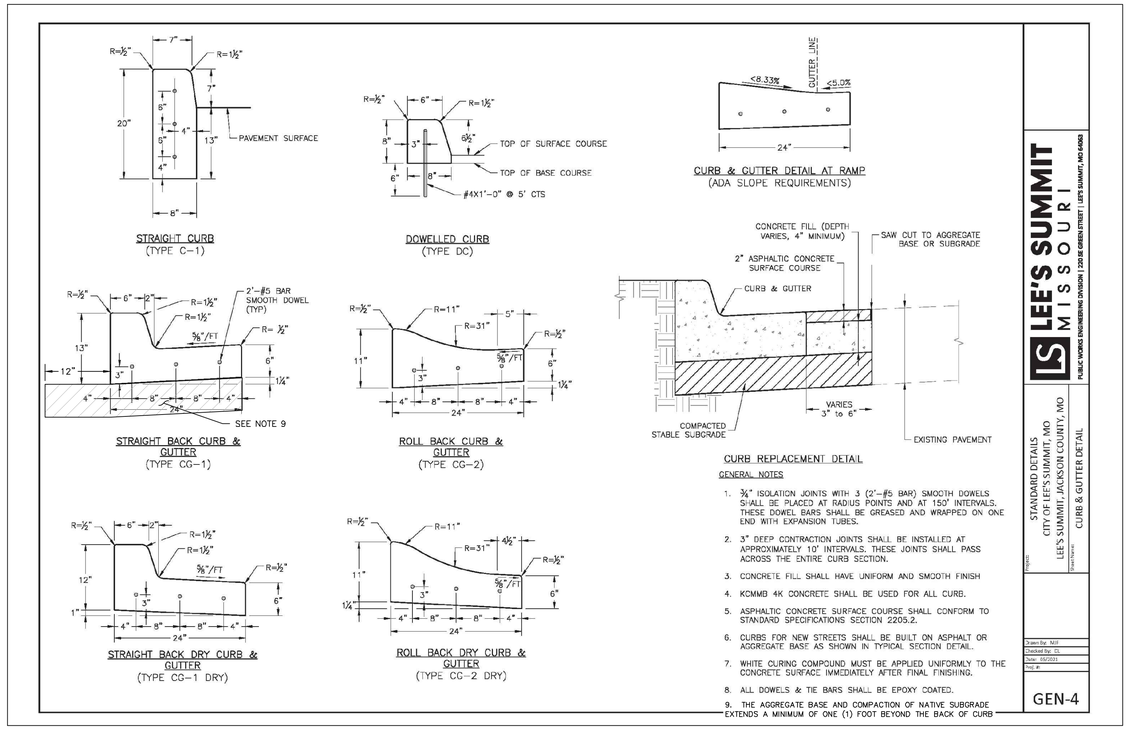


SECTION B-B

D SILTATION FENCE
NOT TO SCALE



E CONCRETE PAD DETAIL
NOT TO SCALE



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 APPROXIMATELY 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.
8. ALL DOWELS & TIE BARS SHALL BE EPOXY COATED.
9. THE AGGREGATE BASE AND COMPACTION OF NATIVE SUBGRADE EXTENDS A MINIMUM OF ONE (1) FOOT BEYOND THE BACK OF CURB

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

CURB & GUTTER DETAIL

Drawn by: NJH
Checked by: DL
Date: 05/2021
Proj. #:

GEN-4

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STATE OF MISSOURI
MICHAEL A BUESCHER
NUMBER E-2001018714
REGISTERED PROFESSIONAL ENGINEER
12/11/24

Michael A. Buescher, P.E. Civil Engineering
Missouri P.E. E-2001018714

MB Engineering, Inc. Missouri Authority No. E-2015041404

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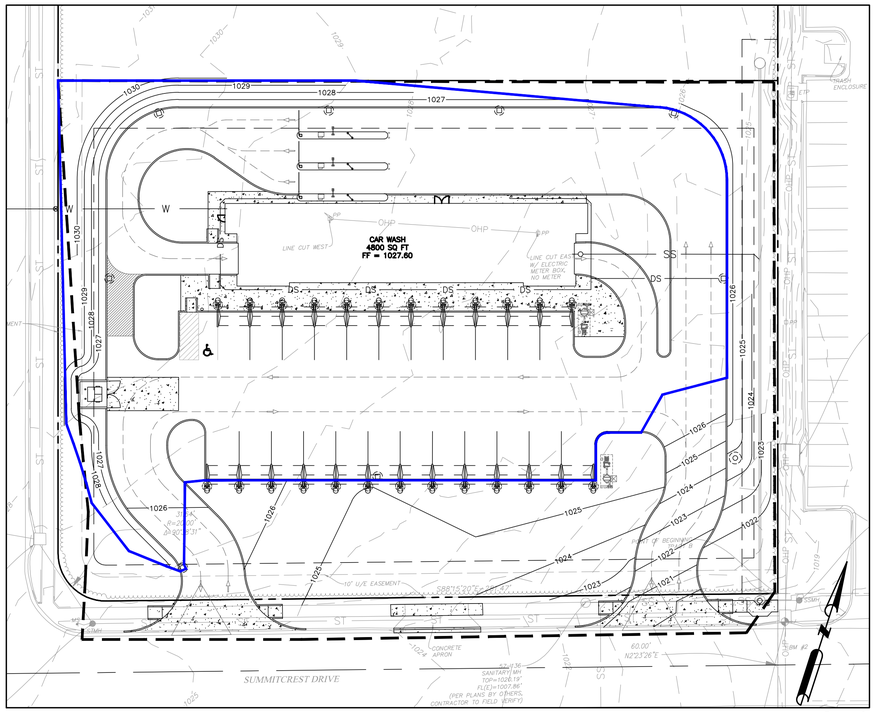
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DATE: 11-21-22
DRAFTED BY: KB
APPRVD. BY: MB

SHEET TITLE:
TYPICAL DETAILS

SHEET NUMBER:
C3-01

PROJECT NO: 22-752



TOTAL AREA TO BE TREATED BY HYDRO-DYNAMIC SEPARATOR

37,832.58 SQ FT (0.869 ACRES) OF IMPERVIOUS AREA
6,939.20 SQ FT (0.159 ACRES) OF PERVIOUS AREA
44,771.78 SQ FT (1.028 ACRES) OF TOTAL AREA
0.869 / 1.028 = 84.5% IMPERVIOUS

HYDRO-DYNAMIC SEPARATOR

WATER QUALITY VOLUME $WQ_V = (P\ R_V\ A) / 12$

P = 1.14 INCHES
A = 1.03 ACRES 0.00147 SQ MILES
I = 84.5 PERCENT
R_V = .05 + 0.009(I)
= 0.811
WQ_V = 0.079 ACRE-FT = 3448 FT^3

RUNOFF VOLUME

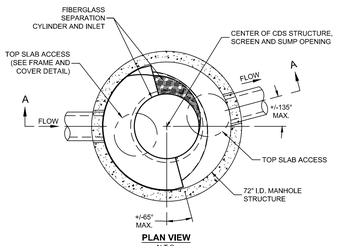
Q_a = 0.92 WATERSHED INCHES

$$CN = \frac{1000}{10 + 5P + 10Q_A - 10 * (SQRT(Q_A 2 + 1.25 * Q_A * P))]}$$

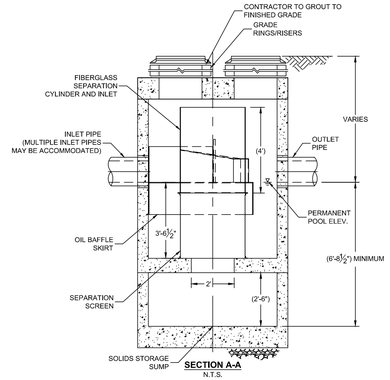
= 97.97

USING

Tc = 6 MINUTES = 0.1 HOURS
I_a = (200/CN)-2
= 0.041
I_a/P = 0.036
q_u = 990 CSM/IN. (FROM TR-55 EXHIBIT 4-II)
Q_p = q_u * A * Q_a
= 1.469 CFS 1.469 < 3.0 OK
(MAX ALLOWABLE TREATMENT FLOW FOR A 6' CONTECH CDS = 3.0 CFS)



PLAN VIEW
N.T.S.



SECTION A-A
N.T.S.



FRAME AND COVER
(DIAMETER VARIES)
N.T.S.

CDS3030 DESIGN NOTES	
CDS3030 RATED TREATMENT CAPACITY IS 3.0 CFS, OR PER LOCAL REGULATIONS. MAXIMUM HYDRAULIC INTERNAL BYPASS CAPACITY IS 20.0 CFS. IF THE SITE CONDITIONS EXCEED 20.0 CFS, AN UPSTREAM BYPASS STRUCTURE IS REQUIRED.	
THE STANDARD CDS3030 CONFIGURATION IS SHOWN. ALTERNATE CONFIGURATIONS ARE AVAILABLE AND ARE LISTED BELOW. SOME CONFIGURATIONS MAY BE COMBINED TO SUIT SITE REQUIREMENTS.	
DESIGNATION (MODEL SUFFIX)	**CONFIGURATION DESCRIPTION**
G	GRATED INLET ONLY (NO INLET PIPE)
GP	GRATED INLET WITH INLET PIPE OR PIPES
K	CURB INLET ONLY (NO INLET PIPE)
KP	CURB INLET WITH INLET PIPE OR PIPES
B	SEPARATE OIL BAFFLE (SINGLE INLET PIPE REQUIRED FOR THIS CONFIGURATION)
W	SEDIMENT WEIR FOR NJDEP / NJCAT CONFORMING UNITS

SITE SPECIFIC DATA REQUIREMENTS			
STRUCTURE ID			HDS - (12)
WATER QUALITY FLOW RATE (CFS)			1.469
PEAK FLOW RATE (CFS)			1.469
RETURN PERIOD OF PEAK FLOW (YRS)			15
SCREEN APERTURE (2400 OR 4700)			2400
PIPE DATA:	I.E.	MATERIAL	DIAMETER
INLET PIPE 1	1018.62	PVC	18"
INLET PIPE 2	1016.39	PVC	18"
OUTLET PIPE	1015.99	PVC	12"
RIM ELEVATION			1025.00
ANTI-FLOTATION BALLAST	WIDTH	HEIGHT	
	*	*	
NOTES/SPECIAL REQUIREMENTS:			
* PER ENGINEER OF RECORD			

GENERAL NOTES
1. CONTECH TO PROVIDE ALL MATERIALS UNLESS NOTED OTHERWISE.
2. DIMENSIONS MARKED WITH ( ) ARE REFERENCE DIMENSIONS. ACTUAL DIMENSIONS MAY VARY.
3. FOR FABRICATION DRAWINGS WITH DETAILED STRUCTURE DIMENSIONS AND WEIGHTS, PLEASE CONTACT YOUR CONTECH STORMWATER SOLUTIONS REPRESENTATIVE. www.contechstormwater.com
4. CDS WATER QUALITY STRUCTURE SHALL BE IN ACCORDANCE WITH ALL DESIGN DATA AND INFORMATION CONTAINED IN THIS DRAWING.
5. STRUCTURE AND CASTINGS SHALL MEET AASHTO HS20 LOAD RATING.

INSTALLATION NOTES
1. ANY SUB-BASE, BACKFILL DEPTH, AND/OR ANTI-FLOTATION PROVISIONS ARE SITE-SPECIFIC DESIGN CONSIDERATIONS AND SHALL BE SPECIFIED BY ENGINEER OF RECORD.
2. CONTRACTOR TO PROVIDE EQUIPMENT WITH SUFFICIENT LIFTING AND REACH CAPACITY TO LIFT AND SET THE CDS MANHOLE STRUCTURE (LIFTING CLUTCHES PROVIDED).
3. CONTRACTOR TO ADD JOINT SEALANT BETWEEN ALL STRUCTURE SECTIONS, AND ASSEMBLE STRUCTURE.
4. CONTRACTOR TO PROVIDE, INSTALL, AND GROUT PIPES. MATCH PIPE INVERTS WITH ELEVATIONS SHOWN.
5. CONTRACTOR TO TAKE APPROPRIATE MEASURES TO ASSURE UNIT IS WATER TIGHT, HOLDING WATER TO FLOWLINE INVERT MINIMUM. IT IS SUGGESTED THAT ALL JOINTS BELOW PIPE INVERTS ARE GROUTED.

PART 1 - GENERAL

1.1 DESCRIPTION

A. SCOPE

THE CONTRACTOR SHALL FURNISH ALL LABOR, EQUIPMENT AND MATERIALS NECESSARY TO INSTALL THE STORMWATER TREATMENT DEVICE(S) (SWTD) AND APPURTENANCES SPECIFIED IN THE DRAWINGS AND THESE SPECIFICATIONS.

1.2 QUALITY ASSURANCES

A. INSPECTION

ALL COMPONENTS SHALL BE SUBJECT TO INSPECTION BY THE ENGINEER AT THE PLACE OF MANUFACTURE AND/OR INSTALLATION. ALL COMPONENTS ARE SUBJECT TO BE REJECTED OR IDENTIFIED FOR REPAIR IF THE QUALITY OF MATERIALS AND MANUFACTURING DO NOT COMPLY WITH THE REQUIREMENTS OF THIS SPECIFICATION. COMPONENTS WHICH HAVE BEEN IDENTIFIED AS DEFECTIVE MAY BE SUBJECT FOR REPAIR. FINAL ACCEPTANCE OF THE COMPONENT IS CONTINGENT UPON THE DISCRETION OF THE ENGINEER.

B. WARRANTY

THE MANUFACTURER SHALL GUARANTEE THE SWTD COMPONENTS AGAINST ALL MANUFACTURER ORIGINATED DEFECTS IN MATERIALS OR WORKMANSHIP FOR A PERIOD OF TWELVE (12) MONTHS FROM THE DATE THE COMPONENTS ARE DELIVERED TO THE OWNER FOR INSTALLATION. THE MANUFACTURER SHALL BE NOTIFIED OF REPAIR/REPLACEMENT ISSUES IN WRITING WITHIN THE REFERENCED WARRANTY PERIOD. THE MANUFACTURER SHALL, UPON ITS DETERMINATION OF REPAIR, CORRECT OR REPLACE ANY MANUFACTURER ORIGINATED DEFECTS IDENTIFIED BY WRITTEN NOTICE WITHIN THE REFERENCED WARRANTY PERIOD. THE USE OF SWTD COMPONENTS SHALL BE LIMITED TO THE APPLICATION FOR WHICH IT WAS SPECIFICALLY DESIGNED.

C. MANUFACTURER'S PERFORMANCE CERTIFICATE

THE SWTD MANUFACTURER SHALL SUBMIT TO THE ENGINEER OF RECORD A "MANUFACTURER'S PERFORMANCE CERTIFICATION" CERTIFYING THAT EACH SWTD IS CAPABLE OF ACHIEVING THE SPECIFIED REMOVAL EFFICIENCIES AS LISTED IN THESE SPECIFICATIONS. THE CERTIFICATION SHALL BE SUPPORTED BY INDEPENDENT THIRD-PARTY RESEARCH.

1.3 SUBMITTALS

A. SHOP DRAWINGS

THE CONTRACTOR SHALL PREPARE AND SUBMIT SHOP DRAWINGS IN ACCORDANCE WITH THE CONTRACT DOCUMENTS. THE SHOP DRAWINGS SHALL DETAIL HORIZONTAL AND VERTICAL DIMENSIONING, REINFORCEMENT AND JOINT TYPE AND LOCATIONS.

PART 2 - PRODUCTS

2.1 MATERIALS AND DESIGN

A. PRECAST CONCRETE COMPONENTS

PRECAST CONCRETE COMPONENTS SHALL CONFORM TO APPLICABLE SECTIONS OF ASTM C 478, ASTM C 857 AND ASTM C 858 AND THE FOLLOWING:

1. CONCRETE SHALL ACHIEVE A MINIMUM 28-DAY COMPRESSIVE STRENGTH OF 4,000 POUNDS PER SQUARE-INCH (PSI);
2. UNLESS OTHERWISE NOTED, THE PRECAST CONCRETE SECTIONS SHALL BE DESIGNED TO WITHSTAND LATERAL EARTH AND AASHTO H-20 TRAFFIC LOADS;
3. CEMENT SHALL CONFORM TO ASTM C 150;
4. AGGREGATES SHALL CONFORM TO ASTM C 33;
5. REINFORCING STEEL SHALL BE DEFORMED BILLET-STEEL BARS, WELDED STEEL WIRE OR DEFORMED WELDED STEEL WIRE CONFORMING TO ASTM A 615, A 185 OR A 497, RESPECTIVELY;
6. JOINTS SHALL BE SEALED WITH PREFORMED JOINT SEALING COMPOUND CONFORMING TO ASTM C 990 AND
7. SHIPPING OF COMPONENTS SHALL NOT BE INITIATED UNTIL A MINIMUM COMPRESSIVE STRENGTH OF 4,000 PSI IS ATTAINED OR FIVE (5) CALENDAR DAYS AFTER FABRICATION HAS EXPIRED, WHICHEVER OCCURS FIRST.

B. INTERNAL COMPONENTS AND APPURTENANCES

INTERNAL COMPONENTS AND APPURTENANCES SHALL CONFORM TO THE FOLLOWING:

1. SCREEN AND SUPPORT STRUCTURE SHALL BE MANUFACTURED OF TYPE 316 AND 316L STAINLESS STEEL CONFORMING TO ASTM F 1267-01;
2. HARDWARE SHALL BE MANUFACTURED OF TYPE 316 STAINLESS STEEL CONFORMING TO ASTM A 320;
3. FIBERGLASS COMPONENTS SHALL CONFORM TO THE NATIONAL BUREAU OF STANDARDS PS-15 AND COATED WITH AN ISOPHALIC POLYESTER GELCOAT AND
4. ACCESS SYSTEM(S) CONFORM TO THE FOLLOWING:
   A. MANHOLE CASTINGS SHALL BE DESIGNED TO WITHSTAND AASHTO H-20 LOADINGS AND MANUFACTURED OF CAST-IRON CONFORMING TO ASTM A 48 CLASS 30.
   B. HATCH SYSTEMS SHALL BE DESIGNED TO WITHSTAND AASHTO H-20 LOADINGS. HATCH SYSTEMS NOT SUBJECT TO DIRECT TRAFFIC SHALL BE MANUFACTURED OF GRADE 5086 ALUMINUM. HATCH SYSTEMS SUBJECT TO DIRECT TRAFFIC LOADS SHALL BE MANUFACTURED OF STEEL CONFORMING TO ASTM A36-93A, SUPPLIED WITH A HOT-DIP GALVANIZED FINISH CONFORMING TO ASTM A 123 AND ACCESS DOORS BOLTED TO THE FRAME.

2.2 PERFORMANCE

A. REMOVAL EFFICIENCIES

1. THE SWTD SHALL BE CAPABLE OF ACHIEVING AN 80 PERCENT AVERAGE ANNUAL REDUCTION IN THE TOTAL SUSPENDED SOLID LOAD.
2. THE SWTD SHALL BE CAPABLE OF CAPTURING AND RETAINING 100 PERCENT OF POLLUTANTS GREATER THAN OR EQUAL TO [4.7 MILLIMETERS (MM) OR 2.4 MILLIMETERS (MM)] REGARDLESS OF THE POLLUTANT'S SPECIFIC GRAVITY (I.E.: FLOATABLE AND NEUTRALLY BUOYANT MATERIALS) FOR FLOWS UP TO THE DEVICE'S RATED-TREATMENT CAPACITY. THE SWTD SHALL BE DESIGNED TO RETAIN ALL PREVIOUSLY CAPTURED POLLUTANTS ADDRESSED BY THIS SUBSECTION UNDER ALL FLOW CONDITIONS.
3. THE SWTD SHALL BE CAPABLE OF CAPTURING AND RETAINING TOTAL PETROLEUM HYDROCARBONS. THE SWTD SHALL BE CAPABLE OF ACHIEVING A REMOVAL EFFICIENCY OF 92 AND 78 PERCENT WHEN THE DEVICE IS OPERATING AT 25 AND 50 PERCENT OF ITS RATED-TREATMENT CAPACITY. THESE REMOVAL EFFICIENCIES SHALL BE BASED ON INDEPENDENT THIRD-PARTY RESEARCH FOR INFLUENT OIL CONCENTRATIONS REPRESENTATIVE OF STORM WATER RUNOFF (20 ± 5 MG/L). THE SWTD SHALL BE GREATER THAN 99 PERCENT EFFECTIVE IN CONTROLLING DRY-WEATHER ACCIDENTAL OIL SPILLS. THE SWTD SHALL BE CAPABLE OF UTILIZING SORBENT MEDIA TO ENHANCE REMOVAL AND RETENTION OF PETROLEUM BASED POLLUTANTS.

B. HYDRAULIC CAPACITY

1. THE SWTD SHALL PROVIDE A RATED-TREATMENT CAPACITY, WHICH IS CONSISTENT WITH GOVERNING WATER TREATMENT REGULATIONS, AT ITS RATED-TREATMENT CAPACITY, THE DEVICE SHALL BE CAPABLE OF ACHIEVING GREATER THAN 65 PERCENT REMOVAL OF PARTICLES TYPICALLY FOUND IN ROADSIDE SEDIMENTS. THIS REMOVAL EFFICIENCY SHALL BE SUPPORTED BY INDEPENDENT THIRD-PARTY RESEARCH UTILIZING SAMPLES CONSISTENT WITH THE NURP GRADATION OR FINER.
2. THE SWTD SHALL MAINTAIN THE PEAK CONVEYANCE CAPACITY OF THE DRAINAGE NETWORK AS DEFINED BY THE ENGINEER.

C. STORAGE CAPACITY

1. 1. THE SWTD SHALL BE DESIGNED WITH A SUMP CHAMBER FOR THE STORAGE OF CAPTURED SEDIMENTS AND OTHER NEGATIVELY BUOYANT POLLUTANTS IN BETWEEN MAINTENANCE CYCLES. THE MINIMUM STORAGE CAPACITY PROVIDED BY THE SUMP CHAMBER SHALL BE IN ACCORDANCE WITH THE VOLUME LISTED IN TABLE 1. THE BOUNDARIES OF THE SUMP CHAMBER SHALL BE LIMITED TO THAT WHICH DO NOT DEGRADE THE SWTD'S TREATMENT EFFICIENCY AS CAPTURED POLLUTANTS ACCUMULATE. THE SUMP CHAMBER SHALL BE SEPARATE FROM THE TREATMENT PROCESSING PORTION(S) OF THE SWTD TO MINIMIZE THE PROBABILITY OF FINE PARTICLE RE-SUSPENSION. IN ORDER TO NOT RESTRICT THE OWNER'S ABILITY TO MAINTAIN THE SWTD, THE MINIMUM DIMENSION PROVIDING ACCESS FROM THE GROUND SURFACE TO THE SUMP CHAMBER SHALL BE 20 INCHES IN DIAMETER.
2. THE SWTD SHALL BE DESIGNED TO CAPTURE AND RETAIN TOTAL PETROLEUM HYDROCARBONS GENERATED BY WET-WEATHER FLOW AND DRY-WEATHER GROSS SPILLS. THE MINIMUM STORAGE CAPACITY PROVIDED BY THE SWTD SHALL BE IN ACCORDANCE WITH THE VOLUME LISTED IN TABLE 1 BELOW.

CDS Model	Treatment Capacity (cfs)/(L/s)	Minimum Sump Storage Capacity (yd^3)/(m^3)	Minimum Oil Storage Capacity (gal)/(L)
CDS3040	3.0 (85.0)	2.1 (1.6)	205 (776)
CDS3030-D	3.0 (85.0)	2.1 (1.6)	205 (776)
CDS3030-DV	3.0 (85.0)	2.1 (1.6)	205 (776)

D. ALTERNATE TREATMENT TECHNOLOGIES AND SIZING CRITERIA

THE SIZING CRITERIA FOR TREATMENT SYSTEMS MUST CONFORM TO THE RECOMMENDED LOADING RATE AND 3RD PARTY TESTING DATA REQUIREMENTS AS MENTIONED BELOW:

1. CDS SCREENING SYSTEMS - DESIGNED FOR FULL TREATMENT OF THE RUNOFF RATE AT A LOADING RATE NOT TO EXCEED THE CRITICAL FLOW IN THE INLET, IN ORDER TO ACHIEVE 80% TSS REMOVAL EFFICIENCY. (80% TSS REMOVAL BASED ON A AVERAGE PARTICLES SIZE OF 63 MICRON)
2. VORTEX SEPARATION SYSTEMS - DESIGNED FOR FULL TREATMENT OF THE RUNOFF RATE AT A LOADING RATE NOT TO EXCEEDING 24 GPM/FT2, IN ORDER TO ACHIEVE 80% TSS REMOVAL EFFICIENCY. THE HYDRAULIC CAPACITY SHOULD NOT EXCEED A LOADING RATE OF 100 GPM/FT2 TO PREVENT SCOURING OF PREVIOUSLY CAPTURED PARTICLES. 80% TSS REMOVAL BASED ON A AVERAGE PARTICLES SIZE OF 63 MICRON)
3. GRAVITY SYSTEMS - DESIGNED FOR FULL TREATMENT OF THE RUNOFF RATE AT A LOADING RATE NOT TO EXCEEDING 10 GPM/FT2, IN ORDER TO ACHIEVE 80% TSS REMOVAL EFFICIENCY. THE GRAVITY UNITS WILL NOT EXCEED LUMINAR FLOW CONDITION PARAMETERS IN THE TREATMENT UNIT BUT WILL PROVIDE A BYPASS SYSTEM TO PREVENT TURBULENCE FROM ACCRUING IN THE SYSTEM. (SEE "STOKES LAW" FOR GRAVITY SETTLING REQUIREMENTS OF PARTICLES. 80% TSS REMOVAL BASED ON A AVERAGE PARTICLES SIZE OF 63 MICRON)

ADDITIONALLY, THE PERFORMANCE OF THE UNIT MUST BE EVALUATED BY A THIRD PARTY AND VERIFIED IN A PROGRAM THAT ALLOWS A MORE-OR-LESS DIRECT COMPARISON TO OTHER TECHNOLOGIES. PERFORMANCE SHOULD BE THIRD PARTY VERIFIED, AND REMOVAL EFFICIENCIES ACROSS THE SPECTRUM OF PARTICLE SIZES REPORTED, AT A RANGE OF HYDRAULIC LOADING RATES VARYING OVER A RANGE OF AT LEAST 25 TO 125% OF THE MANUFACTURER'S ADVERTISED "WATER TREATMENT" LOADING RATE.

2.3 MANUFACTURER

THE MANUFACTURER OF THE SWTD SHALL BE ONE THAT IS REGULARLY ENGAGED IN THE ENGINEERING DESIGN AND PRODUCTION OF SYSTEMS DEPLOYED FOR THE TREATMENT OF STORM WATER RUNOFF FOR AT LEAST FIVE (5) YEARS AND WHICH HAVE A HISTORY OF SUCCESSFUL PRODUCTION, ACCEPTABLE TO THE ENGINEER. IN ACCORDANCE WITH THE DRAWINGS, THE SWTD(S) SHALL BE A CDS® DEVICE MANUFACTURED BY:

CONTECH ENGINEERED SOLUTIONS
9025 CENTRE POINTE DR., SUITE 400
WEST CHESTER, OH 45069
(800) 338-1122

PART 3 - EXECUTION

3.1 HANDLING AND STORAGE

1. 1. THE CONTRACTOR SHALL EXERCISE CARE IN THE STORAGE AND HANDLING OF THE SWTD COMPONENTS PRIOR TO AND DURING INSTALLATION. ANY REPAIR OR REPLACEMENT COSTS ASSOCIATED WITH EVENTS OCCURRING AFTER DELIVERY IS ACCEPTED AND UNLOADING HAS COMMENCED SHALL BE BORN BY THE CONTRACTOR.

3.2 INSTALLATION

1. THE SWTD SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS AND RELATED SECTIONS OF THE CONTRACT DOCUMENTS. THE MANUFACTURER SHALL PROVIDE THE CONTRACTOR INSTALLATION INSTRUCTIONS AND OFFER ON- SITE GUIDANCE DURING THE IMPORTANT STAGES OF THE INSTALLATION AS IDENTIFIED BY THE MANUFACTURER AT NO ADDITIONAL EXPENSE. A MINIMUM OF 72 HOURS NOTICE SHALL BE PROVIDED TO THE MANUFACTURER PRIOR TO THEIR PERFORMANCE OF THE SERVICES INCLUDED UNDER THIS SUBSECTION.
2. THE CONTRACTOR SHALL FILL ALL VOIDS ASSOCIATED WITH LIFTING PROVISIONS PROVIDED BY THE MANUFACTURER. THESE VOIDS SHALL BE FILLED WITH NON-SHRINKING GROUT PROVIDING A FINISHED SURFACE CONSISTENT WITH ADJACENT SURFACES. THE CONTRACTOR SHALL TRIM ALL PROTRUDING LIFTING PROVISIONS FLUSH WITH THE ADJACENT CONCRETE SURFACE IN A MANNER WHICH LEAVES NO SHARP POINTS OR EDGES.

1 CONTECH CDS3030 DETAIL & SPECIFICATIONS
NOT TO SCALE

MB Engineering, Inc.
606 Ryan Drive
Energy, IL 62933
(314) 368-3040

STATE OF MISSOURI
REGISTERED
MICHAEL A. BUESCHER
NUMBER E-2001018714
PROFESSIONAL ENGINEER
12/1/24

Michael A. Buescher, P.E. Civil Engineering
Missouri P.E. E-2001018714

MB Engineering, Inc. Missouri Authority No. E-2015041404

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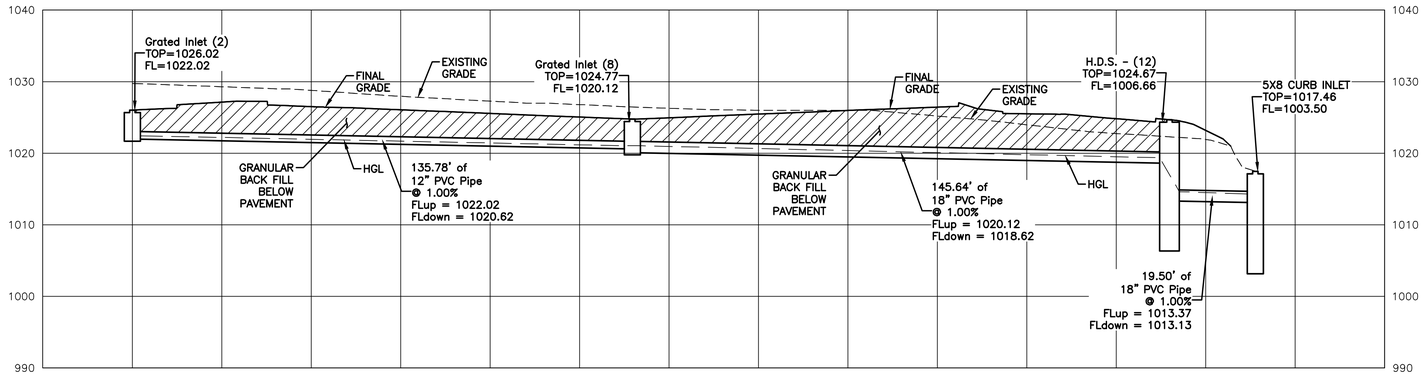
3601 SW Hollywood Dr.
Lee's Summit, MO 64082

DATE: 11-21-22
DRAFTED BY: KB
APPRVD. BY: MB

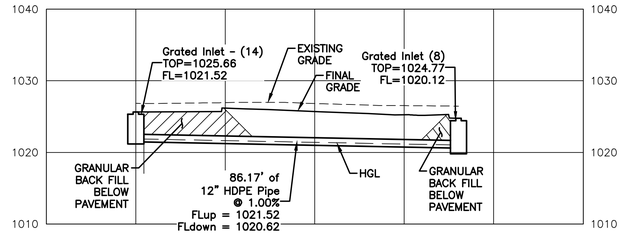
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TYPICAL DETAILS

SHEET NUMBER:
C3-02

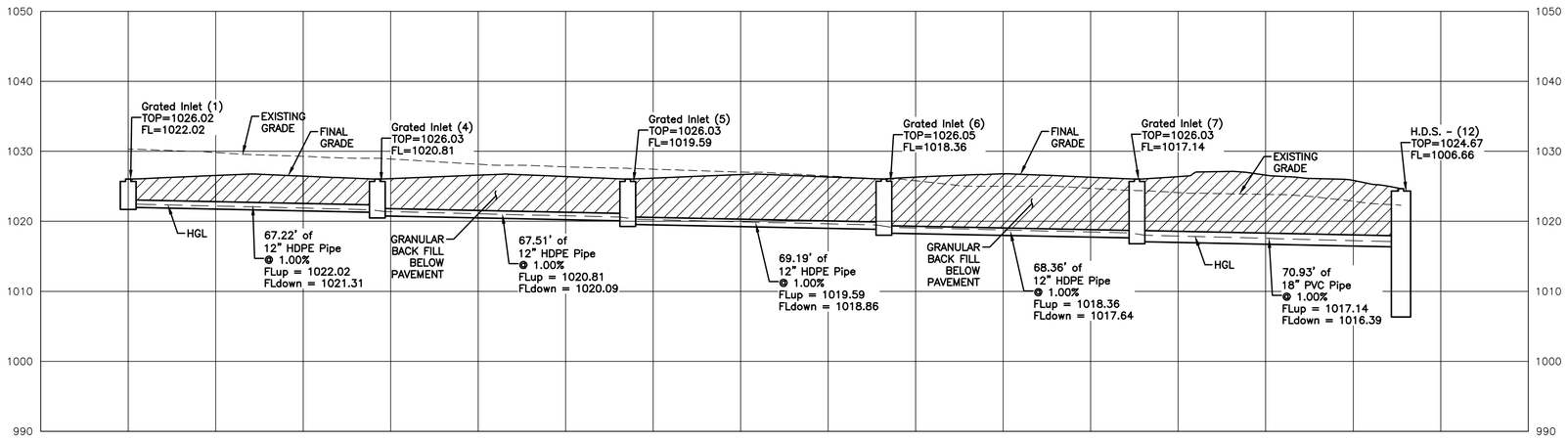
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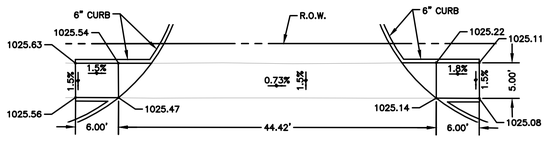
A STORM SEWER PROFILE
SCALE: 1" = 20' HORZ - 1" = 10' VERT



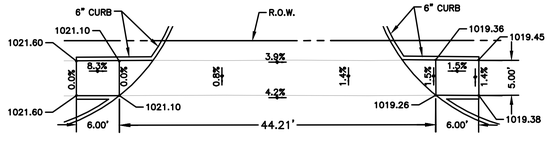
B STORM SEWER PROFILE
SCALE: 1" = 20' HORZ - 1" = 10' VERT



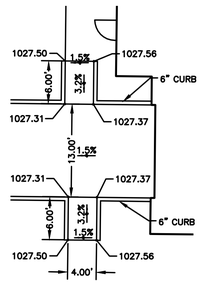
C STORM SEWER PROFILE
SCALE: 1" = 20' HORZ - 1" = 10' VERT



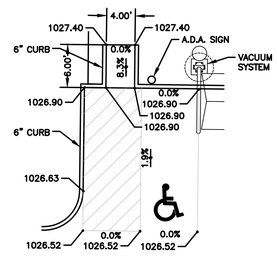
E WESTERN DRIVE RAMPS
SCALE: 1" = 10'



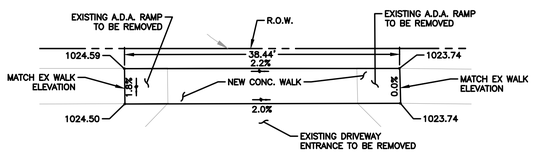
F EASTERN DRIVE RAMPS
SCALE: 1" = 10'



G WEST SIDE OF BLDG RAMPS
SCALE: 1" = 10'



H RAMP AT A.D.A PARKING
SCALE: 1" = 10'



I REPLACEMENT SECTION OF SIDEWALK
SCALE: 1" = 10'

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STATE OF MISSOURI
REGISTERED
MICHAEL A. BUESCHER
NUMBER E-2001018714
PROFESSIONAL ENGINEER
12/11/24

Michael A. Buescher, P.E. Civil Engineering
Missouri P.E. E-2001018714

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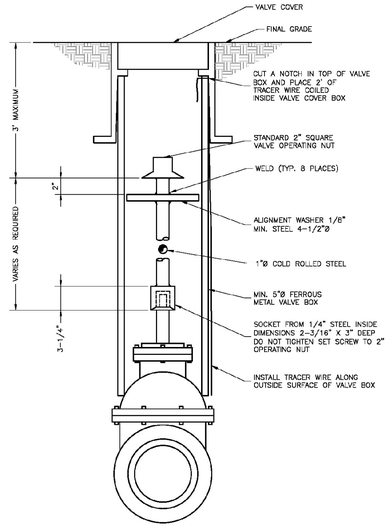
3601 SW Hollywood Dr.
Lee's Summit, MO 64082

DATE: 11-21-22
DRAFTED BY: KB
APPRVD. BY: MB

SHEET TITLE:
SEWER PROFILES

SHEET NUMBER:
C3-03

PROJECT NO: 22-752

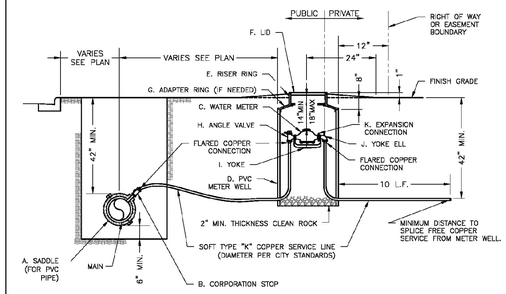


LEE'S SUMMIT
MISSOURI
PUBLIC WORKS ENGINEERING DIVISION | 220 SE GREEN STREET | LEE'S SUMMIT, MO 64063

VALVE STEM EXTENSION AND VALVE BOX

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

WAT-9



NOTES:

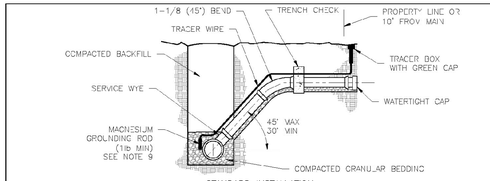
1. METER INSTALLATION SHALL NOT BE LOCATED IN AREAS SUBJECT TO VEHICULAR TRAFFIC OR IN CONCRETE PAVEMENT WITHOUT CITY APPROVAL.
2. IF METER IS TO BE LOCATED OTHER THAN IN FRONT OF PROPERTY LINE, CITY APPROVAL SHALL BE OBTAINED.
3. CITY TO FURNISH ITEMS A-K.
4. NO OTHER EQUIPMENT SHALL BE INSTALLED IN 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"

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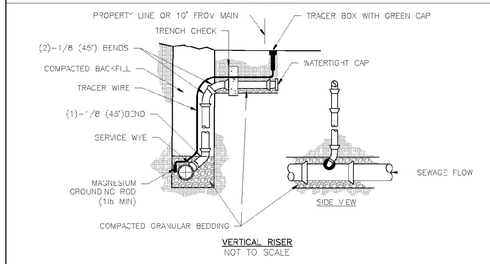
SERVICE CONNECTION WITH METER WELL

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

WAT-11



STANDARD INSTALLATION
NOT TO SCALE



VERTICAL RISER
NOT TO SCALE

NOTES:

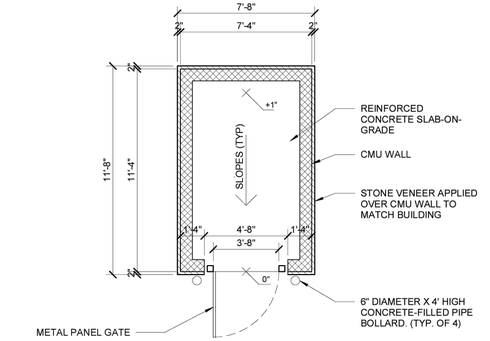
1. ALL SEWER STUBS SHALL BE CONSTRUCTED TO PROPERTY LINE OR 10' MINIMUM FROM THE MAIN, WHICHEVER IS GREATER. WHERE SIDEWALKS ARE PRESENT, CONTRACTOR SHALL EXTEND SERVICE LINE UNDER EXISTING SIDEWALK TO TWO FEET BEYOND.
2. IMPERVIOUS TRENCH CHECKS SHALL BE PLACED ON BUILDING SEWER STUBS (AT LEAST 5' AWAY FROM THE SANITARY SEWER MAIN).
3. TRENCH CHECKS ON THE BUILDING SEWER STUBS SHALL EXTEND 6" BELOW THE BOTTOM OF THE PIPE. LENGTH SHALL BE A MINIMUM OF 12". THE HEIGHT OF THE TRENCH CHECK SHALL EXTEND 12" ABOVE THE TOP OF THE PIPE. THE WIDTH OF THE TRENCH CHECK SHALL BE THE WIDTH OF THE TRENCH.
4. SEE SPECIFICATION SECTION 2 00 FOR SEWER MAIN BEDDING AND BACKFILL.
5. TRACER WIRE SHALL BE INSTALLED PER SPECIFICATION SECTION 3500. TRACER WIRE TERMINAL BOXES SHALL BE INSTALLED DIRECTLY ABOVE THE SEWER SERVICE OR AS DETERMINED BY THE ENGINEER.
6. FOR SERVICES, TRACER WIRE SHALL RUN FROM THE WYE AND TERMINATE IN A FLUSH MOUNTED TRACER BOX WITH A GREEN CAST IRON LOCKABLE TOP. WIRE SHALL BE TAPED OR TIED TO THE PIPE AT 5' INTERVALS.
7. TRACER WIRE BOX SHALL BE INSTALLED WITHIN 1.0' OF PROPERTY LINE.
8. THE TRACER WIRE SHALL REMAIN CONTINUOUS TO THE GREATEST EXTENT POSSIBLE. SPLICES IN THE TRACER WIRE SHOULD BE MADE WITH LOCKING SPLICE CONNECTOR MANUFACTURED WITH A WATERPROOF DIELECTRIC SEALANT.

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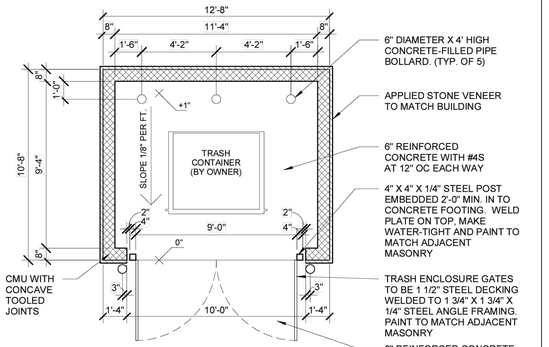
SANITARY SEWER STUB DETAIL

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

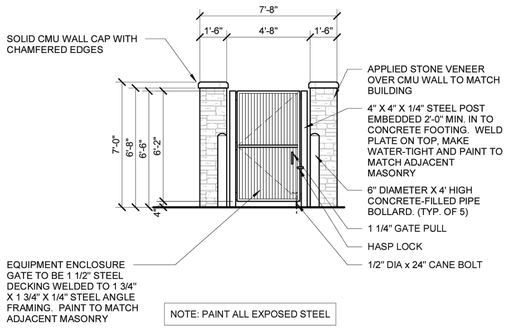
SAN-1



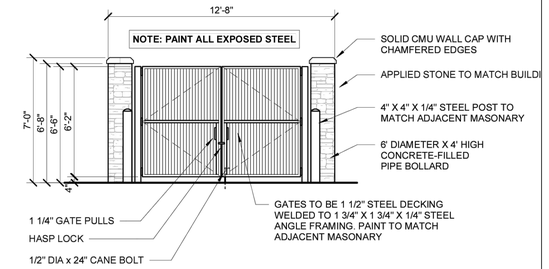
VAC ENCLOSURE PLAN
1/4" = 1'-0"



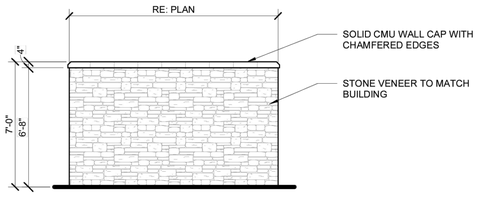
DTL-Trash Enclosure Plan
1/4" = 1'-0"



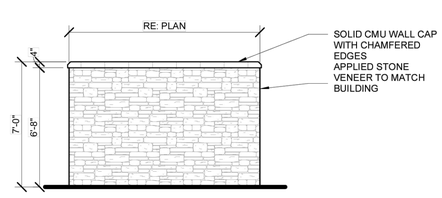
VAC ENCLOSURE FRONT ELEVATION
1/4" = 1'-0"



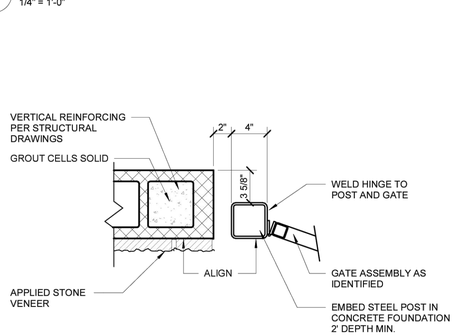
DTL-Trash Enclosure Front Elevation
1/4" = 1'-0"



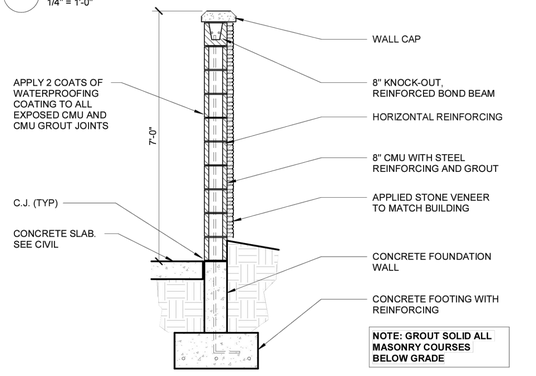
VAC ENCLOSURE SIDE ELEVATION
1/4" = 1'-0"



DTL-Trash Enclosure Side Elevation
1/4" = 1'-0"



DTL-Trash Enclousre Gate Detail
1 1/2" = 1'-0"



DTL-Trash Enclosure Wall Section
1/2" = 1'-0"

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STATE OF MISSOURI
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MICHAEL A BUESCHER
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PROFESSIONAL ENGINEER
2/12/24

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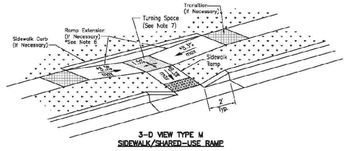
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Lee's Summit, MO 64082

DATE: 11-21-22
DRAFTED BY: KB
APPRVD. BY: MB

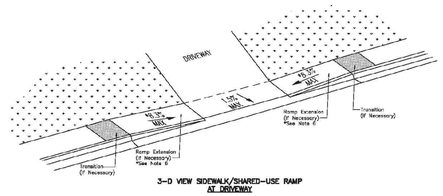
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TYPICAL DETAILS

SHEET NUMBER:
C3-05

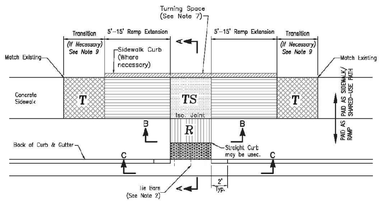
PROJECT NO: 22-752



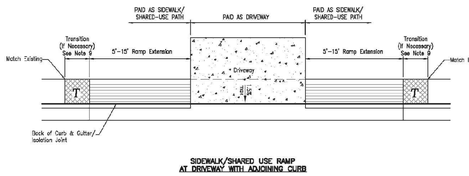
3-D VIEW TYPE M
SIDEWALK/SHARED-USE RAMP



3-D VIEW SIDEWALK/SHARED-USE RAMP
AT DRIVEWAY

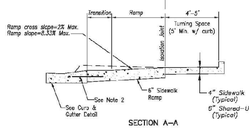


TYPE M SIDEWALK/SHARED-USE RAMP
Not to Scale



SIDEWALK/SHARED USE RAMP
AT DRIVEWAY WITH ADJOINING CURB

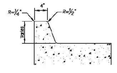
PAID AS RAMP PAID AS SIDEWALK/SHARED-USE PATH



SECTION A-A

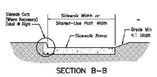


CURB & GUTTER DETAIL AT RAMP
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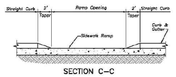


SIDEWALK CURB DETAIL
Not to Scale

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



SECTION B-B



SECTION C-C

TYPE M SIDEWALK RAMP
Not to Scale

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

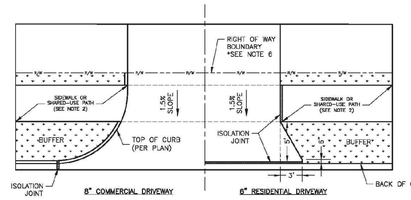
1. CURB RAMP OPENING, NOT INCLUDING FLARES, SHALL MATCH EXISTING SIDEWALK WIDTH AND OPENING SHALL BE AT LEAST 48" WIDE.
2. USE 15" LONG #4 EPOXY COATED TIE BARS @ 24" O.C. EMBED TIE BARS 9" IN EACH DIRECTION.
3. ALL RAMPS, SIDEWALKS, SHARED-USE PATHS SUBGRADE MUST BE OF STABLE, COMPACTED EARTH AND SHALL BE OVERLAYED WITH 4" COMPACTED GRADE 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%, ±2.0%.
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 EXTENSIONS SHALL BE A CONTINUOUS SLOPE.
10. ALL SIDEWALK AND RAMP CONSTRUCTION SHALL MEET CURRENT PUBLIC RIGHT OF WAY ACCESSIBILITY GUIDELINES (PROWAG).

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

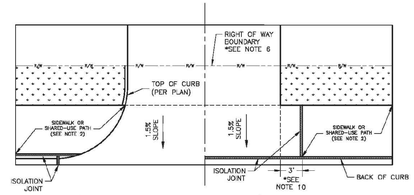
Drawing Title: STANDARD DETAILS
CITY OF LEE'S SUMMIT, MO
LEE'S SUMMIT, JACKSON COUNTY, MO
Sheet Name: ADA RAMP RETROFIT DETAIL

Drawn By: MJT
Checked By: TH
Date: 05/2021
Proj. #:

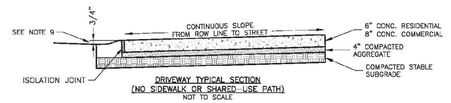
GEN-3B



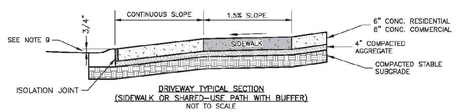
DRIVEWAY WITH BUFFER
NOT TO SCALE



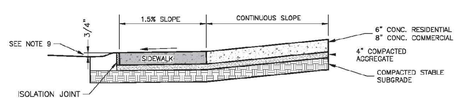
DRIVEWAY WITH-OUT BUFFER
NOT TO SCALE



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



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



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

GENERAL NOTES

1. SUBGRADE SHALL BE STABLE, COMPACTED EARTH AND SHALL BE OVERLAYED WITH 4" COMPACTED DENSE GRADED AGGREGATE BASE.
2. ALL DRIVE APPROACHES SHALL MEET CURRENT PUBLIC RIGHT OF WAY ACCESSIBILITY GUIDELINES (PROWAG) FOR SLOPE REQUIREMENTS WHEN SIDEWALK IS REQUIRED (SEE ADA RAMP RETROFIT DETAIL GEN-3B, SIDEWALK/SHARED USE PATH RAMP AT DRIVEWAY DETAIL).
3. JOINT AT BACK OF CURB LINE SHALL BE AN ISOLATION JOINT FOR RESIDENTIAL DRIVEWAYS.
4. KCMMB 4K CONCRETE MIX IS REQUIRED FOR ALL CURBS.
5. COMMERCIAL DRIVEWAYS, IN THE PUBLIC RIGHT OF WAY, SHALL BE KCMMB 4K CONCRETE MIX.
6. RESIDENTIAL DRIVEWAYS, IN THE PUBLIC RIGHT OF WAY, KCMMB 4K CONCRETE MIX IS RECOMMENDED. OTHER CONCRETE MIXES NEED TO BE APPROVED BY CITY INSPECTOR.
7. A JOINT MUST BE INSTALLED AT THE RIGHT OF WAY BOUNDARY FOR PROPERTY DELINEATION.
8. WHITE CURING COMPOUND MUST BE APPLIED UNIFORMLY TO THE CONCRETE SURFACE IMMEDIATELY AFTER FINAL FINISHING.
9. ¾" FROM TOP OF CURB TO FLOWLINE AT DRIVEWAY (TYPE CG-1 CURB ONLY). MUST MAINTAIN ORIGINAL FLOWLINE OF CURB.
10. SIDEWALK ADJOINING CURB SHALL BE 6" THICK, EXTENDING 3' FROM THE DRIVEWAY.
11. THE MAXIMUM WIDTH OF A RESIDENTIAL DRIVEWAY IS 36 FEET WITHIN THE RIGHT OF WAY.

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

Drawing Title: STANDARD DETAILS
CITY OF LEE'S SUMMIT, MO
LEE'S SUMMIT, JACKSON COUNTY, MO
Sheet Name: DRIVEWAY DETAIL

Drawn By: MJT
Checked By: DL
Date: 05/2021
Proj. #:

GEN-1

NOTES:

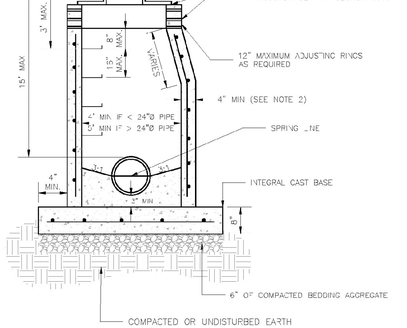
1. PRECAST CONCRETE MANHOLES SHALL CONFORM TO ASTM C478 EXCEPT AS MODIFIED BY THE SPECIFICATIONS.
2. A WALL THICKNESS NOT LESS THAN ONE-TWELFTH (1/12) OF THE INSIDE DIAMETER OR 4", WHICHEVER IS GREATER, SHALL BE USED WHEN THE MANHOLE DEPTH IS LESS THEN 15'.
3. WATERPROOFING SHALL BE REQUIRED ON THE OUTSIDE OF MANHOLES. THE WATERPROOFING SHALL CONSIST OF A TOTAL DRY FILM THICKNESS OF NOT LESS THAN 14 MILS OF BITUMINOUS COATING.
4. ONLY ECCENTRIC MANHOLE CONES WILL BE ALLOWED UNLESS OTHERWISE APPROVED BY THE CITY ENGINEER.
5. THE FULL CONCRETE FLOW CHANNEL FOR SIDE BRANCHES SHALL BE PLACED TO PROVIDE A SMOOTH TRANSITION INTO THE FLOW LINE.
6. REFER TO THE APPROVED PRODUCTS LIST FOR WATER UTILITIES FOR APPROVED MANHOLE GASKET MODELS.
7. REFER TO THE APPROVED PRODUCTS LIST FOR APPROVED STEPS.

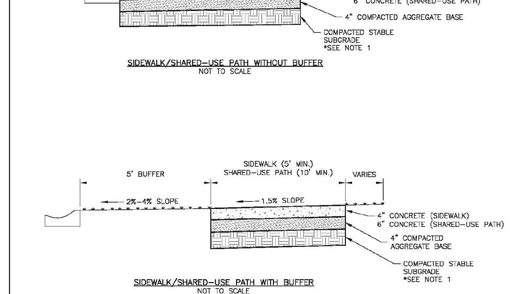
LEE'S SUMMIT MISSOURI
PUBLIC WORKS ENGINEERING DIVISION | 220 SE GREEN STREET | LEE'S SUMMIT, MO 64063

STANDARD SANITARY PRECAST MANHOLE

Date: 08/2023
Drawn By: MF
Checked By: AB

SAN-2





SIDEWALK/SHARED-USE PATH WITHOUT BUFFER
NOT TO SCALE

SIDEWALK/SHARED-USE PATH WITH BUFFER
NOT TO SCALE

GENERAL NOTES:

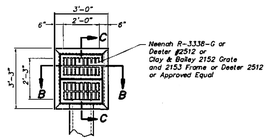
1. SUBGRADE MUST BE OF STABLE, COMPACTED EARTH AND SHALL BE OVERLAYED WITH 4" COMPACTED DENSE GRADED AGGREGATE BASE.
2. 1.5% CROSS SLOPE MUST BE MAINTAINED THROUGH DRIVEWAYS.
3. KCMMB 4K CONCRETE MIX SHALL BE REQUIRED FOR ALL SIDEWALKS/SHARED-USE PATHS.
4. ALL SIDEWALK/SHARED-USE PATHS SHALL MEET CURRENT 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: 05/2021
Drawn By: MJT
Checked By: DL

GEN-2

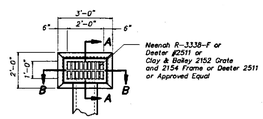


PLAN

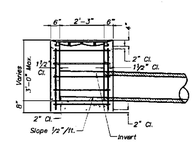
NOTE:

1. Location point at center of inlet.
2. A separate top slab may be utilized.
3. Not recommended for use in areas with bicycle traffic.

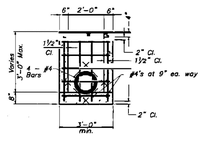
* East Jordan is an approved manufacturer for castings.



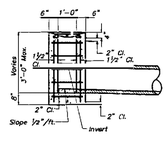
PLAN



SECTION C-C



SECTION B-B



SECTION A-A

DOUBLE GRATE INLET DETAILS

SINGLE GRATE INLET DETAILS

AMERICAN PUBLIC WORKS ASSOCIATION
KANSAS CITY METROPOLITAN CHAPTER

GRATE INLET DETAILS

STANDARD DRAWING NUMBER G-1
ADOPTED: APRIL 17, 1996

MB Engineering, Inc.
606 Ryan Drive
Energy, IL 62933
(314) 368-3040

STATE OF MISSOURI
MICHAEL A BUESCHER
NUMBER E-2001018714
REGISTERED PROFESSIONAL ENGINEER
2/12/24

Michael A. Buescher, P.E. Civil Engineering
Missouri P.E. E-2001018714

MB Engineering, Inc. Missouri Authority No. E-2015041404

The Professional Engineer's seal affixed to this sheet indicates that the named Engineer has prepared or directed the preparation of the material shown only on this sheet. Other drawings and documents not exhibiting this seal shall not be considered prepared by or the responsibility of the undersigned.

PROJECT REVISION:

NO:	DATE:	DESCRIPTION:
1	11-21-22	FOR REVIEW
2	05-16-23	CITY COMMENTS
3	07-11-23	CITY COMMENTS
4	07-25-23	CITY COMMENTS
5	03-21-24	CITY COMMENTS
6	05-03-24	CITY COMMENTS
7	12-07-24	CITY COMMENTS

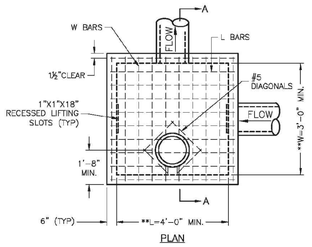
3601 SW Hollywood Dr.
Lee's Summit, MO 64082

DATE: 11-21-22
DRAFTED BY: KB
APPRVD. BY: MB

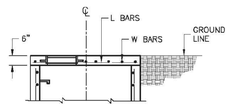
SHEET TITLE:
TYPICAL DETAILS

SHEET NUMBER:
C3-06

PROJECT NO: 22-752



PLAN

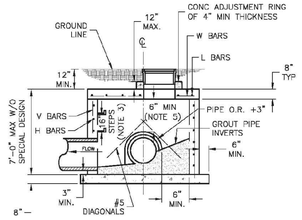


SLAB TOP ALTERNATE FOR JUNCTION BOX (SHALLOW)

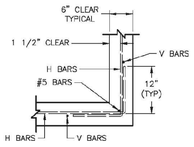
** INCREASE IN MULTIPLES OF 6" (7'-0") MAX WITHOUT SPECIAL DESIGN. (SEE PROJECT PLANS FOR DETAILS)

REINFORCING

BARS	BAR SIZE	SPACING (IN.)
H	4	12
V	4	12
L	5	5
W	5	5



SECTION A-A



WALL CORNER DETAIL

GENERAL NOTES:

1. LOCATE RING AND COVER ON BLANK WALL.
2. USE ¾" CHAMFER STRIP OR ½" R EDGER TOOL ON ALL EXPOSED CONCRETE CORNERS.
3. STEPS REQUIRED AT 16" O.C. WHEN DEPTH FROM TOP OF CASTING TO INVERT EXCEEDS 4' ON BLANK WALL IF POSSIBLE.
4. BOXOUTS WILL NOT BE ALLOWED TO PROJECT THROUGH THE CORNERS OF THE STRUCTURE AND THE MINIMUM DISTANCE BETWEEN BOXOUTS IS 6".
5. THE MINIMUM REINFORCING SHALL BE 1 H-BAR OVER A CAST-IN-PLACE PIPE AND 2 H-BARS OVER A PRECAST BOXOUT.
8. PRECAST LIDS SHALL BE PINNED, SEALED WITH NON-SHRINKABLE GROUT AND REMOVABLE FOR FUTURE MAINTENANCE.
9. REINFORCING OF COVERS IN STREETS REQUIRE SPECIAL DESIGN.
10. FOR RING AND COVER SEE THE STORMWATER APPROVED PRODUCT LIST.

