Troop I Headquarters & CDL Erosion Control, Paving Repairs & Renovations

Rolla, Missouri

OWNER & CONTINUING AUTHORITY:
STATE OF MISSOURI
MIKE KEHOE,
GOVERNOR
DIVISION OF PUBLIC SAFETY
MISSOURI STATE HIGHWAY PATROL

PROJECT MANAGEMENT:
OFFICE OF ADMINISTRATION
DIVISION OF FACILITIES MANAGEMENT,
DESIGN AND CONSTRUCTION

CM Archer Group, P.C. dba:

ARCHER-ELGIN
ENGINEERING | SURVEYING | ARCHITECTURE

Corporate Authority:
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DESIGNER: Archer-Elgin

PROJECT NUMBER: R2405-01

SITE NUMBER: 6010
FACILITY NUMBER: 8136010004
8136010005

SHEET INDEX:

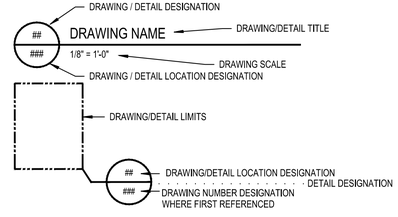
STATE OF MISSOURI
CAMERON J. SCHWEISS
NUMBER 2014017010
PROFESSIONAL ENGINEER

Cameron J Schweiss, P.E. 2014017010

SHEET NUMBER:

G-001

January 15, 2026



GRADING NOTES:

1. PRIOR TO THE START OF ANY EXCAVATION, EROSION & SEDIMENT CONTROL MEASURES SHALL BE INSTALLED.
2. CONTRACTOR SHALL VERIFY ELEVATION OF TEMPORARY BENCHMARKS BASED ON THE ELEVATION OF THE PRIMARY BENCHMARK, PRIOR TO THE START OF CONSTRUCTION. CONTRACTOR SHALL NOTIFY ENGINEER IF ELEVATIONS DIFFER FROM THOSE SHOWN ON THESE PLANS.
3. THIS SITE IS NOT WITHIN A DESIGNATED FLOOD PLAIN.
4. THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF THE VARIOUS UTILITY COMPANIES AND, WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THE INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR MUST CALL THE APPROPRIATE UTILITY COMPANY TO REQUEST EXACT FIELD LOCATION OF UTILITIES. IF NECESSARY, IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON PLANS.
5. ALL TRENCHES UNDER PAVED AREAS SHALL BE BACKFILLED WITH GRANULAR MATERIAL AND COMPACTED. GRANULAR MATERIAL SHALL BE PLACED AND COMPACTED TO A LEVEL EQUAL TO THE TRENCH DEPTH AT THE TIME OF THE UTILITY INSTALLATIONS.
6. ALL UNSURFACED AREAS ARE TO RECEIVE SIX INCHES OF TOPSOIL. CONTRACTOR TO SEED, MULCH, FERTILIZE, AND MAINTAIN ALL AREAS OUTSIDE OF PAVED AREAS THAT WERE DISTURBED DURING CONSTRUCTION UNTIL AN ACCEPTABLE STAND OF GRASS IS ESTABLISHED.
7. THE CONTRACTOR IS RESPONSIBLE FOR KEEPING STORM WATER RUN-OFF AND SEDIMENT UNDER CONTROL DURING CONSTRUCTION.
8. CONTRACTOR SHALL REFER TO ARCHITECTURAL PLANS FOR EXACT LOCATIONS AND DIMENSIONS OF VESTIBULES, EXIT PORCHES, RAMPS, TRUCK DOCKS, DOWNSPOUTS, ROOF DRAINS, BUILDING DIMENSIONS AND UTILITY ENTRANCES.
9. ALL SURVEY MONUMENTS DISTURBED DURING CONSTRUCTION SHALL BE REPLACED BY A SURVEYOR LICENSED IN THE STATE OF MISSOURI, AT THE CONTRACTORS EXPENSE.
10. THE CONTRACTOR SHALL VERIFY AND/OR PERFORM ALL NECESSARY INSPECTIONS AND/OR CERTIFICATIONS REQUIRED BY CODES AND/OR UTILITY COMPANIES.
11. THE CONTRACTOR SHALL GRADE ALL AREAS TO DRAIN IN ORDER TO PREVENT PONDING WATER. THE MINIMUM ALLOWABLE SLOPE ON ALL PAVED SURFACES SHALL BE 1 PERCENT.
12. THE MINIMUM DEPTH OF COVER ON ALL WATERLINES FOR THIS SITE IS 42 INCHES, UNLESS INDICATED OTHERWISE.
13. UNLESS INDICATED OTHERWISE, ALL WATERLINE AND SANITARY SEWER CROSSINGS SHALL HAVE A MINIMUM 18 INCH VERTICAL SEPARATION AND 10 FEET HORIZONTAL SEPARATION. THE CONTRACTOR SHALL NOTE THAT THE DEPTHS OF EXISTING UTILITIES HAVE BEEN PLOTTED FROM INFORMATION PROVIDED BY VARIOUS UTILITY COMPANIES AND IS TO BE CONSIDERED APPROXIMATE. IF THE MINIMUM SEPARATIONS CANNOT BE CONSTRUCTED AS SHOWN, THE CONTRACTOR SHALL NOTIFY THE ENGINEER AND APPROPRIATE MODIFICATIONS WILL BE ISSUED.
14. CONTRACTOR SHALL VERIFY ALL PERMITS AND APPROVALS FOR IMPROVEMENTS, WHICH ARE SHOWN TO BE CONSTRUCTED, ARE OBTAINED PRIOR TO CONSTRUCTION.
15. FOUNDATION DRAINS TO TIE INTO STORM SYSTEM. SEE STRUCTURAL PLAN FOR DETAILS. CONTRACTOR TO COORDINATE TIE-IN LOCATIONS.

SOIL PREPARATION AND COMPACTION NOTES:

1. THE CONTRACTOR SHALL REMOVE SURFACE VEGETATION, TOPSOIL, ROOT SYSTEMS, ORGANIC MATERIAL CONTAINING MORE THAN 4% ORGANICS, EXISTING FILL AND SOFT OR OTHERWISE UNSUITABLE MATERIAL FROM THE SITE.
2. PROOF ROLL EXPOSED SUB-GRADE WITH HEAVY RUBBER-TIRED CONSTRUCTION EQUIPMENT.
3. REMOVE AND REPLACE UNSUITABLE AREAS WITH SUITABLE MATERIAL AS INDICATED BY THE ENGINEER OR OWNER'S ON SITE GEOTECHNICAL REPRESENTATIVE.
4. IN CUT AREAS THE EXPOSED SUB-GRADE SHALL BE SCARIFIED TO A DEPTH OF EIGHT (8) INCHES, ADJUSTED IN MOISTURE CONTENT AND RECOMPACTED.
5. FILL MATERIAL SHALL BE PLACED IN LOOSE LIFTS NOT TO EXCEED EIGHT (8) INCHES IN THICKNESS. THE LIFTS SHALL BE FREE OF ORGANIC AND OTHER DELETERIOUS MATERIAL, SHALL CONTAIN NO CHEMICALS THAT MAY RESULT IN THE MATERIAL BEING CLASSIFIED AS "CONTAMINATED" AND SHALL BE LOW-EXPANSIVE.
6. THE TOP 12 INCHES OF COMPACTED FILL SHOULD HAVE A MAXIMUM 3 INCH PARTICLE DIAMETER AND ALL UNDERLYING COMPACTED FILL A MAXIMUM 6 INCH PARTICLE DIAMETER.

UTILITY NOTES:

1. THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF THE VARIOUS UTILITY COMPANIES AND, WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THE INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR MUST CALL THE APPROPRIATE UTILITY COMPANY TO REQUEST EXACT FIELD LOCATION OF UTILITIES. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON PLANS.
2. ALL TRENCHES UNDER PAVED AREAS SHALL BE BACKFILLED WITH GRANULAR MATERIAL AND COMPACTED TO MEET COMPACTION REQUIREMENTS FOR THE PARKING LOT. GRANULAR MATERIAL SHALL BE PLACED AND COMPACTED TO A LEVEL EQUAL TO THE TRENCH DEPTH AT THE TIME OF THE UTILITY INSTALLATION.
3. CONTRACTOR SHALL REFER TO BUILDING PLANS FOR EXACT LOCATIONS AND DIMENSIONS OF EXIT PORCHES, STAIRS, RAMPS, OVERHEAD DOORS, DOWNSPOUTS, ROOF DRAINS, PRECISE BUILDING DIMENSIONS, AND EXACT BUILDING UTILITY ENTRANCE LOCATIONS.
4. THE CONTRACTOR SHALL VERIFY AND/OR PERFORM ALL NECESSARY INSPECTIONS AND/OR CERTIFICATIONS REQUIRED BY CODES AND/OR UTILITY COMPANIES PRIOR TO THE ANNOUNCED BUILDING POSSESSION DATA AND THE FINAL CONNECTIONS OF UTILITY SERVICES.
5. CONTRACTOR SHALL NOTIFY UTILITY COMPANIES AT LEAST 72 HOURS BEFORE CONNECTING TO ANY EXISTING LINE. UNDERGROUND UTILITIES SHALL BE INSTALLED, INSPECTED AND APPROVED PRIOR TO BACKFILLING. IT IS THE CONTRACTOR'S RESPONSIBILITY FOR COORDINATING THIS WORK.
6. UNLESS OTHERWISE NOTED, ALL SANITARY SEWER PIPE SHALL BE SDR SCHEDULE 40 PVC
7. ALL WATERLINES SHALL HAVE A MINIMUM OF 42” INCHES OF COVER BELOW FINISH GRADE, UNLESS OTHERWISE INDICATED ON PLANS.
8. CONTRACTOR SHALL PROVIDE ALL WATERLINE TEES, VALVES, BENDS, TAPPING SLEEVES, METERS, METER PITS, FIRE HYDRANTS, ETC. NECESSARY TO CONSTRUCT THE WATERLINES AS SHOWN ON THESE PLANS. THRUST BLOCKING SHALL BE PROVIDED AT ALL TEES, BENDS AND FIRE HYDRANTS.
9. CONTRACTOR SHALL COORDINATE ADJUSTMENTS TO EXISTING UTILITIES WITH APPROPRIATE UTILITY COMPANY AS WORK PROGRESSES.
10. UTILITY CONTRACTOR SHALL BE RESPONSIBLE FOR ALL TAPPING AND TIE-IN FEES, AS WELL AS COST OF SERVICE CONNECTIONS.
11. UNLESS INDICATED OTHERWISE, ALL WATERLINE AND SANITARY SEWER CROSSINGS SHALL HAVE A MINIMUM 18 INCH VERTICAL SEPARATION AND 10 FEET HORIZONTAL SEPARATION. THE CONTRACTOR SHALL NOTE THAT THE DEPTHS OF EXISTING UTILITIES HAVE BEEN PLOTTED FROM INFORMATION PROVIDED BY VARIOUS UTILITY COMPANIES AND IS TO BE CONSIDERED APPROXIMATE. IF THE MINIMUM SEPARATIONS CANNOT BE CONSTRUCTED AS SHOWN, THE CONTRACTOR SHALL NOTIFY THE ENGINEER AND APPROPRIATE MODIFICATIONS WILL BE ISSUED.
12. THE CONTRACTOR SHALL VERIFY LOCATIONS OF ALL EXISTING UTILITIES TO BE CROSSED AND IDENTIFY POTENTIAL CONFLICTS PRIOR TO STARTING CONSTRUCTION.

DEMOLITION NOTES:

1. THE CONTRACTOR SHALL CONFORM TO ALL APPLICABLE STATE AND LOCAL CODES FOR DEMOLITION OF STRUCTURES, SAFETY OF ADJACENT STRUCTURES, DUST CONTROL, AND SEDIMENT & EROSION CONTROL DURING CONSTRUCTION.
2. THE CONTRACTOR SHALL VERIFY THAT ALL REQUIRED PERMITS AND LICENSES FROM APPROPRIATE AUTHORITIES HAVE BEEN OBTAINED PRIOR TO CONSTRUCTION.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING & SCHEDULING WORK WITH ALL UTILITY COMPANIES DURING CONSTRUCTION.
4. THE CONTRACTOR SHALL NOT CLOSE OR OBSTRUCT PUBLIC OR PRIVATE ROADWAYS, SIDEWALKS, OR FIRE HYDRANTS WITHOUT APPROPRIATE PERMITS OR WRITTEN AUTHORIZATION.
5. THE CONTRACTOR SHALL ACCURATELY RECORD ACTUAL LOCATIONS OF CAPPED UTILITIES AND SUBSURFACE OBSTRUCTIONS THAT WILL REMAIN AFTER DEMOLITION.
6. THE CONTRACTOR SHALL PROVIDE, ERECT, AND MAINTAIN SEDIMENT & EROSION CONTROL DEVICES, TEMPORARY BARRIERS, AND SECURITY DEVICES DURING CONSTRUCTION.
7. THE CONTRACTOR SHALL PROTECT EXISTING LANDSCAPING MATERIALS, APPURTENANCES, AND STRUCTURES, WHICH ARE NOT TO BE DEMOLISHED. ANY DAMAGE CAUSED BY DEMOLITION OPERATIONS SHALL BE REPAIRED BY THE CONTRACTOR AT NO COST TO OWNER.
8. THE CONTRACTOR SHALL PROTECT AND MAINTAIN IN A SAFE AND OPERABLE CONDITION UTILITIES THAT ARE TO REMAIN. THE CONTRACTOR SHALL PREVENT INTERRUPTION OF EXISTING UTILITY SERVICE TO OCCUPIED OR USED FACILITIES, EXCEPT WHEN AUTHORIZED IN WRITING BY AUTHORITIES HAVING JURISDICTION. THE CONTRACTOR SHALL PROVIDE TEMPORARY SERVICES DURING INTERRUPTIONS TO EXISTING UTILITIES AS ACCEPTABLE TO GOVERNING AUTHORITIES AND OWNER.
9. THE CONTRACTOR SHALL NOTIFY ADJACENT OWNERS OF WORK THAT MAY AFFECT THEIR PROPERTY, POTENTIAL NOISE, UTILITY OUTAGES OR DISRUPTIONS.
10. COMPLETELY FILL BELOW GRADE AREAS AND VOIDS RESULTING FROM DEMOLITION OR REMOVAL OF STRUCTURES, WELLS, CISTERNS, ETC., USING APPROVED SELECT FILL MATERIALS CONSISTING OF STONE, GRAVEL, AND SAND. FILL MATERIALS SHALL BE FREE FROM DEBRIS, TRASH, FROZEN MATERIALS, ROOTS, AND OTHER ORGANIC MATTER.
11. NO BURNING OF ANY MATERIAL, DEBRIS, OR TRASH ON-SITE OR OFF-SITE, EXCEPT WHEN ALLOWED BY APPROPRIATE GOVERNING AUTHORITY AND OWNER. ANY PERMITS REQUIRED FOR DOING SO SHALL BE OBTAINED BY THE CONTRACTOR.
12. ALL ITEMS NOTED "TO BE ADJUSTED" SHALL BE RAISED OR LOWERED TO MATCH THE NEW GRADE INDICATED OR FLUSH WITH THE SURROUNDING GRADE. (I.E. MANHOLE RIMS, VALVE COVERS, GRATES, ETC.)
13. UNLESS NOTED OTHERWISE, UTILITIES DESIGNATED TO BE REMOVED SHALL BE REMOVED IN THEIR ENTIRETY. TRENCHES SHALL THEN BE BACKFILLED AND COMPACTED.
14. SHOULD HAZARDOUS MATERIALS BE FOUND DURING DEMOLITION OPERATIONS, THE CONTRACTOR SHALL NOTIFY THE OWNER AND ALL GOVERNING AGENCIES. CONTRACTOR SHALL THEN CONFORM TO ALL APPLICABLE REGULATORY PROCEDURES.
15. THE CONTRACTOR SHALL PROVIDE, INSTALL, AND MAINTAIN TRAFFIC CONTROL AT ALL TIMES DURING CONSTRUCTION. THIS INCLUDES SIGNS, BARRIERS, CONSTRUCTION FENCING, STRIPING, ETC. NECESSARY TO SAFELY CONTROL SITE TRAFFIC.
16. THE CONTRACTOR SHALL KEEP THE PREMISES CLEAN AND FREE OF DEBRIS DURING CONSTRUCTION.
17. THE FIRE PROTECTION FOR THE SITE SHALL REMAIN IN SERVICE AT ALL TIMES DURING CONSTRUCTION.
18. ALL SURVEY MONUMENTS DISTURBED DURING CONSTRUCTION SHALL BE REPLACED BY A LICENSED LAND SURVEYOR, LICENSED IN MISSOURI.
19. THE EDGES OF ALL PAVEMENT AND CURB SECTIONS TO BE REMOVED SHALL BE SAW CUT. REMAINING PAVEMENT AND CURB SECTIONS SHALL HAVE SMOOTH, CLEAN EDGES.
20. REMOVE ALL STUMPS, BUSHES, TREES, WEEDS AND OTHER SURFACE OBSTRUCTIONS THAT ARE WITHIN THE PROPOSED CONSTRUCTION AREA AND THAT ARE NOT OTHERWISE NOTED TO REMAIN. CONTRACTOR TO STRIP ALL TOPSOIL FROM ENTIRE AREA TO BE GRADED. THIS MAY BE DONE IN PHASES.
21. ALL ITEMS INDICATED ON THE DEMOLITION PLAN SHALL BE DEMOLISHED AND DISPOSED OF OFF-SITE.
22. CONTRACTOR SHALL PROTECT AND MAINTAIN ITEMS WHICH ARE INDICATED TO REMAIN.
23. CONDUCT DEMOLITION OPERATIONS AND DEBRIS REMOVAL TO ENSURE MINIMUM INTERFERENCE WITH ROADS, STREETS, WALKS, AND ADJACENT PROPERTIES.
24. THE CONTRACTOR SHALL ENSURE SAFE PASSAGE OF PERSONS AROUND AREA OF DEMOLITION. CONDUCT OPERATIONS TO PREVENT DAMAGE TO ADJACENT BUILDINGS, STRUCTURES, AND OTHER FACILITIES AND INJURY TO PERSONS.
25. THE CONTRACTOR SHALL MAINTAIN EXISTING UTILITIES WHICH ARE TO STAY IN SERVICE AND PROTECT THEM AGAINST DAMAGE DURING CONSTRUCTION.
26. THE CONTRACTOR SHALL NOT START DEMOLITION WORK UNTIL UTILITY DISCONNECTIONS HAVE BEEN COMPLETED.
27. THE CONTRACTOR MAY USE WATER SPRINKLING, TEMPORARY ENCLOSURES, AND OTHER SUITABLE METHODS TO LIMIT DUST AND DIRT RISING AND SCATTERING IN AIR. COMPLY WITH GOVERNING REGULATIONS PERTAINING TO ENVIRONMENTAL PROTECTION.
28. DO NOT USE WATER WHEN IT MAY CREATE HAZARDOUS OR OBJECTIONABLE CONDITIONS SUCH AS ICE, FLOODING, AND POLLUTION.
29. THE CONTRACTOR SHALL CLEAN ADJACENT STRUCTURES OF DUST, DIRT, AND DEBRIS CAUSED BY DEMOLITION OPERATIONS. RETURN ADJACENT AREAS TO CONDITION EXISTING PRIOR TO START OF WORK.
30. THE CONTRACTOR SHALL REMOVE ACCUMULATED DEBRIS, RUBBISH, AND OTHER MATERIALS FROM THE SITE AND DISPOSE OF THEM PER GOVERNING REGULATIONS.
31. CONTRACTOR SHALL RELOCATE OR REPLACE ITEMS LIKE MAILBOXES, FENCES, POSTS, ETC. AS INDICATED ON THE PLANS.
32. THE CONTRACTOR SHALL PROVIDE ALL SIGNAGE AND/OR BARRICADES NECESSARY DURING CONSTRUCTION TO ADEQUATELY PROTECT PEDESTRIANS AND VEHICULAR TRAFFIC AS A RESULT OF CONSTRUCTION.
33. UNLESS MARKED AS TO BE REMOVED, CONTRACTOR SHALL PROTECT ALL TRESS & LANDSCAPE.
34. UNLESS MARKED OTHERWISE, CONTRACTOR SHALL MATCH EXISTING GRADES AT PROPERTY LINES. NO WORK SHALL BE PERFORMED OUTSIDE OF PROPERY/ROW LINES.
35. ALL ITEMS MARKED "TBR" OR TO BE REMOVED SHALL BE REMOVED IN THEIR ENTIRETY.
36. CONSTRUCTION FENCE SHALL CONSIST OF MIN. 6' TALL CHAIN-LINK FENCE UNLESS OTHERWISE INDICATED.

LANDSCAPE GENERAL NOTES:

1. CONTRACTOR SHALL SEED AND STRAW ALL DISTURBED AREAS AND SHALL BE TEMPORARILY IRRIGATED TO ESTABLISH SEEDING.

GENERAL NOTES:

1. THE LOCATIONS OF UNDERGROUND UTILITIES AS SHOWN HEREON ARE BASED ON ABOVE GROUND STRUCTURES AND AS POINTED OUT OR MAPPED BY UTILITIES PERSONNEL. LOCATIONS AND SIZES OF UNDERGROUND UTILITIES/STRUCTURES MAY VARY FROM LOCATIONS SHOWN. ADDITIONAL BURIED UTILITIES/STRUCTURES MAY BE ENCOUNTERED. BURIED UTILITIES/STRUCTURES SHOWN HEREON MAY NOT EXIST. NO EXCAVATIONS WERE MADE DURING THE PROGRESS OF THIS SURVEY TO FIND OR VERIFY BURIED UTILITIES LOCATIONS. THE CONTRACTOR SHALL EXPLORE AND EXPOSE ANY AND ALL OBSTRUCTIONS IN ADVANCE OF EXCAVATION IN ORDER THAT ANY CHANGES IN GRADE AND/OR ALIGNMENT MAY BE MADE. PRIOR TO ANY SITE EXCAVATIONS, CONTACT THE UTILITY COMPANIES FOR LOCATIONS OF THEIR LINES. ALSO, STATE LAW (RSMO CHAPTER 319) REQUIRES BURIED CABLE LOCATOR SERVICE BE CONTACTED PRIOR TO EXCAVATION. CALL 800-DIG-RITE.
2. THIS IS NOT A BOUNDARY SURVEY. THE PROPERTY LINES SHOWN ARE APPROXIMATE BASED UPON MONUMENTATION FOUND IN THE FIELD.
3. CONTRACTOR SHALL BE RESPONSIBLE FOR VERTICAL ALIGNMENT OF UTILITIES, INCLUDING WATER MAINS & SERVICE LINES AND ANY OTHER UTILITIES NECESSARY TO INSTALL PROPOSED IMPROVEMENTS, AND AVOID SANITARY AND STORM SEWERS.
4. PRIOR TO ANY SITE EXCAVATIONS, CONTACT THE UTILITY COMPANIES FOR LOCATIONS OF THEIR LINES. ALSO, STATE LAW (RSMO CHAPTER 319) REQUIRES BURIED CABLE LOCATOR SERVICE BE CONTACTED PRIOR TO EXCAVATION. CALL 800-DIG-RITE.
5. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO BE LIABLE FOR ANY DAMAGE AND SUBSEQUENT REPAIR TO ANY UNDERGROUND UTILITIES OR PERTINENT OBSTRUCTION IN THE COURSE OF THE CONTRACTOR'S OPERATIONS ON THE CONSTRUCTION SITE OR THE IMMEDIATE AREA.
6. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO KEEP ROCK, MUD ANOTHER DEBRIS CAUSED BY CONSTRUCTION ACTIVITIES CLEARED FROM ADJOINING STREETS AT ALL TIMES DURING CONSTRUCTION.
7. ALL DIMENSIONS AND GRADES SHOWN ON THE PLANS SHALL BE FIELD VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. IN CASE OF A CONFLICT BETWEEN PLANS, THE CONTRACTOR SHALL NOTIFY THE ENGINEER FOR CLARIFICATION PRIOR TO PROCEEDING WITH CONSTRUCTION.
8. CONTRACTOR SHALL RELOCATE/REPLACE EXISTING ITEMS AS NECESSARY TO CONSTRUCT THE PROPOSED IMPROVEMENTS, INCLUDING, BUT NOT LIMITED TO, PROPERTY PINS, MAILBOXES, SHRUBS, FENCES & LANDSCAPING. ANY PROPERTY PINS/MONUMENTS THAT ARE DISTURBED OR DESTROYED DURING CONSTRUCTION SHALL BE REPLACED UNDER THE DIRECT SUPERVISION OF A PROFESSIONAL LAND SURVEYOR LICENSED IN THE STATE OF MISSOURI.
9. ALL OSHA RULES & REGULATIONS ESTABLISHED FOR THE TYPE OF CONSTRUCTION REQUIRED BY THE PLANS SHALL BE STRICTLY FOLLOWED (IE. TRENCHING, BLASTING, ETC.)
10. CONTRACTOR SHALL DEMOLISH, CLEAR & DISPOSE OF EXISTING ITEMS NECESSARY TO CONSTRUCT THE PROPOSED IMPROVEMENTS, INCLUDING, BUT NOT LIMITED TO, TREES, BRUSH, CULVERT, HEADWALL, STORM BOXES, CURBING, AND PAVEMENTS.
11. ALL CONSTRUCTION SHALL BE IN STRICT ACCORDANCE WITH LOCAL, STATE AND FEDERAL CONSTRUCTION STANDARDS AND SPECIFICATIONS.
12. ALL TRENCH BACKFILL TO BE COMPACTED TO 95% STANDARD PROCTOR DENSITY, IN MAXIMUM 8-INCH LIFTS. CRUSHED STONE MAY BE SUBSTITUTED FOR ALL OR PART OF TRENCH BACKFILL.
13. ANY CHANGE ORDERS INVOLVING THESE DRAWINGS MUST BE APPROVED IN WRITING BY THE OWNER.
14. ALL SUB-BASE SHALL BE INSPECTED BY ENGINEER PRIOR TO POURING CONCRETE FOR STRUCTURES.
15. CONTRACTOR AND ALL SUBCONTRACTORS ARE RESPONSIBLE FOR COORDINATING WORK AS SHOWN ON THE PLANS. ANY ERRORS OR OMISSIONS FOR ITEMS OR WORK COMPLETED BECAUSE OF THE LACK OF FAMILIARIZATION WITH THE PLANS AND SPECIFICATIONS IS THE RESPONSIBILITY OF THE GENERAL CONTRACTOR.
16. ALL WORK SHALL COMPLY WITH ANY GOVERNING CODES OR REGULATIONS THIS INCLUDES THE IBC CODE AND THE LATEST EDITION OF THE NATIONAL ELECTRICAL CODE.
17. CONTRACTOR SHALL TAKE EVERY PRECAUTION NECESSARY TO PROTECT EXISTING PAVEMENT, CURB, AND SIDEWALK AREAS. IN THE EVENT OF DAMAGE TO PAVEMENT, CONTRACTOR SHALL REPLACE SURFACE AS REQUIRED TO MATCH EXISTING DEPTH AND MATERIAL, UNLESS NOTED OTHERWISE ON DRAWINGS. SIDEWALKS SHALL BE REMOVED BACK TO THE NEAREST CONTROL JOINT. PAVEMENT, CURB AND SIDEWALKS SHALL BE SAW-CUT TO A NEAT LINE.
18. THE OWNER OR ENGINEER ARE NOT IN CONTROL OF OR HAVE CHARGE OF AND SHALL NOT BE RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, PROCEDURES, OR ACTS OR OMISSIONS OF THE CONTRACTOR USED TO COMPLETE THE WORK. THE OWNER AND ENGINEER ARE NOT RESPONSIBLE FOR ANY NEGLIGENCE OR FAILURE OF THE CONTRACTOR TO CARRY OUT THE WORK IN ACCORDANCE WITH INDUSTRY STANDARDS AND ALL GOVERNING CODES.
19. THE CONTRACTOR SHALL BE RESPONSIBLE FOR AND PROVIDE ANY ADEQUATE TEMPORARY BRACING OR SHORING OF THE STRUCTURE FOR ALL LOADS THAT MAY BE APPLIED DURING CONSTRUCTION.
20. A COPY OF ALL TESTING REPORTS AS NOTED ABOVE SHALL BE FORWARDED TO THE OWNER FOR HIS REVIEW. THIS SHALL INCLUDE, BUT NOT BE LIMITED TO, CONCRETE PLACEMENT, SLUMP TESTS, MASONRY TESTS, ETC.
21. THE CONTRACTOR SHALL NOTIFY THE TESTING FIRM 5 DAYS IN ADVANCE FOR ALL FIELD INSPECTIONS.
22. SHOP DRAWINGS WILL BE REQUIRED FOR THE MECHANICAL EQUIPMENT LAYOUT, PLACEMENT OF REINFORCING STEEL, AND ANY OTHER ITEMS THAT MAY BE NOTED WITHIN THE SPECIFICATIONS.
23. NO DEVIATION FROM THE CONSTRUCTION DOCUMENTS SHALL BE PERMITTED WITHOUT PRIOR WRITTEN CONSENT OF THE OWNER. IF A DEVIATION DOES OCCUR IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO PROVIDE ALL RESOURCES TO RESTORE THE STRUCTURAL INTEGRITY OF THE BUILDING, INCLUDING NECESSARY LABOR, MATERIALS, EQUIPMENT, FEES FOR ENGINEERING AND INSPECTION, ETC.
24. THE ENGINEER SHALL NOT BE RESPONSIBLE FOR DEVIATIONS TO THESE PLANS DURING OR AFTER CONSTRUCTION WITHOUT WRITTEN APPROVAL. THE ENGINEER SHALL NOT BE RESPONSIBLE FOR THE QUALITY OR ACCURACY OF CONSTRUCTION BY THE CONTRACTOR.

