# EXPRESS OIL CHANGE & TIRE ENGINEERS

## SINGLE BUILDING / LEFT HAND OIL CHANGE / FRONT ENTER / SIDE TIRE STORAGE

### S. DEWEY AVENUE (US-69)
### WAGONER, OKLAHOMA 74467

**ATTENTION AUTHORITY HAVING JURISDICTION**

Notice is hereby given that Aho Architects, a sole proprietorship, the Architect of Record on the above referenced project, will be providing construction administration services on a limited basis, supplemented by a third-party independent engineering consulting service as described below.

This project has been designed by the Architect and Engineers ("Design Team") for its specific location, or adapted from prototypical designs, to comply with the following codes, ordinances, and similar requirements adopted by the Authority Having Jurisdiction ("AHJ"):

- **See codes listed on Sheet LS100.**

During the Construction Administration Phase of the Project:

- General: The Design Team will respond to inquiries or requests from the Owner or Contractor, specifically related to documents prepared by the Design Team. As is standard in Construction Law and Professional Service Agreements, the Design Team shall not have control over, charge of, or responsibility for the construction means, methods, techniques, sequences or procedures, or for safety precautions and programs in connection with the Project(s), nor shall the Architect be responsible for the Owner's or Contractor's failure to perform the work in accordance with the requirements of the Permit Set Documents. The Architect shall be responsible for the Architect's negligent acts or omissions, but shall not have control over or charge of, and shall not be responsible for, acts or omissions of the Owner, Contractor, or of any other persons or entities performing portions of the work.
- Experienced Contractor: The Owner will use experienced and licensed Contractors familiar with the construction of Projects of this type and in similar locations, and experienced with the applicable building codes, selection of materials and systems, and methods of installation and construction; and able to implement the Permit Set Documents through completion of the Project(s).
- Submittals: The Design Team's Basic Construction Administration Services include review of critical submittals (e.g. shop drawings) by engineering disciplines (Structural). The Design Team shall also review, approve or take other appropriate action on any submittal for which the AHJ requires approval by the Architect/Engineer, as Additional Services.
- Site Visits: The Architect and Design Engineers typically will not be making any site visits unless specifically required to do so.
  - The Owner has been advised and acknowledges that some States and AHJs require the Architect to perform at least some site visits or provide a notice such as this statement.
  - In consideration of this, the Owner will provide site visits, observation, testing, and related work by a third party independent engineering consulting service:
    - The Owner has an agreement with Terracon, a provider of geotechnical, environmental, construction materials and facilities engineering
    - Experienced Professional Engineers or field technicians under the responsible control of a Professional Engineer will perform site observation, construction materials testing, and required Special Inspections (per IBC Chapter 17; see Schedule of Special Inspections on structural drawings provided) including review of construction for conformance with the permit drawings, supplemental drawings, shop drawings/submittals, and similar relevant documents. Written reports shall be provided, with the Design Team included on the distribution list and involved in resolving any deficiencies noted or other items requiring the Design Team's input.
  - If the above provisions are not acceptable to the AHJ and the AHJ gives notice requiring the Architect to make site visit(s), the Owner has agreed to authorize the Architect's Additional Services and Reimbursable Expenses to comply with the AHJ's requirements.

If you have any questions, or if there is anything else we can do for you, please do not hesitate to contact April Cain, the project manager or Tim Aho, Architect at the address/phone listed below, or by email at HYPERLINK "mailto:acain@ahoarch.com" acain@ahoarch.com or HYPERLINK "mailto:taho@ahoarch.com" taho@ahoarch.com . Thank you very much, and we appreciate the opportunity to be involved in this project in your jurisdiction.

**NARRATIVE OF CHANGES FROM PROTOTYPICAL DESIGN**

1. No Pit Ladder
2. Articulation every 50'-0"
3. HVAC screened with landscaping
4.
5.




*Image above is generic. See Civil for actual site conditions.

**See Material Schedule & Finish Schedule for Additonal Items for actual paint/material colors.

**Note:**

Owner responsible for reviewing all non-structural submittals / shop drawings.GC shall send the following submittals / shop drawings to the Structural Engineer for review:

Structural Steel (not including stairs)
Bar Joist
Rebar
Metal Deck
Concrete Mix Design

**Note:**

Full exterior wall mock-up required for Owner's approval prior to ordering materials. No exceptions.


**ARCHITECT**

AHO ARCHITECTS, A SOLE PROPRIETORSHIP
1855 DATA DRIVE, SUITE 150
HOOVER, ALABAMA 35244
205-983-6000

**CIVIL ENGINEER**

MCADAMS
THE JOHN R. MCADAMS COMPANY, INC.
4400 STATE HIGHWAY 121, SUITE 800
LEWISVILLE, TEXAS 75056
469-240-9624

**STRUCTURAL ENGINEER**

JOHN JONES, SE, PE
125 18TH STREET NORTH
PELL CITY, ALABAMA 35125
205-884-5334

**MECHANICAL / PLUMBING ENGINEER**

PINNACLE ENGINEERING, INC.
2031 SHADY CREST DRIVE
HOOVER, ALABAMA 35216
205-733-6912

**ELECTRICAL ENGINEER**

GIDEON WAMAE, P.E.
4120 OVERLOOK CIRCLE
TRUSSVILLE, ALABAMA 35173
205-413-4112


FINAL


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STATE OF OKLAHOMA
TIMOTHY AHO
A08460
LICENSED ARCHITECT
03/31/2026


Express Oil Change & Tire Engineers
Single Building / Left Hand Oil Change / Front Enter / Side Tire Storage
Wagoner, OK

FINAL

| No. | Description | Date |
|---|---|---|
| | | |
| IFP-0 | Issue for Permit | 01/28/2026 |
| IFB-0 | Issue for Bid | 03/31/2026 |
| IFC-0 | Issue for Construction | 04/22/2026 |
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Title Sheet

| | |
|---|---|
| Project number | 25041 |
| Date | 01/28/2026 |
| Drawn by | ARC |
| Checked by | N/A |

T100

| | |
|---|---|
| Scale | 12" = 1'-0" |

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# SUMMARY OF CHANGES

## PROTOTYPE CHANGES

| NO. | DESCRIPTION | NO. | DESCRIPTION |
|---|---|---|---|
| 1. | Pit Ladder omitted. | | |
| 2. | Articulation every 50'-0" | | |
| 3. | HVAC screened with landscaping. | | |
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## ISSUE FOR PERMIT CHANGES

| ISSUED | REVISION # | DESCRIPTION | REVISED SHEETS | ISSUED | REVISION # | DESCRIPTION | REVISED SHEETS |
|---|---|---|---|---|---|---|---|
| 03/31/2026 | IFB-0 | Updated Summary of Changes | G100 | | | | |
| 03/31/2026 | IFB-0 | Revised Plumbing Floor Plan (gravity) and Gravity Riser to vent the oil separator vent separately. | P1.01, P2.01 | | | | |
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## ISSUE FOR BID CHANGES

| ISSUED | REVISION # | DESCRIPTION | REVISED SHEETS | ISSUED | REVISION # | DESCRIPTION | REVISED SHEETS |
|---|---|---|---|---|---|---|---|
| 03/31/2026 | IFB-0 | Issue for Bid | None | | | | |
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## ISSUE FOR CONSTRUCTION CHANGES

| ISSUED | REVISION # | DESCRIPTION | REVISED SHEETS | ISSUED | REVISION # | DESCRIPTION | REVISED SHEETS |
|---|---|---|---|---|---|---|---|
| 04/22/2026 | IFC-0 | Issue for Construction | None | | | | |
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Summary of Changes

| | |
|---|---|
| Project number | 25041 |
| Date | 01/28/2026 |
| Drawn by | MB |
| Checked by | ARC |

G100

Scale 12" = 1'-0"

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# GENERAL PROJECT NOTES

1. These documents are considered accurate and true to the best knowledge of the Architect at this time, but do not necessarily represent, nor are they intended to represent, actual existing conditions, dimensions, and tolerances. Contractor shall field-verify existing conditions including, but not limited to materials, construction, elevations, and dimensions prior to bidding and undertaking the work. Items of concern shall be brought to the attention of the Architect. Submittal of a proposal (bid) by a Contractor and their Subcontractors shall constitute an acknowledgement and confirmation of having complied with these requirements.
2. All work shall comply with all applicable local, state, and national codes, rules, ordinances and regulations and authorities having jurisdiction.
3. The Contractor shall comply with all applicable provisions of the specifications, including, but not limited to all general conditions, supplementary general conditions, special conditions, and material and construction provisions, which apply to materials or construction methods required by this project.
4. Where warranties are concerned, Contractor shall follow manufacturer's standards and recommendations unless specifically directed otherwise. Any conditions which might negatively affect the warranty shall be brought to the attention of the Architect in advance.
5. The Owner and Contractor shall promptly report to the Architect any defects, suspected defects, or discrepancies in the Architect 's work or services of which the Owner or Contractor may become aware, so that the Architect may take measures to minimize the consequences of such a defect. Failure to notify the Architect shall relieve the Architect of costs of remedying the defects above the sum such remedy would have cost had prompt notification been given.
6. Neither the professional activities of the Architect, nor the presence of the Architect or its employees and consultants at a construction site shall relieve the Contractor or others of their obligations, duties, and responsibilities including, but not limited to: construction means and methods, sequence, techniques, or procedures necessary for performing, superintending, or coordinating all portions of the work in accordance with the contract documents and any health and safety precautions required by agencies having jurisdictional authority over the project. The Architect and its personnel have no authority to exercise control over any Contractor or other entity or their employees in connection with their means, methods, or safety precautions. The Contractor is solely responsible for jobsite safety. The Owner, Architect, and their Consultants shall be indemnified and shall be made additional insureds under the Contractor 's general liability insurance policy.
7. All work, unless specifically indicated otherwise, shall be the responsibility of the General Contractor and shall be performed by the tradesmen skilled in the required field.
8. "Provide" shall mean to furnish and install, complete and ready for intended use.
9. Provide pressure treated wood where in contact with concrete or masonry.
10. The Contractor shall be responsible for all cutting, fitting, and patching that may be required to complete the work.
11. Dimensions of existing construction and repetitive dimensions are sometimes omitted. Detailed dimensions not indicated may be found on large-scale drawings of the same areas. Drawings are intended to reflect the existing conditions as closely as possible, however, the Contractor shall field verify and accept all existing conditions and dimensions. Notify Architect of any discrepancies affecting the work.
12. Provide all temporary services required to facilitate the work indicated, including but not limited to the following: power, lighting, heat, and water.
13. The Contractor(s) shall provide all barriers, shoring, warning lights, etc. as required to conduct the work and maintain the site in a safe condition consistent with good construction practices and with all applicable rules and regulations.
14. All exist. utility services including domestic water, sanitary sewer, electricity, fuel oil and/or gas shall be disconnected and made safe prior to any demolition work. Any work which might require interruption of utility services to Owner or other tenants, shall be approved and coordinated beforehand with the Owner.
15. It is the intent of the bid and construction documents to indicate complete and fully operational systems (i.e. structural, HVAC, plumbing, electrical, roofing, etc.). The Contractor shall provide operational systems and testing which comply with applicable codes, regulations, and requirements of authorities having jurisdiction.
16. Any work or utility outages which might disrupt the operations of the Owner or others shall be approved and coordinated in advance with the Owner and the Architect. The Contractor shall give the Owner and Architect at least three days advance notice prior to undertaking work which might cause disruption. Activities which produce utility outages, excessive noise, dust and other disruption shall be coordinated with the Owner and Architect. Some of these activities may need to occur at "off hours" to minimize disruption of the Owner's operations.
17. All wood blocking, trim, decking, etc. shall be decay-resistant treated, or as specified.
18. To prepare substrate for all wall mounted items, wall fixture, toilet accessories, etc. - fill all voids in the CMU surface to provide a sound base (provide blocking in stud walls) for all new wall mounted items, fixtures, etc. Install per manufacturer's specifications and recommendations.
19. Do not paint any caulking or sealants which are subject to movement. Control joints shall be caulked after paint and special coating applications. Provide caulking or sealants in colors which match adjacent finished surface as approved by the Architect.
20. Bidders shall be responsible for obtaining a copy of the Geotech Report from the Owner.
21. The project may include some items that are delegated design. Bidders shall ensure these items are covered in their base bid.
22. All questions that affect cost, time, etc. shall be presented in the form of RFI's to the Architect prior to bid.

# ENERGY CODE EXEMPTION

Per 2018 International Energy Conservation Code:

C402.1.1 Low Energy Buildings. The following low-energy buildings, or portions thereof, separated from the remainder of the building by building thermal envelope assemblies complying with this section, shall be exempt from the building thermal envelope provisions of Section C402:

1. Those with a peak design rate of energy usage less than 3.4 Btu/h x ft2 or 1.0 watt/ft2 of floor area for space conditioning purposes.
2. Those that do not contain "conditioned space".
3. Greenhouses

Per Chapter 2:
Definition of Conditioned Space: An area, room or space that is **enclosed** within the building thermal envelope and is directly or indirectly heated or cooled. Spaces are indirectly heated or cooled where they communicate through openings with conditioned spaces, where they are separated from conditioned spaces by uninsulated walls, floors, or ceilings, or where they contain uninsulated ducts, piping or other sources of heating or cooling.

While the Oil Change & Service areas do have gas fired unit heaters, during normal operations, the Oil Change, Service, and Pit areas are **not enclosed** and are outside the building thermal envelope assembly. These areas are separated from the remainder of the building by building thermal envelope assemblies complying with this code. Section C403.12.1 allows radiant heating outside the building. Therefore, these areas shall be exempt from the building thermal envelope provisions of this code.

# GENERAL ACCESSIBILITY NOTES

1. All door hardware shall be accessible type per section 404 of the 2017 ICC A117.1 / 2010 ADA Standards.
2. All walking surfaces shall have a maximum slope of 1:20 per section 405 of the 2017 ICC A117.1 / 2010 ADA Standards
3. All floor or ground surfaces shall be stable, firm, and slip resistant per section 302 of the 2017 ICC A117.1 / 2010 ADA Standards
4. Changes in level of 1/4" high maximum shall be permitted to be vertical per section 303 of the 2017 ICC A117.1 / 2010 ADA Standards
5. Provide maneuvering clearances at manual swinging doors per section 404 of the 2017 ICC A117.1 / 2010 ADA Standards
6. ADA mounting heights, dimensions, tolerances, etc. shall apply to all construction and the location of all fixtures, etc. unless specifically noted otherwise.

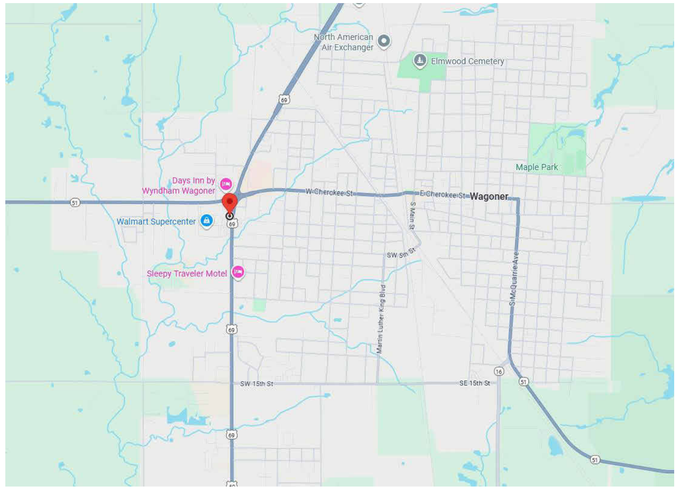
# GENERAL INTERIOR NOTES

1. Quantities (area, perimeter, etc.) shown on finish schedule are approximate and are provided as a convenience to the Contractor. Actual quantities may vary and it is the responsibility of the Contractor to field verify.
2. Anything specified with a directional pattern (e.g. brushed aluminum, wood grain laminate, etc.) the pattern shall go in the same direction as directed by Architect.
3. The Contractor shall provide all necessary blocking in walls for support of all equipment, shelving, accessories, grab bars, wall hung lavatories, and other required elements.
4. Provide pressure treated wood where in contact with concrete or masonry.
5. Ease all edges on casework to prevent sharp corners.
6. Paint all HVAC wall grilles to match adjacent surface color unless otherwise noted or instructed by the Architect.
7. Use moisture resistant gypsum board at all walls subject to moisture unless wall will be subject to standing water or frequent wetting in which case you shall use cementitious backer.
8. Provide thresholds where required. All shall be ADA compliant.
9. All gypsum board to have a level 4 finish unless otherwise indicated.

# BIDDING INQUIRES

Company: Express Oil Change
Contact: Chris Plummer
E-Mail: chris.plummer@expressoil.com
Phone: 205-945-1771

Note: Sub-contractors to call bidding General Contractor for questions




Express Oil Change & Tire Engineers
South Dewey Avenue, (US -69)
Wagoner, Oklahoma 74467

NORTH

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| G201 | Architectural Specifications |
| G202 | Architectural Specifications |
| G300 | Architectural Specifications & EOC Standards - Exterior |
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General Information

| | |
|---|---|
| Project number | 25041 |
| Date | 01/28/2026 |
| Drawn by | ARC |
| Checked by | N/A |

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## GENERAL NOTES

1. **GENERAL CONTRACTOR SHALL ENSURE EACH OF THE FOLLOWING HAVE BEEN REVIEWED BY THE MANUFACTURER FOR COMPLIANCE WITH LOCAL CONDITIONS/REQUIREMENTS PRIOR TO BIDDING/ORDERING/INSTALLING: ROOFING, DOORS, WINDOWS/STOREFRONT, GLAZING, DOOR HARDWARE, PAINT, AND FIRE EXTINGUISHERS.**
2. **GENERAL CONTRACTOR SHALL PROVIDE SUBMITTALS / SHOP DRAWINGS FOR EACH PRODUCT LISTED UNDER ARCHITECTURAL SPECIFICATIONS. ALL SUBMITTALS / SHOP DRAWINGS ARE TO BE APPROVED BY THE OWNER AND/OR THE A/E PRIOR TO ORDERING.**
3. **PROVIDE MANUFACTURER'S STANDARD WARRANTY FOR ALL SPECIFIED PRODUCTS.**
4. **ALL EXTERIOR SIGNAGE AND SCONCES BY OTHERS.**
5. **ALL FURNITURE AND EQUIPMENT BY OTHERS. COORDINATE PLACEMENT WITH OWNER PRIOR TO ROUGHING IN REQUIRED UTILITIES.**
6. **ALL COMPARABLE PRODUCTS TO BE REVIEWED AND APPROVED BY THE OWNER PRIOR TO BID.**
7. **GC SHALL BE RESPONSIBLE FOR CHECKING WITH THE LOCAL AHJ ON ANY DEFERRED SUBMITTALS THAT MAY BE REQUIRED TO BE APPROVED BY THE AHJ PRIOR TO CONSTRUCTION.**

## DIVISION 4 - MASONRY

### 042200 - Concrete Unit Masonry

Basis-of-Design Product: Subject to compliance with requirements, provide products indicated below by Echelon, An Oldcastle Company or a comparable product by an approved manufacturer.

Products

A. Concrete Masonry Units
1. Finish: Smooth and split-face
2. Min. Compressive Strength: See Structural
3. Density Classification: See Structural
4. Provide types, shapes and sizes as indicated
5. Integral Water Repellent: Provide RainBloc 80 by ACM Chemistries or a comparable product by an approved manufacturer.

Basis-of-Design Product: Subject to compliance with requirements, provide products indicated below by Argos or an approved comparable product by an approved manufacturer.

Products

B. Mortar
1. Type: See Structural
2. Color: Standard Gray.
3. Liquid Mortar Additive: Provide RainBloc for Mortar or a comparable product by an approved manufacturer.

Subject to compliance with requirements, provide products indicated below:

Products

C. Joint Reinforcement
1. Type: Hot dipped galvanized, carbon steel (ladder)
2. Size: 0.187" diameter
3. Length: Not less than 10'

*Provide full exterior wall mock-up for Owner's Approval prior to ordering. No Exceptions.

Basis-of-Design Product: Subject to compliance with requirements, provide products indicated below by Mortar Net Solutions or an approved comparable products by an approved manufacturer.

Subject to compliance with requirements, provide products indicated below:

D. Single Wythe Concrete Masonry Unit Drainage System
1. BlockFlash

## DIVISION 5 - METALS

### 055000- Metal Fabrications

Products:

A. Concrete-filled Steel Pipe Bollards
1. Material: Schedule 40 steel pipe
2. Height: 3'-6"
3. Diameter: 4"
4. Finish: Painted (See Finish Schedule)

Installation:
See drawings for installation details.

### 055113- Metal Pan Stairs

Delegated Design: Engage a qualified professional engineer to design stairs and railings and provide sealed calculations and drawings.

Products:

A. Metal Pan Stairs
1. Steel Sheet Thickness: 0.067" minimum
2. Uniform Load: 100 lbf/sf
3. Concentrated Load: 300 lbf applied on an area of 4 sq. in.
4. Finish: Painted (See Finish Schedule)
5. Uniform and concentrated loads need not be assumed to act concurrently.
6. Stair Framing: Capable of withstanding stresses resulting from railing loads in addition to loads specified above.

B. Stair Tread Bar Ribbed Abrasive Nosing
1. Basis of Design: Nystrom Model V951
2. Extents: Install Nosing to the full length of steps
3. Color: Safety Yellow
4. Type: Short Nose, Aluminum Extruded Anchor

C. Stair Railings
1. Rails and Posts: 1 5/8" diameter
2. Picket Infill: 1/2" round pickets spaced less than 4 inches clear.

D. Installation: Install per manufacturer's standard written instructions.

E. Warranty: Provide manufacturer's standard material warranty.

### 055213- Pipe and Tube Railings

Delegated Design: Engage a qualified professional engineer to design stairs and railings and provide sealed calculations and drawings.

A. Handrails & Top Rails of Guards
1. Rails and Posts: 1 1/2" diameter
2. Uniform Load: 50lbf/ft in any direction.
3. Concentrated Load: 200 lbf applied in any direction
4. Uniform and concentrated loads need not be assumed to act concurrently.
5. Type: F or S
6. Material: Schedule 40
7. Finish: Painted (See Finish Schedule)
8. Seismic Performance: See Structural

B. Infill of Guards
1. Concentrated Load: 50 lbf applied horizontally on an area of 1 SF.
2. Infill load and other loads need not be assumed to act concurrently.

Installation:
Install stairs and railings according to manufacturers' written instructions and with welded connections.

## DIVISION 6 - WOOD, PLASTICS AND COMPOSITES

### 061000- Rough Carpentry

Products:

A. Framing with Dimensional Lumber (Interior Non-Load-Bearing)
1. Thoroughly Dried
2. No. 2 Southern Yellow Pine or No. 2 Douglas Fir
3. Of sizes, shapes, and lengths required.
4. Moisture content shall not exceed 19% at time of installation

B. Miscellaneous Lumber (e.g. Blocking, Furring, etc.)
1. Thoroughly Dried
2. No. 2 Southern Yellow Pine or No. 2 Douglas Fir
3. Of sizes, shapes, and lengths required.
4. Moisture content shall not exceed 19% at time of installation

C. Temporary Bracing, Shoring, etc. as required
1. Thoroughly Dried
2. No. 2 Southern Yellow Pine or No. 2 Douglas Fir
3. Of sizes, shapes, and lengths required.
4. Moisture content shall not exceed 19% at time of installation

D. Plywood decking (Platform)
1. Plywood Type: Exposure 1
2. Plywood Grade: BC
3. Thickness: As indicated on drawings
4. Square Edge
5. Class: C Fire Rating
6. Flame Spread Rating 76-200 / Smoke Developed Index <450

E. Plywood decking (Dumpster Roof and Sheathing)
1. Plywood Type: Exposure 1
2. Plywood Grade: BC
3. Thickness: As indicated on drawings
4. Square Edge

Note:
1. All plywood which has any edge or surface permanently exposed to the weather shall be of the exterior type.
2. All wood exposed to weather and/or in contact with masonry or concrete shall be pressure-treated lumber.

### 061533- Composite Decking

Products

A. Plastic Decking for Dumpster Enclosure Doors
1. Composite plastic lumber
2. Solid shapes made from a mixture of cellulose fiber and polyethylene or polypropylene.
3. Surface Texture: Smooth.
4. Color: See Finish Schedule.
5. Size: See dumpster details.

Installation:
Install plastic decking according to manufacturers' written instructions.

Warranty:
Provide manufacturer's standard material warranty.

### 066400 Plastic Paneling (Fiberglass Reinforced Panels)

Basis-of-Design Product: Subject to compliance with requirements, provide products indicated below by Marlite Wall Systems, or a comparable product by one of the following:

1. Kal-Lite
2. Crane Composites
3. Panolam

Product Requirements:

A. Provide standard FRP (Fiber Reinforced Plastic) and Symmetrix FRP panels (as indicated on drawings) in 4' x 8' textured panels.
B. Color: As indicated on the Finish Schedule.
C. Conform to all building code requirements for interior finish for smoke and flame spread requirements tested in accordance with ASTM 84
D. Wall required Rating - Class A

Submittals:
Submit shop drawings (elevations of each wall) showing location of paneling and trim members.

Installation:
A. Install per manufacturer's written standards.

Warranty:
A. Provide manufacturer's standard warranty.

## DIVISION 7 - THERMAL AND MOISTURE PROTECTION

### 071900- Water Repellents

Basis-of-Design Product: Subject to compliance with requirements, provide products indicated below by Ghostshield or a comparable product from an approved manufacturer.

Products

A. Water Repellant
1. ISO-Tek 8540
2. Color: Clear

Installation:
Install water repellents according to manufacturers' written instructions.

Warranty:
Provide manufacturers' standard product warranty.

### 072100- Thermal Insulation

Basis-of-Design Product: Subject to compliance with requirements, provide products indicated below by Owens Corning, or a comparable product by one of the following:

1. Johns Manville
2. CertainTeed

Products:

A. Kraft Faced (Vapor Retarder) Batt Insulation:
1. EcoTouch PINK Fiberglass Insulation
2. R-20 & R-38; where indicated

Installation:
Install insulation and accessories according to manufacturers' written instructions.

Warranty:
Provide manufacturers' standard material warranty.

### 072400 Exterior Insulation and Finish System

Basis-of-Design Product: Subject to compliance with requirements, provide products indicated below by Dryvit Systems, Inc, or a comparable product by an approved manufacturer.

Products: Dryvit Systems, Inc., One Energy Way, West Warwick, RI 02893, 800-556-7752, HYPERLINK "http://www.dryvit.com" www.dryvit.com.

A. Molded, (Expanded) Rigid Cellular Polystyrene Board Insulation (Pre-Wrapped / Pre- base coated Architectural Shapes): Comply with ASTM E 2430/E 2430M.

Provide pre-coated architectural shapes which include base coat and reinforcing mesh provided.

1. Cornice Shape: Product number 205C166 604
2. Trim: Product number 205T154 604

System Description:

A. The Dryvit Direct Apply is an Exterior Insulation and Finish System (EIFS):
1. Water-resistive barrier membrane (for use at EIFS only): Basis-of-Design: Backstop NTX
2. Adhesive: Basis-of-Design, as per Manufacturer's recommendation: Chemex-Pro. Installed in vertical ribbons to facilitate egress of incidental moisture
3. Rigid expanded polystyrene insulation board.
4. Base Coat (included in pre-coated shapes)
5. Reinforcing Mesh (included in pre-coated shapes)
6. Finish Coat
7. Flashing materials

B. Pre-Installation Requirement: Contractor is to provide a mock-up of EIFS Finish for Owner's approval. This is required. No Exceptions.

C. Installation:
1. Install on clean and dry unpainted brick, concrete or masonry, free of loose material and irregularties in accordance with ASTM C1397 and the Exterior Insulation and Finish System manufacturer's application instructions.
2. Contractor's Option: Install EIFS system using Pre-buck Engineered Framing system for Parapet Cap in lieu of wood framing and plywood as shown in section detail drawing. If using Pre-Buck system, contractor must install per manufacturer's written installation instructions/ requirements.

C. Finish:
1. Freestyle: Fine Texture
2. Color (See Finish Schedule)

Warranty: Provide manufacturer's standard warranty.

### 072600 Vapor Retarders

Basis-of-Design Product: Subject to compliance with requirements, provide products indicated below by Reef Industries, or a comparable product by an approved manufacturer.

Products:

A. Reinforced Under Slab Vapor Retarder:
1. Griffolyn 10 Mil Green
2. Thickness: 10 mil
3. Max Perm Rating: 0.1 perm
4. Lap: 12" and tape with manufacturer recommended tape

Installation:
Install vapor retarders according to manufacturers' written instructions.

Warranty:
Provide manufacturers' standard product warranty.

### 072715 - Self-Adhesive Membrane Air Barrier

Basis-of-Design Product: Subject to compliance with requirements, provide products indicated below by W.R. Meadows, or a comparable product by an approved manufacturer.

Products:

A. Self-Adhesive Air Barrier Sheet Membrane: Fully adhered, sheet membrane, vapor permeable air and water resistive barrier.

1. Air-Shield SMP

Installation:
Install self adhered membrane air barriers according to manufacturers' written instructions.

Warranty:
Provide manufacturer's standard product warranty.

### 072726- Fluid-Applied Membrane Air Barrier

Basis-of-Design Product: Subject to compliance with requirements, provide products indicated below by W.R. Meadows, or a comparable product by an approved manufacturer.

Products:

A. Liquid Membrane Air/Vapor & Liquid Moisture Barrier
1. Air-Shield LMP

Installation:
Install fluid applied membrane air barriers according to manufacturers' written instructions.

Warranty:
Provide manufacturer's standard product warranty.

### 074113.16- Standing-Seam Metal Roof Panels (Standard)

Basis-of-Design Product: Subject to compliance with requirements, provide products indicated below by Berridge Manufacturing Co. or comparable product by an approved manufacturer.

Products:

A. Metal Panel: Cee-Lock

1. Structural Performance: Provide metal panel systems capable of withstanding the effects of the following loads, based on testing according to ASTM E 1592.
   a. Wind Loads: See Structural.
   b. Other Design Loads: See Structural.
   c. Deflection Limits: See Structural.
2. Air Infiltration: Air leakage of not more than 0.06 cfm/sq. ft when tested according to ASTM E 1680 and ASTM E 283 at the following test-pressure difference:
   a. Test-Pressure Difference: 6.24 lbf/sq.ft.
3. Water Penetration under Static Pressure: No water penetration when tested according to ASTM E 1646 and ASTM E 331 at the following test-pressure difference:
   a. Test-Pressure Difference: 15 lbf/sq.ft.
4. Wind-Uplift Resistance: Provide metal roof panel assemblies that comply with UL 580 for wind-uplift-resistance class indicated.
   a. Uplift Rating: UL 90.
5. Thermal Movements: Allow for thermal movements from ambient and surface temperature changes by preventing buckling, opening of joints, overstressing of components, failure of joint sealants, failure of connections, and other detrimental effects.
6. Material: Metallic coated steel
7. Nominal Thickness: 24 gauge
8. Finish: Two-coat fluoropolymer.
9. Color: See Finish Schedule (verify sample with Owner prior to ordering)
10. Panel Coverage: 16.5 inches
11. Panel Height: 1.5 inches
12. Slope: As indicated

B. Underlayment
1. Two layers of 15# felt.

C. Snowguards
1. Provide snowguards if required by AHJ.

D. Ridge Cap
1. Provide preformed ridge/hip cap by roofing manufacturer.
2. Color: Match Roof Color.
3. Material: Match Roof.

Installation:
Install metal panels, underlayment, vents, and accessories according to manufacturers' written instructions.

Warranty:
Provide manufacturers' standard material and product warranties.

### 074293 Soffit Panels (Standard)

Basis-of-Design Product: Subject to compliance with requirements, provide products indicated below by James Hardie Building Products, Inc. or a comparable product by an approved manufacturer.

Products:

A. Smooth Vented Soffits

1. Structural Performance: Provide soffit systems capable of withstanding the effects of the following loads:
   a. Wind Loads: See Structural.
   b. Deflection Limits: See Structural.
2. Net Free Area: 5 sq. in. per linear foot.
3. Width: 12"
4. Thickness: 0.25"
5. Color: Painted, (See Finish Schedule)
6. Jointing: Provide paintable PVC "H" Jointer between panels.

Installation:
Install soffit panels and accessories according to manufacturers' written instructions.

Warranty:
Provide manufacturers' standard material warranty.

### 075423- Thermoplastic Polyolefin (TPO) Roofing:

Basis-of-Design Product: Subject to compliance with requirements, provide products indicated below by Versico or comparable product by an approved manufacturer.

Products:

A. VersiWeld 60 mil TPO fully adhered.

1. ASTM D6878

**(Florida Approval Number: FL 14207) Please Note: System must be selected based on design pressures per Structural drawing sheet S0.2.**

B. Underlayment: 1/2" Securock Gypsum Fiber Cover Board

C. Polyisocyanurate Insulation

1. Thickness: R-25

Installation:
Install TPO, underlayment, insulation, vents, accessories, etc., according manufacturer's published installation instructions.

Warranty:
Provide 20 Year NDL Manufacturers full system warranty


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STATE OF OKLAHOMA
TIMOTHY AHO
A08460
LICENSED ARCHITECT
03/31/2026


# Express Oil Change & Tire Engineers

Single Building / Left Hand Oil Change / Front Enter / Side Tire Storage

Wagoner, OK

FINAL

| No. | Description | Date |
|---|---|---|
| | | |
| IFP-0 | Issue for Permit | 01/28/2026 |
| IFB-0 | Issue for Bid | 03/31/2026 |
| IFC-0 | Issue for Construction | 04/22/2026 |
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2026
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Architectural Specifications

| | |
|---|---|
| Project number | 25041 |
| Date | 01/28/2026 |
| Drawn by | ARC |
| Checked by | N/A |

G200

Scale 12" = 1'-0"

4/22/2026 9:49:29 AM

**076200 - Sheet Metal Flashing and Trim (Standard)**

Provide products indicated for formed low-slope roof sheet metal fabrications:

A. Copings: Fabricate in minimum 96-inch-long, but not exceeding 12-foot-long, sections. Fabricate joint plates of same thickness as copings. Furnish with continuous cleats to support edge of external leg and interior leg. Miter corners, fasten and seal to be watertight. Shop fabricate interior and exterior corners. Form sheet metal to fit substrates without excessive oil canning, buckling, and tool marks; true to line, levels, and slopes; and with exposed edges folded back to form hems. Conceal fasteners and expansion provisions where possible. Do not use exposed fasteners on faces exposed to view. Form seams and seal joints as required by manufacturer for watertight construction.
1. Fabricate from one of the Following Materials:
   a. Galvanized Steel: 0.040 inch thick.
   b. Aluminum-Zinc Alloy-Coated Steel: 0.040 inch
2. Fabricate coping cap to include :
   a. Face Dimension: 6 inches minimum (Building)
   b. Back Dimension: 6 inches minimum (Building)

A. Performance Requirements:
1. Sheet metal flashing and trim assemblies shall withstand wind loads, structural movement, thermally induced movement, and exposure to weather without failure due to defective manufacture, fabrication, installation, or other defects in construction. Completed sheet metal flashing and trim shall not rattle, leak, or loosen, and shall remain watertight.
2. Sheet Metal Standard for Flashing and Trim: Comply with NRCA's "The NRCA Roofing Manual" and SMACNA's "Architectural Sheet Metal Manual" requirements for dimensions and profiles shown unless more stringent requirements are indicated.
3. SPRI Wind Design Standard: Manufacture and install copings and roof edge flashings tested according to SPRI ES-1 and capable of resisting the design pressure as specified on sheets S0.1 and S0.3
4. Thermal Movements: Allow for thermal movements from ambient and surface temperature changes.
   a. Temperature Change: 120 deg. F., ambient; 180 deg. F, material surfaces

B. Quality Assurance:
1. Fabricator Qualifications: Employs skilled workers who custom fabricate sheet metal flashing and trim similar to that required for this Project and whose products have a record of successful in-service performance.
   a. For copings and roof edge flashings that are SPRI ES-1 tested, shop shall be listed as able to fabricate required details as tested and approved.

C. Sheet Metals:
1. Metallic-Coated Steel Sheet: Provide zinc-coated (galvanized) steel sheet according to ASTM A 653/A 653M, G90 coating designation or aluminum-zinc alloy-coated steel sheet according to ASTM A 792/A 792M, Class AZ50 coating designation, Grade 40; prepainted by coil-coating process to comply with ASTM A 755/A 755M.
   a. Two-Coat Fluoropolymer: AAMA 621. Fluoropolymer finish containing not less than 70 percent PVDF resin by weight in color coat. Prepare, pretreat, and apply coating to exposed metal surfaces to comply with coating and resin manufacturers' written instructions.
      1. Color: See Finish Schedule

C. Warranty:
1. Special Warranty on Finishes: Manufacturer agrees to repair finish or replace sheet metal flashing and trim that shows evidence of deterioration of factory-applied finishes within specified warranty period.
   a. Finish Warranty Period: 10 years from date of Substantial Completion.

**077100- Roof Specialties (Standard)**

Basis-of-Design Product: Subject to compliance with requirements, provide products indicated below by Roof Drainage Components & Accessories, Inc. or a comparable product by an approved manufacturer.

Products:

A. Gutters (alum.):
1. Style:Smooth Box Gutter - "F" Style
2. Size: 5"
3. Color: Match Roof Color

B. Conductor head w/ built-in overflow (alum.): Match downspout color.

C. Downspouts (alum.):
1. Style: Smooth Box Downspout
2. Size: 3"x4"
3. Color: As indicated on Finish Schedule

D. Downspout elbow / boot - Match downspout color

E. Straps
1. Smooth Box Downspout Strap.
2. Color: Match downspout color.

F. Thru-wall scuppers- match downspout color.
1. Size: 8" wide x 8" high

G. Thru-wall emergency roof scuppers - match downspout color:
1. Size 4" wide x 4" high

Installation:
Install roof specialties according to manufacturers' written instructions.

Warranty:
Provide manufacturers' standard material warranty.

**077100- Roof Specialties (Standard)**

Basis-of-Design Product: Subject to compliance with requirements, provide products indicated below by Hickman Edge Systems, LLC or comparable product by an approved manufacturer.

A. Coping Cap (for Dumpster Enclosure only)
1. Product: Permasnap Premier Coping
2. 24 gauge w/ kynar finish
3. Color: See Finish Schedule
4. Face Dimension: 6 inches minimum
5. Back Dimension: 6 inches minimum

Installation:
Install roof specialties according to manufacturers' written instructions.

Warranty:
Provide manufacturers' standard material warranty.

**078443 - Joint Firestopping**

Basis-of-Design Product: For joints in or between Fire-Resistance-Rated Construction: Subject to compliance with requirements, provide products indicated below by Tremco, or a comparable product by one of the following:

1. 3M Fire Protection Products
2. Owens Corning
3. Hilti, Inc.
4. ROCKWOOL

A. **Scope:** Work specified under this Section includes all labor, materials, equipment, services, accessories and coordination as required to furnish and install all firestopping systems including but not limited to, the following:
1. Firestopping sealant, firesafing and material required to render all fire rated assemblies fire and smoke tight in accordance with applicable codes, ordinances and requirements.
2. Penetrations of fire rated materials or assemblies shall be sealed by the trade whose work required the penetration, unless a firestop contractor is designated by the Contractor

**078443 - Joint Firestopping (continued):**

B. **System Description/ Design Requirements:**
1. Fire-Rated Construction: Maintain vertical and horizontal barrier, structural floor-ceiling, and roof-ceiling fire resistance ratings at all penetrations, connections with other surfaces or types of construction, at separations required to permit building movement and sound or vibration absorption, and at other construction gaps.
2. Smoke Barrier Construction: Maintain vertical barrier and structural floor resistance to cold smoke at all penetrations, connections with other surfaces and types of construction and at all separations required to permit building movement and sound or vibration absorption, and at other construction gaps.
Provide products that upon curing, do not re-emulsify, dissolve, leach, breakdown or otherwise deteriorate over time from exposure to atmospheric moisture, sweating pipes, ponding water or other forms of moisture.
4. Provide firestop products that do not contain ethylene glycol.
5. Fire resistance rating must be equal to or exceed the fire resistance rating of the wall, floor or roof in or between which it is installed.
6. Exposed Joint firestopping systems must have a flame-spread and smoke-developed index of less than 25 and 450, respectively, as determined per ASTM E84

C. Installation:

1. Firestopping shall be installed at locations where openings are made and where shown or specified in accordance with manufacturer's written instructions, fire test assembly and as indicated on drawings.
2. Firestopping materials shall completely fill all void spaces regardless of geometric configuration and subject to tolerances established by the manufacturer.
3. Firestopping shall be installed at all piping, electrical conduit and cables,and ductwork penetrating fire rated assemblies and seal holes or voids made by penetrations to ensure an effective fire or fire/smoke barrier. Fire dampers in ducts and penetrations of fire resistance rated construction shall be furnished and installed in accordance with the requirements in Mechanical Sections.
4. Identify joint firestopping systems with legible metal or plastic labels. Attach labels permanently to surfaces adjacent to and within 6 inches of joint edge so labels are visible to anyone seeking to remove joint firestopping system. Include the following on the labels:
   a. "Warning - Joint Firestopping - Do NOT Disturb. Notify Building Management of Any Damage."
   b. Contractor's name, address and phone number.
   c. Designation of applicable testing agency
   d. Date of Installation
   e. Manufacturer's name
   f. Installer's name

D. Warranty: Provide manufacturers' standard product warranty.

**079200- Joint Sealants**

Basis-of-Design Product: Subject to compliance with requirements, provide products indicated below by Tremco, or a comparable product by one of the following:

1. BASF Building Systems
2. Pecora Corporation
3. Dow Corning Corp.

Products:

A. Silicone (for use around plumbing fixtures and around glazing):
1. Spectrem 2
2. Color: Clear

B. Urethane (for use at masonry, control joints, and rough openings)
1. Dymonic 100
2. Color: To match adjacent material color (color and paintable)

C. Joint Sealant Backing:
1. Closed cell material with a surface skin or as approved by sealant manufacturer

Installation:
Install sealants and proper backing according to manufacturers' written instructions.

Warranty:
Provide manufacturers' standard product warranty.

**079219- Acoustical Joint Sealants**

Basis-of-Design Product: Subject to compliance with requirements, provide products indicated below by USG or a comparable product by an approved manufacturer.

Products:

A. Acoustical Joint Sealant
1. USG Sheetrock Brand Acoustical Sealant

Installation:
Install sealants according to manufacturers' written instructions.

Warranty:
Provide manufacturer's standard warranty.

**DIVISION 08 - OPENINGS**

**081113- Hollow Metal Doors and Frames (Standard)**

Manufacturers:

Basis-of-Design Product: Subject to compliance with requirements, provide products indicated below by CECO Door Products, or a comparable product by one of the following:

1. Curries Company
2. Steelcraft
3. Or Approved equal

Products:

**Materials**

A. Cold-Rolled Steel Sheet: ASTM A 1008/A 1008M, Commercial Steel (CS), Type B; suitable for exposed applications.
B. Metallic-Coated Steel Sheet: ASTM A 653/A 653M, Commercial Steel (CS), Type B; with minimum G60 (Z180) or A60 (ZF180) metallic coating.
C. Frame Anchors: ASTM A 653/A 653M, Commercial Steel (CS), Commercial Steel (CS), Type B; with minimum G60 (Z180) or A60 (ZF180) metallic coating.

**Hollow Metal Doors**

A. General: Provide 1-3/4 inch doors of design indicated, not less than thickness indicated; fabricated with smooth surfaces, without visible joints or seams on exposed faces unless otherwise indicated. Comply with ANSI/SDI A250.8 and ANSI/NAAMM HMMA 867.

B. Exterior Doors: Face sheets fabricated of commercial quality hot-dipped zinc coated steel that complies with ASTM A 653/A 653M, Coating Designation A60. Provide doors complying with requirements indicated below by referencing ANSI/SDI A250.8 for level and model and ANSI/SDI A250.4 for physical performance level.
1. Design: Flush panel.
2. Level/Model: Level 2 and Physical Performance Level B (Heavy Duty), Minimum 18 gauge (0.042-inch - 1.0-mm) thick steel, Model 2.

**081113- Hollow Metal Doors and Frames (Standard) continued:**

3. Top and Bottom Edges: Reinforce tops and bottoms of doors with a continuous steel channel not less than 16 gauge, extending the full width of the door and welded to the face sheet. Doors with an inverted top channel to include a steel closure channel, screw attached, with the web of the channel flush with the face sheets of the door. Plastic or composite channel fillers are not acceptable.
4. Hinge Reinforcement: Minimum 7 gauge (3/16") plate 1-1/4" x 9" or minimum 14 gauge continuous channel with pierced holes, drilled and tapped.
5. Hardware Reinforcements: Fabricate according to ANSI/SDI A250.6 with reinforcing plates from same material as door face sheets.

C. Interior Doors: Face sheets fabricated of commercial quality cold rolled steel that complies with ASTM A 1008/A 1008M. Provide doors complying with requirements indicated below by referencing ANSI/SDI A250.8 for level and model and ANSI/SDI A250.4 for physical performance level:
1. Design: Flush panel.
   a. Fire Door Core: As required to provide fire-protection and temperature-rise ratings indicated.
2. Level/Model: Level 2 and Physical Performance Level B (Heavy Duty), Minimum 18 gauge (0.042-inch - 1.0-mm) thick steel, Model 2.
3. Top and Bottom Edges: Reinforce tops and bottoms of doors with a continuous steel channel not less than 16 gauge, extending the full width of the door and welded to the face sheet.
4. Hinge Reinforcement: Minimum 7 gauge (3/16") plate 1-1/4" x 9" or minimum 14 gauge continuous channel with pierced holes, drilled and tapped.
5. Hardware Reinforcements: Fabricate according to ANSI/SDI A250.6 with reinforcing plates from same material as door face sheets.

D. Manufacturers Basis of Design:
1. CECO Door Products (C) Honeycomb Core - Regent Series.

**Hollow Metal Frames**

A. General: Comply with ANSI/SDI A250.8 and with details indicated for type and profile.
B. Exterior Frames: Fabricated of hot-dipped zinc coated steel that complies with ASTM A 653/A 653M, Coating Designation A60.
1. Fabricate frames with mitered or coped corners. Profile as indicated on drawings.
2. Manufacturers Basis of Design:
   a. CECO Door Products (C) – SQSeries.
   b. Curries Company (CU) – M Series.
C. Interior Frames: Fabricated from cold-rolled steel sheet that complies with ASTM A 1008/A 1008M.
1. Fabricate frames with mitered or coped corners. Profile as indicated on drawings.
2. Manufacturers Basis of Design:
   a. CECO Door Products (C) - SQ Series.
   b. Curries Company (CU) - M Series.
D. Fire rated frames: Fabricate frames in accordance with NFPA 80, listed and labeled by a qualified testing agency, for fire-protection ratings indicated.
E. Hardware Reinforcement: Fabricate according to ANSI/SDI A250.6 Table 4 with reinforcement plates from same material as frames.

**Frame Anchors**

A. Jamb Anchors:
1. Masonry Type: Adjustable strap-and-stirrup or T-shaped anchors to suit frame size, formed from A60 metallic coated material, not less than 0.042 inch thick, with corrugated or perforated straps not less than 2 inches wide by 10 inches long; or wire anchors not less than 0.177 inch thick.
2. Stud Wall Type: Designed to engage stud and not less than 0.042 inch thick.
3. Compression Type for Drywall Slip-on (Knock-Down) Frames: Adjustable compression anchors.
4. Windstorm Opening Anchors: Types as tested and required for indicated wall types to meet specified wind load design criteria.
B. Floor Anchors: Floor anchors to be provided at each jamb, formed from A60 metallic coated material, not less than 0.042 inches thick.
C. Mortar Guards: Formed from same material as frames, not less than 0.016 inches thick.

Installation:
Install hollow metal doors and frames according to manufacturers' written instructions.

Warranty:
Provide manufacturers' standard product warranty.