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

Prepared: STANDARD DETAILS
CITY OF LEE'S SUMMIT, MO
LEE'S SUMMIT, JACKSON COUNTY, MO
JUNCTION BOX DETAIL

Drawn By: MH
Checked By: DL
Date: 04/2021
Proj. #:

STM-3

MB Engineering, Inc.
606 Ryan Drive
Energy, IL 62933
(314) 368-3040

STATE OF MISSOURI
MICHAEL A. BUESCHER
NUMBER E-2001018714
REGISTERED PROFESSIONAL ENGINEER

12/1/24

Michael A. Buescher, P.E. Civil Engineering
Missouri P.E. E-2001018714

MB Engineering, Inc. Missouri Authority No. E-2015041404

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7	12-07-24	CITY COMMENTS

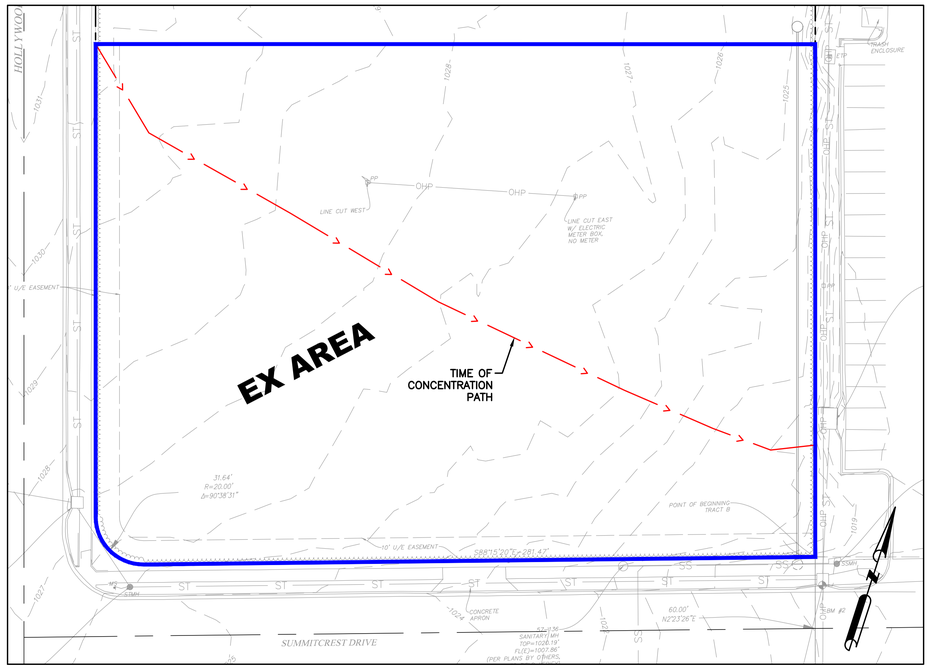
3601 SW Hollywood Dr.
Lee's Summit, MO 64082

DATE: 11-21-22
DRAFTED BY: KB
APPRVD. BY: MB

SHEET TITLE:
TYPICAL DETAILS

SHEET NUMBER:
C3-07

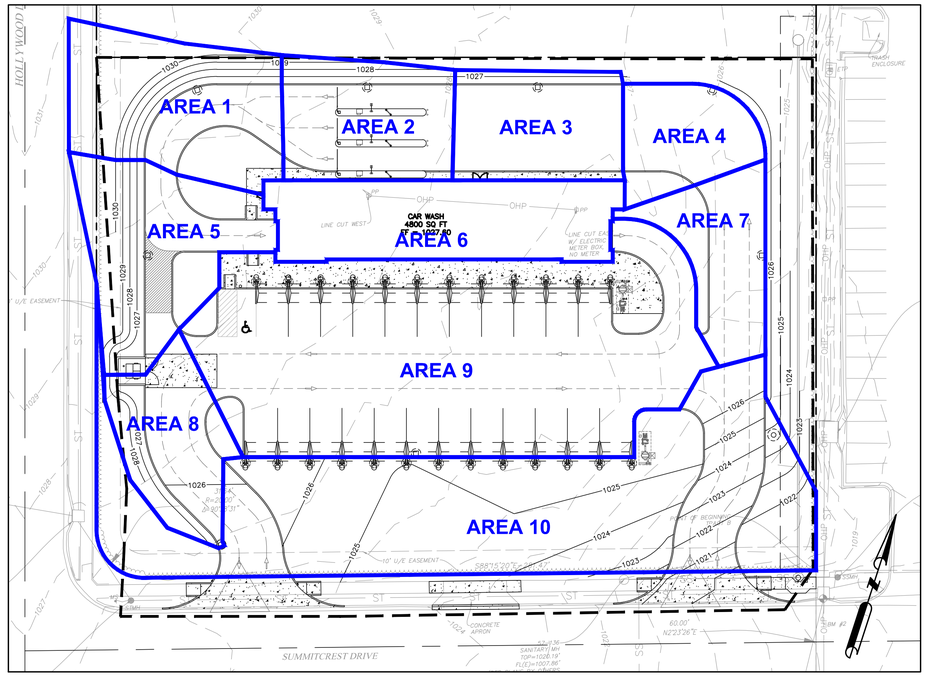
PROJECT NO: 22-752



EXISTING AREA: 1.499 ACRES CN = 79

2 YR. = 3.05 CFS
10 YR. = 5.77 CFS
25 YR. = 7.57 CFS
100 YR = 10.45 CFS

A EXISTING DRAINAGE AREA
SCALE: 1" = 30'



SCALE: 1" = 30'

B INLET DRAINAGE AREAS
SCALE: 1" = 30'

(CFS) (CFS) (CFS) (CFS)	2-YR	10-YR	25-YR	100-YR
AREA 1 IMPERVIOUS AREA = 1,667.89 SQ FT PERVIOUS AREA = 3,315.60 SQ FT TOTAL AREA = 4,983.49 SQ FT	0.34	0.60	0.78	1.05
AREA 2 IMPERVIOUS AREA = 2,900.14 SQ FT PERVIOUS AREA = 672.71 SQ FT TOTAL AREA = 3,572.85 SQ FT	0.36	0.55	0.67	0.85
AREA 3 IMPERVIOUS AREA = 2,878.23 SQ FT PERVIOUS AREA = 374.22 SQ FT TOTAL AREA = 3,252.44 SQ FT	0.34	0.51	0.61	0.78
AREA 4 IMPERVIOUS AREA = 2,043.79 SQ FT PERVIOUS AREA = 583.96 SQ FT TOTAL AREA = 2,327.75 SQ FT	0.26	0.40	0.48	0.62
AREA 5 IMPERVIOUS AREA = 2,054.63 SQ FT PERVIOUS AREA = 2,521.74 SQ FT TOTAL AREA = 4,576.36 SQ FT	0.35	0.60	0.76	1.00
AREA 6 IMPERVIOUS AREA = 4,828.88 SQ FT PERVIOUS AREA = 0.00 SQ FT TOTAL AREA = 4,828.88 SQ FT	0.53	0.77	0.92	1.17
AREA 7 IMPERVIOUS AREA = 1,958.76 SQ FT PERVIOUS AREA = 766.05 SQ FT TOTAL AREA = 2,724.77 SQ FT	0.26	0.40	0.50	0.64
AREA 8 IMPERVIOUS AREA = 1,876.62 SQ FT PERVIOUS AREA = 1,086.96 SQ FT TOTAL AREA = 2,963.58 SQ FT	0.26	0.42	0.52	0.68
AREA 9 IMPERVIOUS AREA = 16,567.27 SQ FT PERVIOUS AREA = 323.41 SQ FT TOTAL AREA = 16,890.68 SQ FT	1.85	2.69	3.22	4.06
AREA 10 IMPERVIOUS AREA = 3,434.17 SQ FT PERVIOUS AREA = 12,250.35 SQ FT TOTAL AREA = 15,684.52 SQ FT	0.94	1.76	2.30	3.17

Line No.	Line Size	Flow Rate	Invert Up	HGL Up	Depth Up	Area Up	Vel Up	Vel Hd Up	EGL Up	Line Slope	Line Length	Invert Dn	HGL Dn	Depth Dn	Area Dn	Vel Dn	Vel Hd Dn	EGL Dn	Sf Dn	Sf Ave	Energy Loss	J-Loss Coeff	Minor Loss	Line ID	Capacity Full	Grnd/Rim Elev Up
	(in)	(cfs)	(ft)	(ft)	(ft)	(sqft)	(ft/s)	(ft)	(ft)	(%)	(ft)	(ft)	(ft)	(ft)	(sqft)	(ft/s)	(ft)	(ft)	(%)	(%)	(ft)		(ft)		(cfs)	(ft)
1	18	10.85	1013.37	1014.63	1.26**	1.59	6.84	0.73	1015.36	1.00	23.982	1013.13	1014.30	1.17	1.48	7.33	0.73	1015.03	0.000	0.000	0.000	1.00 z	n/a	HDS (12) 5x8 CI	11.38	1024.67
2	18	5.11	1017.14	1018.01	0.87**	1.06	4.81	0.36	1018.37	0.99	75.416	1016.39	1017.10	0.71	0.82	6.25	0.36	1017.46	0.000	0.000	0.000	0.27 z	0.10	GI (7) - HDS (12)	11.34	1026.03
3	12	3.30	1018.36	1019.14	0.78**	0.65	5.04	0.39	1019.53	1.00	72.350	1017.64	1018.35	0.71	0.60	5.51	0.39	1018.75	0.000	0.000	0.000	0.96 z	n/a	GI (6) - GI (7)	3.85	1026.05
4	12	2.68	1019.59	1020.29	0.70**	0.59	4.56	0.32	1020.61	1.00	73.183	1018.86	1019.47	0.61	0.51	5.30	0.32	1019.80	0.000	0.000	0.000	0.15 z	0.05	GI (5) - GI (6)	3.85	1026.03
5	12	1.90	1020.81	1021.40	0.59**	0.48	3.97	0.24	1021.64	0.99	71.501	1020.10	1020.60	0.50	0.39	4.88	0.24	1020.84	0.000	0.000	0.000	0.15 z	0.04	GI (4) - GI (5)	3.84	1026.03
6	12	1.05	1022.02	1022.45	0.43**	0.32	3.25	0.16	1022.61	1.00	71.214	1021.31	1021.67	0.36	0.25	4.17	0.16	1021.83	0.000	0.000	0.000	1.00 z	n/a	GI (1) - GI (4)	3.85	1026.03
7	18	5.74	1020.12	1021.04	0.92**	1.14	5.03	0.39	1021.44	1.00	150.123	1018.62	1019.37	0.75	0.89	6.45	0.39	1019.77	0.000	0.000	0.000	0.68 z	n/a	GI (8) - HDS (12)	11.37	1024.77
8	12	1.00	1022.02	1022.44 j	0.42**	0.31	3.20	0.16	1022.60	1.00	139.767	1020.62	1021.04	0.42	0.31	3.16	0.16	1021.20	0.000	0.000	0.000	1.00 z	n/a	GI (2) - GI (8)	3.86	1026.02
9	12	0.68	1021.52	1021.86 j	0.34**	0.24	2.85	0.13	1021.99	1.00	90.158	1020.62	1021.04	0.42	0.24	2.15	0.13	1021.17	0.000	0.000	0.000	1.00 z	n/a	GI (14) - GI (8)	3.85	1025.66

D 100-YR STORM SEWER HYDRAULICS
NO SCALE

MB Engineering, Inc.
606 Ryan Drive
Energy, IL 62933
(314) 368-3040

STATE OF MISSOURI — MICHAEL A. BUESCHER — NUMBER E-2001018714 — PROFESSIONAL ENGINEER — 12/11/24

Michael A. Buescher, P.E. Civil Engineering
Missouri P.E. E-2001018714

MB Engineering, Inc. Missouri Authority No. E-2015041404

The Professional Engineer's seal affixed to this sheet indicates that the named Engineer has prepared or directed the preparation of the material shown only on this sheet. Other drawings and documents not exhibiting this seal shall not be considered prepared by or the responsibility of the undersigned.

PROJECT REVISION:

NO:	DATE:	DESCRIPTION:
1	11-21-22	FOR REVIEW
2	05-16-23	CITY COMMENTS
3	07-11-23	CITY COMMENTS
4	07-25-23	CITY COMMENTS
5	03-21-24	CITY COMMENTS
6	05-03-24	CITY COMMENTS
7	12-07-24	CITY COMMENTS

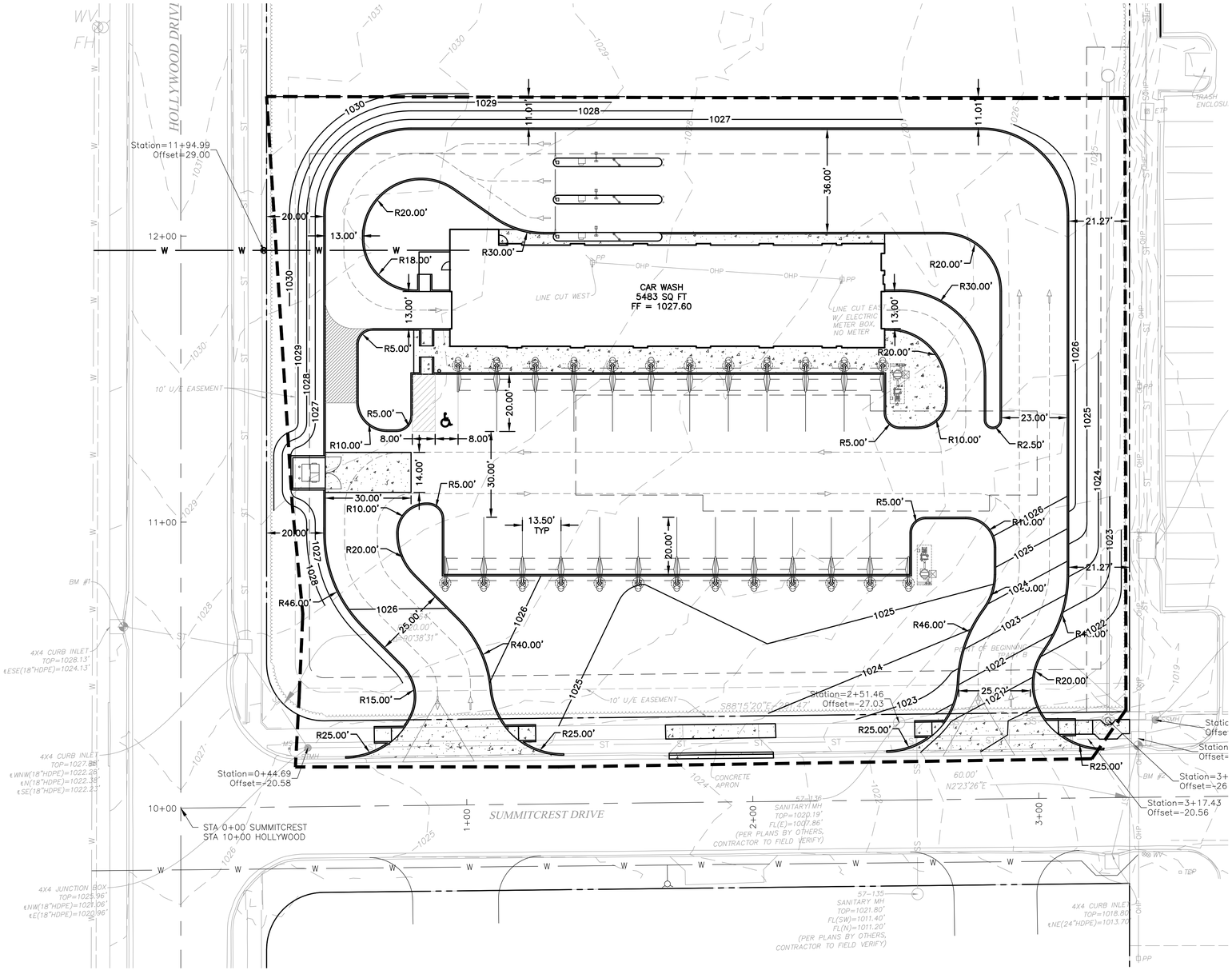
3601 SW Hollywood Dr.
Lee's Summit, MO 64082

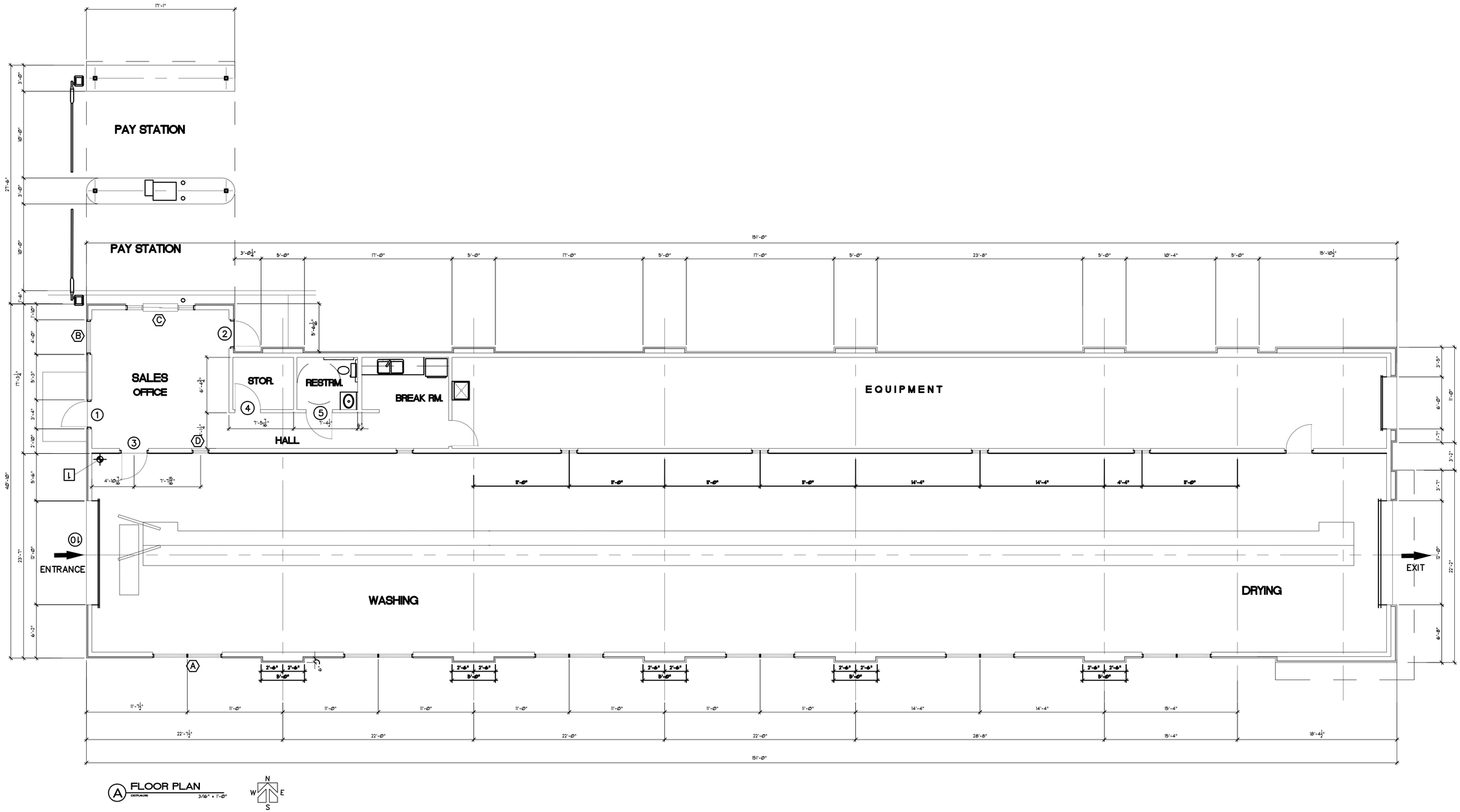
DATE: 11-21-22
DRAFTED BY: KB
APPRVD. BY: MB

SHEET TITLE:
DRAINAGE AREA MAP

SHEET NUMBER:
C4-01

PROJECT NO: 22-752


HOLLYWOOD DRIVE
SUMMITCREST DRIVE
CAR WASH
5483 SQ FT
FF = 1027.60
Station=11+94.99
Offset=29.00
Station=0+44.69
Offset=-20.58
Station=2+51.46
Offset=-27.03
STA 0+00 SUMMITCREST
STA 10+00 HOLLYWOOD
12+00
11+00
10+00
1+00
2+00
3+00
R20.00'
R18.00'
R30.00'
R5.00'
R10.00'
R2.50'
R46.00'
R40.00'
R15.00'
R25.00'
36.00'
21.27'
23.00'
13.50' TYP
20.00'
8.00'
30.00'
14.00'
13.00'
11.01'
10' U/E EASEMENT
LINE CUT WEST
LINE CUT EAST W/ ELECTRIC METER BOX NO METER
CONCRETE APRON
TRASH ENCLOSU
4X4 CURB INLET TOP=1028.13' ↳ESE(18"HDPE)=1024.13'
4X4 CURB INLET TOP=1027.88' ↳WNW(18"HDPE)=1022.28' ↳N(18"HDPE)=1022.38' ↳SE(18"HDPE)=1022.23'
4X4 JUNCTION BOX TOP=1025.96' ↳NW(18"HDPE)=1021.06' ↳E(18"HDPE)=1020.96'
4X4 CURB INLET TOP=1018.80' ↳NE(24"HDPE)=1013.70'
57-116 SANITARY MH TOP=1020.19' FL(E)=1007.86' (PER PLANS BY OTHERS, CONTRACTOR TO FIELD VERIFY)
57-135 SANITARY MH TOP=1021.80' FL(SW)=1011.40' FL(N)=1011.20' (PER PLANS BY OTHERS, CONTRACTOR TO FIELD VERIFY)
BM #1
BM #2
S88°15'20"E 60.00'
N2°23'26"E 60.00'



Revisions

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ADAMS ARCHITECTURAL ASSOCIATES, P.C.
MISSOURI STATE CERTIFICATE OF AUTHORITY # W00399708

THE PROFESSIONAL WHOSE SIGNATURE AND PERSONAL SEAL APPEARS ON THIS SHEET ASSUMES RESPONSIBILITY ONLY FOR WHAT APPEARS ON THIS SHEET AND DISCLAIMS RESPONSIBILITY PURSUANT TO SECTION 327.411 RSMO FOR ALL OTHER PLANS, SPECIFICATIONS AND ESTIMATES, REPORTS OR OTHER DOCUMENTS OR INSTRUMENTS NOT SEALED BY THE UNDERSIGNED PROFESSIONAL RELATING TO OR INTENDED TO BE USED FOR ANY PART OR PARTS OF THE PROJECT TO WHICH THIS SHEET REFERS. RESPONSIBILITY FOR PORTIONS OF THE PROJECT NOT PREPARED UNDER MY SUPERVISION IS DISCLAIMED. REVISIONS BY CONTRACTORS, OWNER, OR OTHERS ARE NOT A PART OTHER PROJECT WHICH THIS SEAL INDICATES RESPONSIBILITY.

Seal

Project Code
CCW-2201

Project Title
New
Car Wash
for
COWBOY EXPRESS CARWASH

3601 SW Hollywood Drive
LEES SUMMIT, MISSOURI
64082

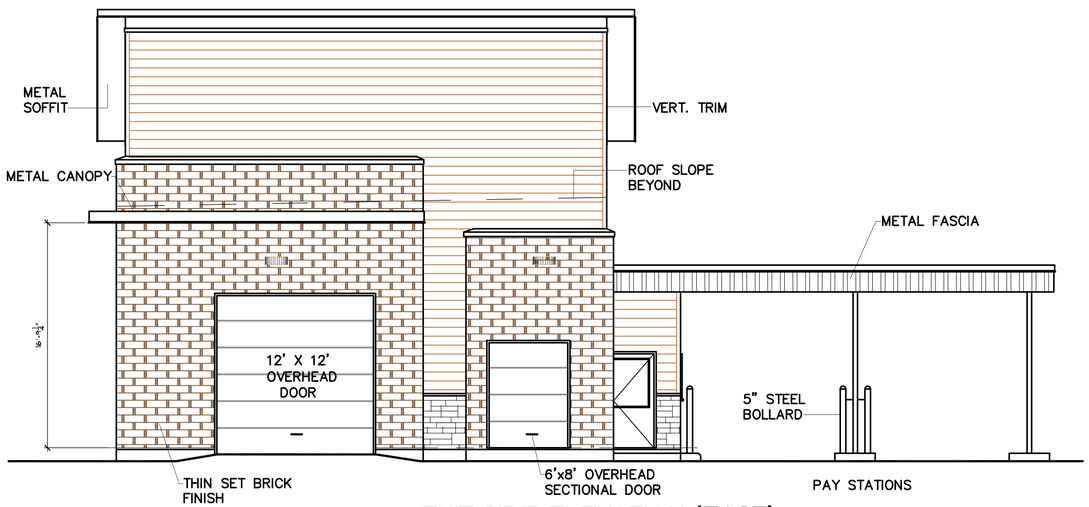
Drawing Title
Floor Plan

Date	Drawn	Checked
08-21-24	DB/mm	MM/MA

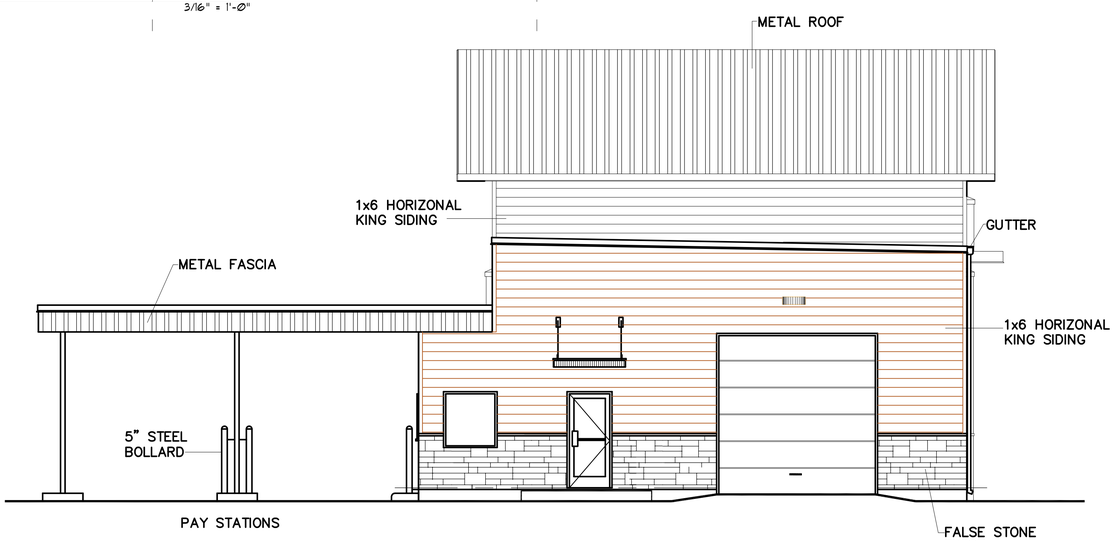
Drawing Number
DD1



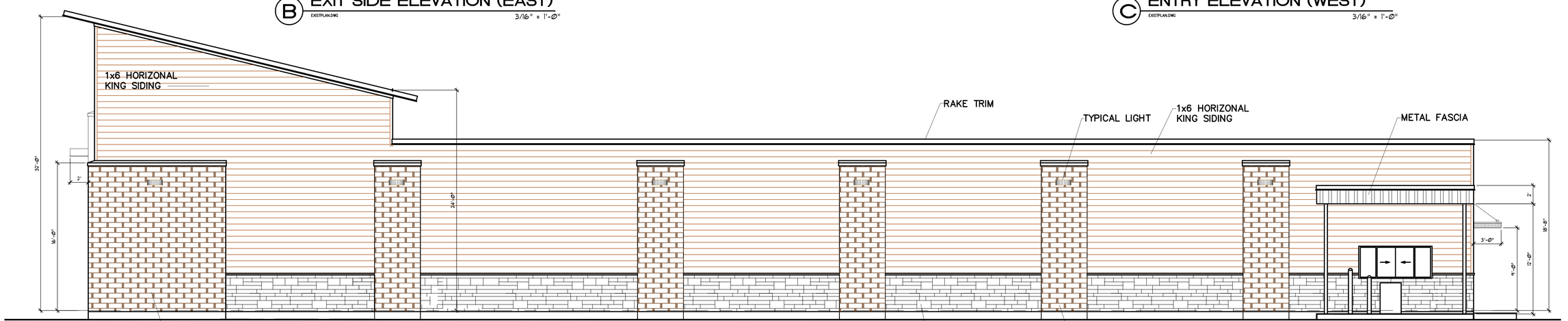
A TUNNEL-WASH ELEVATION (SOUTH)
EXISTPLAN.DWG 3/16" = 1'-0"



B EXIT SIDE ELEVATION (EAST)
EXISTPLAN.DWG 3/16" = 1'-0"



C ENTRY ELEVATION (WEST)
EXISTPLAN.DWG 3/16" = 1'-0"



D CUE LINE ELEVATION (NORTH)
EXISTPLAN.DWG 3/16" = 1'-0"

Revisions

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Seal

Project Code
CCW-2201

Project Title
New
Car Wash
for
COWBOY EXPRESS CARWASH
3601 SW Hollywood Drive
LEES SUMMIT, MISSOURI
64082

Drawing Title
Exterior Elevations

Date	Drawn	Checked
08-21-24	DB/mm	MM/MA

Drawing Number
DD2

ERECTION NOTES

1. All bracing shown and provided by the Metal Building Provider (MBP) for this building is required and shall be installed by the erector as a permanent part of the structure ("Code of Standard Practice for Steel Buildings" in the ANSI/AISC 303–16; Section 7.10).
2. Temporary supports, such as guys, braces, falsework, cribbing or other elements required for the erection operation shall be determined and furnished by the erector ("Code of Standard Practice for Steel Buildings and Bridges " in the ANSI/AISC 303–16; Section 7.10.3).
3. Normal erection operations include the correction of minor misfits by moderate amounts of reaming, grinding, welding or cutting, and the drawing of elements into line through use of drift pins. Errors which require major changes in the member configuration are to be reported immediately to the Metal Building Provider by the customer to enable whoever is responsible either to correct the error or to approve the most efficient and economic method of correction to be used by others ("Code of Standard Practice for Steel Buildings and Bridges "in the ANSI/AISC 303–16; Section 7.14).
4. Erection tolerances are set forth in the "Code of Standard Practice for Steel Buildings and Bridges "in the ANSI/AISC 303–16; Section 7.13 note that individual members are considered plump, level and aligned if the deviation does not exceed 1:500. Variations in finished overall dimensions of structure steel framing are deemed within the limits of good practice when they do not exceed the cumulative effect of rolling, fabricating, and erection tolerances.
   - 4.1. When crane support systems are part of the metal building system erection tolerances Section 6.8, Erection Tolerances, 2018 MBMA Metal Building Systems manual shall apply. To achieve the required tolerances grouting of the columns and shimming of the runway beams may be required. The customer shall provide grout if required. The contractor erecting the runway beams is responsible for shimming, plumbing, and leveling of the runway system. When aligning the runway beams the alignment shall be with respect to the beam webs so that the center of the aligned rail is over the runway web.
5. As a general rule field welding is not used to assemble a metal building system. In cases where the drawings indicate field welding and in cases where approved corrections are to be made by field welding the following requirements shall be met;
   - 5.1. welders must be qualified by an independent testing agency, with suitable documentation to AWS D1.1 Structural Welding Code – Steel or AWS D1.3 Structural Welding Code – Sheet as applicable, for the processes, positions, and materials involved.
   - 5.2. All welds must be made in conformance to a documented and approved Welding Procedure Specification (WPS). All joints which are not prequalified must be supported by a certified Procedure Qualification Record (PQR) by an independent testing agency.
6. All documentation and records shall be the responsibility of the customer.
7. Any claims or shortages by buyer must be made to the Metal Building Provider within seven (7) working days after delivery, or such claims will be considered to have been waived by the customer and disallowed. All claims should be directed to the Metal Building Provider's Customer Service Department.
8. Claims for correction of alleged misfits will be disallowed unless the Metal Building Provider shall have received prior notice thereof and allowed reasonable inspection of such misfits. Ordinary inaccuracies of shop work shall not be construed as misfits. No part of the building may be returned or charges assessed for alleged misfits without prior approval from the Metal Building Provider.
9. Neither the Metal Building Provider nor the customer will cut, drill or otherwise after their work, or the work of other trades to accommodate other trades unless such work is clearly specified in the contract documents. Whenever such work is specified the customer is responsible for furnishing complete information as to materials, size, location, and number of alterations prior to preparation of shop drawings ("Code of Standard Practice for Steel Buildings and Bridges "in the ANSI/AISC 303–16, Section 7.15).
10. The Metal Building Provider Field Modifications Policy:
    - 10.1. The Metal Building Provider will only be responsible for the field–modified parts designed and approved by the Metal Building Provider's Customer Service Department.
    - 10.2. Any field modifications designed by third parties may not be approved by the Metal Building Provider and may limit the Metal Building Provider's warranty and liability.
    - 10.3. The Metal Building Provider makes no warranty and hereby disclaims any responsibility with respect to the design, engineering, or construction of any field–modified parts performed by third parties.
11. WARNING – SOME PANELS AND TRIM PARTS ARE FURNISHED WITH A PROTECTIVE PEEL–OFF FILM. PARTS PROVIDED WITH THIS FILM CANNOT BE EXPOSED TO SUNLIGHT WITHOUT FIRST REMOVING THE FILM. THIS FILM MUST BE REMOVED PRIOR TO INSTALLATION. FILM MUST ALSO BE REMOVED FROM ALL NON EXPOSED PARTS WITHIN SIX MONTHS FROM FILM APPLICATION OR IRREPARABLE DAMAGE WILL OCCUR TO THE SURFACE CLAIMS WILL NOT BE ACCEPTED FOR THIS ISSUE.

RESPONSIBILITIES

1. The Metal Building Provider Customer, hereafter referred to as the "customer, " obtains and pays for all building permits, licenses, public assessments, paving or utility pro rata, utility connections, occupancy fees and other fees required by any governmental authority or utility in connection with the work provided for in the Contract Documents. The customer provides at his expense all plans and specifications required to obtain a building permit. it is the customer's responsibility to ensure that all plans and specifications comply with the applicable requirements of any governing building authorities.
2. The customer is responsible for identifying all applicable building codes, zoning codes, or other regulations applicable to the Construction Project, including the Metal Building system.
3. It is the responsibility of the customer to interpret all aspects of the End User's specifications and incorporate the appropriate specifications, design criteria, and design loads into the Order Documents submitted to the Metal Building Provider.
4. It is the responsibility of the Metal Building Provider to furnish the metal building system to meet the specifications including the design criteria and design loads incorporated by the Contractor into the Order Documents. The Metal Building Provider is not responsible for making an independent determination of any local codes or any other requirements not part of the Order Document.
5. The Metal Building Provider's standard specifications apply unless stipulated otherwise in the Contract Documents. The Metal Building Provider design, fabrication, quality criteria, standards, practice, methods and tolerances shall govern the work any other interpretations to the contrary not with standing. it is understood by both parties that the customer is responsible for clarifications of inclusions or exclusions from the Architectural plans.
6. In case of discrepancies between the Metal Building Provider's structural steel plans and plans for other trades, the Metal Building Provider's shall govern ("Code of Standard Practice for Steel Buildings and Bridges" in the AISC 303–16; Section 3.3).
7. The customer is responsible for overall project coordination. All interface, compatibility and design considerations concerning any materials not furnished by the Metal Building Provider and the Metal Building Provider's steel system are to be considered and coordinated by the customer. Specific design criteria concerning this interface between materials must be furnished by the customer before release for fabrication or the Metal Building Provider's assumptions will govern.
8. Foundations, anchor rods, and anchor rod embedment are designed, furnished, and set by the customer in accordance with an approved drawing. Dimensional accuracy shall satisfy the requirements of Section 7.5 1 of "Code of Standard Practice for Steel Buildings and Bridges" in the AISC 303–16.
9. All other embedded items or connection materials between the structural steel and the work of other trades are located and set by the customer in accordance with approved location on erection drawings. Accuracy of these items must satisfy the erection tolerance requirements.
10. The Metal Building Provider does not investigate the influence of the metal building system on existing buildings or structures. The End Customer assures that such buildings and structures are adequate to resist snow drifts, wind loads, or other conditions as a result of the presence of the metal building system.

GENERAL SPECIFICATIONS

1. Wall and liner panels are an integral part of the structural system. Unauthorized removal of panels or cutting panels for framed openings not shown is prohibited.
2. Oil–canning, a perceived waviness inherent to light gauge metal, may exist. This condition does not affect the structural integrity or the finish of the panel, and therefor is not a cause for rejection.
3. The Metal Building Provider's red–oxide and gray oxide primer are designed for short term field protection from exposure to ordinary atmospheric conditions.
4. All bolts are 1/2" x 1–1/4" A307 unless noted. Refer to the erection drawings for specific framing connections and the cross–section(s) for main frame connections.
5. Unless noted otherwise on the frame cross section(s), all bolted joints with ASTM F3125 Grade A325 bolts are specified as snug–tightened joints in accordance with the specification for Structural Joints Using High–Strength Bolts, June 11, 2020. Installation Inspection requirements for Snug–Tight Bolts (Specification for Structural joints, Section 9.1) is suggested.
6. Unless noted otherwise, all bolted connections are designed as bearing type connections with bolt threads not excluded from the shear plane.
7. Any type of suspended or load inducing system(s) is prohibited if zero collateral and zero sprinkler loads are designated on the contract. This would include lights, duct work, piping, and insulation types other than 3" standard duty fiberglass blanket insulation, etc.

BUILDING DESIGN CODES

Building Code:	IBC 21
Steel Specification:	AISC 360–16
Cold–Formed Specification:	AISI S100–16

GENERAL LOADS

Roof Dead Load:	2.50(A) / 6.00(B)
Roof Collateral Load:	5 psf
Roof Live Load:	20.00 psf
Tributary Live Load Reduction:	Yes
Rainfall Intensity (5–minute duration 5–year recurrence):	7.00 in/hr

WIND LOAD

Wind Speed (3–sec gust) Vult:	110 mph
Wind Speed (3 sec Gust), Vasd:	89 mph
Serviceability Wind, V service:	76 mph
Wind Exposure Category:	C
Wind Condition:	Enclosed
Internal Pressure Coefficient (GCpi):	0.18, –0.18

SNOW LOAD

Roof Snow Load (Pf):	14.0 psf
Ground Snow Load (Pg):	20.0 psf
Snow Exposure Factor (Ce):	1.00
Snow Load Importance Factor (Is):	1.00
Thermal Factor (Ct):	1.00
Slope Factor:	1.00

DEFLECTION CRITERIA

Main Frames Lateral:	H/120	Roof Panels:	L/60
Main Frames Vertical:	L/240	Purlins:	L/240
Bearing Frame Rafter:	L/240	Wall Panels:	L/240
Endwall Columns:	L/240	Girts:	L/240
W.F. (Horz.):	H/120		

SEISMIC LOAD

Risk Category:	II – Normal
Seismic Importance Factor (Ie):	1.00
Spectral Response Acceleration (Ss):	0.1010
Spectral Response Acceleration (S1):	0.0690
Site Class:	D–DEFAULT
Spectral Response Coefficients (Sds):	0.1077
Spectral Response Coefficients (Sd1):	0.1104
Seismic Design Category:	B
Basic Seismic Force Resisting Systems*:	
Framing Direction:	Longitudinal / Lateral
Structural Syst:	

Total Design Base Shear(A):	1.18 Kips	3.48
Total Design Base Shear(B):	7.57 Kips	6.58
Sesimic Response Coefficient(s) (Cs):	0.0359	0.0359
Response Modification Factor(s) (R):	3.0	3.0
Deflection Amplification Factor(s):	3.0	3.0

Analysis Procedure: Equivalent Lateral Force

* Ordinary Steel Concentrically Braced Frame(s) and/or Ordinary Steel Moment Frame(s)

ROOF PANEL BUILDING A

Profile: Super Span X Gauge: 26 Color: Black

UL580 Class 90: Yes

ROOF PANEL BUILDING B

Profile: 7.2N Gauge: 22 Color: Galvalume Plus

SOFFIT PANEL

Profile: Reversed Low Rib X Gauge: 26 Color: Black

WALL PANEL

Profile: N/A Gauge: Color:

PRIMARY FRAMING

Built–Up & Hot–Rolled: Gray Oxide Primer

SECONDARY FRAMING

Purlins, Eave Struts:	Pre–Galvanized
Girts, Light Gage Columns:	Pre–Galvanized
Light Gage Jambs & Headers:	Pre–Galvanized

Hot–Dip Galvanizing conforms to the ASTM A123 specification.

Pre–Galvanized members conform to the ASTM A653, Grade 50, Coating G–90 specification.

TRIM COLOR:

GUTTER: BLACK	GAUGE: 26
RAKE: BLACK	GAUGE: 26
CORNER: N/A	GAUGE: .
ACCESSORY: N/A	GAUGE: .
DOWNSPOUT: BLACK	GAUGE: 26
BASE: N/A	GAUGE: .

APPROVAL SPECIFICATIONS

1. Approval of the Metal Building Provider drawings and/or calculations indicate that the Metal Building Provider has correctly interpreted the contact requirements. This approval constitutes the customer acceptance of the Metal Building Provider design, concepts, assumptions, and loadings.
2. Failure to respond to clouded areas and areas to verify may result in additional costs and/or schedule delays for which the Metal Building Provider will not be responsible.
3. Any changes made after the Metal Building Provider's customer has signed and returned the Metal Building Provider drawings and/or calculations and the project is released for fabrication shall be billed to the Metal Building Provider customer including material, engineering, and other costs. An additional fee may be charged if the project must be moved in the fabrication and/or the shipping schedule.
4. It is the responsibility of the customer to field verify all existing conditions prior to fabrication.
5. It is imperative that any changes to these drawings:
   - 5.1. Be made in contrasting ink.
   - 5.2. Be legible and unambiguous.
   - 5.3. Have all instances of changes clearly indicated.
6. A dated signature, in the designated areas, is required on all pages. The signature must be from the person authorized on the contract or a person authorized, in writing, by the Metal Building Provider customer.
7. The Metal Building Provider reserves the right to resubmit drawings with extensive or complex changes required to avoid misfabrication. This may impact the delivery schedule.
8. Any changes noted on the drawings not in conformance with the terms and requirements of the contract between the Metal Building Provider and its customer are not binding on the Metal Building Provider unless subsequently acknowledged and agreed to in writing by change order or separate documentation.
9. Waiving the approval process by designating the order "For Production" supercedes notes 1,2,5,6, and 8 in this section, and constitutes the customer acceptance of the Metal Building Provider's design, concepts, assumptions, and loadings.

DRAWING SCHEDULE

DWG NO.	ISSUE	DATE	DESCRIPTION
C1	P1	10.10.24	COVER SHEET
F1	0	10.10.24	ANCHOR BOLT PLAN & DETAILS
F2–F3	0	10.10.24	ANCHOR BOLT REACTIONS
P1–P3	P1	10.10.24	RIGID FRAME ELEVATION
W1–W3	P1	10.10.24	PORTAL FRAME ELEVATION
E1	P1	10.10.24	ROOF FRAMING PLAN
E2	P1	10.10.24	ROOF SHEETING PLAN
E3	P1	10.10.24	FRAME & SHEETING ELEVATION
E4	P1	10.10.24	FRAME & SHEETING ELEVATION
E5	P1	10.10.24	FRAME & SHEETING ELEVATION
E6	P1	10.10.24	FRAME & SHEETING ELEVATION
E7	P1	10.10.24	FRAME & SHEETING ELEVATION
E8	P1	10.10.24	BUILDING SECTION
D1–D3	P1	10.10.24	DETAILS PAGE

Drawings listed under Drawing Schedule are submitted for permit only. These drawings represent the Metal Building Provider (MBP) scope of work. you are reviewing these drawings to confirm the MBP scope prior to releasing for fabrication. All dimensions, sections, details and notes require your review. All "clouded areas" must be reviewed and addressed/answered before your project is placed within the schedule. Please complete all field verifications prior to returning your permit drawings. The MBP is not responsible for checking the material and/or design compatibility of components not supplied by the MBP. MBP drawings may not match architectural/structural drawings and specifications.

Please sign and return marked either:

"Approved as Submitted" (No Changes and project is released for fabrication)

"Approved as Noted" (with changes clearly noted and project is released for fabrication)

Revise and Resubmit" (with changes clearly noted and revised drawings will be resubmitted)

☐ Approved As Submitted	Approval Signature:	Date:
☐ Approved As Noted	Print Name:	
☐ Revised & Resubmit	Desired Delivery Date:	

Additional Notes on Drawings

–This metal building system is designed as enclosed. All exterior components not by the metal building manufacturer (i.e. doors, windows, vents, etc.) must be designed to withstand the specified wind loading for the design of components and cladding in accordance with the specified building code.Doors are to be closed when a maximum of 50% of design wind velocity is reached.

–X–Bracing is to be installed to a taut condition with all slack removed. Do not tighten beyond this state.

–The design collateral load has been uniformly applied to the design of the building. Hanging loads are to be attached to the purlin web. This may not be appropriate for heavily concentrated loads. Any attached load in excess of 150 pounds shall be accounted for by special design performed by a licensed engineer using concentrated loads and may require separate support members within the roof system.

Building–A

–The rigid frames at lines 1,4 are designed as a non–expandable rigid frames. Corresponding frame reactions are calculated based upon the actual tributary areas.

The members provided by building manufacturer above the masonry wall along gridline1and 6arenot by building manufacturer are designed to support the wall and to deflect less than L/240 under wind or seismic loading.Wall Load not to exceed 55 psf.

The members provided by building manufacturer behind the masonry wall along grid line G and J are not by building manufacturer are designed to support the wall and to deflect less than L/240 under wind or seismic loading.Wall Load not to exceed 55 psf.

Building–B

–The rigid frames at line A is designed as a non–expandable rigid frames. Corresponding frame reactions are calculated based upon the actual tributary areas.

The members provided by building manufacturer above the masonry wall along grid line A is not by building manufacturer are designed to support the wall and to deflect less than L/240 under wind or seismic loading. Wall Load not to exceed 55 psf.

The members provided by building manufacturer behind the masonry wall along grid line 1 and 6 are not by building manufacturer are designed to support the wall and to deflect less than L/240 under wind or seismic loading. Wall Load not to exceed 55 psf.

General

–X–Bracing is to be installed to a taut condition with all slack removed. Do not tighten beyond this state.Loading

–This metal building system is designed as enclosed. All exterior components not by the metal building manufacturer (i.e. doors, windows, vents, etc.) must be designed to withstand the specified wind loading for the design of components and cladding in accordance with the specified building code. Doors are to be closed when a maximum of 50% of design wind velocity is reached.

–The design collateral load has been uniformly applied to the design of the building. Hanging loads are to be attached to the purlin web. This may not be appropriate for heavily concentrated loads. Any attached load in excess of 150 pounds shall be accounted for by special design performed by a licensed engineer using concentrated loads and may require separate support members within the roof system.

–Drift snow is applied in accordance with the building code. The framing provided by WWSB designed with Drift Snow at the following locations:

29.21 psf to 0 psf drift snow for a width of 3.00 ft on canopy along grid line 1 between grids I to J.

29.88 psf to 0 psf drift snow for a width of 3.00 ft on canopy along grid line J between grids 1 to 4.

44.46 psf to 0 psf drift snow for a width of 10.71 ft along grid line G between grids 2 to 5.

11.95 psf sliding snow for a width of 15.00 ft at line G betweengrids 2 to 5.

19.20 psf to 0.00 psf drift snow 5.81 ft width at line 2 between grids A to G.

7.79 psf to 0.00 psf drift snow 3.75 ft width at line 5 between grids A to G.

13.49 psf to 0.00 psf drift snow 6.50 ft width at line A between grids 2 to 5.

Frames

–The rigid frames at lines 1,3, and A are designed as a non–expandable rigid frames.Corresponding frame reactions are calculated based upon the actual tributary areas.

CITY OF HOUSTON REGISTRATION NO. 165 / STATE OF TEXAS FIRM NO. 12081

STATE OF MISSOURI ★ PROFESSIONAL ENGINEER ★
SIRENE M. CHACON
NUMBER PE-2012036154

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☐ FOR ERECTOR INSTALLATION: Final drawings for construction.

WHIRLWIND STEEL BUILDINGS

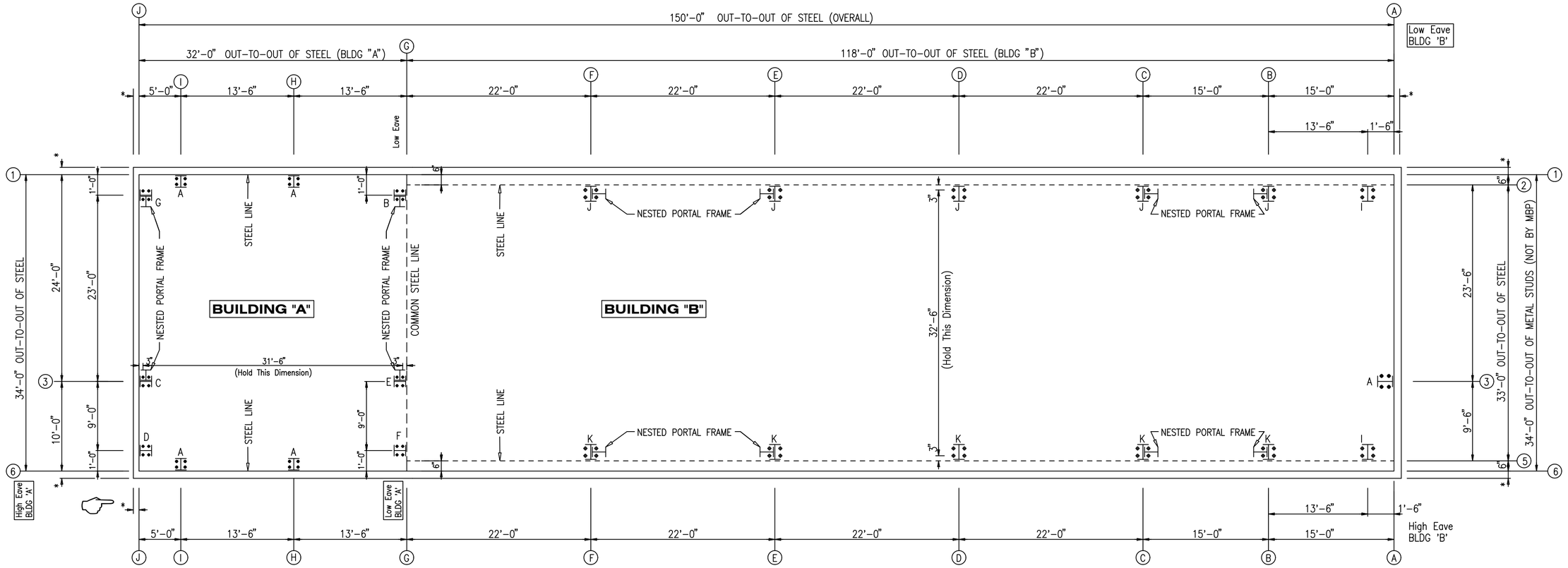
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ISSUE	DATE	DESCRIPTION	BY	CHK
P1	10.11.24	FOR CONSTRUCTION PERMIT	HP	TVN

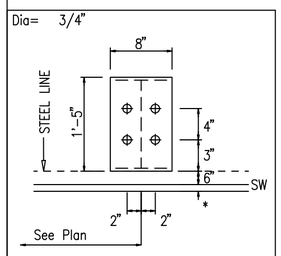
SHEET DESCRIPTION: COVER SHEET					BLDG SIZE: VARIES	
CUSTOMER: Jasco Construction					CUSTOMER LOCATION: BURLESON, TX 76028	
PROJECT REFERENCE: Cowboy Express Carwash						
JOBSITE LOCATION: 210 Mo–150 Highway, Lees Summit, Missouri 64082					JOBSITE COUNTY: Johnson	
DWN: HP	CHK: TVN	DATE: 10.11.24	ENG: NA	JOB NO: 13014–35259	DWG NO: C1	ISSUE: P1



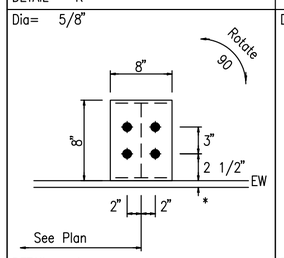
ANCHOR BOLT PLAN

NOTE: All Base Plates @ FINISH FLOOR ELEVATION (U.N.)

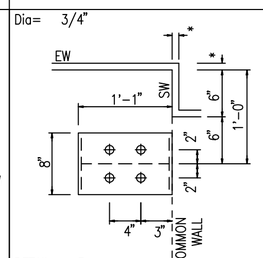
* CUSTOMER TO PROVIDE DIMENSION



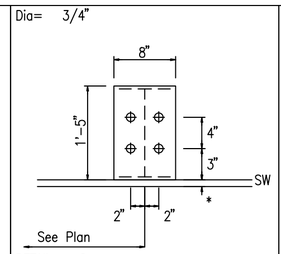
DETAIL K



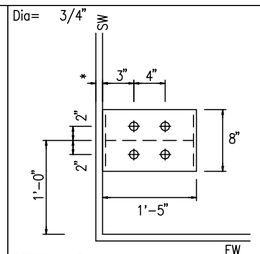
DETAIL A



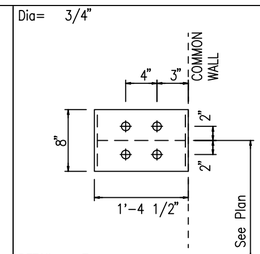
DETAIL B



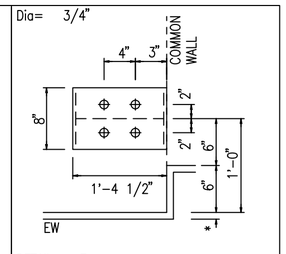
DETAIL C



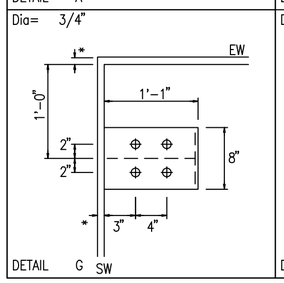
DETAIL D



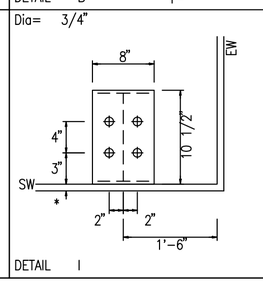
DETAIL E



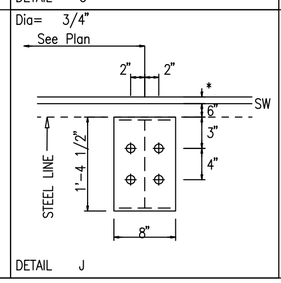
DETAIL F



DETAIL G



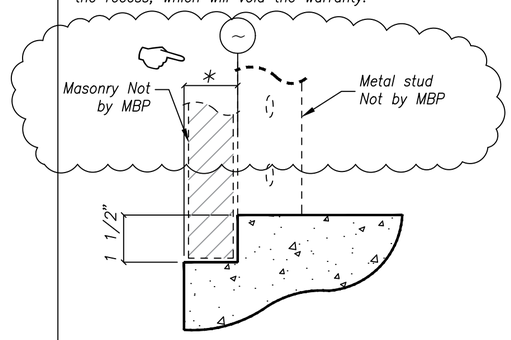
DETAIL I



DETAIL J

Horizontal leg of recess must remain flat or slope away from the building. Notch area indicates a recess for metal wall panels. Panels must not touch the bottom of the recess, which will void the warranty.