GENERAL ABBREVIATIONS

ABI	ALTERNATE BID ITEM
ACI	AMERICAN CONCRETE INSTITUTE
AASHTO	AMERICAN SOCIETY OF STATE HIGHWAY & TRANSPORTATION OFFICIALS
ADA	AMERICANS WITH DISABILITIES ACT
ANSI	AMERICAN NATIONAL STANDARDS INSTITUTE
ALT	ALTERNATE
ASTM	AMERICAN SOCIETY OF TESTING AND MATERIALS
AI	AREA INLET
BOC	BACK OF CURB
BM	BENCHMARK
BLDG	BUILDING
CI	CURB INLET
CIP	CAST IN PLACE
CL	CENTERLINE
CMP	CORRUGATED METAL PIPE
CMU	CONCRETE MASONRY UNIT
CO	CLEANOUT
COL	COLUMN
CONC	CONCRETE
CONT	CONTINUOUS
DIA	DIAMETER
DWG	DRAWING
DIP	DUCTILE IRON PIPE
DS	DOWNSPOUT
EA	EACH
EJ	EXPANSION JOINT
EL	ELEVATION
ELEC	ELECTRIC OR ELECTRICAL
EQ	EQUAL
EX	EXISTING
EXP	EXPOSED
EXPAN	EXPANSION
EXT	EXTERIOR
EW	EACH WAY
EP	EDGE OF PAVEMENT
FFE	FINISHED FLOOR ELEVATION
FDC	FIRE DEPARTMENT CONNECTION
FES	FLARED END SECTION
FG	FINISHED GRADE
FH	FIRE HYDRANT
FL	FLOW LINE
FNC	FENCE
FT	FEET
FM	FORCE MAIN
GI	GRATED INLET
HDPE	HIGH DENSITY POLYETHYLENE PIPE
IBC	INTERNATIONAL BUILDING CODE
JB	JUNCTION BOX
LF	LINEAR FEET
LS	LIFT STATION
MAX	MAXIMUM
MIN	MINIMUM
MISC	MISCELLANEOUS
MEP	MECHANICAL ELECTRICAL PLUMBING
ML	MATCH LINE
MH	MANHOLE
MUTCD	MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES
MODOT	MISSOURI DEPARTMENT OF TRANSPORTATION
NTS	NOT TO SCALE
N/A	NOT APPLICABLE
NIC	NOT IN CONTRACT
PH	PHASE
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PVC	POLYVINYL CHLORIDE PIPE
REQ'D	REQUIRED
R	RADIUS
ROW	RIGHT-OF-WAY
RCP	REINFORCED CONCRETE PIPE
SAN	SANITARY
SCH	SCHEDULE
SHT	SHEET
STA	STATION
TCC	TOP CONCRETE CURB
TYP	TYPICAL
TBM	TEMPORARY BENCHMARK
TOC	TOP OF CURB
TOF	TOP OF FOOTING
TOW	TOP OF WALL
TYP	TYPICAL
VCP	VITRIFIED CLAY PIPE
WWF	WELDED WIRE FABRIC

STANDARD LEGEND

- POWER POLE & GUY WIRE
- LIGHT POLE
- AREA LIGHT
- FLOOD LIGHT
- TELEPHONE MANHOLE
- TELEPHONE PEDESTAL
- CABLE MARKER
- CABLE TV PEDESTAL
- ELECTRIC METER
- ELECTRIC BOX
- ELECTRICAL MANHOLE
- TRAFFIC CONTROL BOX
- TRAFFIC STANDARD
- WATER METER
- WATER WELL
- FIRE HYDRANT
- WATER MANHOLE
- WATER VALVE
- WATER SPRINKLER
- IRRIGATION CONTROL VALVE
- STORM SEWER MANHOLE
- CLEANOUT
- SANITARY SEWER MANHOLE
- SIGN
- GAS DRIP
- GAS METER
- GAS VALVE
- MAILBOX
- BOLLARD
- PARKING METER
- EX CONCRETE PAVING
- EX ASPHALT PAVING
- EX GRANULAR PAVING
- PROPOSED CONCRETE PAVING
- PROPOSED ASPHALT PAVING
- PROPOSED GRANULAR PAVING
- EX 1' CONTOUR
- EX 5' CONTOUR
- EX RIGHT-OF-WAY
- EX PROPERTY LINE (APPROXIMATE)
- EX EASEMENT LINE
- EX BUILDING SETBACK LINE
- EX OVERHEAD ELECTRIC
- EX UNDERGROUND ELECTRIC
- EX UNDERGROUND TELEPHONE
- EX UNDERGROUND CABLE
- EX SANITARY SEWER
- EX FORCE MAIN
- EX WATER LINE
- EX CHILLED WATER LINE
- EX STEAM LINE
- EX NATURAL GAS
- EX STORM PIPE
- EX BARBED WIRE FENCE
- EX CHAIN LINK FENCE
- EX WOOD FENCE
- EX GUARD RAIL
- EX BUILDING LINE
- ABANDONED WATER LINE
- ABANDONED UNDERGROUND UTILITY
- PROPOSED 1' CONTOUR
- PROPOSED 5' CONTOUR
- PROPOSED STORM PIPE
- PROPOSED GRADING LIMITS
- PROPOSED SANITARY SEWER
- PROPOSED FORCE MAIN
- PROPOSED WATER LINE
- PROPOSED GAS LINE
- PROPOSED SILT FENCE
- PROPOSED INLET PROTECTION
- PROPOSED PAD MOUNTED TRANSFORMER
- PROPOSED STREET LIGHT
- PROPOSED FIRE HYDRANT
- PROPOSED WATER VALVE
- PROPOSED WATER METER
- PROPOSED CLEANOUT
- PROPOSED SANITARY SEWER MANHOLE

GENERAL SYMBOLS

Know what's below.
Call before you dig.

MISSOURI
ONE CALL SYSTEM

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MIKE KEHOE,
GOVERNOR

CAMERON J. SCHWEISS
NUMBER
PE-2014017010
01/15/26
Cameron J Schweiss, P.E. 2014017010

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STATE OF MISSOURI
DIVISION OF PUBLIC SAFETY
STATE HIGHWAY PATROL

TROOP I HEADQUARTERS &
CDL EROSION CONTROL,
PAVING REPAIR AND
RENOVATION

1301 NAGOGAMI ROAD
ROLLA, MISSOURI

PROJECT # R2405-01
SITE # 6010
FACILITY # 8136010004
8136010005

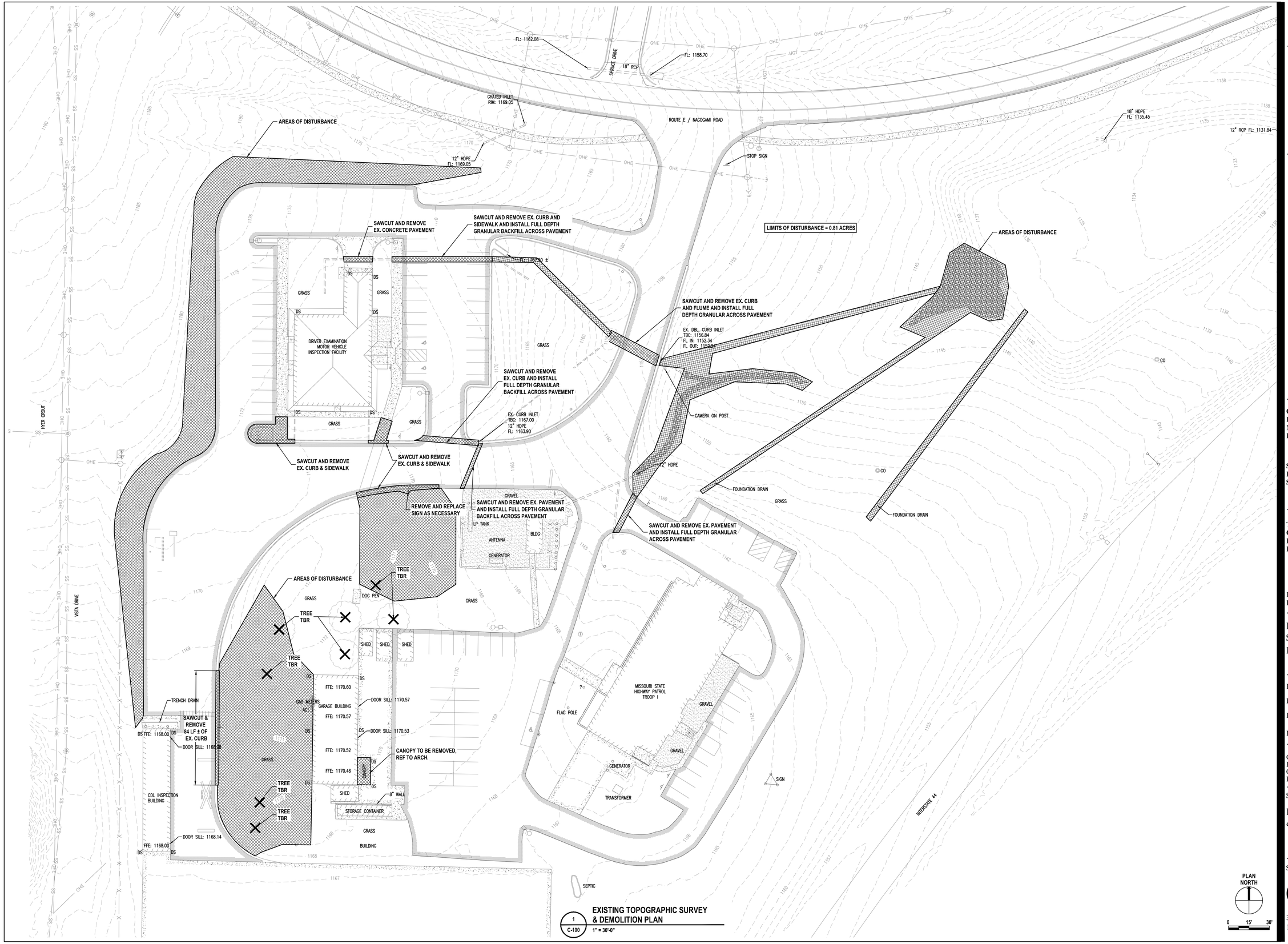
REVISION:__________
DATE:__________
REVISION:__________
DATE:__________
REVISION:__________
DATE:__________
ISSUE DATE: 12-11-2025

CAD DWG FILE: C-001.DWG
DRAWN BY: JSM
CHECKED BY: CJS
DESIGNED BY: JM

SHEET TITLE:
CIVIL GENERAL NOTES

SHEET NUMBER:
C-001

2 OF 24
1-15-2026



1 C-100 **EXISTING TOPOGRAPHIC SURVEY & DEMOLITION PLAN**
1" = 30'-0"

PLAN NORTH
0 15' 30'

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DATE:
ISSUE DATE: 12-11-2025

CAD DWG FILE: C-100.DWG
DRAWN BY: JSM
CHECKED BY: CJS
DESIGNED BY: JM

SHEET TITLE:

EX. TOPOGRAPHIC SURVEY & DEMOLITION PLAN

SHEET NUMBER:

C-100

3 OF 24
1-15-2026

1 C-101 **PAVEMENT REPAIR PLAN**
1" = 30'-0"

2" OF MoDOT BP-1
3" OF BITUMINOUS BLACK BASE
10" OF MoDOT TYPE 5
14" OF 2" MINUS

PAVEMENT DEMOLITION LEGEND

- REMOVE 24" BELOW BOTTOM OF PAVEMENT AND REPLACE WITH (14") OF 2" MINUS, (10") OF MoDOT TYPE 5, (3") OF BLACK BASE AND (2") OF BP-1, RESTRIPE, SEE DETAIL CD-501
- REMOVE 8" BELOW BOTTOM OF PAVEMENT AND REPLACE (8") OF MoDOT TYPE 5, (3") OF BLACK BASE AND (2") OF BP-1, RESTRIPE, SEE DETAIL CD-501
- MILL THE TOP 2" AND OVERLAY 2" OF BP-1 WITH TOP LIFT OF SURROUNDING PAVEMENT
- CRACK/FILL AND SEAL COAT, RESTRIPE

PLAN NORTH
0 15' 30'

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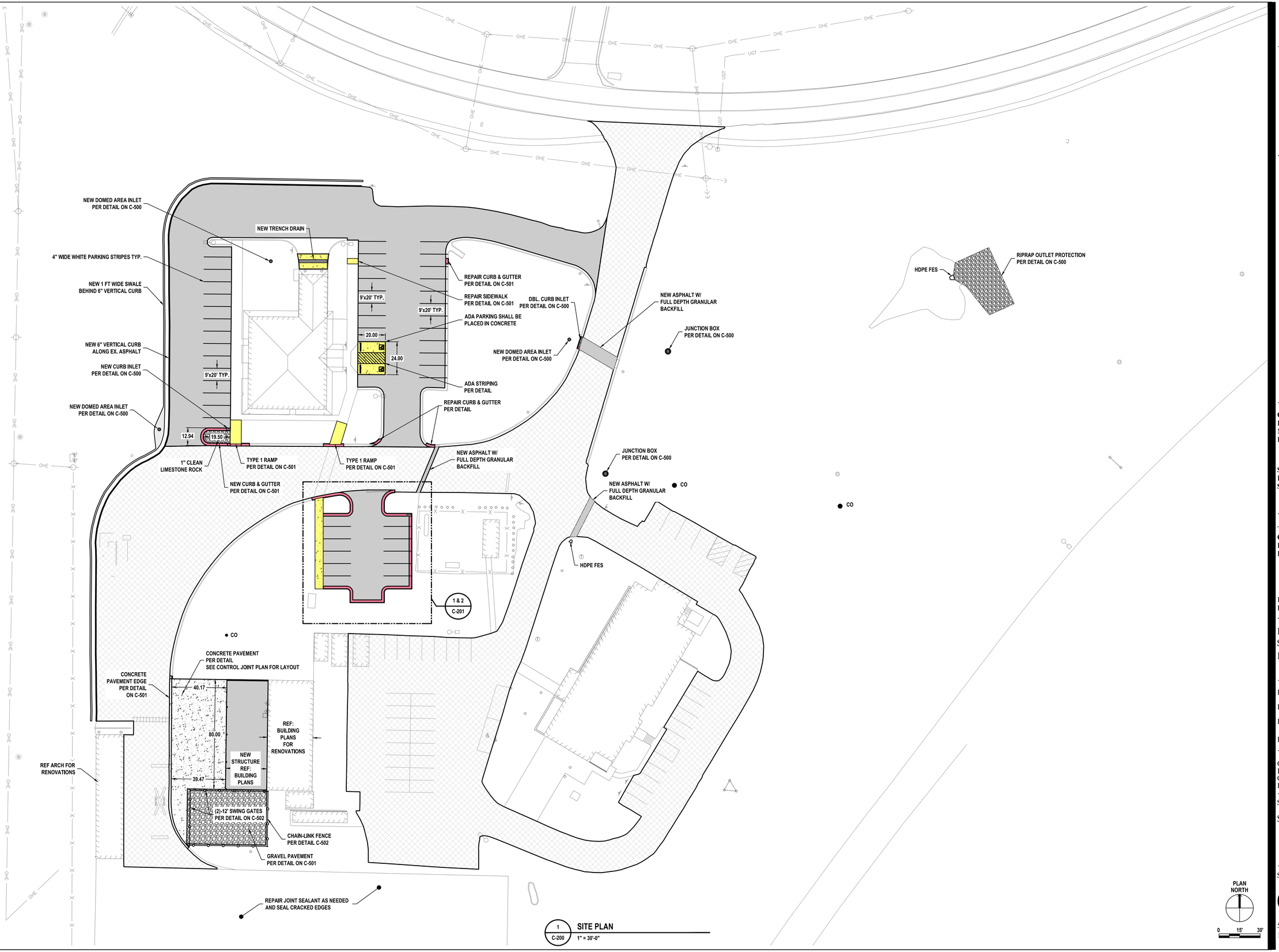
DRAWN BY: JSM
CHECKED BY: CJS
DESIGNED BY: JM

SHEET TITLE:
PAVEMENT REPAIR PLAN

SHEET NUMBER:
C-101
4 OF 24
1-15-2026



1 C-200 **SITE PLAN**
1" = 30'-0"

PLAN NORTH
0 15' 30'

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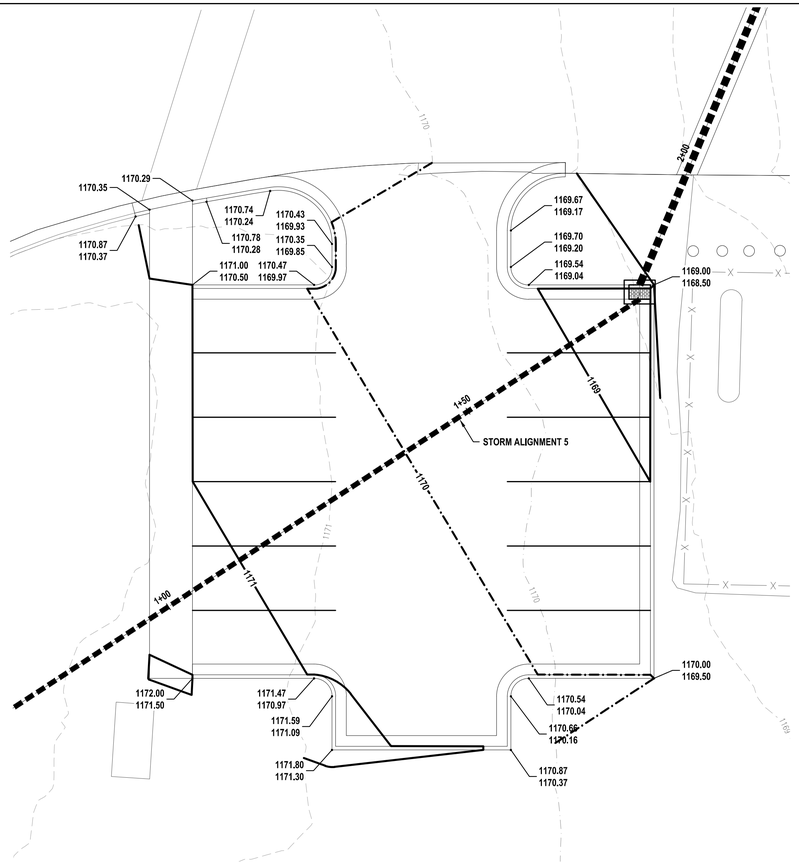
REVISION:
DATE:
ISSUE DATE: 12-11-2025

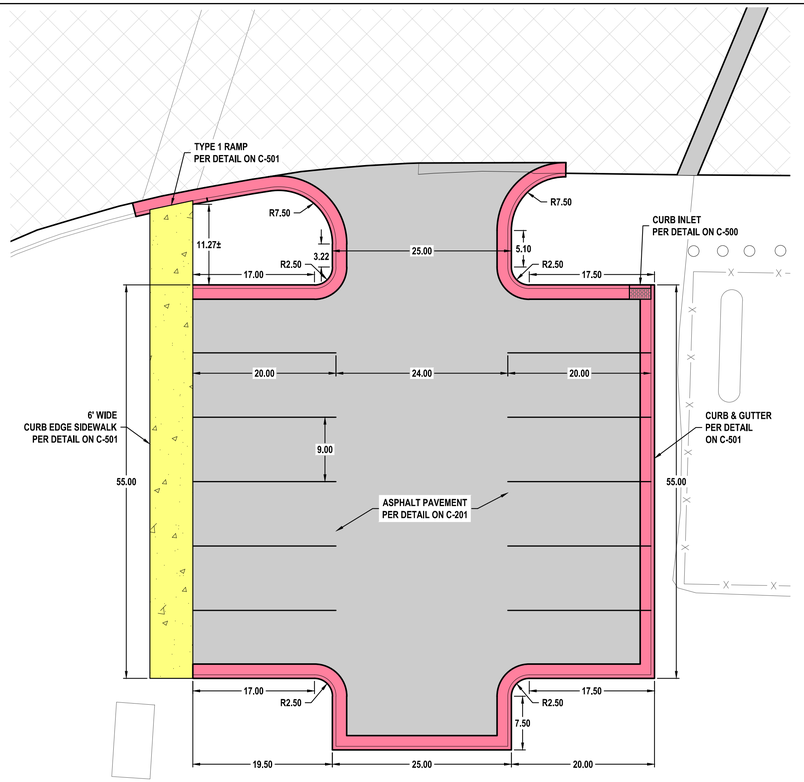
CAD DWG FILE: C-200.DWG
DRAWN BY: JSM
CHECKED BY: CJS
DESIGNED BY: JM

SHEET TITLE:
SITE PLAN

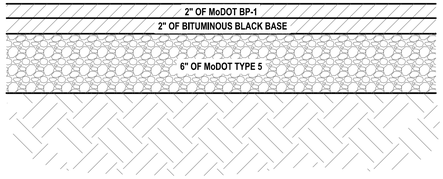
SHEET NUMBER:
C-200



1 C-201 **GRADING PLAN PLAN**
1" = 10'-0"



2 C-201 **SITE PLAN**
1" = 10'-0"



ASPHALT PAVEMENT DETAIL
NOT TO SCALE

PLAN NORTH
0 15' 30'

STATE OF MISSOURI
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CAD DWG FILE: C-201.DWG
DRAWN BY: JSM
CHECKED BY: CJS
DESIGNED BY: JM

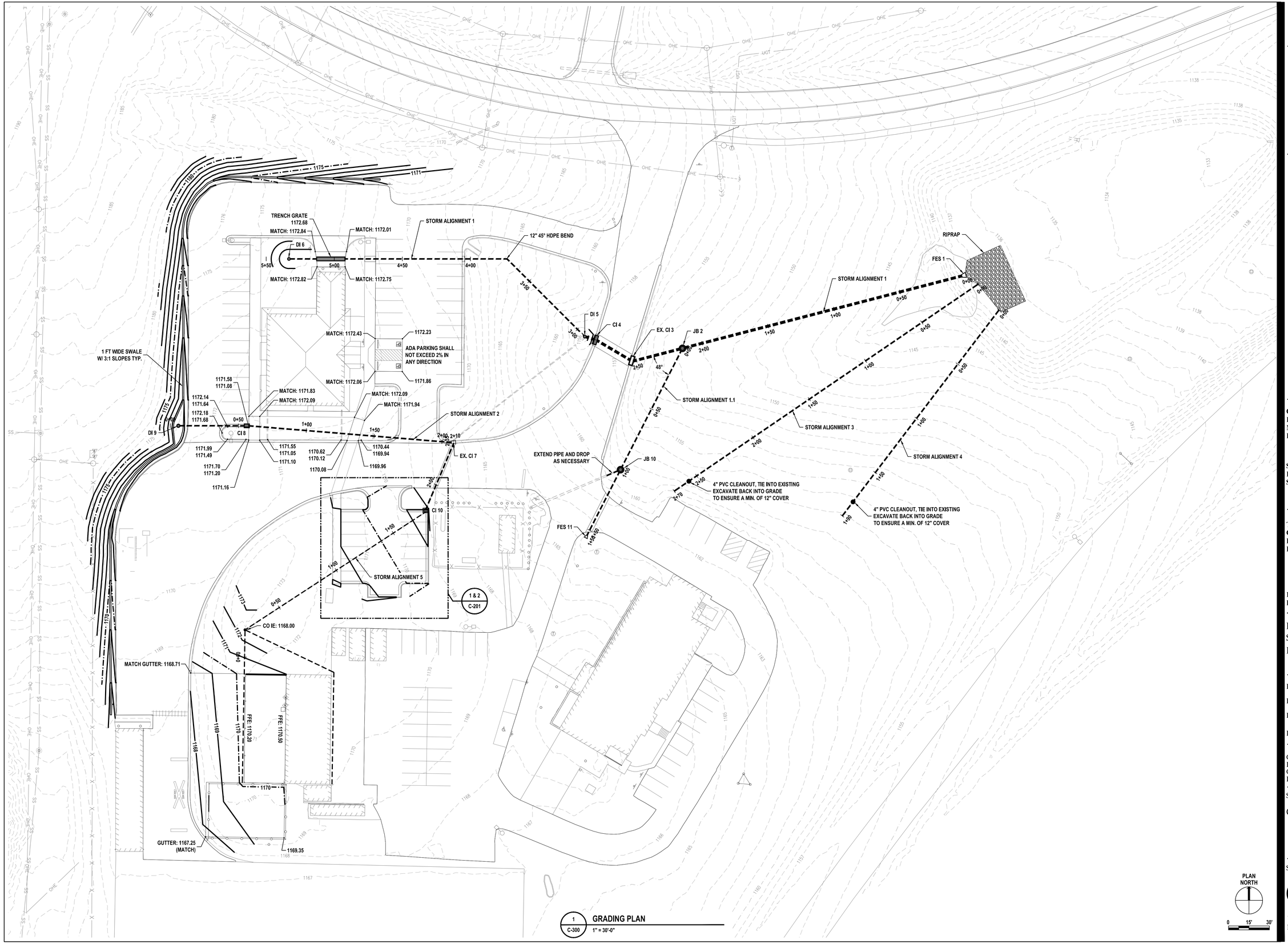
SHEET TITLE:

PROPOSED PARKING LOT PLAN

SHEET NUMBER:

C-201

6 OF 24
1-15-2026



1 C-300 **GRADING PLAN**
1" = 30'-0"

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ISSUE DATE: 12-11-2025

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DRAWN BY: JSM
CHECKED BY: CJS
DESIGNED BY: JM

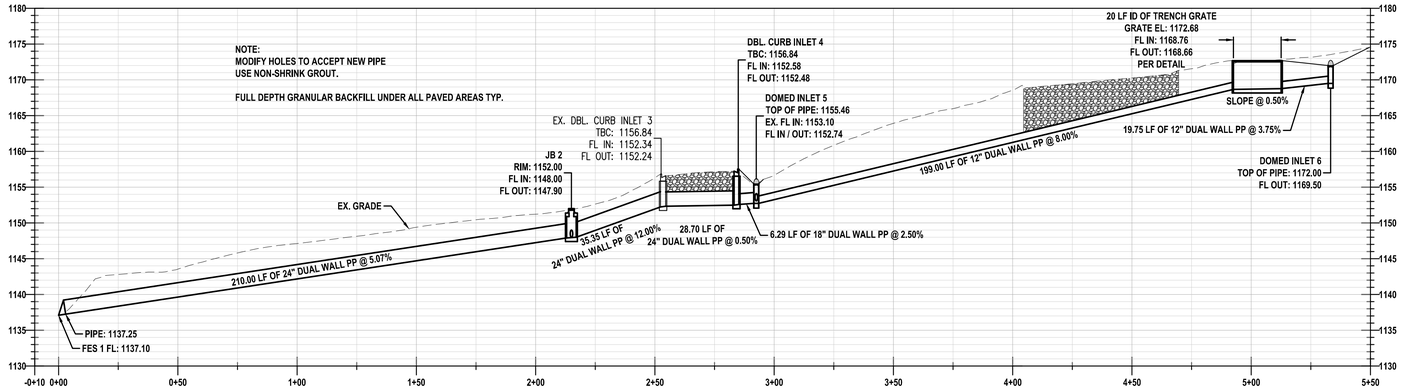
SHEET TITLE:

GRADING PLAN

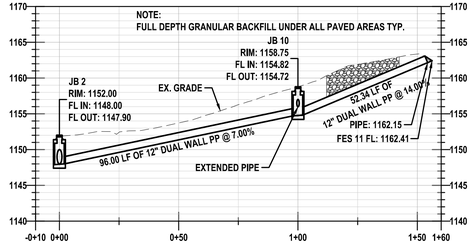
SHEET NUMBER:

C-300

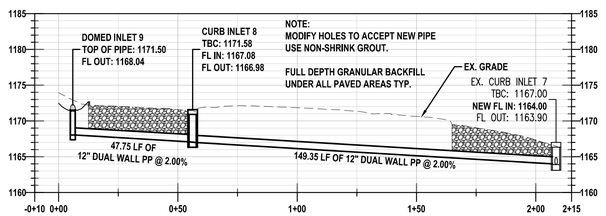
7 OF 24
1-15-2026



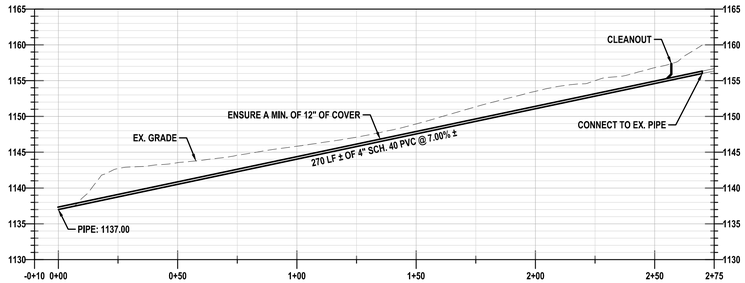
1 C-301 **STORM ALIGNMENT 1 PROFILE**
1" = 30'-0" HORZ.
1" = 10'-0" VERT.