**081416- Flush Interior Wood Doors**

**Door Construction - General**
A. WDMA I.S.1-A Performance Grade: Extra Heavy Duty; Aesthetic Grade: Premium.
B. U-Factor: 0.50
**Core Construction**
A. Particleboard Core Doors:
1. Particleboard: Wood fiber based materials complying with ANSI A208.1 Particleboard standard. Grade LD-2.
2. Adhesive: Fully bonded construction using Polyurethane (PUR) glue.
3. Blocking: As indicated under article "Blocking".
**Veneered Doors for Painted Finish**
A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
1. ASSA ABLOY Wood Doors (GR): GPD Series.
2. Eggers Industries (EG): Premium Series.
3. Marshfield-Algoma (MF): Signature Series.
4. VT Industries (VT): Artistry Series.
B. Interior Solid Core Doors:
1. Grade: Custom.
2. Faces: Veneer grades as noted below; veneer minimum 1/50-inch (0.5mm) thickness at moisture content of 12% or less.
   a. Rotary Sliced Natural Birch, A grade faces.
3. Match between Veneer Leaves: Book match.
4. Assembly of Veneer Leaves on Door Faces:
   a. Running Match.
5. Pair and Set Match: Provide for doors hung in same opening or separated only by mullions.
6. Transom Match: Continuous match.
7. Vertical Edges: Matching same species as faces. Wood or composite material, one piece, laminated, or veneered. Minimum requirements per WDMA section P-1, Performance Standards for Architectural Wood Flush Doors.
8. Horizontal Edges: Solid wood or structural composite material meeting the minimum requirements per WDMA section P-1, Performance Standards for Architectural Wood Flush Doors
9. Construction: Five plies. Stiles and rails are bonded to core, then entire unit sanded before applying face veneers.
10. At doors over 40% of the face cut-out for lights and or louvers, furnish engineered composite lumber core.
**Light Frames and Glazing**
A. Metal Frames for Light Openings in doors with up to 1-inch thick insulated glazing.
1. Low profile beveled vision lite frame
2. Color: Gray
3. 20 gauge cold rolled steel
4. Mitered and welded corners with counter sunk mounting holes
5. Size as indicated on plans.
B. Glazing: Comply with installation requirements in Division 08 Section "Glazing" and with the flush wood door manufacturer's written instructions.
**Fabrication**
A. Factory fit doors to suit frame opening sizes indicated.
1. Comply with requirements in NFPA 80 for fire rated doors.
2. Undercut: As required per manufacturer's templates and sill condition.
B. Factory machine doors for hardware that is not surface applied. Comply with final hardware schedules, door frame Shop Drawings, DHI A115-W series standards, and hardware templates.
1. Coordinate with hardware mortises in metal frames to verify dimensions and alignment before factory machining.
2. Metal Astragals: Factory machine astragals and formed steel edges for hardware for pairs of fire rated doors.
C. Openings: Cut and trim openings through doors in factory.
1. Light Openings: Trim openings with moldings of material and profile indicated.
2. Glazing: Comply with applicable requirements in Division 08 Section "Glazing."

**Installation**
A. Install per manufacturers' standard written instructions.

**Warranty**
A. Provide manufacturers' standard material warranty.

**083113- Access Doors and Frames**

Manufacturers:

Basis-of-Design Product: Subject to compliance with requirements, provide products indicated below by Williams Brothers, or a comparable product by an approved manufacturer.

Products:
A. Attic Ladder: Super Simplex Disappearing Stairway
   i. Opening Size: 30 inches x 54 inches
   ii. Floor to Mezzanine Height: 9' - 4"
   iii. Floor to Ceiling Height: 8' - 5 1/2"
   iv: Ladder width: 18 inches min.

Installation:
1. Install attic access according to manufacturer's written instructions.

Warranty:
1. Provide manufacturers' standard product warranty.

**083613- Sectional Doors (Standard and Non-Impact Hurricane Zone):**

Manufacturers:

Basis-of-Design Product: Subject to compliance with requirements, provide products indicated below by Overhead Door Corporation, or a comparable product by an approved manufacturer.

Products:

Notes:
1.) All glazing to have proper labels as required by local AHJ and building codes.
2.) All glazing shall be reviewed and approved by the local distributor to meet the requirements for the region in which the glazing is being installed. Any issues with items specified shall be brought to the attention of the Architect prior to bid.
3.) Door supplier is responsible for providing a door to meet the wind load requirements for the site location.

1.1 MANUFACTURERS
A. Acceptable Manufacturer: Overhead Door Corporation/Wayne Dalton, Commercial Solutions National Accounts, 2501 S. State Hwy. 121, Suite 200, Lewisville, TX 75067. ASD. Tel. Toll Free: (800) 275-3290. Phone: (469) 549-7100. Fax: (972) 906-1499. Web Site: www.overheaddoor.com. E-mail: info@overheaddoor.com.

B. Requests for substitutions will be considered in accordance with provisions of Section 01 60 00 - Product Requirements.

1.2 STEEL SECTIONAL OVERHEAD DOORS

A. Sectional Overhead Steel Doors: Model 430 Steel Doors by Overhead Door Corporation:
1. Doors:
   a. Operation:
      1) Provide doors designed for manual operation using a chain hoist.
   b. Structural Performance Requirements:
      1) Wind Loads: See Structural.

2. Door Model 430 Requirements:
   a. Door Assembly: Steel door assembly with rabbeted meeting rails to provide full-width interlocking structural rigidity.
      1) Panel Thickness: 2 inches (51 mm).
      2) Exterior Surface: Ribbed
      3) Section Material: Nominal 24 gauge steel.
      4) Center and End Stiles: 16 gauge steel
      5) Springs: 50,000 cycles.
      6) Provide leaf spring bumpers.
      7) Glazing Panels: Match Exterior Elevations
      8) Glazing Type: Non-Impact Rated Glazing: ¼ inch clear tempered glass consisting of one pane of ¼ inch non-insulated glass
      9) Finish: Two coat baked on polyester
      10) Color: See Finish Schedule.
      11) Hardware: Galvanized steel hinges and fixtures. Ball bearing rollers with hardened steel races.
      12) Lock: Interior mounted slide lock with dead bolt provided with hole to receive padlock provided by Owner.
      13) Weatherstripping: Provide complete weather stripping system to reduce air infiltration. Weatherstripping shall be replaceable.
      14) Track: Provide track as recommended by manufacturer to suit loading required and clearances available.
      **15) Configuration Type: Vertical Lift Clearance: Track must provide 35" available headroom, which will maintain 14'-0" minimum clearance from finish floor to underside of lift equipment.**
      **16) Follow manufacturer's instructions for installation. Support tracks are to be adequately reinforced with continuous angle attached to structure.**

1.3 EXECUTION

1 EXAMINATION
   a. Do not begin installation until substrates have been properly prepared. Verify that site conditions are acceptable for installation of doors, operators, controls and accessories. Ensure that openings are square, flush and plumb.
   b. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

2. PREPARATION
   a. Clean surfaces thoroughly prior to installation.
   b. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.

3. INSTALLATION
   a. General: Install door, track and operating equipment complete with all necessary accessories and hardware according to shop drawings, manufacturer's instructions.
   b. Lubricate bearings and sliding parts, and adjust doors for proper operation, balance, clearance and similar requirements.
   c. Coordinate installation with adjacent work to ensure proper clearance and allow for maintenance.
   d. Anchor assembly to wall construction and building framing without distortion or stress.
   e. Secure brace door tracks suspended from structure. Secure tracks to structural members only.

4 PROTECTION
   a. Clean installed products in accordance with manufacturer's instructions prior to Owner's acceptance. Remove and legally dispose of construction debris from project site.
   b. Remove temporary coverings and protection of adjacent work areas. Repair or replace installed products damaged prior to or during installation.
   c. Lubricate bearings and sliding parts, assure weather tight fit around door perimeter and adjust doors for proper operation, balance, clearance and similar requirements. Protect installed products until completion of project.
   d. Touch-up, repair or replace damaged products before Substantial Completion.

Installation:
Install sectional doors according to manufacturers' written instructions.

Warranty:
Overhead Door Corporation warrants the door sections against defects in material and workmanship, and deterioration due to rust-through for ten years from date of delivery to the original purchaser. Window components are warranted against defects in material and workmanship for one year from date of delivery to the original purchaser. Overhead Door warrants all hardware and spring components against defects in material and workmanship for one year (or cycle life of the springs) from date of delivery to the original purchaser. Additional Limited Warranty requirements in accordance with manufacturer's full standard limited warranty documentation.


AHO ARCHITECTS
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STATE OF OKLAHOMA
TIMOTHY AHO
A08460
LICENSED ARCHITECT
03/31/2026


# Express Oil Change & Tire Engineers
## Single Building / Left Hand Oil Change / Front Enter / Side Tire Storage
Wagoner, OK

FINAL

| No. | Description | Date |
|---|---|---|
| | | |
| IFP-0 | Issue for Permit | 01/28/2026 |
| IFB-0 | Issue for Bid | 03/31/2026 |
| IFC-0 | Issue for Construction | 04/22/2026 |
| | | |
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2026
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Architectural Specifications

| | |
|---|---|
| Project number | 25041 |
| Date | 01/28/2026 |
| Drawn by | ARC |
| Checked by | N/A |

G201

Scale 12" = 1'-0"

4/22/2026 9:49:31 AM

**084113- Aluminum-Framed Entrances and Storefronts (Standard & Hurricane Non-Impact)**

**Manufacturers**:

Basis-of-Design Product: Subject to compliance with requirements, provide products indicated below by YKK AP America Inc., or a comparable product by one of the following:

1. Kawneer
2. Or Approved equal

Products:

A. Exterior Storefront System

1. YES 45 TU
2. Center set.
3. Thermal Barrier: Provide continuous thermal barrier by means of a poured and debridged pocket consisting of a two part, chemically curing high density polyurethane which is bonded to the aluminum by YKK ThermaBond Plus.
4. Materials: Anodized Aluminum; 0.050" minimum thickness.
5. Accessories: As recommended by the manufacturer.
6. Components: Manufacturer's standard extruded aluminum mullions, entrance doors, framing, and indicated shapes, perimeter anchor fillers and steel reinforcing as required.
7. Glazing Stops: Manufacturer's standard glazing stops with EPDM glazing gaskets to prevent water infiltration at the exterior and Dow Corning 995 Structural Silicone Sealant with fixed stops at the interior. Color to match storefront.
8. Finish: See finish schedule.
9. Wind Load: See Structural for design pressures.
10. Door: 35D - Medium Stile
    a. Material: 0.050" aluminum min. thickness
    b. Finish: See finish schedule.
    c. Hardware: See Division 8 Door Hardware
    d. Accessories: Manufacturer's standard
    e. Glass: See Division 8 Glazing
    f. Glazing Stops: Manufacturer's standard
    g. Weather-stripping: Manufacturer's standard

B. Interior Storefront System

1. YES 45 FS
2. Center set.
3. Materials: Anodized Aluminum; 0.050" minimum thickness.
4. Accessories: As recommended by the manufacturer.
5. Finish: See finish schedule.

C. Storefront Glazing
1. Glazing: Comply with Division 08 "Glazing"
2. Glazing Gaskets: Manufacturer's standard sealed-corner pressure-glazing system of resilient elastomeric glazing gaskets, setting blocks, and shims or spacers.
3. Glazing Sealants: As recommended by the manufacturer.

Installation:
Install aluminum-framed entrances and storefronts according to manufacturers' written instructions.

Warranty:
Provide manufacturers' standard product warranty.

**087100- Door Hardware (Standard Single Bldg. w/ Side Tire Storage)**

**Manufacturers**:

Basis-of-Design Product: Subject to compliance with requirements, provide products indicated below by the following manufacturers, or approved equal:

1. MK- McKinney
2. AD- Adams Rite
3. YA- Yale
4. RO-Rockwood
5. NO-Norton
6. PE- Pemko

General Notes:
1. Hardware listed for design criteria, confirm with specific door manufacturer.
2. Finishes for all door hardware are to be as indicated on Finish Schedule.

**Hardware Sets:**

Set: 1.0
Doors: 1
Description: EXT - ALUM

| | | | |
|---|---|---|---|
| 1 | Continuous Hinge | MCK-25HD | MK |
| 1 | Deadlatch | 4900 x 4591 | AD |
| 1 | Cylinder | Mort / Cyl as required | YA |
| 2 | Pull | BF168 | RO |
| 1 | Surface Closer | CLP8501 | NO |
| 1 | Mtg Plate | as required | NO |
| 1 | Threshold | 271A Pemkote MSES25SS | PE |
| 1 | Gasketing | by door / frame mfg | |
| 1 | Sweep | 315CN | PE |

Set: 2.0
Doors: 2, 3, 22, 23
Description: BAYS

| | | | |
|---|---|---|---|
| 4 | Hinge | TA2714 4-1/2" x 4-1/2" | MK |
| 1 | Cylindrical Lock (classroom) | PB 5408LN | YA |
| 1 | Surface Closer | 8501 Reg / PA | NO |
| 1 | Kick Plate | K1050 8" X 2" LDW 4BE CSK | RO |
| 1 | Door Stop | 409 / 446 [as required] | RO |
| 1 | Gasketing | S773D | PE |

Set: 3.0
Doors: 4
Description: WAITING - ALUM

| | | | |
|---|---|---|---|
| 1 | Continuous Hinge | MCK-25HD | MK |
| 2 | Door Pull | BF168 | RO |
| 1 | Surface Closer | 8501 Reg / PA | NO |
| 1 | Door Stop | 409 / 446 [as required] | RO |
| 1 | Gasketing | by door / frame mfg | |

Set: 3.1
Doors: 9, 20, 21, 24
Description: EXT - BAYS

| | | | |
|---|---|---|---|
| 4 | Hinge (heavy weight) | T4A3386 NRP 4-1/2" x 4-1/2" | MK |
| 1 | Exit Device (rim, nightlatch) | 7150 WS PB627F | YA |
| 1 | Cylinder | Mort / Cyl as required | YA |
| 1 | Surface Closer | CLP8501 | NO |
| 1 | Threshold | 271A Pemkote MSES25SS | PE |
| 1 | Gasketing | S773D | PE |
| 1 | Rain Guard | 346C x LAR | PE |
| 1 | Sweep | 315CN | PE |

Set: 4.0
Doors: 5
Description: TOILET

| | | | |
|---|---|---|---|
| 4 | Hinge | TA2714 4-1/2" x 4-1/2" | MK |
| 1 | Cylindrical Lock (privacy) | PB 5402LN | YA |
| 1 | Mop Plate | K1050 4" X 1" LDW 4BE CSK | RO |
| 1 | Door Stop | 409 / 446 [as required] | RO |
| 1 | Gasketing | S773D | PE |
| 1 | Surface Closer | 8501 Reg / PA | NO |

**087100- Door Hardware (Standard Single Bldg. w/ Side Tire Storage)**

**Hardware Sets (continued):**

Set: 5.0
Doors: 13
Description: OFFICE

| | | | |
|---|---|---|---|
| 4 | Hinge | TA2714 4-1/2" x 4-1/2" | MK |
| 1 | Cylindrical Lock (entry) | PB 5407LN | YA |
| 1 | Door Stop | 409 / 446 [as required] | RO |
| 1 | Threshold | 271A Pemkote MSES25SS | PE |
| 1 | Gasketing | S773D | PE |
| 1 | Sweep | 315CN | PE |
| 1 | Surface Closer | 8501 Reg / PA | NO |

Set: 6.0
Doors: 15
Description: BREAK

| | | | |
|---|---|---|---|
| 4 | Hinge | TA2714 4-1/2" x 4-1/2" | MK |
| 1 | Passage Set | PB 5401LN | YA |
| 1 | Surface Closer | 8501 Reg / PA | NO |
| 1 | Mop Plate | K1050 4" X 1" LDW 4BE CSK | RO |
| 1 | Kick Plate | K1050 8" X 2" LDW 4BE CSK | RO |
| 1 | Door Stop | 409 / 446 [as required] | RO |
| 1 | Gasketing | S773D | PE |

Set: 7.0
Doors: 16
Description: SHOP TOILET

| | | | |
|---|---|---|---|
| 4 | Hinge | TA2714 4-1/2" x 4-1/2" | MK |
| 1 | Cylindrical Lock (privacy) | PB 5402LN | YA |
| 1 | Mop Plate | K1050 4" X 1" LDW 4BE CSK | RO |
| 1 | Door Stop | 409 / 446 [as required] | RO |
| 1 | Threshold | 271A Pemkote MSES25SS | PE |
| 1 | Gasketing | S773D | PE |
| 1 | Sweep | 315CN | PE |
| 1 | Surface Closer | 8501 Reg / PA | NO |

Set: 8.0
Doors: 6, 7, 8, 10, 11, 12, 17, 18, 19, 25, 26, 27
Description: OH DOOR

| | | |
|---|---|---|
| 1 | Hardware | By door mfg |

Installation:
Install door hardware according to manufacturers' written instructions.
All door hardware (Interior and Exterior) to be keyed alike.

Warranty:
Provide manufacturers' standard product warranty.

**088000- Glazing (IGU) Standard and Hurricane Non-Impact**

**Manufacturers**:

Basis-of-Design Product: Subject to compliance with requirements, provide products indicated below by Vitro, or a comparable product by one of the following:

1. Guardian Industries Corp.
2. Or Approved equal

Products:

Notes:
1.) All glazing to have proper labels as required by local AHJ and building codes.
2.) All glazing shall be reviewed and approved by the local distributor to meet the requirements for the region in which the glazing is being installed. Any issues with items specified shall be brought to the attention of the Architect prior to bid.

A. GL-1 Insulated Glass Unit
Double Glazed Clear Solar Control Insulating Glass Unit Solarban® 90 on Clear 6mm (2) | Air 1/2" (12.7mm) | Clear 6mm
1. Conformance: ASTM E 2190
2. Outdoor Lite: Clear Float Glass as manufactured by Vitro Architectural Glass
    a. Conformance: ASTM C 1036, Type 1, Class 1, Quality q3.
    b. Glass Thickness: 6mm (1/4")
    c. Magnetic Sputter Vacuum Deposition Coating (MSVD): ASTM C 1376.
    d. Coating: Solarban® 90 on Surface # 2
    e. Heat-Treatment: Tempered; ASTM C 1048, Kind FT; Safety Glazing meets ANSI Z97.1 and CPSC 16CFR-1201
3. Interspace Content: Air 1/2" (12.7mm)
4. Indoor Lite: Clear float glass as manufactured by Vitro Architectural Glass
    a. Conformance: ASTM C 1036, Type 1, Class 1, Quality q3.
    b. Heat-Treatment: Tempered; ASTM C 1048, Kind FT; Safety Glazing meets ANSI Z97.1 and CPSC 16CFR-1201
    c. Glass Thickness: 6mm (1/4")
5. Performance Requirements:
    a. Visible Light Transmittance: 51 percent minimum.
    b. Winter Nighttime U-Factor: 0.29 (Btu/hr*ft²*°F) maximum.
    c. Summer daytime U-Factor: 0.27 (Btu/hr*ft²*°F) maximum.
    d. Shading Coefficient: 0.27 maximum.
    e. Solar Heat Gain Coefficient: 0.23 maximum.
    f. Outdoor Visible Light Reflectance: 12 percent maximum.

B. GL-2 Monolithic Single-Glaze Float-Glass:
Monolithic Clear Glass Clear 6mm
1. Clear float glass as manufactured by Vitro Architectural Glass
    a. Conformance: ASTM C 1036, Type 1, Class 1, Quality q3.
    b. Heat-Treatment: Tempered; ASTM C 1048, Kind FT; Safety Glazing meets ANSI Z97.1 and CPSC 16CFR-1201
    c. Glass Thickness: 6mm (1/4")
2. Performance Requirements:
    a. Visible Light Transmittance: 89 percent minimum.
    b. Winter Nighttime U-Factor: 1.02 (Btu/hr*ft²*°F) maximum.
    c. Summer daytime U-Factor: 0.92 (Btu/hr*ft²*°F) maximum.
    d. Shading Coefficient: 0.94 maximum.
    e. Solar Heat Gain Coefficient: 0.82 maximum.
    f. Outdoor Visible Light Reflectance: 8 percent maximum.

C. Glazing Installation
1. Install per manufacturers' standard written instructions.

D. Glazing warranty
1. Provide manufacturers' standard product warranty.

**DIVISION 9 - FINISHES**

**092900- Gypsum Board**

Manufacturers:

Basis-of-Design Product: Subject to compliance with requirements, provide products indicated below by Lafarge unless otherwise indicated, or a comparable product by one of the following:

1. Georgia-Pacific
2. USG
3. National Gypsum

**092900- Gypsum Board**

Products:

A. Moisture and Mold-Resistant Type: Mold Defense
1. Thickness: 1/2 inch
2. Long Edges: Tapered
3. Finish: Level 4 in areas exposed to view. Level 1 in concealed areas.

B. Water-resistant Type: Watercheck (@ Toilet Rooms and behind plumbing fixtures)
1. Thickness: 1/2 inch
2. Long Edges: Tapered
3. Finish: Level 4
4. Cuts: All cuts in board shall be covered with special waterproofing sealant as recommended by the manufacturer.

C. Type X: Firecheck (As Required)
1. Thickness: 5/8"
2. Long Edges: Tapered
3. Finish: Level 4
4. All penetrations and joints to be sealed with fire caulk as recommended by the manufacturer.

Installation:
Install gypsum board and accessories according to manufacturers' written instructions.

Warranty:
Provide manufacturers' standard product warranty.

**095000- Acoustical Tile Ceiling**

Manufacturer:

Basis-of-Design Product: Subject to compliance with requirements, provide products indicated below by Armstrong World Industries, Inc.

Products:
A. Acoustical Ceiling Panels

1. Style: 1775 Dune
2. Surface Texture: Fine Texture
3. Composition: Mineral Fiber
4. Color: White
5. Size: 24 inch x 24 inch
6. Edge Profile: Square Lay-in

B. Metal Suspension Systems

1. Suprafine XL 9/16" Exposed Tee Grid and Edge Molding
2. Wire for Hangers and Ties: ASTM A 641, Class 1 zinc coating, soft annealed, with a yield stress load of at least time three design load, but not less than 12 gauge.

Installation:
Install suspension system and panels in accordance with manufacturers' written instructions, and in compliance with ASTM C 636.

Warranty:
Provide manufacturers' standard product warranty.

**096513- Resilient Base and Accessories**

Manufacturers:

Basis-of-Design Product: Subject to compliance with requirements, provide products indicated below by Roppe, or a comparable product by one of the following:

1. Johnsonite, a Tarkett Company
2. Armstrong World Industries
3. Or Approved equal

Products:

A. Rubber Base: Pinnacle Rubber by Roppe
1. Height: 4"
2. Length: Coils in manufacturer's standard length
3. Outside Corners: Job formed
4. Inside Corners: Job formed
5. Color as indicated on finish schedule.

B. Reducer Strip: Roppe Reducer Strip #22
1. Color as indicated on finish schedule.

C. Adhesives: As recommended by the manufacturer

Installation:
Install resilient base and reducer according to manufacturers' written instructions.

Warranty:
Provide manufacturers' standard product warranty.

**096519- Resilient Tile Flooring**

Manufacturers:

Subject to compliance with requirements, provide product indicated below by Tarkett.

Products:

A. LVT
1. Style / Color: Contour Mineral Basalt PCMB / Paved Path 4645
2. Size: 12" x 36" planks
3. Overall thickness: .120" (3 mm)
4. Wear layer Thickness: 32 mil (0.8 mm)

B. Adhesives: As recommended by the manufacturer

Installation:
Install resilient floor tile according to manufacturers' written instructions.

Warranty:
Provide manufacturers' standard product warranty.

**099113- Exterior Painting**

Manufacturer:

Basis-of-Design Product: Subject to compliance with requirements, provide products indicated below by Sherwin Williams.

Products:

A. Masonry:
1.) Primer: SW Pro Industrial Heavy Duty Block Filler B42W150
2.) Finish Coats: SW Latitude Exterior Acrylic in Satin Finish K62-Series
B. Steel:
1.) Primer: SW Pro Industrial Pro-Cryl Universal Primer B66-1300 Series
2.) Finish Coats: SW Pro Industrial Urethane Alkyd Enamel B54-Series
C. Wood:
1.) Primer: SW Exterior Latex Wood Primer B42W8141
2.) Finish Coats: SW Latitude Exterior Acrylic in Satin Finish K62-Series

**099113- Exterior Painting (continued):**

D. Aluminum: Pro Industrial Urethane Alkyd Enamel Gloss, B54-150 Series
1.) Primer: SW Pro Industrial Pro-Cryl Universal Primer B66-1300 Series
2.) Finish Coats: SW Pro Industrial Sher-Cryl High Performance Acrylic Semi-Gloss B66-1350 Series

Note: Use 1 coat primer as recommended by manufacturer and 2 finish coats unless otherwise recommended by the manufacturer.

Installation:
Install exterior paint according to manufacturers' written instructions.

Warranty:
Provide manufacturers' standard product warranty.

**099123- Interior Painting**

Manufacturer:

Basis-of-Design Product: Subject to compliance with requirements, provide products indicated below by Sherwin Williams.

Products:

A. Masonry:
1.) Primer: SW Pro Industrial Heavy Duty Block Filler B42W150
2.) Finish Coats: SW Pro Industrial Pre-Catalyzed Epoxy Semi-Gloss K46-Series
B. Steel:
1.) Primer: SW Pro Industrial Pro-Cryl Universal Primer B66-1300 Series
2.) Finish Coats: Pro Industrial Urethane Alkyd Enamel Gloss, B54-150 Series
C. Interior Wood:
1.) Primer: SW PrepRite ProBlock Interior/ Exterior Latex Primer- Sealer B51-600 Series
2.) Finish Coats: SW Pro Industrial Acrylic Semi-Gloss B66-650 Series
D. Gypsum Board in Office Area:
1.) Primer: ProMar 200 Zero VOC Interior Latex Primer B28W12600
2.) Finish Coats: ProMar 200 Zero VOC Interior Latex Egshel, B20W2600 Series. Use extreme bond primer at vinyl graphics.
E. Gypsum Board in Bay Area:
1.) Primer: ProMAR 200 Zero VOC Interior Latex Primer B28W12600
2.) Finish Coats: SW Pro Industrial Catalyzed Epoxy B73-Series. Use extreme bond primer at vinyl graphics.
F. Gypsum Board Ceilings:
1.) Primer: ProMar 200 Zero VOC Interior Latex Primer B28W12600
2.) Finish Coats: ProMar 200 Zero VOC Interior Latex Flat, B30W2650 Series
G. Sealed Concrete Floors:
ArmorSeal Rexthane I Floor Coating + SharkGrip Slip-Resistant Additive (1000 HS primer)

Note: Use 1 coat primer as recommended by manufacturer and 2 finish coats unless otherwise recommended by the manufacturer.

Installation:
Install interior paint according to manufacturers' written instructions.

Warranty:
Provide manufacturers' standard product warranty.

**DIVISION 10 - SPECIALTIES**

**101419- Dimensional Letter Signage -** By others.

**101423.13 Room-Identification Signage**

See drawing on A602.

**102600 - Wall and Door Protection**

Manufacturer:

Basis-of-Design Product: Subject to compliance with requirements, provide products indicated below by InPro Corporation:

Products:

A. Stainless Steel Flush Mount Corner Guards
B. Corner Radius:1/8"
C. Height: 4'-0"
D. Width: 1 1/2"
E. Materials: Stainless Steel: Type 430, 16 gauge
F. Attachment: Pre-drilled beveled holes and Phillips head screws.
G. Finish: Stainless Steel No. 4 satin finish.
H. Location: As indicated on drawings.
J. Installation: Install per manufacturer's standard written instructions.
K. Warranty: Provide manufacturers' standard product warranty.

**102800- Toilet, Bath, and Laundry Accessories**

The following list of accessories is essentially complete; however, the Contractor shall examine the drawings carefully and shall supply such items not specifically called for to provide a complete installation.

Manufacturers:

Basis-of-Design Product: Subject to compliance with requirements, provide products indicated below by Bradley Corporation or a comparable product by one of the following:

1. Bobrick Washroom Equipment, Inc.
2. American Specialties, Inc.
3. Or Approved Equal

Products:

A. Robe Hook: Bradley Model 915.
B. Grab Bars: Bradley Model 812-001-42, Model 812-001-36, and Model 812-001-24
C. Toilet Tissue Dispenser: Bradley Model 5425 **(By Others)**
D. Mirror: Bradley Model 780-2436
E. Soap Dispenser: Bradley Model 6563 **(By Others)**
F. Paper Towel Dispenser: Bradley Model 2494 **(By Others)**
G. Under Lavatory Guard: Truebro Lav Guard 2 by IPS Corporation
H. Baby Changing Station: Bradley Model 9631 (Light Gray)

Installation:

1. Install accessories according to manufacturers' written instructions, using fasteners appropriate to substrate indicated and recommended by unit manufacturer. Install units level, plumb, and firmly anchored in locations and heights indicated.

2. Install grab bars to withstand a downward load of at least 250 lbf, when tested according to ASTM F 446.

Warranty:
Provide manufacturers' standard product warranty.

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STATE OF OKLAHOMA
TIMOTHY AHO
A08460
LICENSED ARCHITECT
03/31/2026

# Express Oil Change & Tire Engineers

## Single Building / Left Hand Oil Change / Front Enter / Side Tire Storage

Wagoner, OK

FINAL

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2026
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Architectural Specifications

| | |
|---|---|
| Project number | 25041 |
| Date | 01/28/2026 |
| Drawn by | ARC |
| Checked by | N/A |

G202

Scale 12" = 1'-0"

4/22/2026 9:49:32 AM

**104413- Fire Department Lock Box**

Manufacturers:

Subject to compliance with requirements, provide products indicated below by the Knox Company:

Products:

A. Lock Box: 3200 Series Hinged Door Surface Mount
   i. Color: As indicated on Finish Schedule

Installation:
1. Install fire department lock box in location and height as required by the authorities having jurisdiction.
2. Install per manufacturer's written installation instructions.

Warranty:
Provide manufacturers' standard product warranty.

**104416- Fire Extinguishers**

Manufacturers:

Basis-of-Design Product: Subject to compliance with requirements, provide products indicated below by Amerex Corporation, or a comparable product by one of the following:

1. Larsens Manufacturing Company
2. JL Industries
3. Or Approved Equal

Products:

A. ABC Dry Chemical Extinguisher: Amerex Model B456
B. Wall Bracket: Amerex Model 0546 Wall
C. UL and ULC Rating: 4A-80BC

Installation:

1. Install fire extinguishers in locations and heights indicated and in compliance with requirements of authorities having jurisdiction.

2. Install fire extinguishers and brackets according to manufacturers' written instructions.

Warranty:
Provide manufacturers' standard product warranty.

**DIVISION 12- FURNISHINGS**

**123623.13 Plastic-Laminate-Clad Countertops**

Basis-of-Design Product: Subject to compliance with requirements, provide products indicated below by Wilsonart.

Products:

A. Plastic Laminate #1
   i. High pressure decorative laminate: NEMA LD3
   ii. Grade: HGS
   iii. Color: 4880-38 Carbon Mesh

B. Adhesives: as recommended by the manufacturer

Installation:
Install plastic laminate according to manufacturers' written instructions.

Warranty:
Provide manufacturers' standard product warranty.

**DIVISION 31- EARTHWORK**

**313116- Termite Control**

Provide EPA Registered termiticide acceptable to authorities having jurisdiction, in an aqueous solution formulated to prevent termite infestation.

**DIVISION 33 - UTILITIES**

**334600- Subdrainage**

Basis-of-Design Product: Subject to compliance with requirements, provide products indicated below by Carlisle.

Products:

A. CCW MiraDrain 6200 and 9800
B. CCW MiraStop BW
C. CCW MiraClay Woven and Non-woven Geotextile
D. CCW MiraClay Granules or Mastic

Installation:
Install subdrainage products according to manufacturers' written instructions.

# REQUIRED SUBMITTALS

| REQUIRED SUBMITTALS | SPECIFICATION SECTION | SUBMIT TO |
|---|---|---|
| Cast-In-Place Concrete / Rebar | See Structural Drawings | Structural Engineer / Architect / Owner |
| Unit Masonry | 042200 Masonry | Structural Engineer / Architect / Owner |
| Structural Steel Framing | See Structural Drawings | Structural Engineer / Architect / Owner |
| Steel Joist Framing | See Structural Drawings | Structural Engineer / Architect / Owner |
| Steel Decking | See Structural Drawings | Structural Engineer / Architect / Owner |
| Ladders | 055133 Ladders | Owner |
| Metal Copings & Canopies | 077100 Roof Specialties & Drawings | Owner |
| EIFS Cornice | 072400 EIFS | Owner |
| TPO Roofing | 075423 TPO Roofing | Owner |
| Standing Seam Metal Roofing | 074113.16 SSMR | Owner |
| Roof Specialities | 077100 Roof Specialties | Owner |
| Aluminum Framed Entrances & Storefronts | 084113 Storefront | Owner |
| Aluminum Windows | 084113 Storefront | Owner |
| Hollow Metal Doors & Frames | 081113 HM Doors & Frames | Owner |
| Interior Wood Doors | 081416 Interior Wood Doors | Owner |
| Overhead Doors | 083613 Sectional Doors | Owner |
| Door Hardware | 087100 Door Hardware | Owner |
| Glazing | 088000 Glazing | Owner |
| Exterior Paint | 099113 Exterior Paint | Owner |
| Interior Paint | 099123 Interior Paint | Owner |
| Fire Extinguishers | 104416 Fire Extinguishers | Owner |
| Termite Control | 313116 Termite Control | Owner |
| Foundation Waterproofing | 334600 Subdrainage | Owner |
| Smoke Vent | See Mechanical Drawings | Owner |
| Exhaust Fans in Shop | See Mechanical Drawings | Owner |
| Radiant Heaters / Gas Fired Unit Heaters | See Mechanical Drawings | Owner |
| Heat Pump / Gas Fired Furnace | See Mechanical Drawings | Owner |
| Sump Pump | See Keynote #35 | Owner |
| Water Heater / Recirculating Pump | See Plumbing Drawings | Owner |
| Oil Water Separator | See Plumbing Drawings | Owner |
| Plumbing Fixtures | See Plumbing Drawings | Owner |
| Fire Suppression (If Required) | See Fire Suppression Drawings | Owner |
| Electrical Panels | See Electrical Drawings | Owner |
| Electrical Fixtures | See Electrical Drawings | Owner |
| Signage | See Signage Package | Owner |
| Underground Piping Materials | See Civil Drawings | Civil Engineer / Owner |
| Underground Water Retention System | See Civil Drawings | Civil Engineer / Owner |
| Sewer Pump / Grinder Pump | See Civil Drawings | Civil Engineer / Owner |

# EXPRESS OIL CHANGE & TIRE ENGINEER STANDARDS - EXTERIOR

## PAINTED GRAY BRICK

Painted buildings include all of the same specs as the RED BRICK buildings except the red brick is painted Summit Gray. Downspouts are painted to match the background of the building.

If the building does not have a Peak, the blue stripe will go all the way around the building.

Must have a Gray, Black, or Blue Roof







4

## EXTERIOR

### AWNING

The new metal awning adds a nice modern, industrial look to the buildings and features built-in lighting for customers entering and exiting in late afternoons. Standard size is 12' for most buildings.




9

Awnings by General Contractor. See Details

## BRANDED SCONCES

40"x28" aluminum sconces light up your building from top to bottom with a glowing logo in center.
E sconces are to be placed on oil change side. TE sconces are to be placed on mechanical side.
Sconces to to be evenly spaced between the bay doors, and vertically centered with the bay doors.




10

Branded Sconces by Others

## CHANNEL LETTERS

White channel letters with 3" depth. Channel letter sizing is dictated by space and also may change due to the local sign regulations. In most cases, these letters are treated as directional signage. In most cases, sizes vary from 18" to 24".

### FONT

Interstate Bold Condensed - 50pt tracking

LETTERING FOR FRONT BUILDING

10 MINUTE OIL CHANGE
FULL SERVICE AUTO CARE
TIRE CENTER

LETTERING FOR BACK BUILDINGS

TIRES ALIGNMENT ROTATE & BALANCE
DIAGNOSTICS A/C BRAKES

8

Letters by Others

Note: Items shown on this page are EOC standards. See Finish Schedule for actual materials to be used on this project.

AHO ARCHITECTS
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www.ahoarch.com

STATE OF OKLAHOMA
TIMOTHY AHO
A08460
LICENSED ARCHITECT
03/31/2026

Express Oil Change & Tire Engineers

Single Building / Left Hand Oil Change / Front Enter / Side Tire Storage

Wagoner, OK

FINAL

| No. | Description | Date |
|---|---|---|
| | | |
| IFP-0 | Issue for Permit | 01/28/2026 |
| IFB-0 | Issue for Bid | 03/31/2026 |
| IFC-0 | Issue for Construction | 04/22/2026 |

2026
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Architectural Specifications & EOC Standards - Exterior

| | |
|---|---|
| Project number | 25041 |
| Date | 01/28/2026 |
| Drawn by | ARC |
| Checked by | N/A |

G300

Scale 12" = 1'-0"

4/22/2026 9:49:35 AM

# EXPRESS OIL CHANGE & TIRE ENGINEERS STANDARDS - INTERIOR

## INTERIOR

### INTERIOR PAINT

Adding two-toned blue walls to the interior creates a bold look that is consistent with EOC&TE branding. The vinyl graphics add an extra communication element.







13

## IN-BAY MEDIA (OPTIONAL)

In-Bay Media relays all EOC&TE services to the customer with powerful animated, custom messages. The video is currently over 7 minutes long, allowing some messages to be viewed more than once.




14

In Bay Media by Others

## LOBBY

### PAINT SCHEME

Paint 3 color stripe on all walls, except the "Word Wall" if permitted. The "Word Wall" will be painted Summit Gray and the vinyl words will be applied to it. For the "Word Wall", choose a blank wall or a wall that has the most blank coverage for the vinyl.







15

## BRANDED POSTERS

The new posters deliver powerful messages, and include a new design of the EOC&TE mission statement. Each poster is 36" x 48". Order on www.expressoilprint.com




### POSTER FRAMES, MAGAZINE AND ACE CARD HOLDERS

These frames and holders are made of aluminum to match the branding of EOC&TE.




16

Branded Posters by Others.

## LOBBY

### CHAIRS

There are two options for chairs. Global Lounge large chairs for larger spaces and Europa Guest Chairs for smaller spaces. These chairs are heavy duty and come with a warranty. The are both black leather with metal accent.

Global Lounge Chair - Large



Europa Guest Chair - Small



### TILE

All tile must be replaced unless it is in good shape and is a gray color.
Replacement is Dal-Tile Healthland HL05 Ashland with 6" wall base and Dark Grout.

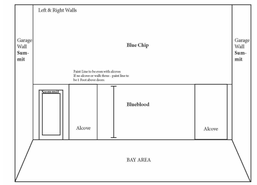


17

Furniture by Others

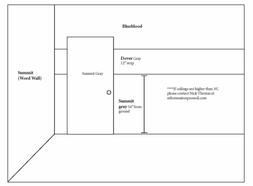
## PAINT SCHEDULE

### BAY AREA




25

### LOBBY




26

See Finish Schedule for Paint Selections

## TABLES & LAPTOP STATION

These tables have a heavy duty laminate top with chrome accent legs to match the chairs. They are fully customizable, in shape and size, to fit your space. Typically we use these tables for laptop workstations and for coffee tables. If you do not have space for both, choose which one you would like to have (coffee or laptop station). We also place powerstrips on top of tables that screw on the back. These can be purchased at Home Depot or online (search Wiremold Desktop Power Center or WSR320-5)



### CHAIRS FOR LAPTOP WORKSTATION

Small, armless chairs with leather cushion seat.



Sonic Armless Chair

18

Furniture by Others

## VINYL SCHEDULE

The vinyl is fully customizable as far as size and layout. Each location is different. It is best to send the vendor clear measurements of the lobby wall and of the bay walls so they can size appropriately. Please be aware of piping or shelving, or anything else that may be in the way. PLEASE ALLOW 1 WEEK FOR PAINT TO CURE BEFORE APPLYING VINYL.

Bay Area - Avery 700 Medium Gray and Rubber Duckie
Lobby Word Wall - Oracal 631 Gray 071




23

Wall Graphics by Others

## Coffee Cabinet Detail

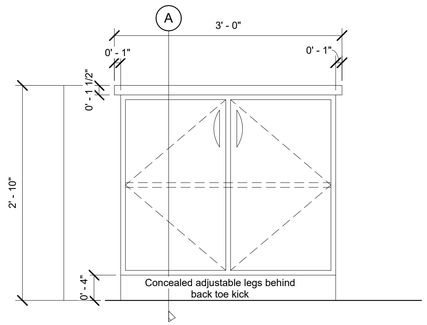
**CONSTRUCTION AND MATERIAL NOTES:**

**Construction**

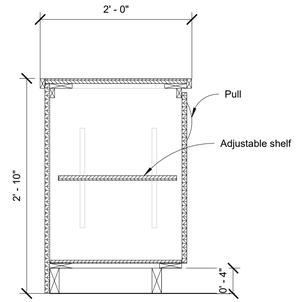
| | |
|---|---|
| 1.) Cabinets: | 3/4" plywood with plastic laminate at exposed surfaces, black melamine at semi-exposed surfaces, and 3MM PVC edgebanding to match the adjacent laminate / melamine color |
| 2.) Door Fronts: | 3/4" plywood with plastic laminate with 3MM PVC edgebanding to match the adjacent laminate color |
| 3.) Shelf: | 3/4" plywood with black melamine at semi-exposed surfaces with 3MM PVC edgebanding to match the adjacent melamine color |
| 4.) CounterTops: | 3/4" plywood with plastic laminate with 3MM PVC Edgebanding to match the adjacent laminate color |

**Materials**

| | |
|---|---|
| 1.) Cabinets: | Wilsonart 4880-38 Carbon Mesh |
| 2.) Drawer Fronts: | Wilsonart 4880-38 Carbon Mesh |
| 3.) Shelf: | Black Melamine |
| 4.) Countertops: | Wilsonart 4830K-18 Satin Stainless |
| 5.) Adjustable Shelve Supports: | Standard Euro Style 5MM Pin System. |
| 5.) Hinges: | European 120 Degree Concealed / Supports - 90 Degree Angle Brackets |
| 6.) Legs: | 1" -2" Concealed Adjustable. / Legs - 5" to 6" Aluminum or Chrome Adjustable |
| 7.) Finger Pulls: | Amerock Current 3 inch Modern Polished Chrome Edge Cabinet Pull |




FRONT ELEVATION




SECTION A

**CONSTRUCTION AND MATERIAL NOTES:**

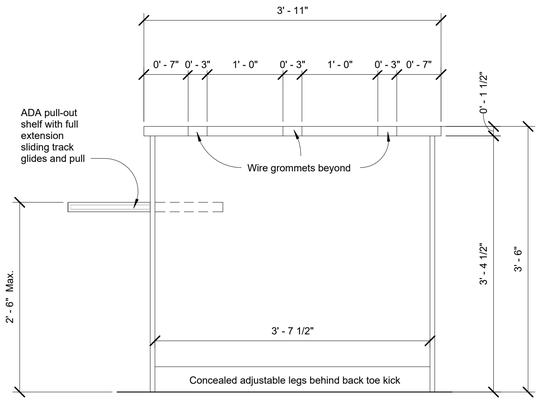
**Construction**

| | |
|---|---|
| 1.) Cabinets: | 3/4" plywood with plastic laminate at exposed surfaces, black melamine at semi-exposed surfaces, and 3MM PVC edgebanding to match the adjacent laminate / melamine color |
| 2.) Door and Drawer Fronts: | 3/4" plywood with plastic laminate with 3MM PVC edgebanding to match the adjacent laminate color |
| 3.) Drawer Box: | 1/2" plywood with black melamine at semi-exposed surfaces with 3MM PVC edgebanding to match the adjacent melamine color |
| 4.) CounterTops: | 3/4" plywood with plastic laminate with 3MM PVC Edgebanding to match the adjacent laminate color |

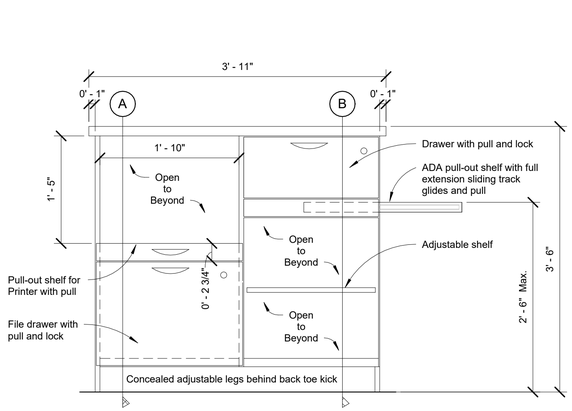
**Materials**

| | |
|---|---|
| 1.) Cabinets: | Wilsonart 4880-38 Carbon Mesh |
| 2.) Drawer and Drawer Fronts: | Wilsonart 4880-38 Carbon Mesh |
| 3.) Drawer Box: | Black Melamine |
| 4.) Countertops: | Wilsonart 4830K-18 Satin Stainless |
| 5.) Adjustable Shelve Supports: | Standard Euro Style 5MM Pin System. |
| 5.) Hinges: | European 120 Degree Concealed / Supports - 90 Degree Angle Brackets |
| 6.) Legs: | 1" -2" Concealed Adjustable. / Legs - 5" to 6" Aluminum or Chrome Adjustable |
| 7.) Finger Pulls: | Amerock Current 3 inch Modern Polished Chrome Edge Cabinet Pull |
| 8.) Locks: | Manufacturer standard |

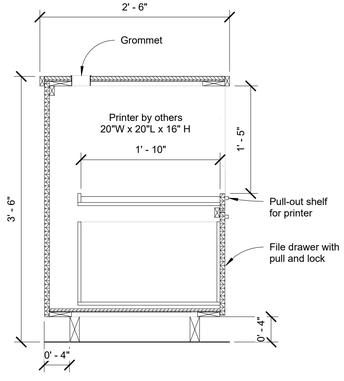
## Service Desk Details



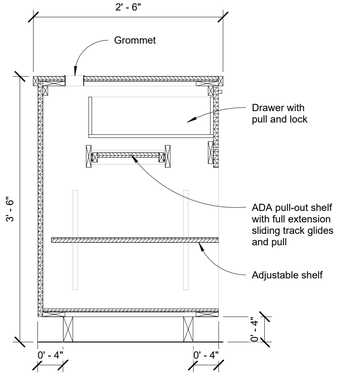

FRONT ELEVATION




BACK ELEVATION




SECTION A




SECTION B


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STATE OF OKLAHOMA
TIMOTHY AHO
A08460
LICENSED ARCHITECT
03/31/2026


Express Oil Change & Tire Engineers

Single Building / Left Hand Oil Change / Front Enter / Side Tire Storage

Wagoner, OK

FINAL

| No. | Description | Date |
|---|---|---|
| | | |
| IFP-0 | Issue for Permit | 01/28/2026 |
| IFB-0 | Issue for Bid | 03/31/2026 |
| IFC-0 | Issue for Construction | 04/22/2026 |


2026
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EOC Standards - Interior

| | |
|---|---|
| Project number | 25041 |
| Date | 01/28/2026 |
| Drawn by | ARC |
| Checked by | N/A |

G301

Scale: As indicated

4/22/2026 9:49:39 AM

COMcheck Software Version COMcheckWeb

# Envelope Compliance Certificate

**Project Information**

| | |
|---|---|
| Energy Code: | 2018 IECC |
| Project Title: | 25041_EOC Wagoner, OK |
| Location: | Wagoner, Oklahoma |
| Climate Zone: | 3a |
| Project Type: | New Construction |
| Vertical Glazing / Wall Area: | 3% |

Construction Site:
4
S. Dewey Avenue
Wagoner, Oklahoma 74467

Owner/Agent:
Express Oil Change & Tire Engineers
1880 Southpark Drive
Birmingham, Alabama 35244

Designer/Contractor:
Aho Architects, LLC
1855 Data Drive
Hoover, Alabama 35244
mbrunson@ahoarch.com

**Additional Efficiency Package(s)**
Credits: 1.0 Required 1.0 Proposed
Enhanced Interior Lighting Controls, 1.0 credit

| Building Area | Floor Area |
|---|---|
| 1-Automotive Facility : Nonresidential | 573 |

**Envelope Assemblies**

| Assembly | Gross Area or Perimeter | Cavity R-Value | Cont. R-Value | Proposed U-Factor | Budget U-Factor$_{alt}$ |
|---|---|---|---|---|---|
| Roof: Insulation Entirely Above Deck, 3-Year-Aged Solar Reflectance Index = 70.00, Thermal Emittance = 0.90 (d), [Bldg. Use 1 - Automotive Facility] Floor: Unheated Slab-On-Grade, Vertical 4 ft., [Bldg. Use 1 - Automotive Facility] (c) | 573 | --- | 30.0 | 0.032 | 0.039 |
| NORTH | | | | | |
| Int. Wall: Wood-Framed, 16in. o.c., [Bldg. Use 1 - Automotive Facility] | 996 | 20.0 | 0.0 | 0.064 | 0.064 |
| Door #3: Wood, Swinging, [Bldg. Use 1 - Automotive Facility] | 21 | --- | --- | 0.500 | 0.610 |
| Door #16: Wood, Swinging, [Bldg. Use 1 - Automotive Facility] | 21 | --- | --- | 0.500 | 0.610 |
| EAST | | | | | |
| Int. Wall: Wood-Framed, 16in. o.c., [Bldg. Use 1 - Automotive Facility] | 293 | 20.0 | 0.0 | 0.064 | 0.064 |
| Door #1: Glass (over 50% glazing): Metal Frame, Entrance Door, Perf. Specs.: Product ID Double Glazed Solarban 90 on Clear, SHGC 0.23, PF 0.63, VT 0.51, [Bldg. Use 1 - Automotive Facility] (b) | 21 | --- | --- | 0.270 | 0.770 |
| Window B: Metal Frame: Fixed, Perf. Specs.: Product ID Double Glazed Solarban 90 on Clear, SHGC 0.23, PF 0.63, VT 0.51, [Bldg. Use 1 - Automotive Facility] (b) | 85 | --- | --- | 0.270 | 0.460 |
| Int. Wall (West @ Break Room / Toilet B): Wood-Framed, 16in. o.c., [Bldg. Use 1 - Automotive Facility] | 315 | 20.0 | 0.0 | 0.064 | 0.064 |
| Door #15: Wood, Swinging, [Bldg. Use 1 - Automotive Facility] | 21 | --- | --- | 0.500 | 0.610 |
| SOUTH | | | | | |
| Int. Wall: Wood-Framed, 16in. o.c., [Bldg. Use 1 - Automotive Facility] | 996 | 20.0 | 0.0 | 0.064 | 0.064 |



| Assembly | Gross Area or Perimeter | Cavity R-Value | Cont. R-Value | Proposed U-Factor | Budget U-Factor$_{alt}$ |
|---|---|---|---|---|---|
| Door #2: Wood, Swinging, [Bldg. Use 1 - Automotive Facility] | 21 | --- | --- | 0.500 | 0.610 |
| Door #13: Wood, Swinging, [Bldg. Use 1 - Automotive Facility] | 21 | --- | --- | 0.500 | 0.610 |
| WEST | | | | | |
| Int. Wall (East @ Break Room / Toilet B): Wood-Framed, 16in. o.c., [Bldg. Use 1 - Automotive Facility] | 315 | 20.0 | 0.0 | 0.064 | 0.064 |
| Int. Wall (East @ Manager / Toilet 3): Wood-Framed, 16in. o.c., [Bldg. Use 1 - Automotive Facility] | 315 | 20.0 | 0.0 | 0.064 | 0.064 |

(a) Budget U-factors are used for software baseline calculations ONLY, and are not code requirements.
(b) Fenestration product performance must be certified in accordance with NFRC and requires supporting documentation.
(c) Slab-On-Grade proposed and budget U-factors shown in table are F-factors.
(e) High albedo roof requirement options: 1) 3-year aged solar reflectance index >= 55.0 thermal emittance >= 0.75. 2) 3-year aged solar reflectance >= 0.63 thermal emittance >= 0.75. 3) Initial year aged solar reflectance >= 0.70 thermal emittance >= 0.75. 4) Initial year aged solar reflectance index >= 82.0.