NTS



TYPICAL RECESS

CITY OF HOUSTON REGISTRATION NO. 165 / STATE OF TEXAS FIRM NO. 12081

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ISSUE	DATE	DESCRIPTION	BY	CHK
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SHEET DESCRIPTION: ANCHOR BOLT PLAN & DETAILS					BLDG SIZE: VARIES	
CUSTOMER: Jasco Construction					CUSTOMER LOCATION: BURLESON, TX 76028	
PROJECT REFERENCE: Cowboy Express Carwash						
JOBSITE LOCATION: 210 Mo					JOBSITE COUNTY: Johnson	
DWN: HP	CHK: TVN	DATE: 10.11.24	ENG: NA	JOB NO: 13014-35259	DWG NO: F1	ISSUE: 0

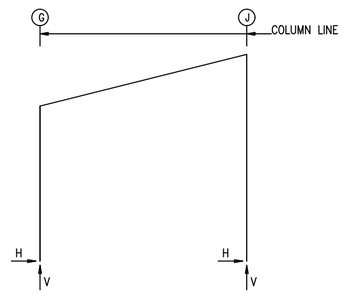
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FRAME LINES: 1 4 6



RIGID FRAME: MAXIMUM REACTIONS, ANCHOR BOLTS, & BASE PLATES

Frm Line	Col Line	Column_Reactions(k) Load Id	Hmax H	V Vmax	Load Id	Hmin H	V Vmin	Bolt(in) Qty	Dia	Base_Plate(in) Width	Length	Thick	Elev. (in)
1	G	2	4.1	3.1	8	−2.9	−4.5	4	0.750	8.000	13.00	0.375	0.0
		1	0.7	12.9	10	1.5	−8.3						
1	J	9	4.0	−6.9	4	−1.8	4.9	4	0.750	8.000	13.00	0.375	0.0
		5	−1.4	10.3	10	−0.4	−9.1						

RIGID FRAME: MAXIMUM REACTIONS, ANCHOR BOLTS, & BASE PLATES

Frm Line	Col Line	Column_Reactions(k) Load Id	Hmax H	V Vmax	Load Id	Hmin H	V Vmin	Bolt(in) Qty	Dia	Base_Plate(in) Width	Length	Thick	Elev. (in)
4	G	2	6.1	3.7	8	−4.7	−5.9	4	0.750	8.000	16.50	0.500	0.0
		1	1.0	22.5	10	2.6	−10.9						
4	J	9	5.9	−7.9	4	−3.1	7.2	4	0.750	8.000	17.00	0.500	0.0
		11	−1.7	13.8	7	4.6	−10.1						

RIGID FRAME: MAXIMUM REACTIONS, ANCHOR BOLTS, & BASE PLATES

Frm Line	Col Line	Column_Reactions(k) Load Id	Hmax H	V Vmax	Load Id	Hmin H	V Vmin	Bolt(in) Qty	Dia	Base_Plate(in) Width	Length	Thick	Elev. (in)
6	G	2	2.0	1.6	8	−1.2	−2.0	4	0.750	8.000	16.50	0.375	0.0
		11	0.6	5.3	6	−0.9	−2.6						
6	J	9	2.0	−2.8	3	−0.8	2.6	4	0.750	8.000	17.00	0.375	0.0
		11	−0.6	5.6	7	1.8	−3.7						

RIGID FRAME: BASIC COLUMN REACTIONS (k)

Frame Line	Column Line	Dead Horz	Dead Vert	Collateral Horz	Collateral Vert	Live Horz	Live Vert	Snow Horz	Snow Vert	Snow_Drift Horz	Snow_Drift Vert	Slide_Snow Horz	Slide_Snow Vert
1	G	0.1	2.5	0.2	2.1	0.4	6.6	0.4	5.6	−0.1	2.7	0.0	1.3
1	J	−0.1	2.0	−0.2	1.8	−0.4	5.4	−0.4	5.5	0.1	0.6	0.0	−0.1

Frame Line	Column Line	Wind_Left1 Horz	Wind_Left1 Vert	Wind_Right1 Horz	Wind_Right1 Vert	Wind_Left2 Horz	Wind_Left2 Vert	Wind_Right2 Horz	Wind_Right2 Vert	Wind_Long1 Horz	Wind_Long1 Vert	Wind_Long2 Horz	Wind_Long2 Vert
1	G	−3.7	−13.0	6.7	1.0	−4.9	−10.0	5.5	3.9	2.4	−16.4	2.1	−13.7
1	J	−2.6	−6.5	5.8	−15.9	−1.6	−4.1	6.8	−13.4	−0.6	−17.1	−1.7	−12.8

Frame Line	Column Line	Seismic_Left Horz	Seismic_Left Vert	Seismic_Right Horz	Seismic_Right Vert	Seismic_Long Horz	Seismic_Long Vert	MIN_SNOW Horz	MIN_SNOW Vert
1	G	−0.2	−0.3	0.2	0.3	0.0	−0.7	0.8	5.8
1	J	−0.1	0.3	0.1	−0.3	0.0	−0.6	−0.8	6.0

Frame Line	Column Line	Dead Horz	Dead Vert	Collateral Horz	Collateral Vert	Live Horz	Live Vert	Snow Horz	Snow Vert	Snow_Drift Horz	Snow_Drift Vert	Slide_Snow Horz	Slide_Snow Vert
4	G	0.2	4.0	0.3	3.6	0.6	11.4	0.7	9.9	−0.1	5.0	−0.1	3.0
4	J	−0.2	2.3	−0.3	2.5	−0.6	6.8	−0.7	7.2	0.1	0.3	0.1	−0.2

Frame Line	Column Line	Wind_Left1 Horz	Wind_Left1 Vert	Wind_Right1 Horz	Wind_Right1 Vert	Wind_Left2 Horz	Wind_Left2 Vert	Wind_Right2 Horz	Wind_Right2 Vert	Wind_Long1 Horz	Wind_Long1 Vert	Wind_Long2 Horz	Wind_Long2 Vert
4	G	−5.8	−19.6	9.8	−0.5	−8.0	−13.9	7.7	5.2	4.1	−22.2	3.7	−17.9
4	J	−4.7	−6.6	7.9	−19.1	−2.5	−3.0	10.1	−15.5	−2.9	−18.3	−4.1	−13.7

Frame Line	Column Line	Seismic_Left Horz	Seismic_Left Vert	Seismic_Right Horz	Seismic_Right Vert	Seismic_Long Horz	Seismic_Long Vert	MIN_SNOW Horz	MIN_SNOW Vert
4	G	−1.0	−1.4	1.0	1.4	0.0	−0.7	1.2	8.6
4	J	−0.6	1.4	0.6	−1.4	0.0	−0.6	−1.2	9.0

Frame Line	Column Line	Dead Horz	Dead Vert	Collateral Horz	Collateral Vert	Live Horz	Live Vert	Snow Horz	Snow Vert	Snow_Drift Horz	Snow_Drift Vert	Slide_Snow Horz	Slide_Snow Vert
6	G	0.1	1.2	0.1	0.9	0.3	3.1	0.3	2.3	0.0	0.1	0.0	0.1
6	J	−0.1	1.4	−0.1	0.8	−0.3	3.1	−0.3	2.3	0.0	0.0	0.0	0.0

Frame Line	Column Line	Wind_Left1 Horz	Wind_Left1 Vert	Wind_Right1 Horz	Wind_Right1 Vert	Wind_Left2 Horz	Wind_Left2 Vert	Wind_Right2 Horz	Wind_Right2 Vert	Wind_Long1 Horz	Wind_Long1 Vert	Wind_Long2 Horz	Wind_Long2 Vert
6	G	−1.5	−5.6	3.3	0.6	−2.1	−4.5	2.7	1.7	1.2	−2.8	1.0	−1.9
6	J	−0.9	−4.5	3.1	−7.6	−0.5	−3.0	3.5	−6.2	−0.1	−4.8	−0.7	−2.5

Frame Line	Column Line	Seismic_Left Horz	Seismic_Left Vert	Seismic_Right Horz	Seismic_Right Vert	MIN_SNOW Horz	MIN_SNOW Vert
6	G	−0.9	−1.3	0.9	1.3	0.4	3.2
6	J	−0.6	1.3	0.6	−1.3	−0.4	3.3

GENERAL NOTES

1. All anchor bolts (by others) to have nuts and flat washers.
2. All anchor bolts are designed to full S.A.E. diameters with cut threads. No substitutions are allowed.
3. The Metal Building Provider is not responsible for the design, materials and workmanship of the foundation. Anchor bolt plans prepared by the Metal Building Provider are intended to show only location, diameter, and projection of anchor bolts required to attach the Metal Building System to the foundation. The Metal Building Provider is responsible for providing to the Builder the loads imposed by the Metal Building System on the foundation. It is the responsibility of the End Customer to ensure that adequate provisions are made for specifying bolt embedment, bearing angles, tie rods, and/or other associated items embedded in the concrete foundation, as well as foundation design for the loads imposed by the Metal Building System, other imposed loads, and the bearing capacity of the soil and other conditions of the building site. This is typically the responsibility of the Design Professional or Engineer of Record, which is another reason that their involvement in the Construction Project from the outset is highly recommended. (2012 MBMA Metal Building Systems Manual, Section 3.2.2)

ENDWALL COLUMN: BASIC COLUMN REACTIONS (k)

Frm Line	Col Line	Dead Vert	Collat Vert	Live Vert	Snow Vert	Snow Drift Vert	Wind_Press Horz	Wind_Press Vert	Wind_Suct Horz	Wind_Suct Vert	Seis Long Horz
1	H	0.6	0.0	0.0	0.0	0.0	−4.3	0.0	4.7	0.0	0.0
1	I	0.9	0.0	0.2	0.2	0.1	−3.3	−0.3	3.7	−0.1	0.0
6	I	0.9	0.0	0.0	0.0	0.0	−3.3	0.0	3.7	0.0	0.3
6	H	0.6	0.0	0.0	0.0	0.0	−4.3	0.0	4.7	0.0	0.4

ENDWALL COLUMN: MAXIMUM REACTIONS, ANCHOR BOLTS, & BASE PLATES

Frm Line	Col Line	Column_Reactions(k) Load Id	Hmax H	V Vmax	Load Id	Hmin H	V Vmin	Bolt(in) Qty	Dia	Base_Plate(in) Width	Length	Thick	Elev. (in)
1	H	12	2.8	0.4	13	−2.6	0.4	4	0.625	8.000	8.000	0.375	0.0
		14	0.0	0.6									
1	I	12	2.2	0.5	13	−2.0	0.4	4	0.625	8.000	8.000	0.375	0.0
		1	0.0	1.3									
6	I	12	2.2	0.6	13	−2.0	0.6	4	0.625	8.000	8.000	0.375	0.0
		15	0.0	0.9									
6	H	12	2.8	0.4	13	−2.6	0.4	4	0.625	8.000	8.000	0.375	0.0
		15	0.0	0.6									

NOTES FOR REACTIONS

1. All loading conditions are examined and only maximum/minimum H or V and the corresponding H or V are reported.
2. Positive reactions are as shown in the sketch. Foundation loads are in opposite directions.
3. Bracing reactions are in the plane of the brace with the H pointing away from the braced bay. The vertical reaction is downward.
4. Loading conditions are:
   1 Dead+Collateral+Snow+Snow_Drift
   2 Dead+0.6Wind_Right1
   3 Dead+Collateral+0.75Live+0.45Wind_Left1
   4 Dead+Collateral+0.75Snow+0.45Wind_Left1
   5 Dead+Collateral+0.75Snow+0.45Wind_Long2R+0.75Snow_Drift
   6 0.6Dead+0.6Wind_Left1
   7 0.6Dead+0.6Wind_Right1
   8 0.6Dead+0.6Wind_Left2
   9 0.6Dead+0.6Wind_Right2
   10 0.6Dead+0.6Wind_Long1L
   11 Dead+Collateral+MIN_SNOW
   12 0.6Dead+0.6Wind_Right2+0.6Wind_Suction
   13 0.6Dead+0.6Wind_Pressure+0.6Wind_Long2L
   14 1.02Dead+1.02Collateral+0.7Seismic_LongR
   15 1.02Dead+1.02Collateral+0.7Seismic_Right

BUILDING BRACING REACTIONS

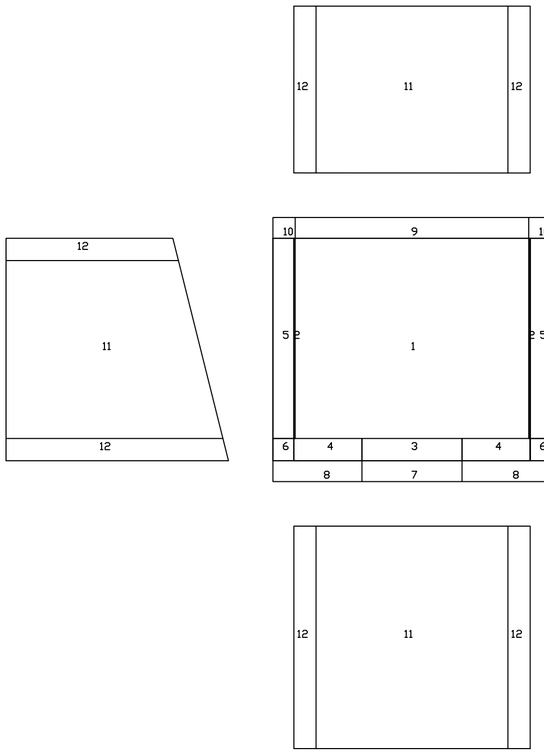
Wall Loc	Wall Line	Col Line	± Reactions(k) Wind Horz	Wind Vert	Seismic Horz	Seismic Vert	Panel_Shear (lb/ft) Wind	Seis	Note
L_EW	1								(h)
F_SW	J	1,4	3.3	8.6	0.2	0.6			(b)
R_EW	6								(h)
B_SW	G	1,4	4.5	8.5	0.4	0.7			(b)

(b)Wind bent in bay, base above finish floor
(h)Rigid frame at endwall

Reactions for seismic represent shear force, Eh
Reaction values shown are unfactored

ANCHOR BOLT SUMMARY (GRADE 36)

	Qty	Locate	Dia (in)	Type	Proj (in)
●	16	Endwall	5/8"	F1554	2.50
⊕	24	Frame	3/4"	F1554	3.00



Components & Cladding

Zone	Width (ft)	Length (ft)	Pressure(psf) Member	Pressure(psf) Panel	Suction(psf) Member	Suction(psf) Panel
1			16.00	16.00	-32.49	-37.56
2		0.20	16.00	16.00	-35.09	-45.07
3	3.31		16.00	16.00	-35.09	-45.07
4	3.31	9.80	16.00	16.00	-55.23	-78.12
5	29.68	3.00	16.00	16.00	-80.58	-88.64
6	3.31	3.00	16.00	16.00	-101.0	-119.4
7	3.09	14.40	16.00	16.00	-35.05	-58.38
8	3.09	12.80	16.00	16.00	-42.76	-103.9
9	3.09	33.60	16.00	16.00	-38.07	-63.45
10	3.09	3.20	16.00	16.00	-42.64	-104.1
11			24.12	29.95	-26.66	-32.49
12	3.20		24.12	29.95	-28.53	-39.96

(+) wind towards surface
(−) wind away from surface

35259_A | Panel Zone: Wind 1 | 9/17/24

BUILDING "A" REACTION

CITY OF HOUSTON REGISTRATION NO. 165 / STATE OF TEXAS FIRM NO. 12081

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STATE OF MISSOURI ★ PROFESSIONAL ENGINEER ★
SIRENE M. CHACON
NUMBER PE-2012036154

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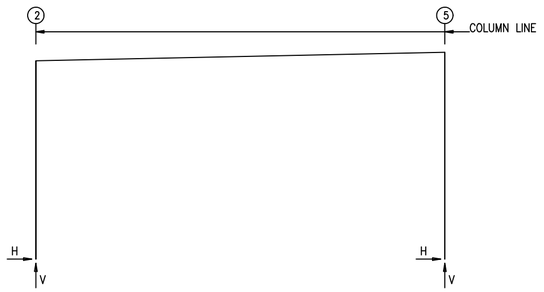
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WHIRLWIND STEEL BUILDINGS
P.O. BOX 75280, HOUSTON, TX 77234 | PH: 800-324-9992 | FAX: 832-553-4600
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ISSUE	DATE	DESCRIPTION	BY	CHK
P1	10.11.24	FOR CONSTRUCTION PERMIT	HP	TN

SHEET DESCRIPTION: ANCHOR BOLT REACTIONS						BLDG SIZE: VARIES	
CUSTOMER: Jasco Construction						CUSTOMER LOCATION: BURLESON, TX 76028	
PROJECT REFERENCE:							
JOBSITE LOCATION: 1201 South Broadway, Joshua, TX 76058						JOBSITE COUNTY: Johnson	
DWN: HP	CHK: TN	DATE: 10.11.24	ENG: DW	JOB NO: 13014-35259		DWG NO: F2	ISSUE: P1

FRAME LINES: F E D C B A



RIGID FRAME: MAXIMUM REACTIONS, ANCHOR BOLTS, & BASE PLATES

Frm Line	Col Line	Column_Reactions(k) Load Id	Hmax H	V Vmax	Load Id	Hmin H	V Vmin	Bolt(in) Qty	Dia	Base_Plate(in) Width	Length	Thick	Elev. (in)
F*	2	5	4.0	8.1	7	−3.3	−2.4	4	0.750	8.000	16.50	0.375	0.0
		11	3.5	11.7	6	−3.0	−4.1						
F*	5	8	2.7	−0.8	3	−3.7	7.0	4	0.750	8.000	17.00	0.375	0.0
		11	−3.5	11.8	9	−0.5	−3.7						

F* Frame lines: F E D C B

RIGID FRAME: MAXIMUM REACTIONS, ANCHOR BOLTS, & BASE PLATES

Frm Line	Col Line	Column_Reactions(k) Load Id	Hmax H	V Vmax	Load Id	Hmin H	V Vmin	Bolt(in) Qty	Dia	Base_Plate(in) Width	Length	Thick	Elev. (in)
A	2	4	2.2	4.8	7	−2.0	−1.8	4	0.750	8.000	10.50	0.375	0.0
		1	1.6	6.3	6	−1.9	−2.6						
A	5	8	1.7	−0.7	2	−1.9	3.6	4	0.750	8.000	10.50	0.375	0.0
		1	−1.6	6.0	10	−0.1	−1.7						

RIGID FRAME: BASIC COLUMN REACTIONS (k)

Frame Line	Column Line	Dead Horz	Dead Vert	Collateral Horz	Collateral Vert	Live Horz	Live Vert	Snow Horz	Snow Vert	Snow_Drift Horz	Snow_Drift Vert	Slide_Snow Horz	Slide_Snow Vert
F*	2	0.7	2.6	0.6	1.8	1.6	5.1	1.6	5.1	0.2	1.7	0.3	1.0
F*	5	−0.7	2.7	−0.6	1.8	−1.6	5.1	−1.6	5.1	−0.2	0.9	−0.3	1.0

Frame Line	Column Line	Wind_Left1 Horz	Wind_Left1 Vert	Wind_Right1 Horz	Wind_Right1 Vert	Wind_Left2 Horz	Wind_Left2 Vert	Wind_Right2 Horz	Wind_Right2 Vert	Wind_Long1 Horz	Wind_Long1 Vert	Wind_Long2 Horz	Wind_Long2 Vert
F*	2	−5.8	−9.6	3.0	−2.1	−6.2	−6.6	2.6	0.9	0.1	−8.7	0.9	−6.1
F*	5	−2.2	−4.7	4.8	−7.0	−1.7	−1.8	5.2	−4.0	0.0	−8.8	−0.9	−6.1

Frame Line	Column Line	Seismic_Left Horz	Seismic_Left Vert	Seismic_Right Horz	Seismic_Right Vert	Seismic_Long Horz	Seismic_Long Vert	MIN_SNOW Horz	MIN_SNOW Vert
F*	2	−0.6	−0.5	0.6	0.5	0.0	−1.8	2.2	7.2
F*	5	−0.5	0.5	0.5	−0.5	0.0	−1.8	−2.2	7.3

Frame Line	Column Line	Dead Horz	Dead Vert	Collateral Horz	Collateral Vert	Live Horz	Live Vert	Snow Horz	Snow Vert	Snow_Drift Horz	Snow_Drift Vert	Wind_Left1 Horz	Wind_Left1 Vert
A	2	0.4	1.5	0.2	0.9	0.8	3.0	0.7	2.5	0.3	1.5	−3.4	−5.9
A	5	−0.4	1.5	−0.2	0.9	−0.8	3.0	−0.7	2.5	−0.3	1.1	−1.2	−3.2

Frame Line	Column Line	Wind_Right1 Horz	Wind_Right1 Vert	Wind_Left2 Horz	Wind_Left2 Vert	Wind_Right2 Horz	Wind_Right2 Vert	Wind_Long1 Horz	Wind_Long1 Vert	Wind_Long2 Horz	Wind_Long2 Vert	Seismic_Left Horz	Seismic_Left Vert
A	2	1.9	−1.2	−3.7	−4.4	1.7	0.2	0.0	−4.2	0.4	−2.5	−0.6	−0.5
A	5	2.9	−4.1	−0.9	−1.8	3.1	−2.6	0.1	−4.3	−0.4	−2.5	−0.5	0.5

Frame Line	Column Line	Seismic_Right Horz	Seismic_Right Vert	MIN_SNOW Horz	MIN_SNOW Vert
A	2	0.6	0.5	1.0	3.5
A	5	0.5	−0.5	−1.0	3.6

F* Frame lines: F E D C B

GENERAL NOTES

1. All anchor bolts (by others) to have nuts and flat washers.
2. All anchor bolts are designed to full S.A.E. diameters with cut threads. No substitutions are allowed.
3. The Metal Building Provider is not responsible for the design, materials and workmanship of the foundation. Anchor bolt plans prepared by the Metal Building Provider are intended to show only location, diameter, and projection of anchor bolts required to attach the Metal Building System to the foundation. The Metal Building Provider is responsible for providing to the Builder the loads imposed by the Metal Building System on the foundation. It is the responsibility of the End Customer to ensure that adequate provisions are made for specifying bolt embedment, bearing angles, tie rods, and/or other associated items embedded in the concrete foundation, as well as foundation design for the loads imposed by the Metal Building System, other imposed loads, and the bearing capacity of the soil and other conditions of the building site. This is typically the responsibility of the Design Professional or Engineer of Record, which is another reason that their involvement in the Construction Project from the outset is highly recommended. (2012 MBMA Metal Building Systems Manual, Section 3.2.2)

BUILDING BRACING REACTIONS

Wall Loc	Col Line	Col Line	± Reactions(k) Wind Horz	Wind Vert	Seismic Horz	Seismic Vert	Panel_Shear (lb/ft) Wind	Seis	Note
L_EW	G	Bracing Not Used					0	0	
F_SW	5	F,E	0.8	1.1	0.9	1.2			(b)
		C,B	0.8	1.6	0.9	1.8			(b)
R_EW	A								(h)
B_SW	2	C,B	0.8	1.6	1.0	1.8			(b)
		F,E	0.8	1.1	1.0	1.2			(b)

(b)Wind bent in bay, base above finish floor
(h)Rigid frame at endwall

Reactions for seismic represent shear force, Eh
Reaction values shown are unfactored

ANCHOR BOLT SUMMARY (GRADE 36)

Qty	Locate	Dia (in)	Type	Proj (in)
⬟ 16	Endwall	5/8"	F1554	2.50
⊕ 48	Frame	3/4"	F1554	3.00

ENDWALL COLUMN: BASIC COLUMN REACTIONS (k)

Frm Line	Col Line	Dead Vert	Wind Press Horz	Wind Suct Horz	Seis Long Horz
A	3	0.2	−2.5	2.8	0.3

ENDWALL COLUMN: MAXIMUM REACTIONS, ANCHOR BOLTS, & BASE PLATES

Frm Line	Col Line	Column_Reactions(k) Load Id	Hmax H	V Vmax	Load Id	Hmin H	V Vmin	Bolt(in) Qty	Dia	Base_Plate(in) Width	Length	Thick	Elev. (in)
A	3	16	1.7	0.1	17	−1.5	0.1	4	0.625	8.000	8.000	0.375	0.0
		18	1.7	0.2									

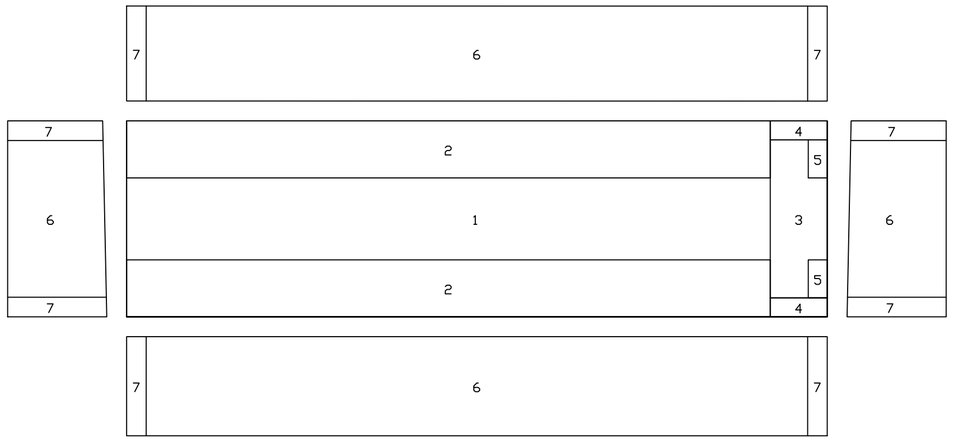
NOTES FOR REACTIONS

1. All loading conditions are examined and only maximum/minimum H or V and the corresponding H or V are reported.
2. Positive reactions are as shown in the sketch. Foundation loads are in opposite directions.
3. Bracing reactions are in the plane of the brace with the H pointing away from the braced bay. The vertical reaction is downward.
4. Loading conditions are:
   1 Dead+Collateral+Snow+Snow_Drift
   2 Dead+Collateral+0.75Snow+0.45Wind_Left1+0.75Snow_Drift
   3 Dead+Collateral+0.75Snow+0.45Wind_Left1+0.75Slide_Snow
   4 Dead+Collateral+0.75Snow+0.45Wind_Right1+0.75Snow_Drift
   5 Dead+Collateral+0.75Snow+0.45Wind_Right1+0.75Slide_Snow
   6 0.6Dead+0.6Wind_Left1
   7 0.6Dead+0.6Wind_Left2
   8 0.6Dead+0.6Wind_Right2
   9 0.6Dead+0.6Wind_Long1L
   10 0.6Dead+0.6Wind_Long1R
   11 Dead+Collateral+MIN_SNOW
   12 0.6Dead+0.6Wind_Suction+0.6Wind_Long1L
   13 0.6Dead+0.6Wind_Pressure+0.6Wind_Long1L
   14 Dead+Collateral+Snow/2+E1PAT_SL_1
   15 Dead+Collateral+Snow/2+E1PAT_SL_2
   16 0.6Dead+0.6Wind_Right2+0.6Wind_Suction
   17 0.6Dead+0.6Wind_Pressure+0.6Wind_Long2L
   18 Dead+0.6Wind_Right2+0.6Wind_Suction

Components & Cladding

Zone	Width (ft)	Length (ft)	Pressure(psf) Member	Pressure(psf) Panel	Suction(psf) Member	Suction(psf) Panel
1			16.00	16.00	-30.52	-42.56
2	9.60		16.00	16.00	-40.63	-56.26
3		9.60	16.00	16.00	-40.63	-56.26
4	3.20	9.60	16.00	16.00	-45.26	-76.56
5	6.40	3.20	16.00	16.00	-45.26	-76.56
6			19.77	24.46	-21.81	-26.49
7	3.30		19.77	24.46	-23.34	-32.58

(+) wind towards surface
(-) wind away from surface



Panel Zone: Wind 1

BUILDING "B" REACTION

CITY OF HOUSTON REGISTRATION NO. 165 / STATE OF TEXAS FIRM NO. 12081

STATE OF MISSOURI
SIRENE M. CHACON
NUMBER PE-2012036154
PROFESSIONAL ENGINEER

The Engineer whose seal and signature appear on these documents represents Whirlwind Steel Buildings, Inc., and is not the Engineer of Record for the overall project. The Engineer's responsibility is limited to material designed and manufactured by Whirlwind Steel Buildings, Inc., and excludes part such as doors, windows, foundation design, and erection of the building.

APPROVAL/REVIEWING AUTHORITY: PLEASE REVIEW APPROVAL DRAWING CAREFULLY

UNLESS NOTED OTHERWISE, IT WILL BE ASSUMED THAT ALL INFORMATION SHOWN ON THIS SET OF DRAWINGS HAVE THE AFFIRMATION OF THE APPROVAL/REVIEW AUTHORITY. FAILURE TO RESPOND TO CLOUDED AREAS AND AREAS TO VERIFY MAY RESULT IN ADDITIONAL COSTS AND/OR SCEDULE DELAYS FOR WHICH THE METAL BUILDING PROVIDER WILL NOT BE RESPONSIBLE. FIELD VERIFY ALL EXISTING CONDITIONS PRIOR TO FABRICATION. ALL SUBSEQUENT CHANGES AFTER THE FIRST SUBMITTAL WILL BE CONSIDERED AS CONTRACTUAL CHANGE.

DRAWING STATUS:
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☐ FOR CONSTRUCTION PERMIT: These drawings, being for permit, are by definition not final. Only drawings issued "For Erector Installation" can be considered complete.
☒ FOR ERECTOR INSTALLATION: Final drawings for construction.

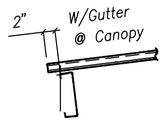
WHIRLWIND STEEL BUILDINGS
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HOUSTON, TX 77234 FAX: 832-553-4600
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ISSUE	DATE	DESCRIPTION	BY	CHK
0	10.11.24	FOR ERECTOR INSTALLATION	HP	TVN

SHEET DESCRIPTION: ANCHOR BOLT REACTIONS
BLDG SIZE: VARIES
CUSTOMER: Jasco Construction
CUSTOMER LOCATION: BURLESON, TX 76028
PROJECT REFERENCE: Cowboy Express Carwash
JOBSITE LOCATION: 210 Mo-150 Highway, Lees Summit, Missouri 64082
JOBSITE COUNTY: Jackson

DWN:	CHK:	DATE:	ENG:	JOB NO:	DWG NO:	ISSUE:
HP	TVN	10.11.24	NA	13014-35259	F3	0

MEMBER TABLE					
Mark	Web Depth	Web Plate		Outside Flange	Inside Flange
	Start/End	Thick	Length	W x Thk x Length	W x Thk x Length
RC1-1	12.0/17.5	0.135	120.0	8 x 1/4" x 240.0	8 x 5/16" x 236.2
	17.5/24.0	0.164	162.9	8 x 1/4" x 36.8	8 x 5/16" x 24.0
				8 x 1/4" x 24.9	
RR1-2	18.0/18.0	0.164	240.0	5 x 1/4" x 240.0	5 x 1/4" x 240.0
	18.0/18.0	0.164	108.1	5 x 1/4" x 103.6	5 x 1/4" x 103.6
RC1-3	24.0/24.0	0.161	29.2	8 x 1/4" x 25.1	8 x 3/8" x 103.8
	24.0/20.4	0.135	103.6	8 x 3/8" x 132.7	8 x 3/8" x 240.0
	20.4/12.0	0.135	240.0	8 x 3/8" x 240.0	
EBR-2	W10X12				
EBR-3	W10X12				
EBR-6	W8X10				



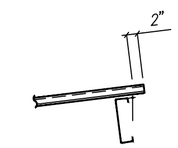
DETAIL @ PANEL END

SPLICE PLATE & BOLT TABLE									
Mark	Qty Top	Bot	Int	Type	Dia	Length	Width	Thick	Length
SP-1	4	4	0	A325	3/4"	2"	8"	1/2"	2'-3 1/2"

FLANGE BRACE TABLE A=L2x2x14GA B=L2x2x12GA C=L2x2x1/8 D=L3x3x3/16 FRAME LINE: 1						
▽ ID	# SIDES	MARK	LENGTH	OFFSET	DETAIL	CLIP
1	1	FB2A	2'-10 1/8"	2'-4"		

BASE PLATE TABLE			
Col Mark	Plate Size Width	Thick	Length
BP-1	8"	3/8"	1'-1"

MEMBER TABLE					
Mark	Web Depth	Web Plate		Outside Flange	Inside Flange
	Start/End	Thick	Length	W x Thk x Length	W x Thk x Length
RC2-1	16.0/23.4	0.135	120.0	8 x 1/4" x 240.0	8 x 1/4" x 120.2
	23.4/32.0	0.164	164.7	8 x 1/4" x 36.7	8 x 5/16" x 140.1
				8 x 1/4" x 33.2	
RR2-2	20.0/20.0	0.164	240.0	5 x 1/4" x 240.0	5 x 1/4" x 240.0
	20.0/20.0	0.164	98.4	5 x 1/4" x 93.3	5 x 1/4" x 93.3
RC2-3	26.0/26.0	0.184	31.7	8 x 1/4" x 27.1	8 x 3/8" x 101.0
	26.0/23.0	0.164	100.9	8 x 5/16" x 181.1	8 x 5/16" x 24.0
	23.0/16.0	0.135	240.0	8 x 5/16" x 183.5	8 x 5/16" x 216.1
EBR-2	W10X12				
EBR-3	W10X12				
EBR-7	W8X10				



DETAIL @ PANEL END (HIGH SIDE)

SPLICE PLATE & BOLT TABLE									
Mark	Qty Top	Bot	Int	Type	Dia	Length	Width	Thick	Length
SP-1	4	4	0	A325	3/4"	2"	8"	1/2"	2'-5 1/2"

FLANGE BRACE TABLE A=L2x2x14GA B=L2x2x12GA C=L2x2x1/8 D=L3x3x3/16 FRAME LINE: 4						
▽ ID	# SIDES	MARK	LENGTH	OFFSET	DETAIL	CLIP
1	1	FB3A	2'-11 3/8"	2'-4"		

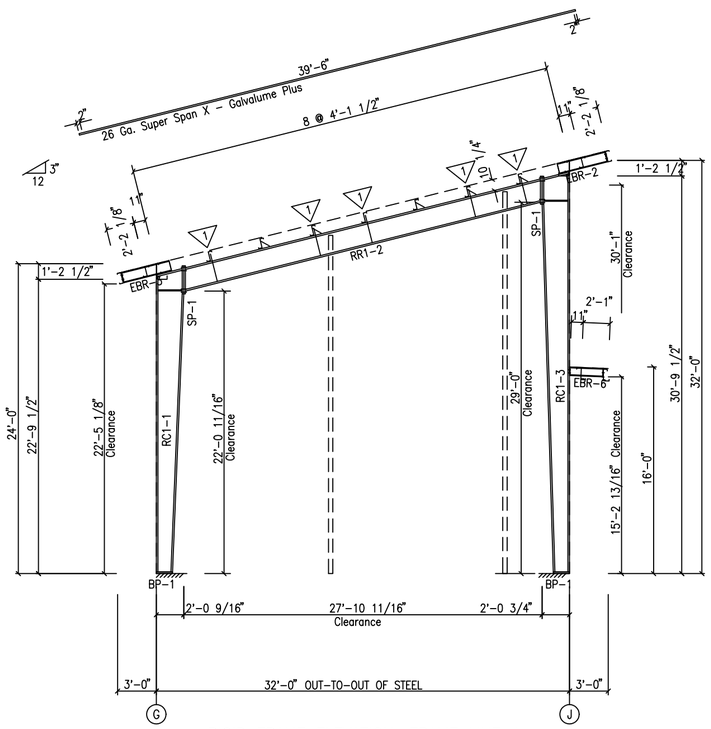
BASE PLATE TABLE			
Col Mark	Plate Size Width	Thick	Length
BP-1	8"	1/2"	1'-4 1/2"
BP-2	8"	1/2"	1'-5"

MEMBER TABLE					
Mark	Web Depth	Web Plate		Outside Flange	Inside Flange
	Start/End	Thick	Length	W x Thk x Length	W x Thk x Length
RC3-1	16.0/16.0	0.135	240.0	8 x 1/4" x 240.0	8 x 1/4" x 238.1
	16.0/16.0	0.135	40.9	8 x 1/4" x 36.8	8 x 1/4" x 24.0
				8 x 1/4" x 16.7	
RR3-2	14.0/14.0	0.135	240.0	5 x 1/4" x 240.0	5 x 1/4" x 240.0
	14.0/14.0	0.135	123.7	5 x 1/4" x 120.1	5 x 1/4" x 120.1
RC3-3	16.0/16.0	0.161	23.0	8 x 1/4" x 16.8	8 x 3/8" x 109.8
	16.0/16.0	0.135	109.8	8 x 5/16" x 132.7	8 x 3/8" x 240.0
	16.0/16.0	0.135	240.0	8 x 5/16" x 240.0	
EBR-2	W10X12				
EBR-3	W10X12				

SPLICE PLATE & BOLT TABLE									
Mark	Qty Top	Bot	Int	Type	Dia	Length	Width	Thick	Length
SP-1	4	4	0	A325	3/4"	2"	8"	1/2"	1'-11 1/4"

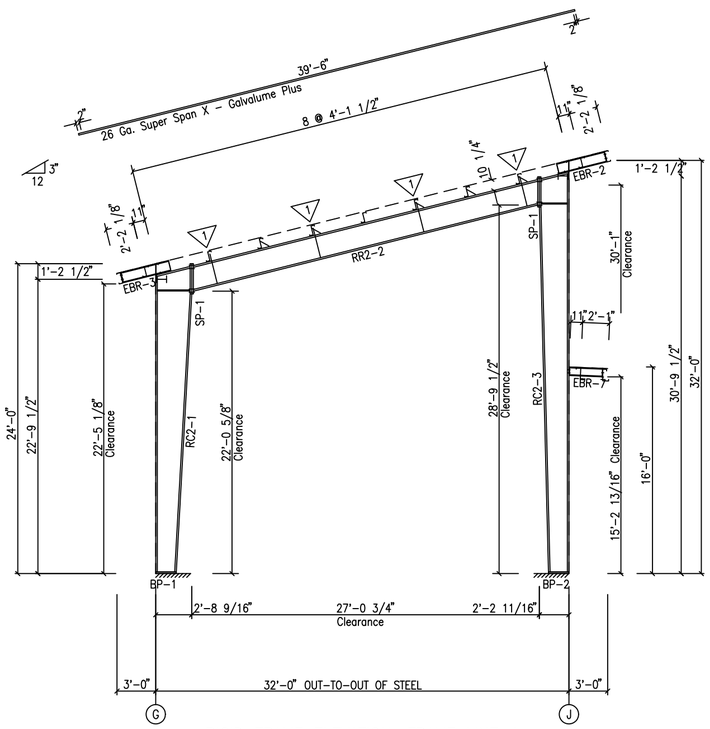
FLANGE BRACE TABLE A=L2x2x14GA B=L2x2x12GA C=L2x2x1/8 D=L3x3x3/16 FRAME LINE: 6						
▽ ID	# SIDES	MARK	LENGTH	OFFSET	DETAIL	CLIP
1	1	FB1A	2'-8"	2'-4"		

BASE PLATE TABLE			
Col Mark	Plate Size Width	Thick	Length
BP-1	8"	3/8"	1'-4 1/2"
BP-2	8"	3/8"	1'-5"

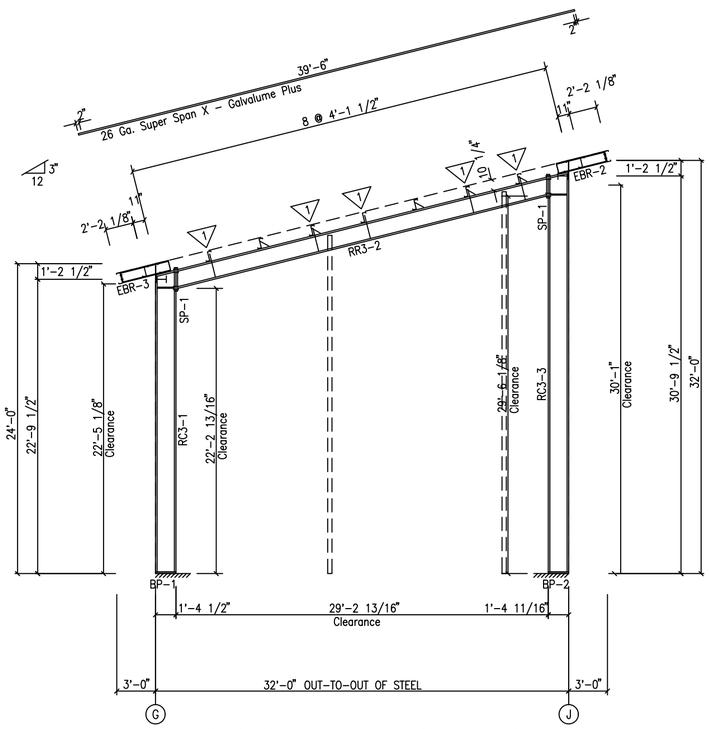


RIGID FRAME ELEVATION: FRAME LINE 1

The rigid frame at Line 1 is designed as a non-expandable rigid frame
Corresponding frame reactions are calculated base upon actual tributary area



RIGID FRAME ELEVATION: FRAME LINE 4



RIGID FRAME ELEVATION: FRAME LINE 6

The rigid frame at Line 6 is designed as a non-expandable rigid frame
Corresponding frame reactions are calculated base upon actual tributary area

BUILDING "A" FRAME

BOLT TIGHTENING (Snug-Tight)

All bolted joints with ASTM F3125 Grade A325 bolts are specified as Snug-Tightened Joints in accordance with the Specification of Structural Joints Using High-Strength Bolts, June 11, 2020, installation as given in Section 7.1 Washers are not required for Snug-Tightened Joints using standard standard size holes per Section 6.1 of the Specification

Pretensioning methods, including Turn-of-Nut, calibrated wrench, twist-off tension control bolts or direct tension indicator are not required. Installation inspection requirements for Snug-Tight Bolt is found in Section 9.1 of the Specification.

CITY OF HOUSTON REGISTRATION NO. 165 / STATE OF TEXAS FIRM NO. 12081

STATE OF MISSOURI
SIRENE M. CHACON
NUMBER PE-2012036154
PROFESSIONAL ENGINEER

The Engineer whose seal and signature appear on these documents represents Whirlwind Steel Buildings, Inc., and is not the Engineer of Record for the overall project. The Engineer's responsibility is limited to material designed and manufactured by Whirlwind Steel Buildings, Inc., and excludes part such as doors, windows, foundation design, and erection of the building.

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- ☐ FOR ERECTOR INSTALLATION: Final drawings for construction.

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ISSUE	DATE	DESCRIPTION	BY	CHK
P1	10.11.24	FOR CONSTRUCTION PERMIT	HP	TN

SHEET DESCRIPTION: RIGID FRAME ELEVATION						BLDG SIZE: VARIES	
CUSTOMER: Jasco Construction						CUSTOMER LOCATION: BURLESON, TX 76028	
PROJECT REFERENCE:							
JOBSITE LOCATION: 1201 South Broadway, Joshua, TX 76058						JOBSITE COUNTY: Johnson	
DWN: HP	CHK: TN	DATE: 10.11.24	ENG: DW	JOB NO: 13014-35259		DWG NO: P1	ISSUE: P1

MEMBER TABLE				
Mark	Web Depth Start/End	Web Plate Thick	Web Plate Length	Outside Flange W x Thk x Length	Inside Flange W x Thk x Length
RC1-100	16.0/16.0	0.133	165.1	6 x 1/4" x 181.1	6 x 1/4" x 165.1
	16.0/16.0	0.161	16.4	6 x 1/4" x 16.2	
RR1-101	12.0/12.0	0.133	240.0	5 x 1/4" x 240.0	5 x 1/4" x 240.0
	12.0/12.0	0.133	121.8	5 x 1/4" x 121.6	5 x 1/4" x 121.6
RC1-102	16.0/16.0	0.161	16.7	6 x 1/4" x 16.2	6 x 5/16" x 172.6
	16.0/16.0	0.133	172.6	6 x 1/4" x 189.4	

SPLICE PLATE & BOLT TABLE									
Mark	Qty Top	Bot	Int	Type	Dia	Length	Width	Thick	Length
SP-1	4	4	0	A325	3/4"	2"	6"	1/2"	1'-8 3/4"

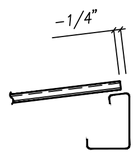
FLANGE BRACE TABLE
A=L2x2x14GA B=L2x2x12GA C=L2x2x1/8 D=L3x3x3/16
FRAME LINE: F E D C B

▽ ID	# SIDES	MARK	LENGTH	OFFSET	DETAIL	CLIP
1	1	FB102A	2'-7"	2'-4"		

BASE PLATE TABLE			
Col Mark	Plate Size Width	Thick	Length
BP-1	8"	3/8"	1'-4 1/2"
BP-2	8"	3/8"	1'-5"



DETAIL @ PANEL END



DETAIL @ PANEL END
HIGH SIDE

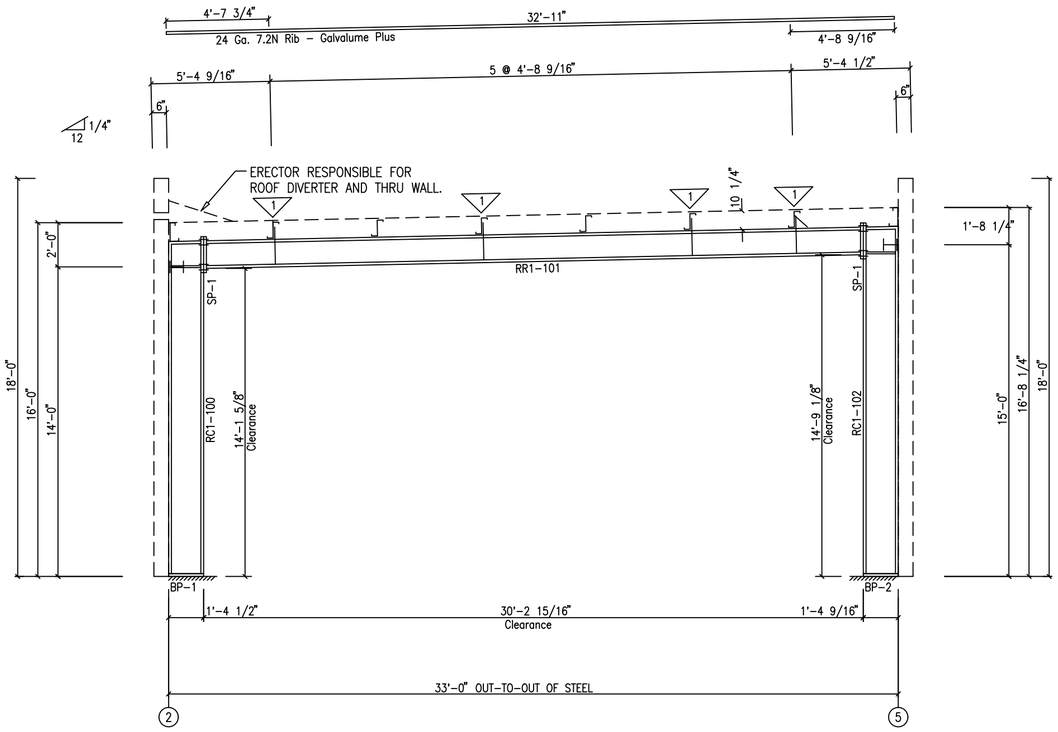
MEMBER TABLE				
Mark	Web Depth Start/End	Web Plate Thick	Web Plate Length	Outside Flange W x Thk x Length	Inside Flange W x Thk x Length
RC2-100	10.0/10.0	0.133	167.0	6 x 1/4" x 181.1	6 x 1/4" x 167.0
	10.0/10.0	0.161	14.4	6 x 1/4" x 10.2	
RR2-101	10.0/10.0	0.133	240.0	5 x 1/4" x 240.0	5 x 1/4" x 240.0
	10.0/10.0	0.133	133.8	5 x 1/4" x 133.6	5 x 1/4" x 133.6
RC2-102	10.0/10.0	0.161	14.6	6 x 1/4" x 10.2	6 x 1/4" x 174.8
	10.0/10.0	0.133	174.8	6 x 1/4" x 189.4	

SPLICE PLATE & BOLT TABLE									
Mark	Qty Top	Bot	Int	Type	Dia	Length	Width	Thick	Length
SP-1	4	4	0	A325	3/4"	2"	6"	1/2"	1'-6 3/4"

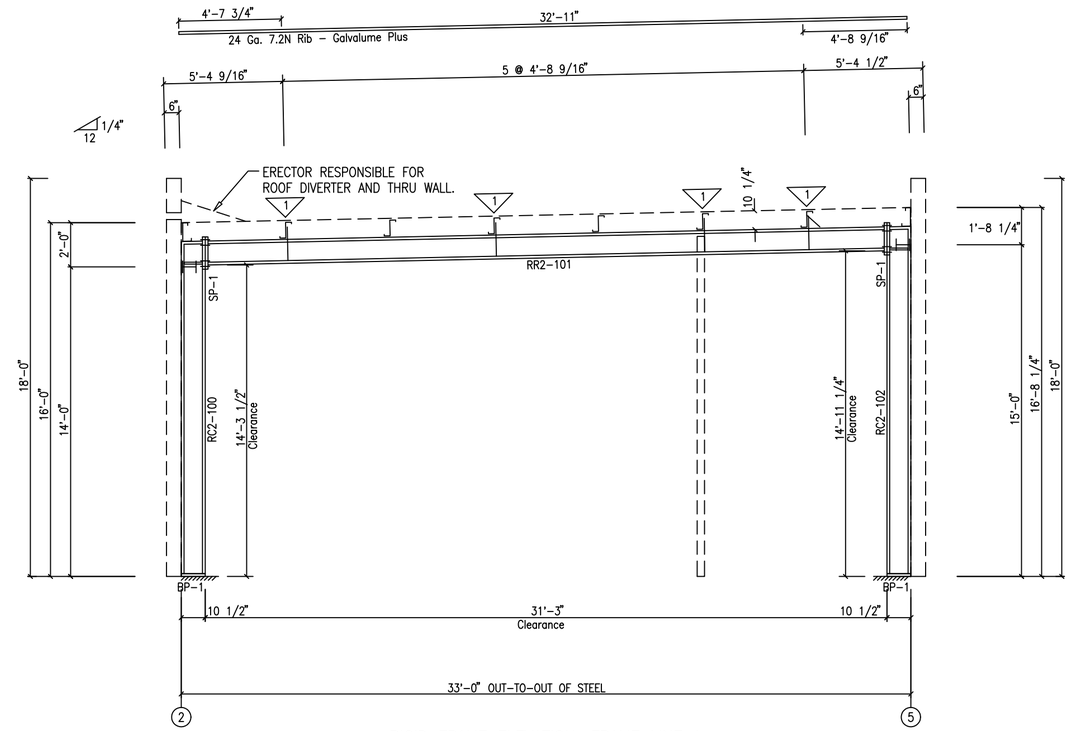
FLANGE BRACE TABLE
A=L2x2x14GA B=L2x2x12GA C=L2x2x1/8 D=L3x3x3/16
FRAME LINE: A

▽ ID	# SIDES	MARK	LENGTH	OFFSET	DETAIL	CLIP
1	1	FB101A	2'-6 1/8"	2'-4"		

BASE PLATE TABLE			
Col Mark	Plate Size Width	Thick	Length
BP-1	8"	3/8"	10 1/2"



RIGID FRAME ELEVATION: FRAME LINE F E D C B



RIGID FRAME ELEVATION: FRAME LINE A

The rigid frame at Line A is designed as a non-expandable rigid frame
Corresponding frame reactions are calculated base upon actual tributary area

BOLT TIGHTENING (Snug-Tight)

All bolted joints with ASTM F3125 Grade A325 bolts are specified as Snug-Tightened Joints in accordance with the Specification of Structural Joints Using High-Strength Bolts, June 11, 2020, installation as given in Section 7.1 Washers are not required for Snug-Tightened Joints using standard standard size holes per Section 6.1 of the Specification

Pretensioning methods, including Turn-of-Nut, calibrated wrench, twist-off tension control bolts or direct tension indicator are not required. Installation inspection requirements for Snug-Tight Bolt is found in Section 9.1 of the Specification.

BUILDING "B" FRAME

CITY OF HOUSTON REGISTRATION NO. 165 / STATE OF TEXAS FIRM NO. 12081

STATE OF MISSOURI
SIRENE M. CHACON
NUMBER PE-2012036154
PROFESSIONAL ENGINEER

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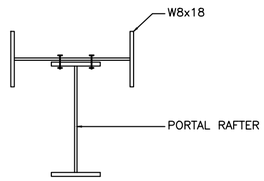
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ISSUE	DATE	DESCRIPTION	BY	CHK
P1	10.11.24	FOR CONSTRUCTION PERMIT	HP	TN

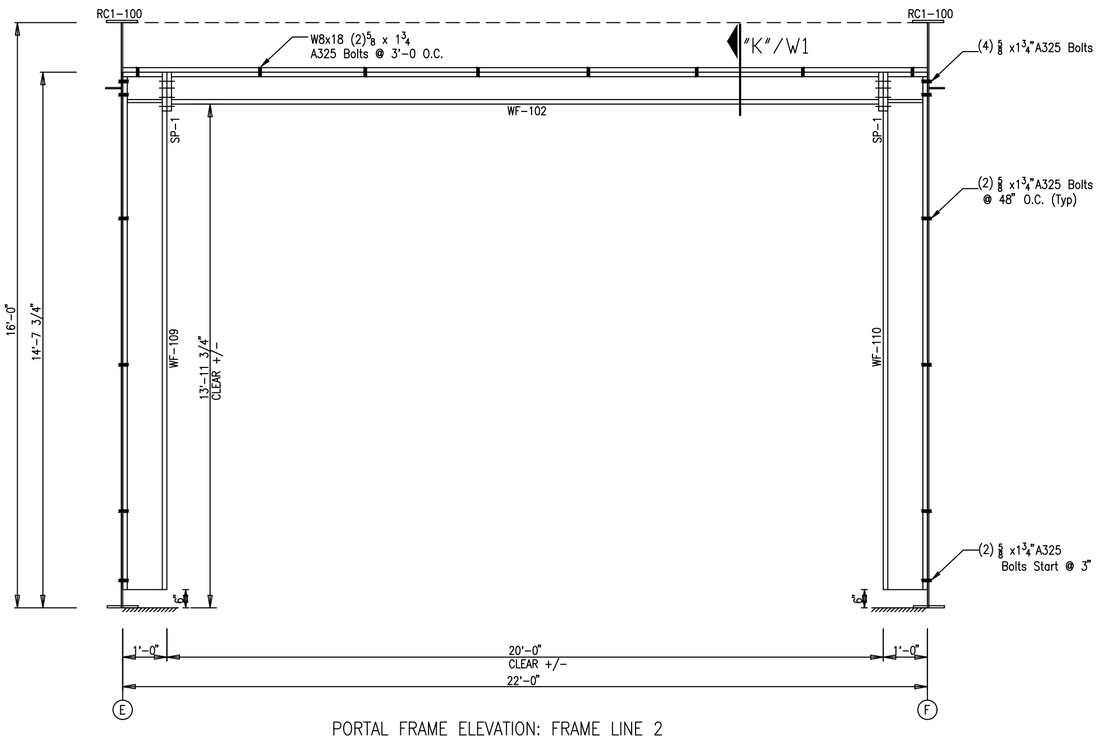
SHEET DESCRIPTION: RIGID FRAME ELEVATION					BLDG SIZE: VARIES	
CUSTOMER: Jasco Construction					CUSTOMER LOCATION: BURLESON, TX 76028	
PROJECT REFERENCE:						
JOBSITE LOCATION: 1201 South Broadway, Joshua, TX 76058					JOBSITE COUNTY: Johnson	
DWN: HP	CHK: TN	DATE: 10.11.24	ENG: DW	JOB NO: 13014-35259	DWG NO: P2	ISSUE: P1

SPLICE PLATES & BOLTS									
Splice Mark	Quan Top/	Bot	Bolt Type	Bolt Dia	Bolt Length	Plate Size Width	Thick	Length
SP- 1	2	6	A325	1.000	2.75	8"	3/4"	1'-0 1/4"

MEMBER SIZE TABLE		
MARK	MEMBER	LENGTH
WF-102	W8541	19'-11"
WF-109	W12541	14'-1 3/4"



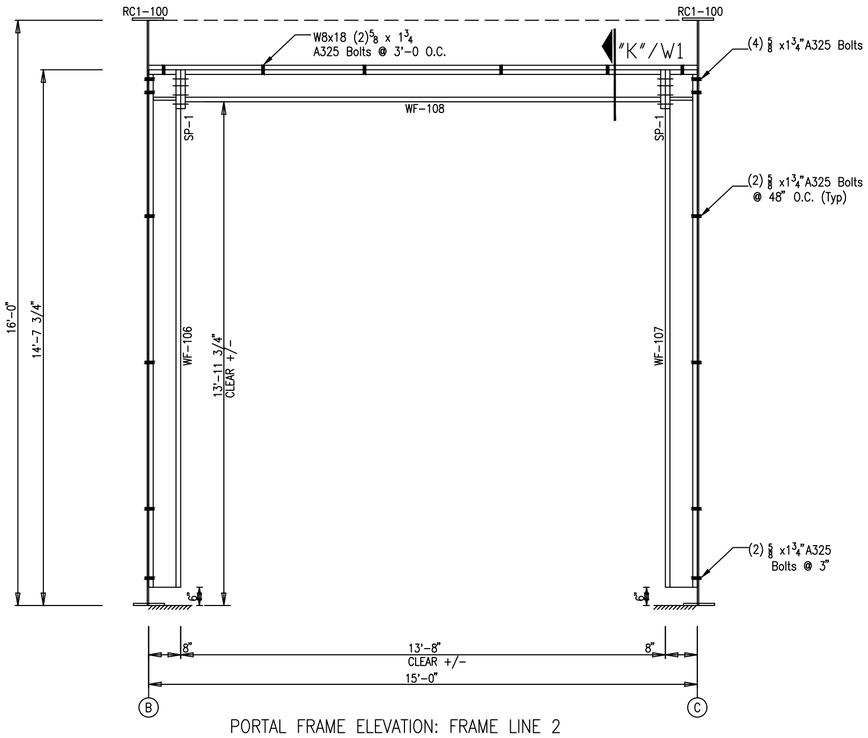
DETAIL "K"



PORTAL FRAME ELEVATION: FRAME LINE 2

SPLICE PLATES & BOLTS									
Splice Mark	Quan Top/	Bot	Bolt Type	Bolt Dia	Bolt Length	Plate Size Width	Thick	Length
SP- 1	2	6	A325	1.000	2.75	8"	3/4"	1'-0 1/4"

MEMBER SIZE TABLE		
MARK	MEMBER	LENGTH
WF-107	W8541	14'-1 3/4"
WF-106	W8541	14'-1 3/4"
WF-108	W8541	13'-7"



PORTAL FRAME ELEVATION: FRAME LINE 2

BOLT TIGHTENING (Snug-Tight)

All bolted joints with ASTM F3125 Grade A325 bolts are specified as Snug-Tightened Joints in accordance with the Specification of Structural Joints Using High-Strength Bolts, June 11, 2020, installation as given in Section 7.1 Washers are not required for Snug-Tightened Joints using standard standard size holes per Section 6.1 of the Specification

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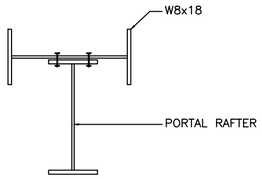
ISSUE	DATE	DESCRIPTION	BY	CHK
P1	10.11.24	FOR CONSTRUCTION PERMIT	HP	TVN

SHEET DESCRIPTION: PORTAL FRAME ELEVATION					BLDG SIZE: VARIES	
CUSTOMER: Jasco Construction					CUSTOMER LOCATION: BURLESON, TX 76028	
PROJECT REFERENCE: Cowboy Express Carwash						
JOBSITE LOCATION: 210 Mo-150 Highway, Lees Summit, Missouri 64082					JOBSITE COUNTY: Johnson	
DWN: HP	CHK: TVN	DATE: 10.11.24	ENG: NA	JOB NO: 13014-35259	DWG NO: W1	ISSUE: P1

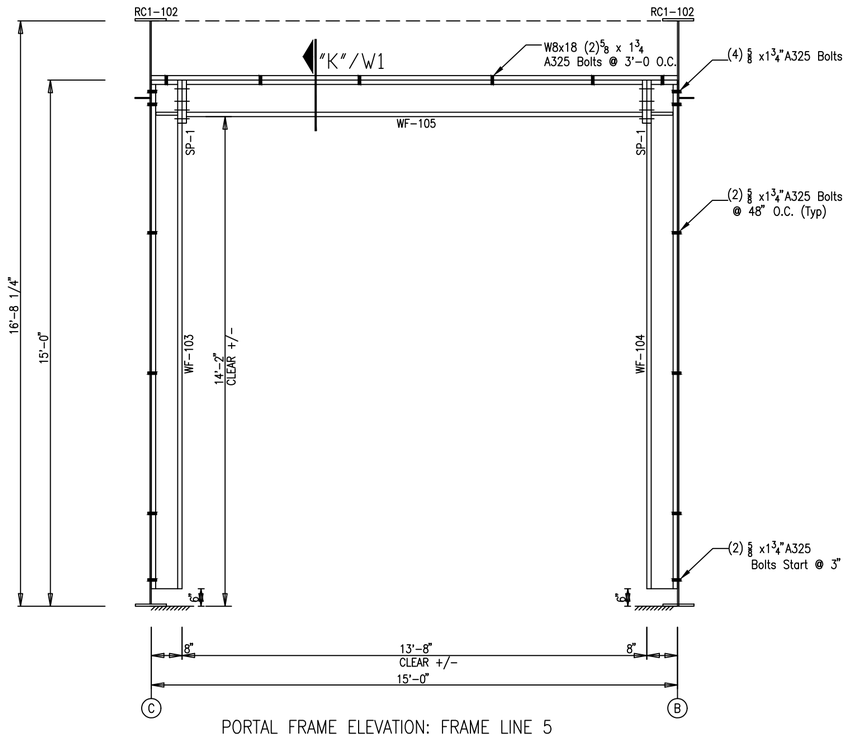
STATE OF MISSOURI
SIRENE M. CHACON
NUMBER PE-2012036154
PROFESSIONAL ENGINEER

SPLICE PLATES & BOLTS									
Splice Mark	Quan Top/	Bot	-----Bolt----- Type	Dia	Length	Plate Size Width	Thick	Length
SP- 1	2	6	A325	1.000	2.50	8"	5/8"	1'-2 1/4"

MEMBER SIZE TABLE		
MARK	MEMBER	LENGTH
WF-104	W8541	14'-6"
WF-103	W8541	14'-6"
WF-105	W10541	13'-7 1/4"



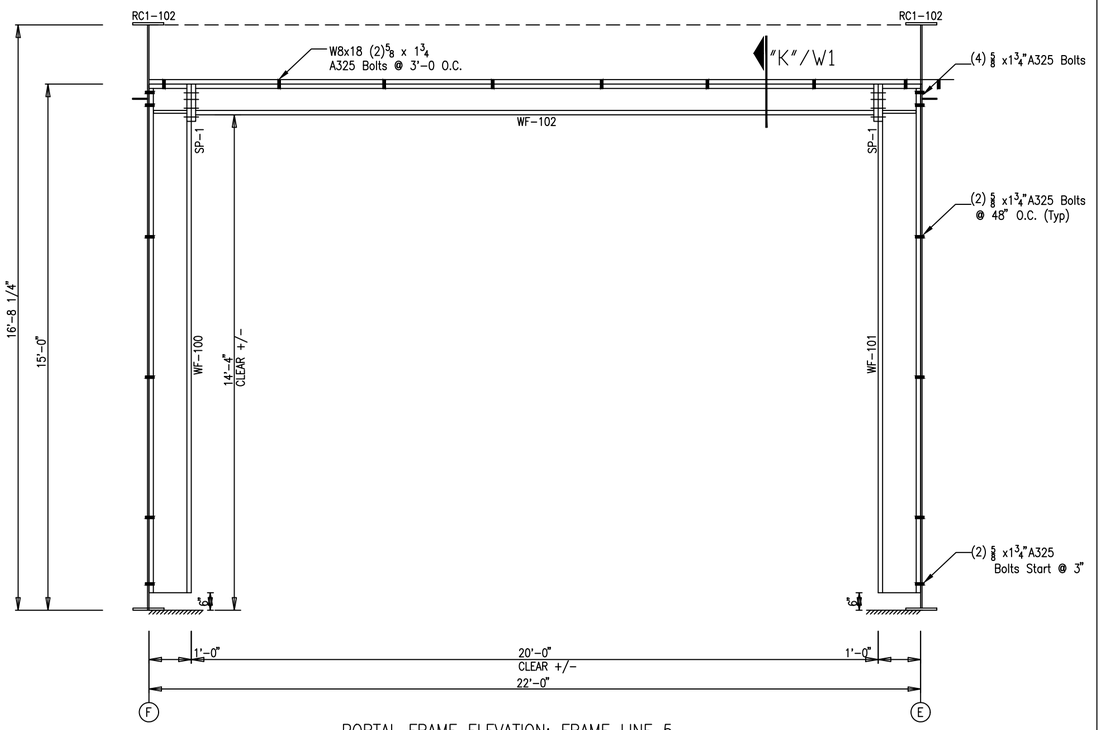
DETAIL "K"



PORTAL FRAME ELEVATION: FRAME LINE 5

SPLICE PLATES & BOLTS									
Splice Mark	Quan Top/	Bot	-----Bolt----- Type	Dia	Length	Plate Size Width	Thick	Length
SP- 1	2	6	A325	1.000	2.75	8"	3/4"	1'-0 1/4"

MEMBER SIZE TABLE		
MARK	MEMBER	LENGTH
WF-101	W12541	14'-6"
WF-100	W12541	14'-6"
WF-102	W8541	19'-11"



PORTAL FRAME ELEVATION: FRAME LINE 5

BOLT TIGHTENING (Snug-Tight)

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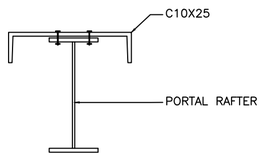
ISSUE	DATE	DESCRIPTION	BY	CHK
P1	10.11.24	FOR CONSTRUCTION PERMIT	HP	TVN

SHEET DESCRIPTION: PORTAL FRAME ELEVATION					BLDG SIZE: VARIES	
CUSTOMER: Jasco Construction					CUSTOMER LOCATION: BURLESON, TX 76028	
PROJECT REFERENCE: Cowboy Express Carwash						
JOBSITE LOCATION: 210 Mo-150 Highway, Lees Summit, Missouri 64082					JOBSITE COUNTY: Johnson	
DWN: HP	CHK: TVN	DATE: 10.11.24	ENG: NA	JOB NO: 13014-35259	DWG NO: W2	ISSUE: P1