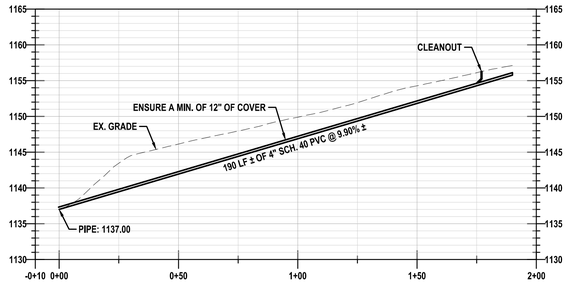
2 C-301 **STORM ALIGNMENT 1.1 PROFILE**
1" = 30'-0" HORZ.
1" = 10'-0" VERT.



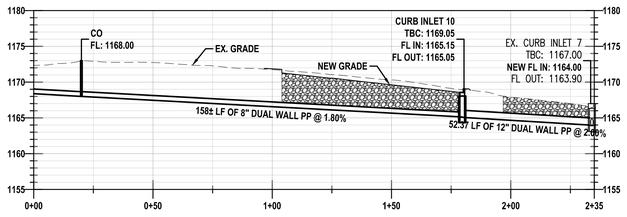
3 C-301 **STORM ALIGNMENT 2 PROFILE**
1" = 30'-0" HORZ.
1" = 10'-0" VERT.



4 C-301 **STORM ALIGNMENT 3 PROFILE**
1" = 30'-0" HORZ.
1" = 10'-0" VERT.



5 C-301 **STORM ALIGNMENT 4 PROFILE**
1" = 30'-0" HORZ.
1" = 10'-0" VERT.



6 C-301 **STORM ALIGNMENT 5 PROFILE**
1" = 30'-0" HORZ.
1" = 10'-0" VERT.

STATE OF MISSOURI
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TROOP I HEADQUARTERS & CDL EROSION CONTROL, PAVING REPAIR AND RENOVATION

1301 NAGOGAMI ROAD
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CAD DWG FILE: C-301.DWG
DRAWN BY: JSM
CHECKED BY: CJS
DESIGNED BY: JM

SHEET TITLE:
STORM PROFILES

SHEET NUMBER:
C-301

STORM WATER POLLUTION PREVENTION PLAN NARRATIVE

CONSTRUCTION ACTIVITIES WILL INCLUDE: DEMOLITION, CLEARING EXISTING SITE, CONSTRUCTION OF BUILDINGS AND PARKING LOTS, UTILITY INSTALLATION.

BEST MANAGEMENT PRACTICES WILL INCLUDE PRESERVING EXISTING VEGETATION, IF POSSIBLE, DOWNHILL PERIMETER EROSION AND SEDIMENT CONTROLS. ADDITIONAL BEST MANAGEMENT PRACTICES AS NECESSARY.

SEQUENCE OF MAJOR ACTIVITIES

THE ORDER OF ACTIVITIES WILL BE AS FOLLOWS:
1. INSTALL STABILIZED CONSTRUCTION ENTRANCE.
2. INSTALL SILT FENCE OR PERIMETER SEDIMENT CONTROLS.
3. CLEARING AND GRADING.
4. STABILIZE DENUDED AREAS AND STOCKPILES WITHIN 14 DAYS OF LAST CONSTRUCTION ACTIVITY IN THAT AREA.
5. WHEN ALL CONSTRUCTION ACTIVITY IS COMPLETE AND THE SITE IS STABILIZED, REMOVE PERIMETER SEDIMENT CONTROLS AND RESEED ANY AREAS DISTURBED BY THEIR REMOVAL.
6. FINAL SEEDING

CONTROLS
EROSION AND SEDIMENT CONTROLS
STABILIZATION PRACTICES

TEMPORARY STABILIZATION - TOPSOIL STOCK PILES AND DISTURBED PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITY TEMPORARILY CEASES FOR AT LEAST 21 DAYS WILL BE STABILIZED WITH TEMPORARY SEED AND MULCH NO LATER THAN 14 DAYS FROM THE LAST CONSTRUCTION ACTIVITY IN THAT AREA. THE STRAW MULCH IS TO BE TACKED INTO PLACE BY A DISK WITH BLADES SET NEARLY STRAIGHT.

PERMANENT STABILIZATION - DISTURBED PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITIES PERMANENTLY CEASES SHALL BE STABILIZED WITH PERMANENT SEED NO LATER THAN 14 DAYS AFTER THE LAST CONSTRUCTION ACTIVITY. AFTER SEEDING, EACH AREA SHALL BE MULCHED. THE STRAW MULCH IS TO TACKED INTO PLACE BY A DISK WITH BLADES SET NEARLY STRAIGHT.

STRUCTURAL PRACTICES

INSTALL & MAINTAIN SEDIMENT CONTROL (EITHER SEDIMENT FENCE; DIVERSION DIKE AND ROCK DAM; OR STRAW BALES) AT DOWNHILL PERIMETER OF EACH CLEARED LOT.
OFFSITE VEHICLE TRACKING:
A STABILIZED CONSTRUCTION ENTRANCE HAS BEEN PROVIDED TO HELP REDUCE VEHICLE TRACKING OF SEDIMENTS. THE PAVED STREET ADJACENT TO THE SITE ENTRANCE WILL BE SWEPT DAILY TO REMOVE ANY EXCESS MUD, DIRT OR ROCK TRACKED FROM THE SITE.

TIMING OF CONTROLS/MEASURES

AS INDICATED IN THE SEQUENCE OF MAJOR ACTIVITIES, THE DOWNHILL PERIMETER SEDIMENT CONTROLS, AND STABILIZED CONSTRUCTION ENTRANCE WILL BE CONSTRUCTED PRIOR TO COMPLETELY CLEARING OR GRADING OF ANY OTHER PORTIONS OF THE SITE. AREAS WHERE CONSTRUCTION ACTIVITY TEMPORARILY CEASES FOR MORE THAN 21 DAYS WILL BE STABILIZED WITH A TEMPORARY SEED AND MULCH WITHIN 14 DAYS OF THE LAST DISTURBANCE. ONCE CONSTRUCTION ACTIVITY CEASES PERMANENTLY IN AN AREA, THAT AREA WILL BE STABILIZED WITH PERMANENT SEED AND MULCH. AFTER THE ENTIRE SITE IS STABILIZED, THE ACCUMULATED SEDIMENT AND REMAINING BMP'S WILL BE REMOVED FROM THE SITE.

MAINTENANCE/INSPECTION PROCEDURES
EROSION AND SEDIMENT CONTROL INSPECTION AND MAINTENANCE PRACTICES

THESE ARE THE INSPECTION AND MAINTENANCE PRACTICES THAT WILL BE USED TO MAINTAIN EROSION AND SEDIMENT CONTROLS.

- MAINTAIN A PERMANENTLY BOUND LOG BOOK OF THE DATES THE EROSION CONTROL MEASURES WERE INSTALLED, INSPECTED AND MAINTAINED. THE LOG BOOK WILL BE AVAILABLE FOR EXAMINATION BY DEPARTMENT OF NATURAL RESOURCES INSPECTORS.
- THE PROJECT MANAGER OR SITE SUPERINTENDENT WILL SELECT INDIVIDUALS WHO WILL BE RESPONSIBLE FOR INSPECTIONS, MAINTENANCE AND REPAIR ACTIVITIES, AND FILLING OUT THE INSPECTION AND MAINTENANCE REPORT.
- A MAINTENANCE INSPECTION REPORT WILL BE MADE AFTER EACH INSPECTION. THE REPORT SHOULD BE ENTERED IN THE LOG BOOK.
- ALL CONTROL MEASURES WILL BE INSPECTED AT LEAST ONCE EACH WEEK AND FOLLOWING ANY STORM EVENT OF 0.5 INCHES OR GREATER.
- ALL MEASURES WILL BE MAINTAINED IN GOOD WORKING ORDER; IF A REPAIR IS NECESSARY, IT WILL BE INITIATED WITHIN 24 HOURS OF REPORT
- BUILT UP SEDIMENT WILL BE REMOVED FROM SILT FENCE WHEN IT HAS REACHED ONE-THIRD THE HEIGHT OF THE FENCE.
- SILT FENCE WILL BE INSPECTED FOR DEPTH OF SEDIMENT, TEARS, TO SEE IF THE FABRIC IS SECURELY ATTACHED TO THE FENCE POSTS, AND TO SEE THAT THE FENCE POSTS ARE FIRMLY IN THE GROUND.
- THE SEDIMENT BASIN WILL BE INSPECTED FOR DEPTH OF SEDIMENT, AND BUILT UP SEDIMENT WILL BE REMOVED WHEN IT REACHES 50 PERCENT OF THE DESIGN CAPACITY OR AT THE END OF THE JOB.
- DIVERSION DIKE WILL BE INSPECTED AND ANY BREACHES PROMPTLY REPAIRED.
- TEMPORARY AND PERMANENT SEEDING AND PLANTING WILL BE INSPECTED FOR BARE SPOTS, WASHOUTS, AND HEALTHY GROWTH.
- PERSONNEL SELECTED FOR INSPECTION AND MAINTENANCE RESPONSIBILITIES WILL RECEIVE TRAINING IN ALL THE INSPECTION AND MAINTENANCE PRACTICES NECESSARY FOR KEEPING THE EROSION AND SEDIMENT CONTROLS USED ONSITE IN GOOD WORKING ORDER.

INVENTORY FOR POLLUTION PREVENTION PLAN

THE MATERIALS OR SUBSTANCES LISTED BELOW ARE EXPECTED TO BE PRESENT ON SITE DURING CONSTRUCTION:
- CONCRETE
- PAINTS (ENAMEL AND LATEX)
- TAR
- PETROLEUM BASED PRODUCTS
- WOOD
- ROOFING SHINGLES
- DETERGENTS
- CONCRETE
- FERTILIZERS
- CLEANING SOLVENTS
- MASONRY BLOCK

SPILL PREVENTION
MATERIAL MANAGEMENT PRACTICES

THE FOLLOWING ARE THE MATERIAL MANAGEMENT PRACTICES THAT WILL BE USED TO REDUCE THE RISK OF SPILLS OR OTHER ACCIDENTAL EXPOSURE OF MATERIALS AND SUBSTANCES TO STORM WATER RUNOFF.

GOOD HOUSEKEEPING:

THE FOLLOWING GOOD HOUSEKEEPING PRACTICES WILL BE FOLLOWED ONSITE DURING THE CONSTRUCTION PROJECT.

- AN EFFORT WILL BE MADE TO STORE ONLY ENOUGH PRODUCT REQUIRED TO DO THE JOB
- ALL MATERIALS STORED ONSITE WILL BE STORED IN A NEAT, ORDERLY MANNER IN THEIR APPROPRIATE CONTAINERS AND, IF POSSIBLE, UNDER A ROOF OR OTHER ENCLOSURE.
- PRODUCTS WILL BE KEPT IN THEIR ORIGINAL CONTAINERS WITH THE ORIGINAL MANUFACTURER'S LABEL
- SUBSTANCES WILL NOT BE MIXED WITH ONE ANOTHER UNLESS RECOMMENDED BY THE MANUFACTURER
- WHENEVER POSSIBLE, ALL OF A PRODUCT WILL BE USED UP BEFORE DISPOSING OF THE CONTAINER
- MANUFACTURERS' RECOMMENDATIONS FOR PROPER USE AND DISPOSAL WILL BE FOLLOWED
- THE SITE SUPERINTENDENT WILL INSPECT DAILY TO ENSURE PROPER USE AND DISPOSAL OF MATERIALS

HAZARDOUS PRODUCTS:

THESE PRACTICES ARE USED TO REDUCE THE RISKS ASSOCIATED WITH HAZARDOUS MATERIALS.
- PRODUCTS WILL BE KEPT IN ORIGINAL CONTAINERS UNLESS THEY ARE NOT RESEALABLE
- ORIGINAL LABELS AND MATERIALS SAFETY DATA WILL BE RETAINED; THEY CONTAIN IMPORTANT PRODUCT INFORMATION
- IF SURPLUS PRODUCT MUST BE DISPOSED OF, MANUFACTURERS' OR LOCAL AND STATE RECOMMENDED METHODS FOR PROPER DISPOSAL WILL BE FOLLOWED.

PRODUCT SPECIFIC PRACTICES

THE FOLLOWING PRODUCT SPECIFIC PRACTICES WILL BE FOLLOWED ONSITE:

PETROLEUM PRODUCTS:

ALL ONSITE VEHICLES WILL BE MONITORED FOR LEAKS AND RECEIVE REGULAR PREVENTIVE MAINTENANCE TO REDUCE THE CHANCE OF LEAKAGE. PETROLEUM PRODUCTS WILL BE STORED IN TIGHTLY SEALED CONTAINERS WHICH ARE CLEARLY LABELED. ANY ASPHALT SUBSTANCES USED ONSITE WILL BE APPLIED ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS.

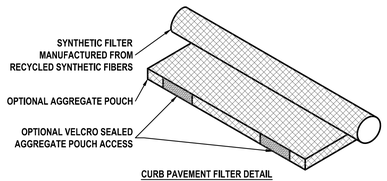
FERTILIZERS:
FERTILIZERS USED WILL BE APPLIED ONLY IN THE MINIMUM AMOUNTS RECOMMENDED BY THE MANUFACTURER. ONCE APPLIED, FERTILIZER WILL BE WORKED INTO THE SOIL TO LIMIT EXPOSURE TO STORM WATER. STORAGE WILL BE IN A COVERED SHED. THE CONTENTS OF ANY PARTIALLY USED BAGS OF FERTILIZER WILL BE TRANSFERRED TO A SEALABLE PLASTIC BIN TO AVOID SPILLS.

PAINTS:
ALL CONTAINERS WILL BE TIGHTLY SEALED AND STORED WHEN NOT REQUIRED FOR USE. EXCESS PAINT WILL NOT BE DISCHARGED TO THE STORM SEWER SYSTEM BUT WILL BE PROPERLY DISPOSED OF ACCORDING TO MANUFACTURERS' INSTRUCTIONS OR STATE AND LOCAL REGULATIONS.

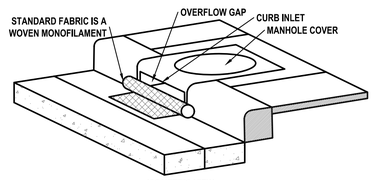
CONCRETE TRUCKS:
CONCRETE TRUCKS WILL NOT BE ALLOWED TO WASH OUT OR DISCHARGE SURPLUS CONCRETE OR DRUM WASH WATER ON THE SITE.

SPILL CONTROL PRACTICES

IN ADDITION TO THE GOOD HOUSEKEEPING AND MATERIAL MANAGEMENT PRACTICES DISCUSSED IN THE PREVIOUS SECTIONS OF THIS PLAN, THE FOLLOWING PRACTICES WILL BE FOLLOWED FOR SPILL PREVENTION AND CLEANUP:
- MANUFACTURERS' RECOMMENDED METHODS FOR SPILL CLEANUP WILL BE CLEARLY POSTED AND SITE PERSONNEL WILL BE MADE AWARE OF THE PROCEDURES AND THE LOCATION OF THE INFORMATION AND CLEANUP SUPPLIES.
- MATERIALS AND EQUIPMENT NECESSARY FOR SPILL CLEANUP WILL BE KEPT IN THE MATERIAL STORAGE AREA ONSITE. EQUIPMENT AND MATERIALS WILL INCLUDE BUT NOT BE LIMITED TO BROOMS, DUST PANS, MOPS, RAGS, GLOVES, GOGGLES, KITTY LITTER, SAND, SAWDUST, AND PLASTIC AND METAL TRASH CONTAINERS SPECIFICALLY FOR THIS PURPOSE.
- ALL SPILLS WILL BE CLEANED UP IMMEDIATELY AFTER DISCOVERY.
- THE SPILL AREA WILL BE KEPT WELL VENTILATED AND PERSONNEL WILL WEAR APPROPRIATE PROTECTIVE CLOTHING TO PREVENT INJURY FROM CONTACT WITH A HAZARDOUS SUBSTANCE.
- SPILLS OF TOXIC OR HAZARDOUS MATERIAL WILL BE REPORTED TO THE APPROPRIATE STATE OR LOCAL GOVERNMENT AGENCY, REGARDLESS OF THE SIZE.
- THE SPILL PREVENTION PLAN WILL BE ADJUSTED TO INCLUDE MEASURES TO PREVENT THIS TYPE OF SPILL FROM REOCCURRING AND HOW TO CLEAN UP THE SPILL IF THERE IS ANOTHER ONE. A DESCRIPTION OF THE SPILL, WHAT CAUSED IT, AND THE CLEANUP MEASURES WILL ALSO BE INCLUDED.

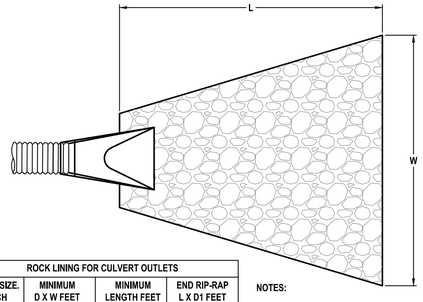


CURB PAVEMENT FILTER DETAIL



ISOMETRIC VIEW

CURB INLET PAVEMENT FILTER DETAIL
NOT TO SCALE

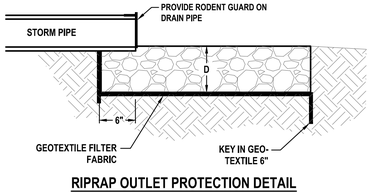


ROCK LINING FOR CULVERT OUTLETS			
CULVERT SIZE. DIA INCH	MINIMUM D X W FEET	MINIMUM LENGTH FEET	END RIP-RAP L X D1 FEET
12 & 18	1.5 X 8	12	3 X 2
24	1.5 X 8	14	3 X 2
30	1.5 X 8	16	3 X 2
36	1.5 X 10	18	3 X 2
42	2 X 10	20	4 X 2.75
48	2 X 12	20	4 X 2.75
54	2 X 13.5	22	4 X 2.75
60	2 X 15	26	4 X 2.75

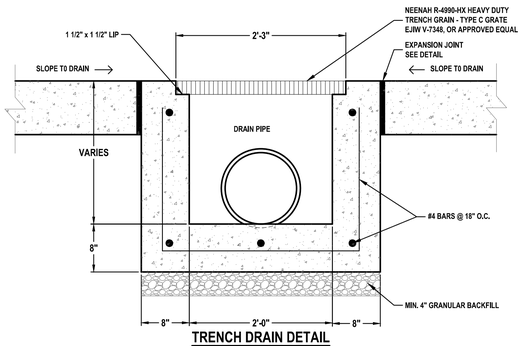
NOTES:

1. CONSTRUCT RIPRAP OUTFALL PROTECTION. PLACE RIPRAP ON GEOTEXTILE FILTER FABRIC. GEOTEXTILE SHALL BE LINQ 180EX 8oz. NON-WOVEN OR APPROVED EQUAL. KEY IN GEO-TEXTILE IN 6" ALL THE WAY AROUND. RIPRAP (MIN. 6"-12", AVERAGE SIZE =9"), RIPRAP SHALL BE CRUSHED LIMESTONE (NO SANDSTONE).

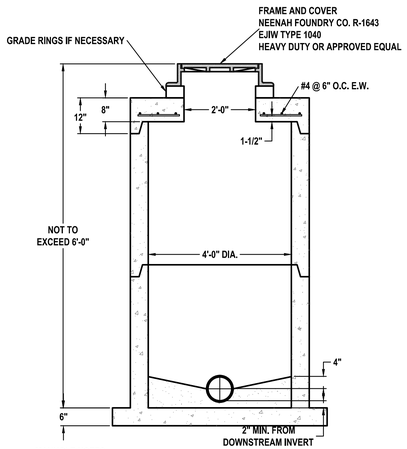
2. REMOVE BRUSH AND ROOTS BEFORE INSTALLING GEOTEXTILE.



RIPRAP OUTLET PROTECTION DETAIL
NOT TO SCALE

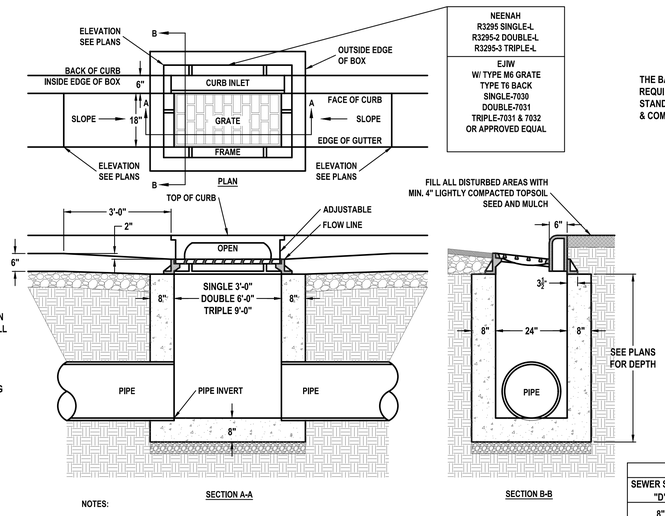


TRENCH DRAIN DETAIL
NOT TO SCALE



MANHOLE NOTES:
1.) ALL PRECAST CONCRETE MANHOLES SHALL CONFORM TO ASTM C-478 REQUIREMENTS, UNLESS OTHERWISE NOTED.
2.) INCREASE MANHOLE BASE THICKNESS TO 8" FOR 60" & 72" DIA. MANHOLES AND 9" FOR 90" DIA. MANHOLES.

SHALLOW PRECAST MANHOLE / JUNCTION BOX DETAIL
NOT TO SCALE



NEENAH
R3295 SINGLE-L
R3295-2 DOUBLE-L
R3295-3 TRIPLE-L
EJIW
W/ TYPE M6 GRATE
TYPE T6 BACK
SINGLE-7030
DOUBLE-7031
TRIPLE-7031 & 7032
OR APPROVED EQUAL

SECTION A-A

SECTION B-B

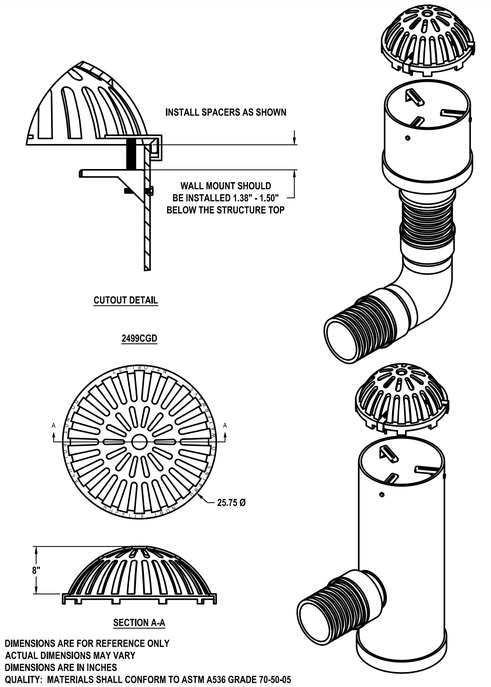
NOTES:

WALL CONSTRUCTION SHALL BE POURED IN PLACE CONCRETE, 8"Tx8"Hx16"L CONCRETE BLOCK GROUTED SOLID, OR PRECAST CONCRETE.

BASE CONSTRUCTION SHALL BE POURED IN PLACE CONCRETE FORMED TO DIMENSION SHOWN.

CONCRETE SHALL BE 6 SACK MIX WITH MINIMUM SLUMP OF 1 INCH AND MAXIMUM SLUMP OF 4 INCHES.

CURB INLET DETAIL
NOT TO SCALE



CUTOUT DETAIL

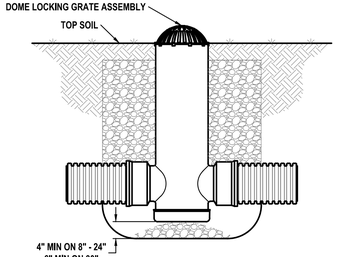
2499CGD

SECTION A-A

DIMENSIONS ARE FOR REFERENCE ONLY
ACTUAL DIMENSIONS MAY VARY
DIMENSIONS ARE IN INCHES
QUALITY: MATERIALS SHALL CONFORM TO ASTM A536 GRADE 70-50-05
PAINT: CASTINGS ARE FURNISHED WITH A BLACK PAINT
LOCKING DEVICE AVAILABLE UPON REQUEST

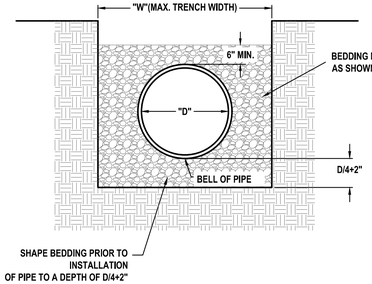
STAINLESS STEEL ADJUSTABLE LOCKING MECHANISM AVAILABLE FOR 12" - 30" DOME GRATES.

12" - 30" DOME LOCKING GRATE ASSEMBLY
NOT TO SCALE



THE BACKFILL MATERIAL SHALL BE CRUSHED STONE OR OTHER GRANULAR MATERIAL MEETING THE REQUIREMENTS OF CLASS II MATERIAL AS DEFINED IN ASTM D2321, OR AS DETERMINED BY LOCAL STANDARDS & SITE ENGINEER. BEDDING & BACKFILL FOR SURFACE DRAINAGE INLETS SHALL BE PLACED & COMPACTED UNIFORMLY IN ACCORDANCE WITH ASTM D2321.