**Envelope PASSES: Design 10% better than code**

**Envelope Compliance Statement**

*Compliance Statement:* The proposed envelope design represented in this document is consistent with the building plans, specifications, and other calculations submitted with this permit application. The proposed envelope systems have been designed to meet the 2018 IECC requirements in COMcheck Version COMcheckWeb and to comply with any applicable mandatory requirements listed in the Inspection Checklist.

Marie C. Brunson — Name - Title
Marie C. Brunson — Signature
01/27/2026 — Date



COMcheck Software Version COMcheckWeb

# Inspection Checklist

Energy Code: 2018 IECC

Requirements: 6.0% were addressed directly in the COMcheck software

Text in the "Comments/Assumptions" column is provided by the user in the COMcheck Requirements screen. For each requirement, the user certifies that a code requirement will be met and how that is documented, or that an exception is being claimed. Where compliance is itemized in a separate table, a reference to that table is provided.

| Section # & Req.ID | Plan Review | Complies? | Comments/Assumptions |
|---|---|---|---|
| C103.2 [PR1]* | Plans and/or specifications provide all information with which compliance can be determined for the building envelope and document where exceptions to the standard are claimed. | ☐Complies ☐Does Not ☐Not Observable ☐Not Applicable | |
| C402.4.1 [PR11]* | The skylight area <= 3 percent of the gross roof area. | ☐Complies ☐Does Not ☐Not Observable ☐Not Applicable | |
| C402.4.1.1 [PR12]* | Vertical Fenestration Area Allowance: A maximum of 40 percent of gross above-grade wall area is permitted to be vertical fenestration area provided >= 50 percent of the conditioned floor area is within a daylight zone, daylight responsive controls are installed, and glazing assemblies within the scope of C402.4.1.1 have visible transmittance >= 1.1 times SHGC. | ☐Complies ☐Does Not ☐Not Observable ☐Not Applicable | |
| C402.4.2 [PR14]* | In enclosed spaces > 2,500 ft2 directly under a roof with ceiling heights >15 ft. and used as an office, lobby, atrium, concourse, corridor, storage, gymnasium/exercise center, convention center, automotive maintenance/repair, retail, non-refrigerated warehouse, retail store, distribution/sorting area, transportation, or workshop, the following requirements apply: (a) the daylight zone under skylights is >= half the floor area; (b) the skylight area is >= 3 percent and <= 6 percent of the roof area; (c) SHGC <= 0.40; or a minimum skylight effective aperture >= 1 percent. | ☐Complies ☐Does Not ☐Not Observable ☐Not Applicable | |
| C406 [PR9]* | Plans, specifications, and/or calculations provide all information with which compliance can be determined for the additional energy efficiency package options. | ☐Complies ☐Does Not ☐Not Observable ☐Not Applicable | Requirement will be met. |

**Additional Comments/Assumptions:**

1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)



| Section # & Req.ID | Footing / Foundation Inspection | Complies? | Comments/Assumptions |
|---|---|---|---|
| C303.2 [FO4]* | Slab-edge insulation installed per manufacturer's instructions. | ☐Complies ☐Does Not ☐Not Observable ☐Not Applicable | |
| C303.2.1 [FO6]* | Exterior insulation protected against damage, sunlight, moisture, wind, landscaping and equipment maintenance activities. | ☐Complies ☐Does Not ☐Not Observable ☐Not Applicable | |
| C105 [FO3]* | Installed slab-on-grade insulation type and R-value consistent with insulation specifications reported in plans and COMcheck reports. | ☐Complies ☐Does Not ☐Not Observable ☐Not Applicable | *See the Envelope Assemblies table for values.* |
| C402.2.4 [FO7]* | Slab edge insulation depth/length. Slab-insulation extending away from building is covered by pavement or >= 10 inches of soil. | ☐Complies ☐Does Not ☐Not Observable ☐Not Applicable | *See the Envelope Assemblies table for values.* |

**Additional Comments/Assumptions:**

1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)



| Section # & Req.ID | Framing / Rough-In Inspection | Complies? | Comments/Assumptions |
|---|---|---|---|
| C303.1.3 [FR12]* | Fenestration products rated in accordence with NFRC. | ☐Complies ☐Does Not ☐Not Observable ☐Not Applicable | |
| C303.1.3 [FR13]* | Fenestration products are certified as to performance labels or certificates provided. | ☐Complies ☐Does Not ☐Not Observable ☐Not Applicable | |
| C402.4.3 [FR10]* | Vertical fenestration SHGC value. | ☐Complies ☐Does Not ☐Not Observable ☐Not Applicable | *See the Envelope Assemblies table for values.* |
| C402.4.3, C402.4.3.4 [FR8]* | Installed vertical fenestration U-factor and SHGC consistent with label specifications and as reported in plans and COMcheck reports. | ☐Complies ☐Does Not ☐Not Observable ☐Not Applicable | *See the Envelope Assemblies table for values.* |
| C402.5.1 [FR14]* | The building envelope contains a continuous air barrier that is sealed in an approved manner and either constructed or tested in an approved manner. Air barrier penetrations are sealed in an approved manner. | ☐Complies ☐Does Not ☐Not Observable ☐Not Applicable | |
| C402.5.2, C402.5.4 [FR18]* | Factory-built fenestration and doors are labeled as meeting air leakage requirements. | ☐Complies ☐Does Not ☐Not Observable ☐Not Applicable | |
| C402.5.7 [FR17]* | Vestibules are installed on all building entrances. Doors have self-closing devices. | ☐Complies ☐Does Not ☐Not Observable ☐Not Applicable | |

**Additional Comments/Assumptions:**

1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)



| Section # & Req.ID | Mechanical Rough-In Inspection | Complies? | Comments/Assumptions |
|---|---|---|---|
| C402.5.5, C403.2.4.3 [ME3]* | Stair and elevator shaft vents have motorized dampers that automatically close. Reference section C403.7.7 for operational details. | ☐Complies ☐Does Not ☐Not Observable ☐Not Applicable | |

**Additional Comments/Assumptions:**

1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)



| Section # & Req.ID | Rough-In Electrical Inspection | Complies? | Comments/Assumptions |
|---|---|---|---|
| C405.6 [EL26]* | Low-voltage dry-type distribution electric transformers meet the minimum efficiency requirements of Table C405.6. | ☐Complies ☐Does Not ☐Not Observable ☐Not Applicable | Requirement will be met. |
| C405.7 [EL27]* | Electric motors meet the minimum efficiency requirements of Tables C405.7(1) through C405.7(4). Efficiency verified through certification under an approved certification program or the equipment efficiency ratings shall be provided by motor manufacturer (where certification programs do not exist). | ☐Complies ☐Does Not ☐Not Observable ☐Not Applicable | Requirement will be met. |
| C405.8.2, C405.8.2.1 [EL28]* | Escalators and moving walks comply with C405.8.2.1 (a) or (b) and have automatic controls configured to reduce speed to the minimum permitted speed in accordance with ASME A17.1/CSA B44 or applicable local code when not conveying passengers. | ☐Complies ☐Does Not ☐Not Observable ☐Not Applicable | Requirement will be met. |
| C405.9 [EL29]* | Total voltage drop across the combination of feeders and branch circuits <= 5%. | ☐Complies ☐Does Not ☐Not Observable ☐Not Applicable | Requirement will be met. |

**Additional Comments/Assumptions:**

1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)



| Section # & Req.ID | Insulation Inspection | Complies? | Comments/Assumptions |
|---|---|---|---|
| C303.1 [IN3]* | Roof insulation installed per manufacturer's instructions. Blown or poured loose-fill insulation is installed only where the roof slope is <=3 in 12. | ☐Complies ☐Does Not ☐Not Observable ☐Not Applicable | |
| C402.2.1 [IN20]* | Insulation installed on a suspended ceiling having ceiling tiles is not being specified for roof/ceiling assemblies. Insulation is continuous and installed in 2 or more layers with edge joints offset between layers. | ☐Complies ☐Does Not ☐Not Observable ☐Not Applicable | |
| C303.1 [IN10]* | Building envelope insulation is labeled with R-value or insulation certificate providing R-value and other relevant data. | ☐Complies ☐Does Not ☐Not Observable ☐Not Applicable | |
| C303.2 [IN7]* | Above-grade wall insulation installed per manufacturer's instructions. | ☐Complies ☐Does Not ☐Not Observable ☐Not Applicable | |
| C105 [IN6]* | Installed above-grade wall insulation type and R-value consistent with insulation specifications reported in plans and COMcheck reports. | ☐Complies ☐Does Not ☐Not Observable ☐Not Applicable | *See the Envelope Assemblies table for values.* |
| C402.2.3 [IN8]* | Installed floor insulation type and R-value consistent with insulation specifications reported in plans and COMcheck reports. | ☐Complies ☐Does Not ☐Not Observable ☐Not Applicable | *See the Envelope Assemblies table for values.* |
| C402.2.6 [IN18]* | Radiant panels and associated components, designed for heat transfer from the panel surface to the occupants or indoor surface area, insulated with a minimum of R-3.5. | ☐Complies ☐Does Not ☐Not Observable ☐Not Applicable | |
| C402.3 [IN5]* | High-albedo roofs satisfy one of the following: 3-year-aged solar reflectance >= 0.55 and thermal emittance >= 0.75 or 3-year-aged solar reflectance index >= 64.0. | ☐Complies ☐Does Not ☐Not Observable ☐Not Applicable | |
| C105 [IN2]* | Installed roof insulation type and R-value consistent with insulation specifications reported in plans and COMcheck reports. For metal ceiling roofs, verification of insulation shall occur during Framing Inspection. | ☐Complies ☐Does Not ☐Not Observable ☐Not Applicable | *See the Envelope Assemblies table for values.* |
| C402.5.1.1 [IN1]* | All sources of air leakage in the building thermal envelope are sealed, caulked, gasketed, weather stripped or wrapped with moisture vapor-permeable wrapping material to minimize air leakage. | ☐Complies ☐Does Not ☐Not Observable ☐Not Applicable | |

**Additional Comments/Assumptions:**

1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)



| Section # & Req.ID | Final Inspection | Complies? | Comments/Assumptions |
|---|---|---|---|
| C402.5.6 [FI37]* | Weatherseals installed on all loading dock cargo door openings and provide direct contact along the top and sides of vehicles parked in the doorway. | ☐Complies ☐Does Not ☐Not Observable ☐Not Applicable | |
| C402.5.8 [FI20]* | Recessed luminaires in thermal envelope are sealed, labeled as be IC rated and labeled. Seal between interior finish and luminaire housing. | ☐Complies ☐Does Not ☐Not Observable ☐Not Applicable | |
| C406.4 [FI54]* | Enhanced digital lighting controls efficiency package: Interior lighting has following enhanced lighting controls in accordance with Section C405.2.2.1: automatic reduction of continuous dimming of lighting addressed individually, <= 8 luminaires controlled in combination in a daylight zone, digital control system for fixtures, "Sequence of Operations" documentation and functional testing per Section C408. | ☐Complies ☐Does Not ☐Not Observable ☐Not Applicable | |
| C408.1.1 [FI57]* | Building operation and maintenance documents will be provided to the owner. Documents will cover manufacturers' information, specifications, programming procedures and means of illustrating to owner how building, equipment and systems are intended to be installed, maintained, and operated. | ☐Complies ☐Does Not ☐Not Observable ☐Not Applicable | Requirement will be met. |

**Additional Comments/Assumptions:**

1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)



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Express Oil Change & Tire Engineers

Single Building / Left Hand Oil Change / Front Enter / Side Tire Storage

Wagoner, OK

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Building COMCheck

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# 1 General Information

**PROJECT INFORMATION**

| | | | |
|---|---|---|---|
| Name of Project: | Single Building / Left Hand Oil Change/ Front Enter | | |
| Client: | Express Oil Change & Tire Engineers | | |
| Location:<br>Authority Having Jurisdiction (AHJ): | Wagoner, Oklahoma<br>City: Wagoner | County: N/A | State: N/A |
| Square Footage / Stories / Height: | Main Level G.S.F. = 5,662<br>Pit Level G.S.F. = 1,340<br>Total G.S.F. = 7,002 | Stories = 1 + Pit | Height = 28'- 7 1/2" |

**PROJECT TYPE**

■ New Construction ☐ Addition ☐ Other

☐ Alteration ☐ Change of Occupancy

**BUILDING USE**

☐ Single Use ☐ Mixed Use (Separated) ■ Mixed Use (Non-Separated)

■ Description: Automotive repair garage used for general service on automobiles.

**SPRINKLERED**

☐ Yes ☐ Partial ■ No

# 2 Codes

■ 2018 International Building Code
■ 2018 International Energy Conservation Code
■ 2018 International Fire Code
■ 2018 International Fuel Gas Code
■ 2018 International Mechanical Code
■ 2018 International Plumbing Code
■ 2017 ANSI A117.1
■ 2023 National Electrical Code

# 3 Use and Occupancy Classification(s) (2018 IBC)

☐ Assembly Group A-1
☐ Assembly Group A-2
☐ Assembly Group A-3
☐ Assembly Group A-4
☐ Assembly Group A-5
■ Business Group B
☐ Educational Group E
☐ Factory Group F-1
☐ Factory Group F-2
☐ High-Hazard Group H-1
☐ High-Hazard Group H-2
☐ High-Hazard Group H-3
☐ High-Hazard Group H-4
☐ High-Hazard Group H-5
☐ Institutional Group I-1
☐ Institutional Group I-2
☐ Institutional Group I-3
☐ Institutional Group I-4
☐ Mercantile Group M
☐ Residential Group R-1
☐ Residential Group R-2
☐ Residential Group R-3
☐ Residential Group R-4
■ Storage Group S-1
☐ Storage Group S-2
☐ Utility & Misc Group U

# 4 Special Detailed Requirements Based On Use and Occupancy (2018 IBC)

**406.8 Repair Garages**

■ Project complies with 406.8 through 406.8.3

**413 Combustible Storage**

413.1 High-piled storage of combustible materials over 12'-0" or high-hazard commodities over 6'-0"

■ Yes ☐ No

413.2 Storage of combustible materials in attics, under-floor, and concealed spaces

☐ Yes ■ No

**414 Hazardous Materials**

■ Project complies with 414.2.1 through 414.2.5 (IFC)Control Areas

■ Number of Control Areas Provided: Entire Building is one control area

Location

■ Inside ☐ Outside

Use

■ Open ☐ Closed ■ Storage Only

**Types of Hazardous Materials (Table 307.1.(1) of IBC and 3206.2 of IFC)**

■ Class IIIB Liquids — ■ Actual Storage per control area: 4040.13 gallons
■ Class IA Flammable Liquids — ■ Actual Storage per control area: 0.94 gallons
■ Class IB Flammable Liquids — ■ Actual Storage per control area: 3.25 gallons

■ High-Hazard Commodities per IFC 2018 3203.6 / 3206.2 (Rubber Tires)

■ Allowable Quantity: 0-500 s.f. ■ Actual Quantity: X≤500 s.f.

# 5 General Building Heights and Areas (2018 IBC)

**504 Building Height and Areas and 506 Building Area (Per Table 504.3, 504.4, and 506.2)**

☐ Allowable Building Height = 40'-0" — ■ Actual Building Height = 28'- 7 1/2"
☐ Allowable Number of Stories Above Grade Plane = 1 — ■ Actual Number of Stories Above Grade Plane = 1
☐ Allowable Area Factor = 9,000 s.f. — ■ Actual Area = 7002 s.f. (5662 Main Level + 1340 Pit)

**505.3 Equipment Platforms**

■ Project complies with 505.3 through 505.3.3

**508 Mixed Use and Occupancy**

☐ Mixed Use Occupancy (Separated) ■ Mixed Use Occupancy (Non-Separated) ☐ Does not apply

No separation required between Group B and Group S-1 Occupancies

# 6 Types of Construction (2018 IBC)

**601 General and 602 Construction Classification**

☐ Type IA ☐ Type IB ☐ Type IIA ☐ Type IIB ☐ Type IIIA
☐ Type IIIB ☐ Type IV ☐ Type VA ■ Type VB

**Table 601 Fire Resistance Rating Requirements for Building Elements**

| Building Elements | Hours Required | Hours Provided |
|---|---|---|
| Primary Structural Frame | 0 | 0 |
| Bearing Walls (Exterior) | 0 | 0 |
| Bearing Walls (Interior) | 0 | N/A |
| Nonbearing Walls & Partitions (Exterior) | 0 | 0 |
| Nonbearing Walls & Partitions (Interior) | 0 | 0 |
| Floor Construction & Associated Secondary Members | 0 | 0 |
| Roof Construction & Associated Secondary Members | 0 | 0 |

**Table 602 Fire Resistance Requirements for Exterior Walls Based on Fire Separation Distance**

| Fire Separation Distance | West (Rear) | North (Right) | East (Front) | South (Left) |
|---|---|---|---|---|
| X < 5 | | | | |
| 5 ≤ X < 10 | | = 8'- 7" | | |
| 10 ≤ X < 30 | | | | |
| X ≥ 30 | >30' | | >30' | >30' |

X≥30' for Group B and S-1 = 0 hours

5≤X<10' for Group B and S-1 = 1 hours

# 7 Fire And Smoke Protection Systems (2018 IBC)

**718.4 Draftstopping in Attics**

☐ Yes ☐ No ■ Not Required

☐ Openings in the partitions shall be protected by self-closing doors with automatic latches constructed as required for the partitions.

☐ Installed in attics and concealed roof spaces such that any horizontal area does not exceed 3,000 s.f.

# 8 Interior Finishes (2018 IBC)

**Table 803.13 Interior Wall and Ceiling Finish Requirements by Occupancy**

| Group | Exit Enclosures and Exit Passageways | Corridors | Rooms and Enclosed Spaces |
|---|---|---|---|
| S-1 | B | B | C |
| B | A | B | C |

**804.4.2 Minimum Critical Radiant Flux**

☐ Class I ■ Class II

# 9 Fire Protection Systems (2018 IBC)

**903 Automatic Sprinkler Systems**

903.2.9.1 Repair Garages

☐ Yes ☐ Partial ■ Not Required

**906 Portable Fire Extinguishers**

■ Yes ☐ No

■ Project complies with 906.1 through 906.10

■ Project complies NFPA 10

**907 Fire Alarm and Detection System**

☐ Yes ■ Not Required

# 10 Means of Egress (2018 IBC)

DT_2018 IBC Sections 1005.3.1 & 1005.3.2 Egress width Stairways and Other Egress Components (Group S-1)

| Occupancy Classification | Name | Room Number | No. of Occupants | Egress - Stairways | Required Stairway Width | Other Egress Components | Required Capacity in Inches |
|---|---|---|---|---|---|---|---|
| S-1 | Oil Change | 5 | 6.31 | | | 0.2 | 1.26 |
| S-1 | Corridor | 6 | 0.66 | | | 0.2 | 0.13 |
| S-1 | Service | 9 | 12.38 | | | 0.2 | 2.48 |
| S-1 | Storage | 10 | 0.63 | | | 0.2 | 0.13 |
| S-1 | Pit | 11 | 6.09 | 0.3 | 1.83 | 0 | 0.00 |
| S-1 | Storage | 12 | 0.86 | | | 0.2 | 0.17 |
| S-1 | Storage | 13 | 1.67 | | | 0.2 | 0.33 |
| Subtotal | | | 28.60 | | 1.83 | | 4.50 |

DT_2018 IBC Table 1005.3.2 Egress width Other Egress Components (Group B)

| Occupancy Classification | Name | Room Number | No. of Occupants | Other Egress Components | Required Capacity in Inches |
|---|---|---|---|---|---|
| B | Service Writing | 1 | 0.96 | 0.2 | 0.19 |
| B | Waiting Room | 2 | 0.81 | 0.2 | 0.16 |
| B | Toilet | 3 | 0.31 | 0.2 | 0.06 |
| B | Manager | 4 | 0.32 | 0.2 | 0.06 |
| B | Break Room | 7 | 0.41 | 0.2 | 0.08 |
| B | Toilet | 8 | 0.30 | 0.2 | 0.06 |
| Subtotal | | | 3.11 | | 0.62 |

**Tables 1006.2.1 Spaces with One Exit or Exit Access Doorway**

| Occupancy | Max Occupant Load | Max Occupant Load Provided | Number of Exits Required | Number of Exits Provided | Max. Common Path of Travel Allowable (Nonsprinkled) | Max. Provided Common Path of Travel (Nonsprinkled) |
|---|---|---|---|---|---|---|
| S-1 | 29 | 28.60 | 1 | 4 | 100'-0" | ≤ 100' -0" |
| B | 49 | 3.11 | 1 | 1 | 100'-0" | ≤ 100' -0" |

**Table 1006.3.2 Minimum Number of Exits or Access to Exits Per Story**

| Occupant Load Per Story | Minimum Number of Exits or Access to Exits from Story | Number of Exits or Access to Exits from Story Provided |
|---|---|---|
| 1-500 | 2 | 5 |

**Table 1006.3.2(1) Stories with One Exit Or Access to One Exit**

| Occupancy | Story | Max Occupant Load per Story | Maximum Common Path of Travel Allowed (Nonsprinkled) | Common Path of Travel Provided Max. (Nonsprinkled) |
|---|---|---|---|---|
| S | First story above or below grade plane | 29 | 75'-0" | 75'-0" |

**Table 1017.2 Exit Access Travel Distance**

| Occupancy | Without Sprinkler System (Feet) | With Sprinkler System | Max Travel Distance Provided (Feet) |
|---|---|---|---|
| S-1 | 200 | N/A | 71' - 1" |
| B | 200 | N/A | 90'-7" |

# 10 Means of Egress (2018 IBC)

DT_2018 IBC Table 1004.5 Maximum Floor Area Allowance Per Occupant (Group S-1)

| Occupancy Classification | Name | Number | Area | S.F. Per Occupants | No. of Occupants |
|---|---|---|---|---|---|
| S-1 | Oil Change | 5 | 1262 SF | 200 | 6.31 |
| S-1 | Corridor | 6 | 131 SF | 200 | 0.66 |
| S-1 | Service | 9 | 2477 SF | 200 | 12.38 |
| S-1 | Storage | 10 | 188 SF | 300 | 0.63 |
| S-1 | Pit | 11 | 1218 SF | 200 | 6.09 |
| S-1 | Storage | 12 | 258 SF | 300 | 0.86 |
| S-1 | Storage | 13 | 500 SF | 300 | 1.67 |
| Subtotal | | | 6035 SF | | 28.60 |

Please Note: The Group H-5 Fabrication and Manufacturing Load Factor of 200 square foot per occupant for manufacturing function of space was used for some of the above calculations because there is not a function of space occupant load factor for Repair Garages.

DT_2018 IBC Table 1004.5 Maximum Floor Area Allowance Per Occupant (Group B)

| Occupancy Classification | Name | Number | Area | S.F. Per Occupants | No. of Occupants |
|---|---|---|---|---|---|
| B | Service Writing | 1 | 144 SF | 150 | 0.96 |
| B | Waiting Room | 2 | 122 SF | 150 | 0.81 |
| B | Toilet | 3 | 47 SF | 150 | 0.31 |
| B | Manager | 4 | 48 SF | 150 | 0.32 |
| B | Break Room | 7 | 61 SF | 150 | 0.41 |
| B | Toilet | 8 | 45 SF | 150 | 0.30 |
| Subtotal | | | 467 SF | | 3.11 |

# 12 Interior Environment (2018 IBC)

**1207.1 Minimum Room Widths**

Habitable spaces are not less than 7 feet in any plan dimension

■ Yes ☐ No

**1207.2 Minimum Ceiling Heights**

Occupiable spaces, habitable spaces, and corridors have a ceiling height of not less than 7 feet 6 inches. Bathrooms, toilet rooms, kitchens, storage rooms, and laundry rooms have a ceiling height of not less than 7 feet.

■ Yes ☐ No

**1208.2 Attic spaces**

Opening not less than 20 inches by 30 inches is provided for attic area with clear height over 30 inches. 30" headroom provided at or above access opening

■ Yes ☐ Not Required


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# 29 Plumbing Systems (2018 IBC)

**Table 2902.1 Minimum Number of Required Plumbing Fixtures**

| DT_Plumbing Fixture_Group S-1 | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Total Occupant Load | Male | Female | Required Water Closets | | Water Closets Provided | Required Lavatories | | Lavatories Provided | Required Drinking Fountains | Drinking Fountains Provided | Required Service Sinks | Service Sinks Provided |
| | | | Male | Female | | Male | Female | | | | | |
| 28.60 | 14.30 | 14.30 | 0.14 | 0.14 | 1 | 0.14 | 0.14 | 1 | 0.03 | 1 | 1 | 1 |

| DT_Plumbing Fixture_Group B | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Total Occupant Load | Male | Female | Required Water Closets | | Water Closets Provided | Required Lavatories | | Lavatories Provided | Required Drinking Fountains | Drinking Fountains Provided | Required Service Sinks | Service Sinks Provided |
| | | | Male | Female | | Male | Female | | | | | |
| 3.11 | 1.555 | 1.555 | 0.06 | 0.06 | 1 | 0.04 | 0.04 | 1 | 0.03 | 1 | 1 | 1 |

**2902.2 Separate Facilities**

Separate facilities provided for each sex

☐ Yes ■ Not Required per 2902.2 Exception 2

**2902.2.1 Family or assisted use toilet facilities serving as separate facilities**

■ Yes ☐ No ☐ Not Required

**2902.3 Employee and public toilet facilities**

■ Employee toilet combined with public toilet facilities

**2902.3.1 Access**

Route to public toilet facilities does not pass through kitchens, storage rooms, or closets and is accessible.

■ Yes ☐ No

**2902.3.3 Location of toilet facilities in occupancies other than covered mall buildings**

Located not more than one story above or below the space required to be provided with toilet facilities

■ Yes ☐ No

Path of travel to such facilities does not exceed 500 feet

■ Yes ☐ No

**2902.4 Signage**

■ Yes ☐ No

Legible sign designating the sex provided in visible location near entrance to toilet facility

☐ Yes ■ Not Required per 2902.2.1

Plumbing Fixture Notes:
(1) High / Low drinking fountain provided for the entire building.
(1) Service Sink provided for the entire building.
(2) Family Assisted-Use Toilet Room each containing (1) lavatory and (1) water closet provided for the entire building.

# 5 Fire Service Features (2018 IFC)

**505.1 Address Identification**

■ Yes ☐ No ☐ Not Required

■ Project complies 505.1 Address Identification

**506 Key Boxes**

■ Yes ☐ No ☐ Not Required

■ Project complies 506.1 Where Required

# 23 Motor Fuel-Dispensing Facilities and Repair Garages (2018 IFC)

**2311.2.2 Waste oil, motor oil and other Class IIIB Liquids**

■ Project complies with 2311.2.2 Waste oil, motor oil and other Class IIIB liquids.

**2311.2.2.1 Tank Location**

■ Project complies with 2311.2.2.1 tank location ☐ Not Applicable

**2311.2.3 Drainage and disposal of liquid and oil-soaked waste**

☐ Yes ☐ No ■ Not Required

■ Garage floors do not contain floor drains.

**2311.4 Below-grade areas**

■ Project complies with 2311.4.1 through 2311.4.3 ☐ Not Applicable

**2311.7 Fire Extinguishers**

■ Project complies with 2311.7 fire extinguishers (See Section 9 Fire Protection Systems)

# 32 High Piled Combustible Storage (2018 IFC)

3203.6 High-hazard commodities

■ Yes ☐ No

■ Project does contain high-hazard commodities (Rubber Tires)

Definitions per Chapter 2 of the International Fire Code

High-piled Combustible Storage. Storage of combustible materials in closely packed piles or combustible materials on pallets, in racks or on shelves where the top of storage is greater than 12'-0" in height. When required by the fire code official, high-piled combustible storage also includes certain high-hazard commodities, such as rubber tires, Group A plastics, flammable liquids, idle pallets, and similar commodities, where the top of storage is greater than 6'-0" in height.

■ Project does contain high piled combustible storage over 6'-0" (<500 s.f. of rubber tire storage over 6 feet high).

Table 3206.2 General Fire Protection and Life Safety Requirements

| Commodity Class | Size of High Piled Storage Area | All Storage Areas | | | |
|---|---|---|---|---|---|
| | | Automatic Fire Extinguishing System | Fire Detection System | Building Access | Smoke and Heat Removal |
| High Hazard | 0-500 s.f. | Not Required | Not Required | Not Required | Not Required |

| Solid-Piled Storage, Shelf Storage and Palletized Storage | | | |
|---|---|---|---|
| Max. Pile Dimension (Feet) | Max. Permissible Storage Height (Feet) | Max. Pile Volume (Cubic Feet) | |
| 60 feet | Not Required | Not Required | |

# 34 Tire Rebuilding and Tire Storage (2018 IFC)

**3409 Indoor Storage Arrangement**

■ Project complies with 3409.1 Pile Dimensions

■ Pile dimension less than 50'-0" in direction of wheel hole.

■ Tires stored adjacent to or along one wall shall not extend more than 25'-0" from that wall.

# 50 Hazardous Materials - General Provisions (2018 IFC)

Table 5003.1.1 (1) Maximum Allowable Quantity Per Control Area of Hazardous Materials Posing a Physical Hazard

■ Project complies with Table 5003.1.1 (1).

■ Project contains Class IIIB Liquid Storage that does not exceed 13,200 liquid gallons per control area.

■ Project contains Class IIIB Liquid Open-System that does not exceed 3,300 liquid gallons per control area.

■ Project contains Flammable Liquid IA Storage that does not exceed 30 liquid gallons per control area.

■ Project contains Flammable Liquid IA Open System that does not exceed 10 liquid gallons per control area.

■ Project contains Flammable Liquid IB Storage that does not exceed 120 liquid gallons per control area.

■ Project contains Flammable Liquid IB Open System that does not exceed 30 liquid gallons per control area.

■ Project complies 5003.8.3.1 through 5003.8.3.4

■ Entire building is one single control area.

# 57 Flammable and Combustible Liquids (2018 IFC)

5703.2 Fire Protection

■ Project complies with 5703.2.1 portable fire extinguishers an hose lines. (See Section 9 Fire Protection Systems).

5703.4 Spill Control and Secondary Containment

■ Not required. Project does not exceed maximum allowable quantity per control area.

■ Though not required, the pit itself acts as a secondary containment. There are no drains in the pit.


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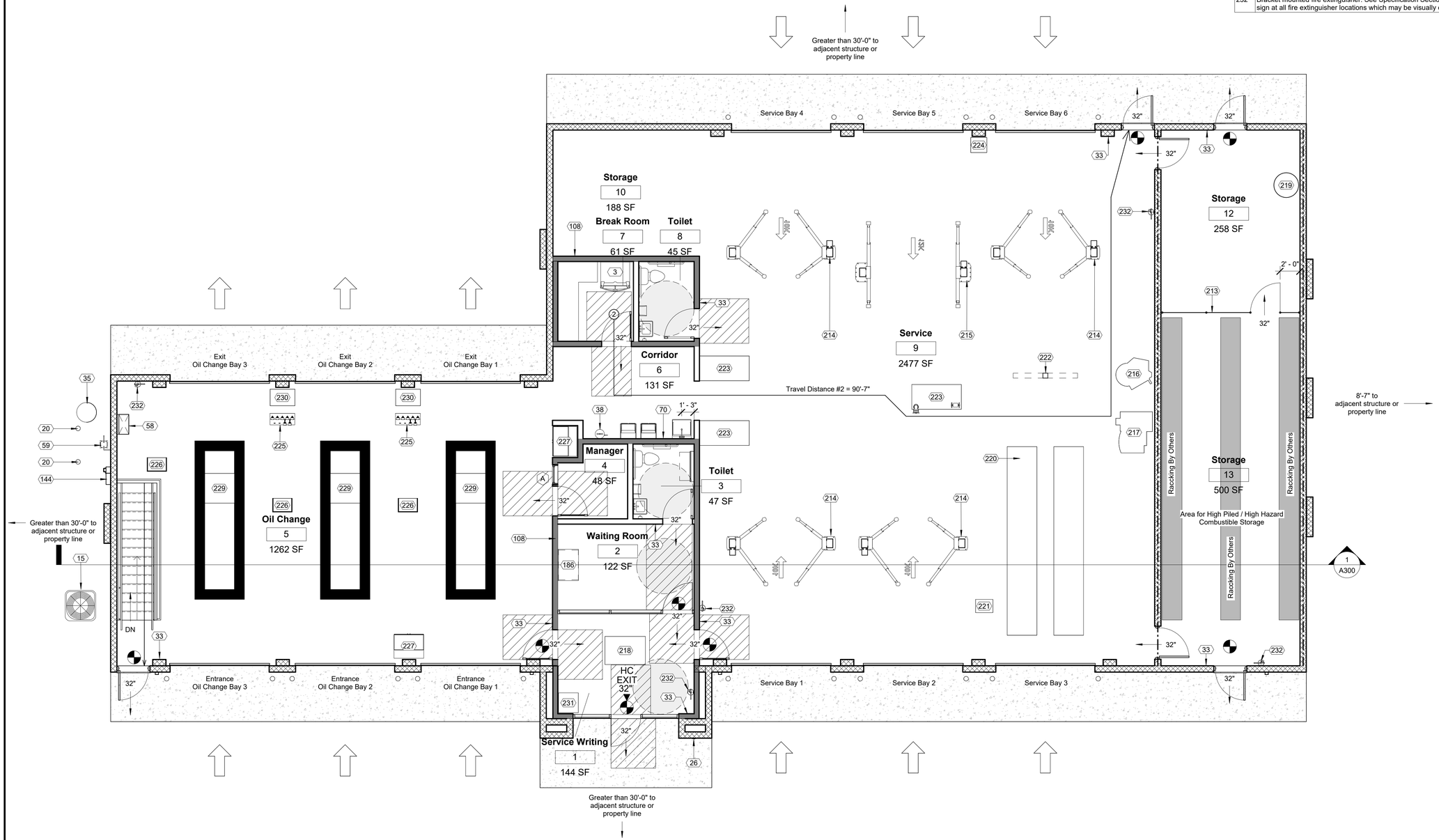
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# LIFE SAFETY SYMBOL LEGEND

- Exit Sign
- Handicap Accessible Egress Width (HC EXIT 32")
- 32" Exit from room (# = minimum clear width in inches)
- Maneuvering clearances at manual swinging doors
- # Travel Distance
- 1 Hour Rated

| Keynote Schedule | |
|---|---|
| Tag | Text |
| 3 | Location of 30" wide refrigerator (By Others). |
| 15 | HVAC condensing unit. See Mechanical. |
| 20 | 4" diameter painted concrete-filled steel pipe bollard. Color as indicated on Finish Schedule. Paint embedded portion of bollard. Use primer and two finish coats. See Details. See Specification 055000 Metal Fabrications. |
| 26 | Fire Department Lock Box. Locate as directed by the Local Fire Marshal or AHJ. See Specification 104413 Fire Department Lock Box. |
| 33 | ADA compliant room / exit sign. See Details. |
| 35 | Submersible foundation sump pump. Provide Zoeller M98 or comparable product. Coordinate location with Civil and tie into Civil's storm drainage system. |
| 38 | Eyewash station. See Plumbing. |
| 58 | Verify location and size of pit exhaust opening with Structural and Mechanical drawings. |
| 59 | Gas meter. See Plumbing. |
| 70 | Full-height FRP, entire wall, unless otherwise noted. See Specification 066400 Plastic Paneling (Fiberglass Reinforced Panels). |
| 108 | Gray shading indicates these walls are the boundaries for the building thermal envelope assembly. |
| 144 | Electrical meter. See Electrical. |
| 186 | Coffee cabinet. |
| 213 | 8-foot-high chain-link fence with 3'-0"x7'-0" gate. Fence poles to be surface mounted. |

| Keynote Schedule | |
|---|---|
| Tag | Text |
| 214 | 10K Lift (By Others). |
| 215 | 12K Lift (By Others). |
| 216 | Tire changer (By Others). |
| 217 | Wheel balancer (By Others). |
| 218 | Service Writing Desk. |
| 219 | Air compressor (By Others). |
| 220 | Scissor lift alignment (By Others). |
| 221 | Scissor lift alignment console (By Others). Provide conduit in slab as required. See alignment lift specifications (By Others). |
| 222 | Alignment scarecrow (By Others). |
| 223 | Work bench (By Others). |
| 224 | Strut compressor (By Others). |
| 225 | Lube console (By Others). |
| 226 | Computer podium (By Others). |
| 227 | Cashier computer station (By Others). Clear opening for cashier computer station must be 38 ½" wide minimum. No Exceptions. |
| 229 | Rolling drain pan (By Others). |
| 230 | Tool cart (By Others). |
| 231 | Beverage refrigerator (By Others). |
| 232 | Bracket mounted fire extinguisher. See Specification Section 104416 Fire Extinguishers. Provide sign at all fire extinguisher locations which may be visually obstructed. See Details. |




1 05_Life Safety Plan_Main
3/16" = 1'-0"


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## Life Safety Plan - Main

| | |
|---|---|
| Project number | 25041 |
| Date | 01/28/2026 |
| Drawn by | ARC |
| Checked by | N/A |

# LS102

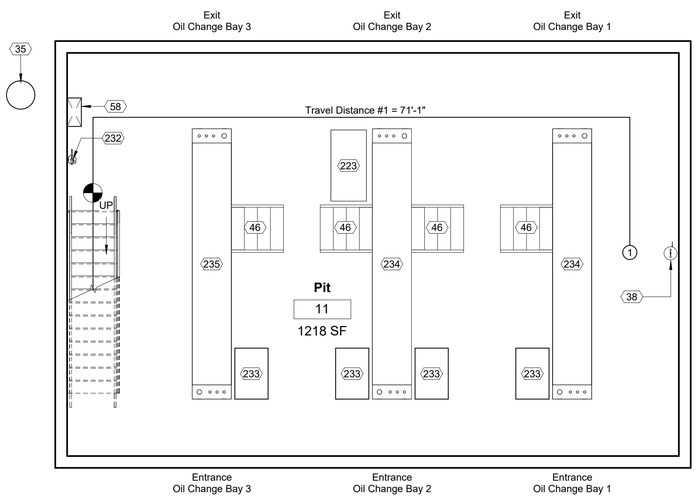
Scale: As indicated

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# LIFE SAFETY SYMBOL LEGEND

| | |
|---|---|
| Exit Sign | Maneuvering clearances at manual swinging doors |
| HC EXIT 32" ▼ Handicap Accessible Egress Width | # Travel Distance |
| 32" Exit from room (# = minimum clear width in inches) | 1 Hour Rated |

| Keynote Schedule | |
|---|---|
| Tag | Text |
| 35 | Submersible foundation sump pump. Provide Zoeller M98 or comparable product. Coordinate location with Civil and tie into Civil's storm drainage system. |
| 38 | Eyewash station. See Plumbing. |
| 46 | Oil tank stairs (By Others). |
| 58 | Verify location and size of pit exhaust opening with Structural and Mechanical drawings. |
| 223 | Work bench (By Others). |
| 232 | Bracket mounted fire extinguisher. See Specification Section 104416 Fire Extinguishers. Provide sign at all fire extinguisher locations which may be visually obstructed. See Details. |
| 233 | 275-gallon Class IIIB new oil tank (By Others). |
| 234 | 928-gallon Class IIIB new oil tank (By Others). Provide a 2" concrete walkway cap with non-slip surface over (oil tank By Others). Coordinate with equipment supplier prior to installation. |
| 235 | 928-gallon Class IIIB waste oil tank (By Others). Provide a 2" concrete walkway cap with non-slip surface over (oil tank By Others). Coordinate with equipment supplier prior to installation. |




1 04_Life Safety Plan_Pit
3/16" = 1'-0"


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STATE OF OKLAHOMA
TIMOTHY AHO
A08460
LICENSED ARCHITECT
03/31/2026


Express Oil Change & Tire Engineers

Single Building / Left Hand Oil Change / Front Enter / Side Tire Storage

Wagoner, OK

FINAL

| No. | Description | Date |
|---|---|---|
| | | |
| IFP-0 | Issue for Permit | 01/28/2026 |
| IFB-0 | Issue for Bid | 03/31/2026 |
| IFC-0 | Issue for Construction | 04/22/2026 |
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Life Safety - Pit

| | |
|---|---|
| Project number | 25041 |
| Date | 01/28/2026 |
| Drawn by | ARC |
| Checked by | N/A |

LS103

Scale As indicated

4/22/2026 9:49:49 AM




1 Architectural Site Plan
N.T.S.

NOTE:

THIS PLAN IS TO SHOW THE BUILDING AS IT RELATES TO THE SITE. A COMPLETE SET OF CIVIL DRAWINGS ARE TO BE SUBMITTED TO THE AHJ INDEPENDENT OF THIS SUBMITTAL. REFER TO THOSE DRAWINGS FOR ACTUAL INFORMATION.