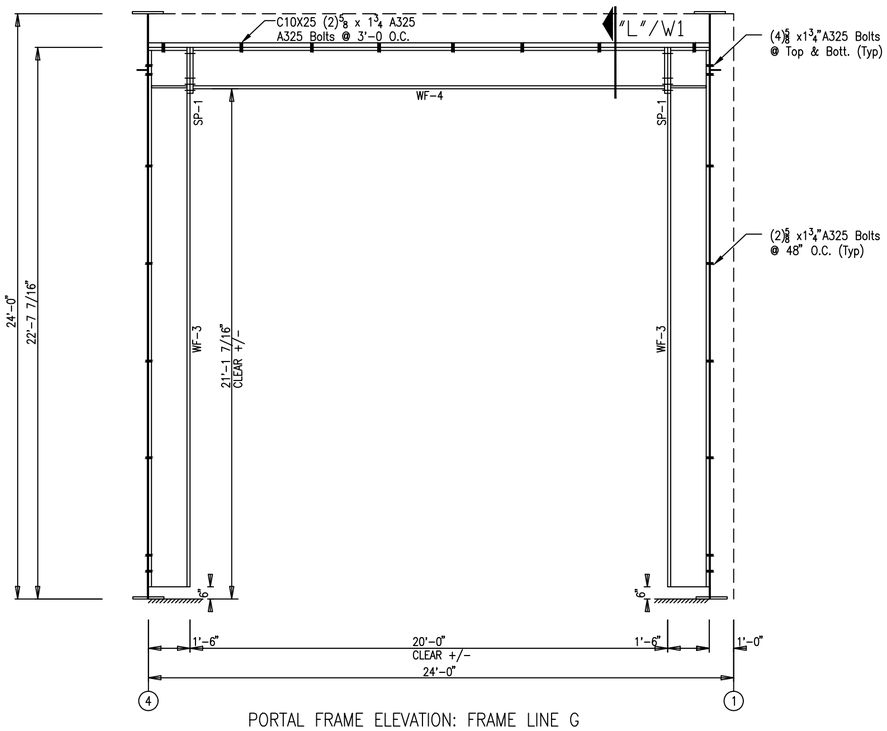
STATE OF MISSOURI
SIRENE M. CHACON
NUMBER PE-2012036154
PROFESSIONAL ENGINEER

SPLICE PLATES & BOLTS									
Splice Mark	Quan Top/	Bot	Bolt Type	Bolt Dia	Bolt Length	Plate Size Width	Thick	Length
SP- 1	2	6	A325	0.750	2.25	6"	5/8"	1'-10"

MEMBER SIZE TABLE		
MARK	MEMBER	LENGTH
WF-4	W18651	19'-11 1/4"
WF-3	W18641	22'-1 7/16"



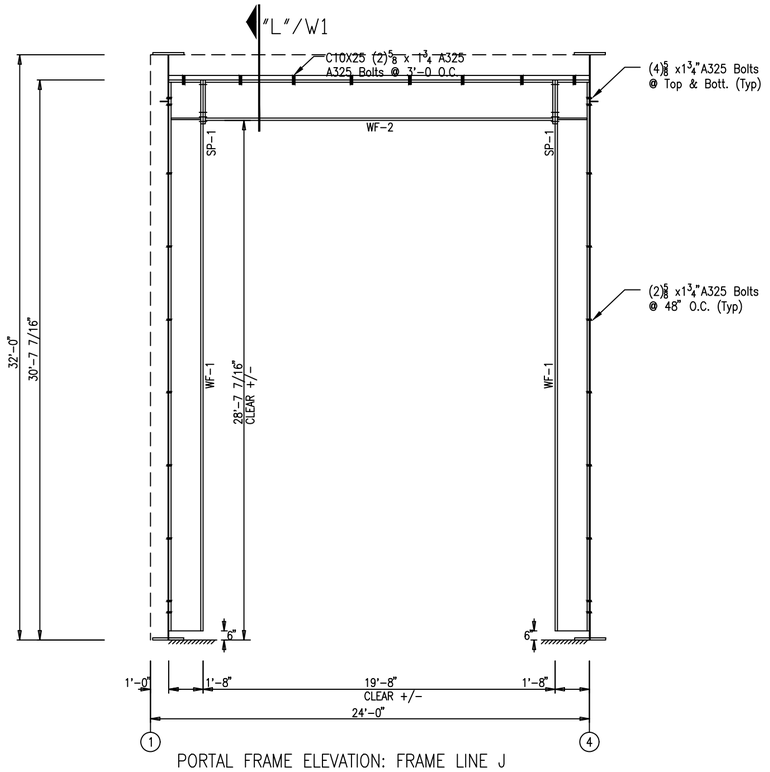
DETAIL "L"



PORTAL FRAME ELEVATION: FRAME LINE G

SPLICE PLATES & BOLTS									
Splice Mark	Quan Top/	Bot	Bolt Type	Bolt Dia	Bolt Length	Plate Size Width	Thick	Length
SP- 1	2	6	A325	0.750	2.00	6"	1/2"	2'-4 1/4"

MEMBER SIZE TABLE		
MARK	MEMBER	LENGTH
WF-2	W24641	19'-7 1/2"
WF-1	W20641	30'-1 7/16"



PORTAL FRAME ELEVATION: FRAME LINE J

BOLT TIGHTENING (Snug-Tight)

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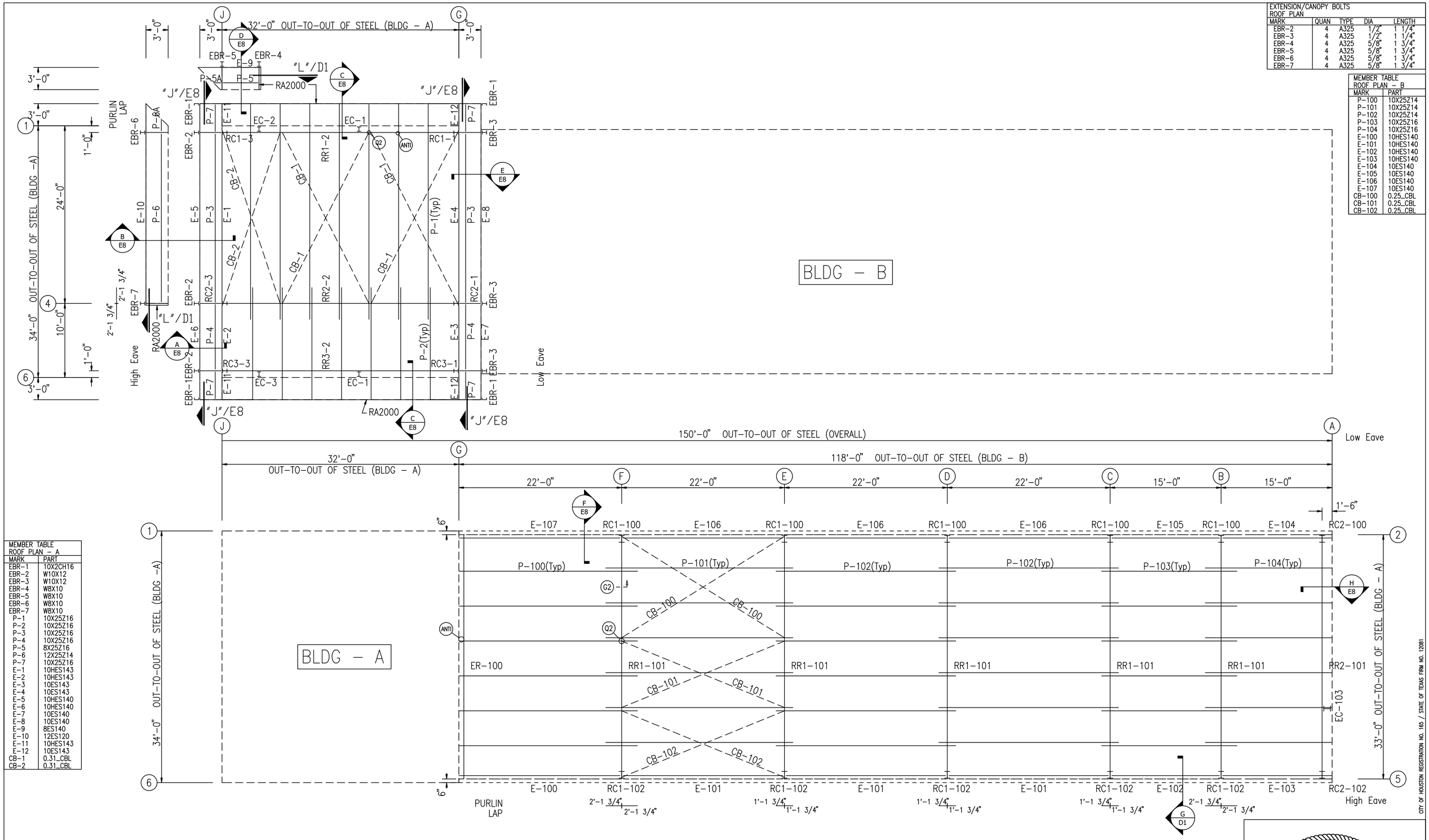
ISSUE	DATE	DESCRIPTION	BY	CHK
P1	10.11.24	FOR CONSTRUCTION PERMIT	HP	TVN

SHEET DESCRIPTION: PORTAL FRAME ELEVATION					BLDG SIZE: VARIES	
CUSTOMER: Jasco Construction					CUSTOMER LOCATION: BURLESON, TX 76028	
PROJECT REFERENCE: Cowboy Express Carwash						
JOBSITE LOCATION: 210 Mo-150 Highway, Lees Summit, Missouri 64082					JOBSITE COUNTY: Johnson	
DWN: HP	CHK: TVN	DATE: 10.11.24	ENG: NA	JOB NO: 13014-35259	DWG NO: W3	ISSUE: P1

STATE OF MISSOURI
SIRENE M. CHACON
NUMBER PE-2012036154
PROFESSIONAL ENGINEER

EXTENSION/CANOPY BOLTS ROOF PLAN				
MARK	QUAN	TYPE	DIA	LENGTH
EBR-2	4	A325	1/2"	1 1/4"
EBR-3	4	A325	1/2"	1 1/4"
EBR-4	4	A325	5/8"	1 3/4"
EBR-5	4	A325	5/8"	1 3/4"
EBR-6	4	A325	5/8"	1 3/4"
EBR-7	4	A325	5/8"	1 3/4"

MEMBER TABLE ROOF PLAN – B	
MARK	PART
P-100	10X25Z14
P-101	10X25Z14
P-102	10X25Z14
P-103	10X25Z16
P-104	10X25Z16
E-100	10HES140
E-101	10HES140
E-102	10HES140
E-103	10HES140
E-104	10ES140
E-105	10ES140
E-106	10ES140
E-107	10ES140
CB-100	0.25_CBL
CB-101	0.25_CBL
CB-102	0.25_CBL



ROOF FRAMING PLAN

MEMBER TABLE ROOF PLAN – A	
MARK	PART
EBR-1	10X2CH16
EBR-2	W10X12
EBR-3	W10X12
EBR-4	W8X10
EBR-5	W8X10
EBR-6	W8X10
EBR-7	W8X10
P-1	10X25Z16
P-2	10X25Z16
P-3	10X25Z16
P-4	10X25Z16
P-5	8X25Z16
P-6	12X25Z14
P-7	10X25Z16
E-1	10HES143
E-2	10HES143
E-3	10ES143
E-4	10ES143
E-5	10HES140
E-6	10HES140
E-7	10ES140
E-8	10ES140
E-9	8ES140
E-10	12ES120
E-11	10HES143
E-12	10ES143
CB-1	0.31_CBL
CB-2	0.31_CBL

NOTE:
THE ZERO COLLATERAL AND ZERO SPRINKLER LOAD DESIGNATED WITHIN THE CONTRACT DOES NOT ALLOW FOR ANY TYPE OF SUSPENDED SYSTEM (E.G. DUCT WORK, PIPING, INSULATION TYPES OTHER THAN 3 INCH PSK STANDARD DUTY FIBERGLASS BLANKET INSULATION, ETC.). SUSPENSION OF ANY LOAD INDUCING SYSTEM IN THE BUILDING IS PROHIBITED. EXCEPTION: LIGHTING AND FIXTURES NOT WEIGHING MORE THAN 0.3 PSF.

ACCESSORIES			WALKDOORS AND WINDOWS				FRAMED OPENINGS				
MK	QTY	SKYLIGHT/WALL LIGHT DESCRIPTION – COLOR	MK.	QTY.	FINISH	DESCRIPTION	MK.	QTY.	WIDTH	HEIGHT	OPENING FOR:
.	.	.	.	.	.	.	.	.	.	.	.
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MK	QTY	VENTILATORS	.	.	.	.	.	.	.	.	.
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MK	QTY	LOUVERS	.	.	.	.	.	.	.	.	.
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P1	10.11.24	FOR CONSTRUCTION PERMIT	HP	TVN

SHEET DESCRIPTION: ROOF FRAMING PLAN
BLDG SIZE: VARIES
CUSTOMER: Jasco Construction
CUSTOMER LOCATION: BURLESON, TX 76028
PROJECT REFERENCE: Cowboy Express Carwash
JOBSITE LOCATION: 210 Mo-150 Highway, Lees Summit, Missouri 64082
JOBSITE COUNTY: Jackson

DWN:	CHK:	DATE:	ENG:	JOB NO:	DWG NO:	ISSUE:
HP	TVN	10.11.24	NA	13014-35259	E1	P1

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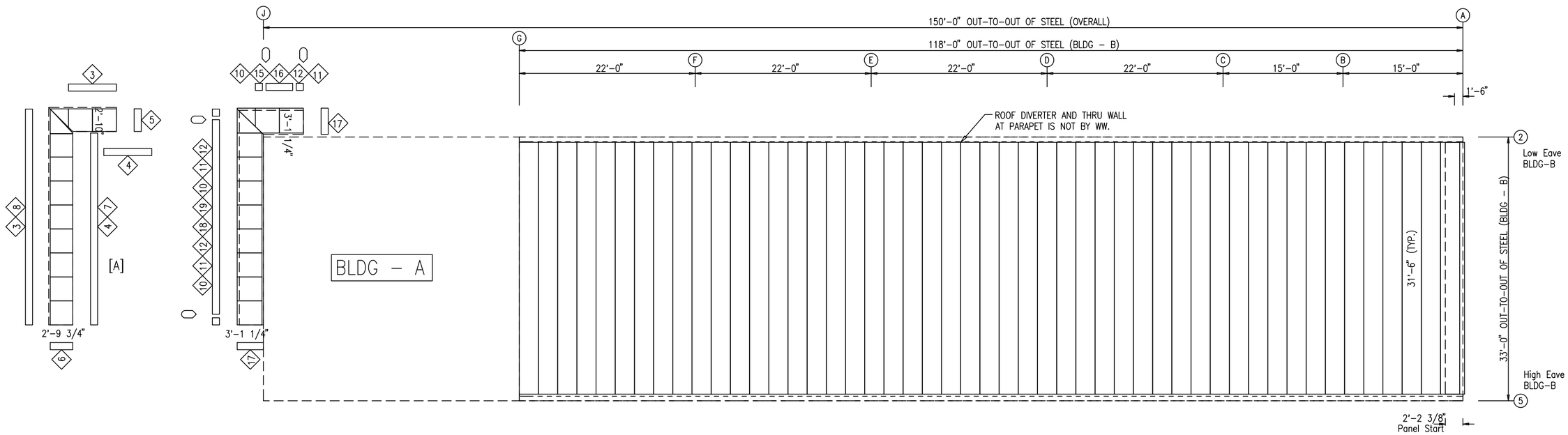
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STATE OF MISSOURI
SIRENE M. CHACON
NUMBER PE-2012036154
PROFESSIONAL ENGINEER

CITY OF HOUSTON REGISTRATION NO. 165 / STATE OF TEXAS FIRM NO. 12081

DOWNSPOUT LOCATIONS

ROOF SHEETING TRIM TABLE			
◇ID	PART	LENGTH	QTY
1	CF-116	20'-3"	8
2	CF-203	20'-3"	8
3	CF-203	10'-3"	2
4	CF-116	10'-3"	2
5	MT-15_	10'-3"	4
6	MT-15_	10'-3"	2
7	CF-116	20'-3"	1
8	CF-203	20'-3"	1
9	ET-10_	20'-3"	2
10	SCB	8"	6
11	EC-12_	8"	6
12	GS-121	9"	6
13	GC-10_	10'-3"	4
14	GU-12_	20'-3"	2
15	GC-10_	10'-3"	1
16	GU-12_	10'-3"	1
17	RT-101	10'-3"	4
18	GC-10_	10'-3"	3
19	GU-12_	15'-3"	2

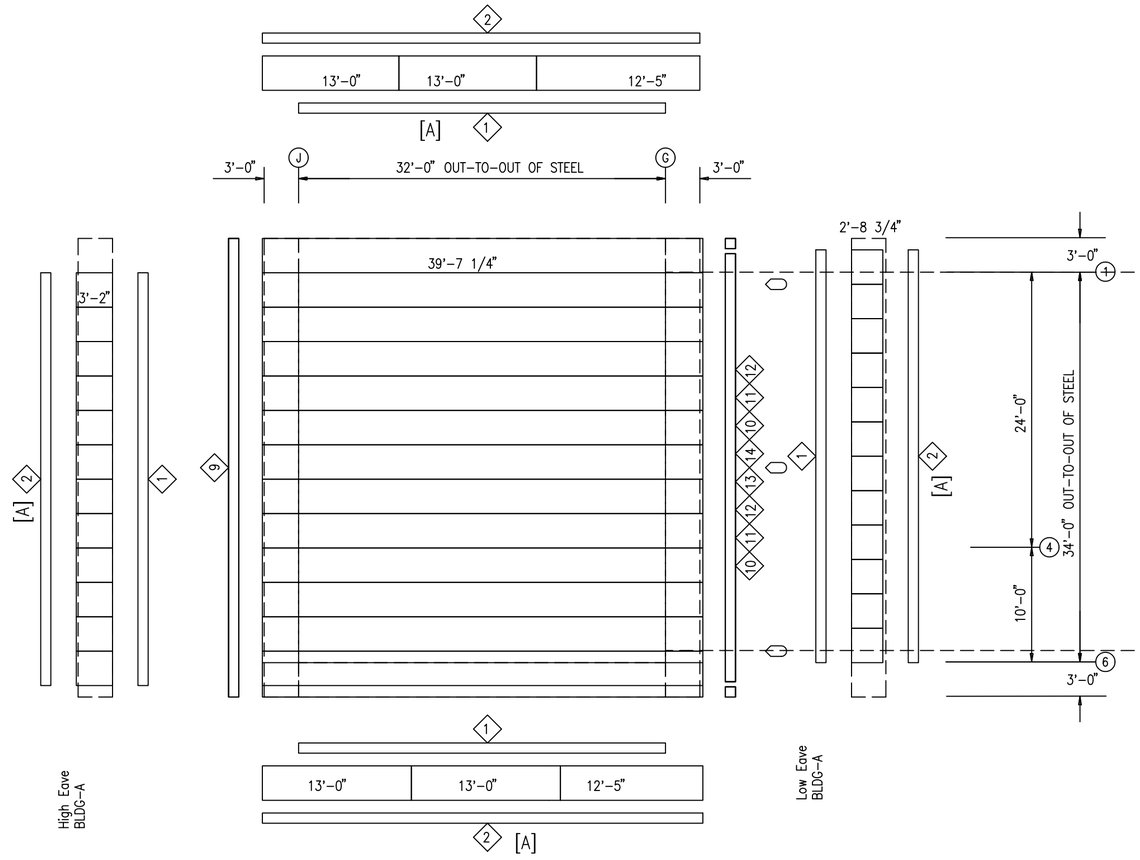


CANOPY SHEETING PLAN (BLDG-A)

PANELS: 26 Ga. Super Span X - Black
[A] SOFFIT PANELS: 26 Ga. Low Rib X - Black

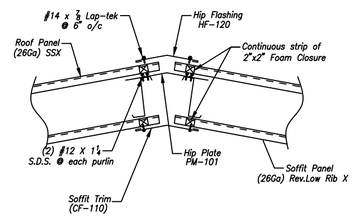
ROOF SHEETING PLAN (BLDG-B)

PANELS: 26 Ga. Super Span X - Galvalume Plus
[A] SOFFIT PANELS: 26 Ga. Low Rib X - Black

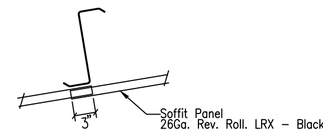


ROOF SHEETING PLAN (BLDG-A)

PANELS: 26 Ga. Super Span X - BLACK
[A] SOFFIT PANELS: 26 Ga. Low Rib X - BLACK



HIP SECTION
SUPER SPAN



Soffit Lap Section

CITY OF HOUSTON REGISTRATION NO. 165 / STATE OF TEXAS FIRM NO. 12081

STATE OF MISSOURI
SIRENE M. CHACON
NUMBER PE-2012036154
PROFESSIONAL ENGINEER

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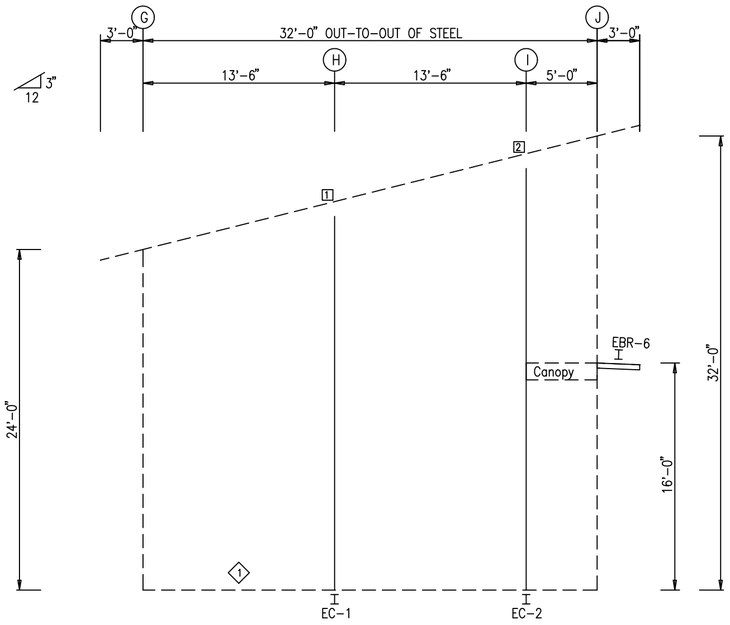
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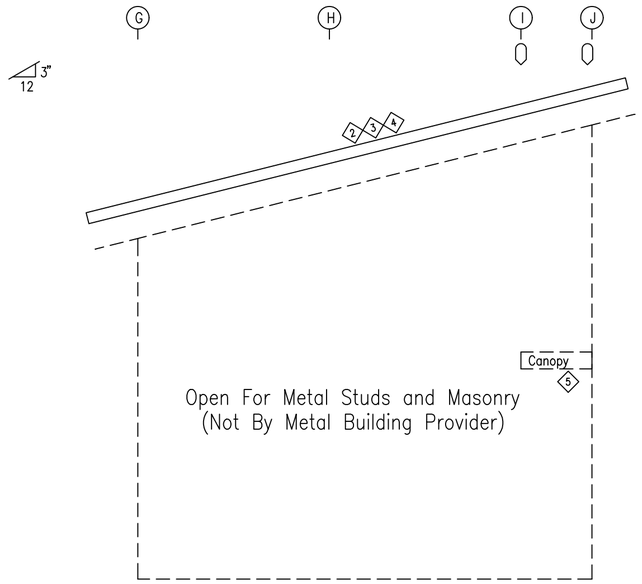
ISSUE	DATE	DESCRIPTION	BY	CHK
P1	10.11.24	FOR CONSTRUCTION PERMIT	HP	TVN

SHEET DESCRIPTION: ROOF SHEETING PLAN					BLDG SIZE: VARIES	
CUSTOMER: Jasco Construction					CUSTOMER LOCATION: BURLESON, TX 76028	
PROJECT REFERENCE: Cowboy Express Carwash						
JOBSITE LOCATION: 210 Mo-150 Highway, Lees Summit, Missouri 64082					JOBSITE COUNTY: Johnson	
DWN: HP	CHK: TVN	DATE: 10.11.24	ENG: NA	JOB NO: 13014-35259	DWG NO: E2	ISSUE: P1

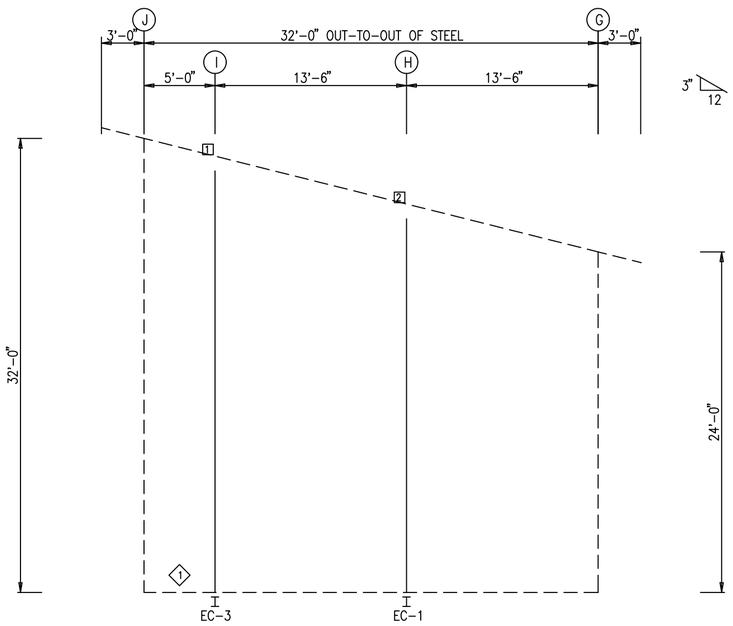
DOWNSPOUT LOCATIONS



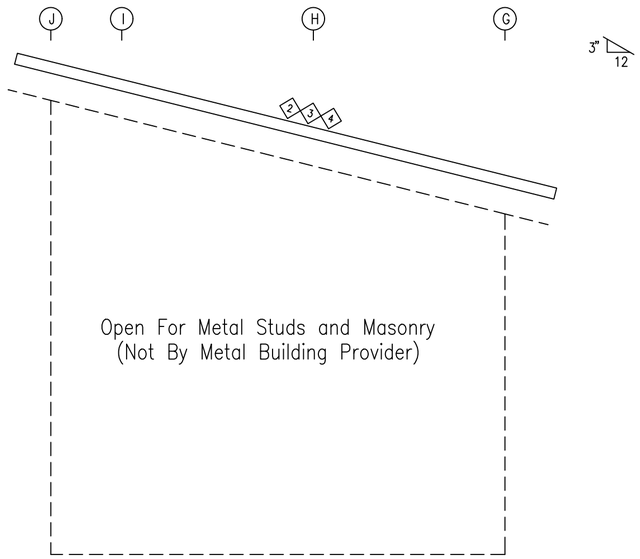
ENDWALL FRAMING: FRAME LINE 1



ENDWALL TRIM: FRAME LINE 1



ENDWALL FRAMING: FRAME LINE 6



ENDWALL TRIM: FRAME LINE 6

BOLT TABLE
FRAME LINE 1

LOCATION	QUAN	TYPE	DIA	LENGTH
Columns/Raf	8	A325	5/8"	1 1/2"

TRIM TABLE
FRAME LINE 1

◇ID	MARK	LENGTH	DETAIL
2	RT-101	20'-3"	TRIM_18
3	RT-101	15'-3"	TRIM_18
4	CF-116	20'-3"	
5	CF-116	10'-3"	

MEMBER TABLE
FRAME LINE 1

MARK	PART
EBR-6	W8X10
EC-1	W8X24
EC-2	W8X31

ANGLE TABLE
FRAME LINE 1

◇ID	MARK	LENGTH
1	BB2000	20'-0"

CONNECTION PLATES
FRAME LINE 1

□ID	MARK/PART
1	n1
2	n2

BOLT TABLE
FRAME LINE 6

LOCATION	QUAN	TYPE	DIA	LENGTH
Columns/Raf	8	A325	5/8"	1 1/2"

TRIM TABLE
FRAME LINE 6

◇ID	MARK	LENGTH	DETAIL
2	RT-101	20'-3"	TRIM_18
3	RT-101	15'-3"	TRIM_18
4	CF-116	20'-3"	

MEMBER TABLE
FRAME LINE 6

MARK	PART
EC-1	W8X24
EC-3	W8X31

ANGLE TABLE
FRAME LINE 6

◇ID	MARK	LENGTH
1	BB2000	20'-0"

CONNECTION PLATES
FRAME LINE 6

□ID	MARK/PART
1	n2
2	n1

CITY OF HOUSTON REGISTRATION NO. 165 / STATE OF TEXAS FIRM NO. 12081

GENERAL SHEETING & TRIM NOTES:

1. Refer to erection drawings for rake angle locations.
2. Roof member screws are on 12" centers at the intermediate purlins. The spacing at the eave, end lap, and peak purlins are as shown.
3. Wall member screws are on 6" centers at the base member and 12" centers for all remaining members.
4. Roof stitch screws are located (1) at each member and (2) between members spaced evenly apart (20" maximum spacing).
5. Wall stitch screws are located (1) at each member then spaced evenly apart between members with the spacing not to exceed 20".
6. Skylight stitch screws are at 6" o.c.
7. Start endwall panels at centerline of bldg. unless noted.
8. Gutter, rake, & eave trim lap 2". All other trims lap 1".
9. Field cut or lap panels as required to fit.
10. Field cut panels for all openings.
11. Pop rivet gutter counterflashing to wall panel on 3'-0" centers and caulk all laps.
12. Gutter support strap spacing: Super Span 36", Super Seam 48", Weather Lok-16 32".
13. Downspout strap spacing: 4" x 4" 8'-0" o.c. max, larger downspouts 5'-0" o.c. max.
14. Corner and/or peak boxes are not furnished with trim profiles. Field miter as required.
15. Hot-Rolled or Built-Up members must be pre-drilled before attaching members screws.
16. Metal shavings must be swept from the roof each day to avoid surface rusting.
17. Windows and louvers must be installed before sheeting the walls.
18. For clarity, tape sealant, closures, etc. may not be shown. Refer to the appropriate standing seam technical/erection manual or standard pull outs for through-fastened (screw-down) type roof systems for additional installation instructions.

GENERAL FRAMING NOTES:

1. Angles are marked by their length in feet and inches.
2. Field cut or lap angles as required to fit.
3. Flange braces are marked by their length in decimal inches.
4. Outside flange of girt turns down unless noted.
5. Endwall girts and eave struts do not lap.
6. Field cut and self-tap girts at walk doors.
7. Field slot girts for brace rods or cables.
8. Field locate windows and walk doors.
9. Field weld all splices at 14 gauge valley gutters.
10. Field Bolt AK400 base clip to endwall columns:
    (2) 5/8" x 1-1/2" A325 bolts if (1) AK400 required.
    (2) 5/8" x 1-3/4" A325 bolts if (2) AK400 required.
11. Locate top of roof framed openings flush with the pan of the roof panel.
12. Some field drilling at framed openings may be required. Field drill 9/16" diameter holes.
13. Sub-jambs for overhead or roll-up doors, if required, are not furnished by Metal Building Provider.

DRAWING STATUS:

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ISSUE	DATE	DESCRIPTION	BY	CHK
P1	10.11.24	FOR CONSTRUCTION PERMIT	HP	TN

SHEET DESCRIPTION: FRAME & SHEETING ELEVATION
BLDG SIZE: VARIES
CUSTOMER: Jasco Construction
CUSTOMER LOCATION: BURLESON, TX 76028
PROJECT REFERENCE:
JOBSITE LOCATION: 1201 South Broadway, Joshua, TX 76058
JOBSITE COUNTY: Johnson

DWN:	CHK:	DATE:	ENG:	JOB NO:	DWG NO:	ISSUE:
HP	TN	10.11.24	DW	13014-35259	E3	P1

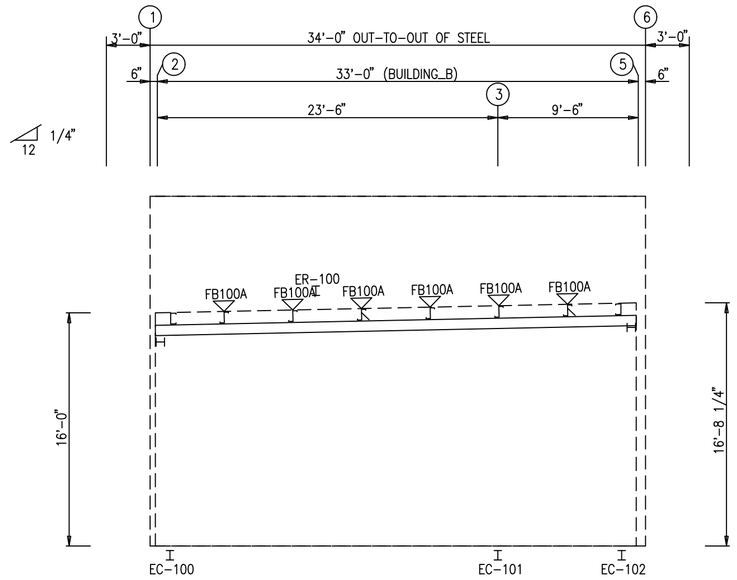
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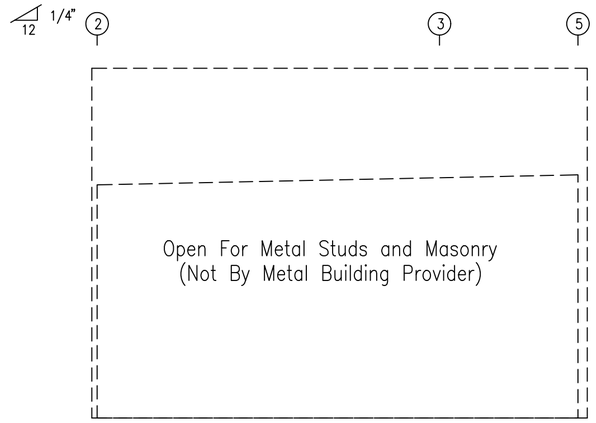
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STATE OF MISSOURI
SIRENE M. CHACON
NUMBER PE-2012036154
PROFESSIONAL ENGINEER

DOWNSPOUT LOCATIONS



ENDWALL FRAMING: FRAME LINE G

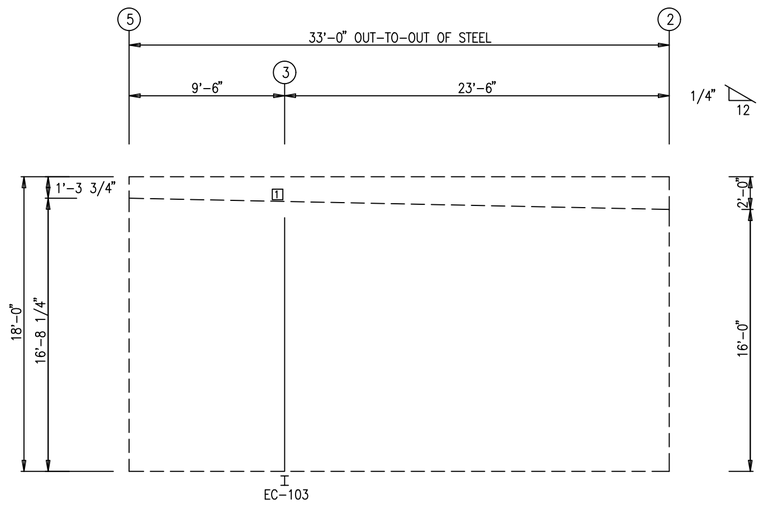


ENDWALL TRIM: FRAME LINE G

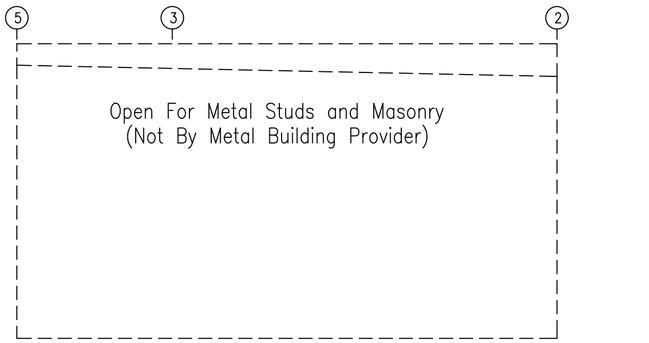
BOLT TABLE FRAME LINE G				
LOCATION	QUAN	TYPE	DIA	LENGTH
Cor._Column/Raf	4	A325	5/8"	1 1/2"
Cor._Column/Raf	4	A325		1 1/2"
EC-101/ER-100	4	A325	5/8"	1 1/2"

MEMBER TABLE FRAME LINE G	
MARK	PART
EC-100	W8541
EC-101	W8X10
EC-102	W8541
ER-100	W10X12

FLANGE BRACE TABLE FRAME LINE G		
▽ID	MARK	LENGTH
1	FB100A	2'-6"



ENDWALL FRAMING: FRAME LINE A



ENDWALL TRIM: FRAME LINE A

BOLT TABLE FRAME LINE A				
LOCATION	QUAN	TYPE	DIA	LENGTH
Columns/Raf	8	A325	5/8"	1 1/2"

MEMBER TABLE FRAME LINE A	
MARK	PART
EC-103	W8541

CONNECTION PLATES FRAME LINE A	
□ID	MARK/PART
1	n100

CITY OF HOUSTON REGISTRATION NO. 165 / STATE OF TEXAS FIRM NO. 12081

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10. Field cut panels for all openings.
11. Pop rivet gutter counterflashing to wall panel on 3'-0" centers and caulk all laps.
12. Gutter support strap spacing: Super Span 36", Super Seam 48", Weather Lok-16 32".
13. Downspout strap spacing: 4" x 4" 8'-0" o.c. max, larger downspouts 5'-0" o.c. max.
14. Corner and/or peak boxes are not furnished with trim profiles. Field miter as required.
15. Hot-Rolled or Built-Up members must be pre-drilled before attaching members screws.
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ISSUE	DATE	DESCRIPTION	BY	CHK
P1	10.11.24	FOR CONSTRUCTION PERMIT	HP	TN

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CUSTOMER: Jasco Construction						CUSTOMER LOCATION: BURLESON, TX 76028	
PROJECT REFERENCE:							
JOBSITE LOCATION: 1201 South Broadway, Joshua, TX 76058						JOBSITE COUNTY: Johnson	
DWN: HP	CHK: TN	DATE: 10.11.24	ENG: DW	JOB NO: 13014-35259		DWG NO: E4	ISSUE: P1

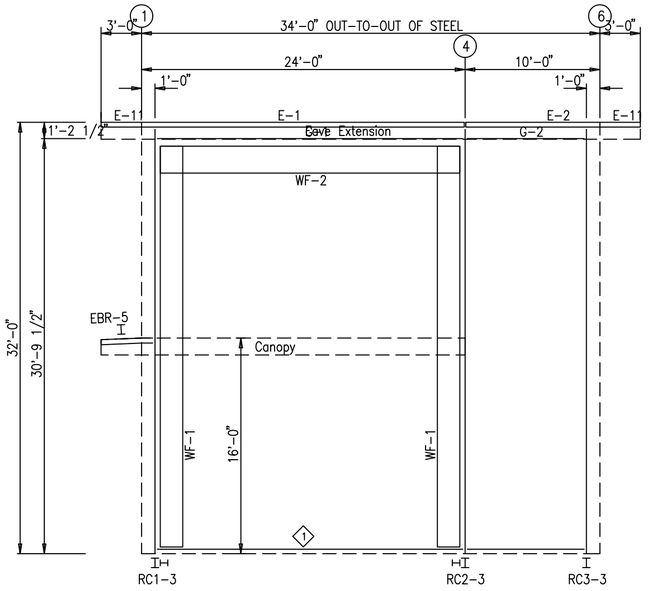
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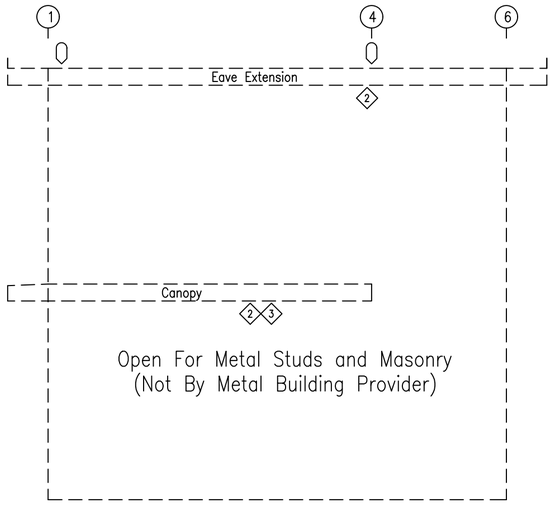
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SIRENE M. CHACON
NUMBER PE-2012036154
PROFESSIONAL ENGINEER

DOWNSPOUT LOCATIONS



SIDEWALL FRAMING: FRAME LINE J



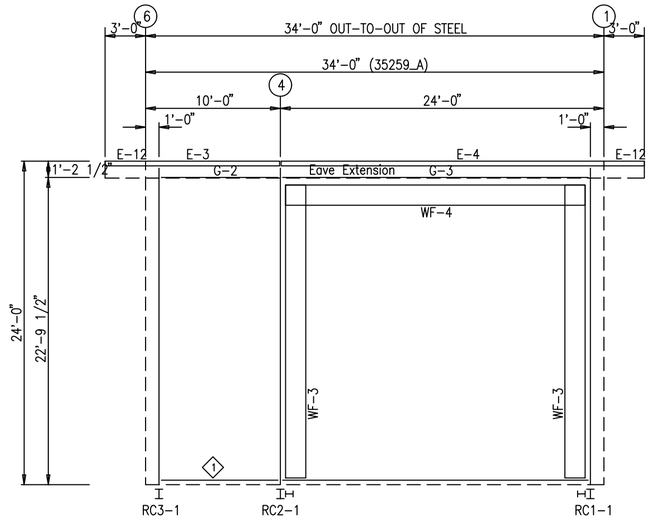
SIDEWALL TRIM: FRAME LINE J

BOLT TABLE FRAME LINE J				
LOCATION	QUAN	TYPE	DIA	LENGTH
WF-1 – WF-2	6	A325	3/4"	2"
WF-1 – RC1-3	36	A325	5/8"	1 3/4"
WF-1 – RC2-3	36	A325	5/8"	1 3/4"

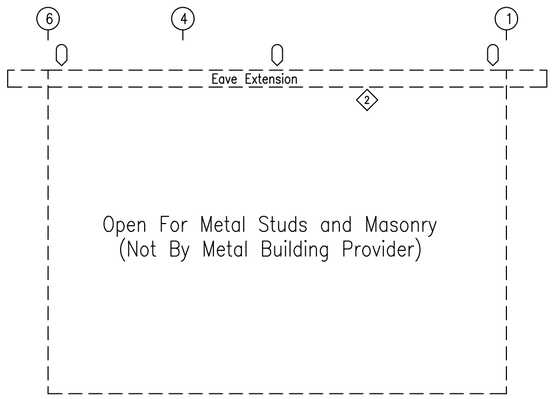
MEMBER TABLE FRAME LINE J	
MARK	PART
WF-1	W20641
WF-2	W24641
EBR-5	W8X10
E-1	10HES143
E-2	10HES143
E-11	10HES143
G-1	C10X25
G-2	W10X12

TRIM TABLE FRAME LINE J		
◇ID	MARK	LENGTH
2	CF-116	20'-3"
3	CF-116	10'-3"

ANGLE TABLE FRAME LINE J		
◇ID	MARK	LENGTH
1	BB2000	20'-0"



SIDEWALL FRAMING: FRAME LINE G



SIDEWALL TRIM: FRAME LINE G

BOLT TABLE FRAME LINE G				
LOCATION	QUAN	TYPE	DIA	LENGTH
WF-3 – WF-4	6	A325	3/4"	2 1/4"
WF-3 – RC2-1	28	A325	5/8"	1 3/4"
WF-3 – RC1-1	28	A325	5/8"	1 3/4"

MEMBER TABLE FRAME LINE G	
MARK	PART
WF-3	W18641
WF-4	W18651
E-3	10ES143
E-4	10ES143
E-12	10ES143
G-2	W10X12
G-3	C10X20

TRIM TABLE FRAME LINE G		
◇ID	MARK	LENGTH
2	CF-116	20'-3"

ANGLE TABLE FRAME LINE G		
◇ID	MARK	LENGTH
1	BB2000	20'-0"

CITY OF HOUSTON REGISTRATION NO. 165 / STATE OF TEXAS FIRM NO. 12081

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10. Field cut panels for all openings.
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12. Gutter support strap spacing: Super Span 36", Super Seam 48", Weather Lok-16 32".
13. Downspout strap spacing: 4" x 4" 8'-0" o.c. max, larger downspouts 5'-0" o.c. max.
14. Corner and/or peak boxes are not furnished with trim profiles. Field miter as required.
15. Hot-Rolled or Built-Up members must be pre-drilled before attaching members screws.
16. Metal shavings must be swept from the roof each day to avoid surface rusting.
17. Windows and louvers must be installed before sheeting the walls.
18. For clarity, tape sealant, closures, etc. may not be shown. Refer to the appropriate standing seam technical/erection manual or standard pull outs for through-fastened (screw-down) type roof systems for additional installation instructions.

GENERAL FRAMING NOTES:

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2. Field cut or lap angles as required to fit.
3. Flange braces are marked by their length in decimal inches.
4. Outside flange of girt turns down unless noted.
5. Endwall girts and eave struts do not lap.
6. Field cut and self-tap girts at walk doors.
7. Field slot girts for brace rods or cables.
8. Field locate windows and walk doors.
9. Field weld all splices at 14 gauge valley gutters.
10. Field Bolt AK400 base clip to endwall columns:
    (2) 5/8" x 1-1/2" A325 bolts if (1) AK400 required.
    (2) 5/8" x 1-3/4" A325 bolts if (2) AK400 required.
11. Locate top of roof framed openings flush with the pan of the roof panel.
12. Some field drilling at framed openings may be required. Field drill 9/16" diameter holes.
13. Sub-jambs for overhead or roll-up doors, if required, are not furnished by Metal Building Provider.

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ISSUE	DATE	DESCRIPTION	BY	CHK
P1	10.11.24	FOR CONSTRUCTION PERMIT	HP	TN

SHEET DESCRIPTION: FRAME & SHEETING ELEVATION						BLDG SIZE: VARIES	
CUSTOMER: Jasco Construction						CUSTOMER LOCATION: BURLESON, TX 76028	
PROJECT REFERENCE:							
JOBSITE LOCATION: 1201 South Broadway, Joshua, TX 76058						JOBSITE COUNTY: Johnson	
DWN: HP	CHK: TN	DATE: 10.11.24	ENG: DW	JOB NO: 13014-35259		DWG NO: E5	ISSUE: P1

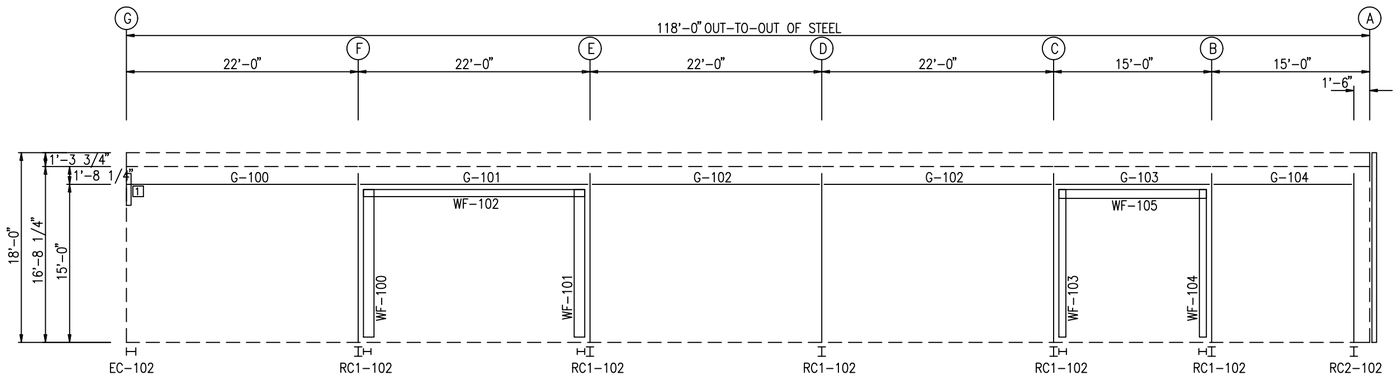
STATE OF MISSOURI
SIRENE M. CHACON
NUMBER PE-2012036154
PROFESSIONAL ENGINEER

DOWNSPOUT LOCATIONS

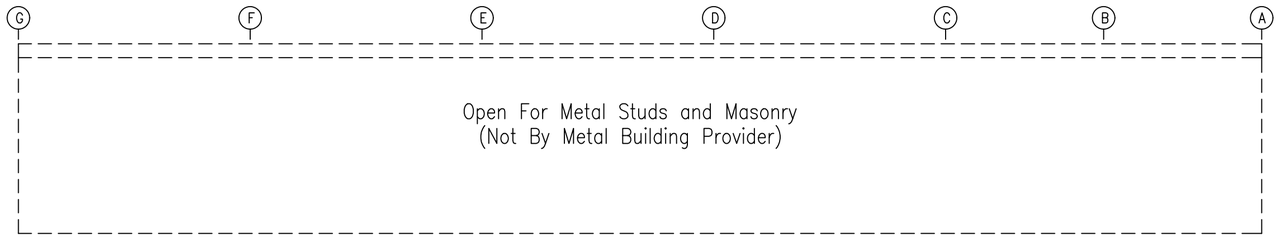
BOLT TABLE FRAME LINE 5				
LOCATION	QUAN	TYPE	DIA	LENGTH
WF-100 – WF-102	6	A325	1"	2 3/4"
WF-101 – WF-102	6	A325	1"	2 3/4"
WF-100 – RC1-102	20	A325	5/8"	1 3/4"
WF-101 – RC1-102	20	A325	5/8"	1 3/4"
WF-103 – WF-105	6	A325	1"	2 1/2"
WF-104 – WF-105	6	A325	1"	2 1/2"
WF-103 – RC1-102	20	A325	5/8"	1 3/4"
WF-104 – RC1-102	20	A325	5/8"	1 3/4"

MEMBER TABLE FRAME LINE 5	
MARK	PART
WF-100	W12541
WF-101	W12541
WF-102	W8541
WF-103	W8541
WF-104	W8541
WF-105	W10541
G-100	W8X18
G-101	W8X18
G-102	W8X18
G-103	W8X18
G-104	W8X18

CONNECTION PLATES FRAME LINE 5	
☐ID	MARK/PART
1	i100



SIDEWALL FRAMING: FRAME LINE 5



SIDEWALL TRIM: FRAME LINE 5

GENERAL SHEETING & TRIM NOTES:

1. Refer to erection drawings for rake angle locations.
2. Roof member screws are on 12" centers at the intermediate purlins. The spacing at the eave, end lap, and peak purlins are as shown.
3. Wall member screws are on 6" centers at the base member and 12" centers for all remaining members.
4. Roof stitch screws are located (1) at each member and (2) between members spaced evenly apart (20" maximum spacing).
5. Wall stitch screws are located (1) at each member then spaced evenly apart between members with the spacing not to exceed 20".
6. Skylight stitch screws are at 6" o.c.
7. Start endwall panels at centerline of bldg. unless noted.
8. Gutter, rake, & eave trim lap 2". All other trims lap 1".
9. Field cut or lap panels as required to fit.
10. Field cut panels for all openings.
11. Pop rivet gutter counterflashing to wall panel on 3'-0" centers and caulk all laps.
12. Gutter support strap spacing: Super Span 36", Super Seam 48", Weather Lok-16 32".
13. Downspout strap spacing: 4" x 4" 8'-0" o.c. max, larger downspouts 5'-0" o.c. max.
14. Corner and/or peak boxes are not furnished with trim profiles. Field miter as required.
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ISSUE	DATE	DESCRIPTION	BY	CHK
P1	10.11.24	FOR CONSTRUCTION PERMIT	HP	TN

SHEET DESCRIPTION: FRAME & SHEETING ELEVATION					BLDG SIZE: VARIES	
CUSTOMER: Jasco Construction					CUSTOMER LOCATION: BURLESON, TX 76028	
PROJECT REFERENCE:						
JOBSITE LOCATION: 1201 South Broadway, Joshua, TX 76058					JOBSITE COUNTY: Johnson	
DWN: HP	CHK: TN	DATE: 10.11.24	ENG: DW	JOB NO: 13014-35259	DWG NO: E6	ISSUE: P1

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STATE OF MISSOURI
SIRENE M. CHACON
NUMBER PE-2012036154
PROFESSIONAL ENGINEER

CITY OF HOUSTON REGISTRATION NO. 165 / STATE OF TEXAS FIRM NO. 12081

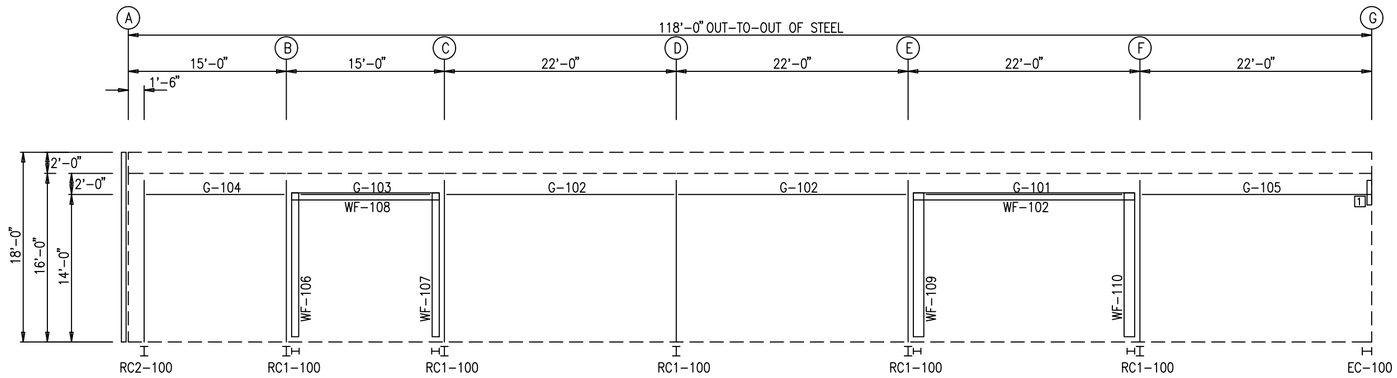
DOWNSPOUT LOCATIONS

BOLT TABLE FRAME LINE 2				
LOCATION	QUAN	TYPE	DIA	LENGTH
WF-106 – WF-108	6	A325	1"	2 3/4"
WF-107 – WF-108	6	A325	1"	2 3/4"
WF-106 – RC1-100	20	A325	5/8"	1 3/4"
WF-107 – RC1-100	20	A325	5/8"	1 3/4"
WF-109 – WF-102	6	A325	1"	2 3/4"
WF-110 – WF-102	6	A325	1"	2 3/4"
WF-109 – RC1-100	20	A325	5/8"	1 3/4"
WF-110 – RC1-100	20	A325	5/8"	1 3/4"

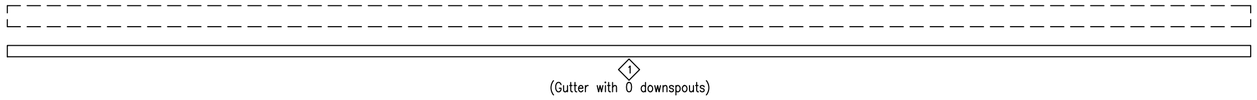
MEMBER TABLE FRAME LINE 2	
MARK	PART
WF-102	W8541
WF-106	W8541
WF-107	W8541
WF-108	W8541
WF-109	W12541
WF-110	W12541
G-101	W8X18
G-102	W8X18
G-103	W8X18
G-104	W8X18
G-105	W8X18

TRIM TABLE FRAME LINE 2		
◇ID	MARK	LENGTH
1	GU-12_	20'-3"

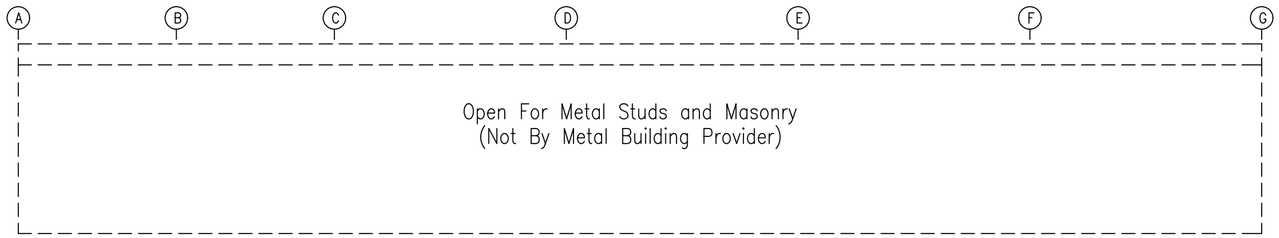
CONNECTION PLATES FRAME LINE 2	
□ID	MARK/PART
1	i100



SIDEWALL FRAMING: FRAME LINE 2



PARAPET BACK SHEETING & TRIM: LINE 2



SIDEWALL TRIM: FRAME LINE 2

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ISSUE	DATE	DESCRIPTION	BY	CHK
P1	10.11.24	FOR CONSTRUCTION PERMIT	HP	TVN

SHEET DESCRIPTION: FRAME & SHEETING ELEVATION	BLDG SIZE: VARIES
CUSTOMER: Jasco Construction	CUSTOMER LOCATION: BURLESON, TX 76028
PROJECT REFERENCE: Cowboy Express Carwash	
JOBSITE LOCATION: 210 Mo-150 Highway, Lees Summit, Missouri 64082	JOBSITE COUNTY: Johnson

DWN:	CHK:	DATE:	ENG:	JOB NO:	DWG NO:	ISSUE:
HP	TVN	10.11.24	NA	13014-35259	E7	P1

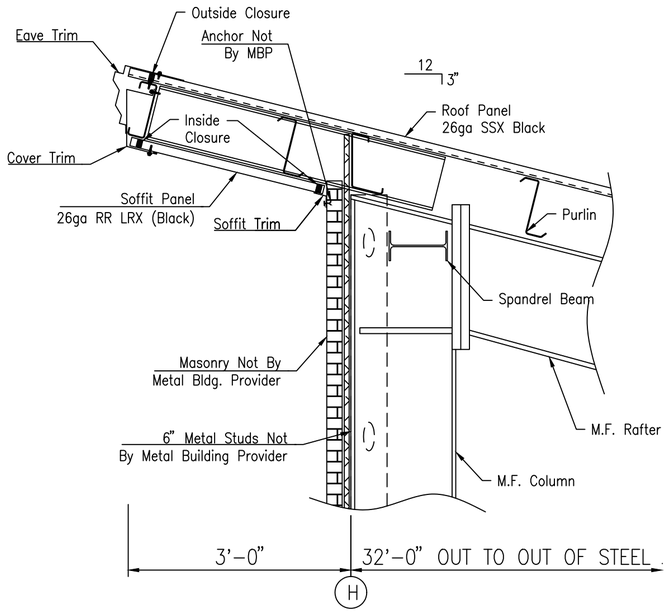
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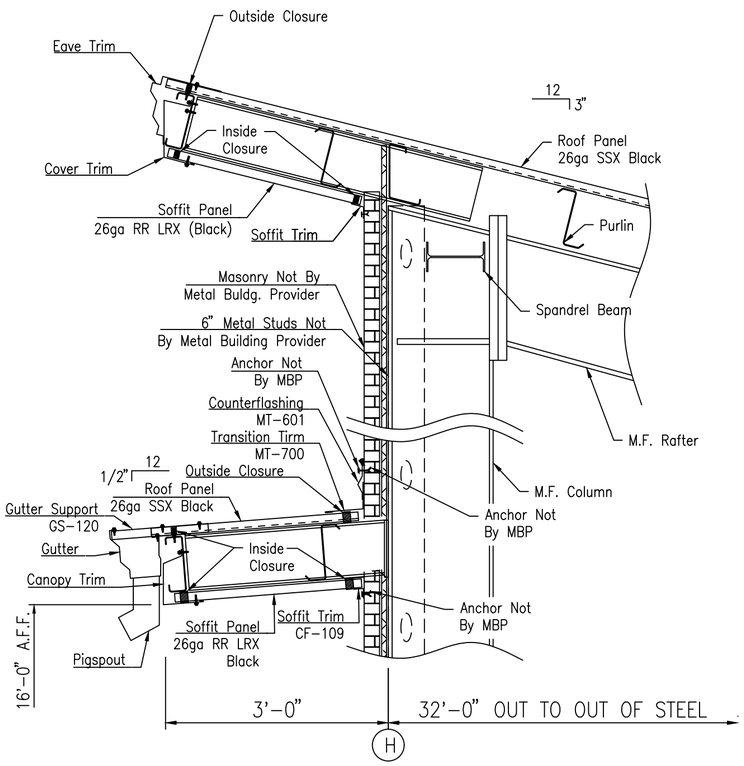
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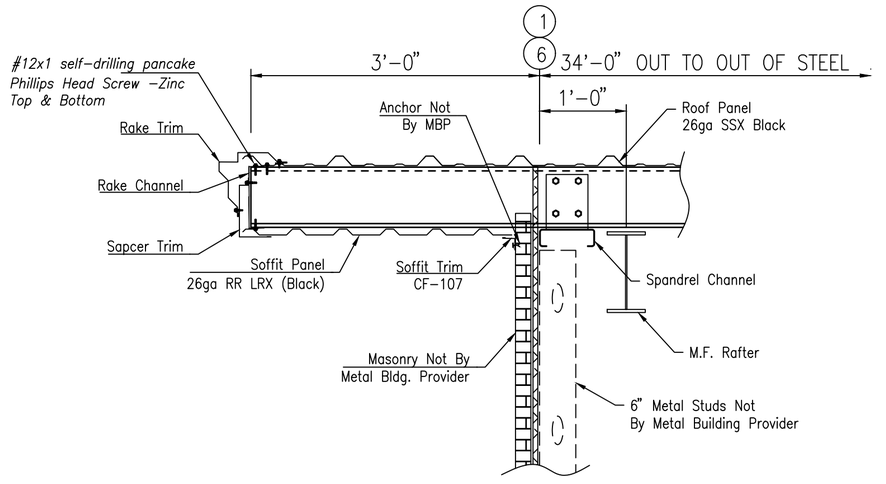
CITY OF HOUSTON REGISTRATION NO. 165 / STATE OF TEXAS FIRM NO. 12081