DOMED INLET NON-TRAFFIC INSTALLATION DETAIL
NOT TO SCALE



MAXIMUM TRENCH WIDTH	
SEWER SIZE "D"	MAXIMUM TRENCH WIDTH "W"
8"	24"
10"	24"
12"	30"
15"	30"
18"	36"
21"	42"
24"	48"

CRUSHED LIMESTONE BEDDING		
GRADATION IN PERCENTAGES BY WEIGHT PASSING SQUARE MESH SCREENS		
SCREEN SIZE	% PASSING	RETAINED
1"	100%	-
3/4"	95%	-
NO. 4	-	95%

BEDDING DETAIL
NOT TO SCALE

STATE OF MISSOURI
MIKE KEHOE, GOVERNOR

STATE OF MISSOURI CAMERON J SCHWEISS NUMBER 2014017010 PROFESSIONAL ENGINEER
Cameron J Schweiss, P.E. 2014017010

CM Archer Group, P.C. dba:
ARCHER-ELGIN
ENGINEERING | SURVEYING | ARCHITECTURE
Corporate Authority:
CM Archer Group, P.C.; LE: 2003023612-D, LS: 2004017577-D, A-2016017179
310 East 6th Street, Rolla, Missouri 65401 ■ Phone: 573-364-4262 ■ Fax: 573-364-4262 ■ www.archer-elgin.com

OFFICE OF ADMINISTRATION
DIVISION OF FACILITIES MANAGEMENT, DESIGN AND CONSTRUCTION

STATE OF MISSOURI
DIVISION OF PUBLIC SAFETY
STATE HIGHWAY PATROL

TROOP I HEADQUARTERS & CDL EROSION CONTROL, PAVING REPAIR AND RENOVATION

1301 NAGOGAMI ROAD
ROLLA, MISSOURI

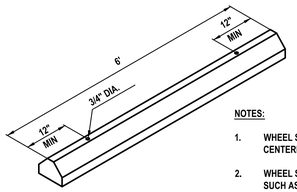
PROJECT # R2405-01
SITE # 6010
FACILITY # 8136010004
8136010005

REVISION: _____ DATE: _____
REVISION: _____ DATE: _____
REVISION: _____ DATE: _____
ISSUE DATE: 1-15-2026

CAD DWG FILE: CD-500.DWG
DRAWN BY: JSM
CHECKED BY: CJS
DESIGNED BY: JM

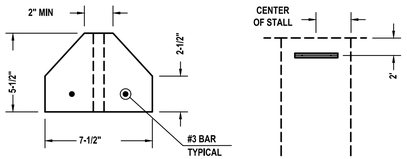
SHEET TITLE:
CIVIL DETAILS

SHEET NUMBER:
CD-500

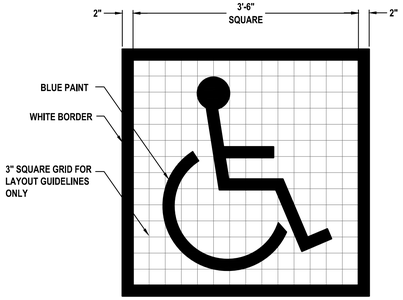


NOTES:

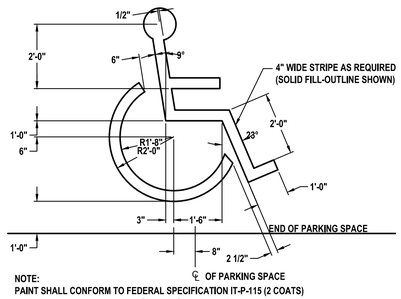
1. WHEEL STOPS TO BE PLACED 2' BACK, AS SHOWN ABOVE. CENTERED IN THE PARKING STALL
2. WHEEL STOPS CAN BE PAINTED IN A CONTRASTING COLOR SUCH AS GRAY, YELLOW OR BLACK. BLUE SHALL BE USED FOR HANDICAP PARKING STALLS.



REINFORCED CONCRETE WHEEL STOP DETAIL
NOT TO SCALE

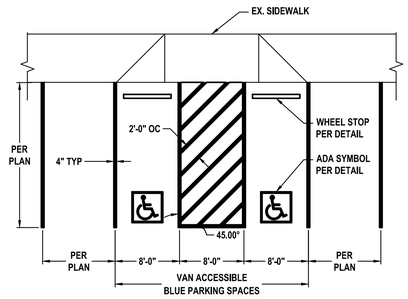


ADA SYMBOL DETAIL
NOT TO SCALE

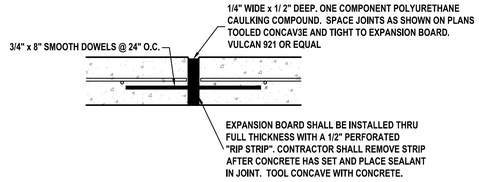


NOTE:
PAINT SHALL CONFORM TO FEDERAL SPECIFICATION IT-P-115 (2 COATS)

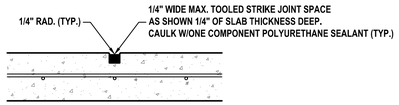
ADA SYMBOL DETAIL
NOT TO SCALE



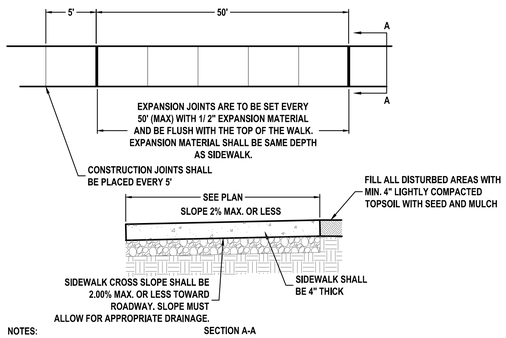
ADA PARKING LAYOUT DETAIL
NOT TO SCALE



CONCRETE PAVEMENT CONSTRUCTION JOINT DETAIL
NOT TO SCALE



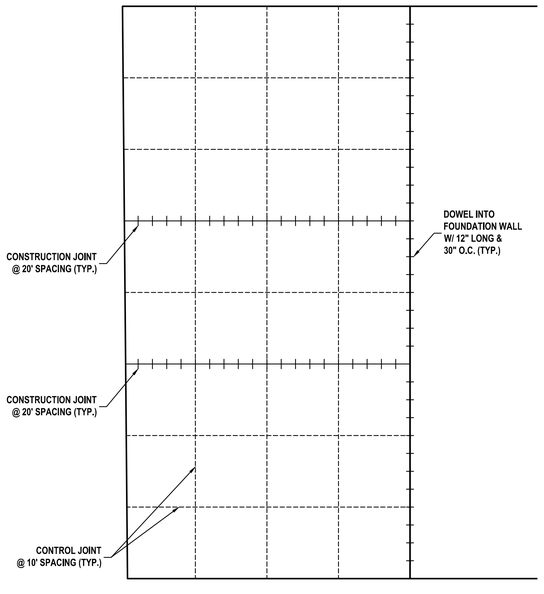
CONCRETE PAVEMENT CONTROL JOINT DETAIL
NOT TO SCALE



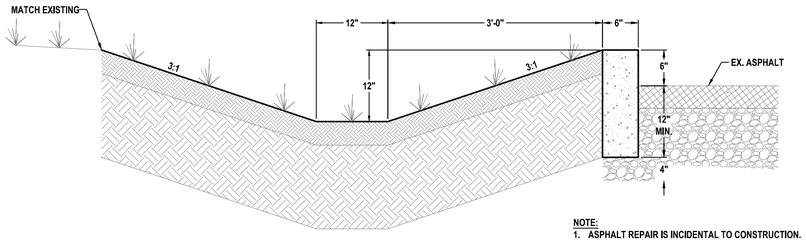
NOTES:

1. 6 BAG CONCRETE MIX (4,000 PSI) SHALL BE USED ON ALL SIDEWALK.
2. ALL FILL UNDER SIDEWALK SHALL BE TO 95% COMPACTION NON-ORGANIC MATERIAL.
3. WHEN CROSSING THE WIDTH OF A DRIVEWAY, SIDEWALK SHALL BE 6" THICK CONCRETE WITH 6" OF 1" CLEAN ROCK UNDERNEATH.
4. CONCRETE TO HAVE LIGHT BRUSH FINISH AND 1/4"R EDGE ON EXPOSED CORNERS.

CONCRETE SIDEWALK DETAIL
NOT TO SCALE

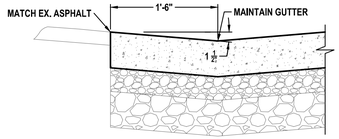


JOINT LAYOUT DETAIL
NOT TO SCALE

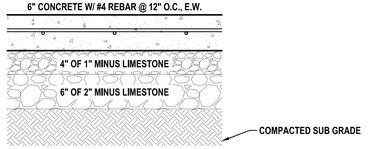


NOTE:
1. ASPHALT REPAIR IS INCIDENTAL TO CONSTRUCTION.

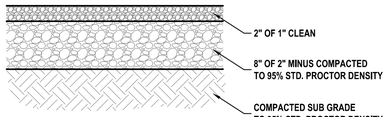
TYPICAL VERTICAL CURB W/ SWALE DETAIL
NOT TO SCALE



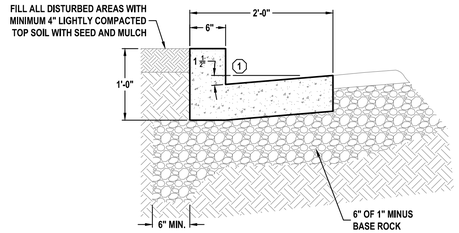
CONCRETE PAVEMENT EDGE DETAIL
NOT TO SCALE



CONCRETE PAVEMENT DETAIL
NOT TO SCALE



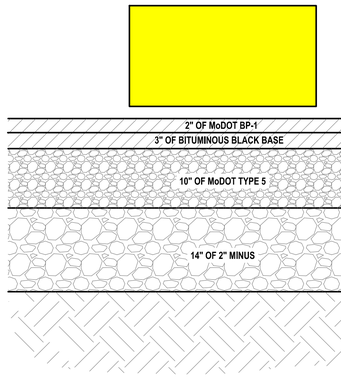
GRANULAR PAVEMENT DETAIL
NOT TO SCALE



1 SLOPE AWAY FROM GUTTER WHERE INDICATED

NOTE:
1. ASPHALT REPAIR IS INCIDENTAL TO CONSTRUCTION.

TYPICAL CURB & GUTTER DETAIL
NOT TO SCALE



PAVEMENT 1 DETAIL
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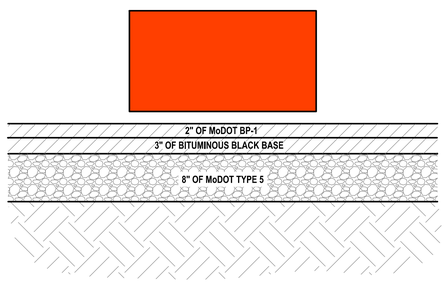
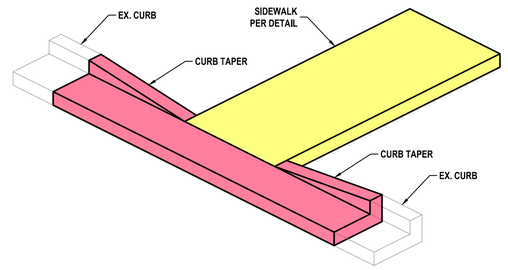
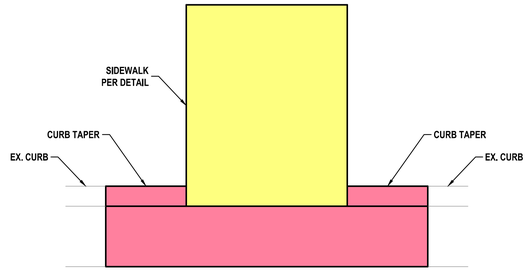


PAVEMENT 2 DETAIL
NOT TO SCALE





TYPE 1 RAMP DETAIL
NOT TO SCALE

STATE OF MISSOURI
MIKE KEHOE, GOVERNOR

STATE OF MISSOURI
CAMERON J. SCHWEISS
NUMBER 2014017010
PROFESSIONAL ENGINEER
Cameron J Schweiss, P.E. 2014017010

ARCHER-ELGIN
ENGINEERING | SURVEYING | ARCHITECTURE
CM Archer Group, P.C. dba:
Corporate Authority:
CM Archer Group, P.C.; E: 2003023612-D, LS: 2004017577-D, A-2016017179
310 East 6th Street, Rolla, Missouri 65401 ■ Phone: 573-364-4582 Fax: 573-364-4762 ■ www.archer-elgin.com

OFFICE OF ADMINISTRATION
DIVISION OF FACILITIES MANAGEMENT, DESIGN AND CONSTRUCTION

STATE OF MISSOURI
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STATE HIGHWAY PATROL

TROOP I HEADQUARTERS & CDL EROSION CONTROL, PAVING REPAIR AND RENOVATION

1301 NAGOGAMI ROAD
ROLLA, MISSOURI

PROJECT # R2405-01
SITE # 6010
FACILITY # 8136010004
8136010005

REVISION:
DATE:
REVISION:
DATE:
REVISION:
DATE:
ISSUE DATE: 1-15-2026

CAD DWG FILE: CD-501.DWG
DRAWN BY: JSM
CHECKED BY: CJS
DESIGNED BY: JM

SHEET TITLE:
CIVIL DETAILS

SHEET NUMBER:
CD-501

NOTES:
1. LINE POSTS SHALL BE EITHER 2 1/2" O.D. SCH. 40 STEEL PIPE, STEEL H-SECTION OR 2 1/2" SQUARE STEEL HOLLOW TUBING IN ACCORDANCE WITH THE SPECIFICATIONS.

2. END CORNER AND PULL POSTS SHALL BE EITHER 3" O.D. SCH. 40 STEEL PIPE OR 2 1/2" SQUARE STEEL HOLLOW TUBING IN ACCORDANCE WITH THE SPECIFICATIONS.

3. GATE POSTS SHALL BE 4" O.D. SCH. 40 STEEL PIPE OR 3" SQUARE STEEL HOLLOW TUBING IN ACCORDANCE WITH THE SPECIFICATIONS.

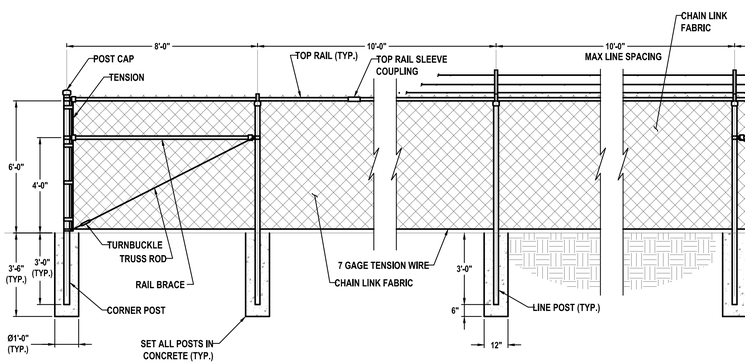
4. GATE FRAME ASSEMBLY SHALL BE 2" O.D. SCH. 40 STEEL PIPE WITH WELDED STEEL JOINTS.

5. RAILS AND BRACES SHALL BE 1 5/8" O.D. SCH. 40 STEEL PIPE.

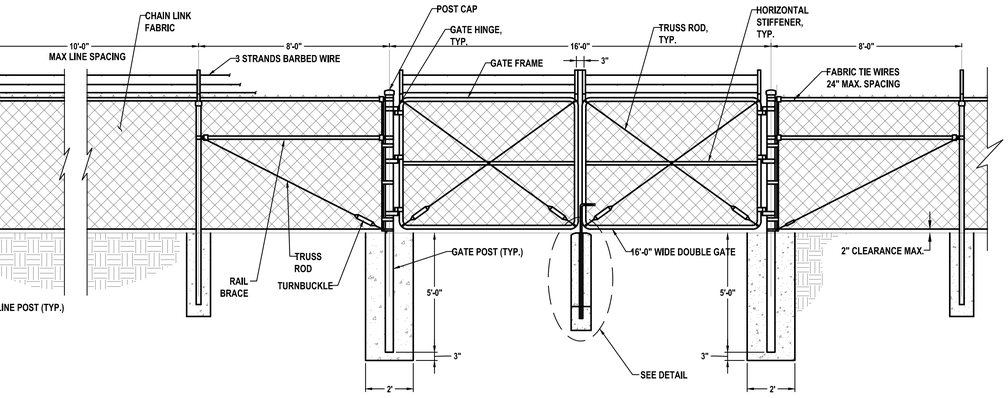
6. ALL WELD AREAS SHALL BE REPAIRED WITH ZINC RICH COATING APPLIED PER ASTM F-1083 STANDARD SPECIFICATIONS.

7. FURNISH GATES WITH KEEPERS TO MAINTAIN GATE IN FULLY OPEN POSITION.

8. BARB WIRE EXTENSION ARM SHALL POINT "OUTWARD".



CHAIN LINK FENCE
TYPICAL CORNER POST & BRACE
NOT TO SCALE

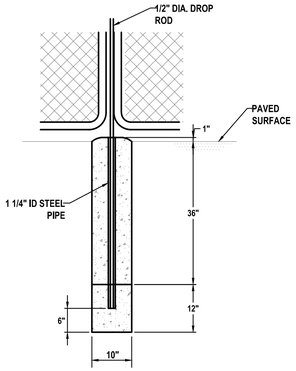


CHAIN LINK FENCE
TYPICAL GATE, POSTS & BRACING
NOT TO SCALE

NOTES:
1. FURNISH GATES WITH KEEPERS TO MAINTAIN GATE IN FULLY OPEN POSITION.

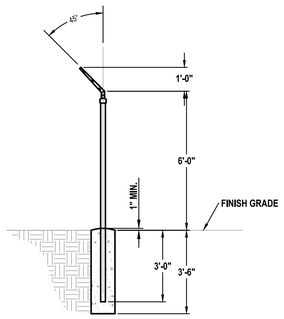
2. BARB WIRE EXTENSION ARM SHALL POINT "OUTWARD".

3. CHAIN LINK FENCE SHALL BE INSTALLED PER CRITERIA SET FORTH IN A.S.T.M. 567- PRACTICE FOR INSTALLATION OF CHAIN LINE FENCE.



CHAIN LINK FENCE
DROP ROD FOUNDATION DETAIL
NOT TO SCALE

CHAIN LINK FENCE
TYPICAL LINE POST
NOT TO SCALE



CHAIN LINK FENCE SECTION DETAIL
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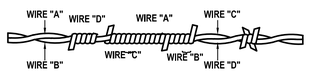
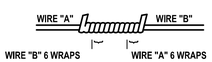


SPLICING BARBED WIRE



SPLICING SMOOTH WIRE DETAIL
NOT TO SCALE

STATE OF MISSOURI
MIKE KEHOE,
GOVERNOR

STATE OF MISSOURI
CAMERON J. SCHWEISS
NUMBER 2014017010
PROFESSIONAL ENGINEER
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OFFICE OF ADMINISTRATION
DIVISION OF FACILITIES MANAGEMENT,
DESIGN AND CONSTRUCTION

STATE OF MISSOURI
DIVISION OF PUBLIC SAFETY
STATE HIGHWAY PATROL

TROOP I HEADQUARTERS &
CDL EROSION CONTROL,
PAVING REPAIR AND
RENOVATION

1301 NAGOGAMI ROAD
ROLLA, MISSOURI

PROJECT # R2405-01
SITE # 6010
FACILITY # 8136010004
8136010005

REVISION:
DATE:
REVISION:
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ISSUE DATE: 1-15-2026

CAD DWG FILE: CD-501.DWG
DRAWN BY: JSM
CHECKED BY: CJS
DESIGNED BY: JM

SHEET TITLE:
CIVIL DETAILS

SHEET NUMBER:
CD-502

GENERAL REQUIREMENTS:

A. THE CONTRACTOR, HIS FABRICATORS AND SUPPLIERS SHALL SUBMIT COMPLETE SHOP DRAWINGS AND RELEVANT CALCULATIONS FOR ALL CONTRACTOR DESIGN COMPONENTS OF THE PROJECT INCLUDING BUT NOT LIMITED TO:

- PRE ENGINEERED METAL BUILDING

B. THE CONTRACTOR SHALL COMPLY WITH THE ARCHITECT AND ENGINEER REVIEW COMMENTS PRIOR TO BEGINNING ANY FABRICATION. CALCULATIONS SHALL BEAR THE SIGN AND SEAL OF A LICENSED PROFESSIONAL ENGINEER DUALLY AUTHORIZED TO CARRY OUT THE DESIGN. THE ENGINEER OF RECORD WILL NOT ACCEPT ANY WORK THAT DOES NOT COMPLY WITH THESE REQUIREMENTS.

C. THE CONTRACTOR IS RESPONSIBLE FOR SAFETY IN AND AROUND THE SITE AND FOR THE STRENGTH AND STABILITY OF ALL PARTIALLY COMPLETED STRUCTURES. THE CONTRACTOR SHALL PROVIDE AND MAINTAIN ADEQUATE TEMPORARY BRACING AND SHORING AS REQUIRED FOR THE STABILITY OF THE STRUCTURE AND STRUCTURAL COMPONENTS DURING ALL PHASES OF CONSTRUCTION AND FABRICATION. THE CONTRACTOR SHALL, AT HIS DISCRETION, EMPLOY A DULLY LICENSED AND REGISTERED PROFESSIONAL ENGINEER TO DESIGN ALL TEMPORARY BRACING, SHORING, AND OTHER WORKS NECESSARY TO COMPLETE THE WORK DESCRIBED IN THESE DOCUMENTS.

D. CONSTRUCTION AND OTHER LOADS ARE TO BE KEPT WITHIN THE LIMITS OF THE DESIGN LOADS.

GENERAL NOTES:

A. DURING ERECTION OF THE BUILDING, THE CONTRACTOR SHALL BE RESPONSIBLE FOR TEMPORARY BRACING TO WITHSTAND ALL LOADS TO WHICH THE STRUCTURE MAY BE SUBJECTED, INCLUDING LATERAL LOADS, STOCKPILES OF MATERIAL AND EQUIPMENT. SUCH BRACING SHALL BE LEFT IN PLACE AS LONG AS REQUIRED FOR SAFETY AND UNTIL ALL FRAMING INCLUDING ROOF

B. WHILE CARE HAS BEEN TAKEN TO COORDINATE MECHANICAL AND ELECTRICAL PENETRATIONS, CONTRACTOR IS RESPONSIBLE FOR FRAMING MODIFICATIONS AND PATCHING REQUIRED WHETHER SPECIFICALLY SHOWN OR NOT.

C. DO NOT SCALE DRAWINGS - FOLLOW WRITTEN DIMENSIONS ONLY.

D. COORDINATE DIMENSIONS INDICATED IN THESE DRAWINGS WITH FABRICATION OF ALL SYSTEMS AND ASSEMBLIES. COORDINATE DIMENSIONS INDICATED WITH ACTUAL FIELD CONDITIONS. REPORT ANY INCONSISTENCIES TO THE ARCHITECT PRIOR TO PROCEEDING WITH WORK.

E. " +/- " OR "VERIFY" AS USED IN THESE DOCUMENTS MEANS THAT FOR EXISTING CONDITIONS THE DIMENSIONS SHALL BE VERIFIED IN THE FIELD BY THE CONTRACTOR AND FOR NEW CONDITIONS THE ACTUAL DIMENSION AS CONSTRUCTED MAY BE ADJUSTED SLIGHTLY TO ACCOMMODATE OTHER FACTORS.

F. "MIN" AS USED IN THESE DOCUMENTS IS THE ABBREVIATION FOR "MINIMUM" - MEANING THAT THE CONDITION IS SLIGHTLY ADJUSTABLE BUT MAY NOT VARY TO A DIMENSION OR QUALITY LESSER THAN THAT INDICATED.

G. ROUGH OPENING ("RO") DIMENSIONS SHOWN ON THESE DRAWINGS ARE NOMINAL OR MODULAR DIMENSIONS. ACTUAL DIMENSIONS MAY VARY DEPENDING ON THE TYPE OF BUILDING ELEMENT BEING DIMENSIONED.

H. FIELD VERIFY EXISTING CONDITIONS OF FOOTINGS PRIOR TO SUBMITTAL REBAR SHOP DRAWINGS FOR COLUMN FOOTINGS.

FOUNDATION DESIGN:

A. FOUNDATION DESIGN HAS BEEN BASED ON AN ASSUMED BEARING CAPACITY OF 1,500 P.S.F.

B. FOOTINGS SHALL BE ON NATURAL UNDISTURBED SOIL OR COMPACTED STRUCTURAL FILL

C. REPORT ANY FINDINGS TO ENGINEER FOR RE-EVALUATION OF FOUNDATION DESIGN IF ASSUMED ALLOWABLE BEARING PRESSURE IS NOT PRESENT IN FOUNDATION LOCATIONS.

D. FIELD VERIFY EXISTING FOOTINGS.

REINFORCING STEEL:

A. REINFORCING BARS: ASTM A 615, GRADE 60, DEFORMED EXCEPT AS OTHERWISE SPECIFIED. COLUMN TIES AND STIRRUPS OF ANY SIZE SHALL CONFORM TO ASTM A 615, GRADE 60, UNLESS OTHERWISE INDICATED.

B. FABRICATION OF REINFORCING BARS: FABRICATE WITH COLD BENDS CONFORMING TO THE RECOMMENDED DIMENSIONS SHOWN IN ACI 318. FIELD FABRICATION WILL BE ALLOWED ONLY IF THE CONTRACTOR HAS EQUIPMENT TO PROPERLY FABRICATE STEEL. ATTACH METAL OR PLASTIC TAGS WITH IDENTIFYING MARK CORRESPONDING TO MARK NUMBER ON DRAWING.

C. SUPPORTS FOR REINFORCEMENT: PROVIDE SUPPORTS FOR REINFORCEMENT INCLUDING BOLSTERS, CHAIRS, SPACERS AND OTHER DEVICES FOR SPACING, SUPPORTING AND FASTENING REINFORCING BARS AND WELDED WIRE FABRIC IN PLACE. USE WIRE BAR-TYPE SUPPORTS COMPLYING WITH CRSI SPECIFICATIONS, UNLESS OTHERWISE SPECIFIED. METAL ACCESSORIES SHALL BE PLASTIC COATED (CRSI, CLASS 1) OR STAINLESS STEEL PROTECTED (CRSI, CLASS 2) WHERE LEGS WILL BE EXPOSED IN FINISHED CONCRETE SURFACES. DO NOT USE ROCKS, BROKEN BRICKS, WOOD BLOCKS, CONCRETE FRAGMENTS, OR REINFORCING BARS DRIVEN INTO THE GROUND FOR SUPPORT OF STEEL REINFORCEMENT.

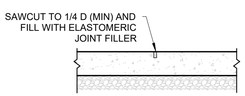
FOR SLABS ON-GRADE, USE SUPPORTS WITH SAND PLATES OR HORIZONTAL RUNNERS WHERE BASE MATERIAL WILL NOT SUPPORT CHAIR LEGS. PRECAST CONCRETE BLOCK BAR SUPPORTS MAY BE USED. BLOCKS SHALL BE MADE WITH A MINIMUM OF 9 SACKS OF CEMENT PER CUBIC YARD AND HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3000 PSI IN 7 DAYS. EACH BLOCK SHALL HAVE A MINIMUM OF 9 SQUARE INCHES OF BEARING AREA. SPACE AS REQUIRED BY THE PARTICULAR CONDITION OF WEIGHT, BEARING SURFACE AND RIGIDITY OF THE STEEL REINFORCEMENT.

D. AT SPLICES IN CONCRETE, LAP BARS A MINIMUM OF 48 DIAMETERS UNLESS OTHERWISE NOTED. DO NOT WELD OR USE MECHANICAL SPLICING DEVICES UNLESS SPECIFICALLY APPROVED BY ENGINEER.