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Architectural Site Plan

| | |
|---|---|
| Project number | 25041 |
| Date | 01/28/2026 |
| Drawn by | ARC |
| Checked by | N/A |

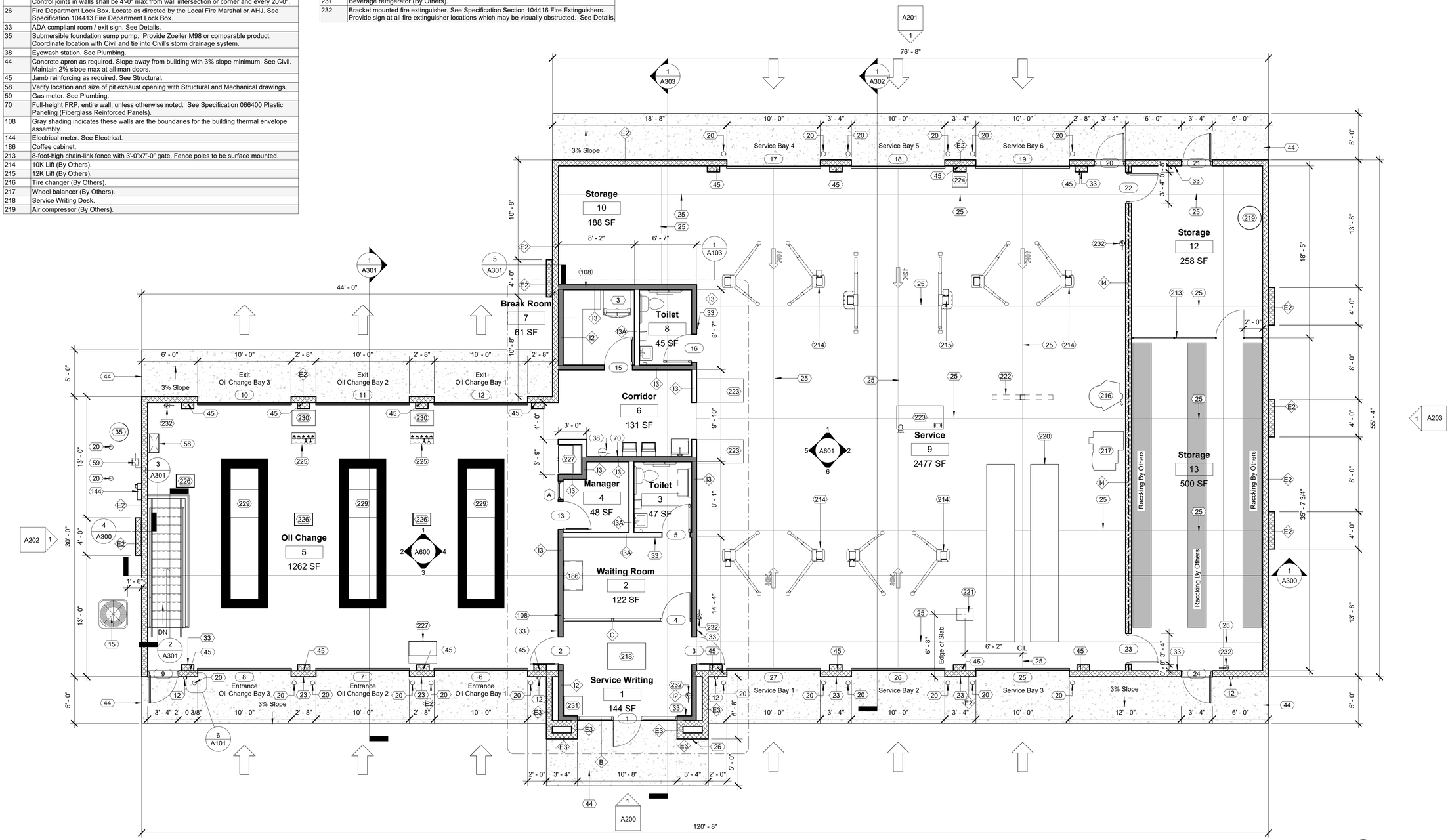
AS100

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|---|---|
| Scale | N.T.S. |

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| Keynote Schedule | |
|---|---|
| Tag | Text |
| 3 | Location of 30" wide refrigerator (By Others). |
| 12 | Pre-finished metal conductor head with built-in overflow and downspout. Drainage to discharge on grade, unless indicated on drawings that drainage is to be piped to storm, (See Civil). Provide a pre-finished elbow and concrete splash block. See Specification 077100 Roof Specialties. |
| 15 | HVAC condensing unit. See Mechanical. |
| 20 | 4" diameter painted concrete-filled steel pipe bollard. Color as indicated on Finish Schedule. Paint embedded portion of bollard. Use primer and two finish coats. See Details. See Specification 055000 Metal Fabrications. |
| 23 | Wall sconce (By Others). See Electrical. Locate junction box for sconces 5'-0" a.f.f. vertically and 4" from center horizontally. Verify with sign company prior to rough-in. |
| 25 | Control joint. For control joints in concrete floor slabs, coordinate location with equipment layout by others. Max. distance between control joints in slabs not to exceed 12'-0". Control joints in walls shall be 4'-0" max from wall intersection or corner and every 20'-0". |
| 26 | Fire Department Lock Box. Locate as directed by the Local Fire Marshal or AHJ. See Specification 104413 Fire Department Lock Box. |
| 33 | ADA compliant room / exit sign. See Details. |
| 35 | Submersible foundation sump pump. Provide Zoeller M98 or comparable product. Coordinate location with Civil and tie into Civil's storm drainage system. |
| 38 | Eyewash station. See Plumbing. |
| 44 | Concrete apron as required. Slope away from building with 3% slope minimum. See Civil. Maintain 2% slope max at all man doors. |
| 45 | Jamb reinforcing as required. See Structural. |
| 58 | Verify location and size of pit exhaust opening with Structural and Mechanical drawings. |
| 59 | Gas meter. See Plumbing. |
| 70 | Full-height FRP, entire wall, unless otherwise noted. See Specification 066400 Plastic Paneling (Fiberglass Reinforced Panels). |
| 108 | Gray shading indicates these walls are the boundaries for the building thermal envelope assembly. |
| 144 | Electrical meter. See Electrical. |
| 186 | Coffee cabinet. |
| 213 | 8-foot-high chain-link fence with 3'-0"x7'-0" gate. Fence poles to be surface mounted. |
| 214 | 10K Lift (By Others). |
| 215 | 12K Lift (By Others). |
| 216 | Tire changer (By Others). |
| 217 | Wheel balancer (By Others). |
| 218 | Service Writing Desk. |
| 219 | Air compressor (By Others). |

| Keynote Schedule | |
|---|---|
| Tag | Text |
| 220 | Scissor lift alignment (By Others). |
| 221 | Scissor lift alignment console (By Others). Provide conduit in slab as required. See alignment lift specifications (By Others). |
| 222 | Alignment scarecrow (By Others). |
| 223 | Work bench (By Others). |
| 224 | Strut compressor (By Others). |
| 225 | Lube console (By Others). |
| 226 | Computer podium (By Others). |
| 227 | Cashier computer station (By Others). Clear opening for cashier computer station must be 38 ½" wide minimum. No Exceptions. |
| 229 | Rolling drain pan (By Others). |
| 230 | Tool cart (By Others). |
| 231 | Beverage refrigerator (By Others). |
| 232 | Bracket mounted fire extinguisher. See Specification Section 104416 Fire Extinguishers. Provide sign at all fire extinguisher locations which may be visually obstructed. See Details. |




1 01_Floor Plan_Main
3/16" = 1'-0"


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# Express Oil Change & Tire Engineers

Single Building / Left Hand Oil Change / Front Enter / Side Tire Storage

Wagoner, OK

FINAL

| No. | Description | Date |
|---|---|---|
| | | |
| IFP-0 | Issue for Permit | 01/28/2026 |
| IFB-0 | Issue for Bid | 03/31/2026 |
| IFC-0 | Issue for Construction | 04/22/2026 |


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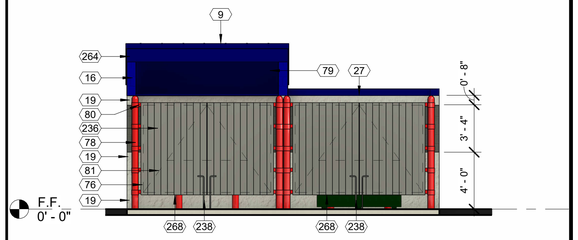

## Floor Plan - Main

| | |
|---|---|
| Project number | 25041 |
| Date | 01/28/2026 |
| Drawn by | ARC |
| Checked by | N/A |

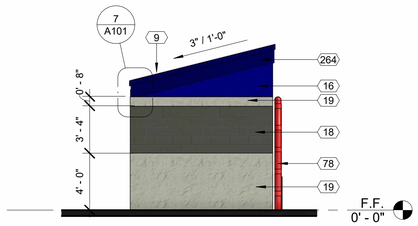
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Scale 3/16" = 1'-0"

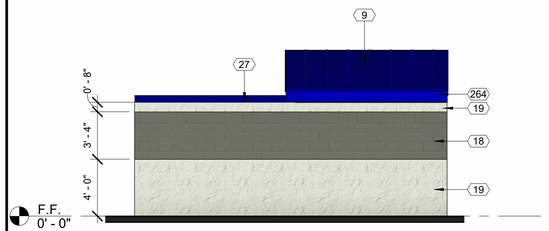
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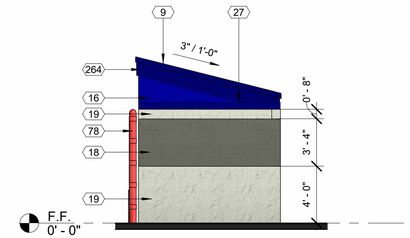

1 05_Dumpster Elevation_A
3/16" = 1'-0"



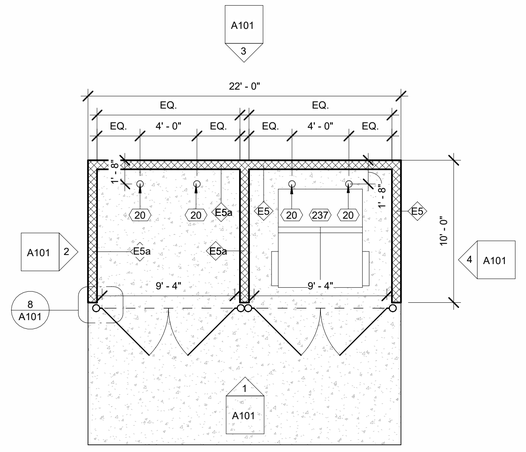

2 07_Dumpster Elevation_C
3/16" = 1'-0"




3 06_Dumpster Elevation_B
3/16" = 1'-0"

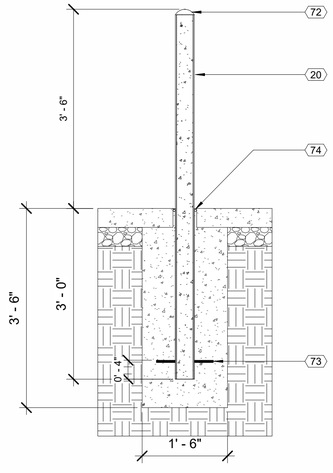



4 08_Dumpster Elevation_D
3/16" = 1'-0"

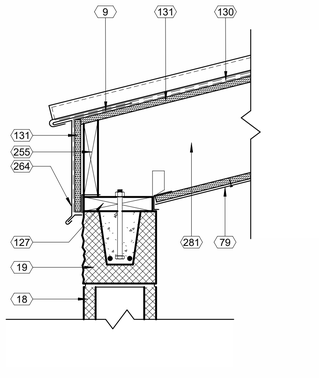



5 02_Floor Plan_Dumpster
3/16" = 1'-0"

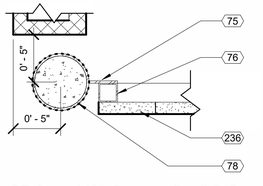
| Keynote Schedule | |
|---|---|
| Tag | Text |
| 9 | Pre-finished standing seam metal roof system. See Specification 074113.16 Standing Seam Metal Roof Panels. See Finish Schedule for color. |
| 16 | Painted smooth-face CMU. See Specification 042200 Concrete Unit Masonry. Color as indicated on Finish Schedule. |
| 18 | Painted smooth-face CMU. See Specification 042200 Concrete Unit Masonry. Color as indicated on Finish Schedule. |
| 19 | Painted split-face CMU (bond beam where indicated; see Structural). See Specification 042200 Concrete Unit Masonry. Color as indicated on Finish Schedule. Project 1/2" where indicated on details. |
| 20 | 4" diameter painted concrete-filled steel pipe bollard. Color as indicated on Finish Schedule. Paint embedded portion of bollard. Use primer and two finish coats. See Details. See Specification 055000 Metal Fabrications. |
| 27 | Pre-finished metal coping at exposed tops only over self-adhered membrane flashing and pressure treated wood blocking. Slope to drain. Color as indicated on Finish Schedule. |
| 34 | 4" perforated perimeter drain with silt filtration fabric. See Details. |
| 35 | Submersible foundation sump pump. Provide Zoeller M98 or comparable product. Coordinate location with Civil and tie into Civil's storm drainage system. |
| 38 | Eyewash station. See Plumbing. |
| 46 | Oil tank stairs (By Others). |
| 58 | Verify location and size of pit exhaust opening with Structural and Mechanical drawings. |
| 72 | Painted concrete cap for pipe bollard. Color as indicated on Finish Schedule. |
| 73 | 1/2" diameter x 4" long metal studs. Provide a total of 4. |
| 74 | 1/2" expansion joint with backer rod and sealant. |
| 75 | 1/4" x 6" painted steel bracket with continuous fillet weld to painted steel collar hinge and frame. Color as indicated on Finish Schedule. |
| 76 | 2" x 2" x 1/4" painted steel gate frame with welded connections. Color as indicated on Finish Schedule. |
| 78 | 6" diameter painted steel dumpster post. Color as indicated on Finish Schedule. |
| 79 | Wrap front face and underside of dumpster roof joists with prefinished metal panels (on 5/8" plywood) to match standing seam metal roof. Install and fasten prefinished metal panels per manufacturer's written standards to ensure a weathertight construction. |
| 80 | Hinge collar with grease fitting. Collar welded all around to post. Typical. |
| 81 | 2" x 2" x 1/4" painted steel cross bracing with horizontal bracing in thirds (beyond). Color as indicated on Finish Schedule. |
| 127 | 2x pressure treated wood nailer. |
| 130 | 2 layers of #15 roofing felt. |
| 131 | 5/8" pressure treated plywood decking. See Structural. |
| 223 | Work bench (By Others). |
| 232 | Bracket mounted fire extinguisher. See Specification Section 104416 Fire Extinguishers. Provide sign at all fire extinguisher locations which may be visually obstructed. See Details. |
| 233 | 275-gallon Class IIIB new oil tank (By Others). |
| 234 | 928-gallon Class IIIB new oil tank (By Others). Provide a 2" concrete walkway cap with non-slip surface over (oil tank By Others). Coordinate with equipment supplier prior to installation. |
| 235 | 928-gallon Class IIIB waste oil tank (By Others). Provide a 2" concrete walkway cap with non-slip surface over (oil tank By Others). Coordinate with equipment supplier prior to installation. |
| 236 | 1x6 painted Trex slats secured to frame. See Finish Schedule for color. |
| 237 | Dumpster (By Others). |
| 238 | Cane bolts with stops. |
| 255 | 2x pressure treated wood blocking. |
| 264 | Prefinished metal fascia / trim, with hemmed drip edge, to match standing seam metal roof. |
| 268 | Hold bottom of gate above grade as necessary to clear adjacent curb height to ensure gates can swing 180 degrees. Coordinate with Civil drawings for clearance needed. |
| 281 | 2x P.T. joists. See Structural. |



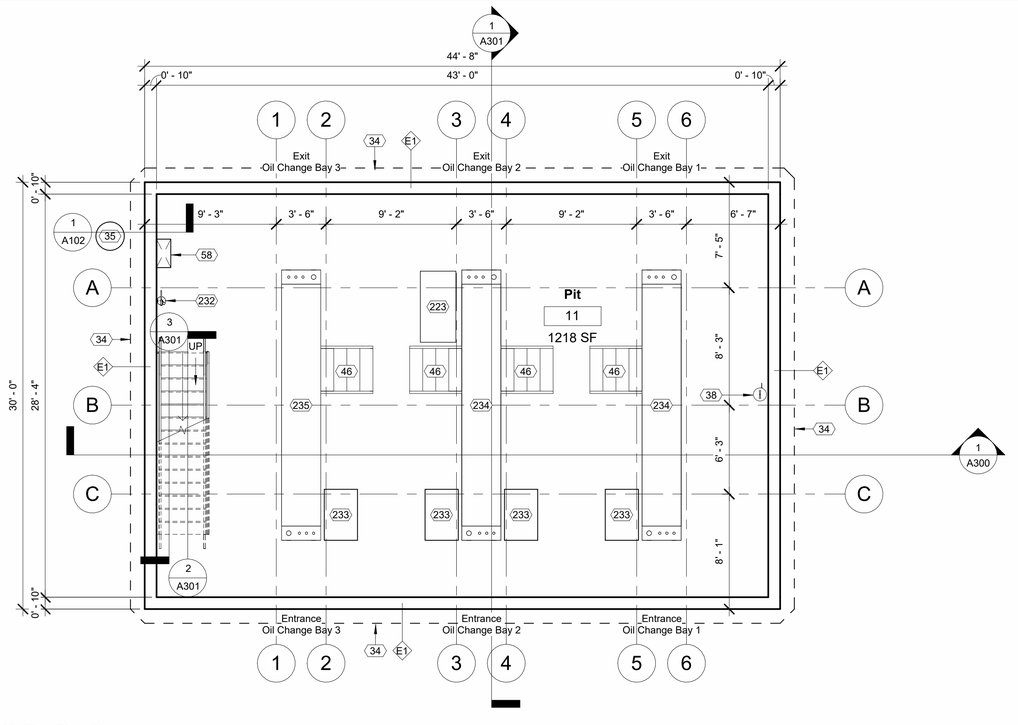

6 DT_Sheet A101_Bollard Detail
3/4" = 1'-0"




7 Roof Trim Detail
1 1/2" = 1'-0"




8 DT_Sheet A101_Dumpster Detail @ Gate
1 1/2" = 1'-0"




9 00_Floor Plan_Pit
3/16" = 1'-0"

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# Express Oil Change & Tire Engineers

Single Building / Left Hand Oil Change / Front Enter / Side Tire Storage

Wagoner, OK

FINAL

| No. | Description | Date |
|---|---|---|
| | | |
| IFP-0 | Issue for Permit | 01/28/2026 |
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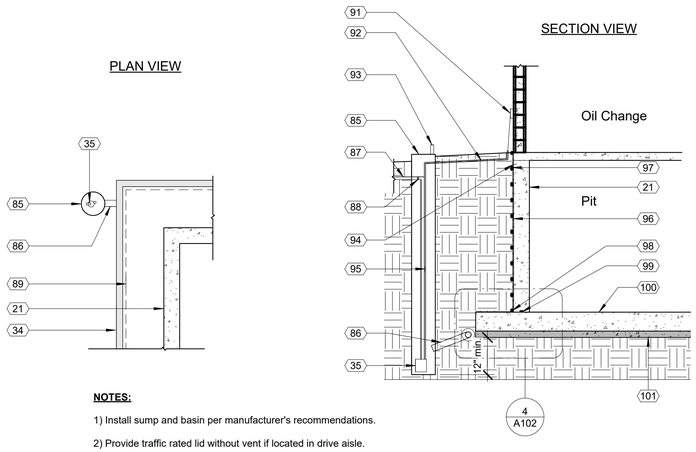
## Pit Floor Plan and Site Details

| | |
|---|---|
| Project number | 25041 |
| Date | 01/28/2026 |
| Drawn by | ARC |
| Checked by | N/A |

A101

Scale: As indicated

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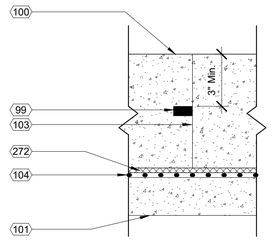



**NOTES:**

1) Install sump and basin per manufacturer's recommendations.

2) Provide traffic rated lid without vent if located in drive aisle.

1 DT_Sheet A102_Sump Pump Detail w/ Mud Slab
1/4" = 1'-0"

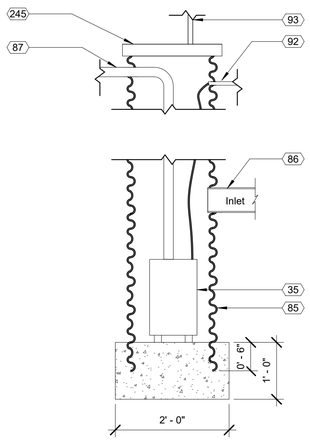



**NOTES:**

1. Install all waterproofing per manufacturer's recommendations.
2. GC to contact Owner for copy of Geotech Report.

2 DT_Sheet A102_Foundation Construction Joint w/ Mud Slab
1 1/2" = 1'-0"

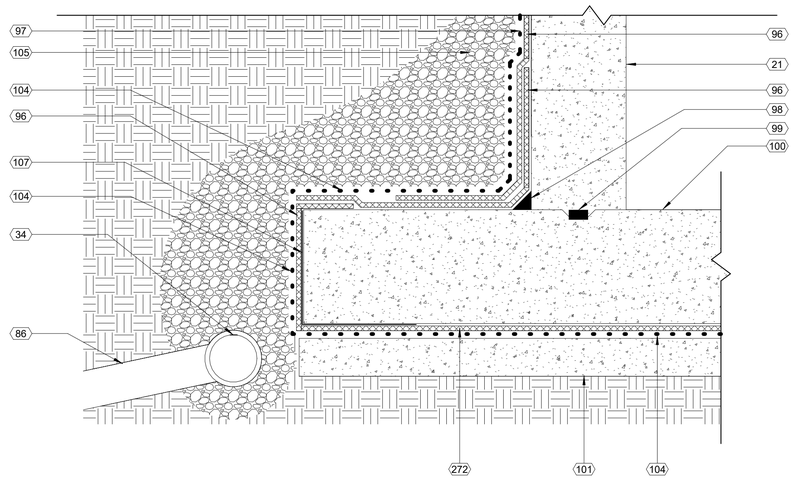
| Keynote Schedule | |
|---|---|
| Tag | Text |
| 21 | Cast-in-place concrete wall. See Structural. Membrane waterproofing at perimeter of foundation wall as specified. See Specification 334600 Subdrainage. |
| 34 | 4" perforated perimeter drain with silt filtration fabric. See Details. |
| 35 | Submersible foundation sump pump. Provide Zoeller M98 or comparable product. Coordinate location with Civil and tie into Civil's storm drainage system. |
| 85 | 18" diameter black corrugated pipe with inlet fittings and solid heavy duty corrugated locking pipe cover set in concrete with power grommet, or Nyloplast drain basin with inlet fittings and lockable cover and power grommet. Contractor's Option. Set pipe in concrete 2'x2'x1'. Embed pipe 6" into concrete. |
| 86 | 4" discharge pipe to sump pump. |
| 87 | 2" discharge pipe from sump pump to storm drainage system. Coordinate with Civil. |
| 88 | Install union at serviceable depth. |
| 89 | Concrete foundation. See Structural. |
| 91 | Provide power for sump pump. See Electrical. |
| 92 | Power cord for sump pump to be run in conduit from outlet to sump below grade. |
| 93 | 2" – 3" vent pipe |
| 94 | Fasteners at 12" max o.c. for securing subdrainage to pit wall. Follow manufacturer's installation instructions. |
| 95 | Pull rope or wire for submersible sump pump. |
| 96 | CCW MiraClay woven geotextile against wall/slab. |
| 97 | CCW MiraDrain 6200. |
| 98 | CCW MiraClay granules or CCW MiraClay mastic. |
| 99 | CCW MiraStop BW. |
| 100 | Concrete slab. See Structural. |
| 101 | 4" mud slab if required. See Structural. |
| 103 | Construction joint. |
| 104 | CCW MiraDrain 9800. |
| 105 | 3" washed #57 stone wrapped in silt filtration fabric. |
| 107 | CCW MiraClay 12" Reinforcing Angle Strip at all outside corners. |
| 245 | Lockable cover @ sump pump. |
| 272 | CCW MiraClay non-woven geotextile side up. |




3 DT_Sheet A102_Sump Pump Section
3/4" = 1'-0"

**NOTES:**

1. Install all waterproofing and drainage components per manufacturer's recommendations.
2. GC to contact Owner for copy of Geotech Report.
3. See Structural for reinforcing in wall and slab.
4. See Structural for dimensions.




4 DT_Sheet A102_Foundation Waterproofing with Gravel Fill w/ Mud Slab
1 1/2" = 1'-0"

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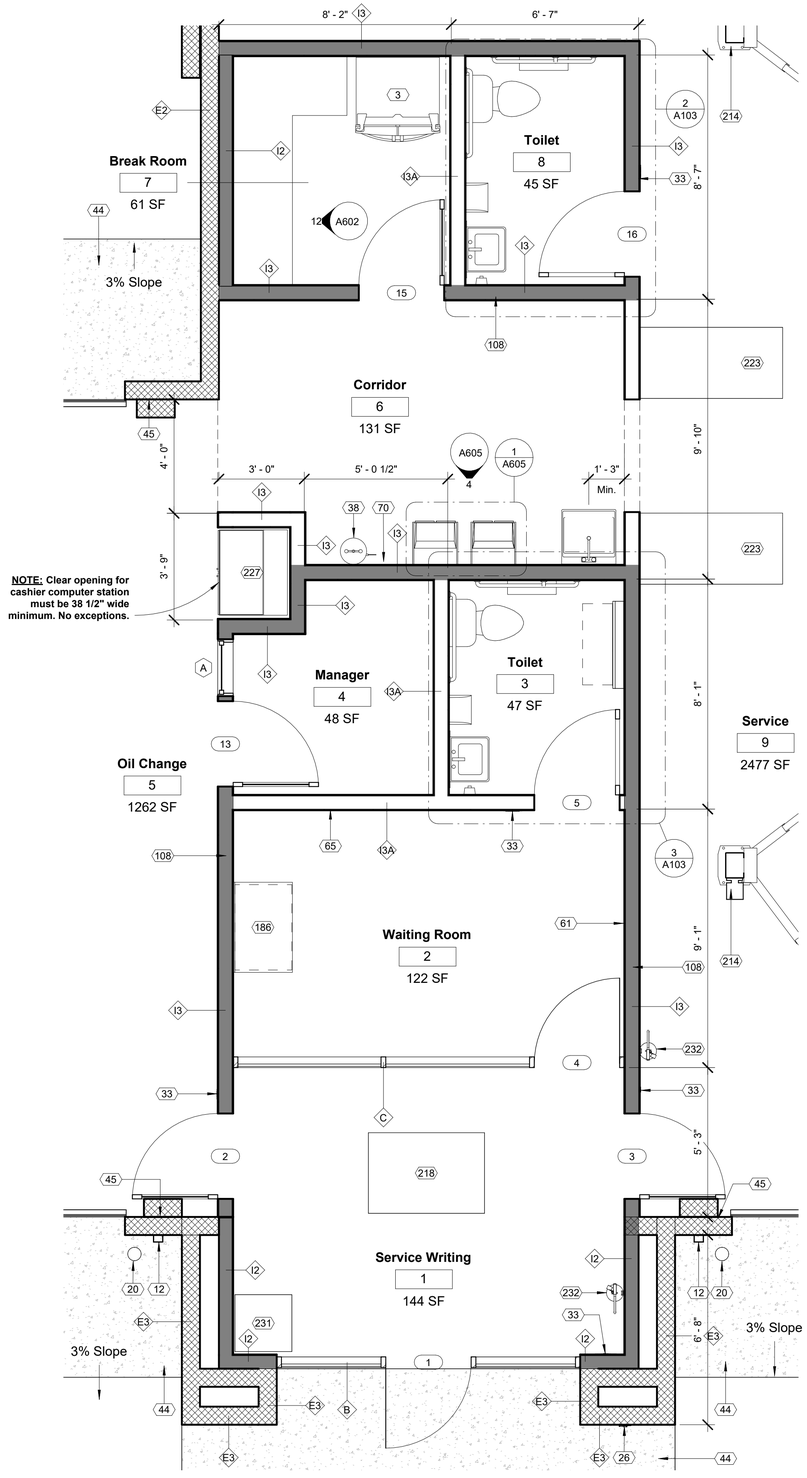
Foundation Details

| | |
|---|---|
| Project number | 25041 |
| Date | 01/28/2026 |
| Drawn by | ARC |
| Checked by | N/A |

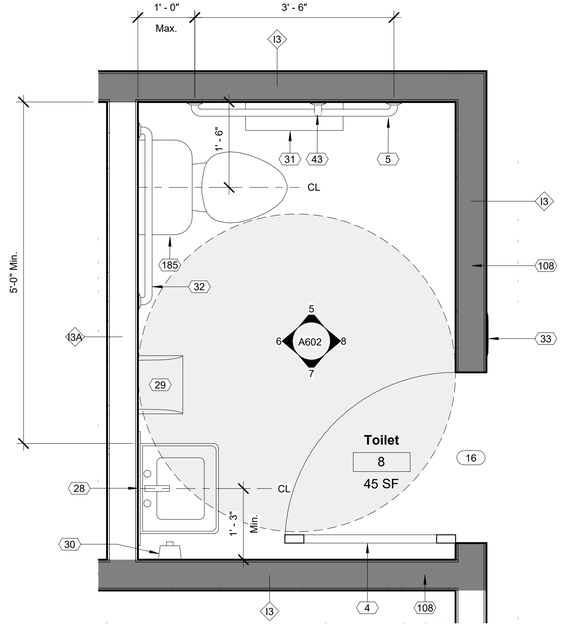
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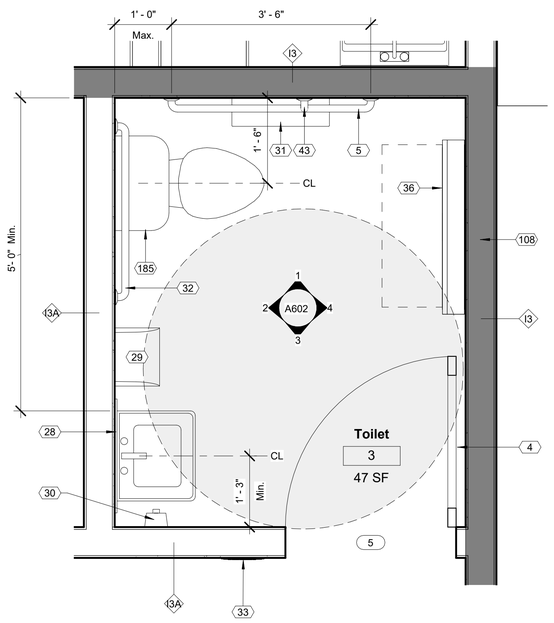
4/22/2026 9:50:04 AM




1 08_Enlarged Plan_Main
3/8" = 1'-0"




2 10_Enlarged Plan_Toilet 8
3/4" = 1'-0"




3 09_Enlarged Plan_Toilet 3
3/4" = 1'-0"

| Keynote Schedule | |
|---|---|
| Tag | Text |
| 3 | Location of 30" wide refrigerator (By Others). |
| 4 | Robe hook mounted at 48" A.F.F. See Specification 102800 Toilet, Bath, and Laundry Accessories. |
| 5 | 42" grab bar with blocking in walls as required. See Specification 102800 Toilet, Bath, and Laundry Accessories. |
| 12 | Pre-finished metal conductor head with built-in overflow and downspout. Drainage to discharge on grade, unless indicated on drawings that drainage is to be piped to storm, (See Civil). Provide a pre-finished elbow and concrete splash block. See Specification 077100 Roof Specialties. |
| 20 | 4" diameter painted concrete-filled steel pipe bollard. Color as indicated on Finish Schedule. Paint embedded portion of bollard. Use primer and two finish coats. See Details. See Specification 055000 Metal Fabrications. |
| 26 | Fire Department Lock Box. Locate as directed by the Local Fire Marshal or AHJ. See Specification 104413 Fire Department Lock Box. |
| 28 | Framed mirror. See Specification 102800 Toilet, Bath, and Laundry Accessories. |
| 29 | Automatic Towel Dispenser (By others). Provide blocking in wall as required. See Specification 102800 Toilet, Bath, and Laundry Accessories. |
| 30 | Wall mounted soap dispenser (By Others). Provide blocking in wall as required. See Specification 102800 Toilet, Bath, and Laundry Accessories. |
| 31 | Jumbo Dual Roll Toilet Tissue dispenser (By Others). Provide blocking in wall as required. See Specification 102800 Toilet, Bath, and Laundry Accessories. |
| 32 | 36" grab bar with blocking in walls as required. See Specification 102800 Toilet, Bath, and Laundry Accessories. |
| 33 | ADA compliant room / exit sign. See Details. |
| 36 | Surface mounted baby changing station with blocking in walls as required. See Specification 102800 Toilet, Bath, and Laundry Accessories. |
| 38 | Eyewash station. See Plumbing. |
| 43 | 24" vertical grab bar with blocking in walls as required. See Specification 102800 Toilet, Bath, and Laundry Accessories. |
| 44 | Concrete apron as required. Slope away from building with 3% slope minimum. See Civil. Maintain 2% slope max at all man doors. |
| 45 | Jamb reinforcing as required. See Structural. |
| 61 | Wall mounted T.V. by others. See Electrical. |
| 65 | Word Wall. Use extreme bond primer. Graphics (By Others). |
| 70 | Full-height FRP, entire wall, unless otherwise noted. See Specification 066400 Plastic Paneling (Fiberglass Reinforced Panels). |
| 108 | Gray shading indicates these walls are the boundaries for the building thermal envelope assembly. |
| 185 | Flush valve on transfer side of water closet. |
| 186 | Coffee cabinet. |
| 214 | 10K Lift (By Others). |
| 218 | Service Writing Desk. |
| 223 | Work bench (By Others). |
| 227 | Cashier computer station (By Others). Clear opening for cashier computer station must be 38 ½" wide minimum. No Exceptions. |
| 231 | Beverage refrigerator (By Others). |
| 232 | Bracket mounted fire extinguisher. See Specification Section 104416 Fire Extinguishers. Provide sign at all fire extinguisher locations which may be visually obstructed. See Details. |

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TIMOTHY AHO
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LICENSED ARCHITECT
03/31/2026

# Express Oil Change & Tire Engineers

Single Building / Left Hand Oil Change / Front Enter / Side Tire Storage

Wagoner, OK

FINAL

| No. | Description | Date |
|---|---|---|
| | | |
| IFP-0 | Issue for Permit | 01/28/2026 |
| IFB-0 | Issue for Bid | 03/31/2026 |
| IFC-0 | Issue for Construction | 04/22/2026 |

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## Enlarged Floor Plans and Details

| | |
|---|---|
| Project number | 25041 |
| Date | 01/28/2026 |
| Drawn by | ARC |
| Checked by | N/A |

A103

Scale As indicated

4/22/2026 9:50:06 AM

**NOTE:** Bar joists not shown for clarity.

| Keynote Schedule | |
|---|---|
| Tag | Text |
| 1 | Wall Pack / Electrical Fixture. See Electrical. |
| 6 | Lay-in acoustical ceiling tile and grid, supported from structure. |
| 7 | Painted 1/2" gypsum board ceiling secured to structure above. 5/8" Type X where indicated. See Details for # of layers. |
| 8 | Exposed to structure above. |
| 11 | Pre-finished metal canopy. See Details. |
| 51 | Attic access ladder. |
| 58 | Verify location and size of pit exhaust opening with Structural and Mechanical drawings. |
| 108 | Gray shading indicates these walls are the boundaries for the building thermal envelope assembly. |
| 114 | Contractor to ensure overhead door, track, etc. meets the minimum vertical clearance required for equipment (By Others). Typical. |
| 115 | Dashed line indicates extent of overhead doors. Typical. |
| 116 | See Engineering drawings for Mechanical/Electrical/Plumbing fixtures and equipment. Typical. |
| 213 | 8-foot-high chain-link fence with 3'-0"x7'-0" gate. Fence poles to be surface mounted. |
| 228 | Convex mirrors (By Others). |




1 01_RCP_Main
3/16" = 1'-0"


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# Express Oil Change & Tire Engineers

Single Building / Left Hand Oil Change / Front Enter / Side Tire Storage

Wagoner, OK

FINAL

| No. | Description | Date |
|---|---|---|
| | | |
| IFP-0 | Issue for Permit | 01/28/2026 |
| IFB-0 | Issue for Bid | 03/31/2026 |
| IFC-0 | Issue for Construction | 04/22/2026 |


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## Reflected Ceiling Plan - Main

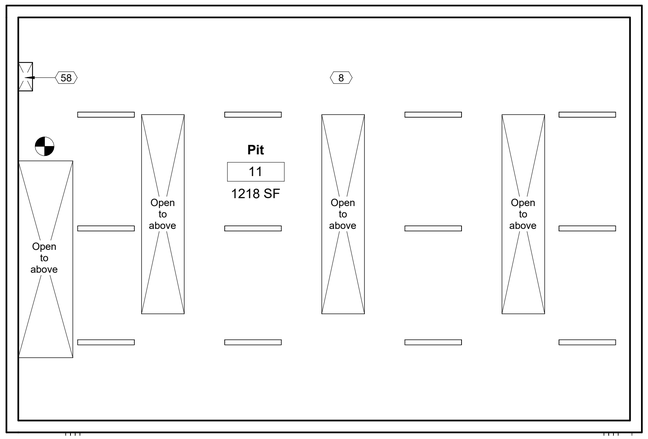
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|---|---|
| Project number | 25041 |
| Date | 01/28/2026 |
| Drawn by | ARC |
| Checked by | N/A |

# A104

Scale 3/16" = 1'-0"

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| Keynote Schedule | |
|---|---|
| Tag | Text |
| 8 | Exposed to structure above. |
| 58 | Verify location and size of pit exhaust opening with Structural and Mechanical drawings. |




1 00_RCP_Pit
3/16" = 1'-0"

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# Express Oil Change & Tire Engineers

## Single Building / Left Hand Oil Change / Front Enter / Side Tire Storage

Wagoner, OK

FINAL

| No. | Description | Date |
|---|---|---|
| | | |
| IFP-0 | Issue for Permit | 01/28/2026 |
| IFB-0 | Issue for Bid | 03/31/2026 |
| IFC-0 | Issue for Construction | 04/22/2026 |

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## Reflected Ceiling Plan - Pit

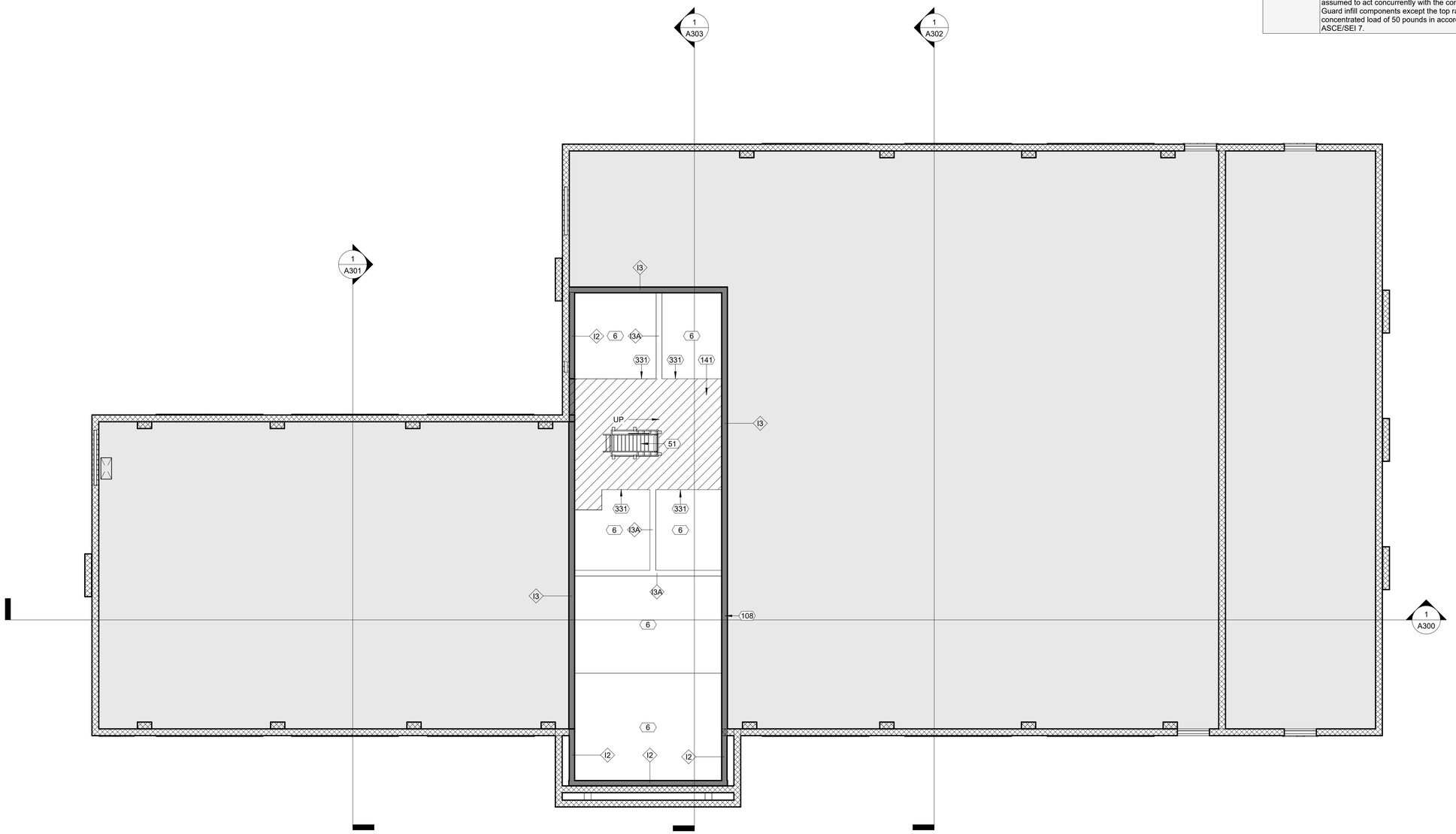
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|---|---|
| Project number | 25041 |
| Date | 01/28/2026 |
| Drawn by | ARC |
| Checked by | N/A |

# A105

Scale 3/16" = 1'-0"

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| Keynote Schedule | |
|---|---|
| Tag | Text |
| 6 | Lay-in acoustical ceiling tile and grid, supported from structure. |
| 51 | Attic access ladder. |
| 108 | Gray shading indicates these walls are the boundaries for the building thermal envelope assembly. |
| 141 | 3/4" tongue and groove plywood on 2x10 wood joists @ 12" o.c. Provide R-38 batt kraft face insulation in between joists. Kraft face in contact with substrate. (If applicable, it shall be the Contractor's option to provide plywood attached to bottom of joists for insulation to rest on or secure insulation to joists without the need for the plywood bottom). |
| 331 | Provide 42" guards at all exposed edges of above ceiling platforms. Concentrated Load: Guards shall be designed to resist a concentrated load of 200 pounds in accordance with Section 4.5.1 of ASCE/SEI 7. Uniform Load: Guards shall be designed to resist a linear load of 50 pounds per linear foot in accordance with Section 4.5.1.1 of ASCE/SEI 7. This load need not be assumed to act concurrently with the concentrated load specified above. Guard infill components except the top rail shall be designed to resist a concentrated load of 50 pounds in accordance with Section 4.5.1.2 of ASCE/SEI 7. |




1 11_Floor Plan_Platform
3/16" = 1'-0"


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03/31/2026

Express Oil Change & Tire Engineers

Single Building / Left Hand Oil Change / Front Enter / Side Tire Storage

Wagoner, OK

FINAL

| No. | Description | Date |
|---|---|---|
| | | |
| IFP-0 | Issue for Permit | 01/28/2026 |
| IFB-0 | Issue for Bid | 03/31/2026 |
| IFC-0 | Issue for Construction | 04/22/2026 |


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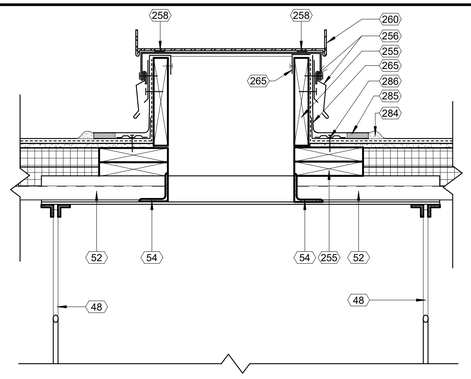

Floor Plan - Platform

| | |
|---|---|
| Project number | 25041 |
| Date | 01/28/2026 |
| Drawn by | ARC |
| Checked by | N/A |

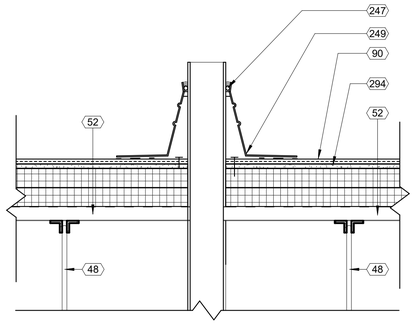
A106

Scale 3/16" = 1'-0"

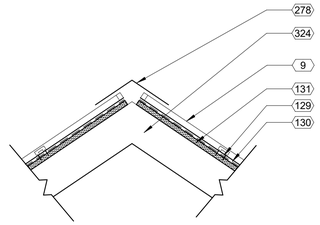
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2 DT_Sheet A107_TPO Roof Curb Detail
1 1/2" = 1'-0"



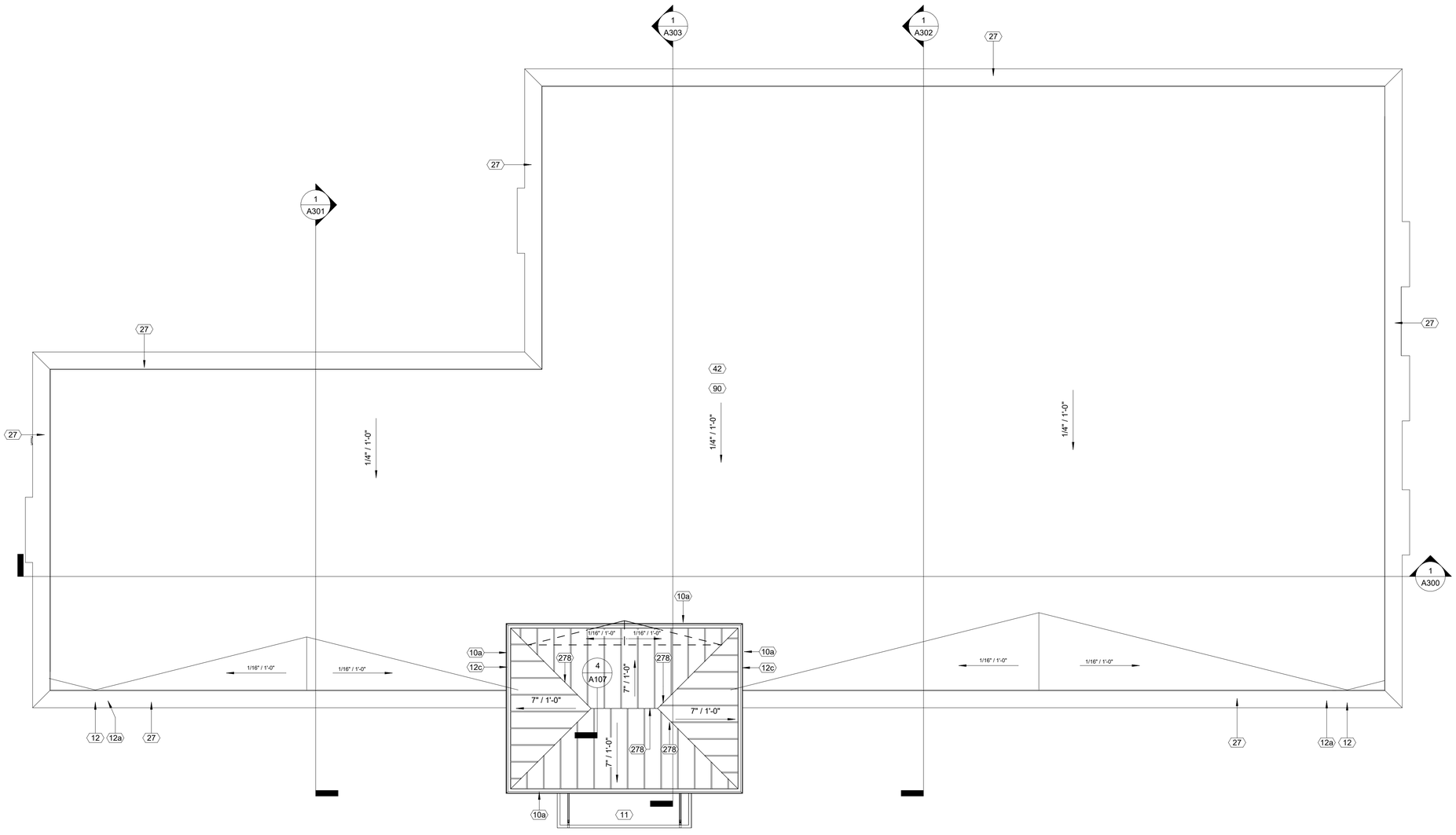

3 DT_Sheet A107_TPO Roof Penetration Detail
1 1/2" = 1'-0"




4 Draft Template_Typical Ridge-Hip Detail
1" = 1'-0"

| Keynote Schedule | |
|---|---|
| Tag | Text |
| 9 | Pre-finished standing seam metal roof system. See Specification 074113.16 Standing Seam Metal Roof Panels. See Finish Schedule for color. |
| 10a | Prefinished metal gutter. Match SSMR color. |
| 11 | Pre-finished metal canopy. See Details. |
| 12 | Pre-finished metal conductor head with built-in overflow and downspout. Drainage to discharge on grade, unless indicated on drawings that drainage is to be piped to storm, (See Civil). Provide a pre-finished elbow and concrete splash block. See Specification 077100 Roof Specialties. |
| 12a | Emergency roof drain scupper. Locate adjacent to conductor head and 2 inches higher than downspout scupper location. See Specification 077100 Roof Specialties. |
| 12c | Prefinished metal downspout. Match SSMR color. Discharge on TPO roof below. |
| 27 | Pre-finished metal coping at exposed tops only over self-adhered membrane flashing and pressure treated wood blocking. Slope to drain. Color as indicated on Finish Schedule. |
| 42 | Paint all roof penetrations to match roof color. |
| 48 | Bar joist. See Structural. |
| 52 | Galvanized metal roof deck. See Structural. |
| 54 | Steel angle. See Structural. |
| 90 | Fully adhered TPO membrane roofing installed per manufacturer's written instructions. See Specification 075423 Thermoplastic Polyolefin (TPO) Roofing. |
| 129 | "H" clips at mid-span on standing seam metal roof. |

| Keynote Schedule | |
|---|---|
| Tag | Text |
| 130 | 2 layers of #15 roofing felt. |
| 131 | 5/8" pressure treated plywood decking. See Structural. |
| 247 | Sealant compatible with water block sealant. |
| 249 | TPO pre-molded vent boot with pre-manufactured TPO membrane flashing by TPO manufacturer. |
| 255 | 2x pressure treated wood blocking. |
| 256 | Prefinished metal flashing and counterflashing. |
| 258 | Continuous sealant around perimeter. |
| 260 | Base of equipment to extend 1/2" minimum beyond and down over top of roof curb. |
| 265 | TPO membrane turned vertically up the wall and fastened to wood blocking at top roof curb, or top of wall framing per detail. Adhere TPO membrane to wall substrate with manufacturer approved bonding adhesive. |
| 278 | Prefinished metal ridge/hip cap by metal roofing manufacturer. Provide vent material at ridge only (Match roof color). |
| 284 | Cut edge sealant at TPO roof membrane flashing. |
| 285 | Hot air weld at TPO membrane and membrane flashing. |
| 286 | Fastener and seam fastening plate. |
| 294 | Polyisocyanurate insulation board (See TPO Spec for required R-value). Provide ½" cover board, mechanically fastened, over the top of insulation in locations where membrane roofing is to be applied. |
| 324 | Cold-formed metal stud trusses, see Structural. |




1 03_Roof Plan
3/16" = 1'-0"

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# Express Oil Change & Tire Engineers

## Single Building / Left Hand Oil Change / Front Enter / Side Tire Storage

Wagoner, OK

FINAL

| No. | Description | Date |
|---|---|---|
| | | |
| IFP-0 | Issue for Permit | 01/28/2026 |
| IFB-0 | Issue for Bid | 03/31/2026 |
| IFC-0 | Issue for Construction | 04/22/2026 |

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Roof Plan

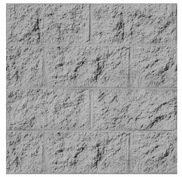
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|---|---|
| Project number | 25041 |
| Date | 01/28/2026 |
| Drawn by | ARC |
| Checked by | N/A |

A107

Scale As indicated

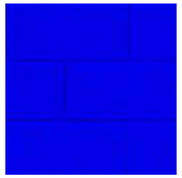
4/22/2026 9:50:10 AM

# EXTERIOR FINISH MATERIAL LEGEND



**PAINTED SPLIT-FACE CMU**

Color: SW7669 Summit Gray
Manuf: Sherwin Williams
Keynote: 19



**PAINTED SMOOTH-FACE CMU**

Color: SW6966 Blueblood
Manuf: Sherwin Williams
Keynote: 16



**PAINTED SMOOTH-FACE CMU**

Color: SW7075 Web Gray
Manuf: Sherwin Williams
Keynote: 18



**PAINTED SMOOTH-FACE CMU**

Color: SW7669 Summit Gray
Manuf: Sherwin Williams
Keynote: 16



**HM DOORS**

Color: SW7669 Summit Gray
Manuf: Sherwin Williams



**STOREFRONT DOORS/WINDOWS**

Color: Clear Anodized Aluminum
Manuf: YKK



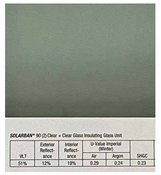
**STANDING SEAM METAL ROOF**

Color: Royal Blue
Manuf: Berridge



**OVERHEAD DOORS**

Color: White
Manuf: OHD CO.