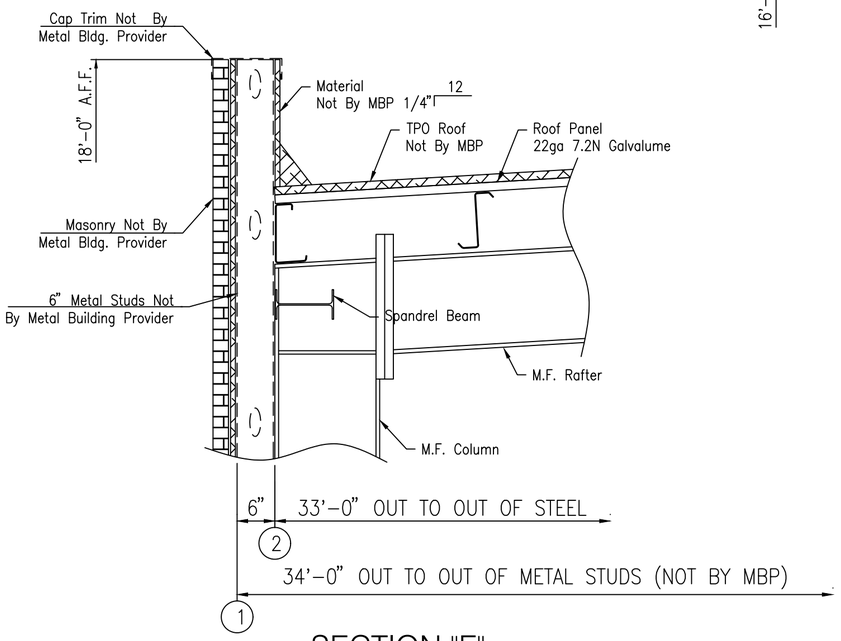
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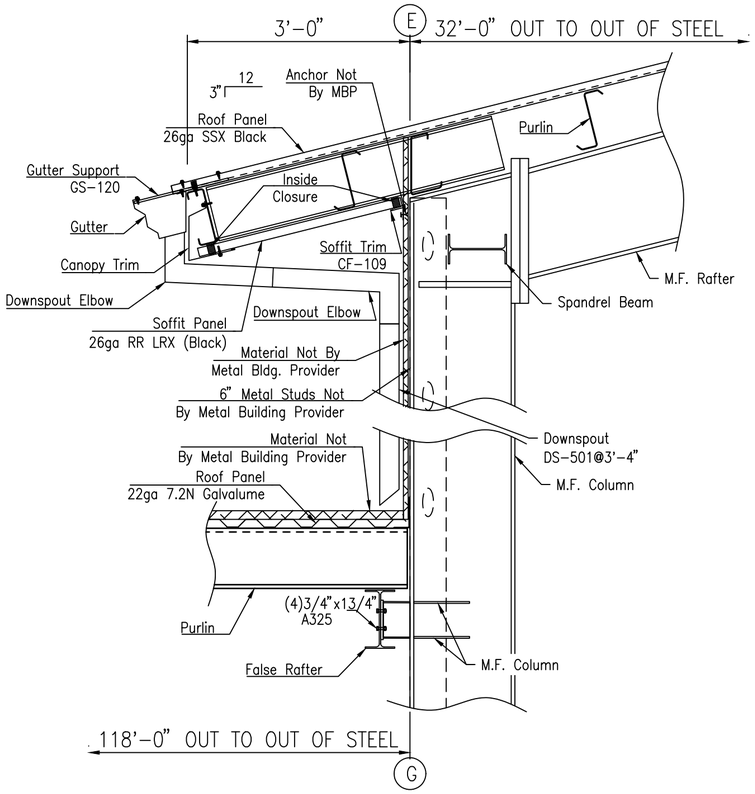
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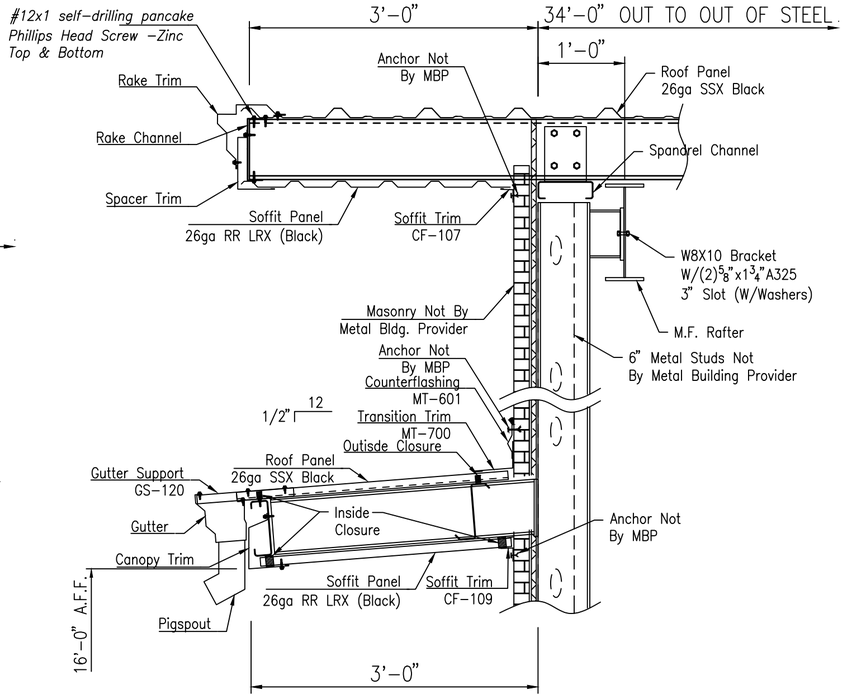
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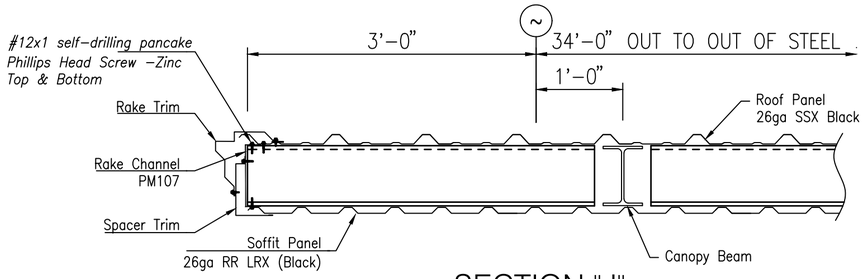
SECTION "F"



SECTION "E"



SECTION "D"



SECTION "J"

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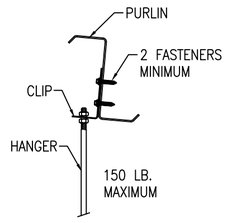
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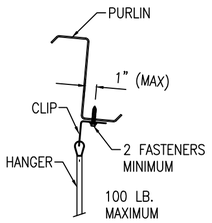
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ISSUE	DATE	DESCRIPTION	BY	CHK
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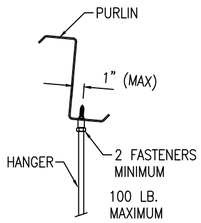
SHEET DESCRIPTION: BUILDING SECTION						BLDG SIZE: VARIES	
CUSTOMER: Jasco Construction						CUSTOMER LOCATION: BURLESON, TX 76028	
PROJECT REFERENCE: Cowboy Express Carwash							
JOBSITE LOCATION: 210 Mo-150 Highway, Lees Summit, Missouri 64082						JOBSITE COUNTY: Jackson	
DWN: HP	CHK: TVN	DATE: 10.11.24	ENG: NA	JOB NO: 13014-35259		DWG NO: E8	ISSUE: P1



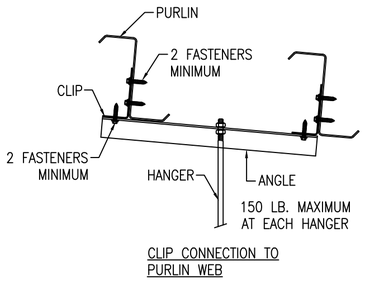
CLIP CONNECTED TO PURLIN WEB



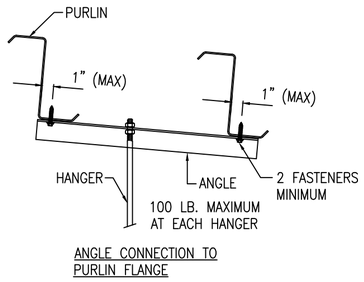
CLIP CONNECTED TO PURLIN FLANGE



FASTENER TYPE ADAPTER TO PURLIN FLANGE



CLIP CONNECTION TO PURLIN WEB



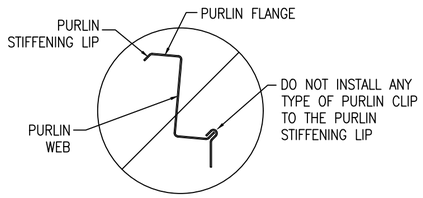
ANGLE CONNECTION TO PURLIN FLANGE

Metal Building Provider is providing the Purlin Only.All other Hardware and Accessories are not by Metal Building Provider.

The total hanger load shall not exceed the Design Collateral Load for the Building.
Example:
5'–0" Purlin Spacing X 5'–0" hanger spacing X
6 Psf Collateral Load = 150 Lbs. Hanger Load

See C1 for the Design Collateral Loads for this Building.

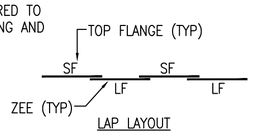
Note: If the building is designed for 0 Psf Collateral then adding any suspended system (i.e. Duct Work, Piping, Lights, Ceiling, Etc..) will correspondingly reduce the Design Live Load.



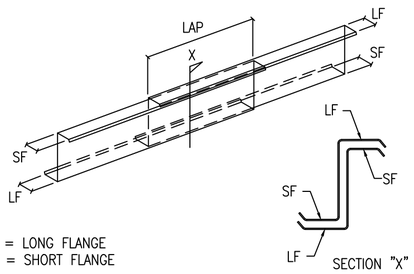
UNDER NO CIRCUMSTANCES CAN THE PURLIN STIFFENING LIP BE FIELD MODIFIED FROM THE FACTORY SUPPLIED CONDITION

ACCEPTABLE CONNECTIONS FOR BUILDING ACCESSORIES TO PURLIN ATTACHMENT

ROTATE EACH ZEE AS REQUIRED TO ALTERNATE BETWEEN THE LONG AND SHORT FLANGE

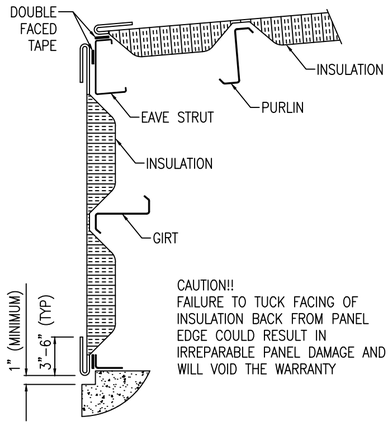


LAP LAYOUT



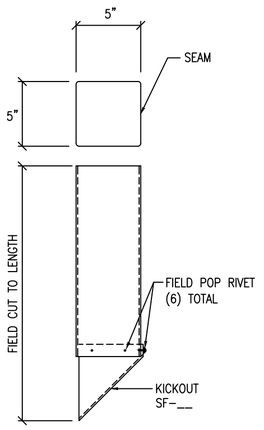
LF = LONG FLANGE
SF = SHORT FLANGE

ZEE LAP AT LONG AND SHORT FLANGES

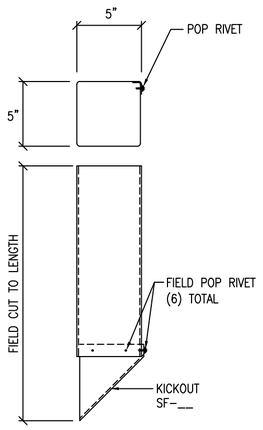


CAUTION!!
FAILURE TO TUCK FACING OF INSULATION BACK FROM PANEL EDGE COULD RESULT IN IRREPARABLE PANEL DAMAGE AND WILL VOID THE WARRANTY

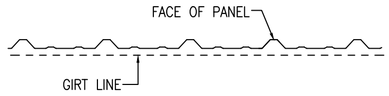
TYPICAL DETAIL AT BLANKET INSULATION



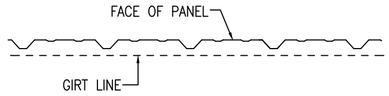
DOWNSPOUT W/SCUPPER
FIELD INSTALL SCUPPER IF REQ'D



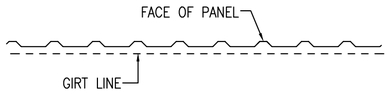
DOWNSPOUT W/SCUPPER
FIELD INSTALL SCUPPER IF REQ'D



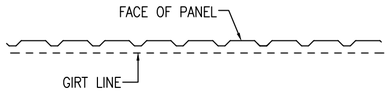
SUPERM SPAN PANEL



REVERSE–ROLL SUPER SPAN PANEL

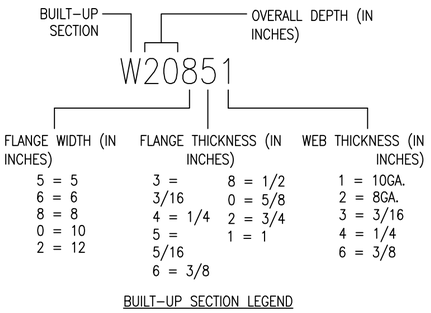


LOW RIB PANEL



REVERSE–ROLL LOW RIB PANEL

PANEL LAYOUT DETAILS SEE C1 FOR PANEL PROFILES SPECIFIED FOR THIS PROJECT



BUILT–UP SECTION LEGEND

CITY OF HOUSTON REGISTRATION NO. 165 / STATE OF TEXAS FIRM NO. 12081



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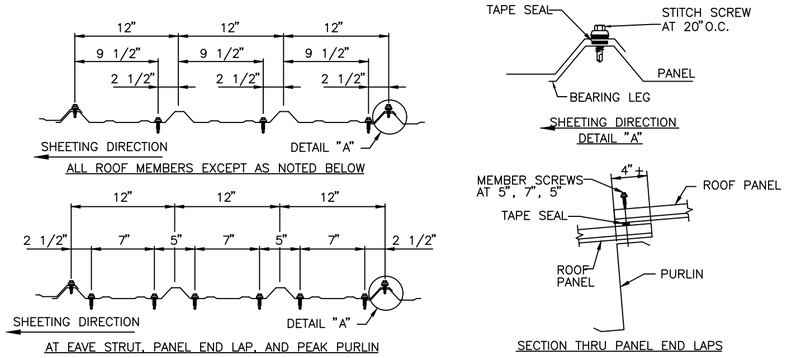
DRAWING STATUS:
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☒ FOR CONSTRUCTION PERMIT: These drawings, being for permit, are by definition not final. Only drawings issued "For Erector Installation" can be considered complete.
☐ FOR ERECTOR INSTALLATION: Final drawings for construction.

WHIRLWIND STEEL BUILDINGS
P.O. BOX 75280
HOUSTON, TX 77234
PH: 800–324–9992
FAX: 832–553–4600

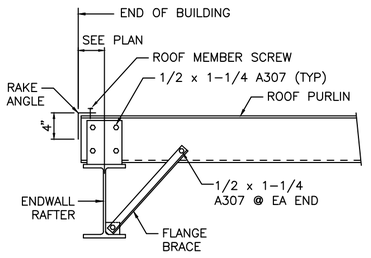
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ISSUE	DATE	DESCRIPTION	BY	CHK
P1	10.11.24	FOR CONSTRUCTION PERMIT	HP	TVN

SHEET DESCRIPTION: DETAILS PAGE					BLDG SIZE: VARIES	
CUSTOMER: Jasco Construction					CUSTOMER LOCATION: BURLESON, TX 76028	
PROJECT REFERENCE: Cowboy Express Carwash						
JOBSITE LOCATION: 210 Mo–150 Highway, Lees Summit, Missouri 64082					JOBSITE COUNTY: Johnson	
DWN: HP	CHK: TVN	DATE: 10.11.24	ENG: NA	JOB NO: 13014–35259	DWG NO: D1	ISSUE: P1

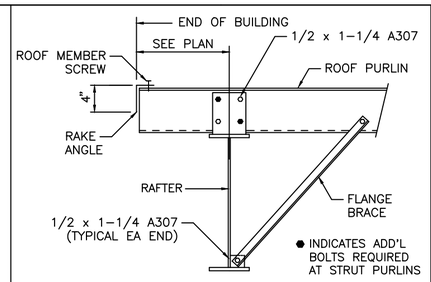


SCREW_30 FASTENER PATTERN FOR "SUPER SPAN X" ROOF PANEL



IN CERTAIN CONDITIONS DIFFERENT BOLTS SIZES MAY BE REQUIRED. IN THESE INSTANCES THE REQUIRED BOLTS WILL BE SHOWN ON THE ERECTION PLANS.

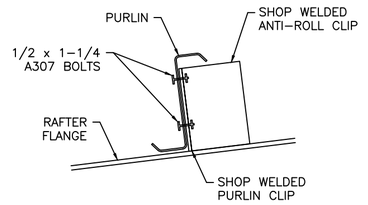
A7 ROOF PURLIN CONNECTION AT I-SHAPE ENDWALL RAFTER



(2) 1/2 x 1-1/4 A307 REQUIRED AT STANDARD LAPS
(4) 1/2 x 1-1/4 A307 REQUIRED AT STRUT MEMBERS

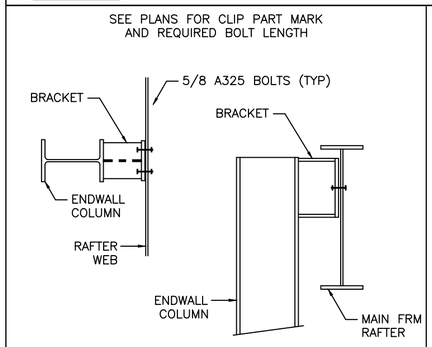
A STRUT PURLIN IS A PURLIN LOCATED AT THE BRACE POINTS. SEE PLANS FOR EXCEPTION TO SIZE & QTY OF BOLTS.

A10 ROOF PURLIN CONNECTION AT MAIN FRAME ENDWALL

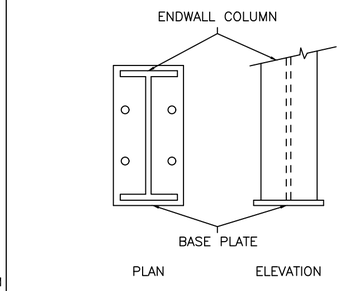


SOME PURLIN CLIPS WILL HAVE AN ADDITIONAL ANTI-ROLL CLIP ATTACHED. THE QUANTITY AND SPACING OF THESE CLIPS IS DETERMINED BY THE DESIGN FOR EACH SPECIFIC BUILDING.

ANTI DETAIL AT ANTI-ROLL CLIP

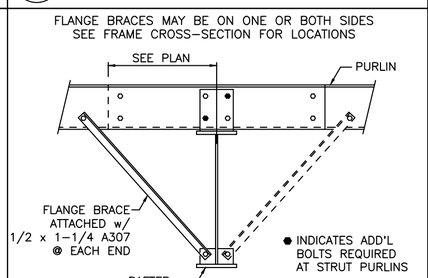


B34 I-SHAPED ENDWALL COLUMN TO MAIN FRAME END RAFTER CONNECTION



SEE BOLT SETTING PLAN FOR ACTUAL BOLT QTY.

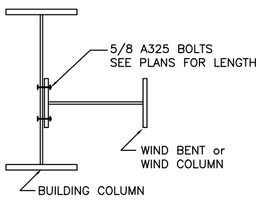
E3 BASE PLATE FOR ENDWALL COLUMN



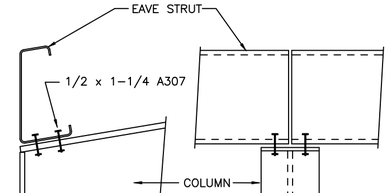
(6) 1/2 x 1-1/4 A307 REQUIRED AT STANDARD LAPS
(8) 1/2 x 1-1/4 REQUIRED AT STRUT MEMBERS

A STRUT MEMBER IS A PURLIN LOCATED AT THE BRACE POINTS. SEE PLANS FOR EXCEPTIONS TO SIZE & QTY OF BOLTS.

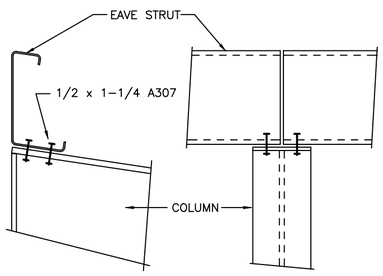
G2 ROOF PURLIN TO INTERIOR FRAME RAFTER



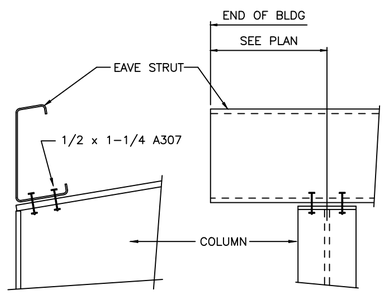
H10 WIND BENT OR WIND COLUMN TO BUILDING COLUMN



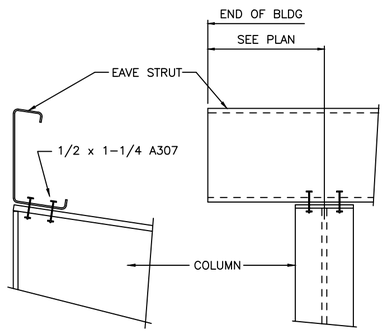
J1 EAVE STRUT TO RIGID FRAME



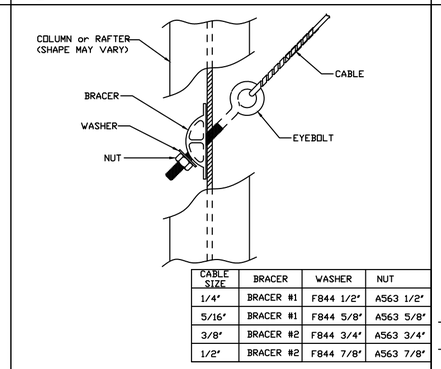
J7 EAVE STRUT TO RIGID FRAME



J23 EAVE STRUT TO RIGID FRAME

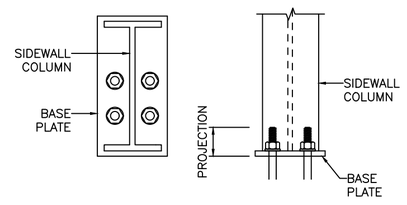


J25 EAVE STRUT TO RIGID FRAME



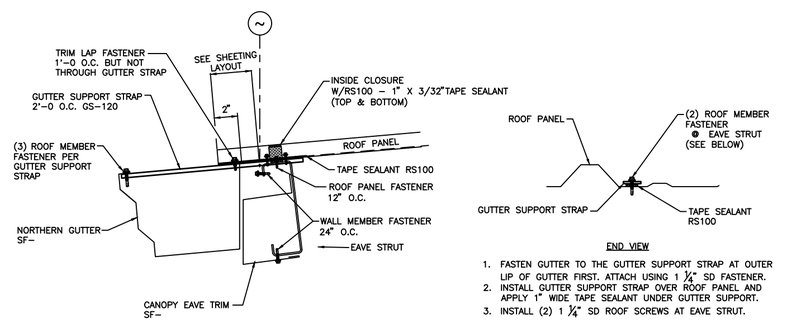
CABLE SIZE	BRACER	WASHER	NUT
1/4"	BRACER #1	F844 1/2"	A563 1/2"
5/16"	BRACER #1	F844 5/8"	A563 5/8"
3/8"	BRACER #2	F844 3/4"	A563 3/4"
1/2"	BRACER #2	F844 7/8"	A563 7/8"

Q2 DIAGONAL CABLE BRACING INSTALLATION



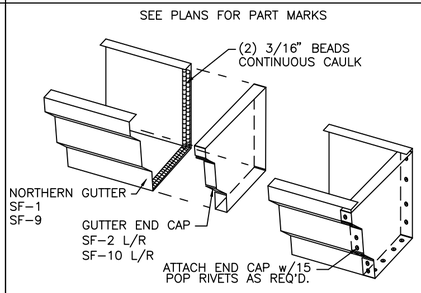
- ALL ANCHOR RODS (BY OTHERS) TO HAVE NUTS AND FLAT WASHERS.
- SEE BOLT SETTING PLAN FOR ACTUAL BOLT QTY.

R2 ANCHOR RODS AT SIDEWALL COLUMN



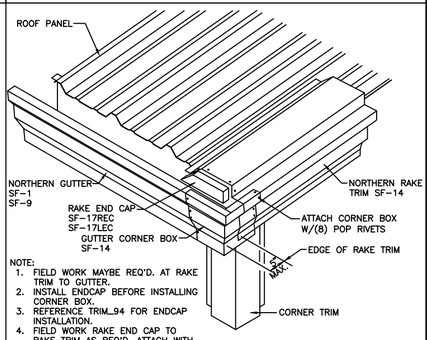
1. FASTEN GUTTER TO THE GUTTER SUPPORT STRAP AT OUTER LIP OF GUTTER FIRST. ATTACH USING 1 ¼" SD FASTENER.
2. INSTALL GUTTER SUPPORT STRAP OVER ROOF PANEL AND APPLY 1" WIDE TAPE SEALANT UNDER GUTTER SUPPORT.
3. INSTALL (2) 1 ¼" SD ROOF SCREWS AT EAVE STRUT.

TRIM_2 EAVE GUTTER, NORTHERN AT OPEN WALL, NO SOFFIT WITH SS & SSX ROOF PANELS (SW NORTHERN STYLE)



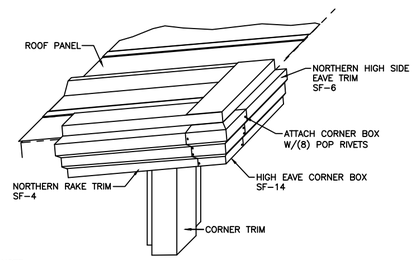
MAKE SURE THE END OF THE GUTTER IS FLUSH WITH THE OUTSIDE FACE OF THE FINISHED END WALL AND THERE ARE NO BREAKS IN THE BEADS OF CAULK

TRIM_94 NORTHERN SW GUTTER END CAP ATTACHMENT



NOTE:
1. FIELD WORK MAYBE REQ'D. AT RAKE TRIM TO GUTTER.
2. INSTALL ENDCAP BEFORE INSTALLING CORNER BOX.
3. REFERENCE TRIM_94 FOR ENDCAP INSTALLATION.
4. FIELD WORK RAKE END CAP TO RAKE TRIM AS REQ'D. ATTACH WITH (4) POP RIVETS.

TRIM_5 EAVE GUTTER, NORTHERN CORNER BOX SUPER SPAN & SUPER SPAN X (SW NORTHERN STYLE)



NOTE:
1. FIELD WORK REQ'D. AT RAKE TRIM TO HIGH EAVE TRIM.
2. FIELD MITER RAKE TRIM TO HIGH EAVE TRIM AS REQ'D TO SEAL OFF TRIM.
3. INSTALL HIGH EAVE CORNER BOX. FIELD WORK AS REQ'D.

?? HIGH EAVE, NORTHERN CORNER BOX, SUPER SPAN & SPAN X (SW NORTHERN STYLE)

CITY OF HOUSTON REGISTRATION NO. 165 / STATE OF TEXAS FIRM NO. 12081

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STATE OF MISSOURI ★ PROFESSIONAL ENGINEER ★
SIRENE M. CHACON
NUMBER PE-2012036154

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Final drawings for construction.

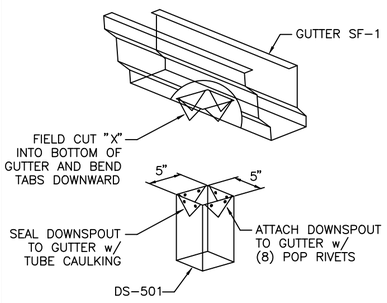
DRAWING STATUS:

WHIRLWIND STEEL BUILDINGS
P.O. BOX 75280 PH: 800-324-9992
HOUSTON, TX 77234 FAX: 832-553-4600

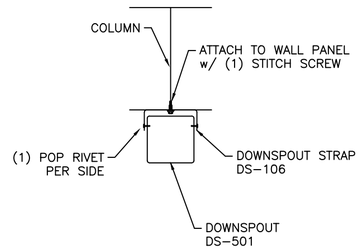
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ISSUE	DATE	DESCRIPTION	BY	CHK
P1	10.11.24	FOR CONSTRUCTION PERMIT	HP	TVN

SHEET DESCRIPTION: DETAILS PAGE					BLDG SIZE: VARIES	
CUSTOMER: Jasco Construction					CUSTOMER LOCATION: BURLESON, TX 76028	
PROJECT REFERENCE: Cowboy Express Carwash						
JOBSITE LOCATION: 210 Mo-150 Highway, Lees Summit, Missouri 64082					JOBSITE COUNTY: Johnson	
DWN: HP	CHK: TVN	DATE: 10.11.24	ENG: NA	JOB NO: 13014-35259	DWG NO: D2	ISSUE: P1



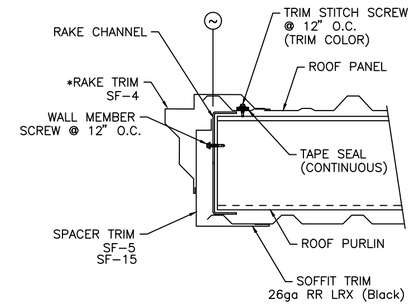
TRIM_6 DOWNSPOUT ATTACHMENT @ GUTTER



ATTACH ONE DS-105 STRAP AT THE BASE OF THE DOWNSPOUT THEN APPROXIMATELY 5'-0" CENTERS (8'-0" MAX.)

TRIM_7 DOWNSPOUT STRAP ATTACHMENT

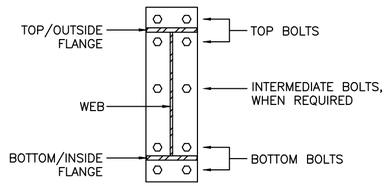
SEE PLANS FOR PART MARKS



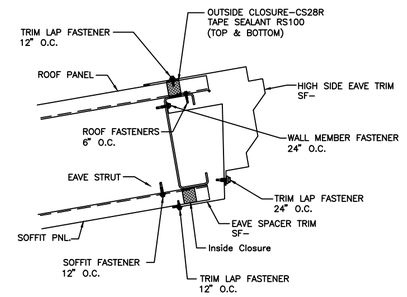
*LAP RAKE TRIM 2" w/ (1) CONTINUOUS BEAD OF CAULK

TRIM_18 RAKE NORTHERN, OPEN WALL, WITH SOFFIT, SUPER SPAN X (SW NORTHERN STYLE)

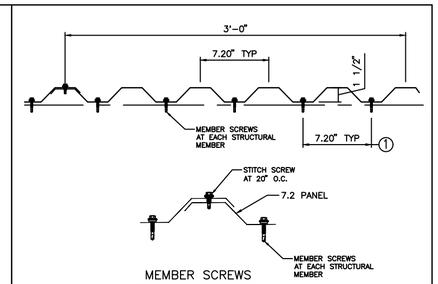
REFER TO FRAME CROSS-SECTION FOR BOLT SIZE & QTY.



U3 BOLTS FOR RAFTER TO COLUMN CONNECTION



?? HIGH EAVE, NORTHERN AT OPEN WALL, W/SOFFIT, SUPER SPAN & SPAN X (SW NORTHERN STYLE)



MEMBER SCREWS

① = AT BASE, RAKE, EAVE, AND MID SPAN END LAPS
AT EAVE, INTERMEDIATE MEMBER AND MID SPAN END LAPS

?? FASTENER PATTERN FOR ROOF/WALL PANEL (7.2 PANEL)

CITY OF HOUSTON REGISTRATION NO. 165 / STATE OF TEXAS FIRM NO. 12081

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APPROVAL/REVIEWING AUTHORITY: PLEASE REVIEW APPROVAL DRAWING CAREFULLY

UNLESS NOTED OTHERWISE, IT WILL BE ASSUMED THAT ALL INFORMATION SHOWN ON THIS SET OF DRAWINGS HAVE THE AFFIRMATION OF THE APPROVAL/REVIEW AUTHORITY. FAILURE TO RESPOND TO CLOUDED AREAS AND AREAS TO VERIFY MAY RESULT IN ADDITIONAL COSTS AND/OR SCEDULE DELAYS FOR WHICH THE METAL BUILDING PROVIDER WILL NOT BE RESPONSIBLE. FIELD VERIFY ALL EXISTING CONDITIONS PRIOR TO FABRICATION. ALL SUBSEQUENT CHANGES AFTER THE FIRST SUBMITTAL WILL BE CONSIDERED AS CONTRACTUAL CHANGE.

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STATE OF MISSOURI
SIRENE M. CHACON
NUMBER PE-2012036154
PROFESSIONAL ENGINEER

DESIGN PARAMETERS

1. DESIGN CODES AND STANDARDS

A. BUILDING CODE:	IBC 2018
RISK CATEGORY	II

B. MATERIAL CODES AND STANDARDS
DESIGN LOADS:
ASCE 7-16 - MINIMUM DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURES
CONCRETE:
ACI 318-14 - BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE
STEEL:
AISC 360-16 - SPECIFICATIONS FOR STRUCTURAL STEEL BUILDINGS
AISC 341-16 - SEISMIC PROVISIONS FOR STRUCTURAL STEEL BUILDINGS

2. GRAVITY LOADS

A. ROOF DEAD LOADS	
ROOFING AND INSULATION	1.7 PSF
METAL DECK	3.2 PSF
MECH., ELEC. AND PLUMBING AND SPRINKLERS	4.1 PSF
CEILINGS	1.0 PSF
TOTAL SUPERIMPOSED ROOF DEAD LOAD	10.0 PSF
ROOF STRUCTURE	ACTUAL WEIGHT
B. POLYCARB ROOF DEAD LOADS	
POLYCARB ROOF	3.0 PSF
MISCELLANEOUS	2.0 PSF
TOTAL SUPERIMPOSED ROOF DEAD LOAD	5.0 PSF
ROOF STRUCTURE	ACTUAL WEIGHT
B. LIVE LOADS (UNIFORM/CONCENTRATED)	
ROOF	20 PSF / 300 LB

3. ROOF SNOW LOAD

A. GROUND SNOW LOAD, Pg	20 PSF
B. FLAT ROOF SNOW LOAD, Pf	15.4 PSF
C. SNOW EXPOSURE FACTOR, Ce	1.0
D. SNOW LOAD IMPORTANCE FACTOR, I	1.0
E. THERMAL FACTOR, Ct	1.1

4. WIND DESIGN DATA

A. ULTIMATE DESIGN WIND SPEED (3 SECOND GUST), Vult	110 MPH
NOMINAL DESIGN WIND SPEED (3 SECOND GUST), Vasd	85 MPH
B. WIND EXPOSURE CATEGORY	C
C. INTERNAL PRESSURE COEFFICIENT, GCpi	+/- 0.18

D. DESIGN WIND PRESSURE ON COMPONENTS AND CLADDING

ROOF PRESSURES (0.6W)		
	EFFECTIVE TRIBUTARY AREA	
	≤10 SQ. FT.	≥100 SQ. FT.
ZONE 1	-21.5 PSF	-18.6 PSF
ZONE 2	-25.9 PSF	-20.1 PSF
ZONE 3	-44.8 PSF	-31.7 PSF
ZONE 1, 2 & 3	9.6 PSF	9.6 PSF

WALL PRESSURES (0.6W)		
	EFFECTIVE TRIBUTARY AREA	
	≤10 SQ. FT.	≥100 SQ. FT.
ZONE 4	-18.6 PSF	-16.0 PSF
ZONE 5	-23.0 PSF	-17.8 PSF
ZONE 4 & 5	17.2 PSF	14.6 PSF

NOTES:
1. RE: ASCE 7-16 FIGURES 30.4-1 AND 30.4-2A
2. REFER TO CODE FOR EFFECTIVE TRIBUTARY AREAS NOT LISTED
3. POSITIVE VALUES SIGNIFY PRESSURES ACTING TOWARD THE NOTED SURFACE AND NEGATIVE VALUES SIGNIFY PRESSURES ACTING AWAY FOR THE NOTED SURFACE

E. WIDTH OF END ZONE	3.3 FT

5. EARTHQUAKE DESIGN DATA

A. SEISMIC IMPORTANCE FACTOR, Ie	1.0
B. MAPPED SPECTRAL RESPONSE ACCELERATION PARAMETER, Ss	0.101
C. MAPPED SPECTRAL RESPONSE ACCELERATION PARAMETER, S1	0.069
D. SITE CLASS	D
E. DESIGN SPECTRAL RESPONSE ACCELERATION PARAMETER, Sds	0.108
F. DESIGN SPECTRAL RESPONSE ACCELERATION PARAMETER, Sd1	0.110
G. SEISMIC DESIGN CATEGORY	B
H. STRUCTURAL SYSTEM - Z DIRECTION	
1.) VERTICAL ELEMENT TYPE	CANTILEVERED COLUMN SYSTEM
2.) BASIC SEISMIC FORCE-RESISTING SYSTEM TYPE	ORDINARY CANTILEVERED COLUMN SYSTEM
3.) RESPONSE MODIFICATION FACTOR, R	1.25
4.) OVERSTRENGTH FACTOR,	1.25
5.) SEISMIC RESPONSE COEFFICIENT, Cs	0.086
6.) DESIGN BASE SHEAR, 0.7E	0.060W
J. STRUCTURAL SYSTEM - X DIRECTION	
1.) VERTICAL ELEMENT TYPE	MOMENT FRAME SYSTEM
2.) BASIC SEISMIC FORCE-RESISTING SYSTEM TYPE	STEEL ORDINARY MOMENT FRAMES
3.) RESPONSE MODIFICATION FACTOR, R	3.5
4.) OVERSTRENGTH FACTOR,	3
5.) SEISMIC RESPONSE COEFFICIENT, Cs	0.031
6.) DESIGN BASE SHEAR, 0.7E	0.022W
K. ANALYSIS PROCEDURE	EQUIVALENT LATERAL FORCE

GENERAL NOTES

GENERAL

1. STRUCTURAL ELEMENTS ARE NON-SELF SUPPORTING AND REQUIRE INTERACTION WITH OTHER ELEMENTS FOR STABILITY AND RESISTANCE TO LATERAL FORCES. FRAMING AND WALLS SHALL BE TEMPORARILY BRACED BY THE CONTRACTOR UNTIL PERMANENT BRACING, FLOOR AND ROOF DECKS, AND WALLS HAVE BEEN INSTALLED AND CONNECTIONS BETWEEN THESE ELEMENTS HAVE BEEN MADE.
2. THE CONTRACT DOCUMENTS REPRESENT THE FINISHED STRUCTURE AND DO NOT INDICATE THE METHOD OF CONSTRUCTION, UNLESS NOTED OTHERWISE. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR THE MEANS, METHODS, TECHNIQUES, SEQUENCES, AND OPERATION OF CONSTRUCTION AND SAFETY PRECAUTIONS AND PROGRAMS INCIDENTAL THERETO.
3. THE STRUCTURE HAS BEEN DESIGNED FOR THE INDICATED LOADS ONLY. USE OF HEAVY EQUIPMENT AND SCAFFOLDING, OR STORAGE OF MATERIALS THAT TRANSFER EXCESSIVE LOADS TO THE STRUCTURE SHALL BE VERIFIED BY THE CONTRACTOR. THE CONTRACTOR SHALL PROVIDE CALCULATIONS SIGN AND SEALED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE WHERE THE PROJECT IS LOCATED TO VERIFY THE ADEQUACY OF THE STRUCTURE FOR ALL APPLIED CONSTRUCTION LOADS THAT EXCEED THE LOADS INDICATED IN THE CONSTRUCTION DOCUMENTS AND SHALL BE APPROVED BY THE ARCHITECT AND ENGINEER-OF-RECORD PRIOR TO ANY CONSTRUCTION ACTIVITY.
4. STRUCTURAL DRAWINGS ARE NOT STAND-ALONE DOCUMENTS AND ARE INTENDED TO BE USED IN CONJUNCTION WITH CIVIL, ARCHITECTURAL, MECHANICAL, ELECTRICAL, PLUMBING AND DRAWINGS FROM OTHER DISCIPLINES. THE CONTRACTOR SHALL COORDINATE ALL REQUIREMENTS OF THE CONTRACT DOCUMENTS INTO SHOP DRAWINGS AND WORK.
5. ALL WELDS SHALL BE PERFORMED BY QUALIFIED WELDERS IN ACCORDANCE WITH AMERICAN WELDING SOCIETY (A.W.S) SPECIFICATIONS.
6. THE SIZE AND LOCATION OF EQUIPMENT PADS AND PENETRATIONS THROUGH THE STRUCTURE FOR MECHANICAL, ELECTRICAL, AND PLUMBING WORK SHALL BE VERIFIED BY THE CONTRACTOR. PENETRATIONS SHALL BE SUBJECT TO APPROVAL BY THE ARCHITECT AND THE ENGINEER-OF-RECORD. REFERENCE MECHANICAL, ELECTRICAL, AND PLUMBING DRAWINGS FOR OPENING LOCATIONS NOT SHOWN ON THE STRUCTURAL DRAWINGS.
7. USE ONLY DIMENSIONS INDICATED IN THE CONTRACT DOCUMENTS. DO NOT SCALE CONTRACT DRAWINGS OR USE ANY DIMENSIONS TAKEN FROM ELECTRONIC DRAWING FILES. CONTRACTOR SHALL COORDINATE IN-PLACE DIMENSIONS BASED ON TOLERANCES OF THE RESPECTIVE TRADES.
8. ASSUME EQUAL SPACING IF NOT INDICATED IN CONTRACT DOCUMENTS.
9. ARCHITECTURAL, MECHANICAL AND ELECTRICAL COMPONENTS AND SYSTEMS SHALL BE DESIGNED AND CONSTRUCTED TO RESIST SEISMIC FORCES AS DETERMINED IN CHAPTER 13 OF ASCE 7.
10. REFERENCE ARCHITECTURAL DRAWINGS FOR NON-LOAD BEARING PARTITION FRAMING. CONNECTION OF NON-LOAD BEARING PARTITION FRAMING TO THE PRIMARY STRUCTURE SHALL ALLOW FOR VERTICAL LIVE LOAD DEFLECTIONS OF THE FLOOR AND ROOF FRAMING.
11. CONTRACTOR SHALL COORDINATE ALL DIMENSIONS, OPENING, BLOCKOUTS, RECESSES, ELEVATIONS, ANCHOR RODS AND EMBED LOCATIONS PRIOR TO CONSTRUCTION.

FOUNDATIONS

1. FOUNDATION DESIGNS, SUBGRADE PREPARATION NOTES, AND STRUCTURAL EARTH MOVING SPECIFICATION ARE BASED ON THE RECOMMENDATIONS PROVIDED IN THE GEOTECHNICAL REPORT NUMBER 0338-2529, BY: INTERTEK PSI DATED: JULY 30, 2024.
2. FOOTING DESIGNS ARE BASED ON A NET ALLOWABLE SOIL BEARING PRESSURE OF 2,000 PSF. FOOTINGS SHALL BEAR IN COMPACTED STRUCTURAL FILL AS NOTED IN THE GEOTECHNICAL REPORT.
3. CONTRACTOR AND TESTING LABORATORY REPRESENTATIVE SHALL READ THE GEOTECHNICAL REPORT AND BECOME THOROUGHLY FAMILIAR WITH SITE AND SUBGRADE INFORMATION GIVEN THEREIN. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING EXACT QUANTITIES OF CUT AND FILL FOR ESTIMATING AND CONSTRUCTION. SUBGRADE SHALL BE PREPARED AS NOTED IN THE STRUCTURAL EARTH MOVING SPECIFICATION.
4. A QUALIFIED AND REGISTERED GEOTECHNICAL ENGINEER, LICENSED IN THE STATE WHERE THE PROJECT IS LOCATED AND WORKING FOR THE TESTING LABORATORY, SHALL DETERMINE CONFORMANCE OF THE FOUNDATION BEARING STRATA WITH THE FOUNDATION DESIGN CRITERIA ABOVE, AND ALL OTHER CONTRACT DOCUMENTS. TESTING LABORATORY SHALL NOTIFY CONTRACTOR, ARCHITECT AND ENGINEER-OF-RECORD OF ANY CONDITIONS NOT IN ACCORDANCE WITH FOUNDATION DESIGN CRITERIA OR CONTRACT DOCUMENTS.
5. EXTERIOR FOOTINGS SHALL BEAR AT OR BELOW MINIMUM BEARING DEPTH. MINIMUM BEARING DEPTH IS 36 INCHES BELOW ADJACENT FINISHED GRADE. THICKENED SLAB EDGE FOR STOOPS, CANOPIES, ETC. SHALL EXTEND 24 INCHES BELOW GRADE UNLESS NOTED OTHERWISE IN CONTRACT DOCUMENTS.
6. FOUNDATION WALLS SHALL HAVE ADEQUATE TEMPORARY BRACING INSTALLED BY THE CONTRACTOR BEFORE BACKFILL IS PLACED AGAINST THEM. TEMPORARY BRACING SHALL NOT BE REMOVED UNTIL WALL IS PERMANENTLY BRACED.
7. FOOTINGS SHALL BEAR ON UNDISTURBED OR PROPERLY PLACED SOIL, UNLESS NOTED OTHERWISE IN CONTRACT DOCUMENTS.
8. AVOID DAMAGE TO UNDERGROUND UTILITIES INCLUDING, BUT NOT LIMITED TO, WATER MAINS, SANITARY SEWERS AND BURIED CABLES WHICH MIGHT EXTEND ACROSS OR ADJOIN SITE.

CONCRETE

1. MINIMUM COMPRESSIVE STRENGTH (f'c) AT THE END OF 28 DAYS, WEIGHT, EXPOSURE CLASSIFICATION AND MAX. AGGREGATE SIZE SHALL BE AS FOLLOWS:
   - FOOTINGS: 3000 | NWC | F0/S0/W0/C1 | 1.50"
   - FOUNDATION WALLS AND PEDESTALS: 4500 | NWC | F1/S0/W1/C1 | 1.00"
   - INTERIOR SLABS-ON-GRADE: 4500 | NWC | F2/S0/W1/C1 | 1.00"

   EXPOSURE CLASSIFICATIONS ARE PER ACI 318-14 TABLE 19.3.2.1
2. SLUMP LIMIT SHALL BE AS FOLLOWS:
   - FOOTINGS 5 INCHES, PLUS OR MINUS 1 INCH
   - FOUNDATION WALL AND PEDESTALS 5 INCHES, PLUS OR MINUS 1 INCH
   - INTERIOR SLAB-ON-GRADE 5 INCHES, PLUS OR MINUS 1 INCH
3. CEMENT TYPE: II OR V AS REQUIRED.
4. EXTERIOR CONCRETE AND CONCRETE EXPOSED TO FREEZE-THAW CYCLES SHALL BE AIR-ENTRAINED.
5. MATERIALS OR ADMIXTURES SHALL NOT CONTAIN ANY CALCIUM CHLORIDE.
6. CONCRETE SLABS AND FOUNDATION WALLS IN THE CARWASH TUNNEL SHALL HAVE A CORROSION INHIBITING ADMIXTURE INCLUDED IN THE MIX DESIGN. PROVIDE SIKA CNI CORROSION INHIBITING ADMIXTURE OR APPROVED EQUIVALENT.
7. REINFORCING STEEL SHALL MEET THE FOLLOWING:
   - DEFORMED BARS: A615, GRADE 60
   - WELDABLE DEFORMED BARS: A706, GRADE 60
8. PROVIDE MINIMUM CONCRETE CLEAR COVER FOR REINFORCEMENT PER ACI 318, UNLESS NOTED OTHERWISE.
9. WELDING SHALL MEET ANSI / AWS D1.1, STRUCTURAL WELDING CODE AND ANSI / AWS D1.4 "STRUCTURAL WELDING CODE FOR REINFORCING STEEL" LATEST REVISION. ELECTRODES FOR DEFORMED BAR ANCHORS SHALL BE 90 KSI, LOW HYDROGEN.
10. WHERE DOWELS ARE INDICATED BUT NOT SIZED, PROVIDE DOWELS THAT MATCH SIZE AND LOCATION OF MAIN REINFORCING STEEL AND LAP SPLICE WITH THE MAIN REINFORCING STEEL. REINFORCING STEEL SHALL BE SPLICED AS NOTED IN THE REINFORCING LAP SCHEDULE.
11. "C.J." INDICATES SAW CUT CONTRACTION JOINT OR DOWELED CONSTRUCTION JOINT IN SLAB-ON-GRADE. REFERENCE CAST-IN-PLACE CONCRETE SPECIFICATION FOR ACCEPTED SAW CUT METHODS. SLAB POURS SHALL BE SEPARATED BY A DOWELED CONSTRUCTION JOINT. CONTRACTION/CONSTRUCTION JOINTS SHALL BE LOCATED AS SHOWN ON PLANS OR AS DIRECTED BY THE ENGINEER-OF-RECORD.
12. PROVIDE CORNER BARS THAT MATCH AND LAP CONTINUOUS REINFORCEMENT SIZE AND QUANTITY AT INTERSECTIONS AND CORNERS OF WALLS AND FOUNDATIONS.
13. ANCHOR BOLTS AND EMBED PLATES SHALL BE TIED INTO THE REINFORCING STEEL CAGE AND HELD IN PLACE WITH A RIGID TEMPLATE TO PREVENT MOVEMENT DURING CONCRETE PLACEMENT.

GENERAL NOTES

STRUCTURAL STEEL

1. STRUCTURAL STEEL SHALL MEET THE FOLLOWING MINIMUM YIELD STRESS (Fy):

	YIELD	ASTM SPECIFICATION
W, WT SHAPES:	50 KSI	A992
BARS, PLATES, CHANNELS, ANGLES:	36 KSI	A36
SQUARE, RECTANGULAR HSS:	46 KSI	A500, GRADE B
ROUND HSS:	42 KSI	A500, GRADE B
STRUCTURAL STEEL PIPE:	35 KSI	A53, GRADE B
ANCHOR RODS:	55 KSI	F1554
ALL-THREAD RODS:	36 KSI	A36
HEADED STUD ANCHORS:	65 KSI TENSILE STRESS	A108, GRADES 1010-1020

2. BOLTS FOR STEEL BEAM AND COLUMN CONNECTIONS SHALL BE ASTM F3125, GRADE A325-N HIGH-STRENGTH BOLTS UNLESS NOTED OTHERWISE IN CONTRACT DOCUMENTS. BOLTS SHALL BE HOT DIPPED GALVANIZED.
3. ALL BOLTED JOINTS SHALL BE SNUG TIGHT UNLESS NOTED OTHERWISE IN CONTRACT DOCUMENTS .
4. WELDING SHALL MEET ANSI / AWS D1.1, STRUCTURAL WELDING CODE LATEST REVISION. ELECTRODES SHALL BE 70 KSI, LOW HYDROGEN (IE7018).
5. WELDS NOT SPECIFICALLY SIZED ON THE STRUCTURAL DRAWINGS SHALL BE THE MINIMUM SIZE PER THE LATEST AWS D1.1.
6. PROVIDE DOUBLE NUTS AND DOUBLE WASHERS FOR STEEL COLUMN ANCHOR BOLTS TO ALLOW FOR ADJUSTMENT IN BASE PLATE ELEVATION. PROVIDE 1 1/2 INCH NON-SHRINK GROUT UNDER BASE PLATE AFTER ERECTION. USE 2 1/2 INCH NON-SHRINK GROUT WHEN COLUMN ANCHOR BOLTS ARE 1 1/4 INCH DIAMETER OR LARGER. NON-SHRINK GROUT SHALL BE NON-METALLIC WITH A MINIMUM COMPRESSIVE STRENGTH OF 5,000 PSI AT 28 DAYS.
7. EXPANSION BOLTS FOR STEEL TO STEEL CONNECTIONS SHALL BE BOXBOLT TYPE C BLIND FASTENERS OR APPROVED EQUIVALENT.
8. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR INCLUDING THE COSTS FOR ALL MISCELLANEOUS STEEL SHOWN IN THE CONTRACT DOCUMENTS. THESE COSTS SHALL INCLUDE, BUT ARE NOT LIMITED TO, MISCELLANEOUS STEEL ITEMS SHOWN ON THE STRUCTURAL, ARCHITECTURAL, CIVIL, MECHANICAL, PLUMBING AND ELECTRICAL DRAWINGS AND IN THE SPECIFICATIONS.
9. AT ALL GALVANIZED OR PAINTED STEEL MEMBERS WITH FIELD WELDED CONNECTIONS, REMOVE GALVANIZING, PAINT OR PRIMER PRIOR TO FIELD WELDING AS REQUIRED. AFTER WELDING IS COMPLETE AND INSPECTOR APPROVED, PREPARE AND REPAINT THE FRAMING SURFACES.
10. STEEL FABRICATOR SHALL BE AISC CERTIFIED.
11. STEEL FABRICATOR SHALL JIG ALL MOMENT CONNECTIONS PLATES FOR PROPER ALIGNMENT, AND TEST FIT A SAMPLE OF FINAL CONNECTIONS FOR PROPER FIT UP.
12. SUBMIT SHOP DRAWINGS ELECTRONICALLY IN PDF FORMAT. THE EOR WILL REVIEW THE SHOP DRAWINGS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR TRANSMITTING THE REVIEWED SET TO THE FABRICATOR FOR CORRECTIONS. SHOP DRAWINGS SHALL INCLUDE DETAILS OF CUTS, CONNECTIONS, SPLICES, CAMBER, HOLES, AND OTHER PERTINENT DATA. INDICATE WELDS BY STANDARD AWS SYMBOLS, DISTINGUISHING BETWEEN SHOP AND FIELD WELDS, AND SHOW SIZE, LENGTH, AND TYPE OF EACH WELD. SHOW BACKING BARS THAT ARE TO BE REMOVED AND SUPPLEMENTAL FILLET WELDS WHERE BACKING BARS ARE TO REMAIN. INDICATE TYPE, SIZE, AND LENGTH OF BOLTS, DISTINGUISHING BETWEEN SHOP AND FIELD BOLTS. DO NOT BEGIN FABRICATION OF MATERIALS PRIOR TO REVIEW OF SHOP DRAWINGS. REVIEW OF SHOP DRAWINGS IS FOR MEMBER SIZES, SPACINGS, DETAILS, AND GENERAL COMPLIANCE WITH THE CONTRACT DRAWINGS ONLY. MATERIAL QUANTITIES, LENGTHS, FIT, VERIFICATION OF JOB CONDITIONS AND COORDINATION WITH OTHER TRADES ARE RESPONSIBILITY OF CONTRACTOR. REPRODUCTIONS OF CONTRACT DRAWINGS SHALL NOT BE USED FOR SHOP DRAWINGS

STEEL DECK

1. STEEL DECK AND ITS ANCHORAGE SHALL BE MANUFACTURED AND ERECTED PER THE STEEL DECK INSTITUTE (SDI) MANUALS FOR "ROOF DECK DESIGN", "FLOOR DECK DESIGN" AND "DIAPHRAGM DESIGN", CURRENT EDITION.
2. STEEL ROOF DECK

A. STEEL ROOF DECK SHALL BE GALVANIZED TYPE "N" UNLESS NOTED OTHERWISE. DEPTH SHALL BE AS SHOWN IN THE CONTRACT DOCUMENTS.

B. ROOF DECK IS REQUIRED TO ACT AS A DIAPHRAGM. CONNECTIONS SHALL BE IN ACCORDANCE WITH STEEL DECK INSTITUTE SPECIFICATIONS. REFER TO THE ROOF DIAPHRAGM CONNECTION DIAGRAM FOR ATTACHMENT.

C. DECKING SHALL BE CONTINUOUS OVER A MINIMUM OF (3) SPANS UNLESS NOTED OTHERWISE IN THE CONTRACT DOCUMENTS. DECK SPLICES ARE TO BE OVER SUPPORTS.

D. NO HANGING LOADS SHALL BE ATTACHED TO ROOF DECK.

COLD FORMED METAL FRAMING

1. COLD FORMED METAL FRAMING AND THE CONNECTIONS TO THE STRUCTURE SHALL BE DESIGNED AND DETAILED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE WHERE THE PROJECT IS LOCATED. THE DESIGN AND DETAILING SHALL COMPLY WITH ALL APPLICABLE CODES AND SPECIFICATION SECTIONS.
2. ALL COLD FORMED METAL FRAMING SHALL HAVE A MINIMUM THICKNESS OF 33 MILS (20 GA) AND SHALL BE SPACED AT A MAXIMUM OF 16 INCHES ON CENTER UNLESS NOTED OTHERWISE IN CONTRACT DOCUMENTS AND SHALL MEET THE MINIMUM STRUCTURAL PROPERTIES FROM THE AMERICAN IRON AND STEEL INSTITUTE - NORTH AMERICAN STANDARD FOR COLD-FORMED STEEL FRAMING LATEST EDITION. MINIMUM FLANGE WIDTH OF FRAMING MEMBERS SHALL BE 1 5/8 INCH AND THE LIP LENGTH OF THE C-SHAPE PORTION SHALL BE A MINIMUM OF 1/2 INCH.
3. WALL STUDS AS BACKING TO MASONRY VENEER SHALL SHALL HAVE A MINIMUM THICKNESS OF 43 MILS (18 GA).
4. COLD FORM METAL FRAMING SHALL BE IN ACCORDANCE WITH THE FOLLOWING, UNLESS NOTED OTHERWISE:

	ASTM SPECIFICATION
A. 54 MILS (16 GA) AND HEAVIER	A1003, GRADE 50 TYPE H (ST50H)
B. 43 MILS (18 GA) AND LIGHTER	A1003, GRADE 33 TYPE H (ST33H)
C. ACCESSORIES, TRACK AND OTHER MEMBERS	A1003, GRADE 33 TYPE H (ST33H), MINIMUM

5. DO NOT WELD 33 MILS (20 GA) AND LIGHTER FRAMING, UNLESS SPECIFICALLY NOTED IN THE CONTRACT DOCUMENTS.
6. COLD FORMED METAL FRAMING AND BRACING SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S WRITTEN RECOMMENDATIONS AND SPECIFICATIONS.
7. HORIZONTAL BRACING FOR WALL STUDS SHALL BE PLACED AT 48 INCHES ON CENTER OR AS PER MANUFACTURER'S WRITTEN RECOMMENDATIONS IF LESS THAN 48 INCHES ON CENTER. HORIZONTAL BRIDGING FOR JOISTS SHALL BE PLACED AT 8'-0" ON CENTER OR AS PER MANUFACTURER'S WRITTEN RECOMMENDATIONS IF LESS THAN 8'-0" ON CENTER. APPLIED FINISH MATERIALS SHALL NOT BE CONSIDERED BRIDGING OR FLANGE BRACING UNLESS NOTED OTHERWISE IN THE CONTRACT DOCUMENTS.
8. ALL AXIALLY LOADED WALL STUDS SHALL HAVE FULL FLANGE BEARING AGAINST UPPER AND LOWER TRACK WEB PRIOR TO ATTACHMENT TO TRACK. SPLICES IN AXIALLY LOADED WALL STUDS ARE NOT ALLOWED.