E. UNLESS SPECIFICALLY LOCATED ON PLAN OR DETAILS, COORDINATE COLD JOINT LOCATIONS WITH ENGINEER.

F. AT CORNERS, MAKE HORIZONTAL BARS CONTINUOUS OR PROVIDE CORNER BARS.

G. AROUND OPENINGS AND STEPS IN CONCRETE, PROVIDE (2)-#5'S EXTENDING 2'-0" BEYOND EDGE OF OPENING OR STEP. EXTEND REINFORCING STEEL A MINIMUM OF 24" THROUGH COLD JOINTS.



CONTROL JOINT DETAIL

1 TYPICAL SLAB JOINT DETAILS
1/2" = 1'-0"

REINFORCED CONCRETE:

A. CONCRETE SHALL BE PROPORTIONED USING TYPE I/II CEMENT OR TYPE 1L PORTLAND LIMESTONE CEMENT.

B. ALL CONCRETE SHALL HAVE A MINIMUM 28-DAY COMPRESSIVE STRENGTH OF 4,000 PSI, BUT SHALL BE A MINIMUM 6 BAG MIX.

C. SLUMP: 2" - 4". NO WATER SHALL BE ADDED ON SITE WHICH WILL INCREASE SLUMP ABOVE 4".

D. AIR CONTENT: FOR NORMAL WEIGHT CONCRETE EXPOSED TO FREEZING AND THAWING OR DEICING CHEMICALS SHALL HAVE A MINIMUM ENTRAINED AIR CONTENT BETWEEN 5 AND 7-PERCENT. ALL OTHER NORMAL WEIGHT CONCRETE SHALL HAVE A MINIMUM ENTRAINED AIR CONTENT BETWEEN 3 AND 5-PERCENT.

E. ADMIXTURES CONTAINING CHLORIDE SALTS SHALL NOT BE USED.

F. REINFORCEMENT PLACEMENT: PLACE IN ACCORDANCE WITH THE CONTRACT DRAWINGS, CHAPTERS 7 AND 12 OF ACI 318 AND THE MANUAL OF STANDARD PRACTICE OF THE CONCRETE REINFORCING STEEL INSTITUTE. CLEAN REINFORCEMENT OF LOOSE RUST AND MILL SCALE, EARTH, ICE AND OTHER MATERIALS WHICH REDUCE OR DESTROY BOND WITH CONCRETE. ACCURATELY POSITION, SUPPORT AND SECURE REINFORCEMENT AGAINST DISPLACEMENT BY FORMWORK, CONSTRUCTION, OR CONCRETE PLACEMENT OPERATIONS. TIE SECURELY WITH 16-GAGE OR LARGER ANNEALED IRON WIRE. LOCATE AND SUPPORT REINFORCING BY METAL CHAIRS, RUNNERS, BOLSTERS, SPACERS, AND HANGERS, AS REQUIRED.

G. CONCRETE COVERAGE FOR REINFORCING STEEL (ACI 318):

CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH:	3"
CONCRETE EXPOSED TO EARTH OR WEATHER OR SALT:	2"

H. JOINTS:

H.A. CONSTRUCTION JOINTS: LOCATE AND INSTALL JOINTS WHICH ARE NOT INDICATED OR SPECIFIED IN CONFORMANCE WITH ACI 318. OBTAIN ENGINEER'S APPROVAL OF JOINTS LOCATED BY CONTRACTOR PRIOR TO PREPARATION OF REINFORCING STEEL DRAWINGS. PLACE CONSTRUCTION JOINTS PERPENDICULAR TO MAIN REINFORCEMENT. CONTINUE REINFORCEMENT ACROSS CONSTRUCTION JOINTS.CLEAN AND BREAK LAITANCE OR OTHER FOREIGN MATERIAL FROM BONDING SURFACES. TIGHTEN FORMS REMAINING IN PLACE (WHERE APPLICABLE) TO PREVENT SEEPAGE BETWEEN FORMS AND HARDENED CONCRETE.

H.B. ISOLATION JOINTS IN SLABS-ON-GRADE: CONSTRUCT ISOLATION JOINTS IN SLABS ON-GRADE AT POINTS OF CONTACT BETWEEN SLABS ON GROUND AND VERTICAL SURFACES, SUCH AS COLUMN PEDESTALS, FOUNDATION WALLS, EQUIPMENT FOUNDATIONS AND ELSEWHERE AS INDICATED.

H.C. CONTRACTION (CONTROL) JOINTS: MAINTAIN TRUE ALIGNMENT WITH STRAIGHTEDGE AND LOCATE AS INDICATED. JOINTS SHALL BE GROOVED EXCEPT WHERE SAWED JOINTS ARE INDICATED. INSTALL GROOVED JOINTS DURING FINISHING PROCESS. WIDTH OF GROOVE SHALL NOT EXCEED 1/4" AND DEPTH SHALL BE AT LEAST 1". SAWED JOINTS SHALL BE INSTALLED AS SOON AS THE CONCRETE SURFACE IS FIRM ENOUGH TO RESIST TEARING OR DAMAGE BY THE POWER BLADE AND BEFORE RANDOM SHRINKAGE CRACKS CAN OCCUR. MAKE JOINTS APPROXIMATELY 1/8" WIDE WITH DEPTH AS INDICATED. SEAL JOINT WITH THE SAME TYPE SEALANT SPECIFIED FOR EXPANSION JOINT SEALANT.

I. INSTALLATION OF EMBEDDED ITEMS: SET AND BUILD INTO WORK ANCHORAGE DEVICES AND OTHER EMBEDDED ITEMS REQUIRED FOR OTHER WORK THAT IS ATTACHED TO, OR SUPPORTED BY, CAST-IN-PLACE CONCRETE. PROVIDE FOR ACCURATE INSTALLATION OF EMBEDDED ITEMS. SECURELY FIX FLOOR DRAINS, PRESSURE RELIEF VALVES, ETC IN PLACE TO PREVENT FLOTATION WHILE PLACING CONCRETE. UNIFORMLY AND ACCURATELY SLOPE FLOOR SLAB TOWARD THE DRAINS. PROTECT PIPE SLEEVES FROM MOISTURE DURING COLD WEATHER. PROTECT ANCHOR BOLT THREADS FROM CONCRETE SPLATTER.

J. COLD WEATHER PLACEMENT OF CONCRETE : WHEN THE TEMPERATURE IS 40°F OR IS LIKELY TO FALL BELOW 40°F DURING A 24-HOUR PERIOD AFTER CONCRETE PLACEMENT, FOLLOW THE RECOMMENDATIONS OF ACI 306 TO PREVENT LOSS OF CONCRETE STRENGTH OR QUALITY.

K. HOT-WEATHER PLACING OF CONCRETE : WHEN THE TEMPERATURE IS 90°F OR ABOVE, OR IS LIKELY TO RISE ABOVE 90°F WITHIN A 24-HOUR PERIOD AFTER THE CONCRETE PLACEMENT OR WHEN THERE IS ANY COMBINATION OF HIGH AIR TEMPERATURE, LOW RELATIVE HUMIDITY AND WIND VELOCITY WHICH WOULD IMPAIR CONCRETE STRENGTH OR QUALITY, FOLLOW THE RECOMMENDATIONS OF ACI 305. CONCRETE SHALL HAVE A MAXIMUM TEMPERATURE OF 85°F DURING PLACEMENT. DAMPEN SUBGRADE AND FORMS WITH COOL WATER IMMEDIATELY PRIOR TO PLACEMENT OF CONCRETE. COVER REINFORCING STEEL WITH WATER-SOAKED BURLAP IF IT BECOMES TOO HOT, SO THAT STEEL TEMPERATURE WILL NOT EXCEED THE AMBIENT AIR TEMPERATURE. PROTECT FRESHLY PLACED CONCRETE IMMEDIATELY AFTER PLACEMENT SO THAT THE RATE OF EVAPORATION AS DETERMINED BY ACI 305 DOES NOT EXCEED 0.2 POUND PER SQUARE FOOT PER HOUR. PROTECT CONCRETE WITH SUITABLE INSULATION, IF RAPIDLY DECREASING NIGHTTIME TEMPERATURES OCCUR, WHICH WOULD CAUSE THERMAL SHOCK TO CONCRETE PLACED DURING WARM DAYTIME TEMPERATURES. PROTECT THE CONCRETE WITH TEMPORARY WET COVERING DURING ANY APPRECIABLE DELAY BETWEEN PLACEMENT AND FINISHING.

L. ALL EXPOSED EDGES AND CORNERS SHALL BE CHAMFERED 3/4".

M. CONCRETE CURING AND PROTECTION: PROTECT FRESHLY PLACED CONCRETE FROM PREMATURE DRYING AND EXCESSIVE COLD OR HOT TEMPERATURES. START INITIAL CURING AS SOON AS FREE WATER HAS DISAPPEARED FROM CONCRETE SURFACE AFTER PLACING AND FINISHING. WEATHER PERMITTING, KEEP CONTINUOUSLY MOIST FOR NOT LESS THAN 7 DAYS. BEGIN FINAL CURING PROCEDURES IMMEDIATELY FOLLOWING INITIAL CURING AND BEFORE CONCRETE HAS DRIED. CONTINUE FINAL CURING FOR AT LEAST 7 DAYS IN ACCORDANCE WITH ACI 301 PROCEDURES. AVOID DRYING AT END OF FINAL CURING PERIOD.

CURING METHODS: CURE ALL CONCRETE BY ONE OF THE FOLLOWING METHODS UNLESS SPECIFIED OTHERWISE:

M.A. LEAVE IN FORMS FOR A MINIMUM OF 7 DAYS. KEEP FORMWORK WET TO PREVENT DRYING OF CONCRETE SURFACES.

M.B. USE SATURATED BATS, SOAKER HOSES, OR SPRINKLER FOR A MINIMUM OF 7 DAYS. KEEP CONCRETE CONTINUOUSLY WET.

M.C. USING 1 COAT OF A LIQUID MEMBRANE-FORMING COMPOUND CONFORMING TO ASTM C309, TYPE 1. APPLY IMMEDIATELY AFTER REMOVAL OF FORMS (WHICH HAVE BEEN CONTINUOUSLY WET); OR IN CASE OF A SLAB, AFTER THE CONCRETE HAS BEEN FINISHED AND IS HARDENED SUFFICIENTLY TO WALK ON.

M.D. USING POLYETHYLENE SHEETS APPLIED IN FULL CONTACT WITH SURFACES.

N. PLACEMENT: PER ACI STANDARD 614.

O. TESTS:

SLUMP:	SLUMP SHALL BE TESTED 1 PER 25 YDS OR EACH PLACEMENT CONCRETE TO BE MIXED PER ASTM C94
COMPRESSIVE STRENGTH:	FOUR (4) CYLINDERS FOR EACH POUR, FOR EACH 150 CU. YDS. OR EACH 5000 SQ. FEET OF SURFACE AREA, WHICHEVER IS LESS. CYLINDERS SHALL BE BROKEN AS FOLLOWS: 1 AT 7 DAYS, 2 AT 28 DAYS AND 1 AT 56-DAYS (AS NECESSARY)
AIR ENTRAINMENT:	SHALL BE TESTED 1 PER 25 YDS OR EACH PLACEMENT

FOUNDATION AND EARTHWORK:

A. MINIMUM DEPTH TO BOTTOM OF FOOTINGS SHALL BE 2'-6" BELOW LOWEST ADJACENT FINISHED GRADE FOR EXTERIOR FOOTINGS AND 1'-0" BELOW FINISHED FLOOR FOR INTERIOR FOOTINGS, UNLESS OTHERWISE NOTED.

B. QUALITY ASSURANCE: AN ACCEPTABLE TESTING LABORATORY SHALL BE SELECTED AND PAID FOR BY THE CONTRACTOR TO PERFORM ALL REQUIRED LABORATORY AND FIELD SOIL TESTING NECESSARY TO DEMONSTRATE COMPLIANCE WITH THE COMPACTION REQUIREMENTS.

C. 1-INCH MINUS (TYPE 1) AGGREGATE: AGGREGATE SHALL BE LIMESTONE OR DOLOMITE. THE AGGREGATE SHALL NOT CONTAIN MORE THAN 15-PERCENT DELETERIOUS ROCK AND SHALE. SAND MAY BE ADDED ONLY FOR THE PURPOSE OF REDUCING THE PLASTICITY INDEX OF THE FRACTION PASSING THE NO. 40 SIEVE IN THE FINISHED PRODUCT. ANY SAND, SILT AND CLAY AND ANY DELETERIOUS ROCK AND SHALE SHALL BE UNIFORMLY DISTRIBUTED THROUGHOUT THE MATERIAL. THE FRACTION PASSING THE NO. 40 SIEVE SHALL HAVE A MAXIMUM PLASTICITY INDEX OF SIX. THE AGGREGATE SHALL HAVE THE FOLLOWING GRADATION:

SIEVE	PERCENT BY WEIGHT (MASS)
PASSING 1-INCH	100
PASSING 1/2-INCH	60 TO 90
PASSING NO. 4	35 TO 60
PASSING NO. 30	10 TO 35

D. BACKFILL MATERIALS: SHALL INCLUDE SUITABLE APPROVED MATERIALS FROM THE EXCAVATION AND/OR BORROW AREA(S). SHALL BE FRIABLE SANDY OR SILTY CLAY CONTAINING FINE MATERIAL SUFFICIENT TO PROVIDE A DENSE MASS FREE OF VOIDS AND CAPABLE OF SATISFACTORY COMPACTION. SHALL BE FREE OF ROOTS AND OTHER ORGANIC MATTER, REFUSE, CINDER, ICE, SNOW, FROZEN EARTH OR OTHER UNSUITABLE MATTER. DO NOT USE MATERIAL CONTAINING GRAVEL, STONES, OR SHALE PARTICLES GREATER IN DIMENSION THAN ONE-HALF THE DEPTH OF THE LAYER TO BE COMPACTED.

E. EXCAVATION: EXCAVATE AREA ADEQUATE TO PERMIT ERECTION AND REMOVAL OF FORMS. TRIM EXCAVATION TO NEAT LINES WHERE CONCRETE IS TO BE PLACED AGAINST THE EARTH. EXCAVATE BY HAND ANY AREAS WHERE SPACE AND ACCESS WILL NOT PERMIT THE USE OF MACHINES. NOTIFY THE ENGINEER IMMEDIATELY WHEN EXCAVATION HAS REACHED THE DEPTH INDICATED. DO NOT PROCEED FURTHER UNTIL EXCAVATION IS APPROVED. RESTORE THE BOTTOM OF THE EXCAVATION TO PROPER ELEVATIONS IN AREAS OVEREXCAVATED WITH CONCRETE.

F. COMPACTION FOR FILL, BACKFILLING, AND SUBGRADE: PERFORM WETTING OR DRYING OF COMPACTED MATERIAL AS REQUIRED TO OBTAIN THE SPECIFIED DENSITY. MOISTURE CONTENT AT THE TIME OF PLACEMENT SHALL NOT BE LESS THAN THE OPTIMUM NOR MORE THAN 4-PERCENT ABOVE THE OPTIMUM AS DETERMINED BY ASTM D698. DO NOT PLACE SNOW, ICE OR FROZEN EARTH IN COMPACTED SOIL AND DO NOT PLACE COMPACTED SOIL ON A FROZEN SURFACE. REMOVE WASTE MATERIALS FROM SOILS TO BE COMPACTED. AN ACCEPTABLE TESTING LABORATORY SHALL BE SELECTED AND PAID FOR BY THE CONTRACTOR TO PERFORM ALL LABORATORY AND FIELD TESTING NECESSARY TO DEMONSTRATE COMPLIANCE WITH COMPACTION REQUIREMENTS. PERFORM TESTING IN ACCORDANCE WITH ASTM D698 WHERE "STANDARD PROCTOR" HAS BEEN INDICATED. THE SOIL DENSITY TESTING FREQUENCY SHALL BE AS FOLLOWS:

F.A. FOR COMPACTED SUBGRADE, DENSITY TESTS REPRESENTATIVE OF EACH 500-SQURE YARDS OF SUBGRADE OR PER EXCAVATION SHALL BE TAKEN.

F.B. FOR STRUCTURAL BACKFILL, DENSITY TESTS REPRESENTATIVE OF EACH 100-CUBC YARDS OF FILL OR PER EXCAVATION SHALL BE TAKEN

G. BACKFILLING: PLACE BACKFILL TO THE ELEVATIONS INDICATED. IN AREAS REQUIRING 95-PERCENT COMPACTION, PLACE BACKFILL IN LIFTS NOT TO EXCEED EIGHT (8) INCHES (UNCOMPACTED DEPTH). PLACE TWELVE (12) INCH MAXIMUM LIFTS IN OTHER AREAS. OBTAIN COMPACTION SPECIFIED BY NORMAL METHODS AND EQUIPMENT. BACKFILL FAILING TO MEET SPECIFIED DENSITIES SHALL BE REMOVED OR SCARIFIED AND RECOMPACTED TO MEET SPECIFIED DENSITIES.

G.A. STRUCTURES: COMPACT BACKFILL TO 95-PERCENT OF THE MAXIMUM DENSITY (ASTM D698) UNDER ALL STRUCTURES AND IN EXCAVATIONS ADJACENT TO STRUCTURES. BACKFILL ONLY AFTER CONCRETE HAS OBTAINED 70-PERCENT OF ITS INTENDED DESIGN STRENGTH. BACKFILL ADJACENT STRUCTURES ONLY AFTER A SUFFICIENT PORTION OF THE STRUCTURE HAS BEEN COMPLETED TO RESIST THE IMPOSED SOIL LOADS. REMOVE ALL FORMS AND DEBRIS FROM THE EXCAVATION PRIOR TO BACKFILL. BACKFILL WITHIN 1-FT OF THE STRUCTURE SHALL BE FREE OF GRAVEL, ROCK OR SHALE PARTICLES LARGER THAN 4-INCHES IN DIAMETER. BRING LIFTS UP SIMULTANEOUSLY ON ALL SIDES OF STRUCTURES. EXERCISE CAUTION IN THE USE OF HEAVY EQUIPMENT IN AREAS ADJACENT TO STRUCTURE TO AVOID HIGH LATERAL STRESSES ON THE STRUCTURE. USE ONLY LIGHT EQUIPMENT TO PLACE BACKFILL WITHIN TWENTY (20) FEET OF THE STRUCTURE. WHERE STRUCTURAL EXCAVATION HAS BEEN THROUGH ROCK, BACKFILL WITH COMPACTED GRANULAR FILL TO TOP OF ROCK FORMATION, UNLESS OTHERWISE INDICATED ON THE DRAWINGS.

H. SUBGRADE PREPARATION: EXCAVATE OR PLACE FILL AS REQUIRED TO CONSTRUCT SUBGRADES TO ELEVATIONS INDICATED. REMOVE ALL UNSUITABLE MATERIAL AND REPLACE WITH APPROVED FILL MATERIAL. PERFORM ALL WETTING, DRYING, SHAPING AND COMPACTION REQUIRED TO PREPARE A SUITABLE SUBGRADE. ROUGHEN SUBGRADE BY DISCING OR SCARIFYING AND WET OR DRY THE TOP EIGHT (8) INCHES AS REQUIRED. COMPACT THE TOP EIGHT (8) INCHES OF SUBGRADE TO 95-PERCENT OF ITS STANDARD PROCTOR DENSITY. PROOFROLL SUBGRADE AFTER MOISTURE CONDITIONING AND COMPACTION TO IDENTIFY SOFT OR DISTURBED AREAS. USE FULLY LOADED TANDEM AXLE DUMP TRUCK OR EQUIPMENT PROVIDING AN EQUIVALENT LOADING FOR PROOF ROLLING. UNDERCUT AND REPLACE SOFT AREAS IDENTIFIED BY PROOFROLLING WITH STRUCTURAL BACKFILL IF SO DIRECTED BY THE ENGINEER.

PRE-ENGINEERED METAL BUILDING:

1. PRE-ENGINEERED METAL BUILDING ELEMENTS SHALL BE DESIGNED BY THE MANUFACTURER AND SHALL COMPLY WITH THE REQUIREMENTS OF LOCAL BUILDING CODES AS LISTED IN "DESIGN PARAMETERS" AND THE METAL BUILDING MANUFACTURERS' ASSOCIATION DESIGN MANUAL. IN ADDITION, THE METAL BUILDING ELEMENTS SHALL BE DESIGNED FOR ALL COLLATERAL LOADS INDICATED ON THE DRAWING.
2. THE METAL BUILDING MANUFACTURE IS RESPONSIBLE FOR PROVIDING THE MATERIAL TYPE, DIAMETER, AND LOCATION OF ANCHOR BOLTS FOR THE METAL BUILDING COLUMNS.
3. THE METAL BUILDING COLUMNS SHALL BEAR AS INDICATED ON PLANS.
4. LIMIT LATERAL DEFLECTIONS OF FRAMES TO THE BUILDING EAVE HEIGHT DIVIDED BY 400.
5. LIMIT DEFLECTIONS OF ROOF DIAPHRAGMS BETWEEN FRAMES TO THE BUILDING EAVE HEIGHT DIVIDED BY 400.
6. LIMIT LATERAL DEFLECTIONS OF WIND GIRTS TO THE SPAN DIVIDED BY 240 FOR COMPONENTS AND CLADDING WIND FORCES.
7. LIMIT VERTICAL DEFLECTION OF ROOF FRAMING MEMBERS TO THE SPAN DIVIDED BY 240 (FOR LIVE LOAD), AND TO THE SPAN DIVIDED BY 180 (FOR TOTAL LOAD). AT SUPPLEMENTAL SUPPORT FRAMING, THE STRICTER OF THE PREVIOUSLY LISTED DEFLECTIONS OR THE MANUFACTURER'S DEFLECTION REQUIREMENTS SHALL CONTROL THE DESIGN,.
8. SHOP DRAWING SUBMITTALS (INCLUDING DRAWINGS AND CALCULATIONS) SHALL BEAR THE SEAL OF A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF MISSOURI, INCLUDE FOUNDATION REACTIONS FOR ALL FRAMING MEMBERS ON THE SHOP DRAWINGS FOR ALL LOAD COMBINATIONS. INDICATE WHETHER THESE LOADS ARE ULTIMATE OR SERVICE LOADS. INDICATE WHICH LOAD COMBINATION APPLIES THE LARGEST LOAD TO THE FOUNDATIONS.
9. FOUNDATIONS PROVIDING SUPPORT TO THE METAL BUILDING FRAMES OF THE BUILDING HAVE BEEN DESIGNED FOR PINNED TYPE CONNECTIONS ONLY, DO NOT FIX THE BASE OF THE COLUMNS.
10. A 1/3 INCREASE IN ALLOWABLE STRESS SHALL NOT BE USED FOR DESIGN. HOWEVER, A LOAD REDUCTION SHALL BE ALLOWED IN ACCORDANCE WITH ANSI/ASCE-7 WHEN TWO OR MORE TRANSIENT LOADS IN COMBINATION WITH DEAD LOADS ARE APPLIED.
11. METAL BUILDING MANUFACTURER SHALL PROVIDE ROOF BRACING, WALL BRACING AND/OR PORTAL FRAMES AS REQUIRED TO ADEQUATELY RESIST WIND AND SEISMIC LOADS. THEIR LOCATIONS AND SIZES SHALL BE COORDINATED WITH ARCHITECTURAL DRAWINGS AND INTENT.
12. METAL BUILDING MANUFACTURER SHALL BE RESPONSIBLE FOR ALL FRAMING ABOVE SLAB. THIS INCLUDES, BUT IS NOT LIMITED TO, WIND GIRTS AND COLUMNS, EXTERIOR JAMBS AND LINTELS, DOOR FRAMING NOT SUPPLIED BY DOOR MANUFACTURER, EXTERIOR WALL FRAMING, AND MECHANICAL/ELECTRICAL EQUIPMENT SUPPORT. ALL SUPPLEMENTAL FRAMING SHALL MEET OR EXCEED THE LOAD AND DEFLECTION REQUIREMENTS OF THE MANUFACTURER.
13. THE METAL BUILDING MANUFACTURE IS RESPONSIBLE FOR COORDINATING METAL BUILDING ELEMENTS WITH THE CONSTRUCTION DRAWINGS AND INTENT.
14. NO OVERSTRESS OF METAL BUILDING MEMBERS IS ALLOWED.

STATE OF MISSOURI
MIKE KEHOE,
GOVENOR

STATE OF MISSOURI
STEVEN W. SYKA
NUMBER
PE-2009002097
PROFESSIONAL ENGINEER

12/11/2025

CM Archer Group, P.C. dba:
ARCHER-ELGIN
ENGINEERING | SURVEYING | ARCHITECTURE
Corporate Authority:
CM Archer Group, P.C.: E: 2003023612, LS: 2004017577-D, A-2016017179
310 East 6th Street; Rolla, Missouri 65401 ■ Phone: 573-364-6562 ■ www.archer-elgin.com

OFFICE OF ADMINISTRATION
DIVISION OF FACILITIES
MANAGEMENT,
DESIGN AND CONSTRUCTION

STATE OF MISSOURI
DIVISION OF PUBLIC SAFETY/
STATE HIGHWAY PATROL

TROOP I HEADQUARTERS &
CDL EROSION CONTROL,
PAVEMENT REPAIR AND
RENOVATIONS

1301 NAGOGAMI ROAD
ROLLA, MO 65401

PROJECT # **R2405-01**
SITE # **6010**
FACILITY # **8136010004**
8136010005

REVISION:
DATE:
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DATE:
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DATE:
ISSUE DATE: 1/15/2026

CAD DWG FILE:
DRAWN BY: JRM
CHECKED BY: SLS
DESIGNED BY: JRM

SHEET TITLE:

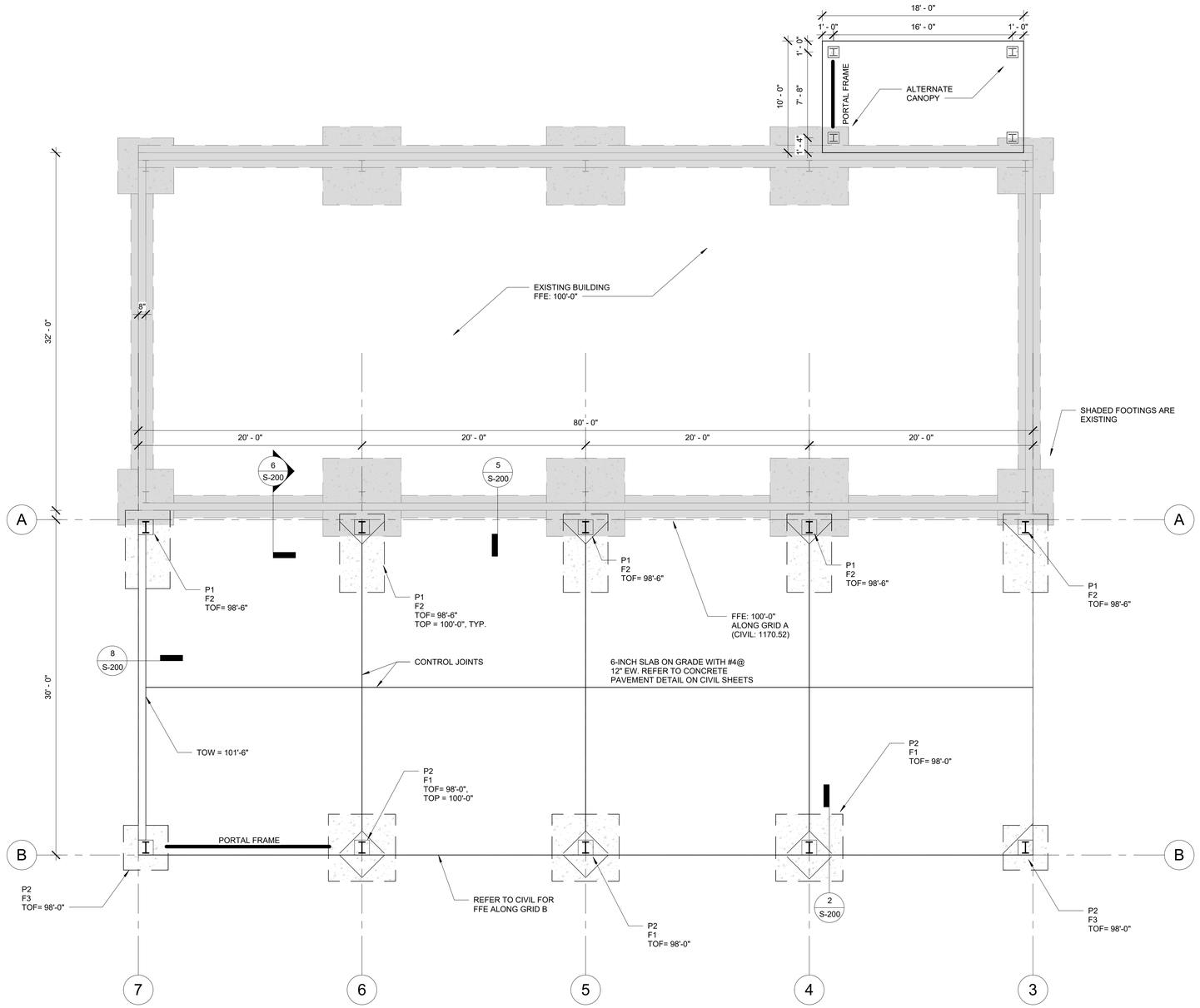
STRUCTURAL NOTES

SHEET NUMBER:

S-010

DESIGN NOTES:

1. FOUNDATION DESIGN HAS BEEN BASED ON ESTIMATED COLUMN REACTIONS. DESIGN MUST BE CONFIRMED AFTER REACTIONS HAVE BEEN PROVIDED BY PEMB.