**TINTED GLAZING**

Color: Solarban 90 on Clear
Manuf: Vitro Architectural Glass



**BOLLARDS**

Color: Safety Red
Manuf: Sherwin Williams



**EIFS CORNICE & TRIM**

Color: SW6966 Blue Blood
Manuf: Sherwin Williams
Keynote: 318



**CONDUCTOR HEADS / DOWNSPOUTS**

Color: SW7075 Web Gray
Manuf: Sherwin Williams
Keynote # 12

| MATERIAL PERCENTAGE CALCULATIONS | | |
|---|---|---|
| WALL ELEVATION (NOT INCLUDING DOORS/ROOF) | 1,918 S.F. | 100% |
| | | |
| PAINTED SMOOTH-FACE CMU (KEYNOTE #16) | 471 S.F. | 25% OF TOTAL |
| PAINTED SMOOTH-FACE CMU (KEYNOTE #18) | 548 S.F. | 28% OF TOTAL |
| PAINTED SPLIT-FACE CMU (KEYNOTE #19) | 565 S.F. | 30% OF TOTAL |
| PAINTED EIFS COPING/TRIM (KEYNOTE #318) | 248 S.F. | 12% OF TOTAL |
| GLAZING | 86 S.F. | 5% OF TOTAL |

| Keynote Schedule | |
|---|---|
| Tag | Text |
| 1 | Wall Pack / Electrical Fixture. See Electrical. |
| 9 | Pre-finished standing seam metal roof system. See Specification 074113.16 Standing Seam Metal Roof Panels. See Finish Schedule for color. |
| 10a | Prefinished metal gutter. Match SSMR color. |
| 11 | Pre-finished metal canopy. See Details. |
| 12 | Pre-finished metal conductor head with built-in overflow and downspout. Drainage to discharge on grade, unless indicated on drawings that drainage is to be piped to storm, (See Civil). Provide a pre-finished elbow and concrete splash block. See Specification 077100 Roof Specialties. |
| 12a | Emergency roof drain scupper. Locate adjacent to conductor head and 2 inches higher than downspout scupper location. See Specification 077100 Roof Specialties. |
| 12c | Prefinished metal downspout. Match SSMR color. Discharge on TPO roof below. |
| 15 | HVAC condensing unit. See Mechanical. |
| 16 | Painted smooth-face CMU. See Specification 042200 Concrete Unit Masonry. Color as indicated on Finish Schedule. |
| 18 | Painted smooth-face CMU. See Specification 042200 Concrete Unit Masonry. Color as indicated on Finish Schedule. |
| 19 | Painted split-face CMU (bond beam where indicated; see Structural). See Specification 042200 Concrete Unit Masonry. Color as indicated on Finish Schedule. Project 1/2" where indicated on details. |
| 20 | 4" diameter painted concrete-filled steel pipe bollard. Color as indicated on Finish Schedule. Paint embedded portion of bollard. Use primer and two finish coats. See Details. See Specification 055000 Metal Fabrications. |
| 21 | Cast-in-place concrete wall. See Structural. Membrane waterproofing at perimeter of foundation wall as specified. See Specification 334600 Subdrainage. |
| 22 | Signage (By Others). See Electrical. |
| 23 | Wall sconce (By Others). See Electrical. Locate junction box for sconces 5'-0" a.f.f. vertically and 4" from center horizontally. Verify with sign company prior to rough-in. |
| 25 | Control joint. For control joints in concrete floor slabs, coordinate location with equipment layout by others. Max. distance between control joints in slabs not to exceed 12'-0". Control joints in walls shall be 4'-0" max from wall intersection or corner and every 20'-0". |
| 26 | Fire Department Lock Box. Locate as directed by the Local Fire Marshal or AHJ. See Specification 104413 Fire Department Lock Box. |
| 27 | Pre-finished metal coping at exposed tops only over self-adhered membrane flashing and pressure treated wood blocking. Slope to drain. Color as indicated on Finish Schedule. |
| 35 | Submersible foundation sump pump. Provide Zoeller M98 or comparable product. Coordinate location with Civil and tie into Civil's storm drainage system. |
| 47 | Provide address identification as directed by the Local Fire Marshal or AHJ, but letter size shall not be less than 4 inches high. |
| 53 | Conduit to be centered horizontally for lights in canopy. Verify with sign company prior to rough-in. |
| 56 | Metal louver or vent. Color to match adjacent surface. See Mechanical. |
| 59 | Gas meter. See Plumbing. |
| 278 | Prefinished metal ridge/hip cap by metal roofing manufacturer. Provide vent material at ridge only (Match roof color). |
| 318 | Painted preformed EIFS cornice and trim, See Specification Section 072400 EIFS Exterior Insulation and Finish System. |




1 01_Exterior Elevation_Front (East)
3/16" = 1'-0"

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Express Oil Change & Tire Engineers
Single Building / Left Hand Oil Change / Range / Front Enter / Side Tire Storage
Wagoner, OK

FINAL

| No. | Description | Date |
|---|---|---|
| | | |
| IFP-0 | Issue for Permit | 01/28/2026 |
| IFB-0 | Issue for Bid | 03/31/2026 |
| IFC-0 | Issue for Construction | 04/22/2026 |

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Exterior Elevation - Front (East)

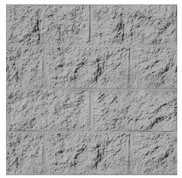
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|---|---|
| Project number | 25041 |
| Date | 01/28/2026 |
| Drawn by | ARC |
| Checked by | N/A |

A200

Scale 3/16" = 1'-0"

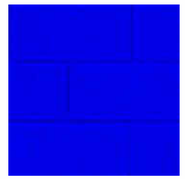
4/22/2026 9:50:18 AM

# EXTERIOR FINISH MATERIAL LEGEND



**PAINTED SPLIT-FACE CMU**

Color: SW7669 Summit Gray
Manuf: Sherwin Williams
Keynote: 19



**PAINTED SMOOTH-FACE CMU**

Color: SW6966 Blueblood
Manuf: Sherwin Williams
Keynote: 16



**PAINTED SMOOTH-FACE CMU**

Color: SW7075 Web Gray
Manuf: Sherwin Williams
Keynote: 18



**PAINTED SMOOTH-FACE CMU**

Color: SW7669 Summit Gray
Manuf: Sherwin Williams
Keynote: 16



**HM DOORS**

Color: SW7669 Summit Gray
Manuf: Sherwin Williams



**STOREFRONT DOORS/WINDOWS**

Color: Clear Anodized Aluminum
Manuf: YKK



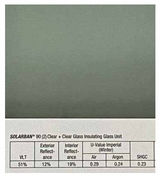
**STANDING SEAM METAL ROOF**

Color: Royal Blue
Manuf: Berridge



**OVERHEAD DOORS**

Color: White
Manuf: OHD CO.




**TINTED GLAZING**

Color: Solarban 90 on Clear
Manuf: Vitro Architectural Glass



**BOLLARDS**

Color: Safety Red
Manuf: Sherwin Williams



**EIFS CORNICE & TRIM**

Color: SW6966 Blue Blood
Manuf: Sherwin Williams
Keynote: 318

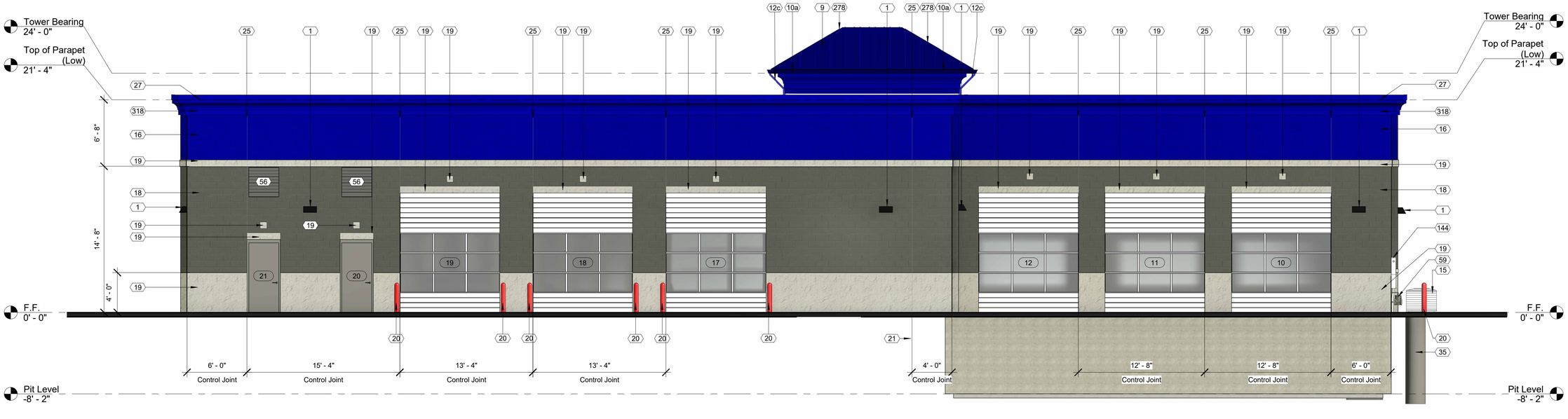


**CONDUCTOR HEADS / DOWNSPOUTS**

Color: SW7075 Web Gray
Manuf: Sherwin Williams
Keynote # 12

| MATERIAL PERCENTAGE CALCULATIONS | | |
|---|---|---|
| WALL ELEVATION (NOT INCLUDING DOORS/ROOF) | 1,918 S.F. | 100% |
| | | |
| PAINTED SMOOTH-FACE CMU (KEYNOTE #16) | 552 S.F. | 29% OF TOTAL |
| PAINTED SMOOTH-FACE CMU (KEYNOTE #18) | 733 S.F. | 38% OF TOTAL |
| PAINTED SPLIT-FACE CMU (KEYNOTE #19) | 351 S.F. | 18% OF TOTAL |
| PAINTED EIFS COPING/TRIM (KEYNOTE #318) | 282 S.F. | 15% OF TOTAL |

| Keynote Schedule | |
|---|---|
| Tag | Text |
| 1 | Wall Pack / Electrical Fixture. See Electrical. |
| 9 | Pre-finished standing seam metal roof system. See Specification 074113.16 Standing Seam Metal Roof Panels. See Finish Schedule for color. |
| 10a | Prefinished metal gutter. Match SSMR color. |
| 12c | Prefinished metal downspout. Match SSMR color. Discharge on TPO roof below. |
| 15 | HVAC condensing unit. See Mechanical. |
| 16 | Painted smooth-face CMU. See Specification 042200 Concrete Unit Masonry. Color as indicated on Finish Schedule. |
| 18 | Painted smooth-face CMU. See Specification 042200 Concrete Unit Masonry. Color as indicated on Finish Schedule. |
| 19 | Painted split-face CMU (bond beam where indicated; see Structural). See Specification 042200 Concrete Unit Masonry. Color as indicated on Finish Schedule. Project 1/2" where indicated on details. |
| 20 | 4" diameter painted concrete-filled steel pipe bollard. Color as indicated on Finish Schedule. Paint embedded portion of bollard. Use primer and two finish coats. See Details. See Specification 055000 Metal Fabrications. |
| 21 | Cast-in-place concrete wall. See Structural. Membrane waterproofing at perimeter of foundation wall as specified. See Specification 334600 Subdrainage. |
| 25 | Control joint. For control joints in concrete floor slabs, coordinate location with equipment layout by others. Max. distance between control joints in slabs not to exceed 12'-0". Control joints in walls shall be 4'-0" max from wall intersection or corner and every 20'-0". |
| 27 | Pre-finished metal coping at exposed tops only over self-adhered membrane flashing and pressure treated wood blocking. Slope to drain. Color as indicated on Finish Schedule. |
| 35 | Submersible foundation sump pump. Provide Zoeller M98 or comparable product. Coordinate location with Civil and tie into Civil's storm drainage system. |
| 56 | Metal louver or vent. Color to match adjacent surface. See Mechanical. |
| 59 | Gas meter. See Plumbing. |
| 144 | Electrical meter. See Electrical. |
| 278 | Prefinished metal ridge/hip cap by metal roofing manufacturer. Provide vent material at ridge only (Match roof color). |
| 318 | Painted preformed EIFS cornice and trim, See Specification Section 072400 EIFS Exterior Insulation and Finish System. |




1 02_Exterior Elevation_Rear (West)
3/16" = 1'-0"

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STATE OF OKLAHOMA
TIMOTHY AHO
A08460
LICENSED ARCHITECT
03/31/2026

Express Oil Change & Tire Engineers

Single Building / Left Hand Oil Change / Front Enter / Side Tire Storage

Wagoner, OK

FINAL

| No. | Description | Date |
|---|---|---|
| | | |
| IFP-0 | Issue for Permit | 01/28/2026 |
| IFB-0 | Issue for Bid | 03/31/2026 |
| IFC-0 | Issue for Construction | 04/22/2026 |
| | | |
| | | |
| | | |
| | | |
| | | |

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Exterior Elevation - Rear (West)

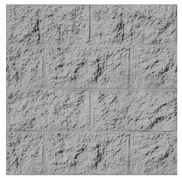
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|---|---|
| Project number | 25041 |
| Date | 01/28/2026 |
| Drawn by | ARC |
| Checked by | N/A |

A201

Scale 3/16" = 1'-0"

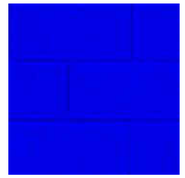
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# EXTERIOR FINISH MATERIAL LEGEND



**PAINTED SPLIT-FACE CMU**

Color: SW7669 Summit Gray
Manuf: Sherwin Williams
Keynote: 19



**PAINTED SMOOTH-FACE CMU**

Color: SW6966 Blueblood
Manuf: Sherwin Williams
Keynote: 16



**PAINTED SMOOTH-FACE CMU**

Color: SW7075 Web Gray
Manuf: Sherwin Williams
Keynote: 18



**PAINTED SMOOTH-FACE CMU**

Color: SW7669 Summit Gray
Manuf: Sherwin Williams
Keynote: 16



**HM DOORS**

Color: SW7669 Summit Gray
Manuf: Sherwin Williams



**STOREFRONT DOORS/WINDOWS**

Color: Clear Anoldized Aluminum
Manuf: YKK



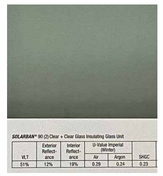
**STANDING SEAM METAL ROOF**

Color: Royal Blue
Manuf: Berridge



**OVERHEAD DOORS**

Color: White
Manuf: OHD CO.




**TINTED GLAZING**

Color: Solarban 90 on Clear
Manuf: Vitro Architectural Glass



**BOLLARDS**

Color: Safety Red
Manuf: Sherwin Williams



**EIFS CORNICE & TRIM**

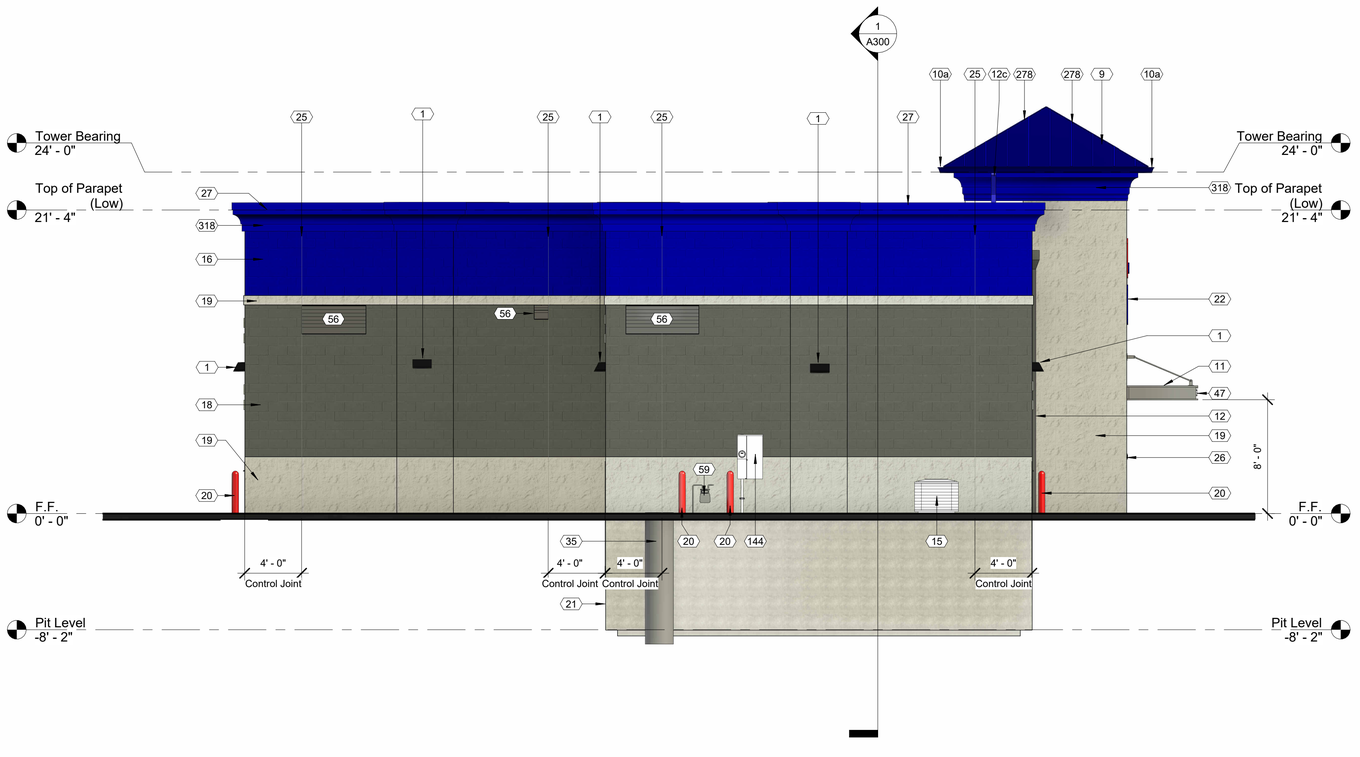
Color: SW6966 Blue Blood
Manuf: Sherwin Williams
Keynote: 318



**CONDUCTOR HEADS / DOWNSPOUTS**

Color: SW7075 Web Gray
Manuf: Sherwin Williams
Keynote # 12

| MATERIAL PERCENTAGE CALCULATIONS | | |
|---|---|---|
| WALL ELEVATION (NOT INCLUDING DOORS/ROOF) | 1,360 S.F. | 100% |
| | | |
| PAINTED SMOOTH-FACE CMU (KEYNOTE #16) | 249 S.F. | 18% OF TOTAL |
| PAINTED SMOOTH-FACE CMU (KEYNOTE #18) | 570 S.F. | 42% OF TOTAL |
| PAINTED SPLIT-FACE CMU (KEYNOTE #19) | 404 S.F. | 30% OF TOTAL |
| PAINTED EIFS COPING/TRIM (KEYNOTE #318) | 137 S.F. | 10% OF TOTAL |




1 03_Exterior Elevation_Left (South)
3/16" = 1'-0"

| Keynote Schedule | |
|---|---|
| Tag | Text |
| 1 | Wall Pack / Electrical Fixture. See Electrical. |
| 9 | Pre-finished standing seam metal roof system. See Specification 074113.16 Standing Seam Metal Roof Panels. See Finish Schedule for color. |
| 10a | Prefinished metal gutter. Match SSMR color. |
| 11 | Pre-finished metal canopy. See Details. |
| 12 | Pre-finished metal conductor head with built-in overflow and downspout. Drainage to discharge on grade, unless indicated on drawings that drainage is to be piped to storm, (See Civil). Provide a pre-finished elbow and concrete splash block. See Specification 077100 Roof Specialties. |
| 12c | Prefinished metal downspout. Match SSMR color. Discharge on TPO roof below. |
| 15 | HVAC condensing unit. See Mechanical. |
| 16 | Painted smooth-face CMU. See Specification 042200 Concrete Unit Masonry. Color as indicated on Finish Schedule. |
| 18 | Painted smooth-face CMU. See Specification 042200 Concrete Unit Masonry. Color as indicated on Finish Schedule. |
| 19 | Painted split-face CMU (bond beam where indicated; see Structural). See Specification 042200 Concrete Unit Masonry. Color as indicated on Finish Schedule. Project 1/2" where indicated on details. |
| 20 | 4" diameter painted concrete-filled steel pipe bollard. Color as indicated on Finish Schedule. Paint embedded portion of bollard. Use primer and two finish coats. See Details. See Specification 055000 Metal Fabrications. |
| 21 | Cast-in-place concrete wall. See Structural. Membrane waterproofing at perimeter of foundation wall as specified. See Specification 334600 Subdrainage. |
| 22 | Signage (By Others). See Electrical. |
| 25 | Control joint. For control joints in concrete floor slabs, coordinate location with equipment layout by others. Max. distance between control joints in slabs not to exceed 12'-0". Control joints in walls shall be 4'-0" max from wall intersection or corner and every 20'-0". |
| 26 | Fire Department Lock Box. Locate as directed by the Local Fire Marshal or AHJ. See Specification 104413 Fire Department Lock Box. |
| 27 | Pre-finished metal coping at exposed tops only over self-adhered membrane flashing and pressure treated wood blocking. Slope to drain. Color as indicated on Finish Schedule. |
| 35 | Submersible foundation sump pump. Provide Zoeller M98 or comparable product. Coordinate location with Civil and tie into Civil's storm drainage system. |
| 47 | Provide address identification as directed by the Local Fire Marshal or AHJ, but letter size shall not be less than 4 inches high. |
| 56 | Metal louver or vent. Color to match adjacent surface. See Mechanical. |
| 59 | Gas meter. See Plumbing. |
| 144 | Electrical meter. See Electrical. |
| 278 | Prefinished metal ridge/hip cap by metal roofing manufacturer. Provide vent material at ridge only (Match roof color). |
| 318 | Painted preformed EIFS cornice and trim, See Specification Section 072400 EIFS Exterior Insulation and Finish System. |


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STATE OF OKLAHOMA
TIMOTHY AHO
A08460
LICENSED ARCHITECT
03/31/2026


Express Oil Change & Tire Engineers

Single Building / Left Hand Oil Change / Front Enter / Side Tire Storage

Wagoner, OK

FINAL

| No. | Description | Date |
|---|---|---|
| | | |
| IFP-0 | Issue for Permit | 01/28/2026 |
| IFB-0 | Issue for Bid | 03/31/2026 |
| IFC-0 | Issue for Construction | 04/22/2026 |


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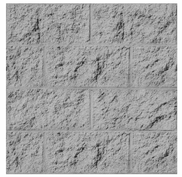

Exterior Elevation - Left (South)

| | |
|---|---|
| Project number | 25041 |
| Date | 01/28/2026 |
| Drawn by | ARC |
| Checked by | N/A |
| Scale | 3/16" = 1'-0" |

A202

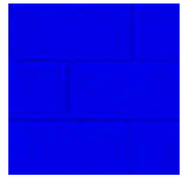
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# EXTERIOR FINISH MATERIAL LEGEND



**PAINTED SPLIT-FACE CMU**

Color: SW7669 Summit Gray
Manuf: Sherwin Williams
Keynote: 19



**PAINTED SMOOTH-FACE CMU**

Color: SW6966 Blueblood
Manuf: Sherwin Williams
Keynote: 16



**PAINTED SMOOTH-FACE CMU**

Color: SW7075 Web Gray
Manuf: Sherwin Williams
Keynote: 18



**PAINTED SMOOTH-FACE CMU**

Color: SW7669 Summit Gray
Manuf: Sherwin Williams
Keynote: 16



**HM DOORS**

Color: SW7669 Summit Gray
Manuf: Sherwin Williams



**STOREFRONT DOORS/WINDOWS**

Color: Clear Anodized Aluminum
Manuf: YKK



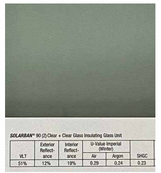
**STANDING SEAM METAL ROOF**

Color: Royal Blue
Manuf: Berridge



**OVERHEAD DOORS**

Color: White
Manuf: OHD CO.




**TINTED GLAZING**

Color: Solarban 90 on Clear
Manuf: Vitro Architectural Glass



**BOLLARDS**

Color: Safety Red
Manuf: Sherwin Williams



**EIFS CORNICE & TRIM**

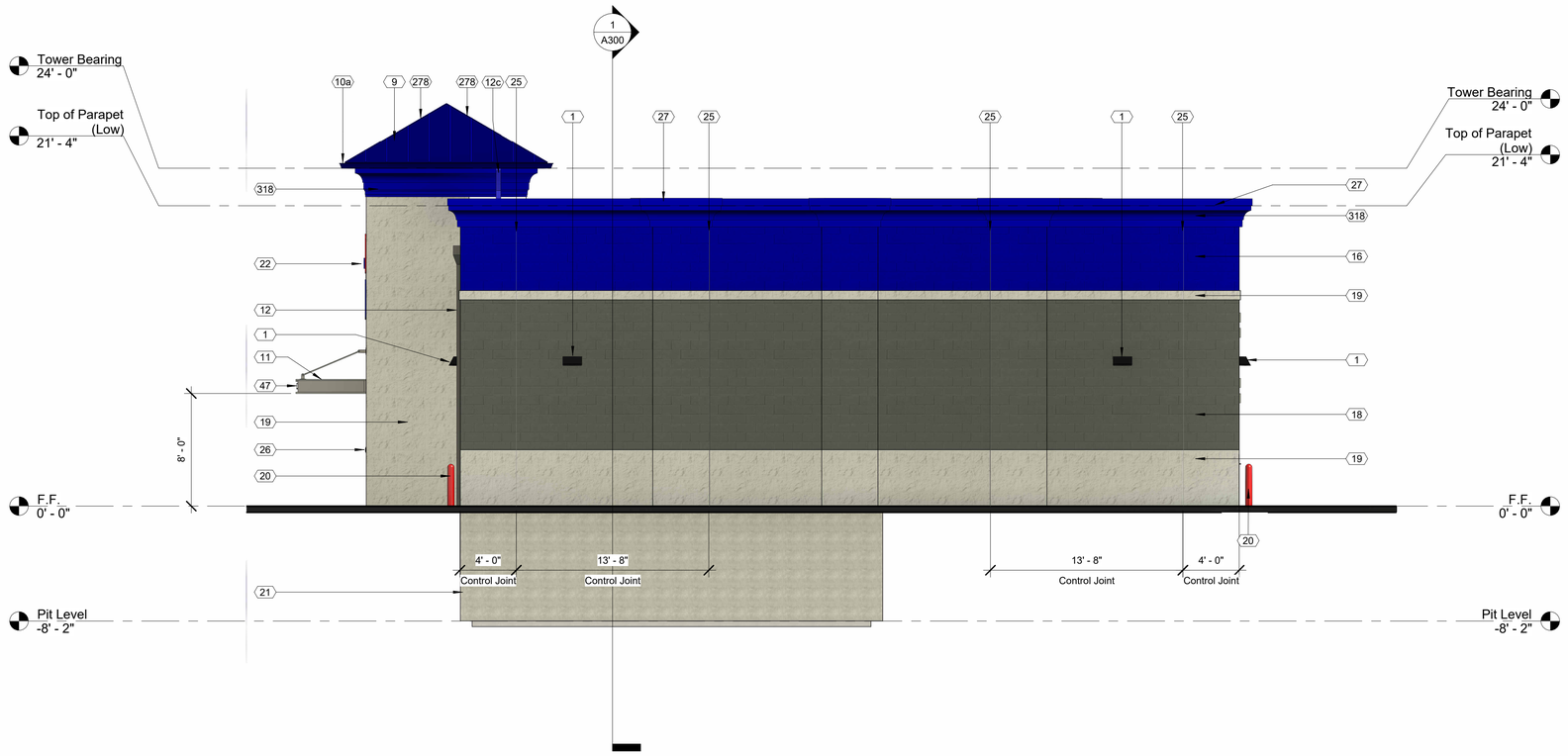
Color: SW6966 Blue Blood
Manuf: Sherwin Williams
Keynote: 318



**CONDUCTOR HEADS / DOWNSPOUTS**

Color: SW7075 Web Gray
Manuf: Sherwin Williams
Keynote # 12

| MATERIAL PERCENTAGE CALCULATIONS | | |
|---|---|---|
| WALL ELEVATION (NOT INCLUDING DOORS/ROOF) | 1,380 S.F. | 100% |
| | | |
| PAINTED SMOOTH-FACE CMU (KEYNOTE #16) | 249 S.F. | 18% OF TOTAL |
| PAINTED SMOOTH-FACE CMU (KEYNOTE #18) | 590 S.F. | 43% OF TOTAL |
| PAINTED SPLIT-FACE CMU (KEYNOTE #19) | 404 S.F. | 29% OF TOTAL |
| PAINTED EIFS COPING/TRIM (KEYNOTE #318) | 137 S.F. | 10% OF TOTAL |




1 04_Exterior Elevation_Right (North)
3/16" = 1'-0"

| Keynote Schedule | |
|---|---|
| Tag | Text |
| 1 | Wall Pack / Electrical Fixture. See Electrical. |
| 9 | Pre-finished standing seam metal roof system. See Specification 074113.16 Standing Seam Metal Roof Panels. See Finish Schedule for color. |
| 10a | Prefinished metal gutter. Match SSMR color. |
| 11 | Pre-finished metal canopy. See Details. |
| 12 | Pre-finished metal conductor head with built-in overflow and downspout. Drainage to discharge on grade, unless indicated on drawings that drainage is to be piped to storm. (See Civil). Provide a pre-finished elbow and concrete splash block. See Specification 077100 Roof Specialties. |
| 12c | Prefinished metal downspout. Match SSMR color. Discharge on TPO roof below. |
| 16 | Painted smooth-face CMU. See Specification 042200 Concrete Unit Masonry. Color as indicated on Finish Schedule. |
| 18 | Painted smooth-face CMU. See Specification 042200 Concrete Unit Masonry. Color as indicated on Finish Schedule. |
| 19 | Painted split-face CMU (bond beam where indicated; see Structural). See Specification 042200 Concrete Unit Masonry. Color as indicated on Finish Schedule. Project 1/2" where indicated on details. |
| 20 | 4" diameter painted concrete-filled steel pipe bollard. Color as indicated on Finish Schedule. Paint embedded portion of bollard. Use primer and two finish coats. See Details. See Specification 055000 Metal Fabrications. |
| 21 | Cast-in-place concrete wall. See Structural. Membrane waterproofing at perimeter of foundation wall as specified. See Specification 334600 Subdrainage. |
| 22 | Signage (By Others). See Electrical. |
| 25 | Control joint. For control joints in concrete floor slabs, coordinate location with equipment layout by others. Max. distance between control joints in slabs not to exceed 12'-0". Control joints in walls shall be 4'-0" max from wall intersection or corner and every 20'-0". |
| 26 | Fire Department Lock Box. Locate as directed by the Local Fire Marshal or AHJ. See Specification 104413 Fire Department Lock Box. |
| 27 | Pre-finished metal coping at exposed tops only over self-adhered membrane flashing and pressure treated wood blocking. Slope to drain. Color as indicated on Finish Schedule. |
| 47 | Provide address identification as directed by the Local Fire Marshal or AHJ, but letter size shall not be less than 4 inches high. |
| 278 | Prefinished metal ridge/hip cap by metal roofing manufacturer. Provide vent material at ridge only (Match roof color). |
| 318 | Painted preformed EIFS cornice and trim, See Specification Section 072400 EIFS Exterior Insulation and Finish System. |


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STATE OF OKLAHOMA
TIMOTHY AHO
A08460
LICENSED ARCHITECT
03/31/2026

Express Oil Change & Tire Engineers
Single Building / Left Hand Oil Change / Front Enter / Side Tire Storage
Wagoner, OK

FINAL

| No. | Description | Date |
|---|---|---|
| | | |
| IFP-0 | Issue for Permit | 01/28/2026 |
| IFB-0 | Issue for Bid | 03/31/2026 |
| IFC-0 | Issue for Construction | 04/22/2026 |


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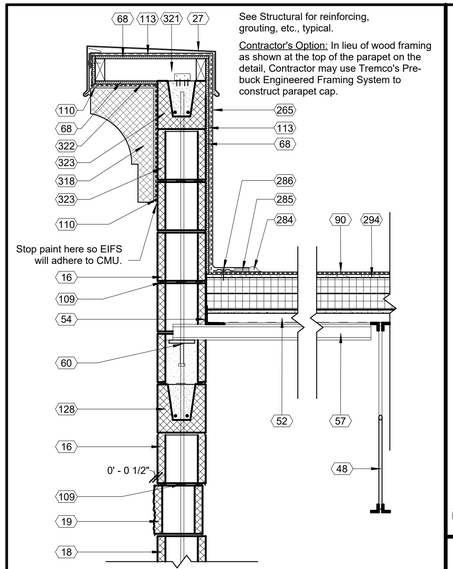

Exterior Elevation - Right (North)

| | |
|---|---|
| Project number | 25041 |
| Date | 01/28/2026 |
| Drawn by | ARC |
| Checked by | N/A |

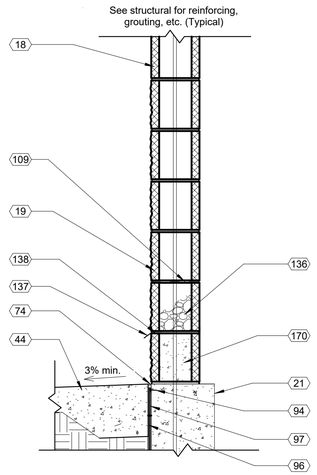
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Scale 3/16" = 1'-0"

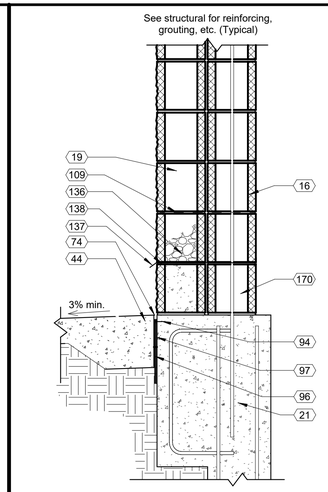
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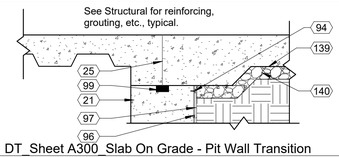

2 DT_Sheet A300 Roof at Parapet (Side Wall) Standard
1" = 1'-0"



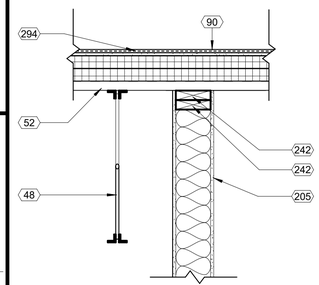

3 DT_Sheet A300_Water Table Detail @ Pit Wall Standard
1" = 1'-0"



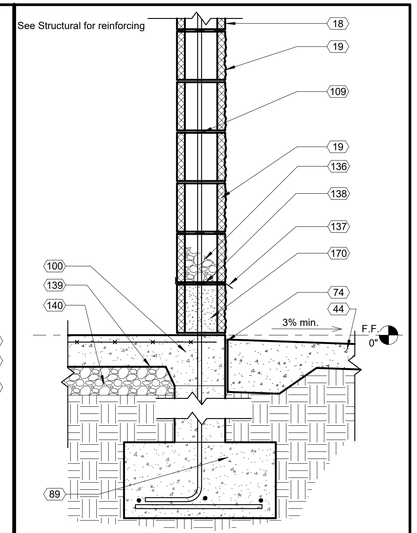

4 DT_Sheet A300_Water Table Detail @ Pit Wall @ Bumpout
1" = 1'-0"




5 DT_Sheet A300_Slab On Grade - Pit Wall Transition
1" = 1'-0"




7 DT_Sheet A300_Wall Detail at Roof
1" = 1'-0"




8 DT_Sheet A300_Slab On Grade (Stem Wall)
1" = 1'-0"

## Keynote Schedule

| Tag | Text |
|---|---|
| 1 | Wall Pack / Electrical Fixture. See Electrical. |
| 16 | Painted smooth-face CMU. See Specification 042200 Concrete Unit Masonry. Color as indicated on Finish Schedule. |
| 18 | Painted smooth-face CMU. See Specification 042200 Concrete Unit Masonry. Color as indicated on Finish Schedule. |
| 19 | Painted split-face CMU (bond beam where indicated; see Structural). See Specification 042200 Concrete Unit Masonry. Color as indicated on Finish Schedule. Project 1/2" where indicated on details. |
| 20 | 4" diameter painted concrete-filled steel pipe bollard. Color as indicated on Finish Schedule. Paint embedded portion of bollard. Use primer and two finish coats. See Details. See Specification 055000 Metal Fabrications. |
| 21 | Cast-in-place concrete wall. See Structural. Membrane waterproofing at perimeter of foundation wall as specified. See Specification 334600 Subdrainage. |
| 25 | Control joint. For control joints in concrete floor slabs, coordinate location with equipment layout by others. Max. distance between control joints in slabs not to exceed 12'-0". Control joints in walls shall be 4'-0" max from wall intersection or corner and every 20'-0". |
| 27 | Pre-finished metal coping at exposed tops only over self-adhered membrane flashing and pressure treated wood blocking. Slope to drain. Color as indicated on Finish Schedule. |
| 33 | ADA compliant room / exit sign. See Details. |

## Keynote Schedule

| Tag | Text |
|---|---|
| 35 | Submersible foundation sump pump. Provide Zoeller M98 or comparable product. Coordinate location with Civil and tie into Civil's storm drainage system. |
| 38 | Eyewash station. See Plumbing. |
| 44 | Concrete apron as required. Slope away from building with 3% slope minimum. See Civil. Maintain 2% slope max at all man doors. |
| 46 | Oil tank stairs (By Others). |
| 48 | Bar joist. See Structural. |
| 52 | Galvanized metal roof deck. See Structural. |
| 54 | Steel angle. See Structural. |
| 56 | Metal louver or vent. Color to match adjacent surface. See Mechanical. |
| 57 | Joist extension. See Structural. |
| 58 | Verify location and size of pit exhaust opening with Structural and Mechanical drawings. |
| 59 | Gas meter. See Plumbing. |
| 60 | Steel plate with headed studs. See Structural. |
| 62 | 4" high stainless steel chair rail (By Others). |
| 65 | Wood Wall. Use extreme bond primer. Graphics (By Others). |
| 68 | 1/2" exterior plywood sheathing. |
| 74 | 1/2" expansion joint with backer rod and sealant. |
| 89 | Concrete foundation. See Structural. |
| 90 | Fully adhered TPO membrane roofing installed per manufacturer's written instructions. See Specification 075423 Thermoplastic Polyolefin (TPO) Roofing. |
| 94 | Fasteners at 12" max o.c. for securing subdrainage to pit wall. Follow manufacturer's installation instructions. |

## Keynote Schedule

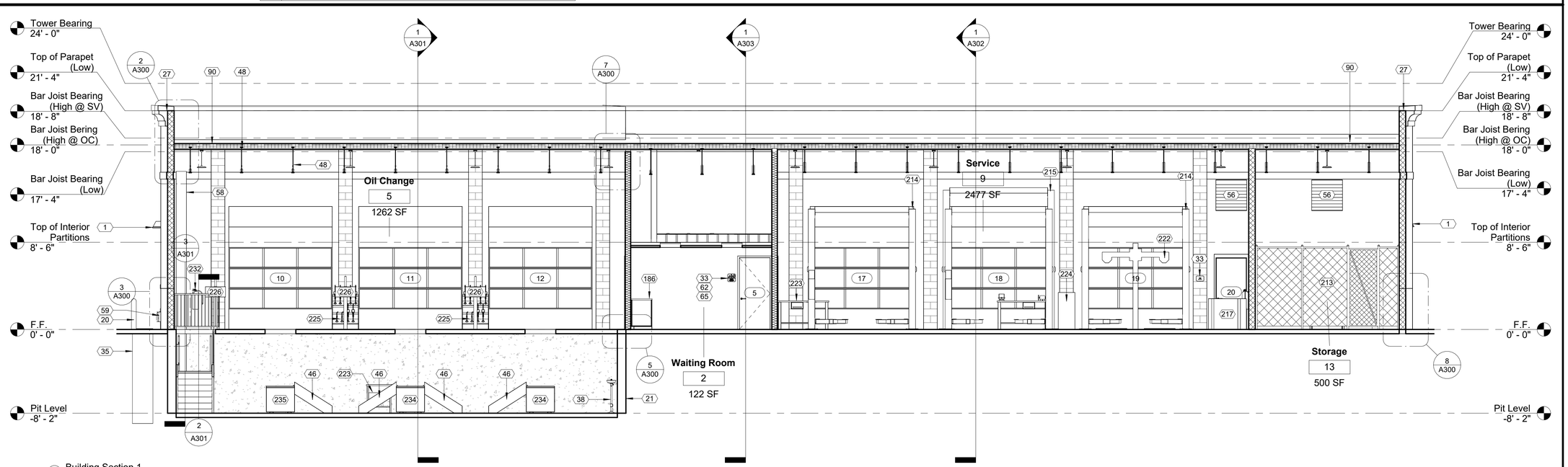
| Tag | Text |
|---|---|
| 96 | CCW MiraClay woven geotextile against wall/slab. |
| 97 | CCW MiraDrain 6200. |
| 99 | CCW MiraStop BW. |
| 100 | Concrete slab. See Structural. |
| 109 | Horizontal joint reinforcement at 16" o.c. vertical. |
| 110 | Sealant with backer rod. |
| 113 | Fluid applied vapor permeable air barrier. See Specification 072726 Fluid Applied Membrane Air Barrier. |
| 128 | Painted smooth-face 8" concrete-filled "U" block bond beam. Condition varies. See Structural. |
| 136 | Pea gravel above through wall flashing. |
| 137 | Flashing between first and second course to utilize BlockFlash in addition to the pea gravel specified. Provide a drainage mat in open masonry cell directly above the BlockFlash pan. |
| 138 | Drainable weeps at every third mortar joint. |
| 139 | 10 mil vapor barrier. See Specification 072600 Vapor Retarders. |
| 140 | Porous fill. See Geotechnical Report. |
| 170 | Fill first course of CMU with grout. |
| 186 | Coffee cabinet. |
| 205 | 1 layer of 1/2" painted gypsum board on both sides of 2"x6" wood studs at 16" o.c. Infill with kraft-faced R-20 batt insulation. Kraft in contact with gypsum board. |
| 213 | 8-foot-high chain-link fence with 3'-0"x7'-0" gate. Fence poles to be surface mounted. |
| 214 | 10K Lift (By Others). |

## Keynote Schedule

| Tag | Text |
|---|---|
| 215 | 12K Lift (By Others). |
| 217 | Wheel balancer (By Others). |
| 222 | Alignment scarecrow (By Others). |
| 223 | Work bench (By Others). |
| 224 | Strut compressor (By Others). |
| 225 | Lube console (By Others). |
| 226 | Computer podium (By Others). |
| 232 | Bracket mounted fire extinguisher. See Specification Section 104416 Fire Extinguishers. Provide sign at all fire extinguisher locations which may be visually obstructed. See Details. |
| 234 | 928-gallon Class IIIB new oil tank (By Others). Provide a 2" concrete walkway cap with non-slip surface over (oil tank By Others). Coordinate with equipment supplier prior to installation. |
| 235 | 928-gallon Class IIIB waste oil tank (By Others). Provide a 2" concrete walkway cap with non-slip surface over (oil tank By Others). Coordinate with equipment supplier prior to installation. |
| 242 | 2x pressure treated wood top plate. |
| 265 | TPO membrane turned vertically up the wall and fastened to wood blocking at top roof curb, or top of wall framing per detail. Adhere TPO membrane to wall substrate with manufacturer approved bonding adhesive. |
| 284 | Cut edge sealant at TPO roof membrane flashing. |
| 285 | Hot air weld at TPO membrane and membrane flashing. |
| 286 | Fastener and seam fastening plate. |

## Keynote Schedule

| Tag | Text |
|---|---|
| 294 | Polyisocyanurate insulation board (See TPO Spec for required R-value). Provide ½" cover board, mechanically fastened, over the top of insulation in locations where membrane roofing is to be applied. |
| 318 | Painted preformed EIFS cornice and trim, See Specification Section 072400 EIFS Exterior Insulation and Finish System. |
| 321 | 2x pressure treated wood framing spaced at 2'-0" o.c., minimum. Anchor 2x framing into grouted masonry cells using Simpson Strong Tie A23 angle ties. Secure angle ties on each side of framing members using 4 concrete screws on each side. |
| 322 | Vapor permeable air and water resistive barrier membrane. See Specification Section 072400 EIFS Exterior Insulation and Finish System. |
| 323 | Unpainted smooth-face CMU (bond beam where indicated; see Structural). See Specification 042200 Concrete Unit Masonry. |




1 Building Section 1
3/16" = 1'-0"


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STATE OF OKLAHOMA
TIMOTHY AHO
A08460
LICENSED ARCHITECT
03/31/2026


# Express Oil Change & Tire Engineers

Single Building / Left Hand Oil Change / Front Enter / Side Tire Storage

Wagoner, OK

FINAL

| No. | Description | Date |
|---|---|---|
| IFP-0 | Issue for Permit | 01/28/2026 |
| IFB-0 | Issue for Bid | 03/31/2026 |
| IFC-0 | Issue for Construction | 04/22/2026 |


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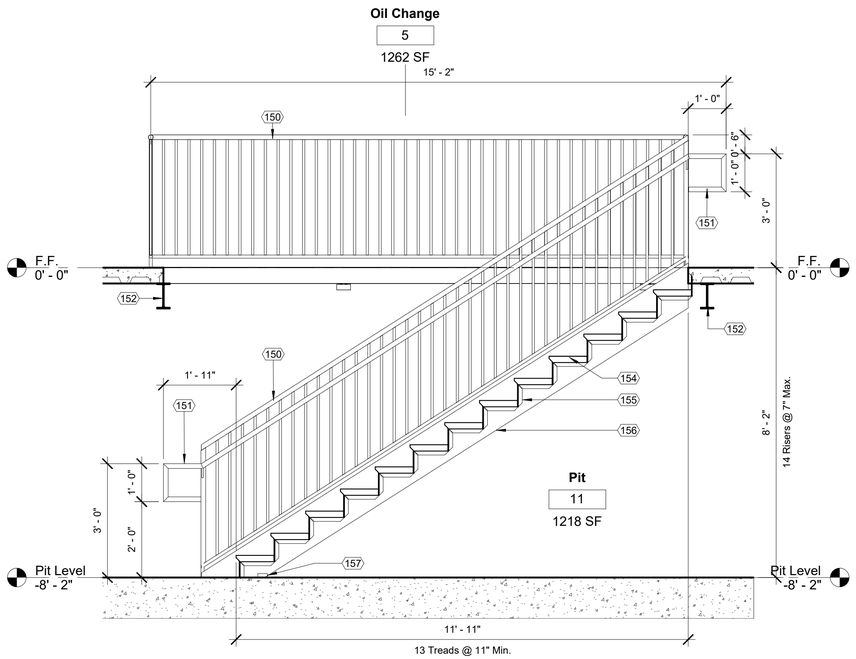