GENERAL NOTES

POST INSTALLED ANCHORS

1. ANCHORS SHALL ONLY BE INSTALLED WHERE SPECIFIED ON THE CONTRACT DRAWINGS. THE CONTRACTOR SHALL OBTAIN APPROVAL FROM THE STRUCTURAL ENGINEER PRIOR TO INSTALLING POST INSTALLED ANCHORS IN PLACE OF MISSING OR MIS-PLACED CAST-IN-PLACE ANCHORS. CARE SHALL BE TAKEN IN PLACING POST-INSTALLED ANCHORS TO AVOID CONFLICTS WITH EXISTING REINFORCING. ANY CONFLICTS SHALL BE BROUGHT TO THE ATTENTION OF THE EOR PRIOR TO COMPLETION OF WORK.
2. THE CONTRACTOR SHALL SUBMIT PRODUCT DATA WITH DESIGN VALUES AND PHYSICAL PROPERTIES FOR ALL POST INSTALLED ANCHORS. ADDITIONALLY, THE CONTRACTOR SHALL SUBMIT CERTIFIED ICC ES OR ESR REPORTS WHICH VERIFY COMPLIANCE WITH THE SPECIFIED CRITERIA.
3. SUBSTITUTION REQUESTS FOR PRODUCTS OTHER THAN THOSE SPECIFIED ON THE CONTRACT DRAWINGS SHALL BE SUBMITTED BY THE CONTRACTOR TO THE STRUCTURAL ENGINEER ALONG WITH CALCULATIONS THAT ARE SIGNED AND SEALED BY A QUALIFIED PROFESSIONAL ENGINEER RESPONSIBLE FOR THEIR PREPARATION AND LICENSED IN THE STATE WHERE THE PROJECT IS LOCATED. THE CALCULATIONS SHALL DEMONSTRATE THAT THE SUBSTITUTED PRODUCT IS CAPABLE OF ACHIEVING THE PERTINENT EQUIVALENT PERFORMANCE VALUES OF THE SPECIFIED PRODUCT USING THE APPROPRIATE DESIGN PROCEDURE AND/OR STANDARDS AS REQUIRED BY THE BUILDING CODE.
4. ALL HOLES SHALL BE DRILLED, DRY AND CLEANED AND ANCHORS SHALL BE INSTALLED IN ACCORDANCE PER ANCHOR MANUFACTURER'S WRITTEN SPECIFICATIONS. THE LATEST VERSION OF THE WRITTEN SPECIFICATION SHALL BE ON-SITE AND FOLLOWED DURING THE INSTALLATION OF THE ANCHORS.
5. THE ANCHOR EMBEDMENT DEPTH SHALL BE DEFINED AS THE DEPTH FROM THE SURFACE FACE OF THE LOAD BEARING BASE MATERIAL TO THE DEEPEST PART OF THE ANCHOR AFTER THE ANCHOR HAS BEEN FULLY INSTALLED INTO THE HOLE PER MANUFACTURER'S SPECIFICATIONS.
6. ANCHORS EXPOSED TO WEATHER SHALL BE STAINLESS STEEL.
7. CONTRACTOR SHALL FOLLOW THE LATEST VERSION OF MANUFACTURER'S SPECIFICATION DURING INSTALLATION OF ANCHORS.

ABBREVIATIONS

A.F.F.	ABOVE FINISHED FLOOR
A.O.R.	ARCHITECT OF RECORD
A.R.	ANCHOR RODS
AESS	ARCHITECTURALLY EXPOSED STRUCTURAL STEEL
ARCH.	ARCHITECTURAL
B.L.	BLOCK LINTEL
B.O.D.	BOTTOM OF DECK
B.O.S.	BOTTOM OF STEEL
B.P.	BASE PLATE
BAL.	BALANCE
BLDG.	BUILDING
BRG.	BEARING
C.J	CONTRACTION JOINT
C.L.	CENTER LINE
CLR.	CLEAR
CMU	CONCRETE MASONRY UNIT
COL.	COLUMN
CONC.	CONCRETE
CONST.	CONSTRUCTION
CONT.	CONTINUOUS
D.B.A.	DEFORMED BAR ANCHOR
D.B.E.	DECK BEARING ELEVATION
DIA.	DIAMETER
DTL.	DETAIL
DWG.	DRAWING
E.F.	EACH FACE
E.J.	EXPANSION JOINT
E.O.D.	EDGE OF DECK
E.O.R.	ENGINEER OF RECORD
E.O.S.	EDGE OF SLAB
E.W.	EACH WAY
EIFS	EXTERIOR INSULATION AND FINISH SYSTEM
ELEV.	ELEVATION
EQ.	EQUAL
EXIST.	EXISTING
F.F.E.	FINISHED FLOOR ELEVATION
F.S.	FAR SIDE
F.V.	FIELD VERIFY
FDN.	FOUNDATION
FT.	FOOT/FEET
FTG.	FOOTING
G.B.	GRADE BEAM
G.C.	GENERAL CONTRACTOR
GA.	GAGE
GALV.	GALVANIZED
H.S.A.	HEADED STUD ANCHOR
HORIZ.	HORIZONTAL
I.F.	INSIDE FACE
IN.	INCH/INCHES
INFO.	INFORMATION
J.B.E.	JOIST BEARING ELEVATION
JT.	JOINT
K	UNIT OF 1,000 POUNDS (KIP)
KSI	KIPS PER SQUARE INCH
LBS.	POUNDS
LLH	LONG LEG HORIZONTAL
LLV	LONG LEG VERTICAL
LONG.	LONGITUDINAL
LSL	LONG SLOT
MAX.	MAXIMUM
MECH.	MECHANICAL
MEP	MECHANICAL/ELECTRICAL/PLUMBING
MFR.	MANUFACTURER
MIN.	MINIMUM
MISC.	MISCELLANEOUS
N.I.C.	NOT IN CONTRACT
N.S.	NEAR SIDE
N.T.S.	NOT TO SCALE
O.C.	ON CENTER
O.D.	OUTSIDE DIAMETER
O.F.	OPPOSITE FACE
O.H.	OPPOSITE HAND
OPP.	OPPOSITE
P.A.F.	POWER/POWDER ACTUATED FASTENER
PCF	POUNDS PER CUBIC FOOT
PEMB	PRE-ENGINEERED METAL BUILDING
PLF	POUNDS PER LINEAR FOOT
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
R	RADIUS
R.O.	ROUGH OPENING
RE:	REFER
REINF.	REINFORCING
REQD.	REQUIRED
RTU	ROOF TOP UNIT
S.D.S.	SELF-DRILLING SCREWS
S.S.	STAINLESS STEEL
SCHED.	SCHEDULE
SIM.	SIMILAR
SP.	SPACE/SPACING
SPECS.	SPECIFICATIONS
SSL	SHORT SLOT
STD.	STANDARD
STL.	STEEL
T&B	TOP AND BOTTOM
T.O.	TOP OF
T.O.C.	TOP OF CONCRETE
T.O.M.	TOP OF MASONRY
T.O.P.	TOP OF PIER
T.O.S.	TOP OF STEEL
T.O.W.	TOP OF WALL
TRANS.	TRANSVERSE
TYP.	TYPICAL
U.N.O.	UNLESS NOTED OTHERWISE
V.I.F.	VERIFY IN FIELD
VERT.	VERTICAL
W.P.	WORK POINT
W.S.	WATERSTOP
W.W.R.	WELDED WIRE REINFORCEMENT
WT.	WEIGHT

SERVICES COVERED IN THESE DRAWINGS		
	EOR	OTHERS
A. STEEL STRUCTURE	X	
B. FOUNDATION DESIGN	X	
C. LIGHT GAUGE STEEL FRAMING		X

PERMIT SET ONLY

Car Wash BUILDINGS

THE STEEL BUILDING DESIGN IS THE PROPERTY OF AND IS DEPICTED UNDER LICENSE WITH THE OWNER/DEVELOPER FROM CAR WASH BUILDINGS LLC.
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COWBOY EXPRESS CAR WASH

SW SUMMITCREST & SW HOLLYWOOD DRIVE
LEE'S SUMMIT, MO

REV/DATE/COMMENTS
08.28.2024 PERMIT SET

STATE OF MISSOURI
MAX N. LEHMAN
NUMBER PE-2019032924
PROFESSIONAL ENGINEER
08/28/2024

ENGINEER OF RECORD

DATE: 08.28.2024
SCALE: 3/4" = 1'-0"
DRAWN BY: CDH/BEM
CHECKED BY: WR/CF

wallace design collective
wallace design collective, pc
structural · civil · landscape · survey
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GENERAL NOTES

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SPECIAL INSPECTION REQUIREMENTS

SPECIAL INSPECTIONS REQUIREMENTS (IBC 2018 CHAPTER 17)

1. THE OWNER SHALL EMPLOY ONE OR MORE SPECIAL INSPECTORS TO PROVIDE INSPECTIONS DURING CONSTRUCTION ON THE TYPES OF WORK LISTED IN THE STATEMENT OF SPECIAL INSPECTIONS PER SECTION 1704 OF THE IBC. THE SPECIAL INSPECTOR SHALL BE A QUALIFIED PERSON WHO SHALL DEMONSTRATE COMPETENCE, TO THE SATISFACTION OF THE BUILDING OFFICIAL, FOR INSPECTION OF THE PARTICULAR TYPE OF CONSTRUCTION OR OPERATION REQUIRING SPECIAL INSPECTION. THESE INSPECTIONS ARE IN ADDITION TO THE INSPECTIONS SPECIFIED IN THE PROJECT SPECIFICATIONS.
2. REPORT REQUIREMENTS SHALL CONFORM TO SECTIONS 1704.2.4 AND 1704.5 OF THE IBC. SPECIAL INSPECTORS SHALL KEEP RECORDS OF INSPECTIONS. THE SPECIAL INSPECTOR SHALL FURNISH INSPECTION REPORTS TO THE BUILDING OFFICIAL AND TO THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE. REPORTS SHALL INDICATE THAT WORK INSPECTED WAS DONE IN CONFORMANCE TO APPROVED CONSTRUCTION DOCUMENTS. DISCREPANCIES SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE CONTRACTOR FOR CORRECTION. IF THE DISCREPANCIES ARE NOT CORRECTED, THE DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE BUILDING OFFICIAL AND TO THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE PRIOR TO COMPLETION OF THAT PHASE OF WORK. A FINAL REPORT DOCUMENTING REQUIRED SPECIAL INSPECTIONS AND CORRECTION OF ANY DISCREPANCIES NOTED IN THE INSPECTIONS SHALL BE SUBMITTED AT A POINT IN TIME AGREED UPON BY THE PERMIT APPLICANT AND THE BUILDING OFFICIAL PRIOR TO THE START OF WORK.
3. THE CONTRACTOR IS RESPONSIBLE FOR NOTIFYING THE SPECIAL INSPECTOR REGARDING INDIVIDUAL INSPECTION FOR ITEMS LISTED ON THE STATEMENT OF SPECIAL INSPECTIONS AND AS NOTED ON THE BUILDING DEPARTMENT APPROVED PLANS. ADEQUATE NOTICE AND ACCESS TO APPROVED PLANS SHALL BE PROVIDED SO THAT THE SPECIAL INSPECTOR HAS TIME TO BECOME FAMILIAR WITH THE PROJECT.
4. FABRICATORS OF STRUCTURAL LOAD-BEARING OR LATERAL LOAD RESISTING MEMBERS OR ASSEMBLIES SHALL CONFORM TO THE REQUIREMENTS OF SECTION 1704.2.5 OF THE IBC.

IBC 2018 REQUIRED SPECIAL INSPECTIONS

			FREQUENCY OF INSPECTION	
			CONTINUOUS	PERIODIC
		STEEL CONSTRUCTION - STRUCTURAL STEEL (IBC SECTION 1705.2.1)		
1.		SPECIAL INSPECTION AND NONDESTRUCTIVE TESTING OF STRUCTURAL STEEL ELEMENTS IN BUILDINGS, STRUCTURES AND PORTIONS THEREOF SHALL BE IN ACCORDANCE WITH WITH THE QUALITY ASSURANCE INSPECTION REQUIREMENTS OF AISC 360-16.	RE: AISC 360-16	RE: AISC 360-16
		STEEL CONSTRUCTION - COLD FORMED STEEL DECK (IBC SECTION 1705.2.2)		
1.		SPECIAL INSPECTION AND QUALIFICATIONS OF WELDING SPECIAL INSPECTORS FOR COLD-FORMED STEEL FLOOR AND ROOF DECK SHALL BE IN ACCORDANCE WITH WITH THE QUALITY ASSURANCE INSPECTION REQUIREMENTS OF SDI. QA/QC.	RE: SDI QA/QC	RE: SDI QA/QC
		CONCRETE CONSTRUCTION (IBC TABLE 1705.3)		
1.		INSPECT REINFORCEMENT AND VERIFY PLACEMENT.	---	X
2.		INSPECT ANCHORS CAST IN CONCRETE.	---	X
3.		INSPECT ANCHORS POST-INSTALLED IN HARDENED CONCRETE MEMBERS.		
4.		VERIFY USE OF REQUIRED DESIGN MIX.	---	X
5.		PRIOR TO CONCRETE PLACEMENT, FABRICATE SPECIMENS FOR STRENGTH TESTS, PERFORM SLUMP AND AIR CONTENT TESTS, AND DETERMINE THE TEMPERATURE OF THE CONCRETE.	X	---
6.		INSPECT CONCRETE AND SHOTCRETE PLACEMENT OF PROPER APPLICATION TECHNIQUES.	X	---
7.		VERIFY MAINTENANCE OF SPECIFIED CUREING TEMPERATURE AND TECHNIQUES.	---	X
8.		INSPECT FORMWORK FOR SHAPE, LOCATION AND DIMENSIONS OF THE CONCRETE MEMBER BEING FORMED.	---	X
		SOILS (IBC TABLE 1705.6)		
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 THICKNESSES DURING PLACEMENT AND COMPACTION OF COMPACTED FILL.	X	---
5.		PRIOR TO PLACEMENT OF COMPACTED FILL, OBSERVE SUBGRADE AND VERIFY THAT SITE HAS BEEN PREPARED PROPERLY.	---	X
		** CONTINUOUS SPECIAL INSPECTION: SPECIAL INSPECTION BY THE SPECIAL INSPECTOR WHO IS PRESENT WHEN AND WHERE THE WORK TO BE INSPECTED IS BEING PERFORMED.		
		** PERIODIC SPECIAL INSPECTION: SPECIAL INSPECTION BY THE SPECIAL INSPECTOR WHO IS INTERMITTENTLY PRESENT WHERE THE WORK TO BE INSPECTED HAS BEEN OR IS BEING PERFORMED.		

AISC 360-16 SPECIAL INSPECTION REQUIREMENTS

1. QUALITY CONTROL (QC) SHALL BE PROVIDED BY THE FABRICATOR AND ERECTOR.
2. QUALITY ASSURANCE (QA) SHALL BE PROVIDED BY OTHERS.
3. NONDESTRUCTIVE TESTIING (NDT) SHALL BE PERFORMED BY THE AGENCY OR FIRM RESPONSIBLE FOR QUALITY ASSURANCE (QA).
4. THE QUALITY ASSURANCE INSPECTOR (QAI) SHALL REVIEW MATERIAL TEST REPORTS AND CERTIFICATIONS AS LISTED IN SECTION N3.2 FOR COMPLIANCE WITH THE CONSTRUCTION DOCUMENTS.
5. FOR WORK PERFORMED BY APPROVED FABRICATORS AND ERECTORS:
   A. QA INSPECTIONS, MAY BE WAIVED WHEN THE WORK IS PERFORMED IN A FABRICATING SHOP OR BY AN ERECTOR APPROVED BY THE AUTHORITY HAVING JURISDICTION (AHJ) TO PERFORM THE WORK WITHOUT QA.
   B. NDT OF WELDS COMPLETED IN AN APPROVED FABRICATOR'S SHOP MAY BE PERFORMED BY THAT FABRICATOR WHEN APPROVED BY THE AHJ. WHEN THE FABRICATOR PERFORMS THE NDT, THE QA AGENCY SHALL REVIEW THE FABRICATOR'S NDT REPORTS.
   C. AT COMPLETION OF FABRICATION, THE APPROVED FABRICATOR SHALL SUBMIT A CERTIFICATE OF COMPLIANCE TO THE AHJ STATING THAT THE MATERIALS SUPPLIED AND WORK PERFORMED BY THE FABRICATOR ARE IN ACCORDANCE WITH THE CONSTRUCTION DOCUMENTS.
   D. AT COMPLETION OF ERECTION, THE APPROVED ERECTOR SHALL SUBMIT A CERTIFICATE OF COMPLIANCE TO THE AHJ STATING THAT THE MATERIALS SUPPLIED AND WORK PERFORMED BY THE ERECTOR ARE IN ACCORDANCE WITH THE CONSTRUCTION DOCUMENTS.

AISC 360-16, CHAPTER N SPECIAL INSPECTION REQUIREMENTS

			FREQUENCY OF INSPECTION	
			PERFORM	OBSERVE
N5.4 - INSPECTION OF WELDING				
		AISC 360-16, TABLE N5.4-1 - INSPECTION TASKS PRIOR TO WELDING		
1.		WELDER QUALIFICATION RECORDS AND CONTINUITY RECORDS	---	X
2.		WELDING PROCEDURE SPECIFICATIONS (WPSs) AVAILABLE	X	---
3.		MANUFACTURER CERTIFICATIONS FOR WELDING CONSUMABLES AVAILABLE	X	---
4.		MATERIAL IDENTIFICATION (TYPE/GRADE)	---	X
5.		WELDER IDENTIFICATION SYSTEM (a)	---	X
6.		FIT-UP OF GROOVE WELDS (INCLUDING JOINT GEOMETRY)		
	A.	JOINT PREPARATION	---	X
	B.	DIMENSIONS (ALIGNMENT, ROOT OPENING, ROOT FACE, BEVEL)	---	X
	C.	CLEANLINESS (CONDITION OF STEEL SURFACES)	---	X
	D.	TACKING (TACK WELD QUALITY AND LOCATION)	---	X
	E.	BACKING TYPE AND FIT (IF APPLICABLE)	---	X
7.		FIT-UP OF CJP GROOVE WELDS OF HSS, T-, Y- AND K-JOINTS WITHOUT BACKING (INCLUDING JOINT GEOMETRY)		
	A.	JOINT PREPARATIONS	---	X
	B.	DIMENSIONS (ALIGNMENT, ROOT OPENING, ROOT FACE, BEVEL)	---	X
	C.	CLEANLINESS (CONDITION OF STEEL SURFACES).	---	X
	D.	TACKING (TACK WELD QUALITY AND LOCATION)	---	X
8.		CONFIGURATION AND FINISH OF ACCESS HOLES	---	X
9.		FIT-UP OF FILLET WELDS		
	A.	DIMENSIONS (ALIGNMENT, GAPS AT ROOT)	---	X
	B.	CLEANLINESS (CONDITION OF STEEL SURFACES)	---	X
	C.	TACKING (TACK WELD QUALITY AND LOCATION)	---	X

AISC 360-16, CHAPTER N SPECIAL INSPECTION REQUIREMENTS

			FREQUENCY OF INSPECTION	
			PERFORM	OBSERVE
		AISC 360-16, TABLE N5.4-2 - INSPECTIONS DURING WELDING		
1.		CONTROL AND HANDLING OF WELDING CONSUMABLES		
	A.	PACKAGING	---	X
	B.	EXPOSURE CONTROL	---	X
2.		NO WELDING OVER CRACKED TACK WELDS	---	X
3.		ENVIRONMENTAL CONDITIONS		
	A.	WIND SPEED WITHIN LIMITS	---	X
	B.	PRECIPITATION AND TEMPERATURE	---	X
4.		WELDING PROCEDURE SPECIFICATION (WPS) FOLLOWED		
	A.	SETTINGS ON WELDING EQUIPMENT	---	X
	B.	TRAVEL SPEED	---	X
	C.	SELECTED WELDING MATERIALS	---	X
	D.	SHIELDING GAS TYPE / FLOW RATE	---	X
	E.	PREHEAT APPLIED	---	X
	F.	INTERPASS TEMPERTURE MAINTAINED (MIN./MAX.)	---	X
	G.	PROPER POSITION (F, V, H, OH)	---	X
5.		WELDING TECHNIQUES		
	A.	INTERPASS AND FINAL CLEANING	---	X
	B.	EACH PASS WITHIN PROFILE LIMITATIONS	---	X
	C.	EACH PASS MEETS QUALITY REQUIREMENTS	---	X
6.		PLACEMENT AND INSTALLATION OF STEEL HEADED STUD ANCHORS	X	---
		AISC 360-16, TABLE N5.4-3 - INSPECTION TASKS AFTER WELDING		
1.		WELDS CLEANED	---	X
2.		SIZE, LENGTH AND LOCATION OF WELDS	X	---
3.		WELDS MEET VISUAL ACCEPTANCE CRITERIA		
	A.	CRACK PROHIBITION	X	---
	B.	WELD/BASE-METAL FUSION	X	---
	C.	CRATER CROSS SECTION	X	---
	D.	WELD PROFILES	X	---
	E.	WELD SIZE	X	---
	F.	UNDERCUT	X	---
	G.	POROSITY	X	---
4.		ARC STRIKES	X	---
5.		k-AREA (b)	X	---
6.		WELD ACCESS HOLES IN ROLLED HEAVY SHAPES AND BUILT-UP HEAVY SHAPES (c)	X	---
7.		BACKING REMOVED AND WELD TABS REMOVED (IF REQUIRED)	X	---
8.		REPAIR ACTIVITIES	X	---
9.		DOCUMENT ACCEPTANCE OR REJECTION OF WELDED JOINT OR MEMBER	X	---
10.		NO PROHIBITED WELDS HAVE BEEN ADDED WITHOUT THE APPROVAL OF THE EOR.	---	X
		** PERFORM - PERFORM THESE TASKS FOR EACH WELDED JOINT OR MEMBER.		
		** OBSERVE - OBSERVE THESE ITEMS ON A RANDOM BASIS. OPERATIONS NEED NOT BE DELAYED PENDING THESE INSPECTIONS.		
N5.6 - INSPECTION OF HIGH-STRENGTH BOLTS				
		AISC 360-16, TABLE N5.6-1 - INSPECTION TASKS PRIOR TO BOLTING		
1.		MANUFACTURER'S CERTIFICATIONS AVAILABLE FOR FASTENER MATERIALS	X	---
2.		FASTENERS MARKED IN ACCORDANCE WITH ASTM REQUIREMENTS	---	X
3.		CORRECT FASTENERS SELECTED FOR THE JOINT DETAIL (GRADE, TYPE, BOLT LENGTH) IF THREADS ARE TO BE EXCLUDED FROM SHEAR PLANE	---	X
4.		CORRECT BOLTING PROCEDURES SELECTED FOR JOINT DETAIL	---	X
5.		CONNECTING ELEMENTS, INCLUDING THE APPROPRIATE FAYING SURFACE CONDITION AND HOLE PREPARATION, IF SPECIFIED, MEET APPLICABLE REQUIREMENTS	---	X
6.		PRE-INSTALLATION VERIFICATION TESTING BY INSTALLATION PERSONNEL OBSERVED AND DOCUMENTED FOR FASTENER ASSEMBLIES AND METHODS USED	X	X
7.		PROTECTED STORAGE PROVIDED FOR BOLTS, NUTS, WASHERS AND OTHER FASTENER COMPONENTS	---	X
		AISC 360-16, TABLE N5.6-2 - INSPECTIONS DURING BOLTING		
1.		FASTENER ASSEMBLIES PLACED IN ALL HOLES AND WASHERS AND NUTS ARE POSITIONED AS REQUIRED	---	X
2.		JOINT BROUGHT TO THE SNUG-TIGHT CONDITION PRIOR TO THE PRETENSIONING OPERATION	---	X
3.		FASTENER COMPONENT NOT TURNED BY THE WRENCH PREVENTED FROM ROTATING	---	X
4.		FASTENERS ARE PRETENSIONED IN ACCORDANCE WITH THE RCSC SPECIFICATION, PROGRESSING SYSTEMATICALLY FROM THE MOST RIGID POINT TOWARD THE FREE EDGES	---	X
		AISC 360-16, TABLE N5.6-3 - INSPECTIONS AFTER BOLTING		
1.		DOCUMENT ACCEPTANCE OR REJECTION OF BOLTED CONNECTIONS	X	---
		** PERFORM - PERFORM THESE TASKS FOR EACH BOLTED CONNECTION.		
		** OBSERVE - OBSERVE THESE ITEMS ON A RANDOM BASIS. OPERATIONS NEED NOT BE DELAYED PENDING THESE INSPECTIONS.		
N5.7 - OTHER INSPECTION TASKS				
1.		INSPECTION OF GALVANIZED STEEL STRUCTURAL MAIN MEMBERS EXPOSED CUT SURFACES OF GALVANIZED MAIN MEMBERS AND EXPOSED CORNERS OF HSS SHALL BE VISUALLY INSPECTED FOR CRACKS SUBSEQUENT TO GALVANIZING.	X	---
N5.8 - OTHER INSPECTION TASKS				
1.		INSPECT THE STEEL TO VERIFY COMPLIANCE WITH THE DETAILS SHOWN ON THE CONSTRUCTION DOCUMENTS.	X	---
2.		INSPECT THE PLACEMENT OF ANCHOR RODS AND OTHER EMBEDMENTS SUPPORTING STRUCTURAL STEEL FOR COMPLIANCE WITH THE CONSTRUCTION DOCUMENTS. THE DIAMETER, GRADE, TYPE AND LENGTH OF THE ANCHOR ROD OR EMBEDDED ITEM, AND THE EXTENT OR DEPTH OF EMBEDMENT INTO THE CONCRETE, SHALL BE VERIFIED AND DOCUMENTED PRIOR TO PLACEMENT OF CONCRETE	X	---
		** PERFORM - PERFORM THESE TASKS FOR EACH CONNECTION.		
		** OBSERVE - OBSERVE THESE ITEMS ON A RANDOM BASIS. OPERATIONS NEED NOT BE DELAYED PENDING THESE INSPECTIONS.		

SDI QA/QC - 2017 SPECIAL INSPECTION REQUIREMENTS

1. QUALITY CONTROL (QC) AS SPECIFIED IN THE STANDARD SHALL BE PROVIDED BY THE INSTALLER.
2. QUALITY ASSURANCE (QA) AS SPECIFIED IN THE STANDARD SHALL BE PROVIDED BY THE OWNER'S DESIGNATED REPRESENTATIVE.
3. THE QUALITY ASSURANCE INSPECTOR SHALL BE A QUALIFIED PERSON WHO SHALL DEMONSTRATE COMPETENCE, TO THE SATISFACTION OF THE AHJ AND SATISFY THE QUALIFICATIONS NOTED IN SECTION 3.2 OF THE STANDARD.

SDI QA/QC - 2017 STANDARD FOR QUALITY CONTROL AND QUALITY ASSURANCE FOR INSTALLATION OF STEEL DECK

		FREQUENCY OF INSPECTION	
		PERFORM	OBSERVE
	TABLE 1.1 INSPECTION OR EXECUTION TASKS PRIOR TO DECK PLACEMENT		
A.	VERIFY COMPLIANCE OF MATERIALS(DECK AND DECK ACCESSORIES) WITH CONSTRUCTION DOCUMENTS, INCLUDING PROFILES, MATERIAL PROPERTIES, AND BASE METAL THICKNESS.	X	---
B.	DOCUMENT ACCEPTANCE OR REJECTION OF DECK AND DECK ACCESSORIES	X	---
	TABLE 1.2 INSPECTION OR EXECUTION TASKS AFTER DECK PLACEMENT		
A.	VERIFY COMPLIANCE OF DECK AND ALL DECK ACCESSORIES INSTALLATION WITH CONSTRUCTION DOCUMENTS	X	---
B.	VERIFY DECK MATERIALS ARE REPRESENTED BY THE MILL CERTIFICATIONS THAT COMPLY WITH THE CONSTRUCTION DOCUMENTS	X	---
C.	DOCUMENT ACCEPTANCE OR REJECTION OF DECK AND DECK ACCESSORIES	X	---
	TABLE 1.3 INSPECTION OR EXECUTION TASKS PRIOR TO WELDING		
A.	WELDING PROCEDURE SPECIFICATIONS (WPS) AVAILABLE	---	X
B.	MANUFACTURER CERTIFICATIONS FOR WELDING CONSUMABLES AVAILABLE	---	X
C.	MATERIAL IDENTIFICATION (TYPE/GRADE)	---	X
D.	CHECK WELDING EQUIPMENT	---	X
	TABLE 1.4 INSPECTION OR EXECUTION TASKS DURING WELDING		
A.	USE OF QUALIFIED WELDERS	---	X
B.	CONTROL AND HANDLING OF WELDING CONSUMABLES	---	X
C.	ENVIRONMENTAL CONDITIONS (WIND SPEED, MOISTURE, TEMPERATURE	---	X
D.	WPS FOLLOWED	---	X
	TABLE 1.5 INSPECTION OR EXECUTION TASKS AFTER WELDING		
A.	VERIFY SIZE AND LOCATION OF WELDS, INCLUDING SUPPORT, SIDELAP, AND PERIMETER WELDS	X	---
B.	WELDS MEET VISUAL ACCEPTANCE CRITERIA	X	---
C.	VERIFY REPAIR ACTIVITIES	X	---
D.	DOCUMENT ACCEPTANCE OR REJECTION OF WELDS	X	---
	TABLE 1.6 INSPECTION OR EXECUTION TASKS PRIOR TO MECHANICAL FASTENING		
A.	MANUFACTURER INSTALLATION INSTRUCTIONS AVAILABLE FOR MECHANICAL FASTENERS	---	X
B.	PROPER TOOLS AVAILABLE FOR FASTENER INSTALLATION	---	X
C.	PROPER STORAGE FOR MECHANICAL FASTENERS	---	X
	TABLE 1.7 INSPECTION OR EXECUTION TASKS DURING MECHANICAL FASTENING		
A.	FASTENERS ARE POSITIONED AS REQUIRED	---	X
B.	FASTENERS ARE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS	---	X
	TABLE 1.8 INSPECTION OR EXECUTION TASKS AFTER MECHANICAL FASTENING		
A.	CHECK SPACING, TYPE, AND INSTALLATION OF SUPPORT FASTENERS	X	---
B.	CHECK SPACING, TYPE, AND INSTALLATION OF SIDELAP FASTENERS	X	---
C.	CHECK SPACING, TYPE, AND INSTALLATION OF PERIMETER FASTENERS	X	---
D.	VERIFY REPAIR ACTIVITIES	X	---
E.	DOCUMENT ACCEPTANCE OR REJECTION OF MECHANICAL FASTENERS	X	---
	** PERFORM - PERFORM THESE TASKS PRIOR TO FINAL ACCEPTANCE FOR EACH ITEM OR ELEMENT.		
	** OBSERVE - INSPECT THESE ITEMS ON AN INTERMITTENT BASIS. OPERATIONS NEED NOT BE DELAYED PENDING THESE INSPECTIONS. FREQUENCY OF OBSERVATIONS SHALL BE ADEQUATE TO CONFIRM THAT THE WORK HAS BEEN PERFORMED IN ACCORDANCE WITH THE APPLICABLE DOCUMENTS.		

Car Wash BUILDINGS
THE STEEL BUILDING DESIGN IS THE PROPERTY OF AND IS DEPICTED UNDER LICENSE WITH THE OWNER/DEVELOPER FROM CAR WASH BUILDINGS LLC.
www.CarWashBuildings.com

COWBOY EXPRESS CAR WASH

SW SUMMITCREST & SW HOLLYWOOD DRIVE
LEE'S SUMMIT, MO

REV/DATE/COMMENTS
08.28.2024 PERMIT SET

STATE OF MISSOURI
MAX N. LEHMAN
NUMBER PE-2019032924
PROFESSIONAL ENGINEER
08/28/2024

ENGINEER OF RECORD

DATE: 08.28.2024
SCALE:
DRAWN BY: CDH/BEM
CHECKED BY: WR/CF

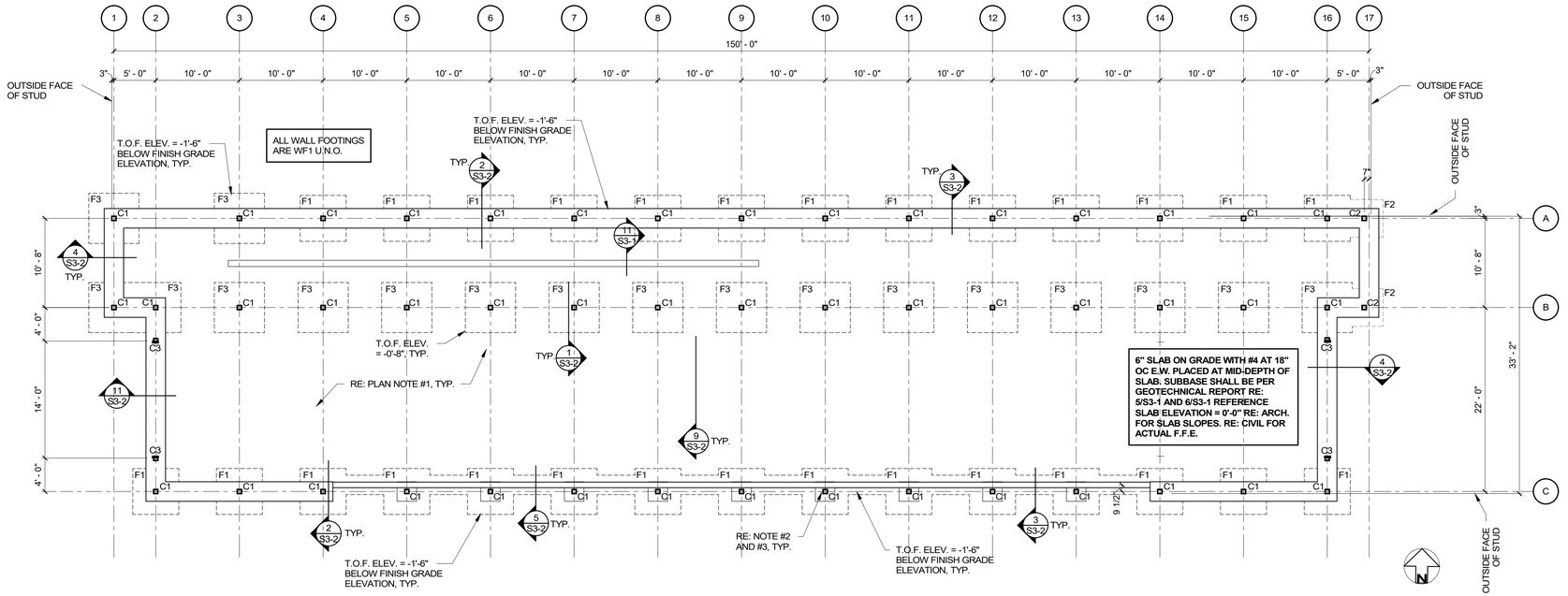
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SPECIAL INSPECTIONS

PERMIT SET ONLY

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1 FOUNDATION PLAN
1/8" = 1'-0"

FOUNDATION SHEET NOTES

A. TOP OF SLAB ELEVATIONS ARE INDICATED ON PLANS. REFERENCE SHEET S3-1 FOR TYPICAL CONCRETE AND SLAB DETAILS.
B. COORDINATE SLAB ELEVATIONS AND SLOPES WITH ARCHITECTURAL PLANS.
C. REFERENCE THIS SHEET FOR FOOTING (F), AND WALL FOOTING (WF) SCHEDULES.
D. REFERENCE THIS SHEET FOR COLUMN SCHEDULE AND BASEPLATE DIAGRAM.
E. SLAB HAS BEEN DESIGNED FOR LOADING IN THE FINAL CONDITION ONLY. USE OF HEAVY EQUIPMENT AND SCAFFOLDING, OR STORAGE OF MATERIALS THAT TRANSFER EXCESSIVE LOADS TO THE SLAB SHALL BE APPROVED BY THE ARCHITECT AND EOR PRIOR TO USE.
F. RE: CIVIL FOR TRASH ENCLOSURE SCREEN WALL SIZE AND LOCATION. RE: 7/S3-2 FOR SCREEN WALL DETAIL.
G. RE: 8/S3-2 FOR LIGHT POLE FOUNDATION DETAIL, RE: CIVIL FOR LOCATION.
H. RE: 10/S3-2 FOR VACUUM STANCHION DETAIL. RE: CIVIL FOR LOCATION.
I. RE: SHEET S0-1 FOR GENERAL NOTES AND DESIGN LOADS.
RE: SHEET S0-2 FOR SPECIAL INSPECTIONS.
J. STEP FOOTING AS REQUIRED FOR GRADES, PLUMBING, ETC. PER 6/S3-2. RE: LATEST CIVIL PLAN FOR FINAL GRADES. STEP FOOTING TO ACHIEVE BEARING DEPTH PER FOUNDATION GENERAL NOTES.

FOUNDATION PLAN NOTES

1. REFERENCE 7/S3-1 FOR SLAB BLOCKOUTS. SLAB AND WALL BLOCKOUTS AT COLUMNS SHALL BE SIZED AS REQUIRED TO PROPERLY INSTALL AND CONNECT COLUMNS.
2. CENTER OF COLUMN IS LOCATED ON GRID.
3. BASEPLATES SHALL BE GROUTED PER DETAILS AFTER COLUMNS ARE PLUMB, AND BEFORE ANY SIGNIFICANT LOADS ARE APPLIED.

STEEL COLUMN SCHEDULE

Mark	TYPE	BASE PLATE TYPE	BASE PLATE T	BASE PLATE W	BASE PLATE L	ANCHOR RODS NUMBER	ANCHOR RODS DIA.	ANCHOR BOLT EMBED	COLUMN BEARING ELEVATION	NOTES
C1	HSS6X6X1/4	A	1"	14"	1'-2"	4	1"	14"	-0'-8"	1, 2, 3
C2	HSS6X6X1/4	B	1"	14"	1'-2"	4	3/4"	9"	-0'-8"	1, 2, 3
C3	HSS8X2X1/4 / HSS6X4X3/16	C	1"	9"	1'-3"	4	3/4"	9"	-0'-8"	1, 2, 3

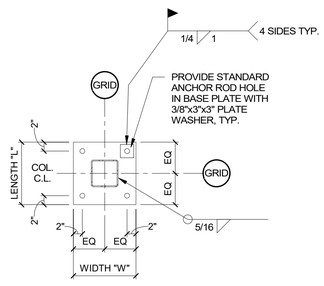
1. 1/8" THICK SETTING PLATES SHALL BE PROVIDED BY STEEL FABRICATOR AND USED AT ALL COLUMNS.
2. CONTRACTOR SHALL SET ANCHOR BOLT GROUP +/- 1/4" FROM GRIDLINES SHOWN ON PLAN PER STANDARD ACI TOLERANCES. ANY MISPLACED ANCHOR BOLTS SHALL BE REPAIRED FREE OF CHARGE TO OWNER.

FOOTING SCHEDULE

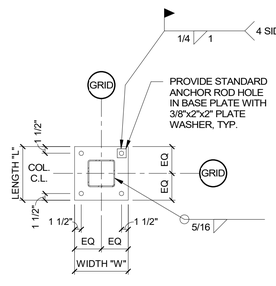
MARK	SIZE LENGTH	SIZE WIDTH	SIZE THICKNESS	BOTTOM REINFORCING LONGITUDINAL	BOTTOM REINFORCING TRANSVERSE	TOP REINFORCING LONGITUDINAL	TOP REINFORCING TRANSVERSE	NOTES
F1	5' - 6"	5' - 6"	1' - 6"	(6)#6	(6)#6	---	---	
F2	4' - 6"	4' - 6"	1' - 6"	(5)#6	(5)#6	---	---	
F3	6' - 0"	6' - 0"	1' - 6"	(6)#6	(6)#6	---	---	

WALL FOOTING SCHEDULE

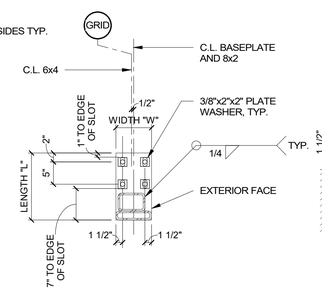
MARK	SIZE WIDTH	SIZE THICKNESS	BOTTOM REINFORCING CONTINUOUS	BOTTOM REINFORCING TRANSVERSE	TOP REINFORCING CONTINUOUS	TOP REINFORCING TRANSVERSE	NOTES
WF1	2' - 4"	1' - 6"	(3) #5	#5 AT 16" O.C.			



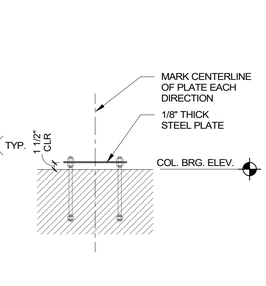
BASE PLATE TYPE A



BASE PLATE TYPE B



BASE PLATE TYPE C



SETTING PLATE

BASEPLATE DIAGRAM

Car Wash BUILDINGS
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www.CarWashBuildings.com

COWBOY EXPRESS CAR WASH

SW SUMMITCREST & SW HOLLYWOOD DRIVE
LEE'S SUMMIT, MO

REV/DATE/COMMENTS
08.28.2024 PERMIT SET

STATE OF MISSOURI · MAX N. LEHMAN · NUMBER PE-2019032924 · PROFESSIONAL ENGINEER
08/28/2024
ENGINEER OF RECORD

DATE: 08.28.2024
SCALE: As indicated
DRAWN BY: CDH/BEM
CHECKED BY: WR/CF

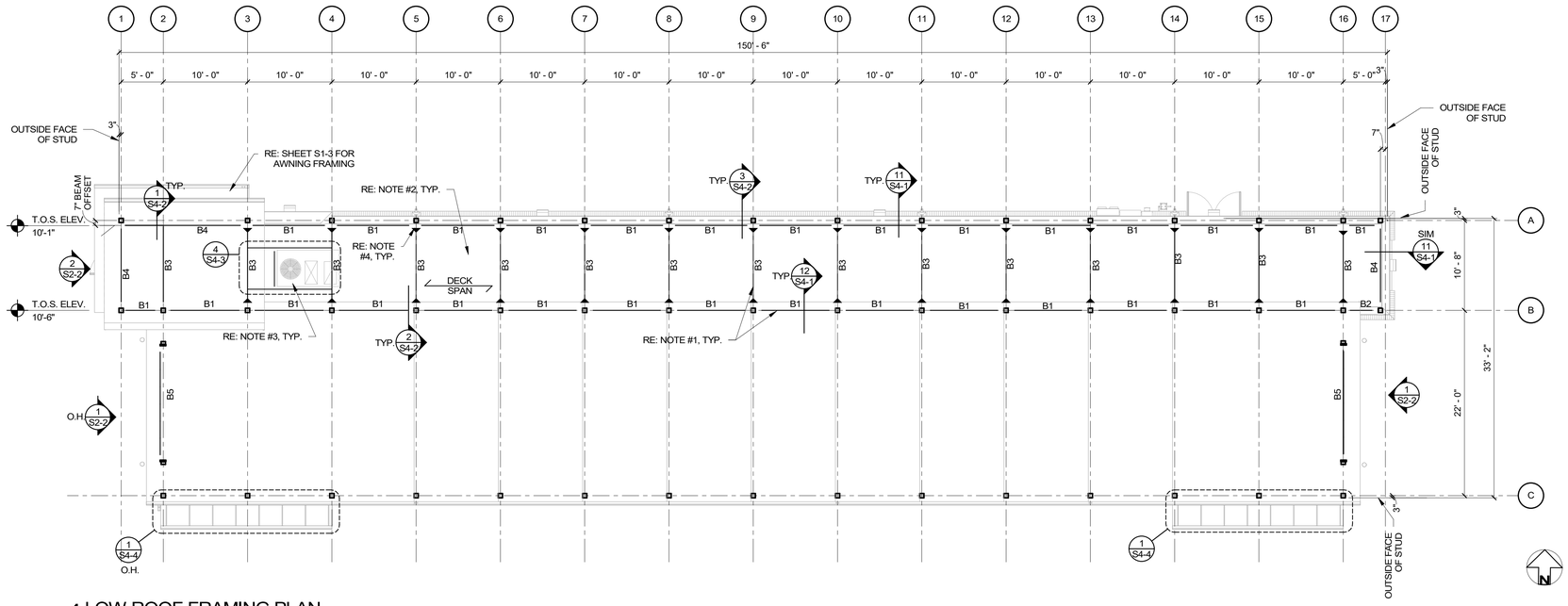
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SHEET
S1-1

FOUNDATION PLAN

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1 LOW ROOF FRAMING PLAN
1/8" = 1'-0"

LOW ROOF FRAMING SHEET NOTES

A. RE: SHEET S0-1 FOR GENERAL NOTES AND DESIGN LOADS.
RE: SHEET S0-2 FOR SPECIAL INSPECTIONS.
B. RE: S2-1 AND S2-2 FOR ALL TUBE RADII.
C. RE: ARCHITECTURAL AND MEP DRAWINGS FOR SIZE AND LOCATION OF ROOF PENETRATIONS.
RE: 2/S4-3, 3/S4-3 AND 4/S4-3 FOR FRAMING.
D. VERIFY AND COORDINATE ROOF TOP EQUIPMENT WITH MEP DRAWINGS FOR EXACT LOCATIONS. CONTACT ARCHITECT AND EOR IF LOCATIONS OR WEIGHTS DIFFER FROM INFORMATION SHOWN ON STRUCTURAL PLANS.

LOW ROOF FRAMING PLAN NOTES

1. RE: BEAM SCHEDULE FOR ALL BEAM SIZES.
2. VULCRAFT 3N18 OR EQUIVALENT. FASTEN TO SUPPORTS WITH HILTI X-HSN 24 PIN IN A 32/5 PATTERN PERPENDICULAR TO DECK FLUTES, 12" O.C. PARALLEL TO DECK FLUTES. FASTEN SIDELAPS WITH #10 SCREW AT 12" O.C., RE: 1/S4-3
3. VERIFY LOCATIONS AND OPENING SIZE WITH MEP DRAWINGS.
4. ▲ MOMENT CONNECTIONS REQUIRED AT BEAM TO COLUMN, RE: DETAILS. RE: STEEL GENERAL NOTE #12.

BEAM SCHEDULE

MARK	BEAM SIZE	NOTES
B1	W8X10	--
B2	W8X10	--
B3	W12X19	--
B4	W12X14	--
B5	HSS8X2X3/8	1, 2
B6	HSS4X2X3/16	--
B7	HSS6X2X1/4	2
B8	HSS8X6X3/8	1
B9	HSS8X2X3/16	--
B10	HSS8X2X3/8	1
B11	HSS8X6X1/4	--
B12	HSS4X2X5/16	--

NOTES:
1. ROLL TO RADIUS, RE: FRAMING ELEVATIONS
2. HSS SHALL HAVE LONG DIMENSION HORIZONTAL

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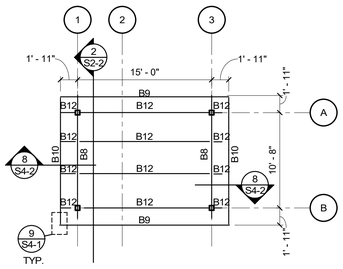
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SHEET
S1-2

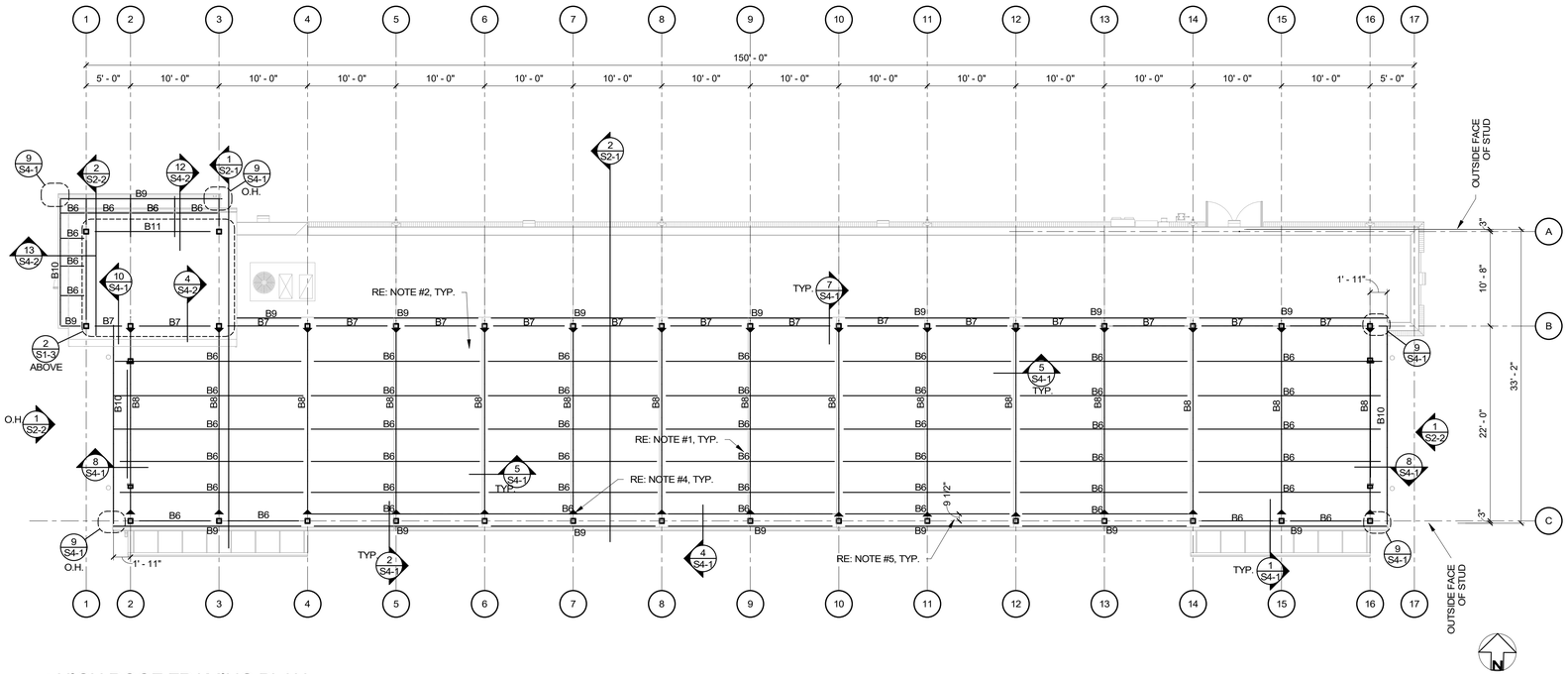
LOW FRAMING PLAN

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2 CLERESTORY ROOF FRAMING PLAN
1/8" = 1'-0"



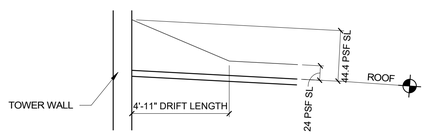
1 HIGH ROOF FRAMING PLAN
1/8" = 1'-0"

HIGH ROOF FRAMING SHEET NOTES

A. RE: SHEET S0-1 FOR GENERAL NOTES AND DESIGN LOADS.
   RE: SHEET S0-2 FOR SPECIAL INSPECTIONS.
B. RE: S2-1 AND S2-2 FOR ALL TUBE RADII.
C. RE: ARCHITECTURAL AND MEP DRAWINGS FOR SIZE AND LOCATION OF ROOF PENETRATIONS.
D. VERIFY AND COORDINATE ROOF TOP EQUIPMENT WITH MEP DRAWINGS FOR EXACT LOCATIONS. CONTACT ARCHITECT AND EOR IF LOCATIONS OR WEIGHTS DIFFER FROM INFORMATION SHOWN ON STRUCTURAL PLANS.

HIGH ROOF FRAMING PLAN NOTES

1. RE: BEAM SCHEDULE ON SHEET S1-2 FOR ALL BEAM SIZES.
2. POLYCARBONATE ROOFING PANELS, RE: ARCH. DRAWINGS. POLYCARBONATE ROOF MANUFACTURER SHALL VERIFY THAT ROOFING PANELS AND ATTACHMENT ARE ADEQUATE TO MEET GRAVITY, SNOW AND WIND LOADS AS SHOWN ON S0-1.
3. VERIFY LOCATIONS AND OPENING SIZE WITH MEP DRAWINGS.
4. ⊥ MOMENT CONNECTIONS REQUIRED AT BEAM TO COLUMN, RE: DETAILS. RE: STEEL GENERAL NOTE #12.
5. OFFSET PURLIN AS SHOWN TO BE ABOVE WALL FRAMING, RE: 4/S4-1



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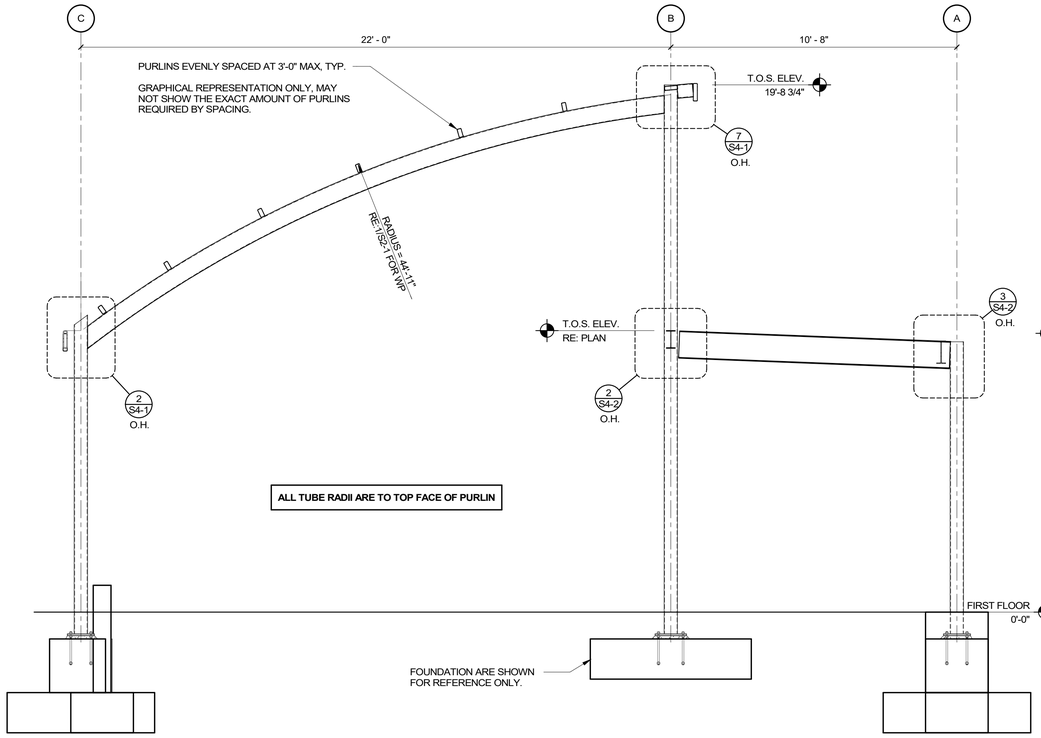
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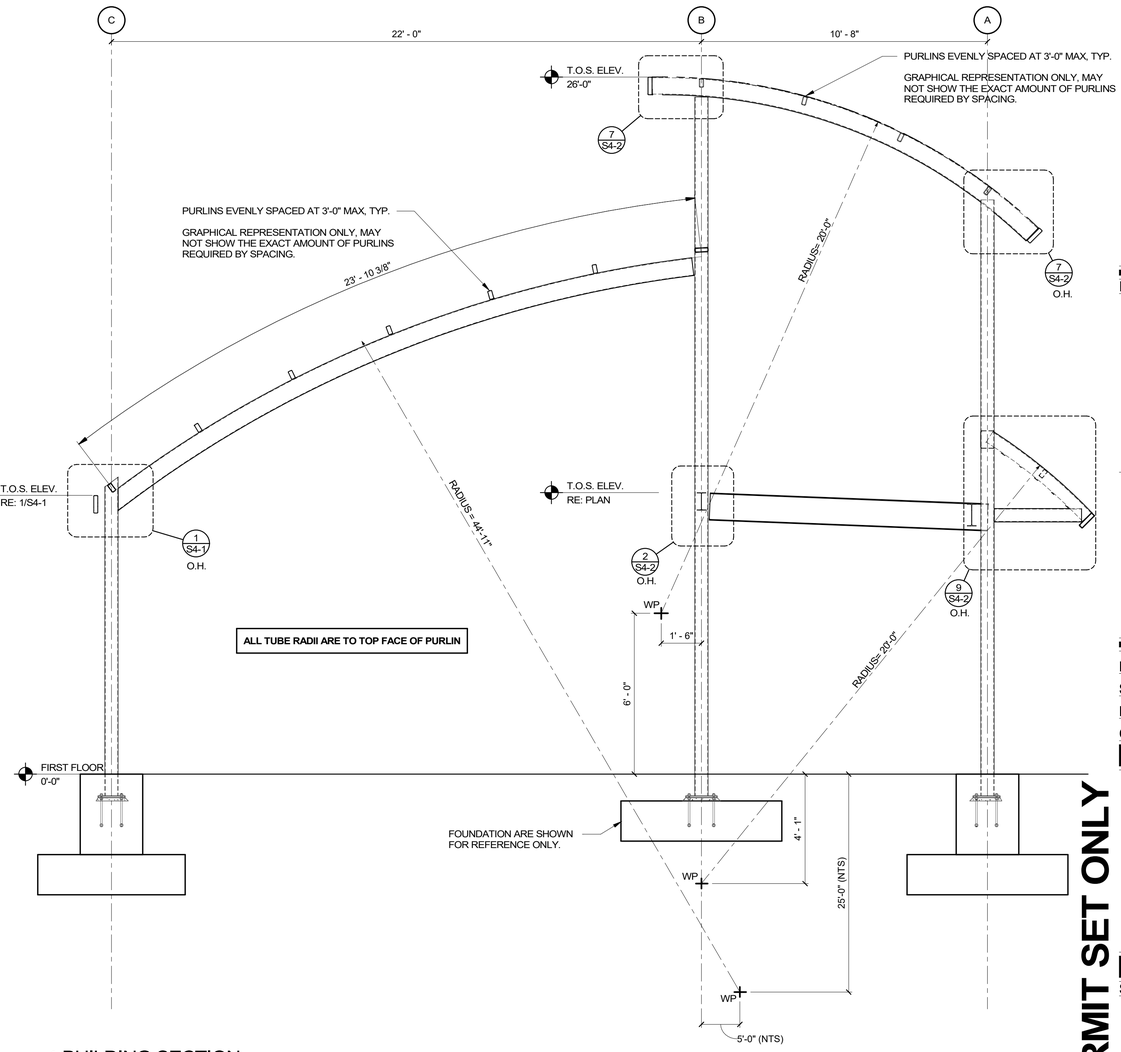
SHEET
S1-3

HIGH ROOF FRAMING PLAN

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2 BUILDING SECTION
3/8" = 1'-0"



1 BUILDING SECTION
3/8" = 1'-0"

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SCALE:	3/8" = 1'-0"
DRAWN BY:	CDH/BEM
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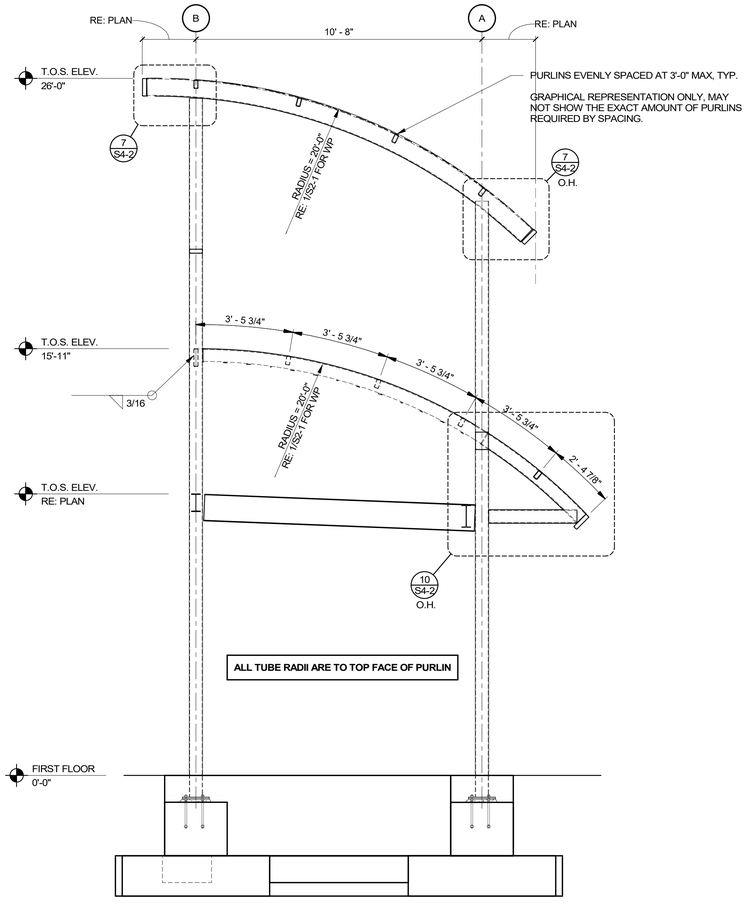
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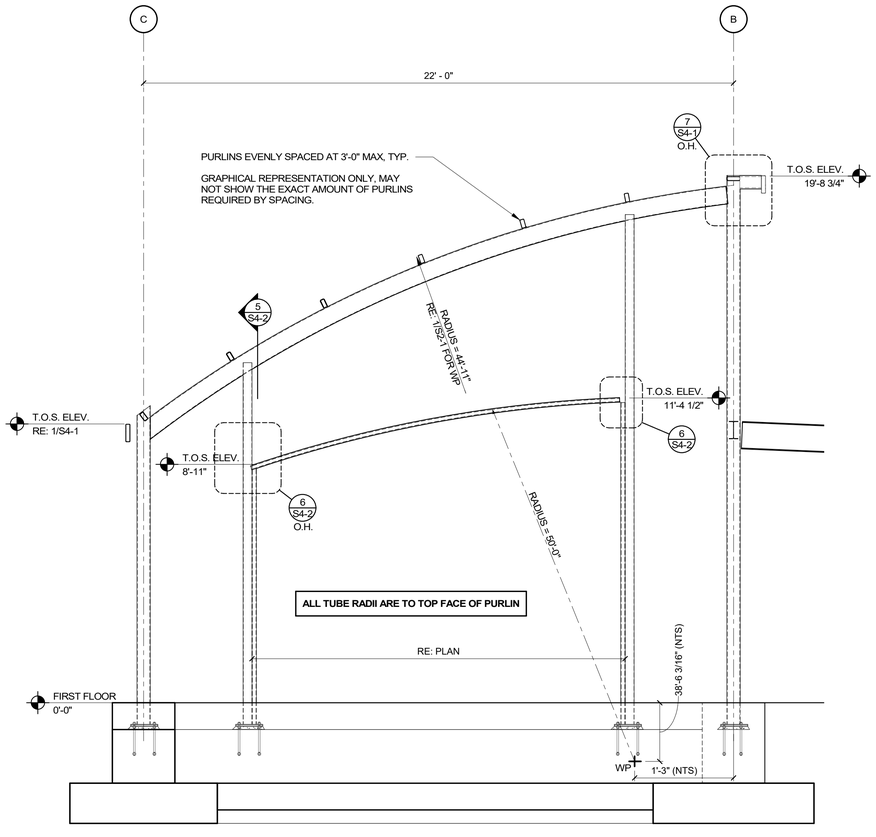
SHEET

S2-1

BUILDING SECTIONS



2 BUILDING SECTION
3/8" = 1'-0"



1 BUILDING SECTION
3/8" = 1'-0"

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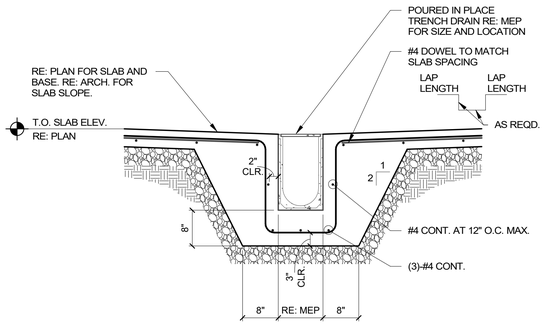
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SHEET
S2-2

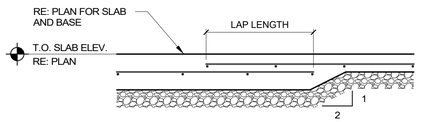
BUILDING SECTIONS

PERMIT SET ONLY

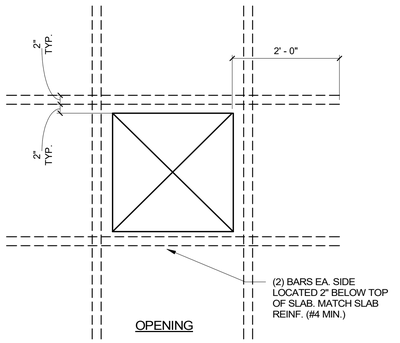
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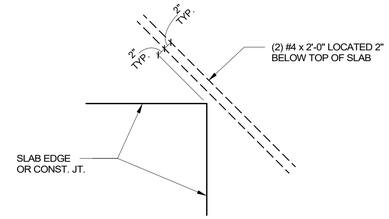
11 TRENCH DRAIN REINFORCING DETAIL
3/4" = 1'-0"



10 SECTION AT SLAB THICKNESS TRANSITION
3/4" = 1'-0"

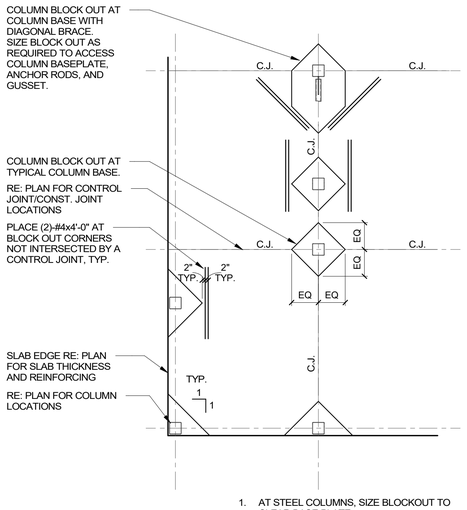


OPENING



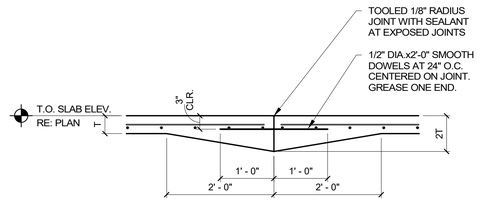
RE-ENTRANT CORNER

8 TYPICAL SLAB ON GRADE CORNER BAR
3/4" = 1'-0"

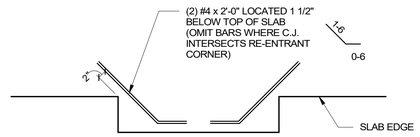


1. AT STEEL COLUMNS, SIZE BLOCKOUT TO CLEAR BASE PLATE.
2. FOR BLOCKOUTS GREATER THAN 3'-0" IN WIDTH, PROVIDE SLAB REINF. IN BLOCKOUT

7 TYPICAL COLUMN BLOCKOUT
1/4" = 1'-0"

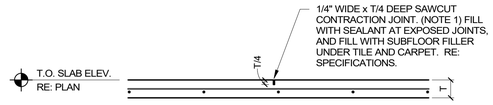


CONSTRUCTION JOINT (CONST. JT.)