1 FOUNDATION PLAN
3/16" = 1'-0"

GENERAL NOTES

1. EXISTING SIZING AND LOCATIONS ARE ASSUMED. CONTRACTOR SHALL FIELD CONFIRM LOCATIONS AND SIZING.

LEGEND

TOF = TOP OF FOOTING ELEVATION

TOW = TOP OF WALL ELEVATION

TOC = TOP OF CONCRETE ELEVATION

TOP = TOP OF PEDESTAL ELEVATION

DESIGN PARAMETERS:

1.	BUILDING CODE	2018 IBC
2.	LIVE LOADS	
	ROOF	20 PSF
3.	SNOW LOADS	
	A. GROUND SNOW LOAD, Pg	20 PSF
	B. SNOW EXPOSURE FACTOR, Ce	1.0
	C. SNOW THERMAL FACTOR, Ct	1.2
	D. IMPORTANCE FACTOR, I	1.0
4.	WIND LOADS	
	A. WIND SPEED (ULTIMATE)	106 MPH
	B. RISK CATEGORY	II
	C. EXPOSURE CATEGORY	C
	D. ENCLOSURE	OPEN
5.	EARTHQUAKE LOADS	
	A. SPECTRAL RESPONSE ACCELERATION (SHORT PERIOD), Ss	0.282
	B. SPECTRAL RESPONSE ACCELERATION (1-SEC. PERIOD), S1	0.136
	C. Sds	0.296
	D. S1	0.211
	C. IMPORTANCE FACTOR, I	1.0
	D. SEISMIC RISK CATEGORY	II
	E. SOIL SITE CLASS (ASSUMED)	D
	F. SEISMIC DESIGN CATEGORY	D

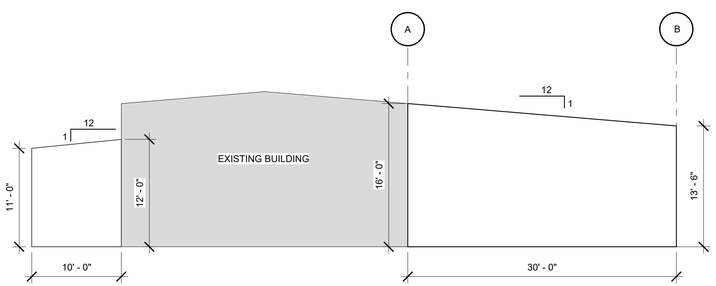
REINFORCEMENT DEVELOPMENT LENGTH:

BAR SIZE	LENGTH OF LAPPED SPLICES FOR REINFORCING IN INCHES		LENGTH OF EMBEDMENT FOR END ANCHORAGE OF REINFORCING IN INCHES	
	* TOP BARS	OTHERS	* TOP BARS	OTHERS
3	18	14	14	12
4	24	18	18	14
5	30	23	23	18
6	40	31	31	23
7	54	42	42	32
8	71	54	54	42
9	90	69	69	53

* TOP BARS ARE HORIZONTAL BARS WITH MORE THAN 12" OF CONCRETE CAST IN THE MEMBER BELOW THE BAR. HORIZONTAL BARS IN WALLS SHALL BE PROVIDED WITH LAPS AS REQUIRED FOR TOP BARS.

EXCEPT AS OTHERWISE INDICATED ON THE PLANS, EMBEDMENT LENGTHS FOR END ANCHORAGES AND LAPPED SPLICES SHALL NOT BE LESS THAN SHOWN ABOVE.

NO SPLICES SHALL BE MADE EXCEPT WHERE SHOWN ON THE DESIGN DRAWINGS OR AS SPECIFIED OR AUTHORIZED BY THE ENGINEER.



3 TYPICAL PROFILE
1/8" = 1'-0"

STATE OF MISSOURI
MIKE KEHOE,
GOVENOR

STATE OF MISSOURI STEVEN L. SYKE NUMBER PE-2009002097 PROFESSIONAL ENGINEER

12/11/2025

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CAD DWG FILE:
DRAWN BY: JRM
CHECKED BY: SLS
DESIGNED BY: JRM

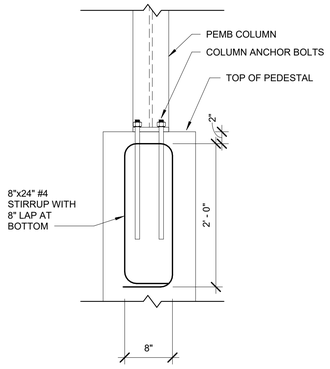
SHEET TITLE:

FOUNDATION PLAN

SHEET NUMBER:

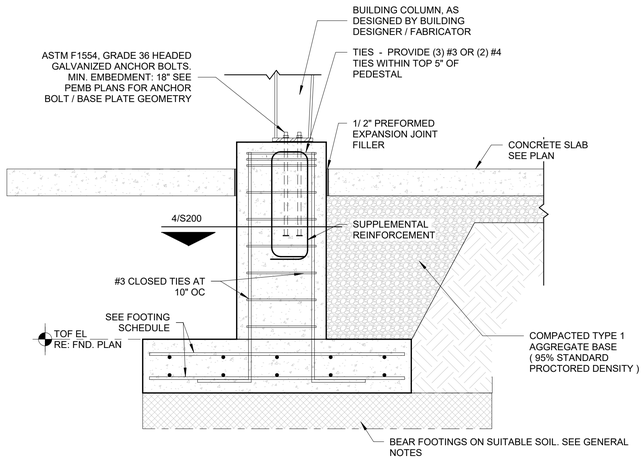
S-100

13 OF 24
1-15-2026

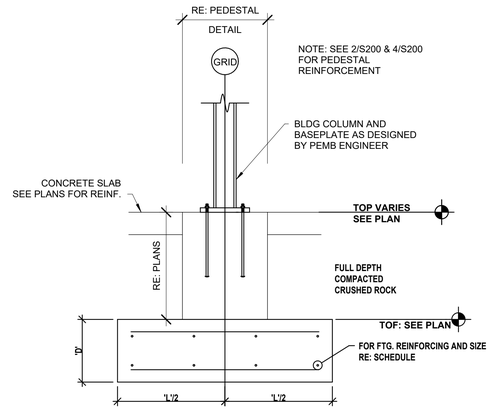


NOTE: PEDESTAL REINFORCEMENT NOT SHOWN FOR CLARITY

1 SUPPLEMENTAL ANCHOR BOLT REINFORCEMENT SECTION
1" = 1'-0"



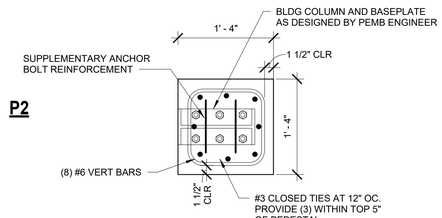
2 FRAME COLUMN FOOTING
3/4" = 1'-0"

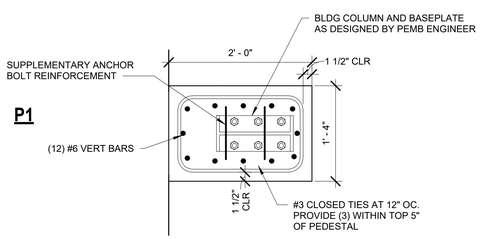


TYP. TYPE A COLUMN FOUNDATION

FOOTING SCHEDULE				
MARK	L LENGTH	W WIDTH	D DEPTH	FOOTING REINFORCING
F1	7'-0"	7'-0"	1'-0"	(8) #6 EW, TOP AND BOTTOM
F2	4'-0"	7'-0"	1'-0"	#6 @ 10" EW, TOP AND BOTTOM
F3	4'-0"	4'-0"	1'-0"	(5) #5 EW, TOP AND BOTTOM

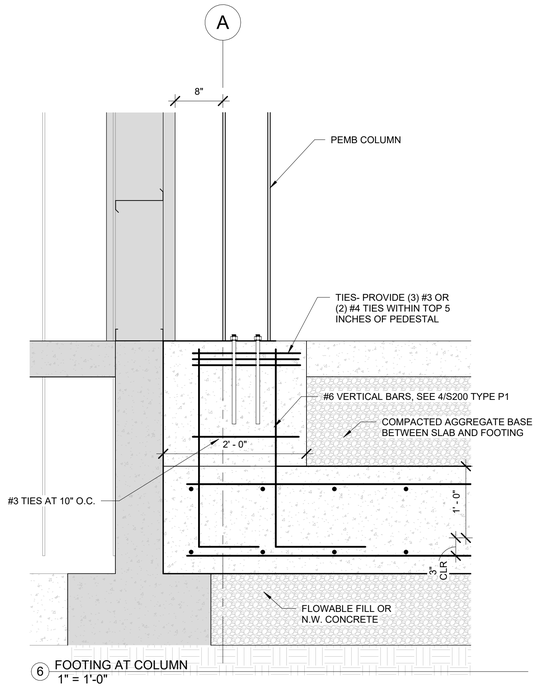
3 Footing Schedule
3/4" = 1'-0"



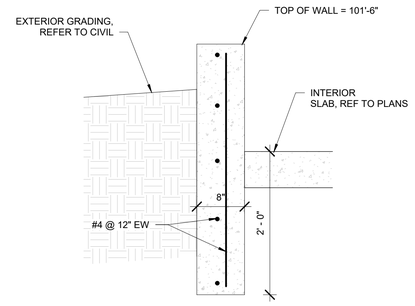


4 PEDESTAL DETAIL
1" = 1'-0"

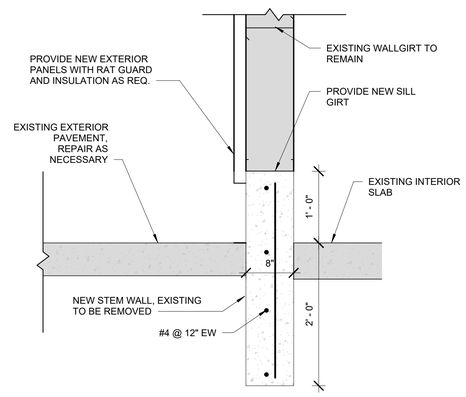
5 STEM WALL AT EXISTING BUILDING
1" = 1'-0"



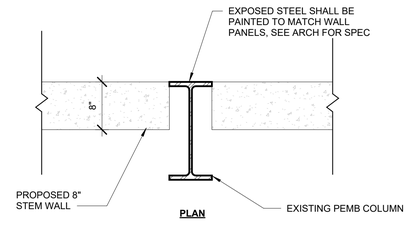
6 FOOTING AT COLUMN
1" = 1'-0"



8 8-INCH CURB WALL
1" = 1'-0"



SECTION



PLAN

7 EXISTING PEMB STEM WALL REPAIR
1" = 1'-0"

STATE OF MISSOURI
MIKE KEHOE,
GOVENOR

STEVEN L. SYLD
NUMBER
PE-2009002097
PROFESSIONAL ENGINEER
12/11/2025

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8136010005

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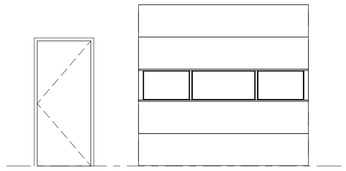
CAD DWG FILE:
DRAWN BY: JRM
CHECKED BY: SLS
DESIGNED BY: JRM

SHEET TITLE:
FOUNDATION DETAILS

SHEET NUMBER:
S-200

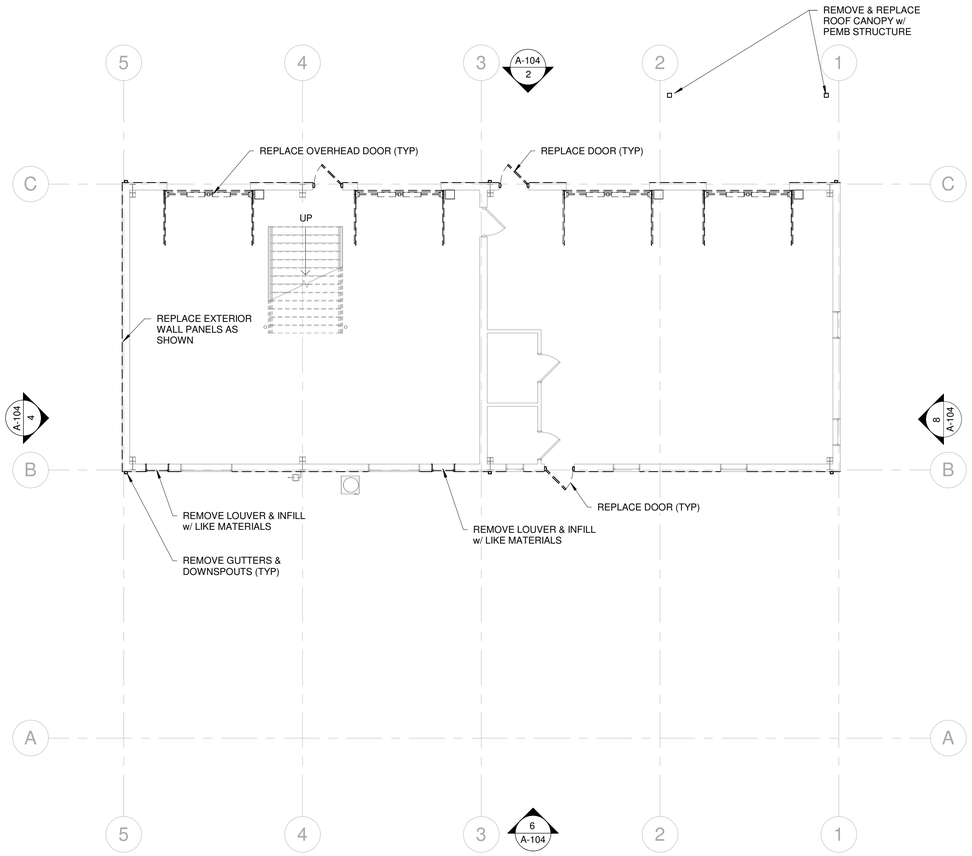


DOOR SCHEDULE

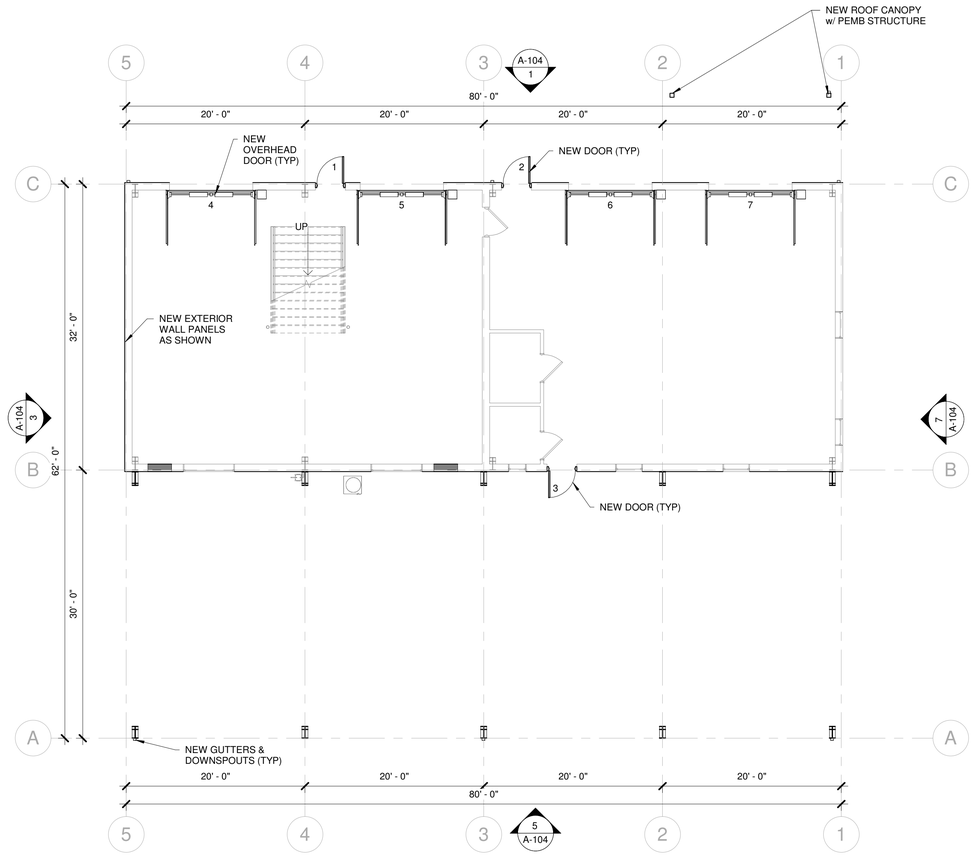
No.	Door Width	Door Height	Door Type	Door Material	Door Finish	Hardware	Access Control	Frame Material	Frame Finish	Comments
1	3' - 0"	7' - 0"	1	INSUL HM	PAINTED	01	Yes	INSUL HM	PAINTED	
2	3' - 0"	7' - 0"	1	INSUL HM	PAINTED	01	Yes	INSUL HM	PAINTED	
3	3' - 0"	7' - 0"	1	INSUL HM	PAINTED	02		INSUL HM	PAINTED	
4	9' - 4"	9' - 0"	2	INSUL STEEL	PREFINISHED	03		STEEL	PAINTED	HIGH LIFT
5	9' - 4"	9' - 0"	2	INSUL STEEL	PREFINISHED	03		STEEL	PAINTED	HIGH LIFT
6	9' - 4"	9' - 0"	2	INSUL STEEL	PREFINISHED	03		STEEL	PAINTED	HIGH LIFT
7	9' - 4"	9' - 0"	2	INSUL STEEL	PREFINISHED	03		STEEL	PAINTED	HIGH LIFT

DOOR SCHEDULE LEGEND

HM	HOLLOW METAL
INSUL	INSULATED



2 DEMO FLOOR PLAN
1/8" = 1'-0"



1 PROPOSED FLOOR PLAN
1/8" = 1'-0"

STATE OF MISSOURI
MIKE KEHOE,
GOVENOR

JOSHUA KENDLE
NUMBER
A-2015031303
ARCHITECT

CM Archer Group, P.C. dba:
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Corporate Authority:
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ROLLA, MISSOURI

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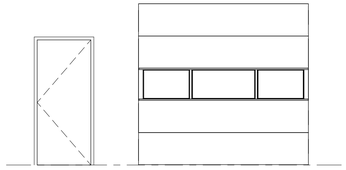
CAD DWG FILE:
DRAWN BY: JLK
CHECKED BY: JRM
DESIGNED BY: JLK

SHEET TITLE:
DEMO PLAN & FLOOR PLAN

SHEET NUMBER:
A-101



1 FLUSH DOOR

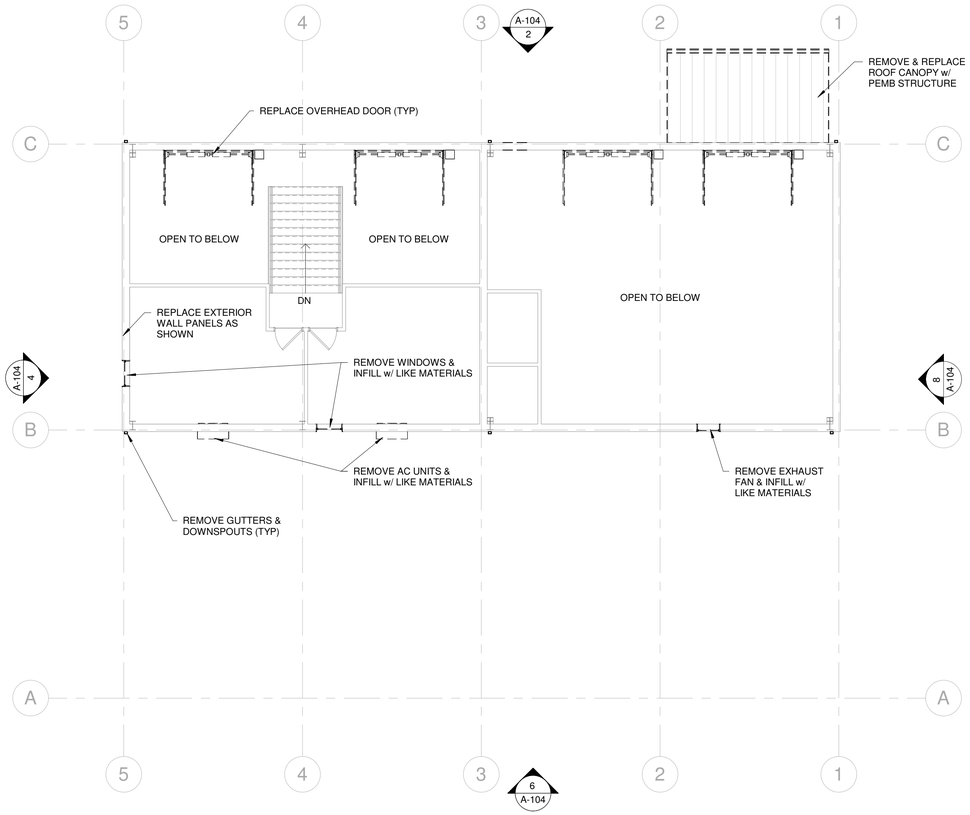
2 OVERHEAD DOOR

DOOR SCHEDULE

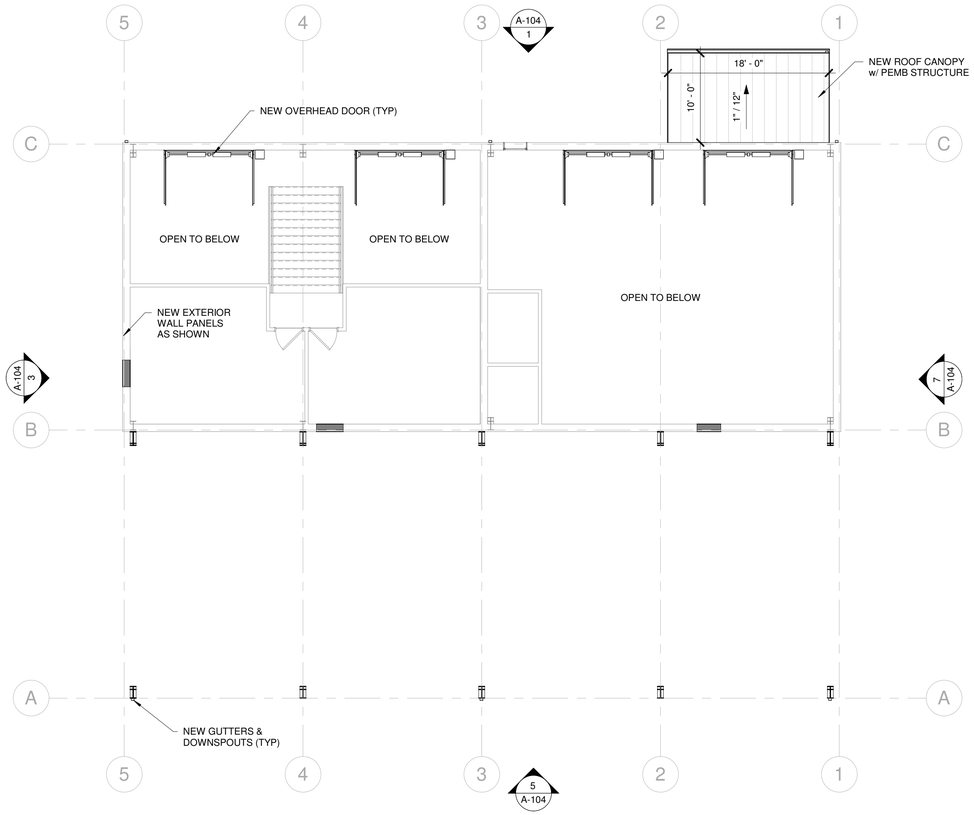
No.	Door Width	Door Height	Door Type	Door Material	Door Finish	Hardware	Access Control	Frame Material	Frame Finish	Comments
1	3' - 0"	7' - 0"	1	INSUL HM	PAINTED	01	Yes	INSUL HM	PAINTED	
2	3' - 0"	7' - 0"	1	INSUL HM	PAINTED	01	Yes	INSUL HM	PAINTED	
3	3' - 0"	7' - 0"	1	INSUL HM	PAINTED	02		INSUL HM	PAINTED	
4	9' - 4"	9' - 0"	2	INSUL STEEL	PREFINISHED	03		STEEL	PAINTED	HIGH LIFT
5	9' - 4"	9' - 0"	2	INSUL STEEL	PREFINISHED	03		STEEL	PAINTED	HIGH LIFT
6	9' - 4"	9' - 0"	2	INSUL STEEL	PREFINISHED	03		STEEL	PAINTED	HIGH LIFT
7	9' - 4"	9' - 0"	2	INSUL STEEL	PREFINISHED	03		STEEL	PAINTED	HIGH LIFT