## Building Sections

| | |
|---|---|
| Project number | 25041 |
| Date | 01/28/2026 |
| Drawn by | ARC |
| Checked by | N/A |

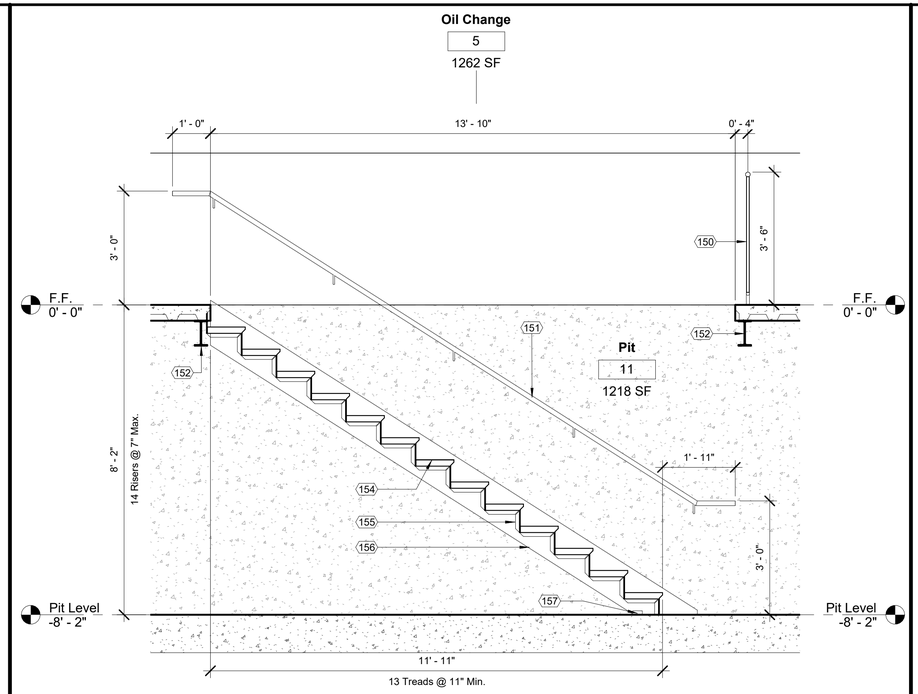
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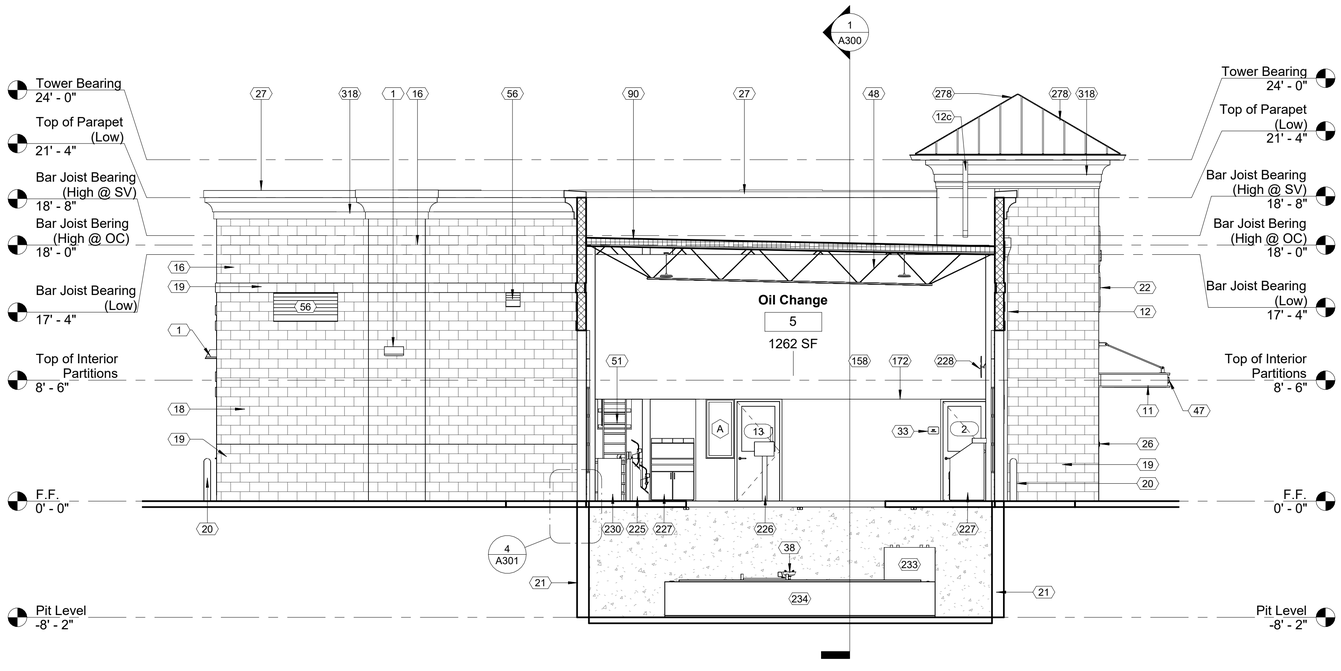
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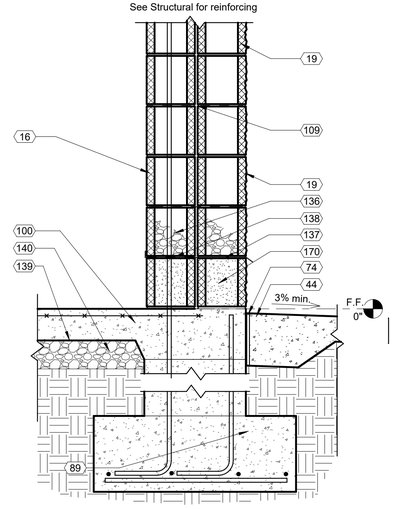

2 Stair Section 1
1/2" = 1'-0"



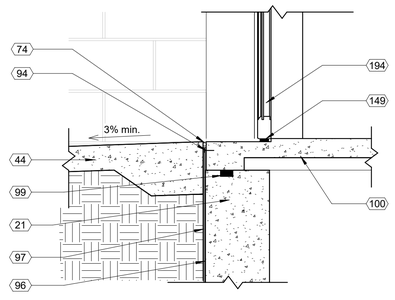

3 Stair Section 2
1/2" = 1'-0"




1 Building Section 2
3/16" = 1'-0"




5 DT_Sheet A300_Slab On Grade (Stem Wall) @ Bumpout
1" = 1'-0"




4 DT_Sheet A301_Slab Detail @ Pit Wall
1" = 1'-0"

## Keynote Schedule

| Tag | Text |
|---|---|
| 1 | Wall Pack / Electrical Fixture. See Electrical. |
| 11 | Pre-finished metal canopy. See Details. |
| 12 | Pre-finished metal conductor head with built-in overflow and downspout. Drainage to discharge on grade, unless indicated on drawings that drainage is to be piped to storm, (See Civil). Provide a pre-finished elbow and concrete splash block. See Specification 077100 Roof Specialties. |
| 12c | Prefinished metal downspout. Match SSMR color. Discharge on TPO roof below. |
| 16 | Painted smooth-face CMU. See Specification 042200 Concrete Unit Masonry. Color as indicated on Finish Schedule. |
| 18 | Painted smooth-face CMU. See Specification 042200 Concrete Unit Masonry. Color as indicated on Finish Schedule. |
| 19 | Painted split-face CMU (bond beam where indicated; see Structural). See Specification 042200 Concrete Unit Masonry. Color as indicated on Finish Schedule. Project 1/2" where indicated on details. |
| 20 | 4" diameter painted concrete-filled steel pipe bollard. Color as indicated on Finish Schedule. Paint embedded portion of bollard. Use primer and two finish coats. See Details. See Specification 055000 Metal Fabrications. |
| 21 | Cast-in-place concrete wall. See Structural. Membrane waterproofing at perimeter of foundation wall as specified. See Specification 334600 Subdrainage. |
| 22 | Signage (By Others). See Electrical. |
| 26 | Fire Department Lock Box. Locate as directed by the Local Fire Marshal or AHJ. See Specification 104413 Fire Department Lock Box. |
| 27 | Pre-finished metal coping at exposed tops only over self-adhered membrane flashing and pressure treated wood blocking. Slope to drain. Color as indicated on Finish Schedule. |
| 33 | ADA compliant room / exit sign. See Details. |
| 38 | Eyewash station. See Plumbing. |
| 44 | Concrete apron as required. Slope away from building with 3% slope minimum. See Civil. Maintain 2% slope max at all man doors. |
| 47 | Provide address identification as directed by the Local Fire Marshal or AHJ, but letter size shall not be less than 4 inches high. |
| 48 | Bar joist. See Structural. |
| 51 | Attic access ladder. |
| 56 | Metal louver or vent. Color to match adjacent surface. See Mechanical. |
| 74 | 1/2" expansion joint with backer rod and sealant. |
| 89 | Concrete foundation. See Structural. |
| 90 | Fully adhered TPO membrane roofing installed per manufacturer's written instructions. See Specification 075423 Thermoplastic Polyolefin (TPO) Roofing. |
| 94 | Fasteners at 12" max o.c. for securing subdrainage to pit wall. Follow manufacturer's installation instructions. |
| 96 | CCW MiraClay woven geotextile against wall/slab. |
| 97 | CCW MiraDrain 6200. |
| 99 | CCW MiraStop BW. |
| 100 | Concrete slab. See Structural. |
| 109 | Horizontal joint reinforcement at 16" o.c. vertical. |
| 136 | Pea gravel above through wall flashing. |
| 137 | Flashing between first and second course to utilize BlockFlash in addition to the pea gravel specified. Provide a drainage mat in open masonry cell directly above the BlockFlash pan. |
| 138 | Drainable weeps at every third mortar joint. |
| 139 | 10 mil vapor barrier. See Specification 072600 Vapor Retarders. |
| 140 | Porous fill. See Geotechnical Report. |
| 149 | 1/2" recess at scheduled door. See Structural. |
| 150 | Painted guardrail with painted 1/2" round pickets at 4" max o.c. See Finish Schedule for color. See Specification 055213 Pipe and Tube Railings. |
| 151 | Painted 1-1/2" outside diameter pipe handrail. Return handrail to guard/wall. Typical. See Finish Schedule for color. See Specification 055213 Pipe and Tube Railings. |
| 152 | Paint all structural steel P-5 Safety Yellow. |
| 154 | Concrete filled pre-fabricated metal pan stair treads with safety yellow abrasive nosing, full grit, full length, adhered and fastened. Typical. See Finish Schedule for color. See Specification 055113 Metal Pan Stairs. |
| 155 | 1-1/4" steel angle clips. |
| 156 | 10" steel channel stringer. See Finish Schedule for color. See Specification 055113 Metal Pan Stairs. |
| 157 | 3"x3"x3-1/4" angle floor clip. |
| 158 | Vinyl letters (By Others). |
| 170 | Fill first course of CMU with grout. |
| 172 | Ensure paint line occurs at top of door and window frames. Ensure all openings, alcoves and windows align with top of door frame. Typical in Oil and Service Bays. |
| 194 | Scheduled door. See plans for details. |
| 225 | Lube console (By Others). |
| 226 | Computer podium (By Others). |
| 227 | Cashier computer station (By Others). Clear opening for cashier computer station must be 38 ½" wide minimum. No Exceptions. |
| 228 | Convex mirrors (By Others). |
| 230 | Tool cart (By Others). |
| 233 | 275-gallon Class IIIB new oil tank (By Others). |
| 234 | 928-gallon Class IIIB new oil tank (By Others). Provide a 2" concrete walkway cap with non-slip surface over (oil tank By Others). Coordinate with equipment supplier prior to installation. |
| 278 | Prefinished metal ridge/hip cap by metal roofing manufacturer. Provide vent material at ridge only (Match roof color). |
| 318 | Painted preformed EIFS cornice and trim, See Specification Section 072400 EIFS Exterior Insulation and Finish System. |

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STATE OF OKLAHOMA
TIMOTHY AHO
A08460
LICENSED ARCHITECT
03/31/2026

# Express Oil Change & Tire Engineers

Single Building / Left Hand Oil Change / Front Enter / Side Tire Storage

Wagoner, OK

FINAL

| No. | Description | Date |
|---|---|---|
| | | |
| IFP-0 | Issue for Permit | 01/28/2026 |
| IFB-0 | Issue for Bid | 03/31/2026 |
| IFC-0 | Issue for Construction | 04/22/2026 |

2026
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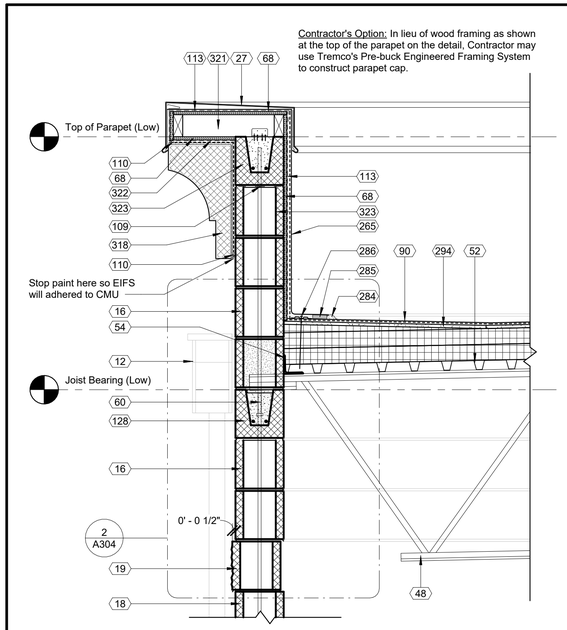
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|---|---|
| Project number | 25041 |
| Date | 01/28/2026 |
| Drawn by | ARC |
| Checked by | N/A |

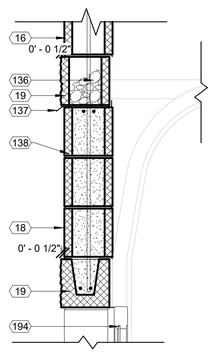
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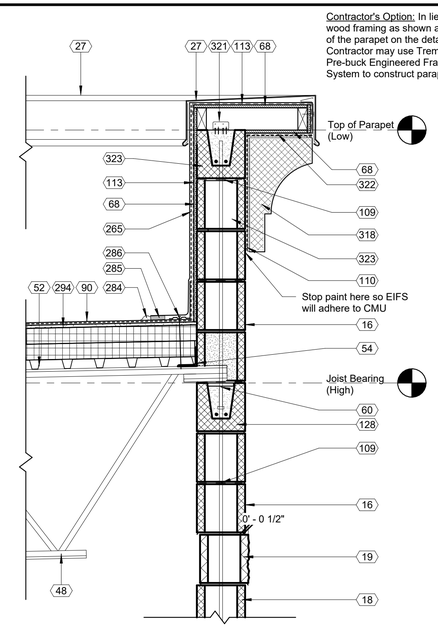
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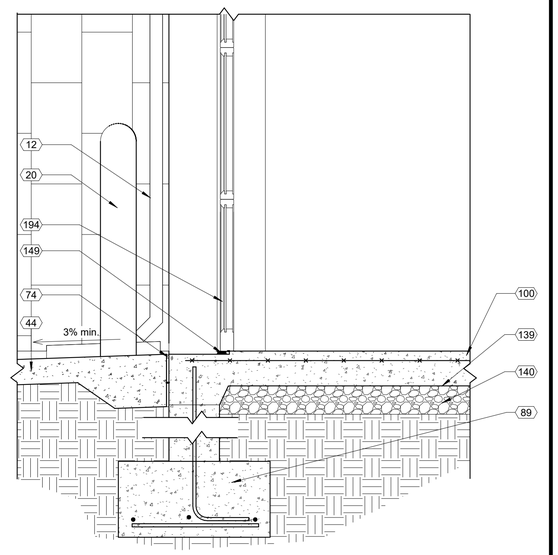

2 DT_Sheet A302 Roof at Parapet (Low) Standard
1" = 1'-0"



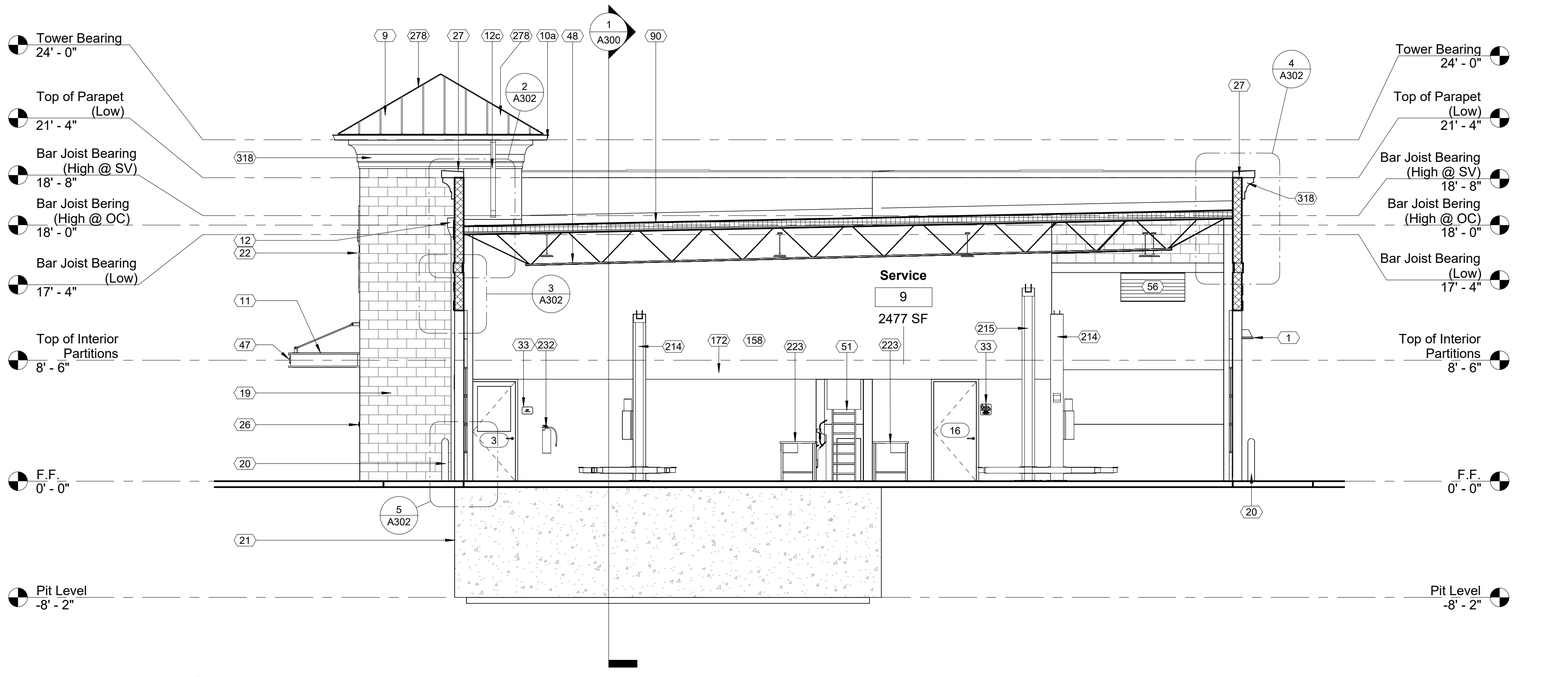

3 DT_Sheet A302_OH Door Head Detail
1" = 1'-0"




4 DT_Sheet A302 Roof at Parapet (High) Standard
1" = 1'-0"




5 DT_Sheet A302_Slab on Grade @ OH Door (Stem Wall)
1" = 1'-0"




1 Building Section 3
3/16" = 1'-0"

## Keynote Schedule

| Tag | Text |
|---|---|
| 1 | Wall Pack / Electrical Fixture. See Electrical. |
| 9 | Pre-finished standing seam metal roof system. See Specification 074113.16 Standing Seam Metal Roof Panels. See Finish Schedule for color. |
| 10a | Prefinished metal gutter. Match SSMR color. |
| 11 | Pre-finished metal canopy. See Details. |
| 12 | Pre-finished metal conductor head with built-in overflow and downspout. Drainage to discharge on grade, unless indicated on drawings that drainage is to be piped to storm, (See Civil). Provide a pre-finished elbow and concrete splash block. See Specification 077100 Roof Specialties. |
| 12c | Prefinished metal downspout. Match SSMR color. Discharge on TPO roof below. |
| 16 | Painted smooth-face CMU. See Specification 042200 Concrete Unit Masonry. Color as indicated on Finish Schedule. |
| 18 | Painted smooth-face CMU. See Specification 042200 Concrete Unit Masonry. Color as indicated on Finish Schedule. |
| 19 | Painted split-face CMU (bond beam where indicated; see Structural). See Specification 042200 Concrete Unit Masonry. Color as indicated on Finish Schedule. Project 1/2" where indicated on details. |
| 20 | 4" diameter painted concrete-filled steel pipe bollard. Color as indicated on Finish Schedule. Paint embedded portion of bollard. Use primer and two finish coats. See Details. See Specification 055000 Metal Fabrications. |
| 21 | Cast-in-place concrete wall. See Structural. Membrane waterproofing at perimeter of foundation wall as specified. See Specification 334600 Subdrainage. |
| 22 | Signage (By Others). See Electrical. |
| 26 | Fire Department Lock Box. Locate as directed by the Local Fire Marshal or AHJ. See Specification 104413 Fire Department Lock Box. |
| 27 | Pre-finished metal coping at exposed tops only over self-adhered membrane flashing and pressure treated wood blocking. Slope to drain. Color as indicated on Finish Schedule. |
| 33 | ADA compliant room / exit sign. See Details. |
| 44 | Concrete apron as required. Slope away from building with 3% slope minimum. See Civil. Maintain 2% slope max at all man doors. |
| 47 | Provide address identification as directed by the Local Fire Marshal or AHJ, but letter size shall not be less than 4 inches high. |
| 48 | Bar joist. See Structural. |
| 51 | Attic access ladder. |
| 52 | Galvanized metal roof deck. See Structural. |
| 54 | Steel angle. See Structural. |
| 56 | Metal louver or vent. Color to match adjacent surface. See Mechanical. |
| 60 | Steel plate with headed studs. See Structural. |
| 68 | 1/2" exterior plywood sheathing. |
| 74 | 1/2" expansion joint with backer rod and sealant. |
| 89 | Concrete foundation. See Structural. |
| 90 | Fully adhered TPO membrane roofing installed per manufacturer's written instructions. See Specification 075423 Thermoplastic Polyolefin (TPO) Roofing. |
| 100 | Concrete slab. See Structural. |
| 109 | Horizontal joint reinforcement at 16" o.c. vertical. |
| 110 | Sealant with backer rod. |
| 113 | Fluid applied vapor permeable air barrier. See Specification 072726 Fluid Applied Membrane Air Barrier. |
| 128 | Painted smooth-face 8" concrete-filled "U" block bond beam. Condition varies. See Structural. |
| 136 | Pea gravel above through wall flashing. |
| 137 | Flashing between first and second course to utilize BlockFlash in addition to the pea gravel specified. Provide a drainage mat in open masonry cell directly above the BlockFlash pan. |
| 138 | Drainable weeps at every third mortar joint. |
| 139 | 10 mil vapor barrier. See Specification 072600 Vapor Retarders. |
| 140 | Porous fill. See Geotechnical Report. |
| 149 | 1/2" recess at scheduled door. See Structural. |
| 158 | Vinyl letters (By Others). |
| 172 | Ensure paint line occurs at top of door and window frames. Ensure all openings, alcoves and windows align with top of door frame. Typical in Oil and Service Bays. |
| 194 | Scheduled door. See plans for details. |
| 214 | 10K Lift (By Others). |
| 215 | 12K Lift (By Others). |
| 223 | Work bench (By Others). |
| 232 | Bracket mounted fire extinguisher. See Specification Section 104416 Fire Extinguishers. Provide sign at all fire extinguisher locations which may be visually obstructed. See Details. |
| 265 | TPO membrane turned vertically up the wall and fastened to wood blocking at top roof curb, or top of wall framing per detail. Adhere TPO membrane to wall substrate with manufacturer approved bonding adhesive. |
| 278 | Prefinished metal ridge/hip cap by metal roofing manufacturer. Provide vent material at ridge only (Match roof color). |
| 284 | Cut edge sealant at TPO roof membrane flashing. |
| 285 | Hot air weld at TPO membrane and membrane flashing. |
| 286 | Fastener and seam fastening plate. |
| 294 | Polyisocyanurate insulation board (See TPO Spec for required R-value). Provide ½" cover board, mechanically fastened, over the top of insulation in locations where membrane roofing is to be applied. |
| 318 | Painted preformed EIFS cornice and trim, See Specification Section 072400 EIFS Exterior Insulation and Finish System. |
| 321 | 2x pressure treated wood framing spaced at 2'-0" o.c., minimum. Anchor 2x framing into grouted masonry cells using Simpson Strong Tie A23 angle ties. Secure angle ties on each side of framing members using 4 concrete screws on each side. |
| 322 | Vapor permeable air and water resistive barrier membrane. See Specification Section 072400 EIFS Exterior Insulation and Finish System. |
| 323 | Unpainted smooth-face CMU (bond beam where indicated; see Structural). See Specification 042200 Concrete Unit Masonry. |


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STATE OF OKLAHOMA
TIMOTHY AHO
A08460
LICENSED ARCHITECT
03/31/2026

# Express Oil Change & Tire Engineers

Single Building / Left Hand Oil Change / Front Enter / Side Tire Storage

Wagoner, OK

FINAL

| No. | Description | Date |
|---|---|---|
| | | |
| IFP-0 | Issue for Permit | 01/28/2026 |
| IFB-0 | Issue for Bid | 03/31/2026 |
| IFC-0 | Issue for Construction | 04/22/2026 |


2026
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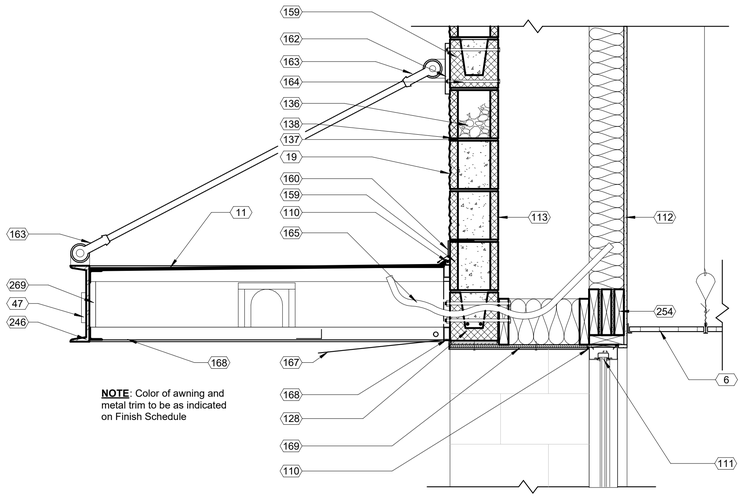

## Building Sections

| | |
|---|---|
| Project number | 25041 |
| Date | 01/28/2026 |
| Drawn by | ARC |
| Checked by | N/A |

A302

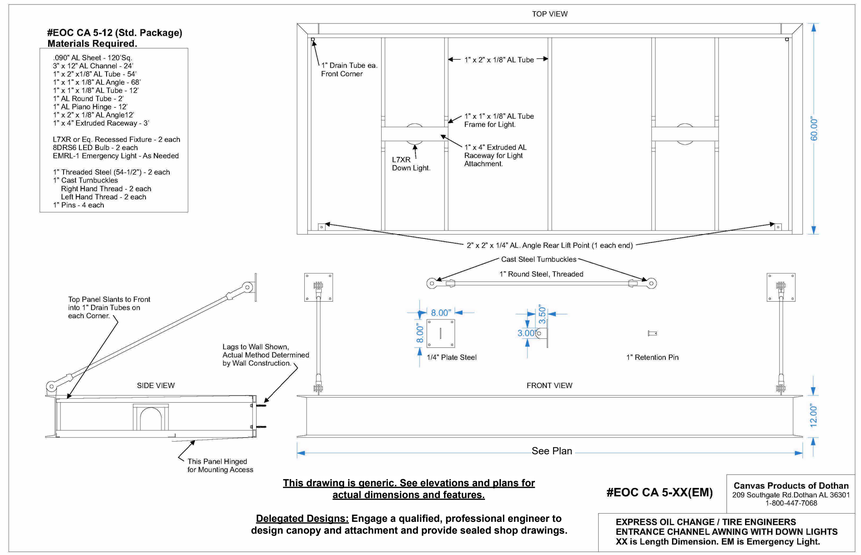
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**NOTE**: Color of awning and metal trim to be as indicated on Finish Schedule

2 DT_Sheet A303_Awning Section
1" = 1'-0"




**This drawing is generic. See elevations and plans for actual dimensions and features.**

**Delegated Designs:** Engage a qualified, professional engineer to design canopy and attachment and provide sealed shop drawings.

**#EOC CA 5-XX(EM)**

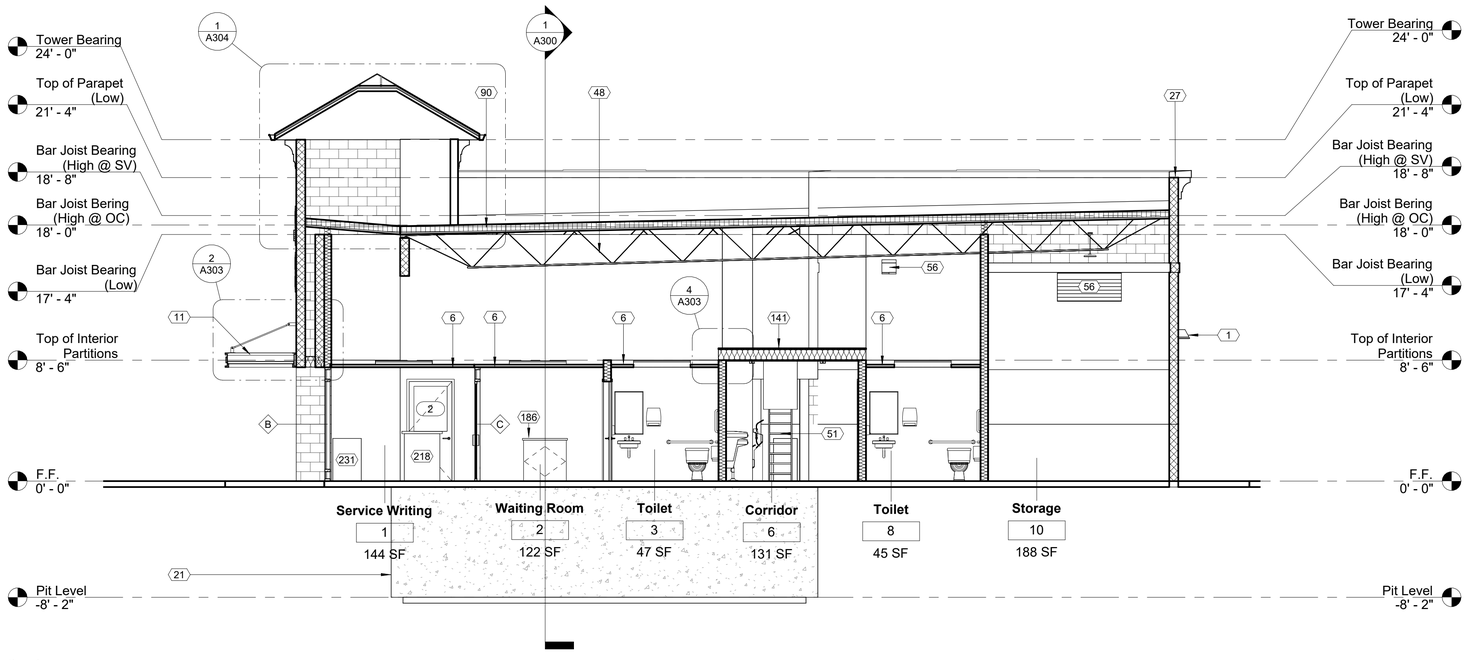
**Canvas Products of Dothan**
209 Southgate Rd.Dothan AL 36301
1-800-447-7068

**EXPRESS OIL CHANGE / TIRE ENGINEERS ENTRANCE CHANNEL AWNING WITH DOWN LIGHTS XX is Length Dimension. EM is Emergency Light.**

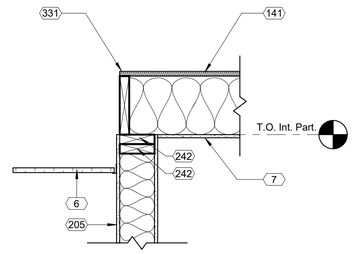
3 DT_Sheet A303_Awning Details
N.T.S.

## Keynote Schedule

| Tag | Text |
|---|---|
| 1 | Wall Pack / Electrical Fixture. See Electrical. |
| 6 | Lay-in acoustical ceiling tile and grid, supported from structure. |
| 7 | Painted 1/2" gypsum board ceiling secured to structure above. 5/8" Type X where indicated. See Details for # of layers. |
| 11 | Pre-finished metal canopy. See Details. |
| 19 | Painted split-face CMU (bond beam where indicated; see Structural). See Specification 042200 Concrete Unit Masonry. Color as indicated on Finish Schedule. Project 1/2" where indicated on details. |
| 21 | Cast-in-place concrete wall. See Structural. Membrane waterproofing at perimeter of foundation wall as specified. See Specification 334600 Subdrainage. |
| 27 | Pre-finished metal coping at exposed tops only over self-adhered membrane flashing and pressure treated wood blocking. Slope to drain. Color as indicated on Finish Schedule. |
| 47 | Provide address identification as directed by the Local Fire Marshal or AHJ, but letter size shall not be less than 4 inches high. |
| 48 | Bar joist. See Structural. |
| 51 | Attic access ladder. |
| 56 | Metal louver or vent. Color to match adjacent surface. See Mechanical. |
| 90 | Fully adhered TPO membrane roofing installed per manufacturer's written instructions. See Specification 075423 Thermoplastic Polyolefin (TPO) Roofing. |
| 110 | Sealant with backer rod. |
| 111 | Aluminum storefront with insulated glazing. See Details. |
| 112 | Painted 1/2" gypsum board on 2x6 wood studs at 16" o.c. with kraft-face R-20 batt insulation (kraft in contact with gypsum board). See Details. |
| 113 | Fluid applied vapor permeable air barrier. See Specification 072726 Fluid Applied Membrane Air Barrier. |
| 128 | Painted smooth-face 8" concrete-filled "U" block bond beam. Condition varies. See Structural. |
| 136 | Pea gravel above through wall flashing. |
| 137 | Flashing between first and second course to utilize BlockFlash in addition to the pea gravel specified. Provide a drainage mat in open masonry cell directly above the BlockFlash pan. |
| 138 | Drainable weeps at every third mortar joint. |
| 141 | 3/4" tongue and groove plywood on 2x10 wood joists @ 12" o.c. Provide R-38 batt kraft face insulation in between joists. Kraft face in contact with substrate. (If applicable, it shall be the Contractor's option to provide plywood attached to bottom of joists for insulation to rest on or secure insulation to joists without the need for the plywood bottom). |
| 159 | Painted smooth-face grout-filled CMU where canopy attaches to wall construction. See Structural. |
| 160 | Pre-finished aluminum flashing to match color of canopy. Turn out onto canopy. |
| 162 | Pre-finished 8"x8"x1/4" steel plate anchored to wall using through wall fasteners by Canopy manufacturer's designated design. |
| 163 | Pre-finished 1" cast steel turnbuckle with 1" threaded steel rod and 1" pins. |
| 164 | Anchor canopy to wall using through wall fasteners by Canopy manufacturer's designated design. |
| 165 | Provide a 1" flexible conduit extending 12" beyond the face of the wall for canopy lighting. See Electrical. |
| 167 | Pre-finished hinged panel for mounting access. Color to match canopy. |
| 168 | 1"x2" aluminum tube. Typical. |
| 169 | Pre-finished metal over 1/2" pressure treated plywood. Terminate at aluminum storefront. Turn up pre-finished metal 1" at edge where metal meets canopy. Secure panel to plywood with fasteners compatible with type and color of metal being used. |
| 186 | Coffee cabinet. |
| 205 | 1 layer of 1/2" painted gypsum board on both sides of 2"x6" wood studs at 16" o.c. Infill with kraft-faced R-20 batt insulation. Kraft in contact with gypsum board. |
| 218 | Service Writing Desk. |
| 231 | Beverage refrigerator (By Others). |
| 242 | 2x pressure treated wood top plate. |
| 246 | 3"x12" aluminum channel. |
| 254 | 2x wood framing at opening. |
| 269 | 1" drain tube beyond. Slope top panel of canopy toward the drain tube at the front of the canopy. |
| 331 | Provide 42" guards at all exposed edges of above ceiling platforms. Concentrated Load: Guards shall be designed to resist a concentrated load of 200 pounds in accordance with Section 4.5.1 of ASCE/SEI 7. Uniform Load: Guards shall be designed to resist a linear load of 50 pounds per linear foot in accordance with Section 4.5.1.1 of ASCE/SEI 7. This load need not be assumed to act concurrently with the concentrated load specified above. Guard infill components except the top rail shall be designed to resist a concentrated load of 50 pounds in accordance with Section 4.5.1.2 of ASCE/SEI 7. |




1 Building Section 4
3/16" = 1'-0"




4 DT_Sheet A300_Wall Detail @ Platform
1" = 1'-0"

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STATE OF OKLAHOMA
TIMOTHY AHO
A08460
LICENSED ARCHITECT
03/31/2026

# Express Oil Change & Tire Engineers

Single Building / Left Hand Oil Change / Front Enter / Side Tire Storage

Wagoner, OK

FINAL

| No. | Description | Date |
|---|---|---|
| | | |
| IFP-0 | Issue for Permit | 01/28/2026 |
| IFB-0 | Issue for Bid | 03/31/2026 |
| IFC-0 | Issue for Construction | 04/22/2026 |

2026
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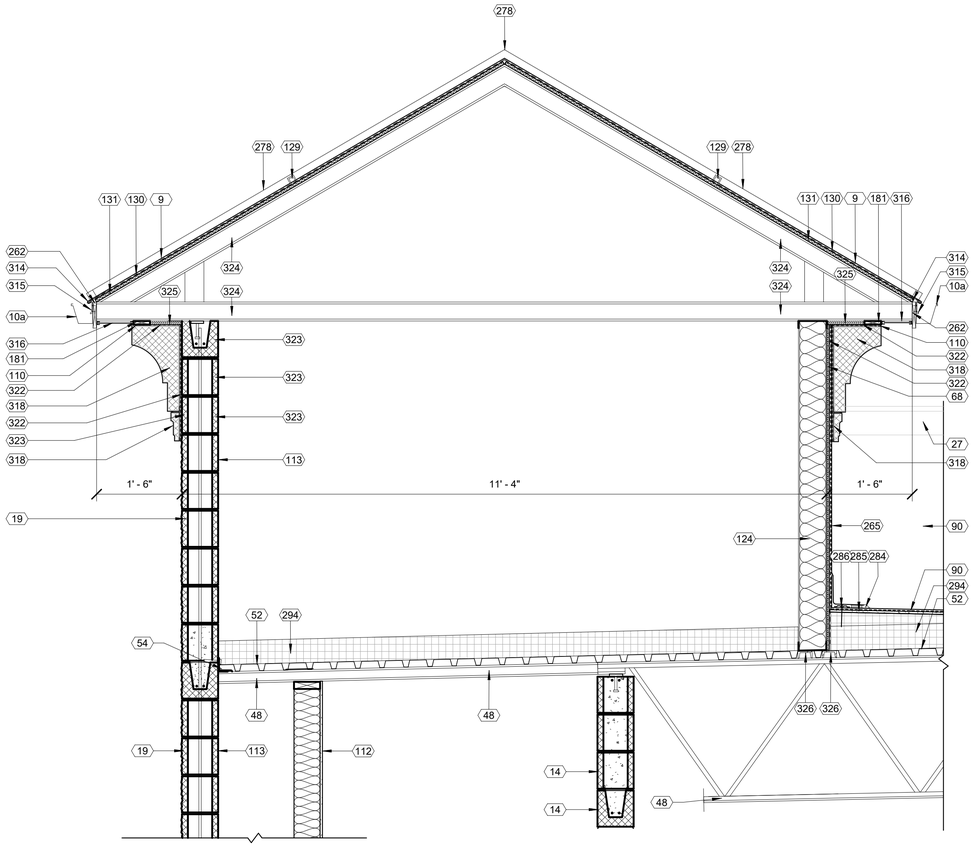
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| Date | 01/28/2026 |
| Drawn by | ARC |
| Checked by | N/A |

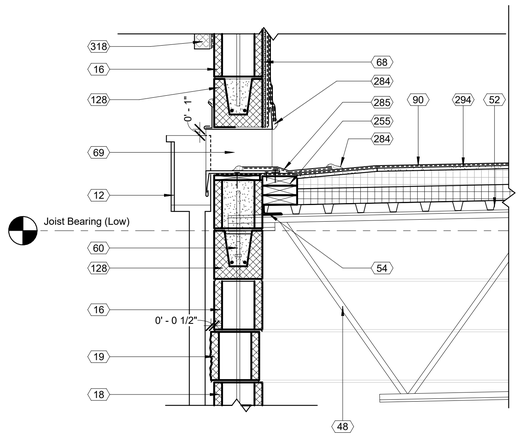
**A303**

Scale: As indicated

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1 DT_Sheet A304_Single Building_Section Thru Front Entry Tower
3/4" = 1'-0"




2 DT_Sheet A304 Roof Scupper Detail (Rear) Standard
1" = 1'-0"

## Keynote Schedule

| Tag | Text |
|---|---|
| 9 | Pre-finished standing seam metal roof system. See Specification 074113.16 Standing Seam Metal Roof Panels. See Finish Schedule for color. |
| 10a | Prefinished metal gutter. Match SSMR color. |
| 12 | Pre-finished metal conductor head with built-in overflow and downspout. Drainage to discharge on grade, unless indicated on drawings that drainage is to be piped to storm, (See Civil). Provide a pre-finished elbow and concrete splash block. See Specification 077100 Roof Specialties. |
| 14 | Painted smooth-face CMU (bond beam where indicated; see Structural). See Specification 042200 Concrete Unit Masonry. Color as indicated on Finish Schedule. |
| 16 | Painted smooth-face CMU. See Specification 042200 Concrete Unit Masonry. Color as indicated on Finish Schedule. |
| 18 | Painted smooth-face CMU. See Specification 042200 Concrete Unit Masonry. Color as indicated on Finish Schedule. |
| 19 | Painted split-face CMU (bond beam where indicated; see Structural). See Specification 042200 Concrete Unit Masonry. Color as indicated on Finish Schedule. Project 1/2" where indicated on details. |
| 27 | Pre-finished metal coping at exposed tops only over self-adhered membrane flashing and pressure treated wood blocking. Slope to drain. Color as indicated on Finish Schedule. |
| 48 | Bar joist. See Structural. |
| 52 | Galvanized metal roof deck. See Structural. |
| 54 | Steel angle. See Structural. |
| 60 | Steel plate with headed studs. See Structural. |
| 68 | 1/2" exterior plywood sheathing. |
| 69 | Thru-wall metal roof scupper for roof drainage. See Specification 077100 Roof Specialties. |
| 90 | Fully adhered TPO membrane roofing installed per manufacturer's written instructions. See Specification 075423 Thermoplastic Polyolefin (TPO) Roofing. |
| 110 | Sealant with backer rod. |
| 112 | Painted 1/2" gypsum board on 2x6 wood studs at 16" o.c. with kraft-face R-20 batt insulation (kraft in contact with gypsum board). See Details. |
| 113 | Fluid applied vapor permeable air barrier. See Specification 072726 Fluid Applied Membrane Air Barrier. |
| 124 | 6" metal structural C-stud framing at 16" o.c. with R-20 batt insulation. |
| 128 | Painted smooth-face 8" concrete-filled "U" block bond beam. Condition varies. See Structural. |
| 129 | "H" clips at mid-span on standing seam metal roof. |
| 130 | 2 layers of #15 roofing felt. |
| 131 | 5/8" pressure treated plywood decking. See Structural. |
| 181 | 1x wood blocking. |
| 255 | 2x pressure treated wood blocking. |
| 262 | 2x pressure treated painted wood fascia. |
| 265 | TPO membrane turned vertically up the wall and fastened to wood blocking at top roof curb, or top of wall framing per detail. Adhere TPO membrane to wall substrate with manufacturer approved bonding adhesive. |
| 278 | Prefinished metal ridge/hip cap by metal roofing manufacturer. Provide vent material at ridge only (Match roof color). |
| 284 | Cut edge sealant at TPO roof membrane flashing. |
| 285 | Hot air weld at TPO membrane and membrane flashing. |
| 286 | Fastener and seam fastening plate. |
| 294 | Polyisocyanurate insulation board (See TPO Spec for required R-value). Provide ½" cover board, mechanically fastened, over the top of insulation in locations where membrane roofing is to be applied. |
| 314 | Field cut seam and form pan around eave flashing. |
| 315 | Eave flashing with drip edge. |
| 316 | Painted, vented soffit. Provide paintable PVC jointer between soffit panels fastened to pressure treated wood blocking. See specification section 074293. |
| 318 | Painted preformed EIFS cornice and trim, See Specification Section 072400 EIFS Exterior Insulation and Finish System. |
| 322 | Vapor permeable air and water resistive barrier membrane. See Specification Section 072400 EIFS Exterior Insulation and Finish System. |
| 323 | Unpainted smooth-face CMU (bond beam where indicated; see Structural). See Specification 042200 Concrete Unit Masonry. |
| 324 | Cold-formed metal stud trusses, see Structural. |
| 325 | 3/4" pressure treated plywood. |
| 326 | C channel running continuously within metal deck flute to support metal deck at wall locations. See Structural. |

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TIMOTHY AHO
A08460
LICENSED ARCHITECT
03/31/2026

# Express Oil Change & Tire Engineers

## Single Building / Left Hand Oil Change / Front Enter / Side Tire Storage

Wagoner, OK

FINAL

| No. | Description | Date |
|---|---|---|
| | | |
| IFP-0 | Issue for Permit | 01/28/2026 |
| IFB-0 | Issue for Bid | 03/31/2026 |
| IFC-0 | Issue for Construction | 04/22/2026 |
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Building Sections

| | |
|---|---|
| Project number | 25041 |
| Date | 01/28/2026 |
| Drawn by | ARC |
| Checked by | N/A |

A304

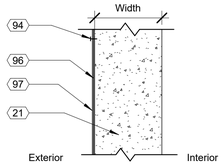
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# E1

Refer to structural drawings for reinforcing and other information

Install all waterproofing per manufacturer's recommendations.



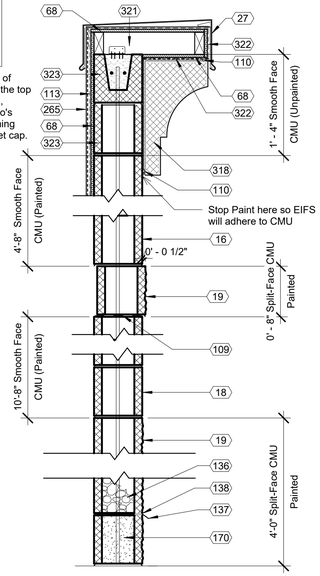

| Wall Type No. | Description | Width | Ref Test |
|---|---|---|---|
| E1 | As shown | See Struct. | - |

# E2

Contractor's Option: In lieu of wood framing as shown at the top of the parapet on the detail, Contractor may use Tremco's Pre-buck Engineered Framing System to construct parapet cap.