TYPICAL RE-ENTRANT CORNER REINFORCING AT DOOR

9 SLAB REINFORCEMENT
3/4" = 1'-0"

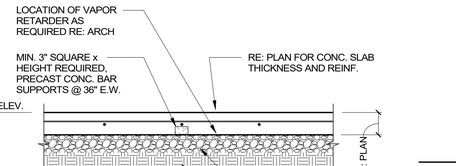


CONTRACTION JOINT (C.J.)

NOTES:

1. PROVIDE TOOLED JOINT OR SAWCUT AS SOON AS THE CONCRETE HAS HARDENED SUFFICIENTLY TO PERMIT CUTTING WITHOUT CHIPPING, SPALLING, OR TEARING. (BUT NO MORE THAN 12 HOURS AFTER CASTING)
2. U.N.O ON PLAN, SPACING OF JOINTS SHALL NOT EXCEED 15'-0" O.C. IN EACH DIRECTION NOR HAVE AN ASPECT RATIO OF GREATER THAN 2. IF NOT SHOWN, CONTRACTOR SHALL SUBMIT A PROPOSED LAYOUT TO THE ARCHITECT FOR APPROVAL.
3. LOCATE CONSTRUCTION JOINTS AT DESIGNATED CONTRACTION JOINT LOCATION.

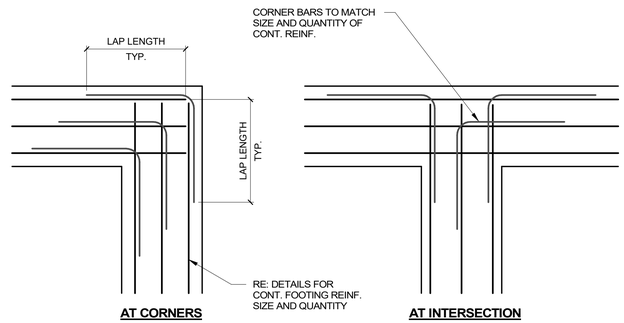
6 TYPICAL SLAB JOINT DETAIL
3/4" = 1'-0"



NOTES:

1. FREE DRAINING GRANULAR MATERIAL SHALL BE WELL GRADED COURSE SAND AND GRAVEL CONTAINING LESS THAN 5% FINES.

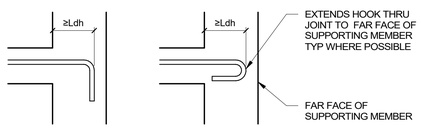
5 TYPICAL SLAB ON GRADE DETAIL
3/4" = 1'-0"



4 TYPICAL CORNER BAR DETAIL
3/4" = 1'-0"

STANDARD HOOK DEVELOPMENT LENGTH (Ldh)				
BAR SIZE	3000psi	4000psi	5000psi	6000psi
#3	9"	8"	7"	6"
#4	11"	10"	9"	8"
#5	14"	12"	11"	10"
#6	17"	15"	13"	12"
#7	20"	17"	15"	14"
#8	22"	19"	17"	16"
#9	25"	22"	19"	18"
#10	28"	23"	22"	20"
#11	31"	27"	24"	22"

NOTES:
1. DEVELOPMENT LENGTHS IN TABLE ARE FOR NORMAL WEIGHT CONCRETE. WHERE LIGHTWEIGHT AGGREGATE CONCRETE IS USED, MULTIPLY VALUES BY 1.3.
2. HOOK EMBEDMENT LENGTHS MAY BE MULTIPLIED BY 0.7 FOR 90- OR 180-DEGREE HOOKS WITH 2 1/2" OR GREATER SIDE COVER, AND FOR 90-DEGREE HOOKS WITH 2" OR GREATER COVER ON THE BAR EXTENSION.
3. MULTIPLY VALUES IN SCHEDULE BY 1.2 FOR USE WITH EPOXY COATED REBAR.
4. TABULATED LENTHS ARE GIVEN FOR REINFORCEMENT WITH Fy = 60 KSI. FOR REINFORCEMENT WITH Fy= 75 KSI, MULTIPLY VALUES BY 1.25.



3 STANDARD HOOK EMBEDMENT SCHEDULE
3/4" = 1'-0"

STIRRUP & TIE HOOKS AND BENDS			
BAR SIZE	D	90° HOOK DIM	135° HOOK DIM
#3	1 1/2"	4"	3"
#4	2"	4 1/2"	3"
#5	2 1/2"	6"	3 3/4"
#6	4 1/2"	12"	4 1/2"
#7	5 1/4"	14"	5 1/4"
#8	6"	16"	6"

NOTES:
1. D= INSIDE BEND DIAMETER
2. USE ONLY FOR STIRRUPS AND TIES

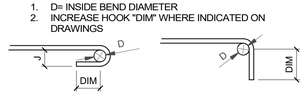


90° HOOK 135° HOOK

STIRRUP & TIE HOOKS AND BENDS

STANDARD HOOK DIMENSIONS				
BAR SIZE	D	90° HOOK DIM	180° HOOK DIM	180° HOOK J
#3	2 1/4"	6"	3"	3"
#4	3"	8"	4"	4"
#5	3 3/4"	5"	5"	5"
#6	4 1/2"	12"	6"	6"
#7	5 1/4"	14"	7"	7"
#8	6"	16"	8"	8"
#9	9 1/2"	19 1/4"	11 1/2"	11 3/4"
#10	10 3/4"	22"	12 1/4"	13 1/4"

NOTES:
1. D= INSIDE BEND DIAMETER
2. INCREASE HOOK "DIM" WHERE INDICATED ON DRAWINGS



180° HOOK 90° HOOK

STANDARD HOOKS

2 REINFORCING BAR HOOKS AND BENDS
3/4" = 1'-0"

CONCRETE REINFORCING LAP LENGTH SCHEDULE										
	STRUCTURAL ELEMENT MINIMUM COMPRESSIVE STRENGTH (f'c)									
BAR SIZE	3000psi		4000psi		4500psi		5000psi		7000psi	
	TOP BARS	OTHER	TOP BARS	OTHER	TOP BARS	OTHER	TOP BARS	OTHER	TOP BARS	OTHER
#3	28"	22"	25"	19"	23"	18"	22"	17"	19"	14"
#4	38"	29"	33"	25"	31"	24"	29"	23"	25"	19"
#5	47"	36"	41"	31"	38"	30"	36"	28"	31"	24"
#6	56"	43"	49"	37"	46"	35"	44"	34"	37"	28"
#7	81"	63"	71"	54"	67"	51"	63"	49"	54"	41"
#8	93"	72"	81"	62"	76"	59"	72"	56"	61"	47"
#9	105"	81"	91"	70"	86"	66"	81"	63"	69"	53"
#10	118"	91"	102"	79"	96"	74"	92"	71"	77"	60"

NOTES:
1. LAP LENGTH FOR TOP BARS SHALL BE USED WHEN MORE THAN 12 INCHES OF FRESH CONCRETE IS PLACED BELOW HORIZONTAL REINFORCEMENT.

1 CONCRETE REINFORCING LAP SCHEDULE
3/4" = 1'-0"

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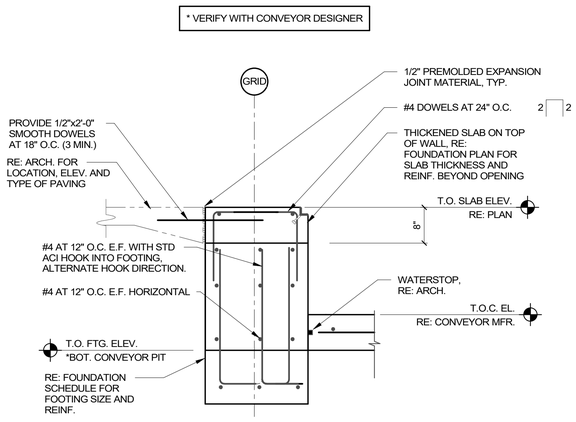
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S3-1

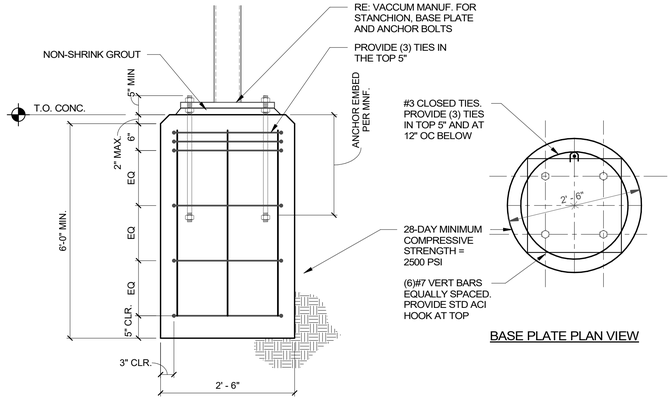
CONCRETE DETAILS

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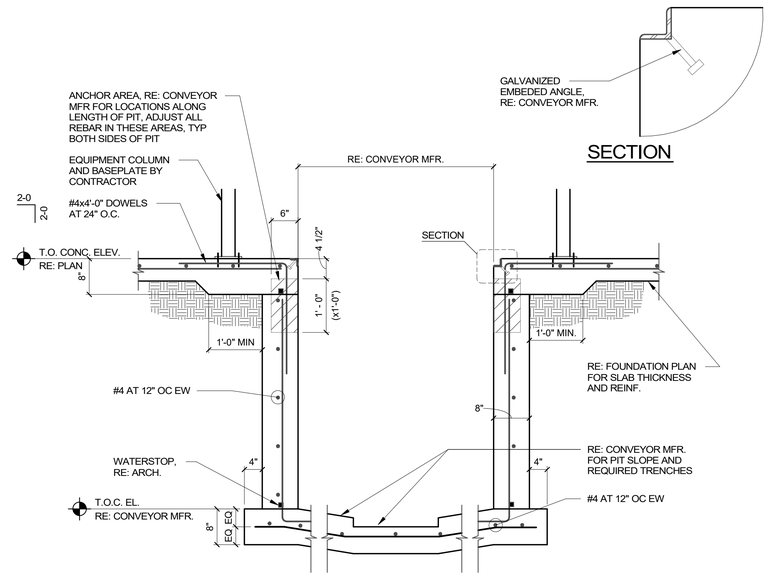
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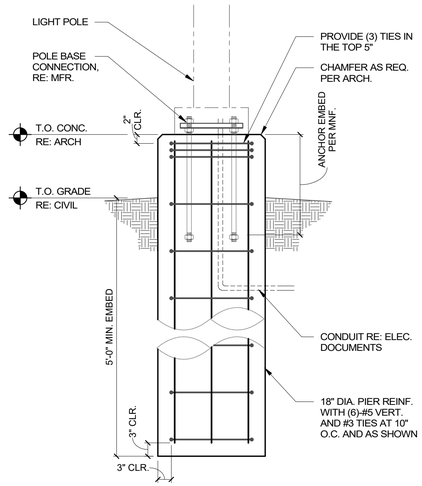
11 FOUNDATION DETAIL AT TUNNEL OPENING
3/4" = 1'-0"



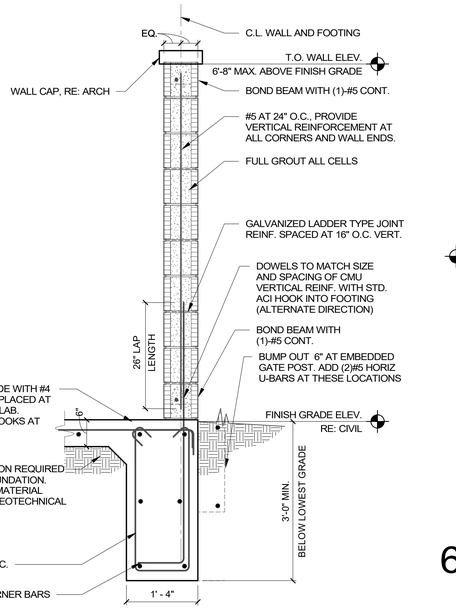
10 VACUUM STANCHION DETAIL
3/4" = 1'-0"



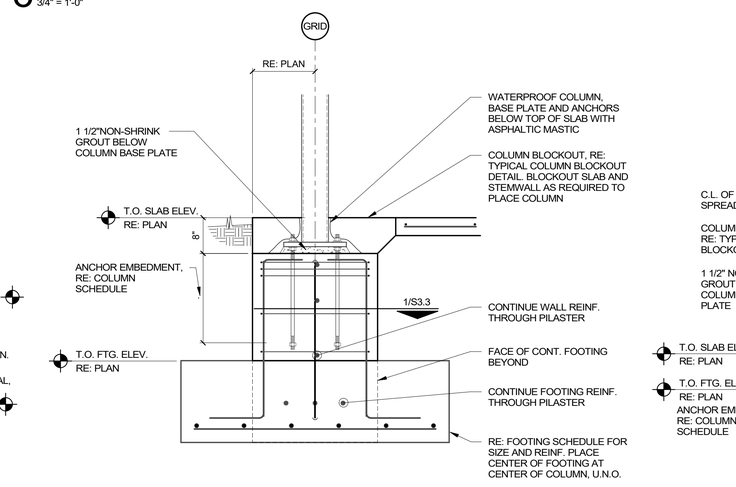
9 CONVEYOR PIT FOUNDATION
3/4" = 1'-0"



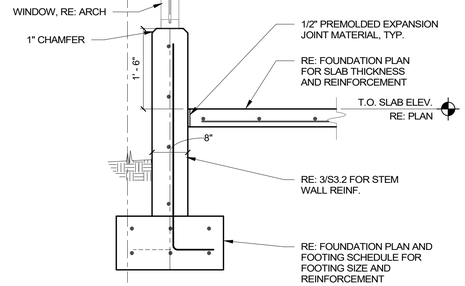
8 LIGHT POLE DETAIL
3/4" = 1'-0"



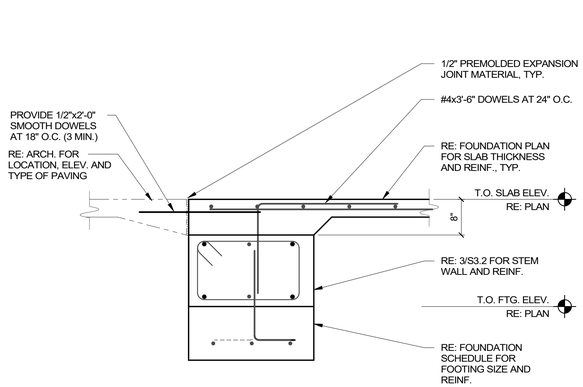
7 SECTION AT MASONRY SCREEN WALL
3/4" = 1'-0"



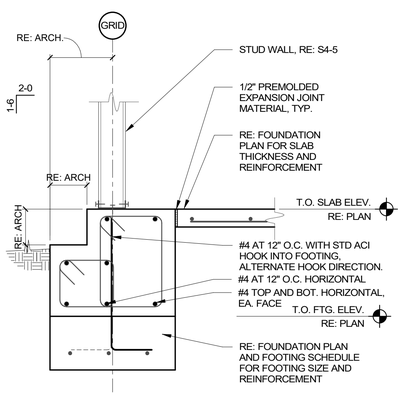
6 TYPICAL FOOTING STEP DETAIL
3/4" = 1'-0"



5 FOUNDATION DETAIL
3/4" = 1'-0"

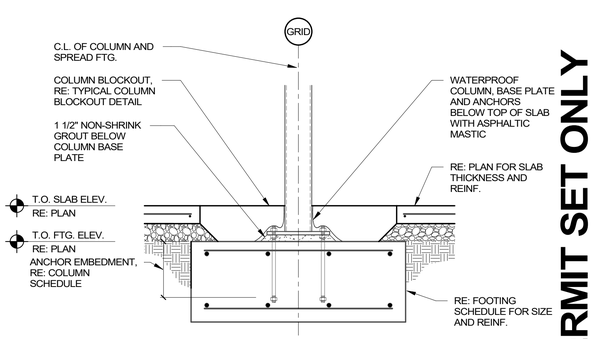


4 FOUNDATION DETAIL AT WALL OPENING
3/4" = 1'-0"



3 FOUNDATION DETAIL
3/4" = 1'-0"

2 FOUNDATION DETAIL
3/4" = 1'-0"



1 FOUNDATION DETAIL
3/4" = 1'-0"

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COWBOY EXPRESS CAR WASH

SW SUMMITCREST & SW HOLLYWOOD DRIVE
LEE'S SUMMIT, MO

REV/DATE/COMMENTS
08.28.2024 PERMIT SET

STATE OF MISSOURI
MAX N. LEHMAN
NUMBER PE-2010032924
PROFESSIONAL ENGINEER
08/28/2024

ENGINEER OF RECORD

DATE:	**08.28.2024**
SCALE:	**As indicated**
DRAWN BY:	**CDH/BEM**
CHECKED BY:	**WR/CF**

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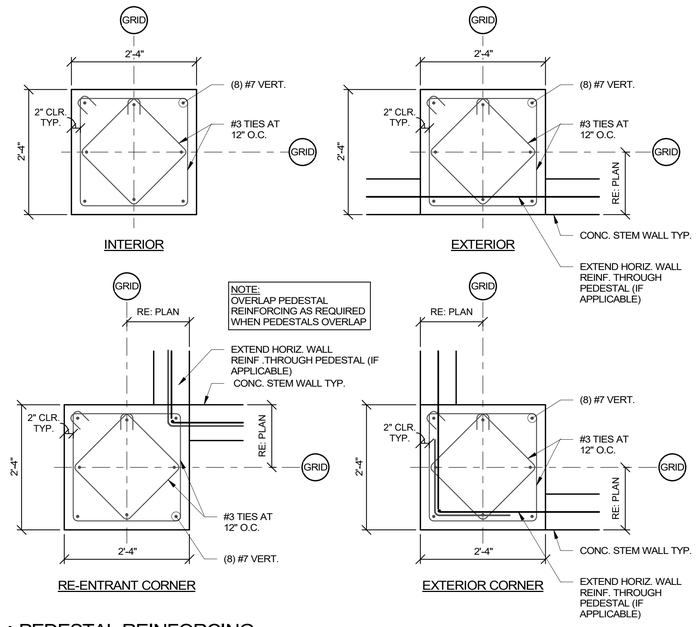
SHEET

S3-2

FOUNDATION DETAILS

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1 PEDESTAL REINFORCING
3/4" = 1'-0"

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08.28.2024 PERMIT SET

STATE OF MISSOURI
MAX N. LEHMAN
NUMBER PE-2019032924
PROFESSIONAL ENGINEER
08/28/2024

ENGINEER OF RECORD

DATE: 08.28.2024
SCALE: 3/4" = 1'-0"
DRAWN BY: CDH/BEM
CHECKED BY: WR/CF

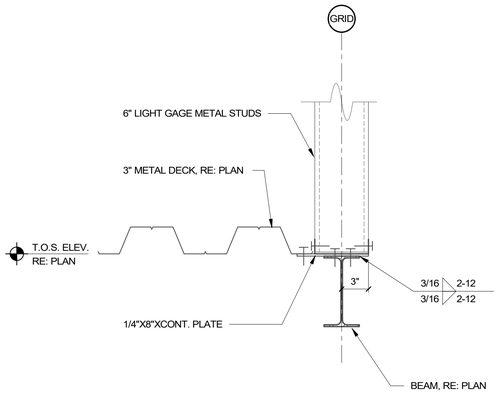
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SHEET
S3-3

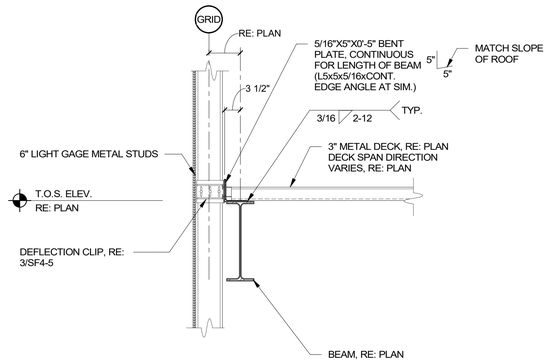
FOUNDATION DETAILS

PERMIT SET ONLY

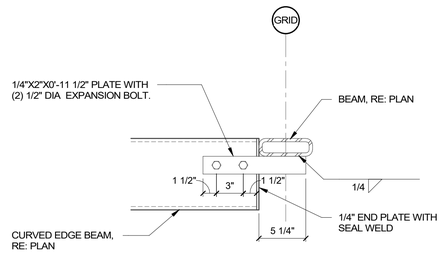
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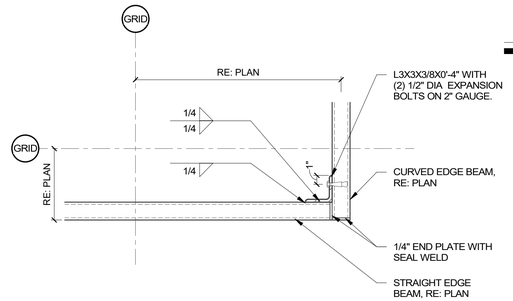
12 EDGE BEAM TO WALL
1 1/2" = 1'-0"



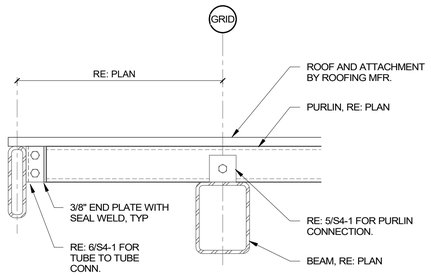
11 EDGE BEAM TO WALL
3/4" = 1'-0"



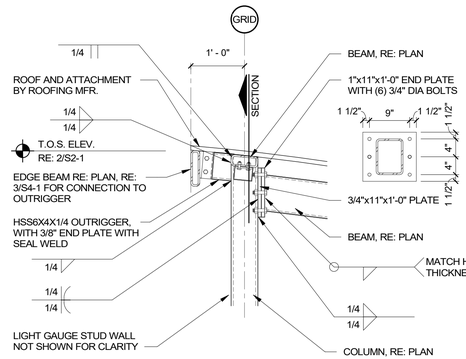
10 FRAMING DETAIL
1 1/2" = 1'-0"



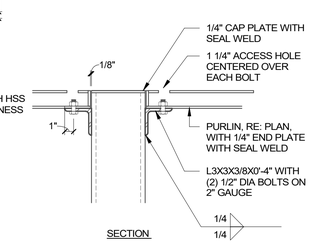
9 FRAMING DETAIL
1 1/2" = 1'-0"

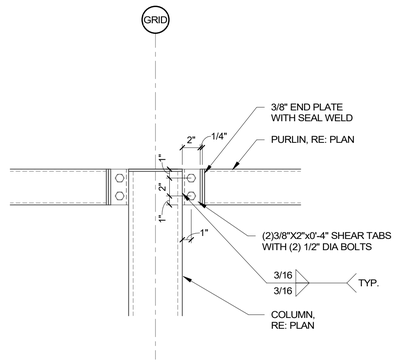


8 FRAMING DETAIL
1 1/2" = 1'-0"

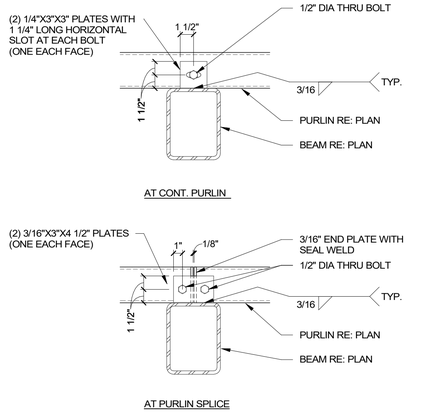


7 FRAMING DETAIL
3/4" = 1'-0"

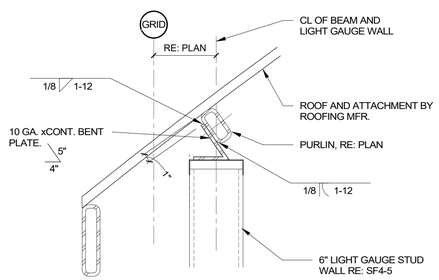




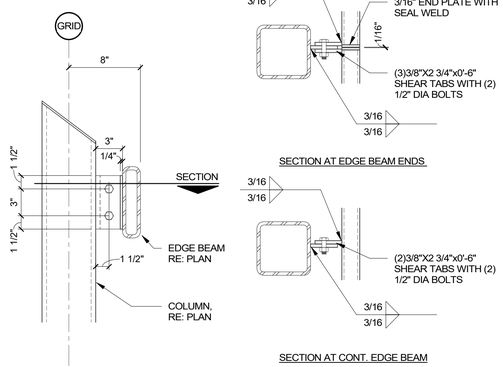
6 FRAMING DETAIL
1 1/2" = 1'-0"



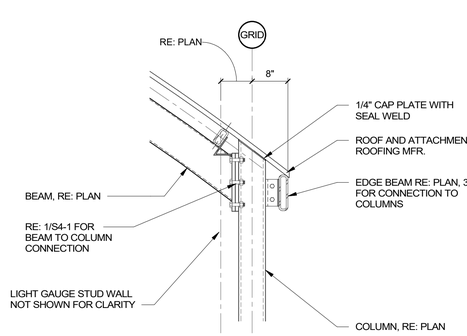
5 FRAMING DETAIL
1 1/2" = 1'-0"



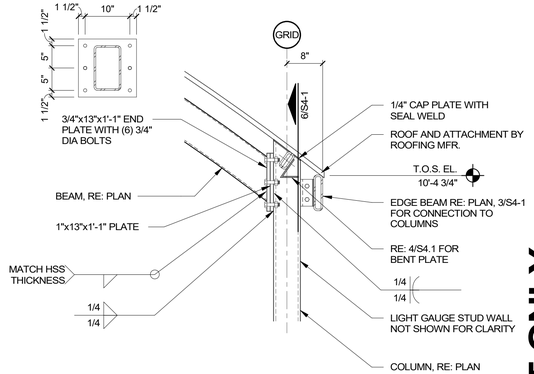
4 FRAMING DETAIL
1 1/2" = 1'-0"



3 FRAMING DETAIL
1 1/2" = 1'-0"



2 FRAMING DETAIL
3/4" = 1'-0"



1 FRAMING DETAIL
3/4" = 1'-0"

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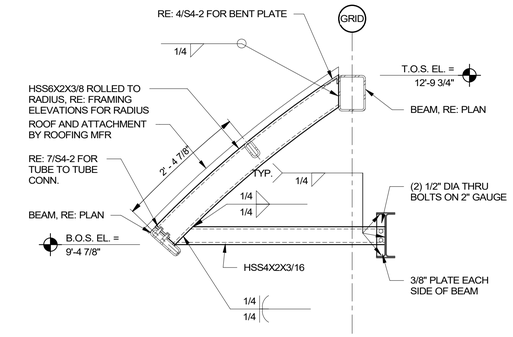
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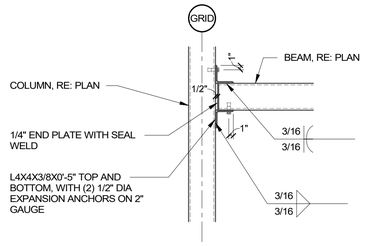
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S4-1

FRAMING DETAILS

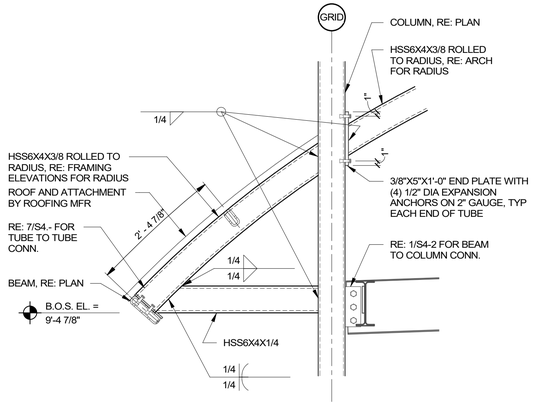
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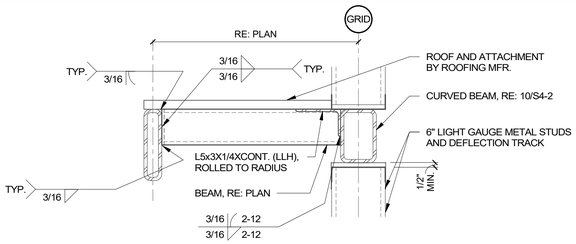
12 FRAMING DETAIL
3/4" = 1'-0"



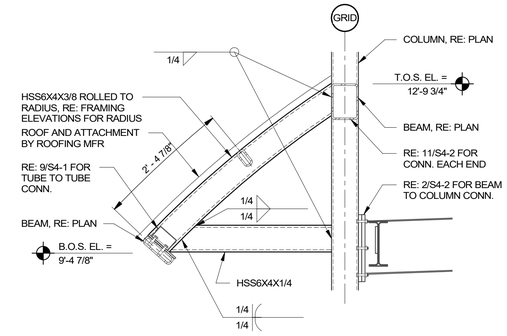
11 FRAMING DETAIL
3/4" = 1'-0"



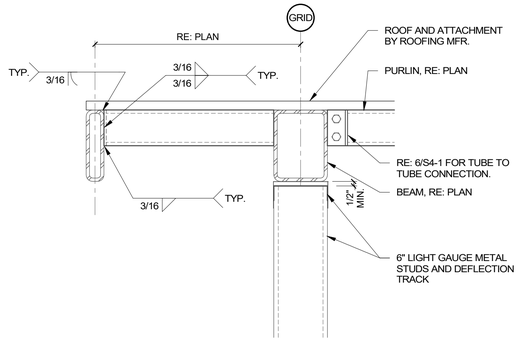
10 FRAMING DETAIL
3/4" = 1'-0"



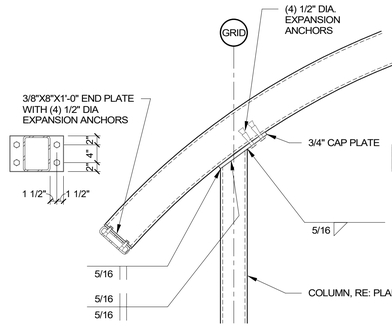
13 FRAMING DETAIL
1 1/2" = 1'-0"



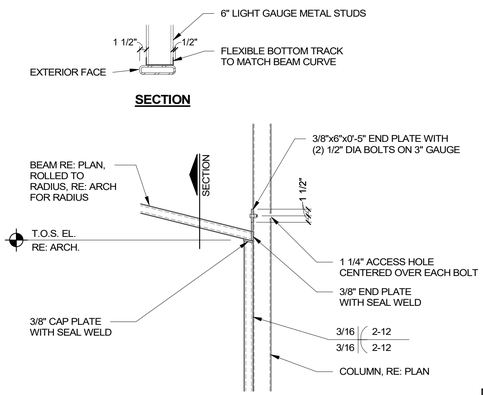
9 FRAMING DETAIL
3/4" = 1'-0"



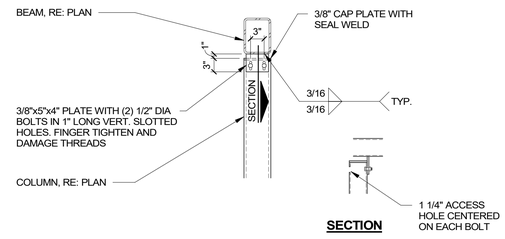
8 FRAMING DETAIL
1 1/2" = 1'-0"



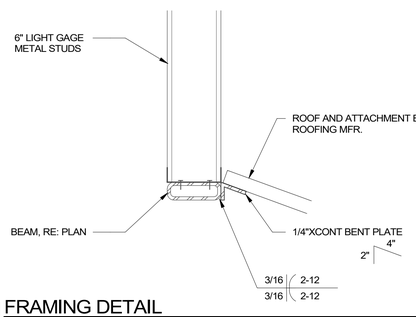
7 FRAMING DETAIL
3/4" = 1'-0"



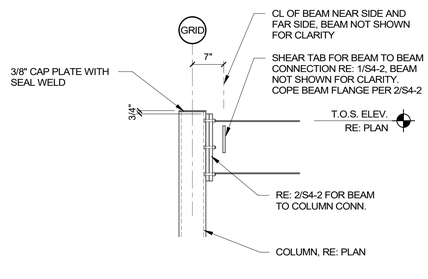
6 FRAMING DETAIL
3/4" = 1'-0"



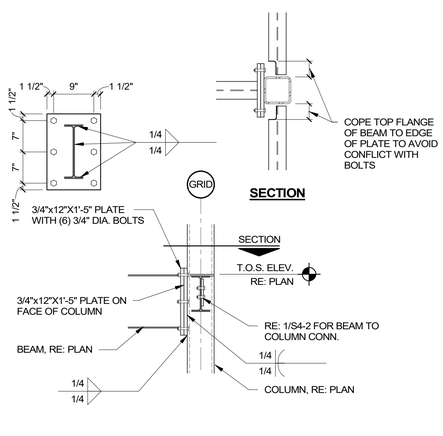
5 FRAMING DETAIL
3/4" = 1'-0"



4 FRAMING DETAIL
1 1/2" = 1'-0"



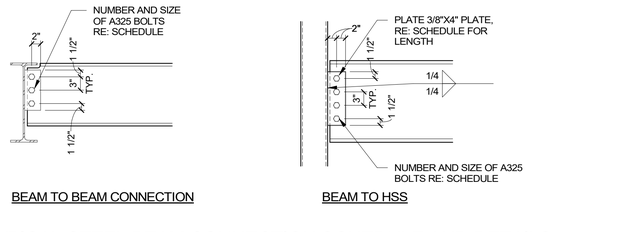
3 COLUMN/BEAM CONNECTION
3/4" = 1'-0"



2 COLUMN/BEAM CONNECTION
3/4" = 1'-0"

STEEL BEAM MINIMUM CONNECTION SCHEDULE				
BEAM	BOLT DIA.	NUMBER OF BOLTS	PLATE LENGTH	NOTE
W8	3/4"	2	6"	1,2
W10	3/4"	2	6"	1,2
W12	3/4"	3	9"	1,2
W14	3/4"	3	9"	1
W16	3/4"	4	12"	1
W18	3/4"	4	15"	1

BEAM MINIMUM CONNECTION SCHEDULE NOTES:
1. UNLESS INDICATED ON FRAMING PLAN AND CORRESPONDING DETAILS OR NOTES BELOW, SCHEDULE INDICATES THE MINIMUM NUMBER OF BOLTS ALLOWED FOR BEAM CONNECTIONS.
2. MINIMUM BOLT SCHEDULE APPLIES TO CHANNEL SECTIONS OF SAME NOMINAL DEPTHS, U.N.O.



1 TYPICAL STEEL BEAM CONNECTION SCHEDULE AND DETAILS
3/4" = 1'-0"

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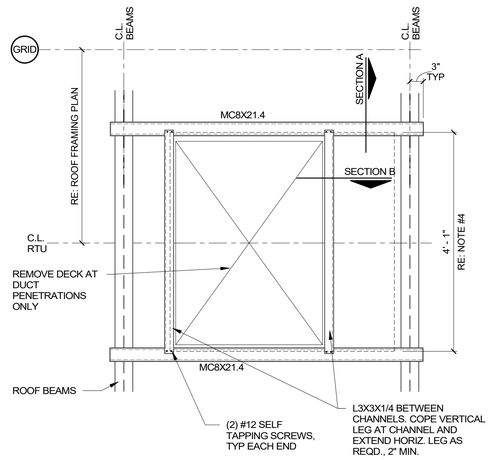
DATE: 08.28.2024
SCALE: As indicated
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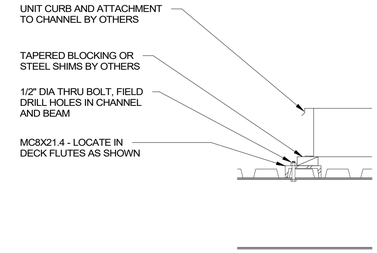
SHEET
S4-2

FRAMING DETAILS

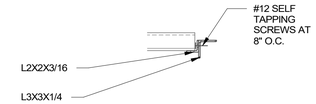
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UNIT - PLAN VIEW
N.T.S.



SECTION A

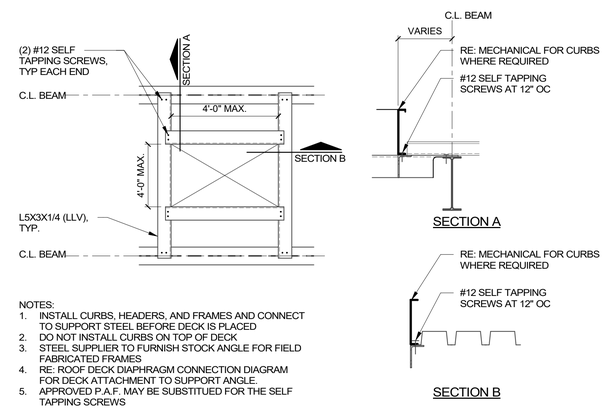


SECTION B

RTU SUPPORT NOTES:

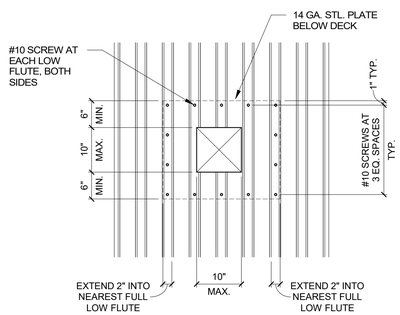
1. INSTALL MC8X21.4 CHANNELS AFTER DECK PLACEMENT.
2. POSITION CURB OVER CHANNELS AND LOCATE REQUIRED DUCT PENETRATIONS THRU ROOF. RE: MECHANICAL DRAWINGS FOR EXACT SIZES.
3. REMOVE DECK AT DUCT PENETRATION LOCATIONS AS REQUIRED. DECK SUPPORT ANGLE MAY BE OMITTED IF EDGE OF PENETRATION IS WITHIN 6 INCHES OF A BEAM.
4. THE DIMENSIONS SHOWN AT EACH ROOF TOP UNIT ARE NOT INTENDED TO PROVIDE EXACT LOCATIONS OF STEEL FRAMING FOR SUPPORT OF THE UNIT CURBS. LOCATION OF STEEL FRAMING SHALL BE COORDINATED WITH THE MECHANICAL CONTRACTOR.
5. APPROVED P.A.F. MAY BE SUBSTITUTED FOR SELF TAPPING SCREWS.

4 TYPICAL ROOF TOP UNIT AND DECK SUPPORT
3/4" = 1'-0"



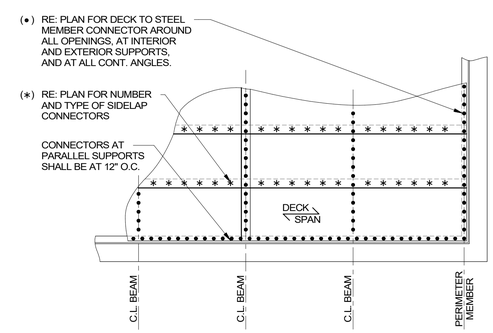
NOTES:
1. INSTALL CURBS, HEADERS, AND FRAMES AND CONNECT TO SUPPORT STEEL BEFORE DECK IS PLACED
2. DO NOT INSTALL CURBS ON TOP OF DECK
3. STEEL SUPPLIER TO FURNISH STOCK ANGLE FOR FIELD FABRICATED FRAMES
4. RE: ROOF DECK DIAPHRAGM CONNECTION DIAGRAM FOR DECK ATTACHMENT TO SUPPORT ANGLE.
5. APPROVED P.A.F. MAY BE SUBSTITUTED FOR THE SELF TAPPING SCREWS

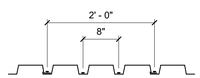
3 TYPICAL OPENING IN ROOF DECK LARGER THAN 10"x10"
NTS



NOTES:
1. PLATE MAY BE LOCATED ABOVE DECK AT CONTRACTOR'S OPTION
2. PLATE IS NOT REQUIRED IF OPENING IS 6" OR LESS. IF TWO OR MORE OPENINGS THAT ARE 6" OR LESS ARE CUT IN THE SAME DECK FLUTE AND ARE LOCATED WITHIN THE SAME SPAN OF DECK BETWEEN SUPPORT POINTS THEN THE PLATE IS REQUIRED.

2 TYPICAL OPENING IN DECK LESS THAN 10"x10"
3/4" = 1'-0"





3N CONNECTOR
PATTERN DIAGRAM (24/4)

1 ROOF DECK DIAPHRAGM CONNECTION DIAGRAM
3/4" = 1'-0"

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LEE'S SUMMIT, MO

REV/DATE/COMMENTS
08.28.2024 PERMIT SET

STATE OF MISSOURI
MAX N. LEHMAN
NUMBER PE-2019032924
PROFESSIONAL ENGINEER
08/28/2024

ENGINEER OF RECORD

DATE: 08.28.2024
SCALE: As indicated
DRAWN BY: CDH/BEM
CHECKED BY: WR/CF

wallace design collective
wallace design collective, pc
structural · civil · landscape · survey
9800 pyramid court, suite 350
englewood, colorado 80112
303.350.1690 · 800.364.5858

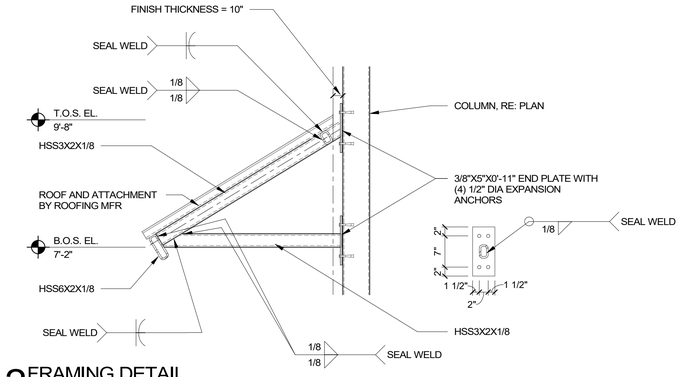
PERMIT SET ONLY

SHEET
S4-3

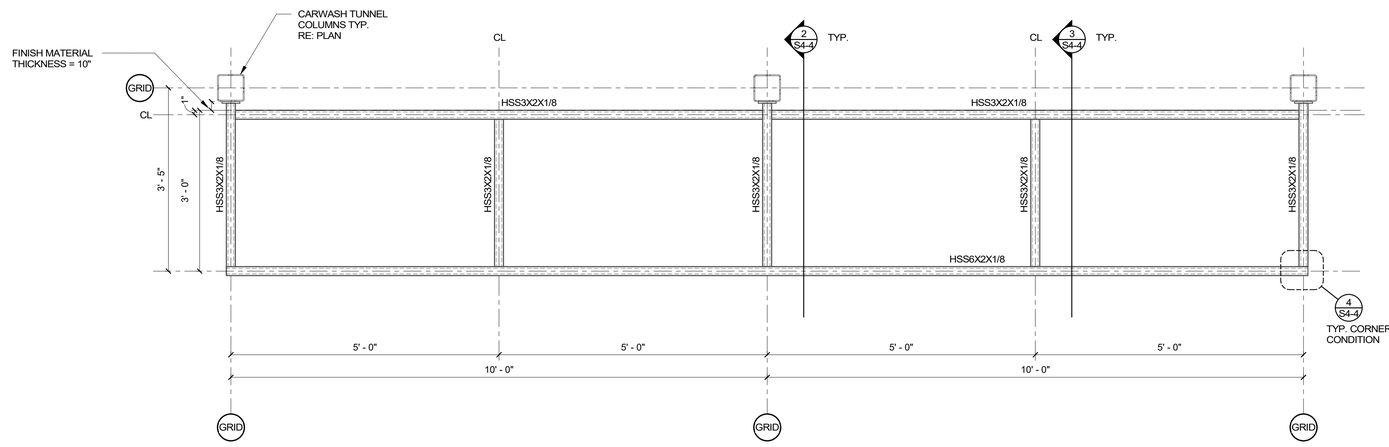
DECK DETAILS

4 FRAMING DETAIL
1" = 1'-0"

3 FRAMING DETAIL
3/4" = 1'-0"



2 FRAMING DETAIL
3/4" = 1'-0"



1 AWNING PLAN VIEW
3/4" = 1'-0"

COWBOY EXPRESS CAR WASH

SW SUMMITCREST & SW HOLLYWOOD DRIVE
LEE'S SUMMIT, MO

Car Wash BUILDINGS

THE STEEL BUILDING DESIGN IS THE PROPERTY OF AND IS DEPICTED UNDER LICENSE WITH THE OWNER/DEVELOPER FROM CAR WASH BUILDINGS LLC.
www.CarWashBuildings.com

REV/DATE/COMMENTS
08.28.2024 PERMIT SET

STATE OF MISSOURI
MAX N. LEHMAN
NUMBER PE-2019032924
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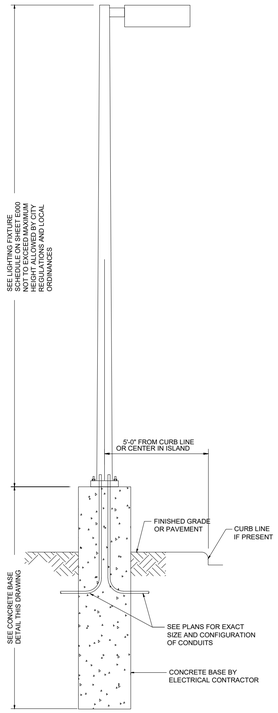
wallace design collective
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9800 pyramid court, suite 350
englewood, colorado 80112
303.350.1690 · 800.364.5858

SHEET
S4-4

AWNING PLAN AND DETAILS

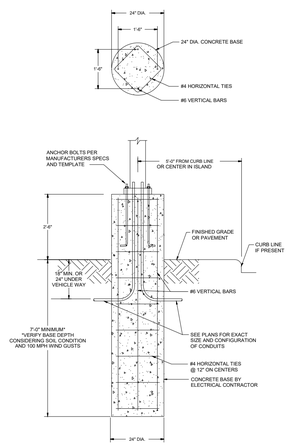
PERMIT SET ONLY

8/27/2024 4:13:23 PM C:\Users\ChristianFrank\Documents\CWB - Cowboy Express, Lee's Summit, MO - V22_christian.frankAFN53.rvt



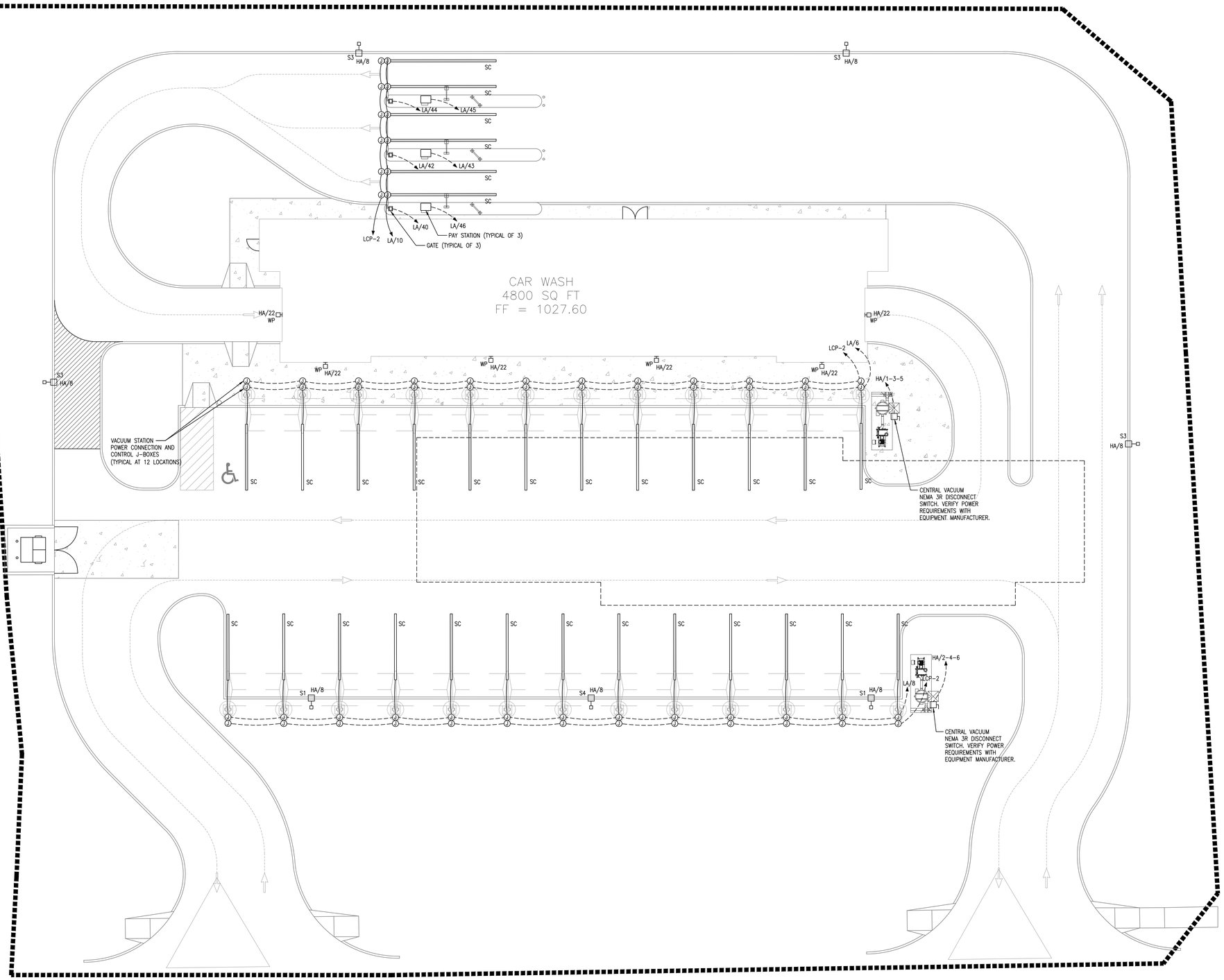
SITE LIGHTING POLE DETAIL

NOT TO SCALE



CONCRETE BASE DETAIL

NOT TO SCALE



1 ELECTRICAL PLAN – SITE

1" = 12'-0"

Revisions

1	7-16-2024	PLAN REVIEW COMMENTS

KREWSON AND ASSOCIATES
90 Crescent Avenue
Twin Oaks, Missouri 63088
phone: (314) 420-9618

Seal

BRIAN C LITTEKEN NUMBER PE-2013000597 — STATE OF MISSOURI — PROFESSIONAL ENGINEER

Project Code

CCW–2201

Project Title

New Car Wash for COWBOY EXPRESS CARWASH

210 MO-150
LEE SUMMIT, MISSOURI
64082

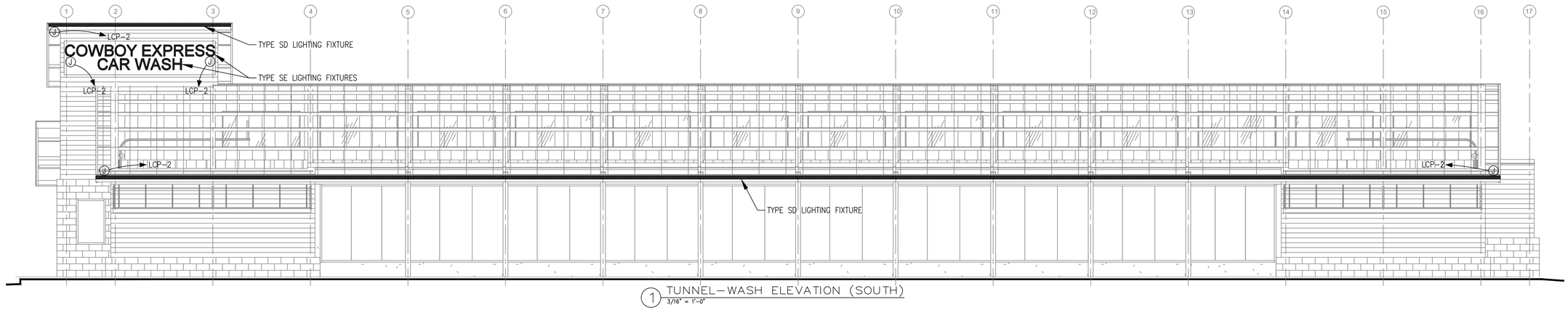
Drawing Title

ELECTRICAL PLAN - SITE

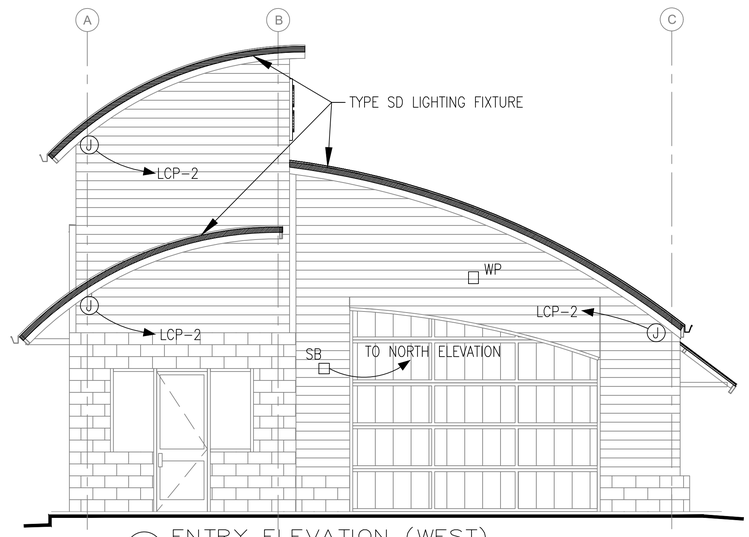
Date	Drawn	Checked
1–4–24	DMA	BL

Drawing Number

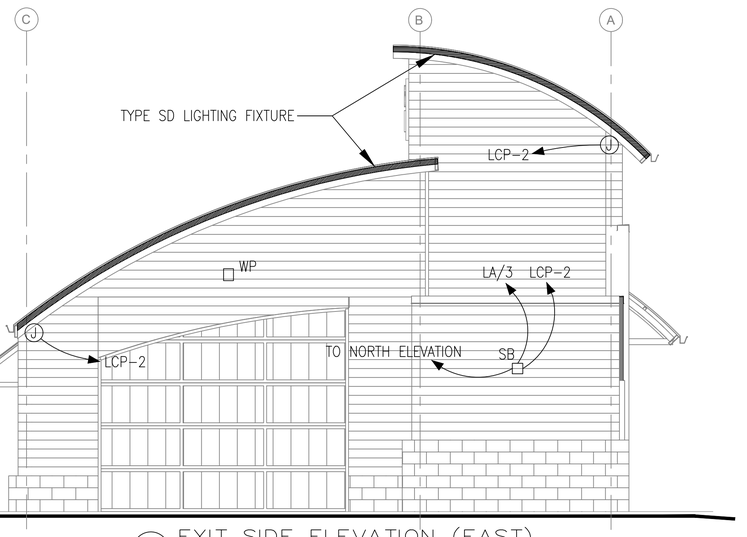
E-1



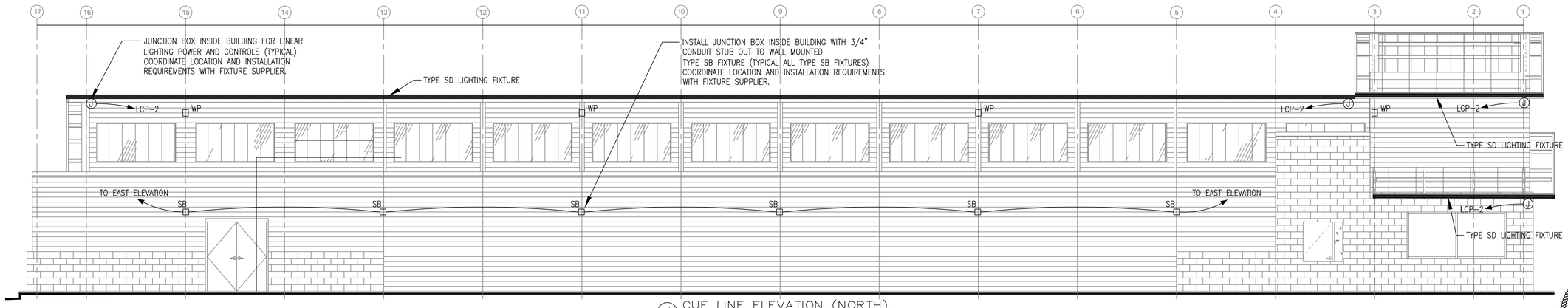
1 TUNNEL—WASH ELEVATION (SOUTH)
3/16" = 1'-0"



2 ENTRY ELEVATION (WEST)
1/4" = 1'-0"



3 EXIT SIDE ELEVATION (EAST)
1/4" = 1'-0"



4 CUE LINE ELEVATION (NORTH)
3/16" = 1'-0"

Revisions

1	7-16-2024	PLAN REVIEW COMMENTS

KREWSON AND ASSOCIATES
90 Crescent Avenue
Twin Oaks, Missouri 63088
phone: (314) 420-9618

Seal

BRIAN C LITTEKEN NUMBER PE-2013000597 STATE OF MISSOURI PROFESSIONAL ENGINEER

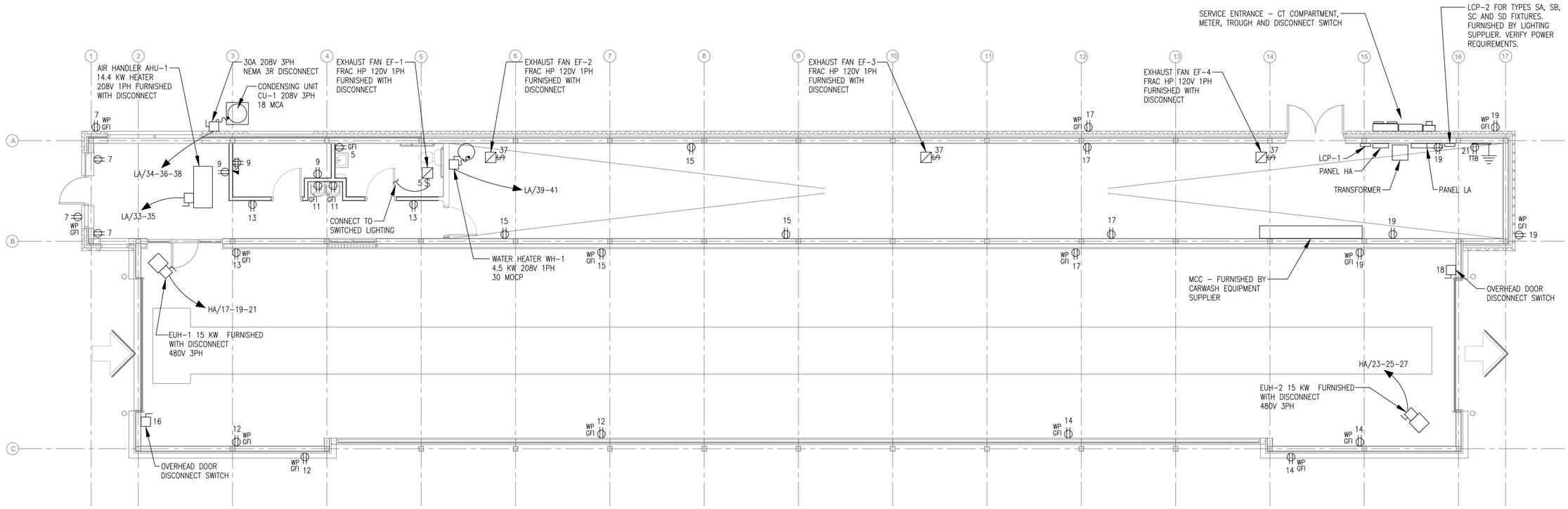
Project Code
CCW—2201

Project Title
New Car Wash
for
COWBOY EXPRESS CARWASH
210 MO-150
LEE SUMMIT, MISSOURI 64082

Drawing Title
ELECTRICAL PLANS - BLDG ELEVATIONS

Date	Drawn	Checked
1—4—24	DMA	BL

Drawing Number
E-2



1 ELECTRICAL PLAN – POWER
3/16" = 1'-0"

GENERAL NOTE: ALL CIRCUIT NUMBERS SHOWN ON THIS PLAN ARE FED FROM PANEL LA UNLESS NOTED OTHERWISE.