DOOR SCHEDULE LEGEND

HM	HOLLOW METAL
INSUL	INSULATED



1 DEMO UPPER LEVEL FLOOR PLAN
1/8" = 1'-0"



2 PROPOSED UPPER LEVEL FLOOR PLAN
1/8" = 1'-0"

STATE OF MISSOURI
MIKE KEHOE,
GOVENOR

STATE OF MISSOURI
JOSHUA KENDLE
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A-2015031303
ARCHITECT

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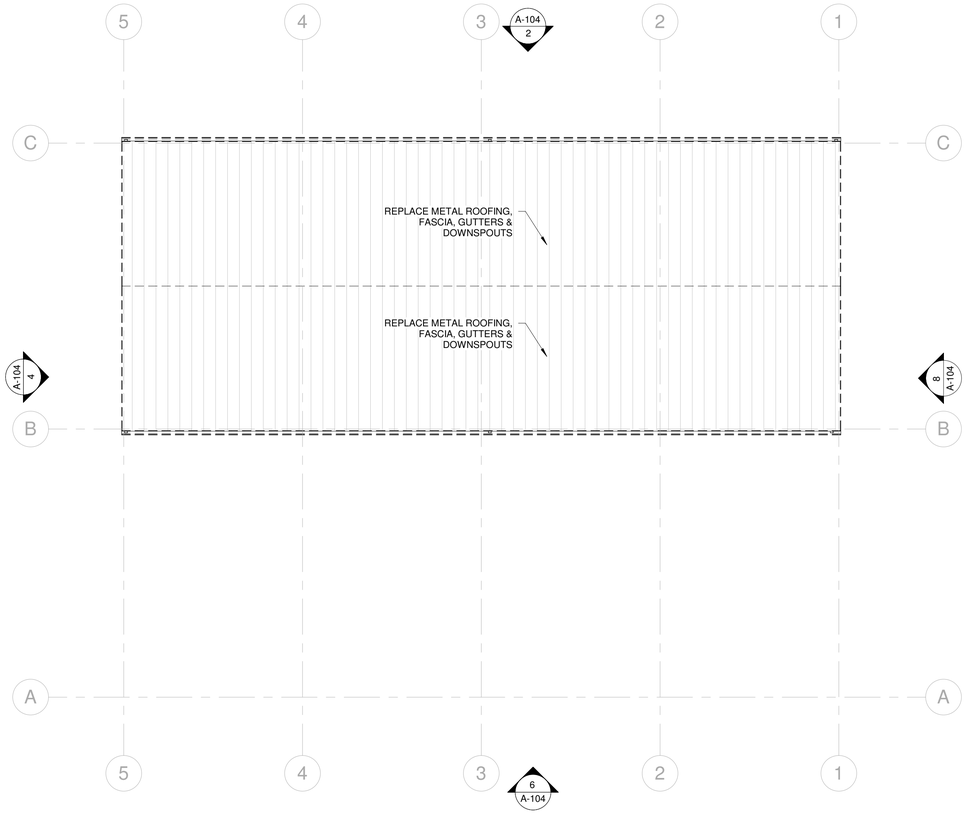
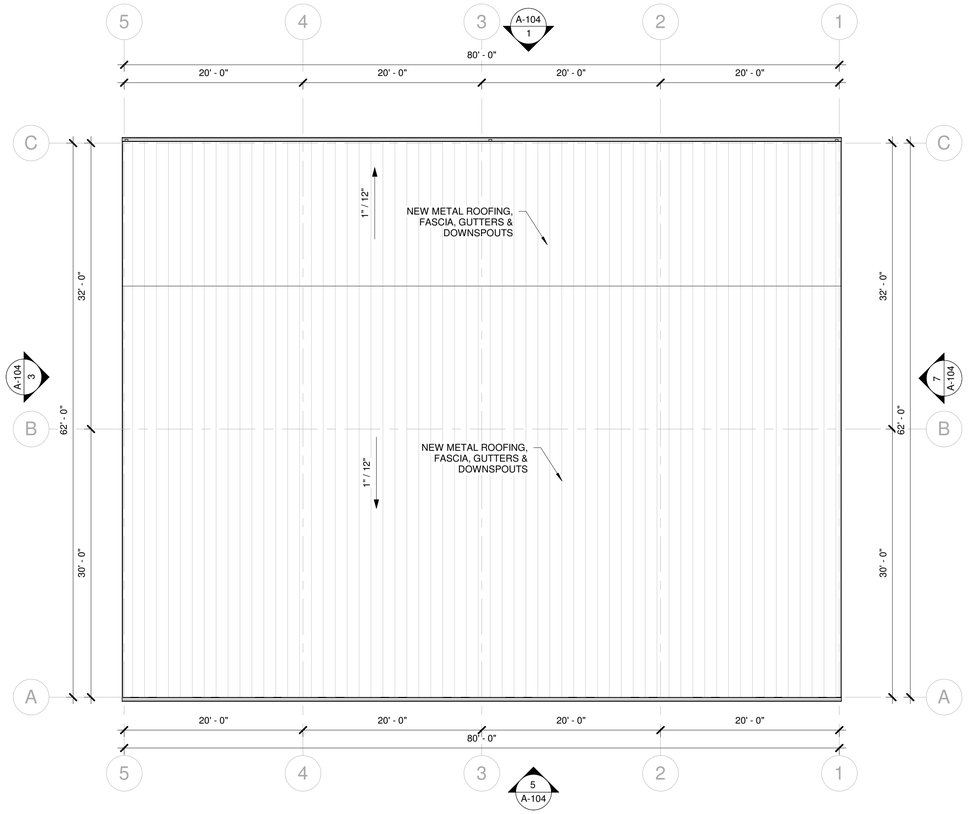
CAD DWG FILE:
DRAWN BY: JLK
CHECKED BY: JRM
DESIGNED BY: JLK

SHEET TITLE:
UPPER DEMO PLAN & UPPER FLOOR PLAN

SHEET NUMBER:
A-102



2 DEMO ROOF PLAN
1/8" = 1'-0"



1 PROPOSED ROOF PLAN
1/8" = 1'-0"

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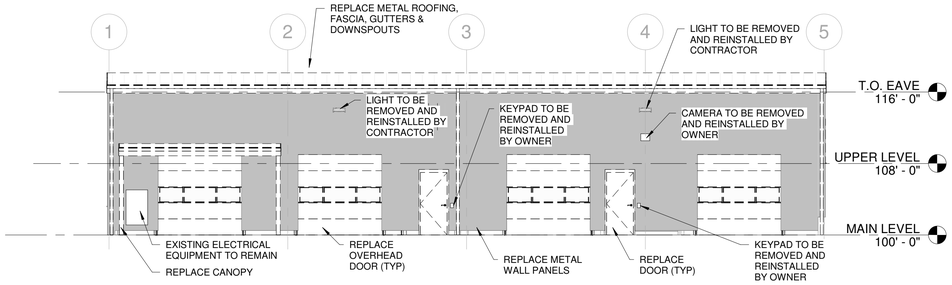
CAD DWG FILE:
DRAWN BY: JLK
CHECKED BY: JRM
DESIGNED BY: JLK

SHEET TITLE:

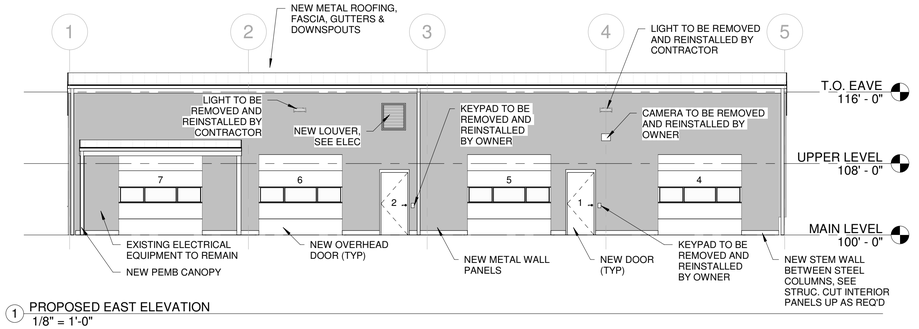
ROOF PLAN

SHEET NUMBER:

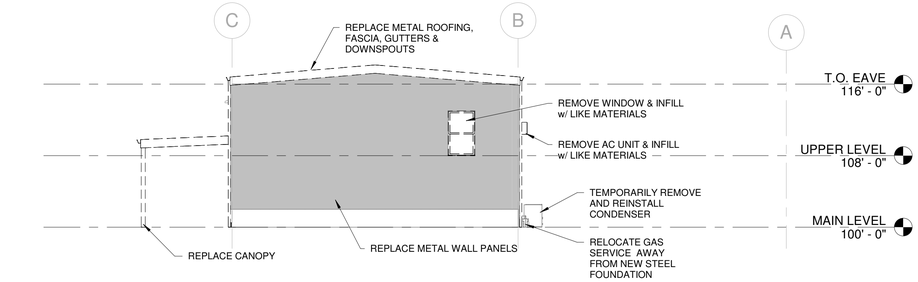
A-103



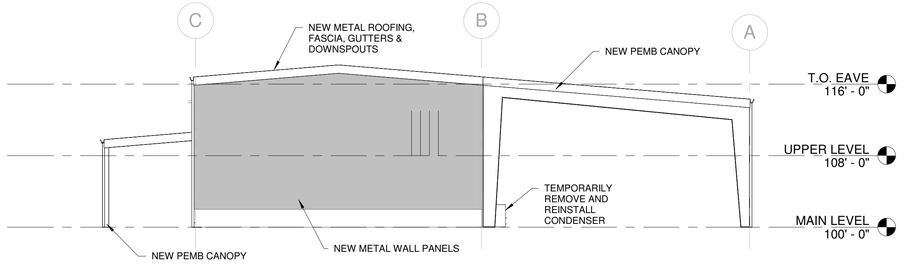
2 DEMO EAST ELEVATION
1/8" = 1'-0"



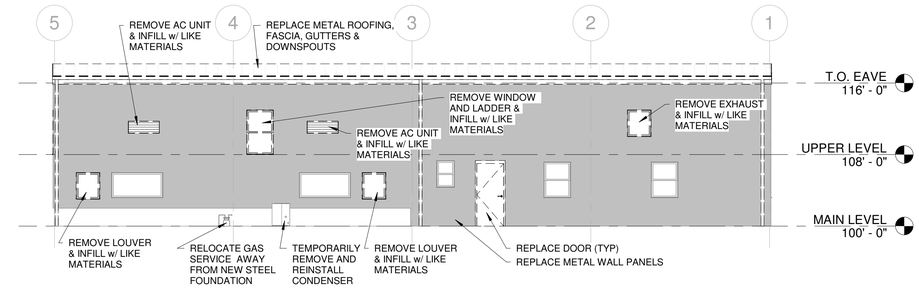
1 PROPOSED EAST ELEVATION
1/8" = 1'-0"



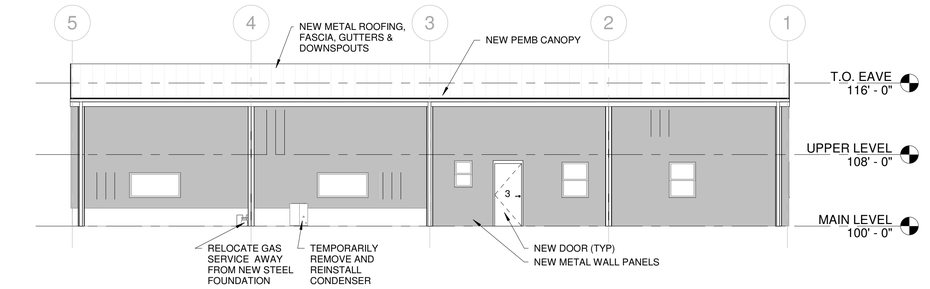
4 DEMO NORTH ELEVATION
1/8" = 1'-0"



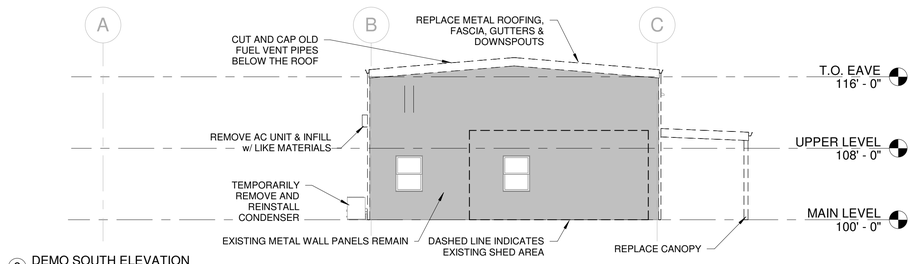
3 PROPOSED NORTH ELEVATION
1/8" = 1'-0"



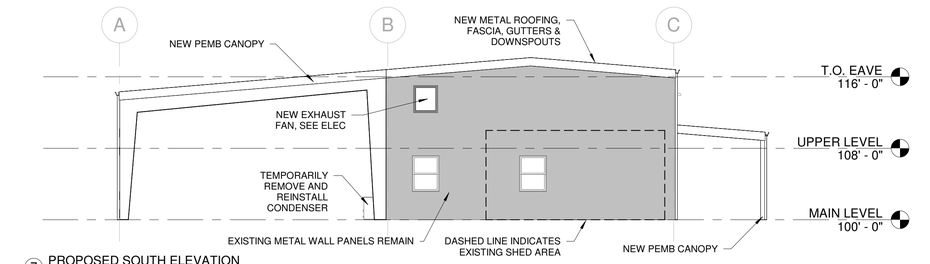
6 DEMO WEST ELEVATION
1/8" = 1'-0"



5 PROPOSED WEST ELEVATION
1/8" = 1'-0"



8 DEMO SOUTH ELEVATION
1/8" = 1'-0"



7 PROPOSED SOUTH ELEVATION
1/8" = 1'-0"

STATE OF MISSOURI
MIKE KEHOE,
GOVENOR

STATE OF MISSOURI
JOSHUA KENDLE
NUMBER
A-2015031303
ARCHITECT

CM Archer Group, P.C. dba:
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OFFICE OF ADMINISTRATION
DIVISION OF FACILITIES
MANAGEMENT,
DESIGN AND CONSTRUCTION

STATE OF MISSOURI
DIVISION OF PUBLIC SAFETY/
STATE HIGHWAY PATROL

TROOP I HEADQUARTERS & CDL EROSION CONTROL, PAVEMENT REPAIR AND RENOVATIONS

1301 NAGOGAMI ROAD,
ROLLA, MISSOURI

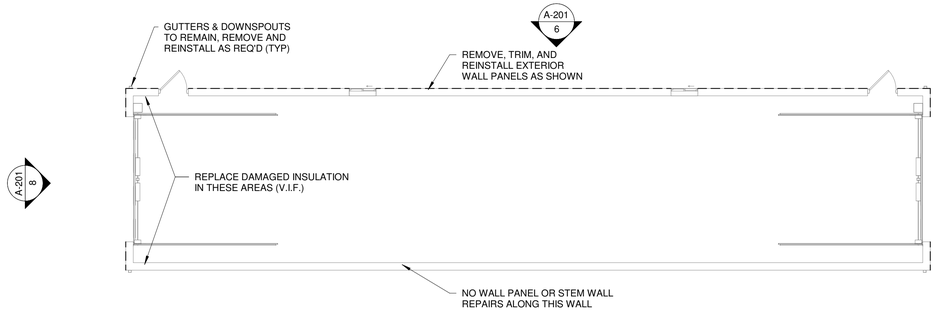
PROJECT # **R2405.01**
SITE # **6010**
FACILITY # **8136010004**
8136010005

REVISION:
DATE:
REVISION:
DATE:
REVISION
DATE:
ISSUE DATE: 1/15/2026

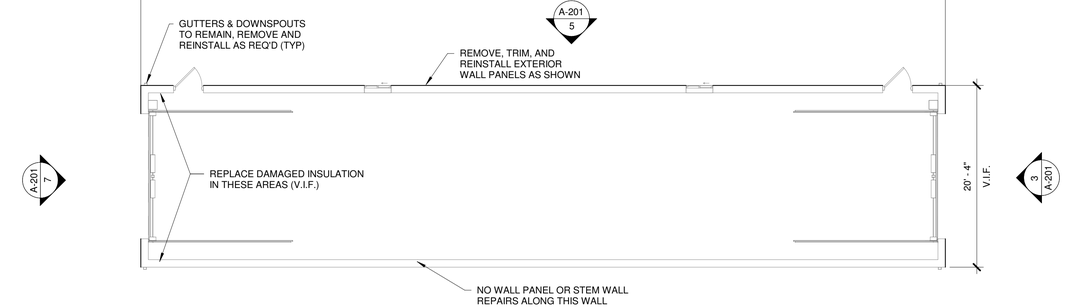
CAD DWG FILE:
DRAWN BY: JLK
CHECKED BY: JRM
DESIGNED BY: JLK

SHEET TITLE:
DEMO ELEVATIONS & NEW ELEVATIONS

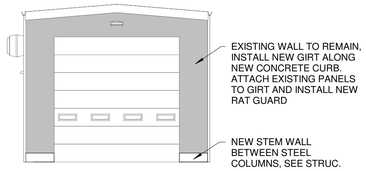
SHEET NUMBER:
A-104



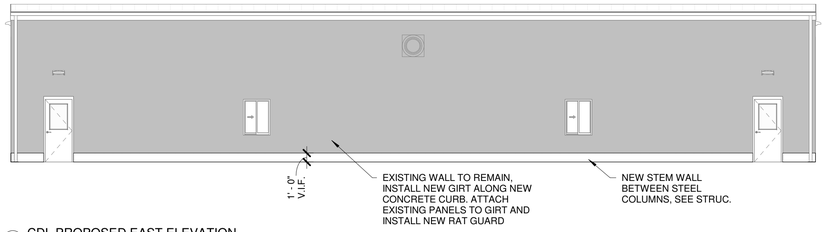
2 CDL DEMO FLOOR PLAN
1/8" = 1'-0"



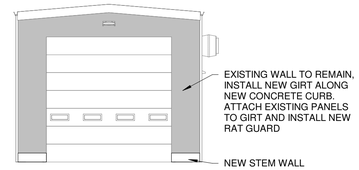
1 CDL PROPOSED FLOOR PLAN
1/8" = 1'-0"



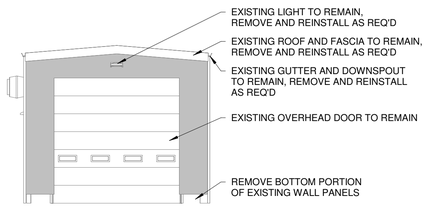
7 CDL PROPOSED NORTH ELEVATION
1/8" = 1'-0"



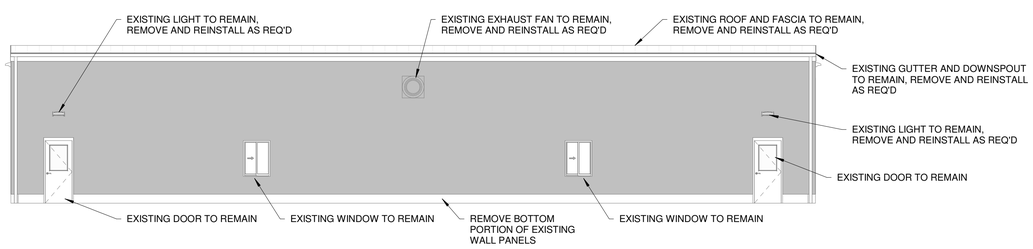
5 CDL PROPOSED EAST ELEVATION
1/8" = 1'-0"



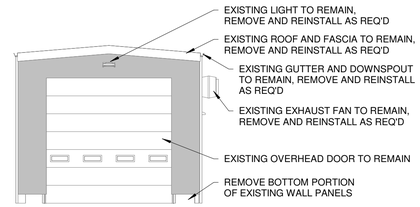
3 CDL PROPOSED SOUTH ELEVATION
1/8" = 1'-0"



8 CDL DEMO NORTH ELEVATION
1/8" = 1'-0"



6 CDL DEMO EAST ELEVATION
1/8" = 1'-0"



4 CDL DEMO SOUTH ELEVATION
1/8" = 1'-0"

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CAD DWG FILE:
DRAWN BY: JLK
CHECKED BY: JRM
DESIGNED BY: JLK

SHEET TITLE:
CDL BUILDING DEMO PLAN, FLOOR PLAN & ELEVATIONS

SHEET NUMBER:

A-201

DIVISION 7

THERMAL AND MOISTURE PROTECTION

07410 SIDING

Metal Siding:

Shall be MBCI or equal. Panel to match existing profile. Color to be selected by Architect. Installation shall be in accordance with the manufacturer's recommendations.

07420 METAL ROOFING

Metal roofing shall be "Standing Seam Roof Panel" formed from factory roll-forming equipment in continuous lengths with no ribs or striations as manufactured by MBCI, or equal.

Panel shall be 24 gauge G-90 galvanized steel per ASTM A792 (.32 aluminum alloy 3105-H14 or 3303-H14 per ASTM B209) with a Kynar fluropolymer finish as approved by Architect from standard colors.

Panels shall be installed over 3/4" Plywood with a minimum of one layer of No. 30 saturated felt laid and lapped horizontally starting at eave. All products to be installed in accordance with the manufacturer's instructions and published literature. Remove any strippable film immediately after installation.

Shop drawings shall be submitted for approval by the Architect.

Twenty-year warranty shall be provided.

07645 DRIP FLASHING

A. Metal roof aprons shall be 22 gauge galvanized steel in lengths as required. Aprons shall be given one coat of primer such as "Galv-A-Grip" and then painted in a color as selected by the Architect. Metal roof aprons shall be .032" aluminum in lengths as required. Aprons shall have a factory baked finish of a color selected by the Architect.

B. Metal roof aprons shall be .032" aluminum in lengths as required. Aprons shall have a factory-baked finish of a color selected by the Architect.

07649 VENT AND STACK FLASHING

All pipe extending through the roof shall be flashed with a vent flashing made of high impact thermo plastic fitted with an aperture and truncated cone at the top of which is a gland containing a triple "O" ring, as manufactured by Specialty Products Company, P.O. Box 186, Stanton, California, or approved equal. Furnish with proper skirt sizes as required. All vent flashing shall be installed in strict accordance with the manufacturer's instructions.

07710 PREFABRICATED ROOF SPECIALTIES

A) Aluminum Gutters and Downspouts:

Materials:

Alcoa alloy aluminum as manufactured by Alcoa Building Products, Inc. of Pittsburgh, Pennsylvania. Gutters shall be "5" O.G. in .032" thickness. Downspouts shall be 3" x 4" size in .027" thickness. Sealing material shall be "Alcoa Gutterseal". Expansion joints shall be "Aluminum - neoprene, " and downspout anchors shall be aluminum die casting.

Finish:

All exposed surfaces of gutters and downspouts shall be in a finish as selected by the Architect.

Installation:

Gutters and downspouts shall be installed in strict accordance with "Alcoa's Instructions for installing Aluminum Gutters and Downspouts", latest edition.

Workmanship:

Gutters shall be installed by using aprons and hangers or combination hangers so that movement is not restricted (spikes and ferrules or brackets attached to outside periphery of the gutter will not be used). Alcoa neoprene-type expansion joints will be provided where necessary so that the work will not be distorted nor the fasteners overstressed from the expansion and contraction of the metal. Expansion hip joints shall be used on all hip roofs and on straight runs over 40 ft. in length. Each downspout shall have at least three adjustable wall fasteners plus one wire type strainer insert.

07920 CAULKING

All caulking shall be done with a gun grade oil base caulking compound, meeting or exceeding Federal Specification TT-C-00598C, Type 1, such as "DAP Architectural Grade Caulk" as manufactured by DAP Inc., "Sikaflex 420" or "Sikaflex 470" by Silka Corporation, or Tremco "Mono" by Tremco in colors as selected by Architect. Caulk all cracks between all interior dissimilar materials including joints around all windows, door frames, tubs and shower surrounds, countertops and etc. Fill deep opening with suitable back-up material such as dry oakum, Fiberglas, or polyethylene foam within 1/2" of surface before caulking. Face caulking shall be neat and straight.

07921 SEALANT

A. Non-sag Sealant:

Shall be "Sikaflex-1a", permanently flexible, premium-grade, high performance, moisture cured, single component, polyurethane base, non-sag elastomeric sealant meeting Federal Specification TT-S-00230C, Type 1, Class A, and as manufactured by the Silka Corporation of Lyndhurst, New Jersey, "Dymonic" as manufactured by Tremco, Cleveland, Ohio or "Permapol RC-1" as manufactured by Products Research and Chemical Corporation, Glendale, California,. Color shall be as selected by the Architect from the eight standard colors available. Seal exterior cracks and joints around all reglets, expansion joints, flashing, windows, doors, and other openings including heads, jambs, sills and thresholds. Fill deep openings with suitable back-up material such as dry oakum, Fiberglass, or polyethylene foam within 1/2" of surface before applying sealant. Face sealing shall be uniformly neat and straight.

B. Self-leveling Sealant:

Shall be "Silkaflex-2C SL", permanently flexible, premium-grade, high performance, two component, elastomeric sealant as manufactured by the Silka Corporation of Lyndhurst, New Jersey, "THC-900" as manufactured by Tremco, Cleveland, Ohio or "permapol RC-2SL" as manufactured by Products Research and Chemical Corporation, Glendale, California. Color shall be as selected by Architect from the eight standard colors available. Seal all control and expansion joints in concrete floors. Face sealing shall be uniformly neat and straight.

DIVISION 8

DOORS, WINDOWS, AND GLASS

08110 HOLLOW METAL DOORS AND FRAMES

A) Materials:

Frames:

Furnish and install metal door frames as manufactured by Ceco Corporation, Amweld Building Products, or Steelcraft. Frames shall be fabricated from 16 gauge steel in shapes to suit the details shown on the drawings. All openings that require Underwriters Laboratory labels and as so noted shall have door frames to meet these requirements. All exterior frames shall be galvanized.

Doors:

Furnish and install 1-3/4" thick, flush panel type hollow metal doors and Underwriters Labeled door as manufactured by the Ceco Corporation, or Amweld Building Products. Doors shall be fabricated from two sheets of 16 gauge steel with no visible seams on either face. Welds on 2" centers shall occur around the perimeter of the door. Tops and bottoms of doors shall be closed with not less than 16 gauge channels. All exterior hollow metal doors shall be "Thermal Barrier" type doors with a "U" factor of 0.33 as manufactured by Fenestra or equal. All exterior doors shall be galvanized.

B) Preparation:

Frames and doors shall be reinforced and prepared at the factory for finish hardware as specified. Strike jambs shall be punched to receive two (2) rubber bumper silencers.

C) Installation:

Installation shall be plumb, straight, and true, rigidly secured in place and properly braced. Frames shall be anchored to concrete floors with power actuated bolts. Install all louvers where indicated on the drawings. Louvers shall be the door manufactures standard slat louver constructed from galvanized steel. The minimum free opening of the louver shall be 50%.

D) Finishing:

All exposed surfaces shall be cleaned, bonderized, and given one (1) baked-on coat of synthetic rust inhibitive primer.

E) Shop Drawings:

Shop drawings of all metal doors and frames shall be submitted to the Architect for approval prior to the start of any work. These drawings will show sections of doors and frames, details of construction, hardware, and methods of anchoring frames.

08331 OVERHEAD SECTIONAL DOOR

A) Description of Work:

Furnish and install overhead sectional doors in the sizes shown on the Drawings.

Provide complete operating door assemblies including door curtains, guides, counterbalance mechanism, operators and installation accessories, as shown on the drawings and herein specified.

Following type of overhead door is specified in this section:

Galvanized steel overhead sectional door.

B) Quality Assurance:

Furnish overhead coiling door as a complete unit produced by one manufacturer, including hardware, accessories, mounting and installation components.

Furnish all overhead door units by one manufacturer for entire project.

Manufacturer: Provide doors as manufactured by Raynor or equal.

Inserts and Anchorages:

Furnish inserts and anchoring devices which must be set in concrete or built into masonry for installation of units. Provide setting drawings templates, instructions and directions for installation of anchorage devices. Coordinate delivery with other work to avoid delay.

Submittals:

Manufacturer's Data: Submit manufacturer's product data, roughing-in diagrams, and installation instructions for each type and size of overhead door. Include operating instructions and maintenance information data. Transmit a copy of diagrams and installation instructions to the Installer.

Shop Drawings: Submit shop drawings for special components and installations which are not fully dimensioned or detailed on manufacturers data sheets.

C) Materials:

Door Materials and Construction:

Door Curtain: Fabricate insulated sectional door with a minimum of .24 gauge stainless steel or galvanized steel designed to withstand a wind pressure of 20#/s.f. Furnish matching bottom bar with vinyl astragal.

Finishes:

Galvanized steel shall be shop primed and painted. Other exposed metal surfaces shall be factory primed and painted.