Refer to structural drawings for reinforcing, grouting, and other information

Install siloxane on the exterior side of wall construction

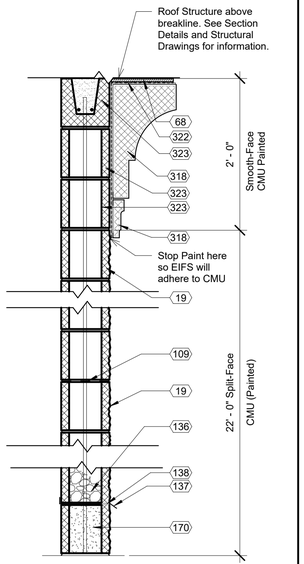



| Wall Type No. | Description | Width | Ref Test |
|---|---|---|---|
| E2 | As shown | 7 5/8" | - |

# E3

Refer to structural drawings for reinforcing and other information

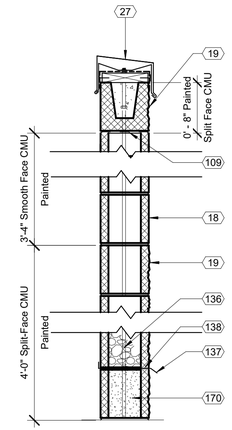
Install siloxane on the exterior side of wall construction




| Wall Type No. | Description | Width | Ref Test |
|---|---|---|---|
| E3 | As shown | 7 5/8" | - |

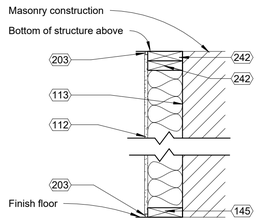
# E5

Refer to structural drawings for reinforcing, grouting, and other information




| Wall Type No. | Description | Width |
|---|---|---|
| E5 | As shown | 7 5/8" |
| E5a | As shown, except without coping and painted CMU to roof. See Elevations on A101. | 7 5/8" |

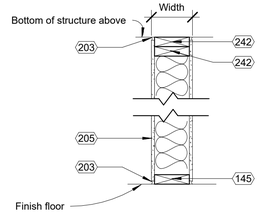
# I2




| Wall Type No. | Description | Width | Ref Test |
|---|---|---|---|
| I2 | As shown | 6" | - |

# I3

Note: Stagger electrical outlet boxes, switches, etc. Seal around all penetrations in wall with acoustical sealant.

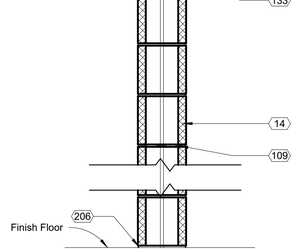



| Wall Type No. | Description | Width | Ref Test |
|---|---|---|---|
| I3 | As shown | 6 1/2" | - |
| I3a | As shown, except extend only 6" above lay-in ceiling in lieu of extending to bottom of structure above | 6 1/2" | |

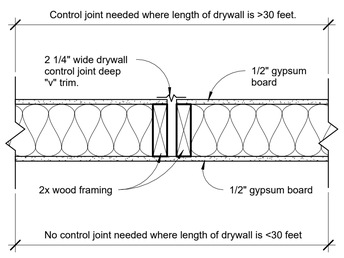
# I4

Refer to structural drawings for reinforcing and other information

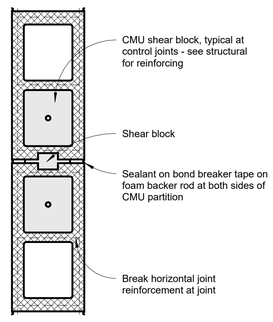
Seal all pentrations with fire caulk



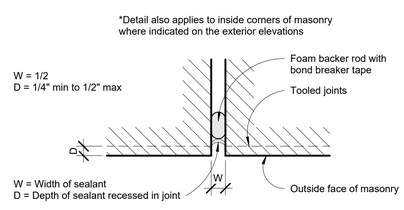

| Wall Type No. | Description | Width | Ref Test |
|---|---|---|---|
| I4 | As shown - Full Height | 7 5/8" | U905/U305 |




1 DT_Sheet A400_Gypsum Board Control Joint
1 1/2" = 1'-0"




2 DT_Sheet A400_Masonry Control Joint
1 1/2" = 1'-0"




3 DT_Sheet A400_Sealant Detail
6" = 1'-0"

## Keynote Schedule

| Tag | Text |
|---|---|
| 14 | Painted smooth-face CMU (bond beam where indicated; see Structural). See Specification 042200 Concrete Unit Masonry. Color as indicated on Finish Schedule. |
| 16 | Painted smooth-face CMU. See Specification 042200 Concrete Unit Masonry. Color as indicated on Finish Schedule. |
| 18 | Painted smooth-face CMU. See Specification 042200 Concrete Unit Masonry. Color as indicated on Finish Schedule. |
| 19 | Painted split-face CMU (bond beam where indicated; see Structural). See Specification 042200 Concrete Unit Masonry. Color as indicated on Finish Schedule. Project 1/2" where indicated on details. |
| 21 | Cast-in-place concrete wall. See Structural. Membrane waterproofing at perimeter of foundation wall as specified. See Specification 334600 Subdrainage. |
| 27 | Pre-finished metal coping at exposed tops only over self-adhered membrane flashing and pressure treated wood blocking. Slope to drain. Color as indicated on Finish Schedule. |
| 52 | Galvanized metal roof deck. See Structural. |
| 54 | Steel angle. See Structural. |
| 68 | 1/2" exterior plywood sheathing. |
| 94 | Fasteners at 12" max o.c. for securing subdrainage to pit wall. Follow manufacturer's installation instructions. |
| 96 | CCW MiraClay woven geotextile against wall/slab. |
| 97 | CCW MiraDrain 6200. |
| 109 | Horizontal joint reinforcement at 16" o.c. vertical. |
| 110 | Sealant with backer rod. |
| 112 | Painted 1/2" gypsum board on 2x6 wood studs at 16" o.c. with kraft-face R-20 batt insulation (kraft in contact with gypsum board). See Details. |
| 113 | Fluid applied vapor permeable air barrier. See Specification 072726 Fluid Applied Membrane Air Barrier. |
| 133 | Firestop safing. |

## Keynote Schedule

| Tag | Text |
|---|---|
| 136 | Pea gravel above through wall flashing. |
| 137 | Flashing between first and second course to utilize BlockFlash in addition to the pea gravel specified. Provide a drainage mat in open masonry cell directly above the BlockFlash pan. |
| 138 | Drainable weeps at every third mortar joint. |
| 145 | 2x pressure treated wood sill plate. |
| 170 | Fill first course of CMU with grout. |
| 203 | Acoustical sealant and backer rod. See Specification 079219 Acoustical Joint Sealants. |
| 205 | 1 layer of 1/2" painted gypsum board on both sides of 2"x6" wood studs at 16" o.c. Infill with kraft-faced R-20 batt insulation. Kraft in contact with gypsum board. |
| 206 | Fire caulk both sides. Typical. See Specification 078443 Joint Firestopping. |
| 242 | 2x pressure treated wood top plate. |
| 265 | TPO membrane turned vertically up the wall and fastened to wood blocking at top roof curb, or top of wall framing per detail. Adhere TPO membrane to wall substrate with manufacturer approved bonding adhesive. |
| 318 | Painted preformed EIFS cornice and trim, See Specification Section 072400 EIFS Exterior Insulation and Finish System. |
| 321 | 2x pressure treated wood framing spaced at 2'-0" o.c., minimum. Anchor 2x framing into grouted masonry cells using Simpson Strong Tie A23 angle ties. Secure angle ties on each side of framing members using 4 concrete screws on each side. |
| 322 | Vapor permeable air and water resistive barrier membrane. See Specification Section 072400 EIFS Exterior Insulation and Finish System. |
| 323 | Unpainted smooth-face CMU (bond beam where indicated; see Structural). See Specification 042200 Concrete Unit Masonry. |


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LICENSED ARCHITECT
03/31/2026


Express Oil Change & Tire Engineers

Single Building / Left Hand Oil Change / Front Enter / Side Tire Storage

Wagoner, OK

FINAL

| No. | Description | Date |
|---|---|---|
| | | |
| IFP-0 | Issue for Permit | 01/28/2026 |
| IFB-0 | Issue for Bid | 03/31/2026 |
| IFC-0 | Issue for Construction | 04/22/2026 |
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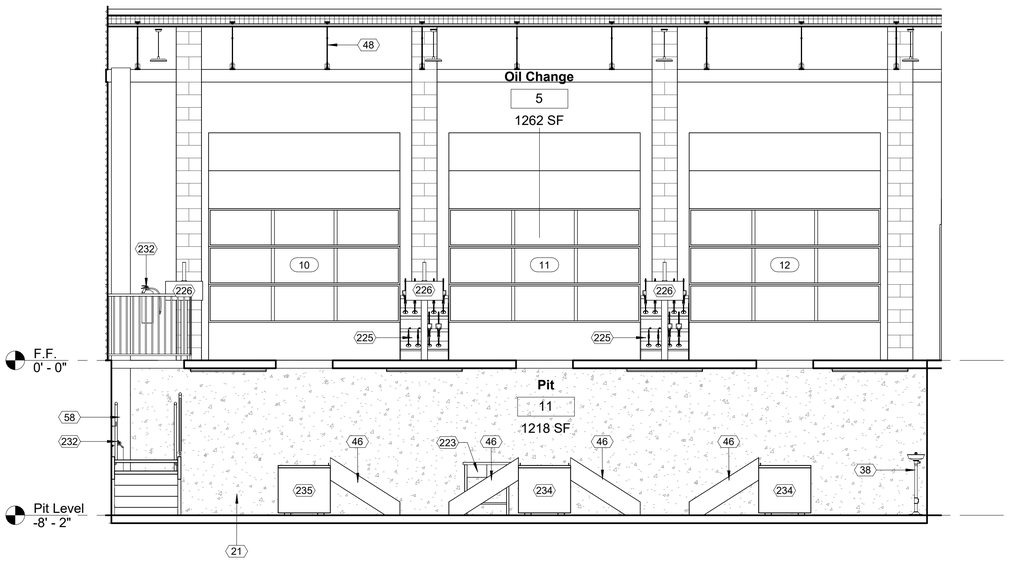

Wall Types

| | |
|---|---|
| Project number | 25041 |
| Date | 01/28/2026 |
| Drawn by | ARC |
| Checked by | N/A |

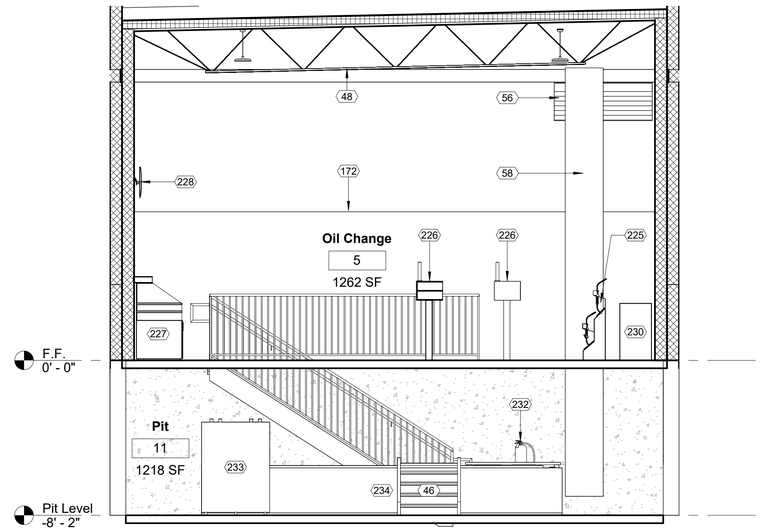
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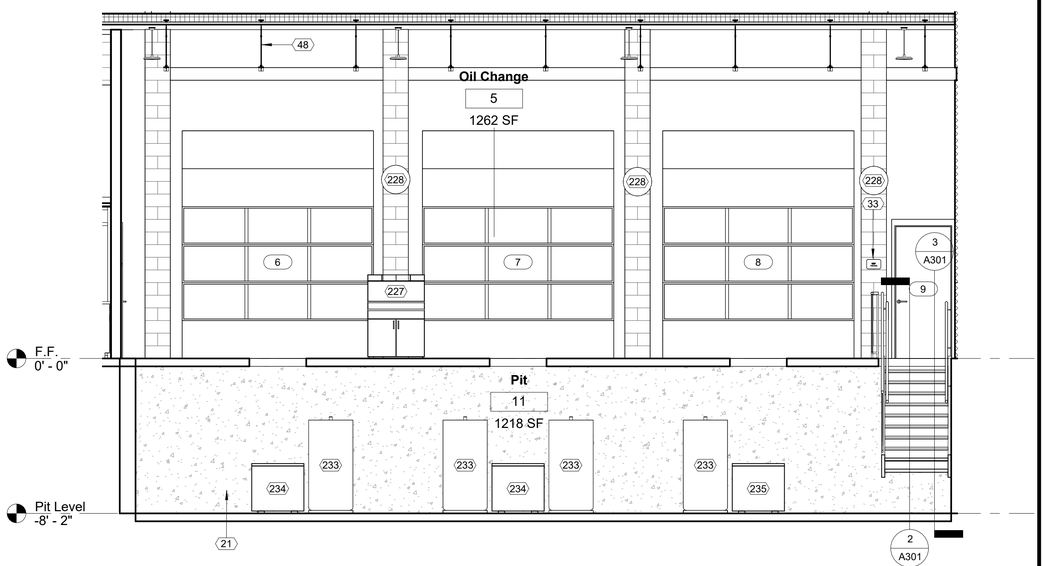
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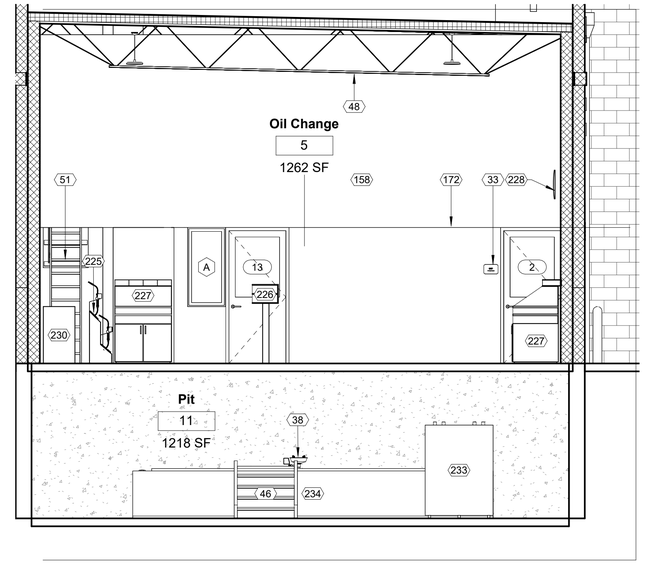

1 Oil Change_Interior Elevation A
1/4" = 1'-0"




2 Oil Change_Interior Elevation B
1/4" = 1'-0"




3 Oil Change_Interior Elevation C
1/4" = 1'-0"




4 Oil Change_Interior Elevation D
1/4" = 1'-0"

## Keynote Schedule

| Tag | Text |
|---|---|
| 21 | Cast-in-place concrete wall. See Structural. Membrane waterproofing at perimeter of foundation wall as specified. See Specification 334600 Subdrainage. |
| 33 | ADA compliant room / exit sign. See Details. |
| 38 | Eyewash station. See Plumbing. |
| 46 | Oil tank stairs (By Others). |
| 48 | Bar joist. See Structural. |
| 51 | Attic access ladder. |
| 56 | Metal louver or vent. Color to match adjacent surface. See Mechanical. |
| 58 | Verify location and size of pit exhaust opening with Structural and Mechanical drawings. |
| 158 | Vinyl letters (By Others). |
| 172 | Ensure paint line occurs at top of door and window frames. Ensure all openings, alcoves and windows align with top of door frame. Typical in Oil and Service Bays. |
| 223 | Work bench (By Others). |
| 225 | Lube console (By Others). |
| 226 | Computer podium (By Others). |
| 227 | Cashier computer station (By Others). Clear opening for cashier computer station must be 38 ½" wide minimum. No Exceptions. |
| 228 | Convex mirrors (By Others). |
| 230 | Tool cart (By Others). |
| 232 | Bracket mounted fire extinguisher. See Specification Section 104416 Fire Extinguishers. Provide sign at all fire extinguisher locations which may be visually obstructed. See Details. |
| 233 | 275-gallon Class IIIB new oil tank (By Others). |
| 234 | 928-gallon Class IIIB new oil tank (By Others). Provide a 2" concrete walkway cap with non-slip surface over (oil tank By Others). Coordinate with equipment supplier prior to installation. |
| 235 | 928-gallon Class IIIB waste oil tank (By Others). Provide a 2" concrete walkway cap with non-slip surface over (oil tank By Others). Coordinate with equipment supplier prior to installation. |

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03/31/2026

# Express Oil Change & Tire Engineers

Single Building / Left Hand Oil Change / Front Enter / Side Tire Storage

Wagoner, OK

FINAL

| No. | Description | Date |
|---|---|---|
| | | |
| IFP-0 | Issue for Permit | 01/28/2026 |
| IFB-0 | Issue for Bid | 03/31/2026 |
| IFC-0 | Issue for Construction | 04/22/2026 |

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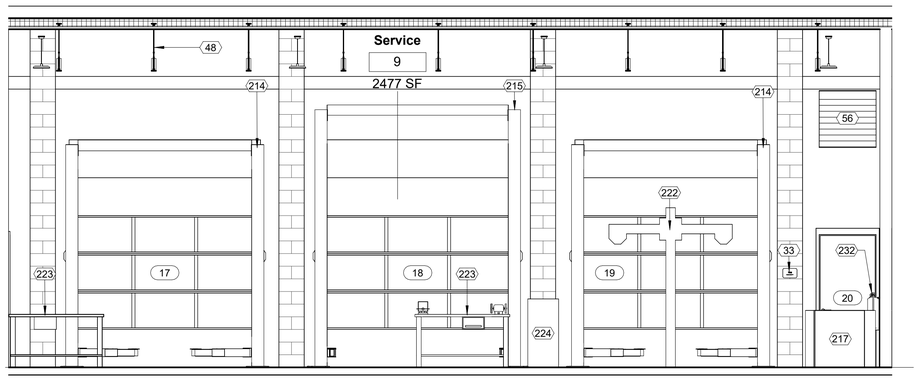
Interior Elevations

| | |
|---|---|
| Project number | 25041 |
| Date | 01/28/2026 |
| Drawn by | ARC |
| Checked by | N/A |

A600

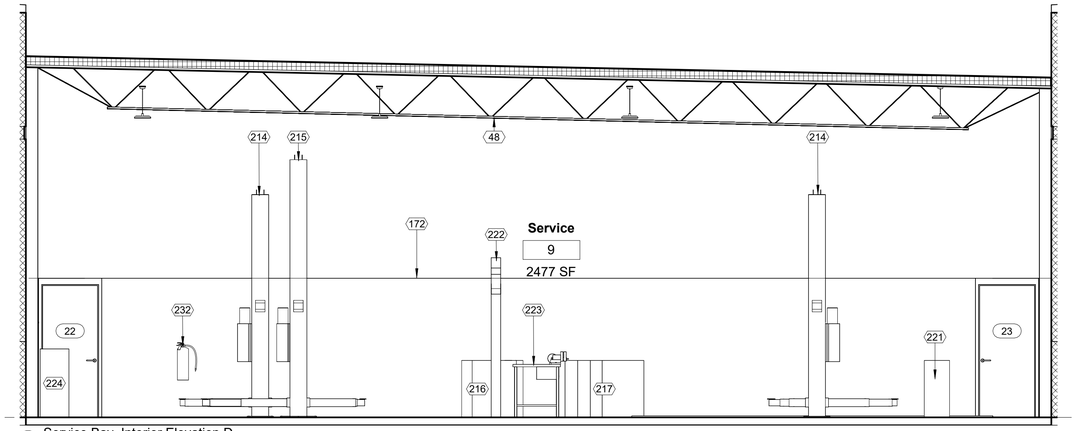
Scale 1/4" = 1'-0"

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F.F.
0' - 0"

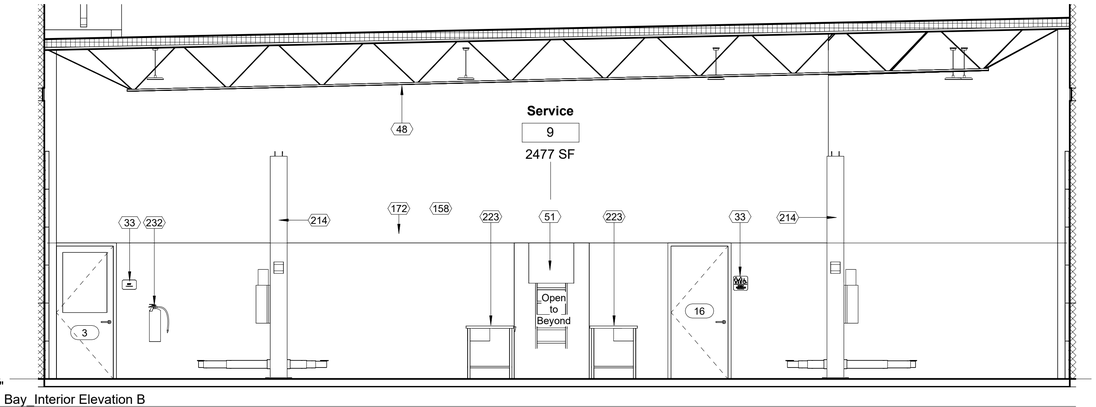
1 Service Bay_Interior Elevation A
1/4" = 1'-0"




F.F.
0' - 0"

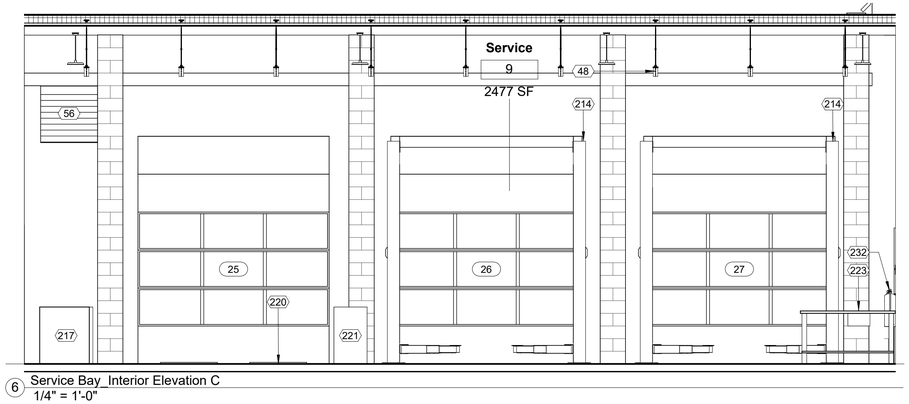
2 Service Bay_Interior Elevation D
1/4" = 1'-0"

| Keynote Schedule | |
|---|---|
| Tag | Text |
| 33 | ADA compliant room / exit sign. See Details. |
| 48 | Bar joist. See Structural. |
| 51 | Attic access ladder. |
| 56 | Metal louver or vent. Color to match adjacent surface. See Mechanical. |
| 158 | Vinyl letters (By Others). |
| 172 | Ensure paint line occurs at top of door and window frames. Ensure all openings, alcoves and windows align with top of door frame. Typical in Oil and Service Bays. |
| 214 | 10K Lift (By Others). |
| 215 | 12K Lift (By Others). |
| 216 | Tire changer (By Others). |
| 217 | Wheel balancer (By Others). |
| 220 | Scissor lift alignment (By Others). |
| 221 | Scissor lift alignment console (By Others). Provide conduit in slab as required. See alignment lift specifications (By Others). |
| 222 | Alignment scarecrow (By Others). |
| 223 | Work bench (By Others). |
| 224 | Strut compressor (By Others). |
| 232 | Bracket mounted fire extinguisher. See Specification Section 104416 Fire Extinguishers. Provide sign at all fire extinguisher locations which may be visually obstructed. See Details. |




F.F.
0' - 0"

5 Service Bay_Interior Elevation B
1/4" = 1'-0"




F.F.
0' - 0"

6 Service Bay_Interior Elevation C
1/4" = 1'-0"

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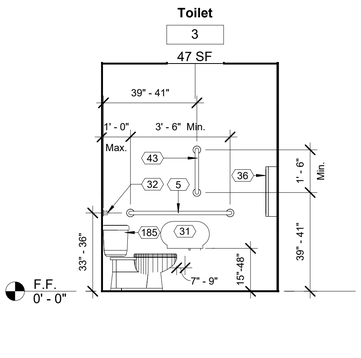
Interior Elevations

| | |
|---|---|
| Project number | 25041 |
| Date | 01/28/2026 |
| Drawn by | ARC |
| Checked by | N/A |

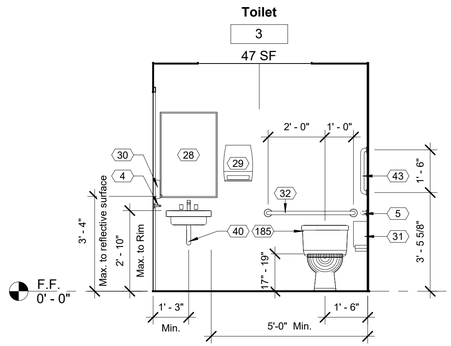
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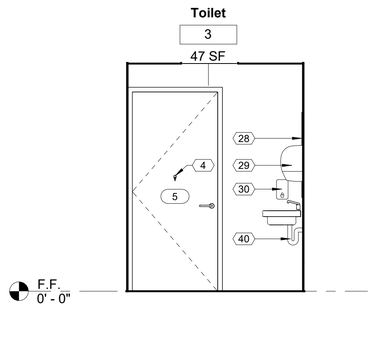
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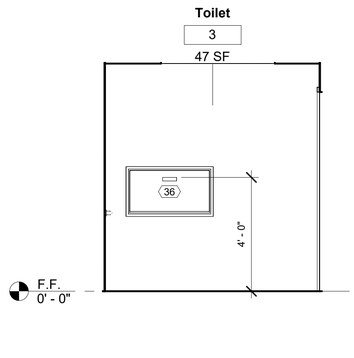

1 Toilet #3_Interior Elevation A
3/8" = 1'-0"



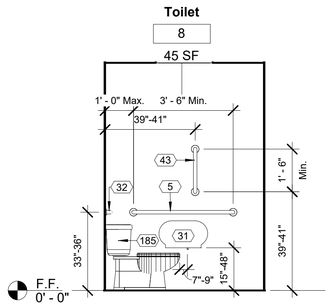

2 Toilet #3_Interior Elevation B
3/8" = 1'-0"



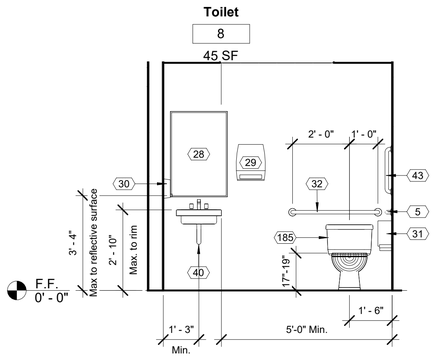

3 Toilet #3_Interior Elevation C
3/8" = 1'-0"



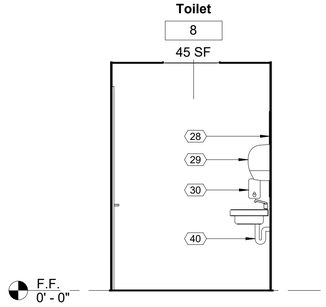

4 Toilet #3_Interior Elevation D
3/8" = 1'-0"



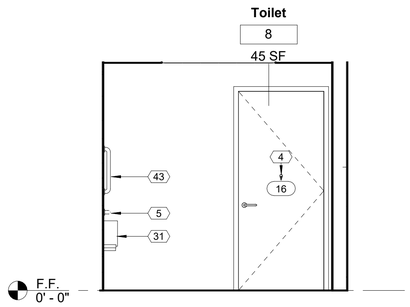

5 Toilet #8_ Interior Elevation A
3/8" = 1'-0"




6 Toilet #8_Interior Elevation B
3/8" = 1'-0"

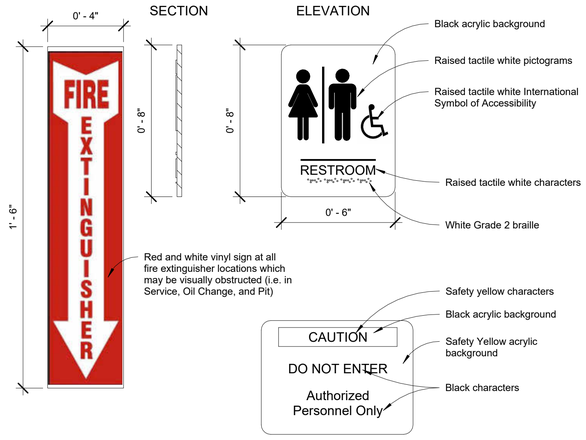



7 Toilet #8_Interior Elevation C
3/8" = 1'-0"



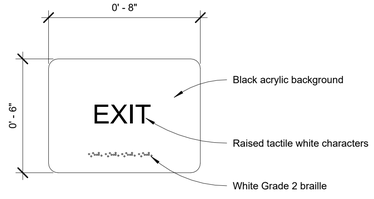

8 Toilet #8_Interior Elevation D
3/8" = 1'-0"

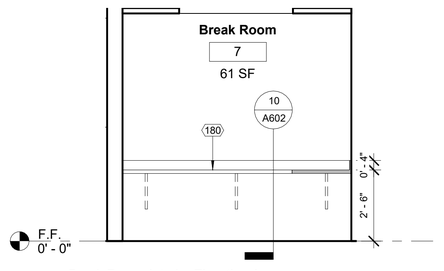
| Keynote Schedule | |
|---|---|
| Tag | Text |
| 4 | Robe hook mounted at 48" A.F.F. See Specification 102800 Toilet, Bath, and Laundry Accessories. |
| 5 | 42" grab bar with blocking in walls as required. See Specification 102800 Toilet, Bath, and Laundry Accessories. |
| 28 | Framed mirror. See Specification 102800 Toilet, Bath, and Laundry Accessories. |
| 29 | Automatic Towel Dispenser (By others). Provide blocking in wall as required. See Specification 102800 Toilet, Bath, and Laundry Accessories. |
| 30 | Wall mounted soap dispenser (By Others). Provide blocking in wall as required. See Specification 102800 Toilet, Bath, and Laundry Accessories. |
| 31 | Jumbo Dual Roll Toilet Tissue dispenser (By Others). Provide blocking in wall as required. See Specification 102800 Toilet, Bath, and Laundry Accessories. |
| 32 | 36" grab bar with blocking in walls as required. See Specification 102800 Toilet, Bath, and Laundry Accessories. |
| 36 | Surface mounted baby changing station with blocking in walls as required. See Specification 102800 Toilet, Bath, and Laundry Accessories. |
| 40 | Under lavatory guard. See Specification 102800 Toilet, Bath, and Laundry Accessories. |
| 43 | 24" vertical grab bar with blocking in walls as required. See Specification 102800 Toilet, Bath, and Laundry Accessories. |
| 179 | Plastic laminate over 1x wood blocking. See Specification 123623.13 Plastic-Laminate-Clad Countertops. See Finish Schedule for color. |
| 180 | Plastic laminate over 3/4" plywood. See Specification 123623.13 Plastic-Laminate-Clad Countertops. See Finish Schedule for color. |
| 181 | 1x wood blocking. |
| 182 | Concealed countertop bracket. |
| 183 | 2x wood cleat. |
| 184 | Finish base. See Specification Section 096513 Resilient Base Accessories. See Finish Schedule for color. |
| 185 | Flush valve on transfer side of water closet. |



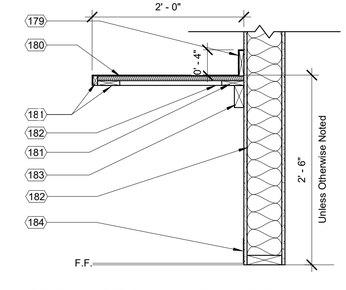

9 DT_Sheet A602_Signage
3" = 1'-0"

Signage shall comply with Section 703 of the 2017 ICC/ANSI A117.1




12 Break Room_Interior Elevation A
3/8" = 1'-0"




10 DT_Sheet A602_Countertop Section @ Wall
1" = 1'-0"

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TIMOTHY AHO
A08460
LICENSED ARCHITECT
03/31/2026

# Express Oil Change & Tire Engineers

Single Building / Left Hand Oil Change / Front Enter / Side Tire Storage

Wagoner, OK

FINAL

| No. | Description | Date |
|---|---|---|
| | | |
| IFP-0 | Issue for Permit | 01/28/2026 |
| IFB-0 | Issue for Bid | 03/31/2026 |
| IFC-0 | Issue for Construction | 04/22/2026 |

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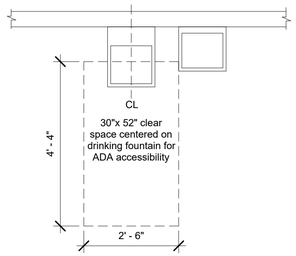
## Interior Elevations

| | |
|---|---|
| Project number | 25041 |
| Date | 01/28/2026 |
| Drawn by | ARC |
| Checked by | N/A |

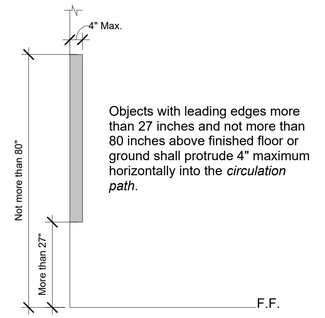
A602

Scale: As indicated

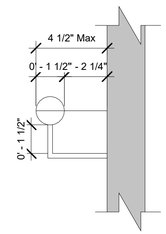
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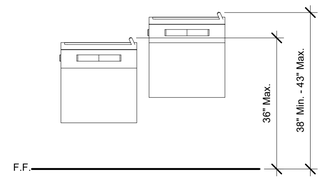

1 DT_Sheet A605_Drinking Fountain_Plan View
1/2" = 1'-0"



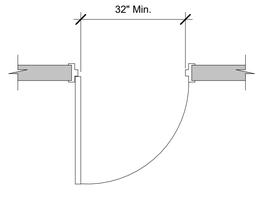

2 DT_Sheet A605_Limits of Protruding Objects
1/2" = 1'-0"



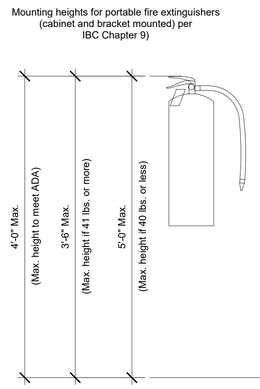

3 DT_Sheet A605_Handrail Detail
3" = 1'-0"



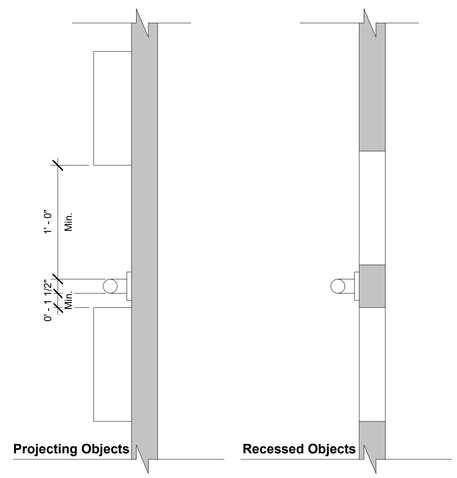

4 DT_Sheet A605_Drinking Fountain_Front View
1/2" = 1'-0"



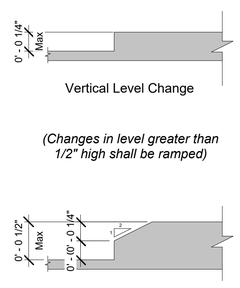

5 DT_Sheet A605_Clear Width @ Doorways
1/2" = 1'-0"



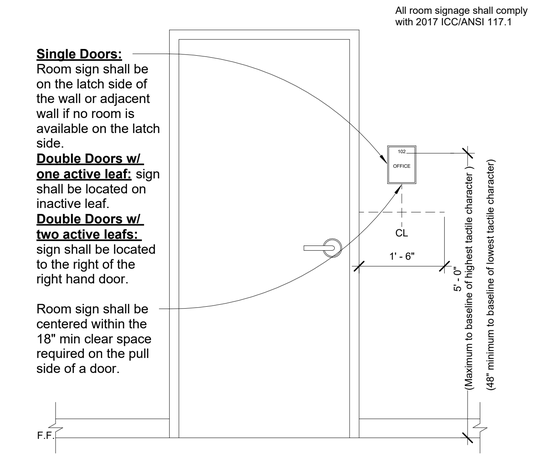

6 DT_Sheet A605_Fire Extinguisher Mounting Heights
1" = 1'-0"




7 DT_Sheet A605_Spacing of Grab Bars
1 1/2" = 1'-0"




8 DT_Sheet A605_Level Change
12" = 1'-0"




9 DT_Sheet A605_Signage Mounting Heights
3/4" = 1'-0"

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03/31/2026

# Express Oil Change & Tire Engineers

## Single Building / Left Hand Oil Change / Front Enter / Side Tire Storage

Wagoner, OK

FINAL

| No. | Description | Date |
|---|---|---|
| | | |
| IFP-0 | Issue for Permit | 01/28/2026 |
| IFB-0 | Issue for Bid | 03/31/2026 |
| IFC-0 | Issue for Construction | 04/22/2026 |
| | | |
| | | |
| | | |
| | | |
| | | |

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Interior Dimensional Info.

| | |
|---|---|
| Project number | 25041 |
| Date | 01/28/2026 |
| Drawn by | ARC |
| Checked by | N/A |

A605

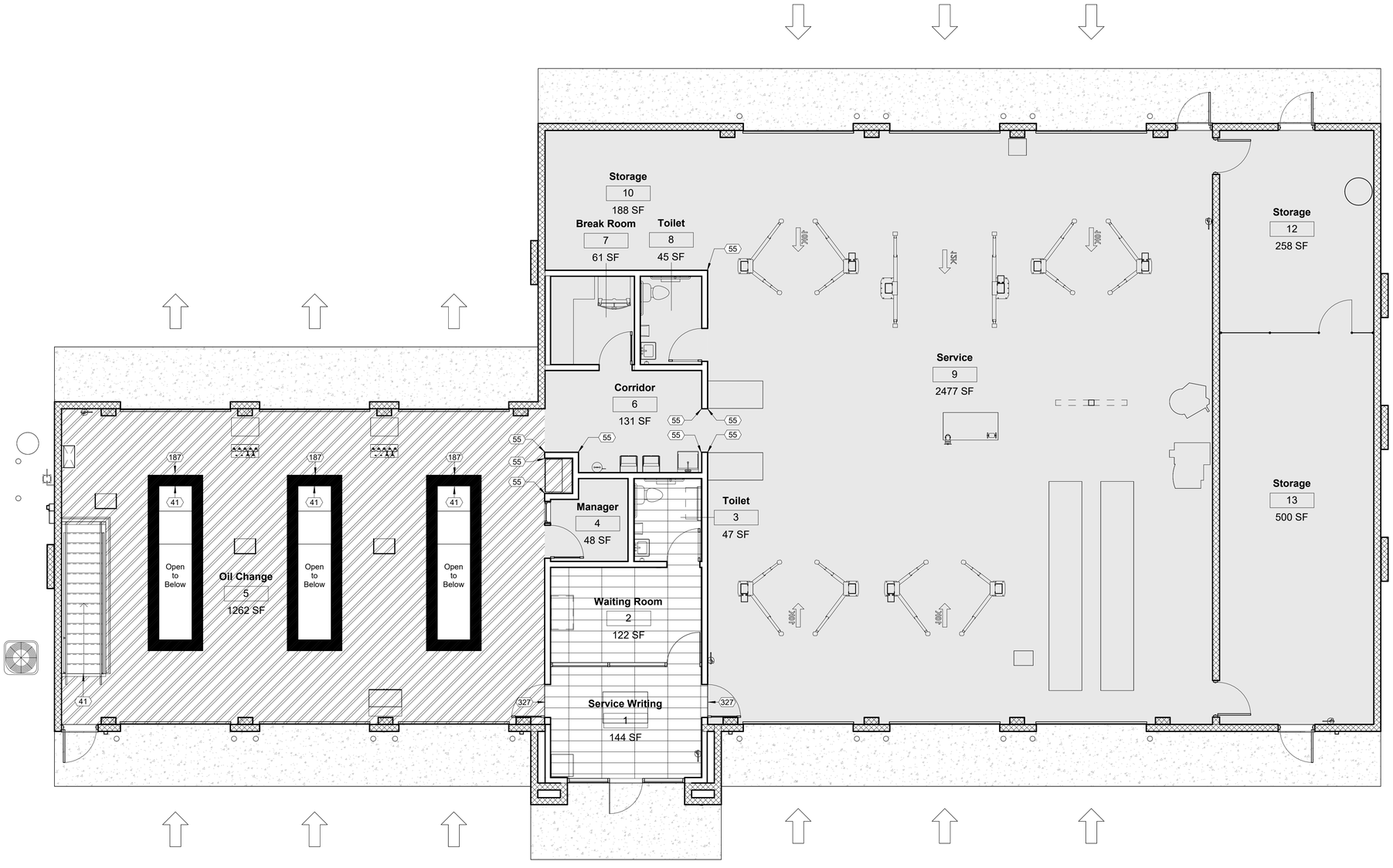
Scale As indicated

4/22/2026 9:50:59 AM

# FLOOR FINISH LEGEND

- Sealed Concrete
- Stonhard Flooring (By Others)
- Safety Yellow Paint.
- Luxury Vinyl Tile (LVT)

| Keynote Schedule | |
|---|---|
| Tag | Text |
| 41 | Paint structural steel at openings P-5 Safety Yellow. Typical for all pit and stairwell openings. |
| 55 | Stainless steel corner guard. See Specification 102600 Wall and Door Protection. |
| 187 | Paint 12" P-5 Safety Yellow around pit openings. Verify paint is compatible with floor finish. |
| 327 | Reducer strip. |




2 07_Floor Finish Plan_Main
3/16" = 1'-0"


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Express Oil Change & Tire Engineers

Single Building / Left Hand Oil Change / Front Enter / Side Tire Storage

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| IFC-0 | Issue for Construction | 04/22/2026 |


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Floor Finishes - Main

| | |
|---|---|
| Project number | 25041 |
| Date | 01/28/2026 |
| Drawn by | ARC |
| Checked by | N/A |

A610

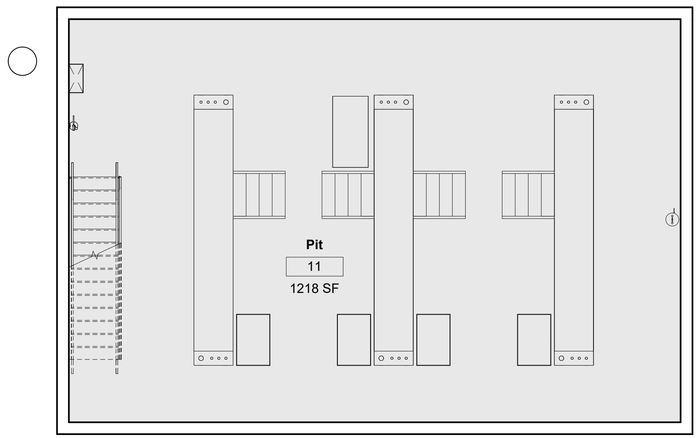
Scale: As indicated

4/22/2026 9:51:01 AM

## FLOOR FINISH LEGEND

| | | | | | |
|---|---|---|---|---|---|
| | Sealed Concrete | | Stonhard Flooring (By Others) | | Safety Yellow Paint. |

| | |
|---|---|
| | Luxury Vinyl Tile (LVT) |




1 06_Floor Finish Plan_Pit
3/16" = 1'-0"

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Express Oil Change & Tire Engineers

Single Building / Left Hand Oil Change / Front Enter / Side Tire Storage

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FINAL

| No. | Description | Date |
|---|---|---|
| | | |
| IFP-0 | Issue for Permit | 01/28/2026 |
| IFB-0 | Issue for Bid | 03/31/2026 |
| IFC-0 | Issue for Construction | 04/22/2026 |

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Floor Finishes - Pit

| | |
|---|---|
| Project number | 25041 |
| Date | 01/28/2026 |
| Drawn by | ARC |
| Checked by | N/A |

A611

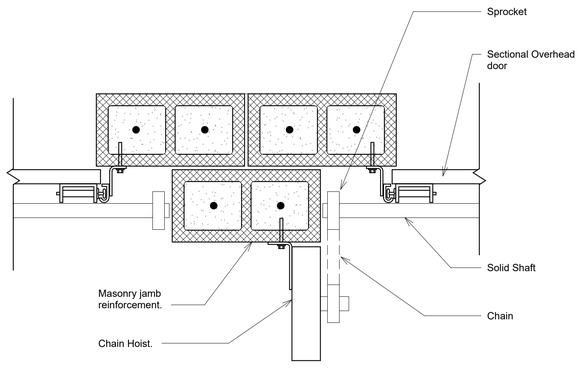
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## Door and Frame Schedule

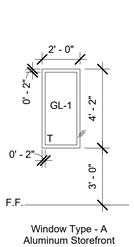
| Number | Door Width | Door Height | Door Thickness | Door Type | Door Material | Door Finish | Frame Type | Frame Material | Frame Finish | Glass | UL Label | Notes |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 3' - 0" | 7' - 0" | 0' - 1 3/4" | | | Factory Finish | | | Factory Finish | | | If required by the Fire Marshal or AHJ, add lettering that reads "This door must remain unlocked when business is occupied." |
| 2 | 3' - 0" | 7' - 0" | 0' - 1 3/4" | FV | Wood / Glass | Painted | 1 | Hollow Metal | Painted | Tempered | | |
| 3 | 3' - 0" | 7' - 0" | 0' - 1 3/4" | FV | Wood / Glass | Painted | 1 | Hollow Metal | Painted | Tempered | | |
| 4 | 3' - 0" | 7' - 0" | 0' - 1 3/4" | SF | Aluminum / Glass | Factory Finish | 3 | Aluminum | Factory Finish | Tempered | | |
| 5 | 3' - 0" | 7' - 0" | 0' - 1 3/4" | F | Wood | Painted | 1 | Hollow Metal | Painted | N/A | | |
| 6 | 10' - 0" | 12' - 0" | 0' - 2 1/8" | OH | Metal / Glass | Factory Finish | N/A | N/A | Factory Finish | Tempered | | |
| 7 | 10' - 0" | 12' - 0" | 0' - 2 1/8" | OH | Metal / Glass | Factory Finish | N/A | N/A | Factory Finish | Tempered | | |
| 8 | 10' - 0" | 12' - 0" | 0' - 2 1/8" | OH | Metal / Glass | Factory Finish | N/A | N/A | Factory Finish | Tempered | | |
| 9 | 3' - 0" | 7' - 0" | 0' - 1 3/4" | F | Hollow Metal | Painted | 2 | Hollow Metal | Painted | N/A | | |
| 10 | 10' - 0" | 12' - 0" | 0' - 2 1/8" | OH | Metal / Glass | Factory Finish | N/A | N/A | Factory Finish | Tempered | | |
| 11 | 10' - 0" | 12' - 0" | 0' - 2 1/8" | OH | Metal / Glass | Factory Finish | N/A | N/A | Factory Finish | Tempered | | |
| 12 | 10' - 0" | 12' - 0" | 0' - 2 1/8" | OH | Metal / Glass | Factory Finish | N/A | N/A | Factory Finish | Tempered | | |
| 13 | 3' - 0" | 7' - 0" | 0' - 1 3/4" | FV | Wood / Glass | Painted | 1 | Hollow Metal | Painted | Tempered | | |
| 15 | 3' - 0" | 7' - 0" | 0' - 1 3/4" | FV | Wood / Glass | Painted | 1 | Hollow Metal | Painted | Tempered | | |
| 16 | 3' - 0" | 7' - 0" | 0' - 1 3/4" | F | Wood | Painted | 1 | Hollow Metal | Painted | N/A | | |
| 17 | 10' - 0" | 12' - 0" | 0' - 2 1/8" | OH | Metal / Glass | Factory Finish | N/A | N/A | Factory Finish | Tempered | | |
| 18 | 10' - 0" | 12' - 0" | 0' - 2 1/8" | OH | Metal / Glass | Factory Finish | N/A | N/A | Factory Finish | Tempered | | |
| 19 | 10' - 0" | 12' - 0" | 0' - 2 1/8" | OH | Metal / Glass | Factory Finish | N/A | N/A | Factory Finish | Tempered | | |
| 20 | 3' - 0" | 7' - 0" | 0' - 1 3/4" | F | Hollow Metal | Painted | 2 | Hollow Metal | Painted | N/A | | |
| 21 | 3' - 0" | 7' - 0" | 0' - 1 3/4" | F | Hollow Metal | Painted | 2 | Hollow Metal | Painted | N/A | | |
| 22 | 3' - 0" | 7' - 0" | 0' - 1 3/4" | F | Hollow Metal | Painted | 2 | Hollow Metal | Painted | N/A | 45 Min. | Provide Fire Rated label on Door and Frame |
| 23 | 3' - 0" | 7' - 0" | 0' - 1 3/4" | F | Hollow Metal | Painted | 2 | Hollow Metal | Painted | N/A | 45 Min. | Provide Fire Rated label on Door and Frame |
| 24 | 3' - 0" | 7' - 0" | 0' - 1 3/4" | F | Hollow Metal | Painted | 2 | Hollow Metal | Painted | N/A | | |
| 25 | 10' - 0" | 12' - 0" | 0' - 2 1/8" | OH | Metal / Glass | Factory Finish | N/A | N/A | Factory Finish | Tempered | | |
| 26 | 10' - 0" | 12' - 0" | 0' - 2 1/8" | OH | Metal / Glass | Factory Finish | N/A | N/A | Factory Finish | Tempered | | |
| 27 | 10' - 0" | 12' - 0" | 0' - 2 1/8" | OH | Metal / Glass | Factory Finish | N/A | N/A | Factory Finish | Tempered | | |

Note: Door Number 14 was purposefully omitted.