NOTE: SEE MOTOR CITY WASH WORKS PROJECT INSTALLATION DRAWINGS FOR CAR WASH EQUIPMENT INSTALLATION SCOPE OF WORK.

Revisions

1	7-16-2024	PLAN REVIEW COMMENTS

KREWSON AND ASSOCIATES
90 Crescent Avenue
Twin Oaks, Missouri 63088
phone: (314) 420-9618

Seal

Project Code
CCW–2201

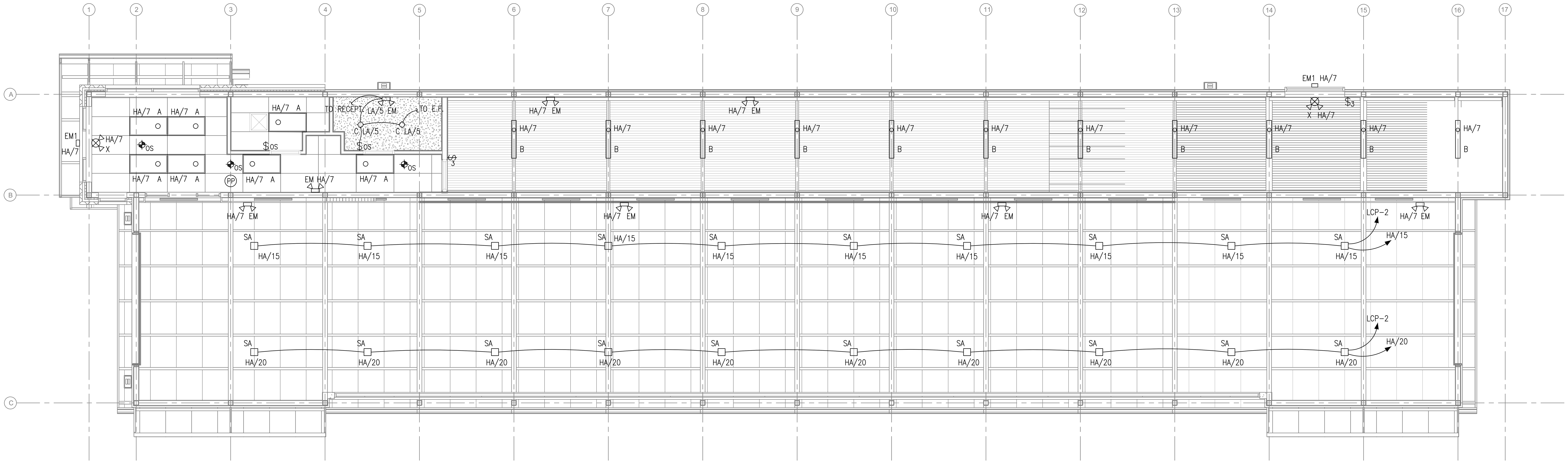
Project Title
New
Car Wash
for
COWBOY EXPRESS CARWASH
210 MO-150
LEE SUMMIT, MISSOURI
64082

Drawing Title
ELECTRICAL PLAN - POWER

Date	Drawn	Checked
1–4–24	DMA	BL

Drawing Number
E-3

STATE OF MISSOURI
BRIAN C LITTEKEN
NUMBER PE-2013000597
PROFESSIONAL ENGINEER



1 ELECTRICAL PLAN – LIGHTING
3/16" = 1'-0"

Revisions

1	7-16-2024	PLAN REVIEW COMMENTS

KREWSON AND ASSOCIATES
90 Crescent Avenue
Twin Oaks, Missouri 63088
phone: (314) 420-9618

Seal

STATE OF MISSOURI
BRIAN C LITTEKEN
NUMBER
PE-2013000597
PROFESSIONAL ENGINEER

Project Code
CCW–2201

Project Title
New
Car Wash
for
COWBOY
EXPRESS
CARWASH
210 MO-150
LEE SUMMIT, MISSOURI
64082

Drawing Title
ELECTRICAL
PLAN -
LIGHTING

Date	Drawn	Checked
1-4-24	DMA	BL

Drawing Number
E-4

PANELBOARD SCHEDULE

DESIGNATION: **HA** | VOLTAGE / PHASE / WIRE: **277/480V 3PH 4W** | BUS SIZE (AMPS): **400A** | MLO / MAIN C/B: **X** :MLO :M C/B

CKT#	C/B	LOAD (WATTS) A PH	B PH	C PH	LOAD DESCRIPTION	LOAD DESCRIPTION	LOAD (WATTS) A PH	B PH	C PH	C/B	CKT#
1		4432			CENTRAL VACUUM	CENTRAL VACUUM	4432				2
3	20/3		4432					4432		20/3	4
5				4432					4432		6
7	20/1	3500			LIGHTING	SITE LIGHTING - VIA LCP-1	1500			20/1	8
9			4432		CAR WASH - DNS-1 - DRY'NSHINE SUPPLY *	CAR WASH - AC-1 - AIR COMPRESSOR *		3878			10
11	20/3			4432					3878	20/3	12
13		4432					3878				14
15	20/1		3000		TYPE SA - LIGHTING (WASH TUNNEL)	CAR WASH - AC-1 - AIR COMPRESSOR *		3878			16
17				5000	HEATER - WASH TUNNEL				3878	20/3	18
19	30/3	5000					3878				20
21			5000			BUILDING LIGHTING - VIA LCP-1		270		20/1	22
23				5000		SPARE				20/1	24
25	30/3	5000			HEATER - WASH TUNNEL	SPARE				20/1	26
27			5000			SPARE				20/1	28
29	20/1			3000	TYPE SA - LIGHTING (WASH TUNNEL)	SPARE				20/1	30
31	20/1				SPARE	SPARE				20/1	32
33	20/1				SPARE	SPARE				20/1	34
35	20/1				SPARE	SPARE				20/1	36
37	20/1				SPARE	XFMR T1 - 112.5 KVA	37500				38
39	20/1				SPARE			37500		175/3	40
41	20/1				SPARE				37500		42
TOTALS		22364	21864	21864			51188	49958	49688	TOTALS	

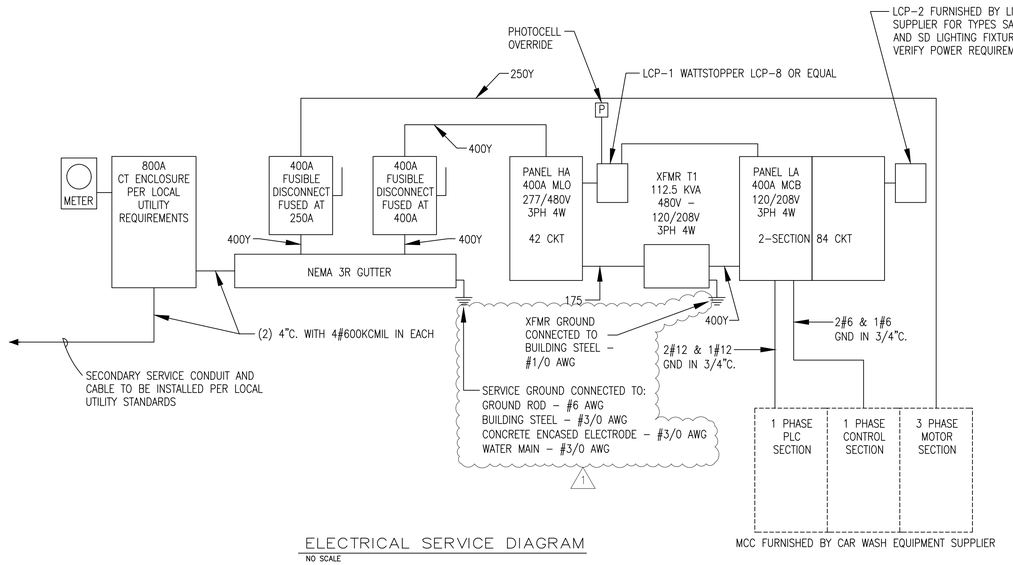
GRAND TOTAL
CONNECTED LOAD (WATTS): 216926 LOAD IN AMPS: 261.04

PANELBOARD SCHEDULE

DESIGNATION: **LA** | VOLTAGE / PHASE / WIRE: **120/208V 3PH 4W** | BUS SIZE (AMPS): **400A** | MLO / MAIN C/B: :MLO **400A** :M C/B

CKT#	C/B	LOAD (WATTS) A PH	B PH	C PH	LOAD DESCRIPTION	LOAD DESCRIPTION	LOAD (WATTS) A PH	B PH	C PH	C/B	CKT#
1	20/1	1600			CENTRAL VACUUM - LIGHTING	CENTRAL VACUUM - LIGHTING	1600			20/1	2
3	20/1		1600		TYPE SB - LIGHTING	SPARE				20/1	4
5	20/1			500	RESTROOM RECEPT / LIGHTING	TYPE SC - LIGHTING (VAC STATIONS)			1600	20/1	6
7	20/1	720			RECEPTS	TYPE SC - LIGHTING (VAC STATIONS)	1600			20/1	8
9	20/1		720		RECEPTS	TYPE SC - LIGHTING (PAY STATIONS)		1600		20/1	10
11	20/1			1920	RECEPTS - ELECTRIC WATER COOLER	RECEPTS			540	20/1	12
13	20/1	540			RECEPTS	RECEPTS	540			20/1	14
15	20/1		720		RECEPTS	OVERHEAD DOOR		1200		20/1	16
17	20/1			720	RECEPTS	OVERHEAD DOOR			1200	20/1	18
19	20/1	900			RECEPTS	CAR WASH MCC - CONTROL CIRCUIT	5760			60/1	20
21	20/1		1920		RECEPT - DEDICATED	CAR WASH MCC - PLC CIRCUIT		1920		20/1	22
23	20/1			1800	CAR WASH - GA-1 CONT PNL *	CAR WASH - PFLT-1 - PROF CONT PWR BOX *			1800	20/1	24
25	20/1	1800			CAR WASH - TRK-1 OPEN BED DETECT *	CAR WASH - DNS-2 - DRY'NSHINE CONT PWR *	1800			20/1	26
27	20/1		1800		CAR WASH - AC-1 OPEN BED DETECT *	CAR WASH - DNS-9 - LED PWR SUPPLY *		240		20/1	28
29	20/1			1800	CAR WASH - AD-1 - AIR DRYER *	CAR WASH - SPIN-3 - SPINSHINE SUPPLY			1200	20/1	30
31	20/1	1800			CAR WASH - AD-1 - AIR DRYER *	CAR WASH - MGAG-1 - ANTICOLLISION CONT *	240			20/1	32
33	100/2		7500		RTU	CU-1		1728			34
35				7500					1728	30/3	36
37	20/1	800			EXHAUST FANS - EQUIP ROOM		1728				38
39	30/2		2250		WATER HEATER	GATE		600		20/1	40
41				2250		GATE			600	20/1	42
43	20/1				SPARE	GATE	600			20/1	44
45	20/1				SPARE	PAY STATION		960		20/1	46
47	20/1				SPARE	PAY STATION			960	20/1	48
49	20/1				SPARE	PAY STATION	960			20/1	50
51	20/1				SPARE	SPARE				20/1	52
53	20/1				SPARE	SPARE				20/1	54
55	20/1				SPARE	SPARE				20/1	56
57	20/1				SPARE	SPARE				20/1	58
59	20/1				SPARE	SPARE				20/1	60
61	20/1				SPARE	SPARE				20/1	62
63	20/1				SPARE	SPARE				20/1	64
65	20/1				SPARE	SPARE				20/1	66
67	20/1				SPARE	SPARE				20/1	68
69	20/1				SPARE	SPARE				20/1	70
71	20/1				SPARE	SPARE				20/1	72
73	20/1				SPARE	SPARE				20/1	74
75	20/1				SPARE	SPARE				20/1	76
77	20/1				SPARE	SPARE				20/1	78
79	20/1				SPARE	SPARE				20/1	80
81	20/1				SPARE	SPARE				20/1	82
83	20/1				SPARE	SPARE				20/1	84
TOTALS		8160	16510	16490			14828	8248	9628	TOTALS	

GRAND TOTAL
CONNECTED LOAD (WATTS): 73864 X 75% DIVERSITY (WATTS): 55398 LOAD IN AMPS: 153.88



ELECTRICAL SERVICE DIAGRAM
NO SCALE

LIGHTING FIXTURE SCHEDULE

TYPE	MANUFACTURER	MODEL NUMBER	DESCRIPTION
A	METALUX	24GR-LD5-42-F1-UNV-L835-CD-1	2x4 LED LAY-IN
B	METALUX	4SNLED-LD5-41SL-LW-UNV-L835-CD1-U	4' LED LINEAR
C	HALO	HC615D010	6" RECESSED DOWN LIGHT
EM	SURELITES	SEL255SD	2-HEAD EMERGENCY
EM1	LUMARK	XTOR6B-PC2-CBP	EXTERIOR EGRESS EMERGENCY
X	SURELITES	LPXC25	EXIT/EMERGENCY W/ EM HEADS
S1	LUMARK	PRV-XL-PA3A-740-U-5WQ	EXTERIOR POLE MOUNT FIXTURE
S3	LUMARK	PRV-XL-PA3A-740-T3-HSS	EXTERIOR POLE MOUNT FIXTURE
S4	LUMARK	PRV-XL-PA3A-740-T4W-HSS	EXTERIOR POLE MOUNT FIXTURE
WP	LUMARK	XTOR3B-W	EXTERIOR WALL MOUNT FIXTURE
SA	MAGNIFLOOD	MAG-F-300	PROVIDED BY J-SQUARED LIGHTING - COORDINATE REQUIREMENTS W/ JOHN WOERNER (john@jsquaredsystems.com)
SB	MAGNISCONCE	MAG-UD-53	PROVIDED BY J-SQUARED LIGHTING - COORDINATE REQUIREMENTS W/ JOHN WOERNER (john@jsquaredsystems.com)
SC	MAGNITUBE	MAG-T-80	PROVIDED BY J-SQUARED LIGHTING - COORDINATE REQUIREMENTS W/ JOHN WOERNER (john@jsquaredsystems.com)
SD	MAGNISIGN	MAG-S-160	PROVIDED BY J-SQUARED LIGHTING - COORDINATE REQUIREMENTS W/ JOHN WOERNER (john@jsquaredsystems.com)

FEEDER SCHEDULE

FEEDER LABEL	AMPACITY	NO. OF SETS	THHN COPPER CONDUCTOR SIZES (AWG OR KCMIL) PHASE	NEUTRAL	EQUIP GND	ISO GND	CONDUIT SIZE EMT	IMC	RMC	PVC
175	175	1	3-#2/0		1-#6		1-1/2	1-1/2	1-1/2	1-1/2
250Y	250	1	3-250	1-250	1-#4		2-1/2	2-1/2	2-1/2	2-1/2
400Y	400	1	3-500	1-500	1-#3		3	3	3	3-1/2

1



Revisions

1	7-16-2024 PLAN REVIEW COMMENTS

KREWSON AND ASSOCIATES
90 Crescent Avenue
Twin Oaks, Missouri 63088
phone: (314) 420-9618

Seal

Project Code
CCW—2201

Project Title
New Car Wash
for
COWBOY EXPRESS CARWASH
210 MO-150
LEE SUMMIT, MISSOURI 64082

Drawing Title
ELECTRICAL SERVICE DIAGRAM - PANEL SCHEDULES

Date	Drawn	Checked
1—4—24	DMA	BL

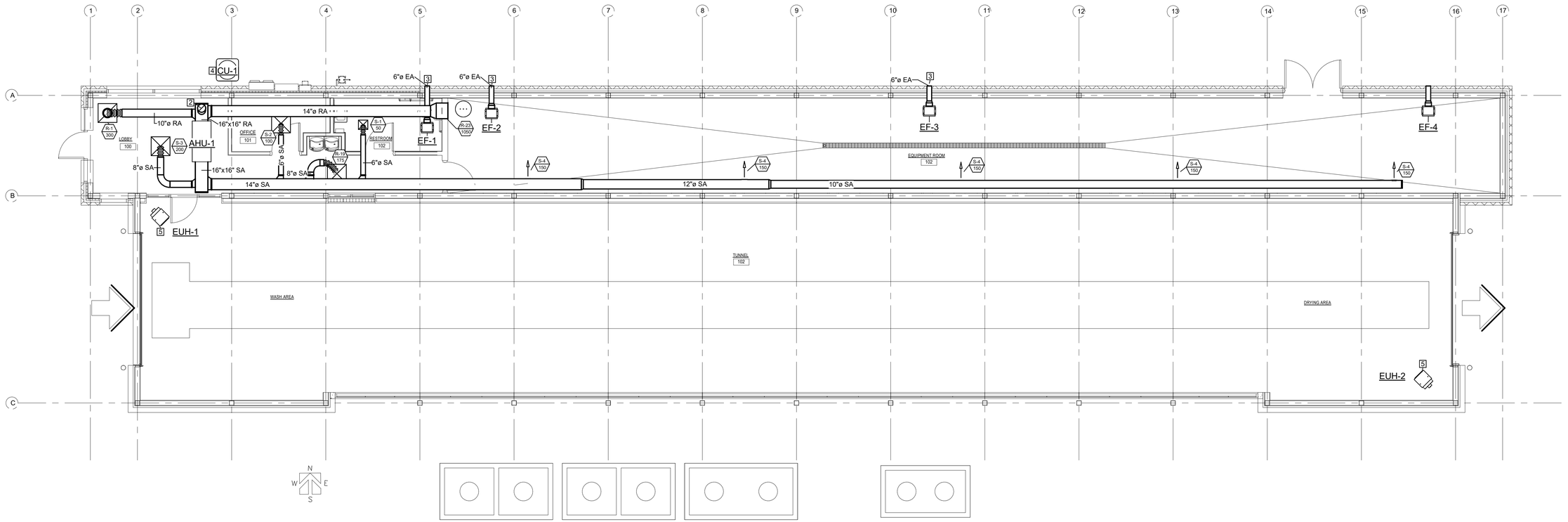
Drawing Number
E-5

GENERAL NOTES:

1. MOUNT T-STATS AT 4'-0" A.F.F. UNLESS OTHERWISE INDICATED. T-STAT IS SUPPLIED AND WIRED BY THE MECHANICAL CONTRACTOR.
2. FIELD VERIFY ARCHITECTURAL AND STRUCTURAL BUILDINC CONDITIONS PRIOR TO DUCT AND EQUIPMENT FABRICATION. COORDINATE FOR CORRECT INSTALLATION.
3. PERFORM ALL WORK IN ACCORDANCE WITH CODES AND AUTHORITIES HAVING JURISDICTION. PROVIDE ALL PERMITS, INSPECTIONS, LICENSES AND FEES.
4. ALL DUCT SIZES SHOWN ON THE DRAWINGS ARE NET INSIDE CLEAR DIMENSIONS.
5. PROVIDE A LOCKINC QUADRANT VOLUME DAMPER AT THE TAP OF EACH RUN-OUT TO DIFFUSERS & CRILLES, FOR BALANCING PURPOSES NO EXCEPTIONS!
6. ALL DUCTWORK CONSTRUCTION AND INSTALLATION SHALL CONFORM TO SMACNA AND ASHRAE RECOMMENDATIONS.
7. ALL SUPPLY AIR AND OUTSIDE AIR DUCTWORK SHALL BE EXTERNALLY INSULATED, UNLESS OTHERWISE INDICATED.
8. CONTRACTOR SHALL LIMIT THE AMOUNT OF FLEXIBLE DUCTWORK TO 6 FEET NO EXCEPTIONS!
9. ALL DUCT RUNOUTS TO DIFFUSERS SHALL BE THE SAME SIZE AS THE SCHEDULED NECK SIZE UNLESS OTHERWISE INDICATED.
10. COORDINATE ALL CEILING DIFFUSER/GRILLE LOCATIONS WITH LIGHTS, SPRINKLER HEADS AND OTHER CEILING DEVICES.
11. RECTANGULAR DUCTWORK IN LIEU OF ROUND IS ACCEPTABLE. CONVERSION FROM RECTANCULAR TO ROUND (OR VICE VERSA) SHALL CONFORM TO SMACNA CUIDELINES.
12. CONTRACTOR SHALL SEAL ALL ROOF PENETRATIONS AIR & WATER TIGHT.
13. IN ACCORDANCE \\ITH THE 2015 1. E.C.C, ALL SUPPLY DUCTWORK SHALL BE PROVIDED WITH DUCT WRAP OR DUCT LINER \\ITH A MINIMUM INSU LATINS VALUE OF R —8. ALL RETURN DUCTWORK SHALL BE PROVIDED WITH DUCT WRAP OR DUCT LINER WITH A MINIMUM INSULATING VALUE OF R—6.

KEYED NOTES:

1. SPLIT SYSTEM A/C UNIT SUSPENDED FROM STRUCTURE ABOVE UNIT WITH VIBRATION ISOLATING HANGERS. EXTEND REFRIGERANT PIPING FROM INDOOR UNIT TO OUTDOOR UNIT AS RECOMMENDED BY THE UNIT MANUFACTURER. SEE DETAIL FOR ADDITIONAL INSTALLATION INFORMATION AND SCHEDULE FOR CAPACITY. ROUTE 3/4" INSULATED CONDENSATE DRAIN LINE FROM UNIT TO HUB DRAIN ADJACENT TO UTILITY SINK. SEE PLUMBING DRAWINGS FOR HUB DRAIN LOCATION.
2. 10" DIAMETER OUTSIDE AIR DUCT FROM RETURN AIR DUCT PLENUM UP THRU ROOF AND TERMINATED WITH LOW— PROFILE ROOF CAP. ROOF CAP SHALL BE SIMILAR TO GREENHECK MODEL GRSF—10 OR EQUAL. COORDINATE WITH ROOFING CONTRACTOR TO ENSURE ROOF PENETRATION IS AIR/WATER TIGHT.
3. CEILING— MOUNTED, EXHAUST FAN SUSPENDED FROM STRUCTURE ABOVE FAN WITH VIBRATION ISOLATING HANGERS. EXTEND EXHAUST DUCT OUT THRU EXTERIOR WALL AS SHOWN AND TERMINATE WITH GREENHECK MODEL WC—10x3 OR EQUAL HOODED WALL CAP.
4. AIR— COOLED CONDENSING UNIT MOUNTED 4" CONCRETE HOUSEKEEP INT PAD. INSTALL UNIT, INCLUDING OPERATING CLEARANCES, AS RECOMMENDED BY UNIT MANUFACTURER. SEE DETAIL FOR ADDITIONAL INFORMATION AND SCHEDULE FOR CAPACITY.
5. ELECTRIC UNIT HEATER INSTALLED AT 9'-0" AFF TO HEATER BOTTOM. PROVIDE WALL-MOUNTED THERMOSTAT SET TO ENERGIZE HEATER AT 45 DEG. F. SEE DETAIL FOR ADDITIONAL INFORMATION AND SCHEDULE FOR CAPACITY.



1 M1.1 - HVAC FLOOR PLAN
3/16" = 1'-0"

Revisions

1	7-16-2024	PLAN REVIEW COMMENTS

KREWSON AND ASSOCIATES

MAYER DESIGN GROUP P.C.
4400 South Lindbergh Blvd.
Suite 3
St. Louis, Missouri
63127-1603
Telephone: (314) 849-8777
Facsimile: (314) 849-4743

Adams Architectural Associates
P.O. BOX 230
CHESTERFIELD, MO
63306-0230
(636)537-9333
(536)537-1267 -FAX

Seal

Project Code
CCW-2201

Project Title
New Car Wash
for
COWBOY EXPRESS CARWASH
210 MO-150
LEE SUMMIT, MISSOURI
64082

Drawing Title
MECH. FLOOR PLAN

Date	Drawn	Checked
03-06-23	DB/mm	MM/MA

Drawing Number
M1.1

STATE OF MISSOURI
SIDNEY SARGINSON
NUMBER PE-2012030092
PROFESSIONAL ENGINEER

FAN SCHEDULE

PLAN MARK	MANUF.	MODEL	SERVICE	CFM	TSP IWC	MOTOR		LBS	MOUNT	REMARKS
						HP	VOLT/PH			
EF-1	GREENHECK	SP-A125	RESTROOM 102	75	0.25	FR	115/1	30	CEILING MOUNTED	1, 2, 3
EF-2	GREENHECK	SP-A125	EQUIPMENT ROOM 103	75	0.25	FR	115/1	30	CEILING MOUNTED	1, 2
EF-3	GREENHECK	SP-A125	EQUIPMENT ROOM 103	75	0.25	FR	115/1	30	CEILING MOUNTED	1, 2
EF-4	GREENHECK	SP-A125	EQUIPMENT ROOM 103	75	0.25	FR	115/1	30	CEILING MOUNTED	1, 2

1. PROVIDED BY MECHANICAL SUBCONTRACTOR.
2. FURNISHED WITH DISCONNECT, GRAVITY DAMPER, AND WALL TERMINATION KIT.
3. EC TO TIE INTO LIGHT SWITCH.

VENTILATION SCHEDULE

ROOM NUMBER	ROOM NAME	AREA SF	MAXIMUM OCCUPANTS	REQUIRED OA (CFM/PERS)	REQUIRED OA (CFM/SF)	REQUIRED EA (CFM)	FINAL OA REQUIRED
100	LOBBY	235	3	5	0.06	-	225
101	OFFICE	55	1	5	0.06	-	
102	RESTROOM	60	-	-	-	75	
103	EQUIPMENT	725	-	-	0.15	150	

SPLIT SYSTEM UNIT SCHEDULE

PLAN MARK	MANUF.	MODEL	SERVING	CLG MBH	HTG MBH	CFM	AMB TEMP °F	REF	ELECTRICAL		WEIGHT	REMARKS
									VOLTS/PH	MCA	LBS	
AHU-2	MITSUBISHI	MSZ-FS06NA	ATTENDANT	6	8.7	200	95	R-410A	208/230/1	1	30	1, 2, 3, 4
CU-2	MITSUBISHI	MUZ-FS06NAH	ATTENDANT	6	8.7	-	95	R-410A	208/230/1	10	85	1, 2

1. FURNISHED BY MECHANICAL SUBCONTRACTOR.
2. DISCONNECT SWITCH BY ELECTRICAL CONTRACTOR.
3. FURNISHED WITH REMOTE CONTROLLER.
4. MSC TO PROVIDE CONDENSATE PUMP.

Revisions

1	7-16-2024	PLAN REVIEW COMMENTS

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Seal

STATE OF MISSOURI
SIDNEY SARGINSON
NUMBER PE-2012030092
PROFESSIONAL ENGINEER

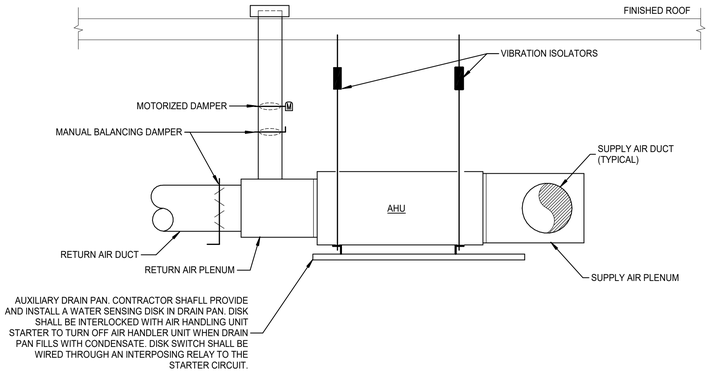
Project Code
CCW-2201

Project Title
New
Car Wash
for
COWBOY EXPRESS CARWASH
210 MO-150
LEE SUMMIT, MISSOURI
64082

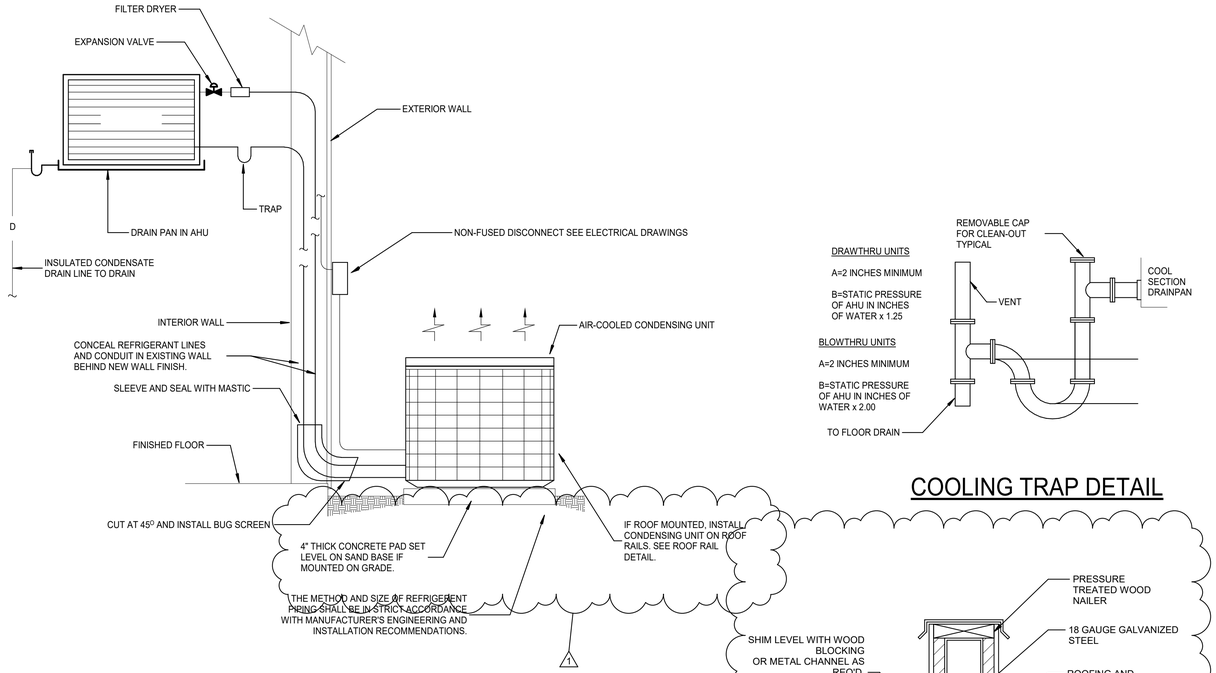
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SCHEDULES

Date	Drawn	Checked
03-06-23	DB/mm	MM/MA

Drawing Number
M2.1

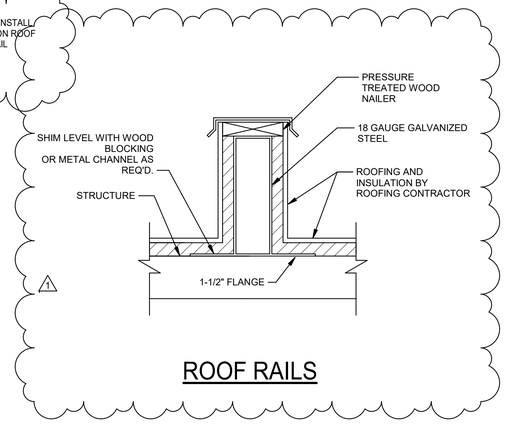


HORIZONTAL AHU SUSPENDED ABOVE CEILING

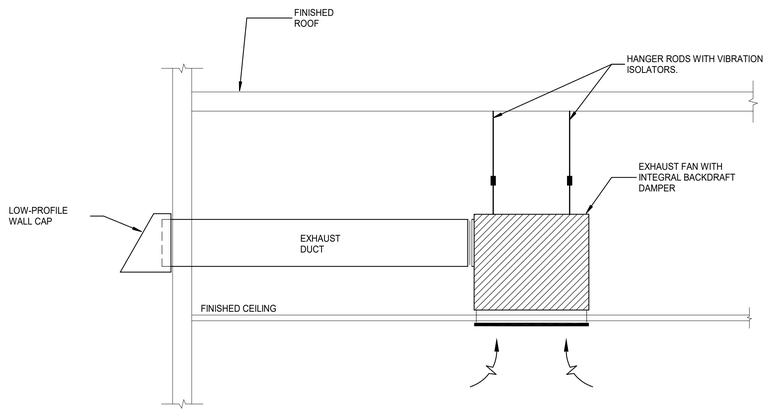


SPLIT SYSTEM AHU DETAILS

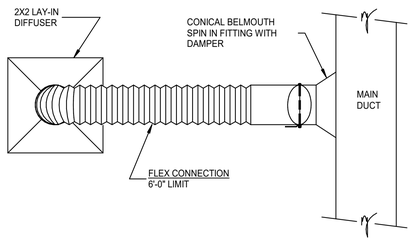
COOLING TRAP DETAIL



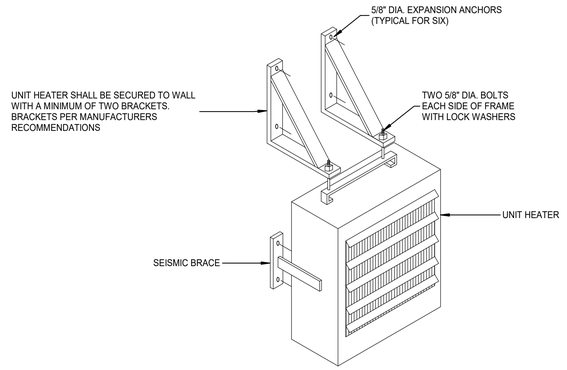
ROOF RAILS



CEILING-MOUNTED EXHAUST FAN DETAIL



ROUND DUCT TAKE-OFF



ELECTRICAL UNIT HEATER DETAIL

Revisions

1	7-16-2024	PLAN REVIEW COMMENTS

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Project Code
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Project Title
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210 MO-150
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64082

Drawing Title
HVAC DETAILS

Date	Drawn	Checked
03-06-23	DB/mm	MM/MA

STATE OF MISSOURI
SIDNEY SARGINSON
NUMBER PE-2012030922
PROFESSIONAL ENGINEER
7/16/2024

Drawing Number
M3.1

GENERAL NOTES

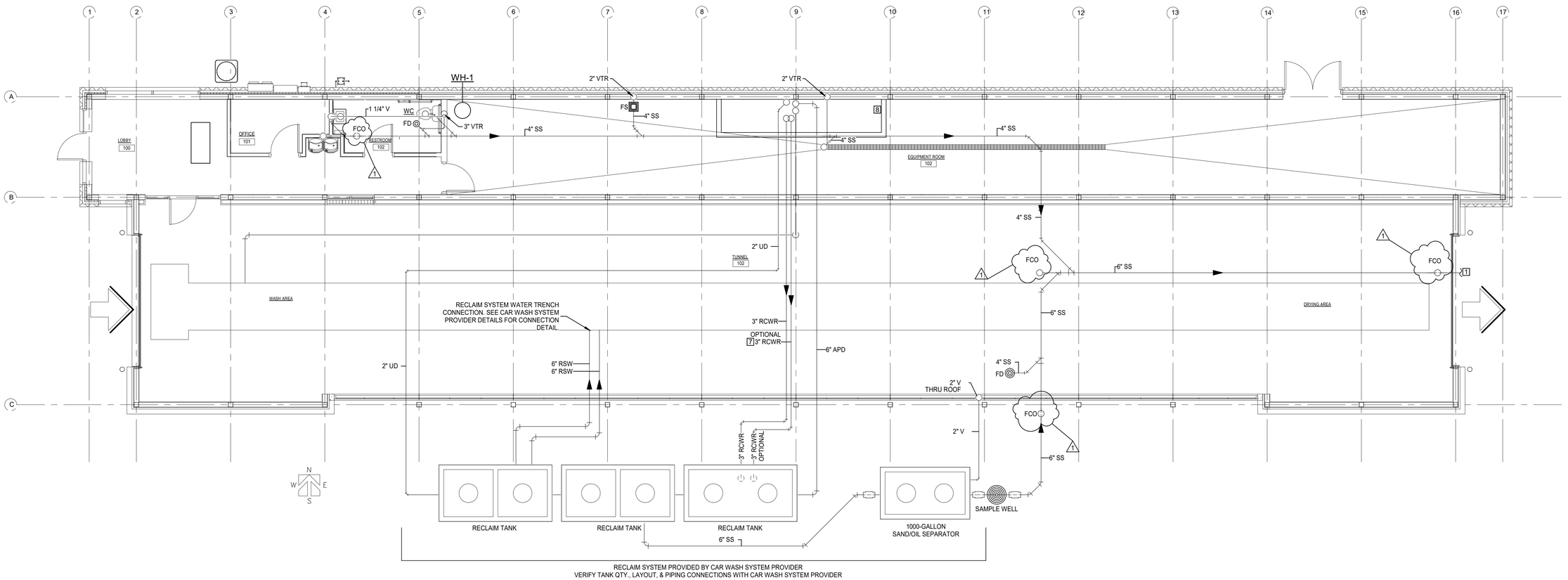
1. INSTALL ALL PLUMBING IN ACCORDANCE WITH CITY ORDINANCE AND PAY FOR FEES REQUIRED.
2. WATER PIPING:
   BELOW SLAB/GRADE: TYPE K SOFT DRAWN COPPER
   ABOVE SLAB/GRADE: TYPE L HARD DRAWN COPPER.
   INSULATE ALL PIPING SUBJECT TO FREEZING AND SUBJECT TO FORMING CONDENSATION TO A MINIMUM VALUE R-3.
3. SANITARY SEWER AND VENT PIPING - PVC SCHEDULE 40.
4. PROVIDE A VACUUM BREAKER AT ALL HOSE BIBBS.
5. PROVIDE TRAP PRIMERS ON FLOOR DRAINS AND FLOOR SINKS.
6. PROVIDE ADA PIPING COVERS ON WATER SUPPLY AND DRAIN PIPING UNDER EXPOSED LAVATORIES.
7. ALL VENTS THRU ROOF TO BE A MINIMUM OF 24" FROM THE EDGE OF THE BUILDING.
8. CONTRACTOR SHALL COORDINATE ALL PLUMBING VENTS THRU ROOF TO ENSURE THAT PLUMBING VENTS TERMINATE AT LEAST 10'-0" FROM ALL A/C UNIT OUTSIDE AIR INTAKES.
9. CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS PRIOR TO STARTING WORK.
10. CONTRACTOR SHALL ENSURE THAT THE HOT WATER TEMPERATURE DELIVERED LAVATORY AND UTILITY SINK IS NO GREATER THAN 110 DEG.F BY PROVIDING ASSE 1070 LISTED TEMPERATURE LIMITING DEVICES AT EACH PLUMBING FIXTURE RECEIVING HOT WATER.
11. REFER TO CAR WASH EQUIPMENT PROVIDER'S DRAWINGS FOR DETAILED FRESH WATER, RECLAIM WATER AND SANITARY SEWER PIPING CONNECTIONS TO CAR WASH AND OTHER EQUIPMENT.
12. SEE CAR WASH EQUIPMENT PROVIDER DETAILS FOR PIPE SCHEDULES.
13. PROVIDE CLEANOUTS IN HORIZONTAL DRAINS IN INTERVALS NOT MORE THAN 100 FEET.

KEYED NOTES

1. REFER TO SITE UTILITIES PLAN FOR CONTINUATION OF DOMESTIC COLD WATER & SANITARY SEWER CONNECTIONS. FIELD VEIFY EXACT LOCATION AND ALL EXISTING CONDITIONS PRIOR TO STARTING ANY WORK.
2. PROVIDE BUILDING SHUT-OFF VALVE (TEE HEAD VALVE), BELOW GRADE IN VALVE BOX.
3. RPZ-TYPE BACKFLOW PREVENTER MOUNTED ON WALL AT 48" AFF. BACKFLOW PREVENTER SHALL BE EQUAL TO WATTS REGULATOR SERIES LF909 WITH AIR GAP PIPED TO ADJACENT FLOOR DRAIN.
4. APPROXIMATE LOCATION OF 1 1/2" DOMESTIC COLD WATER LINE DOWN TO SERVICE CAR WASH EQUIPMENT. FIELD VERIFY EXACT LOCATION ON-SITE WITH CAR WASH SYSTEM PROVIDER. PROVIDE RPZ BACKFLOW PREVENTER PRIOR TO CONNECTION TO EQUIPMENT.
5. SEE MANUFACTURERS INSTALLATION DOCUMENTATION FOR RECLAIM WATER SYSTEM TANK CONNECTION DETAILS. VERIFY UNDERGROUND PIPING ROUTING, DEPTH, AND CONNECTIONS PRIOR TO INSTALLATION.
6. ELECTRIC WATER HEATER WH ON PLATFORM. SEE DETAIL FOR ADDITIONAL INFORMATION AND SCHEDULE FOR CAPACITY.
7. A SECOND 3" RECLAIM WATER SYSTEM SUCTION LINE IS OPTIONAL. CONFIRM WITH EQUIPMENT SUPPLIER IF THE OPTIONAL RECLAIM WATER SYSTEM SUCTION LINE IS REQUIRED.
8. SECONDARY CONTAINMENT AROUND RECLAIM WATER SYSTEM EQUIPMENT. INSTALL RPZ MIN. 6" ABOVE THE FLOOD RIM OF THE CONTAINMENT. ROUTE RPZ DRAIN OUTSIDE CONTAINMENT TO NEAR DRAIN.

LEGEND

APD	AQUAPREP DISCHARGE PIPING
FD	FLOOR DRAIN
FS	FLOOR SINK
RSW	RECLAIM SYSTEM WATER PIPING
RCWR	RECLAIM WATER RETURN PIPING
SS	SANITARY SEWER
UD	UNDERFLOW DISCHARGE
VTR	VENT THRU ROOF
WC	WATER CLOSET
WH	WATER HEATER



RECLAIM SYSTEM PROVIDED BY CAR WASH SYSTEM PROVIDER
VERIFY TANK QTY., LAYOUT, & PIPING CONNECTIONS WITH CAR WASH SYSTEM PROVIDER

1 P1.1 - SANITARY PLUMBING FLOOR PLAN

3/16" = 1'-0"

Revisions

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Seal

Project Code
CCW-2201

Project Title
New
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for
COWBOY EXPRESS CARWASH
210 MO-150
LEE SUMMIT, MISSOURI
64082

Drawing Title
SANITARY PLUMBING FLOOR PLAN

Date	Drawn	Checked
03-06-23	DB/mm	MM/MA

Drawing Number
P1.1

STATE OF MISSOURI
SIDNEY SARGINSON
NUMBER PE-2012030922
PROFESSIONAL ENGINEER

GENERAL NOTES

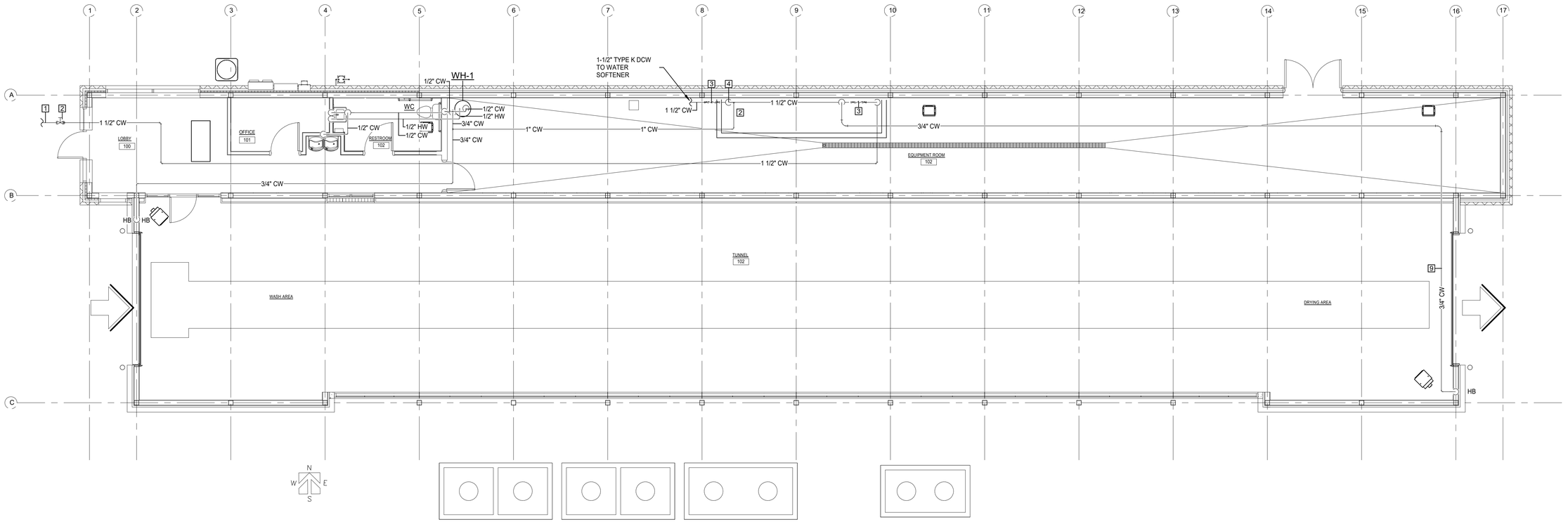
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4. PROVIDE A VACUUM BREAKER AT ALL HOSE BIBBS.
5. PROVIDE TRAP PRIMERS ON FLOOR DRAINS AND FLOOR SINKS.
6. PROVIDE ADA PIPING COVERS ON WATER SUPPLY AND DRAIN PIPING UNDER EXPOSED LAVATORIES.
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9. CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS PRIOR TO STARTING WORK.
10. CONTRACTOR SHALL ENSURE THAT THE HOT WATER TEMPERATURE DELIVERED LAVATORY AND UTILITY SINK IS NO GREATER THAN 110DEG.F BY PROVIDING ASSE 1070 LISTED TEMPERATURE LIMITING DEVICES AT EACH PLUMBING FIXTURE RECEIVING HOT WATER.
11. REFER TO CAR WASH EQUIPMENT PROVIDER'S DRAWINGS FOR DETAILED FRESH WATER, RECLAIM WATER AND SANITARY SEWER PIPING CONNECTIONS TO CAR WASH AND OTHER EQUIPMENT.

KEYED NOTES

1. REFER TO SITE UTILITIES PLAN FOR CONTINUATION OF DOMESTIC COLD WATER & SANITARY SEWER CONNECTIONS. FIELD VEIFY EXACT LOCATION AND ALL EXISTING CONDITIONS PRIOR TO STARTING ANY WORK.
2. PROVIDE BUILDING SHUT-OFF VALVE (TEE HEAD VALVE), BELOW GRADE IN VALVE BOX.
3. RPZ-TYPE BACKFLOW PREVENTER MOUNTED ON WALL AT 48" AFF. BACKFLOW PREVENTER SHALL BE EQUAL TO WATTS REGULATOR SERIES LF909 WITH AIR GAP PIPED TO ADJACENT FLOOR DRAIN.
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5. SEE MANUFACTURERS INSTALLATION DOCUMENTATION FOR RECLAIM WATER SYSTEM TANK CONNECTION DETAILS. VERIFY UNDERGROUND PIPING ROUTING, DEPTH, AND CONNECTIONS PRIOR TO INSTALLATION.
6. ELECTRIC WATER HEATER WH ON PLATFORM. SEE DETAIL FOR ADDITIONAL INFORMATION AND SCHEDULE FOR CAPACITY.
7. A SECOND 3" RECLAIM WATER SYSTEM SUCTION LINE IS OPTIONAL. CONFIRM WITH EQUIPMENT SUPPLIER IF THE OPTIONAL RECLAIM WATER SYSTEM SUCTION LINE IS REQUIRED.
8. SECONDARY CONTAINMENT AROUND RECLAIM WATER SYSTEM EQUIPMENT. INSTALL RPZ MIN. 6" ABOVE THE FLOOD RIM OF THE CONTAINMENT. ROUTE RPZ DRAIN OUTSIDE CONTAINMENT TO NEAR DRAIN.
9. ELECTRIC HEAT TRACE WATER LINE TO PREVENT FREEZING.

LEGEND

CW	COLD WATER
HW	HOT WATER
HB	HOSE BIB
WH	WATER HEATER



1 P1.2 - DOMESTIC WATER PLUMBING FLOOR PLAN
3/16" = 1'-0"

Revisions

1 7-16-2024 PLAN REVIEW COMMENTS

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Seal

Project Code
CCW-2201

Project Title
New Car Wash
for
COWBOY EXPRESS CARWASH
210 MO-150
LEE SUMMIT, MISSOURI
64082

Drawing Title
DOMESTIC WATER PLUMBING FLOOR PLAN

Date	Drawn	Checked
03-06-23	DB/mm	MM/MA

Drawing Number
P1.2

STATE OF MISSOURI
SIDNEY SARGINSON
NUMBER PE-2012030002
PROFESSIONAL ENGINEER

PLUMBING FIXTURE SCHEDULE

PLAN MARK	ROUGH-IN SIZES				DESCRIPTION
	CW	HW	W	V	
WCH	1/2"	-	4"	3"	TANK-TYPE WATER CLOSET, FLOOR-MOUNTED, WHITE VITREOUS CHINA, BOTTOM OUTLET, 1.6 GPF, WHITE OPEN-FRONT SEAT. KOHLER MODEL K-3493-RA, 17-1/8" HIGH WITH K-4650 SEAT AND MANUAL LEVER PROVIDED WITH FIXTURE OR EQUAL.
LAV	1/2"	1/2"	2"	1-1/4"	LAVATORY, WALL-MOUNTED, 20"x18" WALL-MOUNTED/CONCEALED ARM CARRIER ARM, P-TRAP AND WALL ESCUTCHEON, ENAMELED CAST IRON, SINGLE HOLE WITH SENSOR FAUCET ADA/TAS COMPLIANT INSTALLATION. LAVATORY: KOHLER MODEL K-2084-0 OR APPROVED EQUAL. SENSOR FAUCET: ZURN MODEL Z6913-F-CWB-MJ-TMV OR APPROVED EQUAL.
USK	1/2"	1/2"	3"	1-1/2"	WORK SINK, FLOOR- & WALL-MOUNTED, STAINLESS STEEL WITH FOOT-OPERATED FAUCET. SINGLE FAUCET HOLE. CAST IRON COMBINATION P-TRAP/ADJUSTABLE FLOOR SUPPORT. CONSULT ARCHITECT FOR MOUNTING HEIGHTS AND PLACEMENT. ELKAY ESS-2520C WITH LK-395 FAUCET AND LK-399 FLOOR-MOUNTED DOUBLE PEDAL VALVE OR APPROVED EQUAL.
HB	3/4"	-	-	-	HOSE HYDRANT, FREEZE-PROOF, WITH CONTROL KEY AND INTEGRAL VACUUM BREAKER & UNION ELBOW. JOSAMN 71050 OR APPROVED EQUAL.
FD	1/2"	-	3"	1-1/2"	FLOOR DRAIN WITH DEEP SEAL P-TRAP AND 1/2" PRIMER TAP. JOSAM 30003-5A-50 FLOOR DRAIN AND STRAINER OR EQUAL.
FS	1/2"	-	3"	1-1/2"	PVC FLOOR SINK, 9" SQUARE BODY, 6" DEEP WITH DOME BOTTOM STRAINER, 1/2" GRATE AND 3" HUB OUTLET WITH 1/2" TRAP PRIMER TAP.
TP-1	1/2"	-	-	-	TRAP SEAL PRIMER VALVE. JOSAM 88250 OR EQUAL.
KSK	1/2"	1/2"	2"	1-1/2"	KITCHEN SINK, DOUBLE COMPARTMENT, 18 GA. STAINLESS STEEL, SINGLE CONTROL FAUCET WITH HAND SPRAY AND 1/2 HP ELECTRIC DISPOSAL, 10" DEEP. FINAL FIXTURE SELECTION BY OWNER/CONTRACTOR

1. PROVIDED BY MECHANICAL SUBCONTRACTOR.
2. DO NOT SUPPLY WITH OPPOSED BLADE DAMPER.

WATER HEATER SCHEDULE

DESCRIPTION	WH
LOCATION	EQUIPMENT ROOM
STORAGE (GAL.)	30
ENT. WATER TEMP (˚F)	65
LVG. WATER TEMP (˚F)	132
HEATER AMPS AT RATED VOLTAGE	21.64
NO. OF ELEMENTS	2
VOLTS/PH	208/1
RECOVERY @ 72˚F RISE, GPH	25
MANUFACTURER	AO SMITH
MODEL NO.	DEN-30
REMARKS	1

REMARKS
1. SET THE LEAVING WATER TEMPERATURE FOR THIS WATER HEATER TO 130˚F.

Revisions

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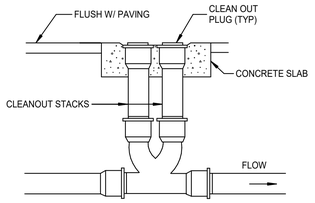
Project Code
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Project Title
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LEE SUMMIT, MISSOURI 64082

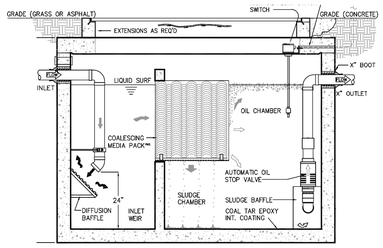
Drawing Title
PLUMBING SCHEDULES

Date	Drawn	Checked
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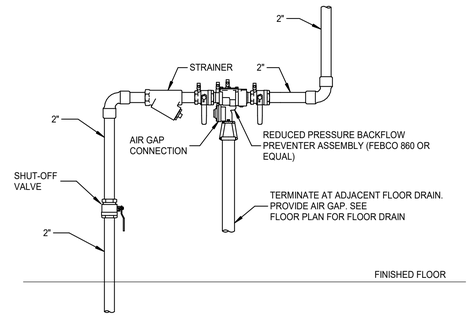
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P2.1



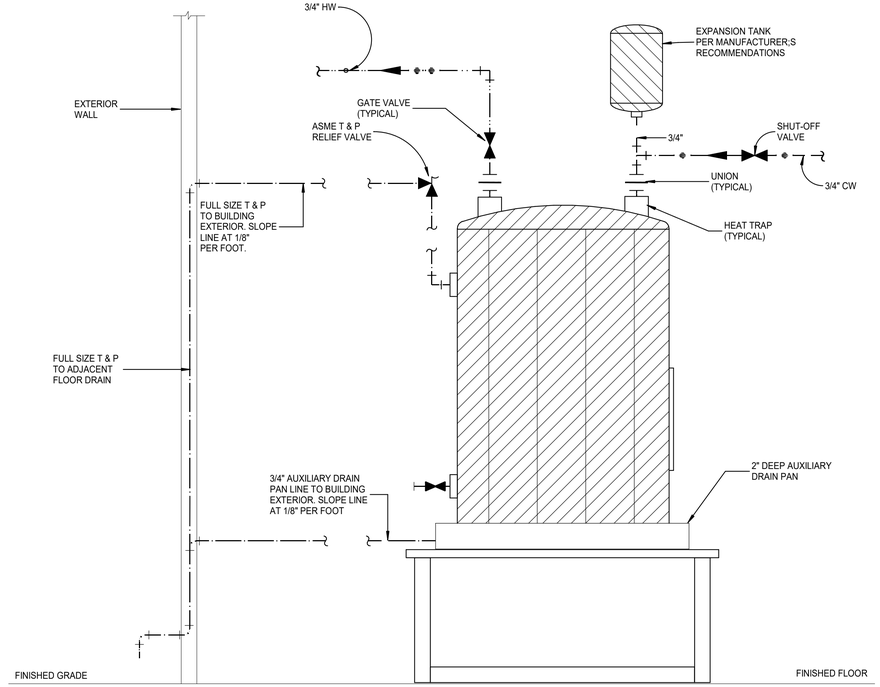
DUAL GRADE CLEANOUT DETAIL



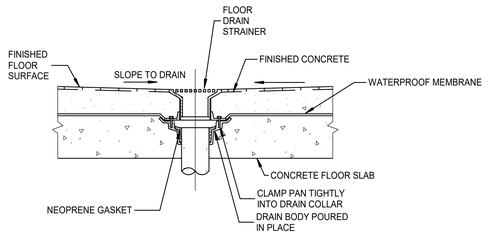
SAND / OIL SEPARATOR



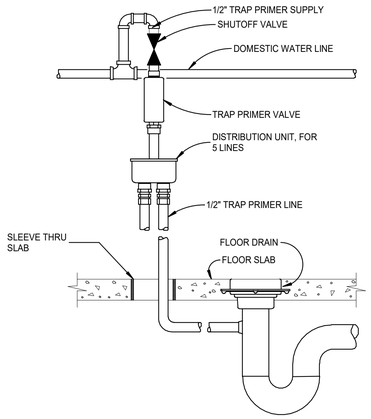
RPZ BACKFLOW PREVENTER DETAIL



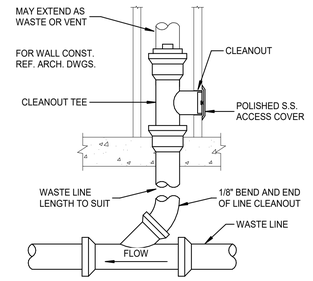
ELECTRIC WATER HEATER DETAIL



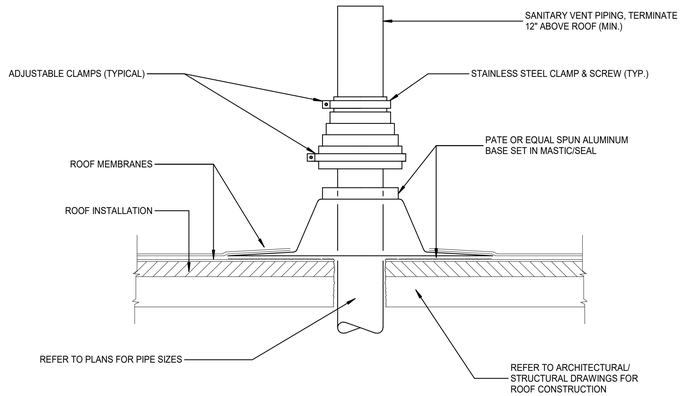
FLOOR DRAIN IN OPEN AREA



TRAP SEAL PRIMER DETAIL



WALL CLEANOUT-FINISHED ROOMS



PLUMBING VENT THROUGH ROOF

Revisions

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