08710 DOOR HARDWARE

Hardware Group No. 01
For use on Door #(s): 1 2
Provide each SGL door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER		FINISH	MFR
1	EA	CONT. HINGE	112XY		US28	IVE
1	EA	PANIC HARDWARE	CD-25-R-NL-OP		626	FAL
1	EA	RIM CYL HOUSING	AS REQ'D		626	SCH
1	EA	SFIC CONST. CORE	AS REQ'D			
1	EA	SFIC CORE	PERMANENT CORE AS REQ'D			BYO
1	EA	ELECTRIC STRIKE	6300 FSE 12/24 VAC/VDC	~	630	VON
1	EA	90 DEG OFFSET PULL	8190EZHD 12" O		630-316	IVE
1	EA	SURFACE CLOSER	SC71A SS		689	FAL
1	EA	RAIN DRIP	142AA		AA	ZER
1	EA	GASKETING	328AA-S		AA	ZER
1	EA	DOOR SWEEP	39A		A	ZER
1	EA	THRESHOLD	655A-223		A	ZER
1	EA	WIRE HARNESS	CON-6W			SCH
1	EA	DOOR CONTACT	7764	~	628	SCE
1	EA	POWER SUPPLY	PS902 900-8P 120/240 VAC	~	LGR	SCE
1	EA	CLOSER TEMPLATING, BRACKETS, SHOES, SPACERS, ETC			AS REQUIRED	

Hardware Group No. 02
For use on Door #(s): 3
Provide each SGL door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER		FINISH	MFR
3	EA	HINGE	5BB1HW 4.5 X 4.5 NRP		630	IVE
1	EA	PANIC HARDWARE	CD-25-R-NL-OP		626	FAL
1	EA	RIM HOUSING AS REQ	C953		626	FAL
1	EA	MORT CYL HOUSING	C987		626	FAL
2	EA	SFIC CORE	CONST./DISP.			
2	EA	SFIC CORE	PERMANENT CORE			BYO
1	EA	90 DEG OFFSET PULL	8190EZHD 12" O		630-316	IVE
1	EA	SURFACE CLOSER	SC71A SS		689	FAL
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS		BLK	IVE
1	EA	RAIN DRIP	142AA		AA	ZER
1	EA	GASKETING	328AA-S		AA	ZER
1	EA	DOOR SWEEP	39A		A	ZER
1	EA	THRESHOLD	655A-223		A	ZER

Hardware Group No. 03 - OH DOOR
For use on Door #(s): 4 5 6 7
Provide each RU door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
1	EA	NOTE ALL HARDWARE BY OVERHEAD DOOR MANUF		UNF	BYO

08730 WEATHERSTRIPPING

A) Materials:

Flexible weatherstripping shall be low-cold formulation noncellular polyvinyl chloride material conforming to CS 260-60 and shall be bulb--type. Corners shall be fused together to provide uninterrupted seals. Weatherstripping shall be replaceable without removal of sash.

Each sash shall have two continuous rows of weatherstripping around the entire perimeter of the sash.

08810 GLAZING

A) Tempered Glass:

Openings as indicated on the Drawings, or as required by local or state safety regulations (latest bulletins) on "Safety Glazing Materials", shall be glazed with 1/4" tempered plate glass meeting the requirements of ANSI Standard Z97.1.

B) Insulated Glass:

Glazing within fixed aluminum frames shall be one inch (1") thick, double glazed insulating glass units incorporating 1/4" thick (outdoor light) with Low-E coating, 1/2" air space and 1/4" thick (indoor light) clear tempered plate glass.

C) Standards:

Glass shall conform to Federal Specification DD-G-451C and it shall be free from structural defects not permitted by its grade. A manufacturer's label shall be required on each piece of glass, showing manufacturer's name and glass quality and thickness. Do not remove labels until the installation is approved. Perform all glazing work in accordance with the "Glazing Manual" of the Flat Glass Jobbers Association, the instructions of the frame manufacturer, as specified herein. Shall meet requirements of ANSI Standard 297.1.

D) Installation:

Obtain glass sizes by actual measurement. Do not glaze in temperatures below 40º F., or in damp weather. Paint stops and rabbets, except those of anodized aluminum, at least one coat before glazing. Remove and replace stops carefully without damage to paint. Primed surfaces to receive glazing compound shall have prime coat intact and in good condition before glazing. All glazing shall be the puttyless type, using frame manufacturer's metal stops with neoprene inserts. Set glass with the wave running horizontally.

E) Cleaning and Protection:

After glass is installed, it shall be opaqued, barricaded, or otherwise protected until ready for final cleaning. All glass shall be cleaned both sides by the General Contractor prior to completion of the structure. After final cleaning, replace any defective glass and check for loose-ness. Tighten where required and re-clean where necessary. Upon acceptance by the Owner, glass shall be clean and free of scratches, breaks, or chips. Replace at no additional cost any defective before final acceptance of the work, regardless of cause of damage.

DIVISION 9

FINISHES

09900 PAINTING

A) Materials:

All paint shall be as manufactured by Pratt & Lambert, Sherwin Williams or Pittsburgh Paints. All paints shall be of one company and shall be delivered to the worksite in the original sealed containers.

B) Colors:

Colors shall be as selected by the Architect from color cards furnished by the Contractor. Tinting and mixing done in strict accordance with the manufacturer's specifications and recommendations.

C) Preparation:

All surfaces to be painted shall be cleaned free of loose dirt and dust, sanded well, and wiped clean before painting. All hardware, accessories, plates, lighting fixtures and similar items shall be removed by skilled mechanics or protected before painting.

All necessary puttying of all nail holes, cracks, etc., shall be done after the first coat has been applied, with putty or shellac stick of a color to match that of the finish. Putty shall be brought flush with adjoining surfaces.

All metal surfaces shall first be wiped with turpentine to remove dirt and grease before applying paint. Rust and scale shall be wire brushed and sand-papered and cleaned before painting in all cases. All galvanized metal surfaces shall be chemically treated with a compound designed for this purpose and used in accordance with manufacturer's directions before applying the first coat of paint.

D) Application:

The painting and staining work shall include, but is not necessarily limited to, the following:

a. Exposed ferrous metal surfaces including brick shelf angles and plates

b. Exposed surfaces of all factory finished, factory primed, non primed ferrous or non ferrous components such as grilles, louvers, panels, covers, wall ventilators, roof ventilators, plumbing equipment and materials, HVAC equipment and materials, electrical equipment and materials, metal flashing, etc.

c. Metal doors and metal frames

d. Gypsum wallboard walls and ceilings

e. Exterior stucco

f. Exposed plastic piping, pipe insulation, and accessories

g. Interior and exterior wood

h. Items installed that are not a part of the contract such as transformers, meters, etc.

Prime coats specified herein will not be required on items delivered with prime or shop coat that is compatible to the specified finish coat. Field painting will be required on items specified to be completely finished at factory unless otherwise noted by the Architect. These items will be field prepared in strict accordance with the paint manufacture's instructions.

E) Paint Finishes and Materials:

Note: Paint designations herein are from the Pratt & Lambert catalog unless otherwise noted.

1. Exterior Metal & PVC

One (1) coat P & L Suprime 9 Rust Inhibiting Primer

Two (2) coats P & L Effecto Enamel

2. Interior Metal

One (1) coat P & L Suprime II Interior Trim Primer

Two (2) coats P & L Accolade Interior Semi-gloss

3. Interior Wallboard and Exposed Insulated Piping

One (1) coat P & L Latex Suprime 4 Primer

Two (2) coats P & L Accolade Interior Semi-Gloss

4. Interior Wood

a. Paint

One (1) coat P & L Suprime II Interior Trim Primer

Two (2) coat P & L Aqua Satin

b Stain

One (1) coat P & L Tonetic Wood Stain

One (1) coat P & L Filler Sealer

Two (2) coat P & L Varmor Clear Varnish

7. Exterior Painting of Wood

One (1) coat P & L Suprime 2 Latex Exterior Wood Primer

Two (2) coats P & L Aqua Royal

F) Storage:

All materials shall be stored in a single room which can be locked; the Architect shall approve its location. Such storage place shall be neat and clean; any oil rags, waste, etc., shall be properly cared for and every precaution taken to avoid fire. Fire extinguishers shall be furnished in this area by this contractor.

G) Workmanship:

Apply all materials strictly in accordance with manufacturer's specifi-cations and instructions. All manufacturer's colors specified will only be used with that manufacturer's products and tint system. Finish work shall be uniform, of approved color, smooth and free from runs, sags, defective brushing or clogging. Paint shall not be applied when the temperature is less than 60º F., nor when higher than 90º F. All knots, pitch streaks and sappy spots shall first be touched up with shellac where the finish calls for paint or enamel. Make edges of paint adjoining other materials or colors sharp and clean without overlapping. At completion, touch up and restore finish where damaged, and leave in good condition. Paint top and bottom edges of all doors.

Priming coats shall be tinted gradually to the approximate shade as the final coat. All woodwork and metal surfaces calling for enamel shall be sanded between coats to produce an even, smooth finish. Each coat shall be finished in any single area before proceeding with the next coat in that area. The procedure of having several different coats going at any given time in the same area will not be permitted. Glazing beads and surfaces that take glass shall be prime coated before glass is installed, on those surfaces not available after glazing.

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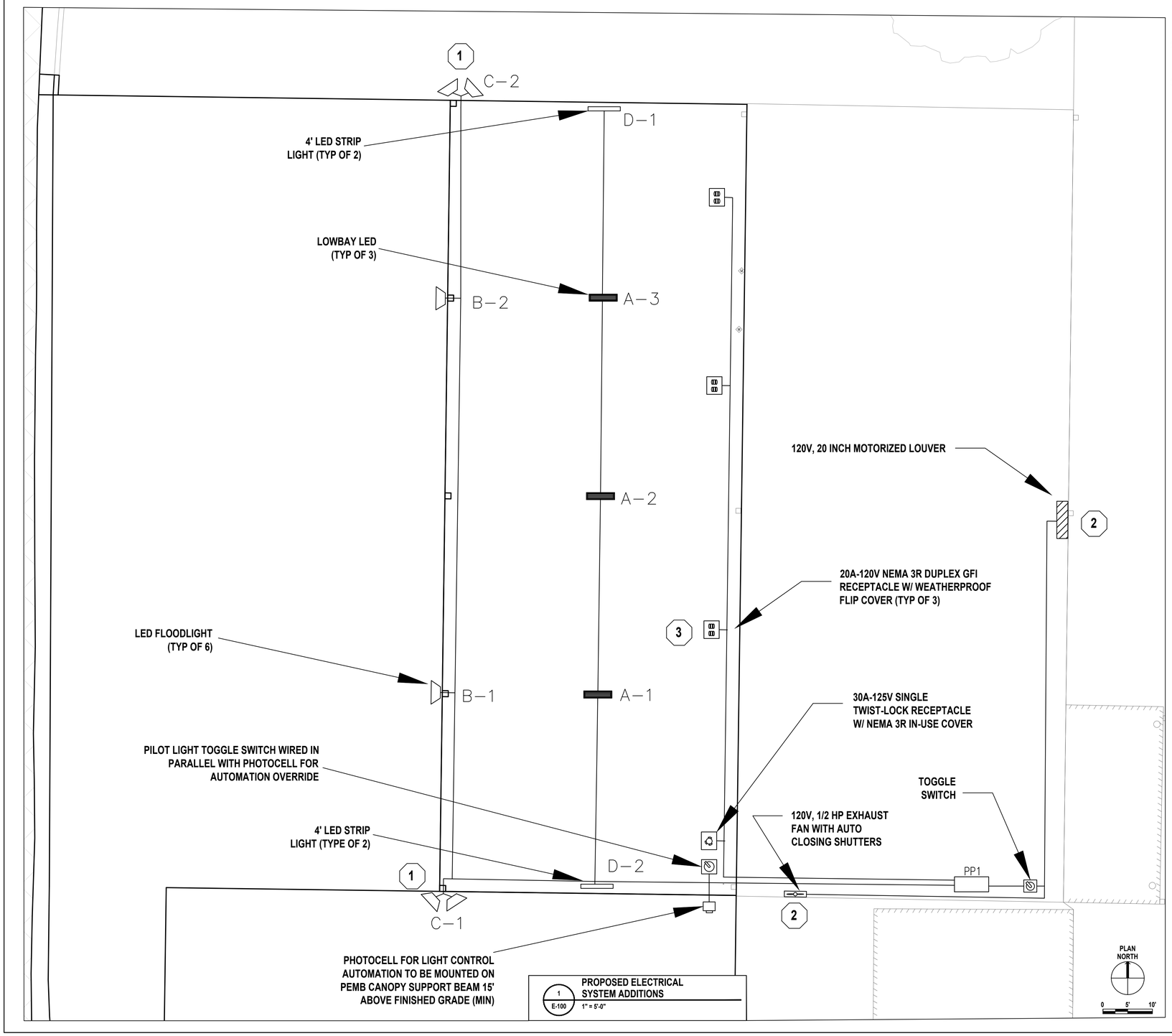
SHEET TITLE:

SPECIFICATIONS

SHEET NUMBER:

A-801



1 E-100 PROPOSED ELECTRICAL SYSTEM ADDITIONS
1" = 5'-0"

GENERAL NOTES:

1. ALL ELECTRICAL AND LIGHTING INSTALLATIONS AND CONNECTIONS SHALL BE PER THE NATIONAL ELECTRICAL CODE, AND NATIONAL ELECTRICAL SAFETY CODE, LATEST REVISIONS.
2. ALL EXTERIOR ELECTRICAL ENCLOSURES SHALL BE NEMA 3R UNLESS OTHERWISE INDICATED.
3. ALL NEW EXPOSED CONDUIT SHALL BE ELECTRICAL METAL TUBING WITH COMPRESSION COUPLERS FOR EXTERIOR ENVIRONMENTS, AND SET SCREWS FOR INTERIOR ENVRIONMENTS.
4. SEE STRUCTURAL ELEVATIONS DRAWINGS, ELECTRIC RISER DIAGRAM, SYSTEM LIGHTING PLANS, SPECIFICATION SHEETS, DETAIL SHEETS, AND CONTRACT SPECIFICATIONS, FOR ADDITIONAL INFORMATION AND REQUIREMENTS.

1. MOUNT DUAL FLOODLIGHTS ON BULLHORN OR 90 DEGREE OFFSET BRACKETS ON LEAN-TO SUPPORT POLES AT ANGLE AND ORIENTATION SPECIFIED ON SHEET E-103
2. EXHAUST FAN AND LOUVER TO BE WIRED ON SAME SWITCHED CIRCUIT AND OPERATE SIMULTANEOUSLY. SEE STRUCTURAL DRAWING SHEETS FOR MOUNTING LOCATION DETAILS
3. EACH LEAN-TO RECEPTACLE TO BE WIRED ON DEDICATED CIRCUIT

STATE OF MISSOURI
MIKE KEHOE, GOVERNOR

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TONY WELLNITZ
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STATE HIGHWAY PATROL

TROOP I HEADQUARTERS & CDL EROSION CONTROL & PAVING REPAIRS & GARAGE BUILDING RENOVATION

1301 NAGOGAMI ROAD
ROLLA, MISSOURI

PROJECT # R2405-01
SITE # 6010
FACILITY # 8136010004
8136010005

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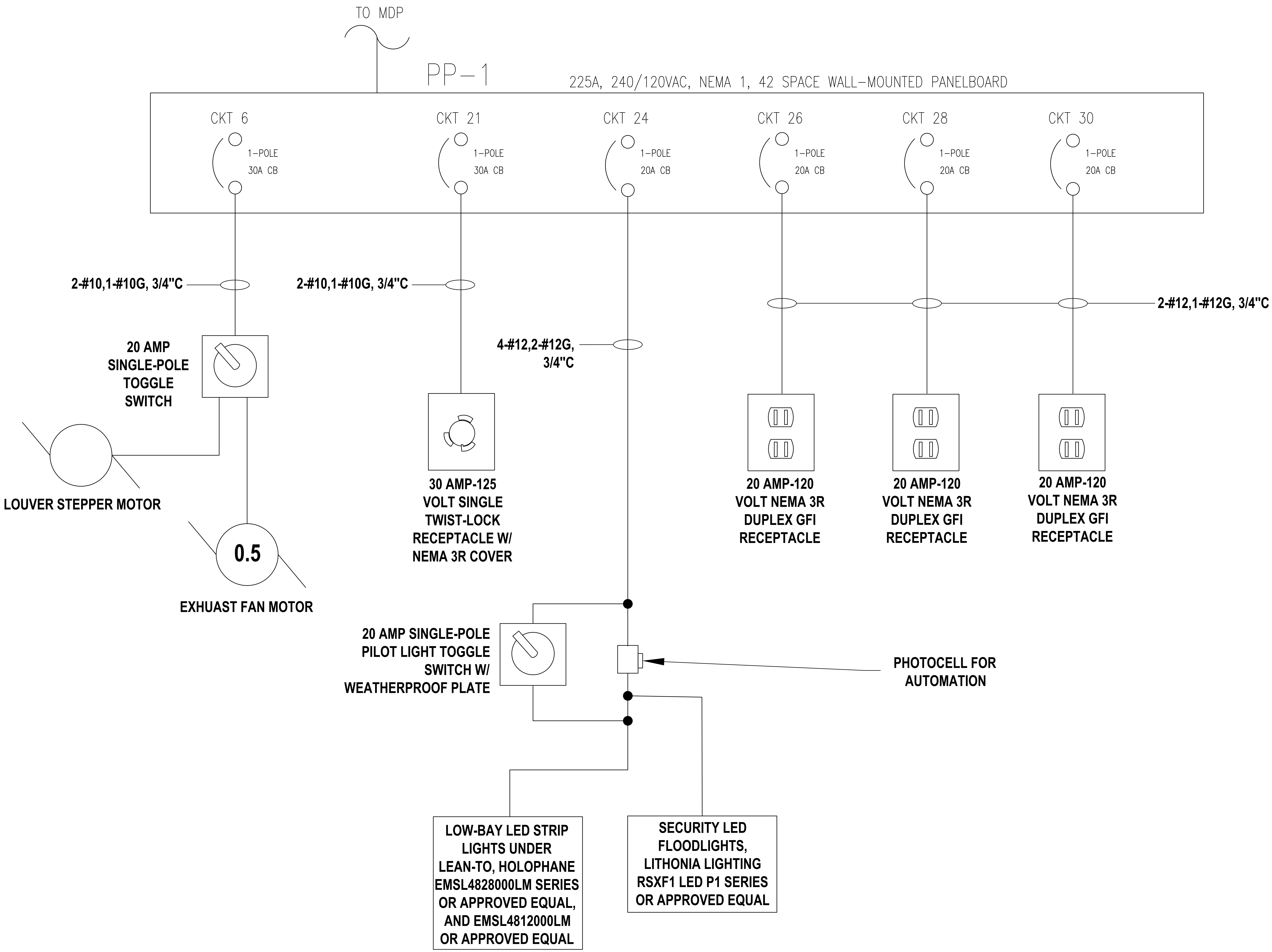
ISSUE DATE: 1-16-2026

CAD DWG FILE: E-100.DWG
DRAWN BY: ROR
CHECKED BY: TLW
DESIGNED BY: ROR

SHEET TITLE:
ELECTRICAL SITE PLAN

SHEET NUMBER:
E-100



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CAD DWG FILE: E-101.DWG
DRAWN BY: RQR
CHECKED BY: TLW
DESIGNED BY: RQR

SHEET TITLE:
ELECTRICAL RISER DIAGRAM

SHEET NUMBER:
E-101

PANEL PP–1

240/120VAC, 1–PH, 3–W, 225A BUS
NEMA 1, 42 CKTS, WALL MTD

CKT NO	DESCRIPTION	TRIP (A)	POLES	PHASE A (VA)	PHASE B (VA)	POLES	TRIP (A)	DESCRIPTION	CKT NO
1	SP–S1	100	2			1	30	SPARE	2
3						1	20	RECEPT BY TIRES	4
5	TIRE ???	20	2	732		1	20	*EXH FAN & LOUVER*	*6*
7						2		SPARE	8
9	SHED POWER & LIGHTS	20	1						10
11	LEFT GARAGE DOOR	???	1			1	20	N BAY LIGHTS/EXHAUST	12
13	AC	20	2			2	30	LEFT SIDE LIFT	14
15									16
17	AIR COMPRESSOR		2			1	20	SPARE	18
19						2	20	TIRE BALANCER/R. LIFT	20
21	*DIVE TRUCK RECEPT*	30	1	2400					22
23	RIGHT GARAGE DOOR	20	1		1844	1	20	*LEAN–TO LIGHTING*	*24*
25	TAN CARMAX	30	2	1200		1	20	*LEAN–TO B1 RECEPT*	*26*
27					1200	1	20	*LEAN–TO B2 RECEPT*	*28*
29	CONVENIENCE RECEPT	20	1	1200		1	20	*LEAN–TO B3 RECEPT*	*30*
31						2	60	BROWN CARMAX	32
33									34
35									36
37									38
39									40
41									42
		EST NEW LOAD		5532	2488				
		EST NEW AMPS		46.1	20.73				

LUMINAIRE SCHEDULE

SYMBOL	DESIGNATION	MANUFACTURER	DESCRIPTION	VOLTAGE	AMPERAGE	WATTAGE	LUMEN OUTPUT
	A	HOLOPHANE	EMX LED SERIES, 48 INCH, 28,000 LUMENS, FLAT CLEAR POLYCARBONATE LENS, 5000K, 80CRI WHITE	120–277V	1.75	210.5	24410.8
	B	LITHONIA LIGHTING	RSXF FLOOD FIXTURE SIZE 1 P3 LUMEN PACKAGE 5000K CCT TYPE NFL DISTRIBUTION, FV SHIELD	120–277V	0.91	109.4	10920.5
	C	LITHONIA LIGHTING	(2) RSXF FLOOD FIXTURE SIZE 1 P3 LUMEN PACKAGE 500K CCT TYPE NFL DISTRIBUTION, FV SHIELD	120–277V	1.82	218.8	10920.5
	D	HOLOPHANE	EMS L48 12000LM IMACD MD GZ10 50K 80CRI	120–277V	0.628	75.44	12258.47

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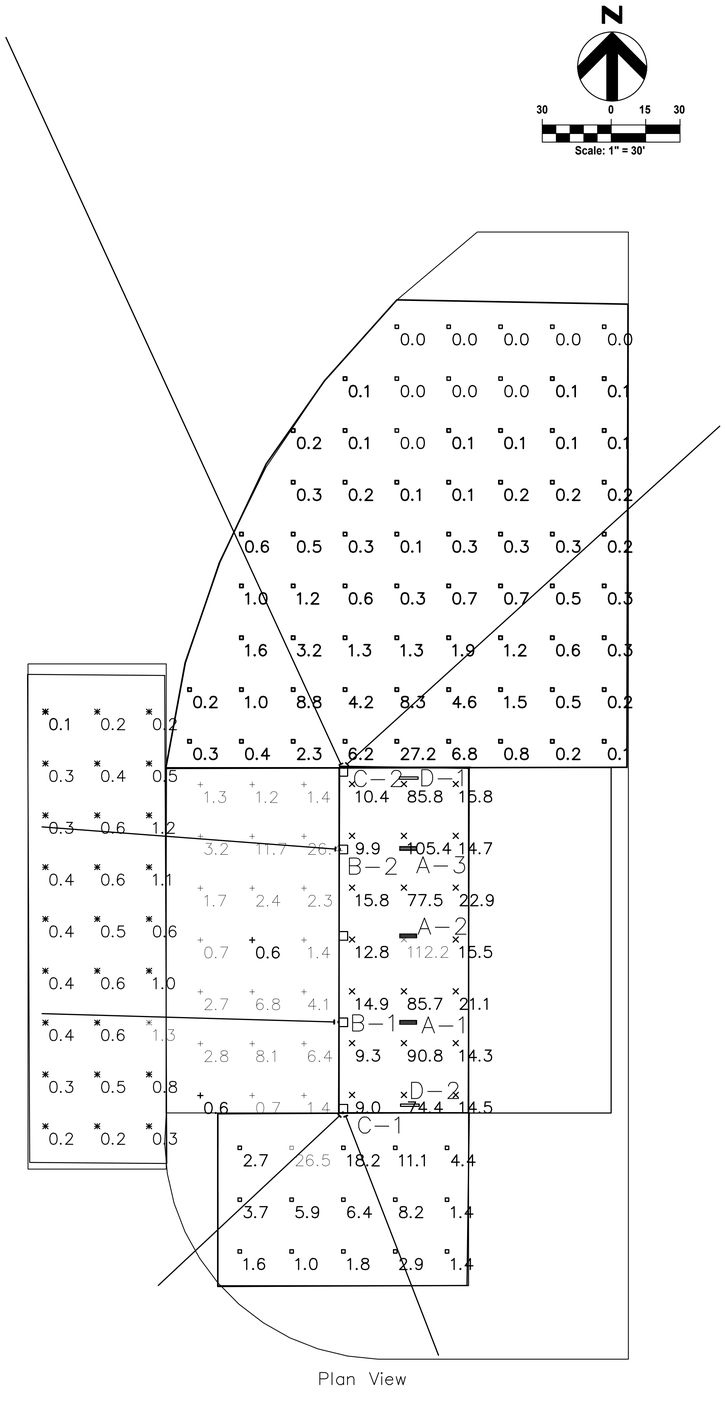

Plan View

BASIS OF DESIGN

AREA	IES CLASSIFICATION	RECOMMENDED AVERAGE FOOTCANDLES	PROVIDED AVERAGE FOOTCANDLES	ADJUSTED FOR
Driveway	Exterior Safety	0.5 – 2	0.5	No adjustment
Evidence Lot	Garages–Motor Vehicles Storage	5	6.5	Increased Security
Lean–To Canopy	Garages–Motor Vehicles Service Garage	10–20	39.7	Ease of maintenance
Northern Approach	Exterior Safety	0.5 – 2	1.4	No adjustment
Parking Lot	Garages–Motor Vehicles Parking (open) Zone 2	0.5–2	4.2	Increased Security

Schedule

Symbol	Label	QTY	Manufacturer	Catalog Number	Description	Lumens per Lamp	Wattage	Distribution
	A	3	Holophane	EMX L48 28000LM FPCL PGD 50K 80CRI DWHXD	EMX LED series, 48 inch, 28,000 lumens, flat clear polycarbonate lens, parking garage distribution, 5000 K, 80 CRI white, super durable	24416.05	210.45	DIRECT, SC–0=1.23, SC–90=2.38
	B	2	Lithonia Lighting	RSXF1 LED P3 50K NFL FV	RSXF Flood Fixture Size 1 P3 Lumen Package 5000K CCT Type NFL Distribution with FV Shield	10920.49	109.442	TYPE VS, BUG RATING: B4 – U0 – G0
	C	2	Lithonia Lighting	RSXF1 LED P3 50K NFL FV	RSXF Flood Fixture Size 1 P3 Lumen Package 5000K CCT Type NFL Distribution with FV Shield	10920.49	218.884	TYPE VS, BUG RATING: B4 – U0 – G0
	D	2	Holophane	EMS L48 12000LM IMACD MD GZ10 50K 80CRI	EMS Low Profile Enclosed and Gasketed, 48" 12,000 Lumens, Acrylic, Clear Deep Lens, Medium, 0–10V Dimming, 5000K, 80CRI	12258.47	75.44	DIRECT, SC–0=1.3, SC–90=1.31

Statistics

Description	Symbol	Avg	Max	Min	Max/Min	Avg/Min
Driveway	✳	0.5 fc	1.3 fc	0.1 fc	13.0:1	5.0:1
Evidence Lot	□	6.5 fc	26.5 fc	1.0 fc	26.5:1	6.5:1
Lean–To Canopy	×	39.7 fc	112.2 fc	9.0 fc	12.5:1	4.4:1
Northern Approach	□	1.4 fc	27.2 fc	0.0 fc	N/A	N/A
Parking Lot	+	4.2 fc	26.4 fc	0.6 fc	44.0:1	7.0:1

Luminaire Locations

		Location						Aim		
No.	Label	X	Y	Z	MH	Orientation	Tilt	X	Y	Z
1	A	10.60	–62.80	11.50	11.50	270.00	0.00	10.60	–62.80	0.00
2	A	10.60	–42.80	11.50	11.50	270.00	0.00	10.60	–42.80	0.00
3	A	10.60	–22.55	11.50	11.50	270.00	0.00	10.60	–22.55	0.00
1	B	–5.25	–22.75	10.00	10.00	274.32	81.65	–74.15	–17.55	0.00
2	B	–5.50	–62.75	10.00	10.00	271.63	81.59	–74.15	–60.80	0.00
1	C	–4.50	–83.75	10.00	10.00	137.91	...			
	C–1	–3.82	–84.53	10.23	10.00	158.81	80.04	17.65	–139.89	–0.20
	C–2	–5.27	–84.45	10.23	10.00	226.89	79.92	–47.25	–123.75	0.00
2	C	–4.25	–3.75	10.00	10.00	315.00	...			
	C–1	–4.96	–3.03	10.23	10.00	335.26	86.78	–82.50	165.25	–0.20
	C–2	–3.53	–3.03	10.23	10.00	47.78	84.88	82.75	75.25	–0.20
1	D	10.75	–6.25	11.50	11.50	270.00	0.00	10.75	–6.25	0.00
2	D	11.00	–82.00	11.50	11.50	90.00	0.00	11.00	–82.00	0.00

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