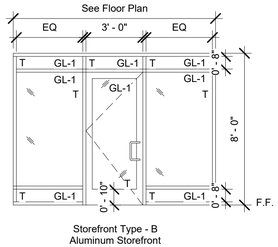



3 DT_Sheet A620_Chain Hoist Detail
1 1/2" = 1'-0"

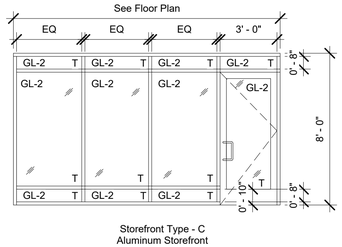
## WINDOW LEGEND




Window Type - A
Aluminum Storefront

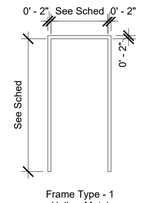



Storefront Type - B
Aluminum Storefront

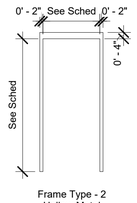



Storefront Type - C
Aluminum Storefront

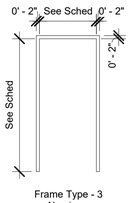
## DOOR AND FRAME LEGEND



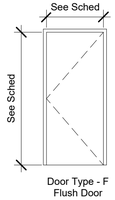

Frame Type - 1
Hollow Metal



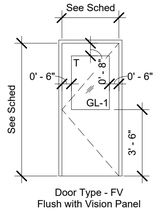

Frame Type - 2
Hollow Metal



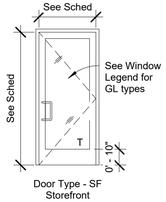

Frame Type - 3
Aluminum



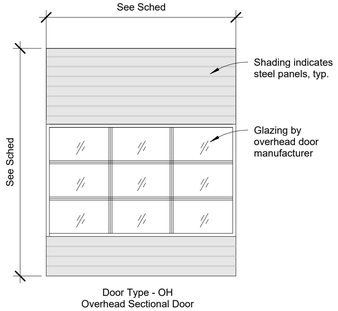

Door Type - F
Flush Door




Door Type - FV
Flush with Vision Panel




Door Type - SF
Storefront




Door Type - OH
Overhead Sectional Door

**NOTE:** Refer to floor plan for direction of door swing.


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03/31/2026


# Express Oil Change & Tire Engineers

Single Building / Left Hand Oil Change / Front Enter / Side Tire Storage

Wagoner, OK

FINAL

| No. | Description | Date |
|---|---|---|
| | | |
| IFP-0 | Issue for Permit | 01/28/2026 |
| IFB-0 | Issue for Bid | 03/31/2026 |
| IFC-0 | Issue for Construction | 04/22/2026 |


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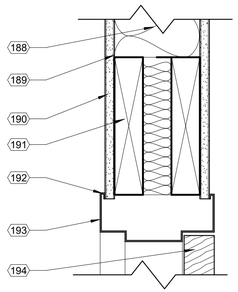

Schedules

| | |
|---|---|
| Project number | 25041 |
| Date | 01/28/2026 |
| Drawn by | ARC |
| Checked by | N/A |

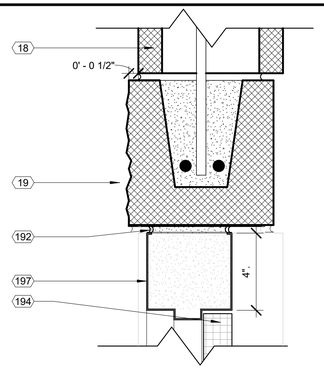
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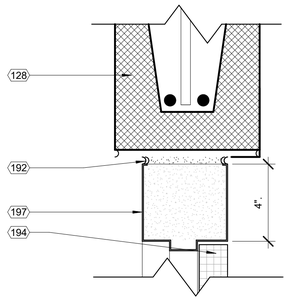
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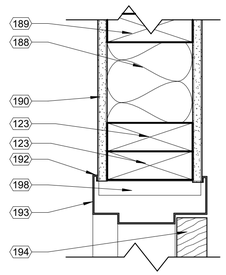

1 DT_Sheet A621_Door Head Detail_Wood
3" = 1'-0"



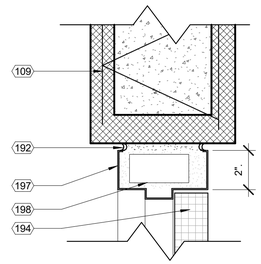

3 DT_Sheet A621_Door Head Detail_Masonry (Exterior)
3" = 1'-0"




5 DT_Sheet A621_Door Head Detail_Masonry (Interior)
3" = 1'-0"




2 DT_Sheet A621_Door Jamb Detail_Wood
3" = 1'-0"




4 DT_Sheet A621_Door Jamb Detail_Masonry
3" = 1'-0"

**Dover Gray is a Custom Color:**

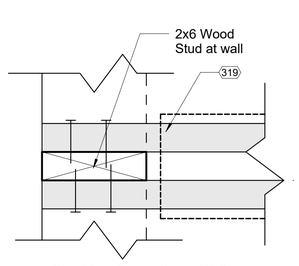
| Deep Base CCE Colorant | | OZ | 32 | 64 | 128 |
|---|---|---|---|---|---|
| W1 White | - | 14 | 1 | 1 | |
| B1 Black | 2 | 26 | 1 | 1 | |
| R2 Maroon | - | 4 | - | 1 | |
| Y3 Deep Gold | - | 17 | 1 | 1 | 1 |

## Keynote Schedule

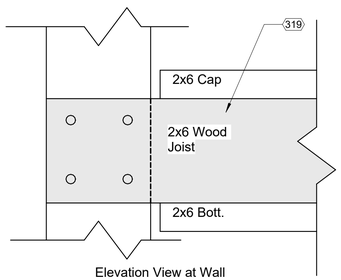
| Tag | Text |
|---|---|
| 6 | Lay-in acoustical ceiling tile and grid, supported from structure. |
| 18 | Painted smooth-face CMU. See Specification 042200 Concrete Unit Masonry. Color as indicated on Finish Schedule. |
| 19 | Painted split-face CMU (bond beam where indicated; see Structural). See Specification 042200 Concrete Unit Masonry. Color as indicated on Finish Schedule. Project 1/2" where indicated on details. |
| 109 | Horizontal joint reinforcement at 16" o.c. vertical. |
| 110 | Sealant with backer rod. |
| 111 | Aluminum storefront with insulated glazing. See Details. |
| 123 | Blocking. See Structural. |
| 128 | Painted smooth-face 8" concrete-filled "U" block bond beam. Condition varies. See Structural. |
| 188 | Kraft-faced batt insulation. Kraft in contact with gypsum board. |
| 189 | 2x wood studs at 16" o.c. |
| 190 | 1/2" painted gypsum board. |
| 191 | Double 2"x8" wood header. |
| 192 | Caulk all around on both sides. |
| 193 | Painted hollow metal frame with returns. See Finish Schedule for color. |
| 194 | Scheduled door. See plans for details. |
| 197 | Painted hollow metal frame, grouted solid. |
| 198 | Jamb anchors. Provide 3 per jamb. |
| 319 | Wood stud header at interior storefront. (4) 2x6 wood studs attached to extended wood stud at bearing wall. Extend wood stud in bearing wall up to roof deck. Brace as required. |

**Material Schedule**

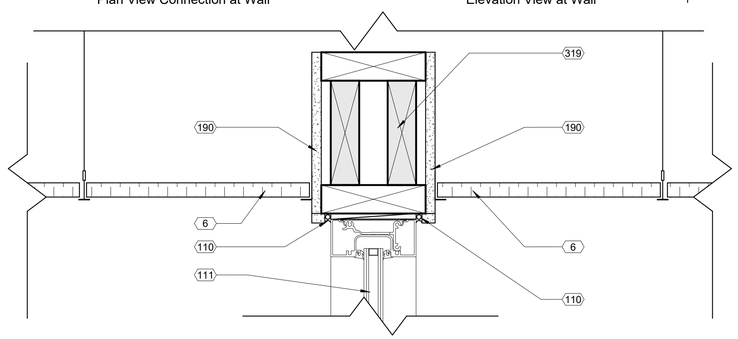
| Abbreviation | Material Description | Manufacturer | Style Name or Number | Color (Description) | Size | Finish | Material Notes |
|---|---|---|---|---|---|---|---|
| ACT-1 | Acoustical Ceiling Tile | Armstrong | 1775 Dune | White | 24"x24" | N/A | Suprafine XL 9/16" Exposed Tee Grid |
| P-1 | Paint - Color 1 | Sherwin Williams | See Paint Schedule on G202 | SW6966 Blueblood | N/A | See Paint Schedule on G202 | |
| P-2 | Paint - Color 2 | Sherwin Williams | See Paint Schedule on G202 | Custom Color (Dover Gray) | N/A | See Paint Schedule on G202 | |
| P-3 | Paint - Color 3 | Sherwin Williams | See Paint Schedule on G202 | SW7669 Summit Gray | N/A | See Paint Schedule on G202 | |
| P-4 | Paint - Color 4 | Sherwin Williams | See Paint Schedule on G202 | SW6959 Bluechip | N/A | See Paint Schedule on G202 | |
| P-5 | Paint - Color 5 | Sherwin Williams | See Paint Schedule on G202 | Safety Yellow | N/A | See Paint Schedule on G202 | |
| P-6 | Paint - Color 6 | Sherwin Williams | See Paint Schedule on G202 | Safety Red | N/A | See Paint Schedule on G202 | |
| P-7 | Paint - Color 7 | Sherwin Williams | See Paint Schedule on G202 | SW7006 Extra White | N/A | See Paint Schedule on G202 | |
| P-8 | Paint - Color 8 | Sherwin Williams | See Paint Schedule on G202 | SW7075 Web Gray | N/A | See Paint Schedule on G202 | |
| PL-1 | Plastic Laminate - Color 1 | Wilsonart | 4880-38 | Carbon Mesh | N/A | N/A | |
| RB | Rubber Base | Ropee | Pinnacle | 669 Battleship | 4" | N/A | |
| SC | Sealed Concrete | Sherwin Williams | See Paint Schedule on G202 | Haze Gray | N/A | See Paint Schedule on G202 | Add SharkGrip for added slip resistance |
| SH | StonHard Flooring | StonHard | N/A | N/A | N/A | N/A | Provided and installed by (Others) |
| FRP-1 | Fiberglass Reinforced Panels | Marlite | 4'X8' Textured Panels | P430N Medium Gray | 4'X8' | Pebbled | |
| FRP-2 | Fiberglass Reinforced Panels | Marlite Symmetrix | 4'x8' Textured Panels | TBD | 4'X 8' | TBD | |
| LVT | Lux. Vinyl Tile | Tarkett | Contour Mineral Basalt PCMB | 4645 Paved Path | 12"x36" | | |




Plan View Connection at Wall




Elevation View at Wall




6 DT_Sheet A621_Wood Header @ Interior Storefront
3" = 1'-0"

**Finish Schedule for Additional Items**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1. | Doors & Frames: Paint P-3 | 9. | Keynote 16: P-1 | 17. | Door Hardware: Satin Chrome | 25. | Dumpster Gate / Frame: P-3 |
| 2. | Bollards & Dumpster Posts: P-6 | 10. | Keynote 12C: Match SSMR | 18. | Window Gaskets: Light Gray | 26. | Overhead Door: White |
| 3. | Exterior Pole Sign: By others. | 11. | Keynote 18: P-8 | 19. | Exterior Aluminum Storefront & Door: Clear Anodized | 27. | Lintel at OH Doors: P-3 |
| 4. | Conductor Head (Keynote 12)/ Downspouts: Match P-8 | 12. | Keynote 19: P-3 | 20. | Abrasive Nosing: Safety Yellow | 28. | Countertop Carbon Mesh: PL-1 |
| 5. | Electrical covers to be brushed aluminum | 13. | Knox Box: Aluminum | 21. | Interior Aluminum Storefront & Door: Clear Anodized | 29. | EIFS Cornice & Trim: P-1 |
| 6. | Paint all louvers to match adjacent finish | 14. | Roof: White TPO | 22. | Chair Rail: Stainless Steel by others | 30. | SSMR: Berridge Royal Blue |
| 7. | Keynote #327 Reducer Strip: Roppe Charcoal 123 | 15. | Coping Cap @ Dumpster: Match P-1 | 23. | Word Wall: P-3 | 31. | Bar Joists: Prefinished Gray |
| 8. | Stairs & Railings & Interior Ladder (if req'd): P-5 | 16. | Coping Cap @ Bldg: Match P-1 | 24. | Canopy: Pantone 425C | 32. | Metal Deck: Prefinished Gray |

Finish Schedule

| Number | Name | Area | Floor Finish | Base Finish | Walls | | | | Ceiling Finish | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Rear (West) | Left (South) | Front (East) | Right (North) | | |
| 1 | Service Writing | 144 SF | LVT | RB | Storefront | P-1, P-2, P-3 | Storefront & P-1, P-2, P-3 | P-1, P-2, P-3 | ACT-1 | See G301 for paint patterns |
| 2 | Waiting Room | 122 SF | LVT | RB | P-3 & Vinyl Graphics (By Others) | P-1, P-2, P-3 | Storefront | P-1, P-2, P-3 | ACT-1 | See G301 for paint patterns. Word Wall with Vinyl Graphics (By Others) to be painted P-3 |
| 3 | Toilet | 47 SF | LVT | RB | FRP-2 | FRP-2 | FRP-2 | FRP-2 | ACT-1 | |
| 4 | Manager | 48 SF | SC | RB | P-3 | P-3 | P-3 | P-3 | ACT-1 | |
| 5 | Oil Change | 1262 SF | SH | None / RB | P-3 | P-1, P-4 | P-3 | P-1, P-4 & Vinyl Graphics (By Others) | No Ceiling | Rubber base on gypsum board walls only. See G301 for paint patterns. |
| 6 | Corridor | 131 SF | SC | RB | P-1 | P-1 | FRP-1 | P-1 | P-7 | |
| 7 | Break Room | 61 SF | SC | RB | P-3 | P-3 | P-3 | P-3 | ACT-1 | |
| 8 | Toilet | 45 SF | SC | RB | FRP-1 | FRP-1 | FRP-1 | FRP-1 | ACT-1 | |
| 9 | Service | 2477 SF | SC | None / RB | P-3 | P-1, P-4 & Vinyl Graphics (By Others) | P-3 | P-1, P-4 | No Ceiling | Rubber base on gypsum board walls only. See G301 for paint patterns. |
| 10 | Storage | 188 SF | SC | None / RB | P-3 | P-1, P-4 | P-1, P-4 | None | No Ceiling | |
| 11 | Pit | 1218 SF | SC | None | None | None | None | None | N/A | Paint all structural steel in Pit P-5 Safety Yellow. |
| 12 | Storage | 258 SF | SC | None | P-3 | P-3 | Fence | P-3 | No Ceiling | |
| 13 | Storage | 500 SF | SC | None | Fence | P-3 | P-3 | P-3 | No Ceiling | |


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TIMOTHY AHO
A08460
LICENSED ARCHITECT
03/31/2026

# Express Oil Change & Tire Engineers

Single Building / Left Hand Oil Change / Front Enter / Side Tire Storage

Wagoner, OK

FINAL

| No. | Description | Date |
|---|---|---|
| | | |
| IFP-0 | Issue for Permit | 01/28/2026 |
| IFB-0 | Issue for Bid | 03/31/2026 |
| IFC-0 | Issue for Construction | 04/22/2026 |
| | | |
| | | |
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| | | |


2026
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## Finish Schedules & Head, Jamb, and Sill Details

| | |
|---|---|
| Project number | 25041 |
| Date | 01/28/2026 |
| Drawn by | ARC |
| Checked by | N/A |

A621

Scale As indicated

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1 02_3D View_Front (Northeast)

*See Civil for actual site conditions, including dumpster enclosure location and orientation.



2 03_3D View_Rear (Southwest)

*See Civil for actual site conditions, including dumpster enclosure location and orientation.

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STATE OF OKLAHOMA
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2026
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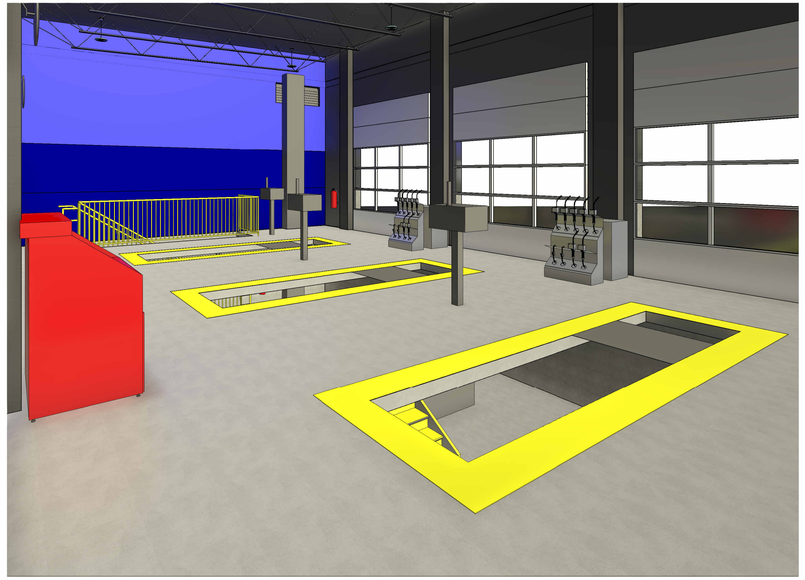
## 3D Views

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| Date | 01/28/2026 |
| Drawn by | ARC |
| Checked by | N/A |

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Scale

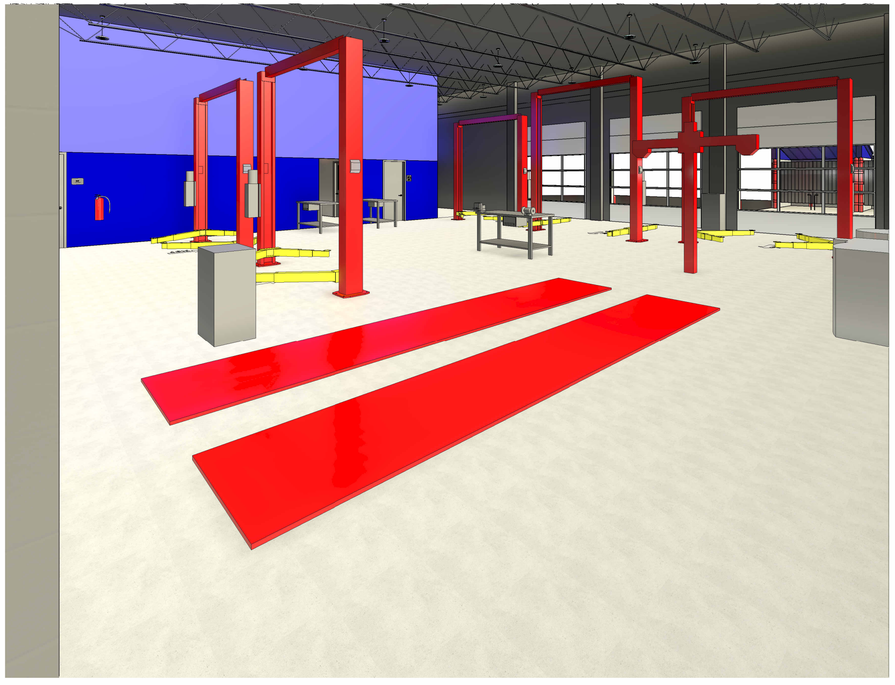
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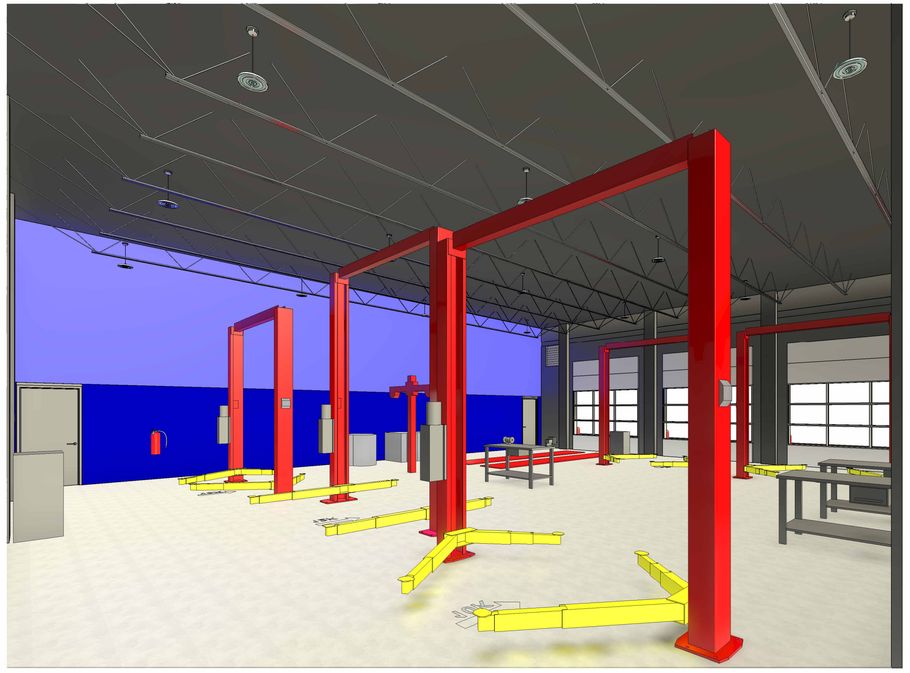
1 04_3D View_Oil Change A



2 05_3D View_Oil Change B



3 06_3D View_Service Bay A



4 07_3D View_Service Bay B


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03/31/2026

# Express Oil Change & Tire Engineers

Single Building / Left Hand Oil Change / Front Enter / Side Tire Storage

Wagoner, OK

FINAL

| No. | Description | Date |
|---|---|---|
| | | |
| IFP-0 | Issue for Permit | 01/28/2026 |
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| IFC-0 | Issue for Construction | 04/22/2026 |
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3D Views

| | |
|---|---|
| Project number | 25041 |
| Date | 01/28/2026 |
| Drawn by | ARC |
| Checked by | N/A |

R101

Scale

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## SCHEDULE OF SPECIAL INSPECTIONS SERVICES

| PROJECT | | | | | | |
|---|---|---|---|---|---|---|
| | | APPLICABLE TO THIS PROJECT | | | | |
| MATERIAL / ACTIVITY | SERVICE | Y/N | EXTENT | AGENT* | DATE COMPLETED |
| **1705.1.1 Special Cases** (work unusual in nature, including but not limited to alternative materials and systems, unusual design applications, materials and systems with special manufacturer's requirements - add additional rows as needed.) | Submittal review, shop (3) and/or field inspection | | | | |
| 1. Inspection of anchors post-installed in solid grouted masonry: Per research reports including verification of anchor type, anchor dimensions, hole dimensions, hole cleaning procedures, anchor spacing, edge distances, masonry unit, grout, masonry compressive strength, anchor embedment and tightening torque | Field inspection | Y | Periodic or as required by the research report issued by an approved source | | |
| 2. Aggregate Pier Inspection: The special inspector's responsibilities include, but are not limited to, review of the aggregate pier designer's use of soil parameters as presented in the project soils report, and during construction, verification of aggregate properties, type and number of lifts of aggregate, hole size and depths and top elevations of the pier elements, and applied energy. Additionally, results of qualitative tests on production aggregate pier elements such as modulus load testing, uplift pull-out testing, bottom stabilization tests and dynamic cone penetration tests, shall be reviewed to verify compliance with design specifications. | Field inspection | N | Periodic or as required by the research report issued by an approved source | | |
| | | | | | |
| | | | | | |
| **1705.2.1 Structural Steel Construction** | | | | | |
| 1. Fabricator and erector documents (Verify reports and certificates as listed in AISC 360, Section N 3.2 for compliance with construction documents) | Submittal Review | Y | Each submittal | | |
| 2. Material verification of structural steel | Shop (3) and field inspection | Y | Periodic | | |
| 3. Structural steel welding: | | | | | |
| a. Inspection tasks Prior to Welding (Observe, or perform for each welded joint or member, the QA tasks listed in AISC 360, Table N5.4-1) | Shop (3) and field inspection | Y | Observe or Perform as noted (4) | | |
| b. Inspection tasks During Welding (Observe, or perform for each welded joint or member, the QA tasks listed in AISC 360, Table N5.4-2) | Shop (3) and field inspection | Y | Observe (4) | | |
| c. Inspection tasks After Welding (Observe, or perform for each welded joint or member, the QA tasks listed in AISC 360, Table N5.4-3) | Shop (3) and field inspection | Y | Observe or Perform as noted (4) | | |
| d. Nondestructive testing (NDT) of welded joints: | | | | | |
| 1) Complete penetration groove welds 5/16" or greater in *risk category* III or IV | Shop (3) or field ultrasonic testing - 100% | N | Periodic | | |
| 2) Complete penetration groove welds 5/16" or greater in *risk category* II | Shop (3) or field ultrasonic testing - 10% of welds minimum | N | Periodic | | |
| 3) Welded joints subject to fatigue when required by AISC 360, Appendix 3, Table A-3.1 | Shop (3) or field radiographic or Ultrasonic testing | N | Periodic | | |
| 4) Fabricator's NDT reports when fabricator performs NDT | Verify reports | Y | Each submittal (5) | | |
| 4. Structural steel bolting: | Shop (3) and field inspection | | | | |
| a. Inspection tasks Prior to Bolting (Observe, or perform tasks for each bolted connection, in accordance with QA tasks listed in AISC 360, Table N5.6-1) | | Y | Observe or Perform as noted (4) | | |
| b. Inspection tasks During Bolting (Observe the QA tasks listed in AISC 360, Table N5.6-2) | | | Observe (4) | | |
| 1) Pre-tensioned and slip-critical joints | | N | | | |
| a) Turn-of-nut with matching markings | | N | Periodic | | |
| b) Direct tension indicator | | N | Periodic | | |
| c) Twist-off type tension control bolt | | N | Periodic | | |
| d) Turn-of-nut without matching markings | | N | Continuous | | |
| e) Calibrated wrench | | N | Continuous | | |
| 2) Snug-tight joints | | Y | Periodic | | |
| c. Inspection tasks After Bolting (Perform tasks for each bolted connection in accordance with QA tasks listed in AISC 360, Table N5.6-3) | | Y | Perform (4) | | |
| 5. Visual inspection of exposed cut surfaces of galvanized structural steel main members and exposed corners of the rectangular HSS for cracks subsequent to galvanizing | Shop (3) or field inspection | Y | Periodic | | |
| 6. Embedments (Verify diameter, grade, type, length, embedment. See 1705.3 for anchors) | Field inspection | Y | Periodic | | |
| 7. Verify member locations, braces, stiffeners, and application of joint details at each connection comply with construction documents | Field inspection | Y | Periodic | | |
| **1705.2.2 Cold-Formed Steel Deck** | | | | | |
| 1. Manufacturer documents (Verify reports and certificates as listed in SDI QA/QC, Section 2, Paragraphs 2.1 and 2.2 for compliance with construction documents) | Submittal Review | Y | Each submittal | | |
| 2. Material verification of steel deck, mechanical fasteners and welding materials | Shop (3) and field inspection | Y | Periodic | | |
| 3. Cold-formed steel deck placement: | Shop (3) and field inspection | Y | | | |
| a. Inspection tasks Prior to Deck Placement (Perform the QA tasks listed in SDI QA/QC, Appendix 1 Table 1.1) | | Y | Perform (4) | | |
| b. Inspection tasks After Deck Placement (Perform the QA tasks listed in SDI QA/QC, Appendix 1 Table 1.2) | | Y | Perform (4) | | |
| 4. Cold-formed steel deck welding: | Shop (3) and field inspection | Y | | | |
| a. Inspection tasks Prior to Welding (Observe the QA tasks listed in SDI QA/QC, Appendix 1 Table 1.3) | | Y | Observe (4) | | |
| b. Inspection tasks During Welding (Observe the QA tasks listed in SDI QA/QC, Appendix 1 Table 1.4) | | Y | Observe (4) | | |
| c. Inspection tasks After Welding (Perform the QA tasks listed in SDI QA/QC, Appendix 1 Table 1.5) | | Y | Perform (4) | | |
| 5. Cold-formed steel deck mechanical fastening: | Shop (3) and field inspection | Y | | | |
| a. Inspection tasks Prior to Mechanical Fastening (Observe the QA tasks listed in SDI QA/QC, Appendix 1 Table 1.6) | | Y | Observe (4) | | |
| b. Inspection tasks During Mechanical Fastening (Observe the QA tasks listed in SDI QA/QC, Appendix 1 Table 1.7) | | Y | Observe (4) | | |
| c. Inspection tasks After Mechanical Fastening (Perform the QA tasks listed in SDI QA/QC, Appendix 1 Table 1.8) | | Y | Perform (4) | | |
| 1. Material verification of cold-formed steel deck: | | | | | |
| a. Identification markings | Field inspection | | Periodic | | |
| b. Manufacturer's certified test reports | Submittal Review | | Each submittal | | |
| 2. Connection of cold-formed steel deck to supporting structure: | Shop (3) and field inspection | | | | |
| a. Welding | | | Periodic | | |
| b. Other fasteners (in accordance with AISC 360,Section N6) | | | | | |
| 1) Verify fasteners are in conformance with approved submittal | | | Periodic | | |
| 2) Verify fastener installation is in conformance with approved submittal and manufacturer's recommendations | | | Periodic | | |
| **1705.2.3. Open-Web Steel Joists and Joist Girders** | | | | | |
| 1. Installation of open-web steel joists and joist girders. | | | | | |
| a. End connections - welding or bolted. | per SJI CJ or SJI 100 | Y | Periodic | | |
| b. Bridging - horizontal or diagonal. | | | | | |
| 1) Standard bridging | per SJI CJ or SJI 100 | Y | Periodic | | |
| 2) Bridging that differs from the specifications listed in SJI CJ or SJI 100. | | Y | Periodic | | |
| **1705.3 Concrete Construction** | | | | | |
| 1. Inspect reinforcement, including prestressing tendons, and verify placement. | Shop (3) and field inspection | Y | Periodic | | |
| 2. Inspection of anchors cast in concrete. | Shop (3) and field inspection | Y | Periodic | | |
| 3. Inspection of anchors post-installed in hardened concrete members per research reports, or, if no specific requirements are provided, requirements shall be provided by the registered design professional and approved by the building official, including verification of anchor type, anchor dimensions, hole dimensions, hole cleaning procedures, anchor spacing, edge distances, concrete minimum thickness, anchor embedment and tightening torque | Field inspection | Y | Periodic or as required by the research report issued by an approved source | | |
| a. Adhesive anchors installed in horizontal or upward-inclined orientation that resist sustained tension loads. | | Y | Continuous | | |
| b. Mechanical and adhesive anchors note defined in 4a. | | | Periodic | | |
| 4. Verify use of approved design mix | Shop (3) and field inspection | Y | Periodic | | |
| 5. a. Prior to placement, fabricate specimens for strength tests, fresh concrete sampling, perform slump or slump flow, and air content density tests, and determine temperature of concrete. | Shop (3) and field inspection | Y | Continuous | | |
| 6. b. Verify that concrete specimens for strength tests are maintained in the required initial curing and laboratory curing environment, and that the maximum and minimum temperatures during the initial curing period are reported. | Shop (3) and field inspection | Y | Continuous | | |
| 7. Verify maintenance of specified curing temperature and techniques | Shop (3) and field inspection | Y | Periodic | | |
| 8. Concrete strength testing and verification of compliance with construction documents | Field testing and review of laboratory reports | Y | Periodic | | |
| **1705.4 Masonry Construction** | | | | | |
| **MINIMUM VERIFICATION REQUIREMENTS** | | | | | |
| **(A) Level 1, 2 and 3 Quality Assurance:** | | | | | |
| 1. Prior to construction, verification of compliance of submittals | Submittal Review | | Prior to Construction | | |
| **(B) Levels 2 and 3 Quality Assurance:** | | | | | |
| **1. As masonry construction begins, verify that the following are in compliance:** | | | | | |
| a. Proportions of the site-prepared mortar | Field inspection | Y | Periodic | | |
| c. Grade, type, and size of reinforcement, and anchor bolts. | Field Inspection | Y | Periodic | | |
| **2. Prior to grouting, verify that the following are in compliance:** | | | | | |
| a. Grout space | Field Inspection | Y | Level 2 - Periodic | | |
| | | N | Level 3 - Continuous | | |
| b. Placement of reinforcement, connectors, and anchor bolts | Field inspection | Y | Level 2 - Periodic | | |
| | | N | Level 3 - Continuous | | |
| **3. Verify compliance of the following during construction:** | | | | | |
| a. Materials and procedures with the approved submittals | Field inspection | Y | Periodic | | |
| b. Placement of masonry units and mortar joint construction | Field Inspection | Y | Periodic | | |
| c. Size and location of structural members | Field Inspection | Y | Periodic | | |
| d. Type, size, location of anchors, including other details of anchorage of masonry to structural members, frames, or other construction | Field inspection | Y | Level 2 - Periodic | | |
| | | N | Level 3 - Continuous | | |
| f. Preparation, construction, and protection of masonry during cold weather (temperature below 40°F) or hot weather (temperature above 90°F) | Field inspection | Y | Periodic | | |
| 4. Observe preparation of grout specimens, mortar specimens, and/or prisms | Field inspection | Y | Level 2 - Periodic | | |
| | | N | Level 3 - Continuous | | |
| **1705.6 Soils** | | | | | |
| 1. Verify materials below shallow foundations are adequate to achieve the design bearing capacity. | Field inspection | Y | Periodic | | |
| 2. Verify excavations are extended to proper depth and have reached proper material. | Field inspection | Y | Periodic | | |
| 3. Perform classification and testing of compacted fill materials. | Field inspection | Y | Periodic | | |
| 4. Verify use of proper materials, densities, and lift thicknesses during placement and compaction of controlled fill | Field inspection | Y | Continuous | | |
| 5. Prior to placement of controlled fill, inspect subgrade and verify that site has been prepared properly | Field inspection | Y | Periodic | | |
| **1705.10 Fabricated items** | | | | | |
| 1. List of fabricated items requiring special inspection during fabrication: | Shop inspection | N | As noted in each applicable shop activity | | |
| | | | | | |
| | | | | | |
| 2. List of fabricated items to be fabricated on the premises of a fabricator approved to perform such work without special inspection (including name of approved agency providing periodic auditing): | | | | | |
| | | | | | |
| | | | | | |
| **1705.11.3 Wind-resisting Components** | | | | | |
| 1. Roof covering, roof deck and roof framing connections. | Shop (3) and field inspection | Y | Periodic | | |
| 2. Exterior wall covering and wall connections to roof and floor diaphragms | Shop (3) and field inspection | Y | Periodic | | |
| **1705.12.1 Structural Steel Special Inspections for Seismic Resistance** | | | | | |
| 1. Seismic force-resisting systems in SDC B, C, D, E, or F. | Shop (3) and field inspection | N | In accordance with AISC 341 | | |
| 2. Structural steel elements in SDC B, C, D, E, or F other than those in Item 1. including struts, collectors, chords and foundation elements. | Shop (3) and field inspection | N | In accordance with AISC 341 | | |


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GENERAL NOTES

1. Contractor shall compare structural drawings and architectural drawings. Any omissions or discrepancies between plans, details, and specifications shall be brought to the attention of the Architect or Engineer before bidding. In all cases, more stringent requirement governs. Architectural dimensions and elevations will control.
2. Structural drawings or parts of the structural drawings may not be used as shop drawings without prior written approval.
3. All or parts of these drawings were produced with computer aided drafting. Drawings are available from the Engineer in DWG format on request.
4. Contractor proposed changes to details must be clearly noted on the first sheet of all shop drawings.
5. Construction shown is stable after the building is complete including interior and exterior finishes. The Contractor is responsible for temporary bracing of the structure during construction.
6. Review of submittal information shall be for general compliance with the contract documents and shall not include checking of detailed dimensions or detailed quantities.

DESIGN LOADS

1. Reference code for loading 2018 IBC.
   a. Building Classification II
   b. Wind Load
      1) Basic Wind Speed (3 sec gust) 108 mph
      2) Wind Exposure C
      3) Internal Pressure Coefficient +/- 0.18
      4) Velocity Pressure (qz) 25.4 psf
   c. Roof Snow Load
      1) Ground Snow Load (Pg) 10 psf
      2) Flat Roof Snow Load (Pf) 10 psf
      3) Snow Exposure (Ce) 1.0
      4) Importance Factor (Is) 1.0
      5) Thermal Factor (Ct) 1.0
   d. Seismic Load
      1) Importance Factor 1.0
      2) Mapped Spectral Response Accelerations
         a) Ss 0.135
         b) S1 0.076
      3) Site Class C
      4) Spectral Response Coefficients
         a) Sds 0.117
         b) Sd1 0.076
      5) Seismic Design Category B
      6) Base Seismic-Force-Resisting System(s) and Response Modification Factor
         a) Intermediate Reinforced Masonry Shear Walls 3.5
      7) Design Base Shear x.x kips
      8) Seismic Response Coefficient (Cs) 0.xx
      9) Analysis Procedure = Equivalent Lateral Force
   e. Live Load
      1) Roof Load 20 psf
      2) Service Bay and slabs on grade 100 psf

FOUNDATIONS

1. Foundation design for this project was based on soils information provided by Terracon
2. Bearing capacity---------- 2000 psf
3. All footings are to bear on engineered fill.
4. Install corner bars at all footing intersections and corners (Provide lap length e.w.)
5. All footing elevations are given to the top of the footings.
6. Footing steps shown on the plans are furnished as a guide for estimating quantities. Final elevations are to be set in the field. Bearing elevations must be approved by a Soils Engineer before any concrete is placed.
7. Coordinate foundation elevations with plumbing requirements. Step footings as required to clear plumbing lines.
8. Provide drainage for all retaining walls, see architectural for notes and details.

MASONRY

1. All masonry work to be in accordance with "Building Code Requirements for Concrete Masonry Structures" TMS 402-2016 and "Specifications for Masonry Structures" TMS 602-2016
2. Fill all concrete masonry units with concrete or grout from the top of the footing to the finish floor or to 8" above finish grade whichever is higher.
3. Use ladder type joint reinforcement (Dur-O-Wall SW DA3100 or better) at 16" on center in all cavity walls where brick is used for one or more of the wythes.
4. Use truss type joint reinforcement (Dur-O-Wall SW DA3100 or better) at 16" o/c. in all other masonry walls.
5. Provide joint reinforcement at 8" o/c. for all walls constructed with stack bond.
6. Use Type "M" or Type "S" mortar in accordance with IBC Table 2103.7(1).
7. Minimum compressive strength of concrete masonry f'm = 2500 psi. Submit for review test data on strength of units before starting any masonry work.
8. Minimum compressive strength of grout f'm = 2500 psi. Use 3/8" max size aggregate. See Special Inspection Schedule for any testing requirements. Grout slump shall be 8" to 11".
9. Use "Fine" grout for all reinforced piers and reinforced wall in accordance with ASTM C 476.
10. Each grout lift shall not exceed 5'-0" unless cleanouts are provided in the bottom course.
11. Fill cells under all lintels with grout.
12. Provide lintels over all openings through wall. See lintel details for reinforcement.
13. Unless otherwise noted provide control joints in all walls 4'-0" from wall intersections or corners and at 20'-0"
14. Extend all horizontal steel and bond beams thru control joints.
15. Vertical Reinforcement shall extend into the bond beam.
16. Unless noted, all bars are to be located at the center of cell. Where bars are specified at each face, provide minimum ¾" clear space between reinforcement and CMU face shell.
17. Anchor bolt into grouted cell locations only, unless noted otherwise.

REINFORCING STEEL AND CONCRETE

1. All concrete work is to be in accordance with the "Building Code Requirements for Reinforced Concrete" (ACI 318-14).
2. All detailing is to be in accordance with "ACI Detailing Manual" SP-66
3. Use of Calcium Chloride, Chloride Ions, or other salts in concrete are prohibited.
4. Concrete Properties: See Schedule
   a. All concrete must obtain 7 day strength of 70% of design strength.
   b. Concrete mixes may use up to 25% of cementious weight as fly ash.
   c. Concrete mixes may use water reducers, accelerators or retarders with prior approval.
   d. Do not provide air entrainment in concrete mixes for interior slabs.
5. All steel reinforcement shall be of deformed bars of billet steel conforming to ASTM A615, Grade 60 in all concrete.
6. Welded wire fabric shall be ASTM 185 and shall lap 2 cross wires or 6" whichever is greater on all sides. All laps shall be wired together.
7. Provide (2) #4 bars x 4'-0" at re-entrant corner locations Typical. Locate 3" away from corner and space 1'-0" apart.
8. All slabs on grade are 6", unless noted. Slabs are to be placed on 10 Mil, PVC vapor barrier over 4" of porous fill. Reinforce slabs with 6x6 W2.9 x W2.9 WWF placed 1" from top of slab. Unless otherwise noted slabs shall have joints placed a 12'-0" on centers. Joints may be control joints or construction joints. See Architectural Plans for floor slopes and recesses for hard tile.
9. Minimum concrete cover for reinforcement:
   a) Footings 3" bottom, 2" sides
   b) Cast-In-Place Walls
      Surfaces exposed to weather or soil 2" - #6 and greater, 1-1/2" - #5 and smaller
      Other surfaces 3/4"
10. Provide corner bars at all wall and footing intersections.
11. No openings shall be allowed to penetrate any concrete work, unless it is shown on the structural framing plans without prior written approval. Contractor shall submit for review locations of proposed openings not shown 30 days prior to pouring any concrete.
12. Provide a continuous water bar at all wall construction joints below ground level.
13. Use 3/4" chamfer for all exposed corners unless noted.
14. Testing samples for preparing strength test specimens of each concrete mixture placed each day shall be taken in accordance with (1) through (3).
    1. At least once a day
    2. At least once for each 150yd^3 of concrete
    3. At least once for each 5000ft^2 of surface area for walls or slabs.

STRUCTURAL STEEL

1. All detailing, fabricating, and erection of structural steel shall be in accordance with the AISC 360-16 "Specifications for Structural Steel Buildings". All reactions shown are ASD loads.
2. All connections are to be detailed as Type 2 "simple frame connections".
3. All structural steel W shapes shall be ASTM A992.
4. All structural steel Tube sections shall be ASTM A500 Grade B.
5. All structural steel Pipe sections shall be ASTM A501.
6. All structural steel channels, angles and other sections shall be ASTM A36, unless noted.
7. Headed Studs shall be Type B Shear Connectors.
8. Shop and field connections shall be welded with E-70XX electrodes or bolted with 3/4" dia. A-325N or A-325F bolts, unless noted.
9. Use 3/4" cap and bearing plates, unless noted.
10. Use 3/4" dia x 1'-0" long ASTM 1554 Grade 36 anchor bolts, unless noted. In lieu of cast bolts, 3/4"x1'-0" long HAS rods epoxied with Hilti HVA epoxy, or equal, may be used with prior approval.
11. Grout under baseplates with ASTM C 1107 cementitious 6000 psi Non-Shrink Grout.
12. Structural steel shall be shop primed per SSPC paint system No. 7. Primer shall be SSPC paint with a minimum thickness of 2.0 MILS. Omit Paint at surfaces to be fireproofed.
13. Provide L 3"x3"x1/4" frames around all roof opening through metal decking.

STEEL JOIST

-

1. All steel joists shall conform to the standard specifications for the joist noted, as adopted by the Steel Joist Institute.
2. Refer to Components & Cladding Table and Diagram for roof uplift zones and pressures. Use 8psf dead load for net uplift determination.
3. K Series joists shall be welded to bearing plates or steel members with two 1/8" fillet welds 2" long.
4. All joist bearing plates are to be set 1/4" above the top of concrete masonry units.
5. Weights of mechanical units are not included in the joist loading designation shown. Design joist for loading shown plus the weight of mechanical shown. General contractor is to verify all weights of mechanical units with Mechanical Subcontractor before submitting shop drawings.

COLD-FORMED METAL (CFS) FRAMING (Tower Element)

-

1. All detailing, fabricating, and erection of light gauge steel shall be in accordance with the AISI S240-20 "North American Standard for Cold-Formed Steel Structural Framing".
2. All studs, joist, tracks, bridging, and accessories shall be a minimum of G60 galvanized and have minimum yield strength of 33ksi, unless noted otherwise.
3. Furnish design calculations sealed by a Professional Engineer licensed in the state of that the project is located for all truss members
4. Top and bottom tracks to 600T125-43 unless noted otherwise.
5. Provide double studs at all wall intersections, jambs, corners, and intersections.
6. All wall studs to have full bearing at top and bottom of stud.

REQUIRED STRUCTURAL SUBMITTALS

-

1. Concrete Mix Designs conforming to ACI 318 requirements
2. Reinforcing steel for all cast in place concrete work shown on the strucural drawings.
3. Reinforcing steel for all masonry work shown on the strucural drawings.
4. Structural steel.
5. Bar joist, composite floor deck, and roof deck.
6. Cold formed metal stud trusses.
7. Aggregate, helical anchor, or other foundation site improvement method, if specified on the project.


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OKLAHOMA REGISTERED PROFESSIONAL ENGINEER
JOHN CANNON JONES
23323
04.22.2026

Express Oil Change & Tire Engineers
Single Building / Left Hand Oil Change / Front Enter / Side Tire Storage
Wagoner, OK

FINAL

| No. | Description | Date |
|---|---|---|
| IFP-0 | Issue for Permit | 01.28.2026 |
| IFB-0 | Issue for Bid | 03.31.2026 |
| IFC-0 | Issue for Construction | 04.22.2026 |
| | | |
| | | |
| | | |
| | | |
| | | |


2026
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General Notes & Schedule of Special Inspections

| | |
|---|---|
| Project number | 25041 |
| Date | 1/28/2026 |
| Drawn by | jcj |
| Checked by | jd |

S0.1

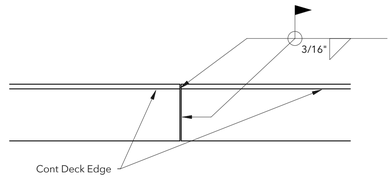
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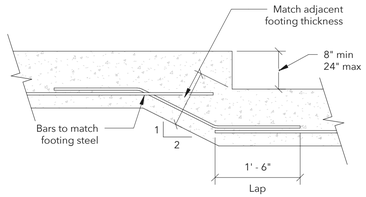
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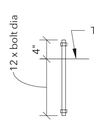

04.22.2026



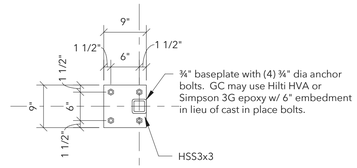

Typical Roof Deck Edge Angle Splice Detail



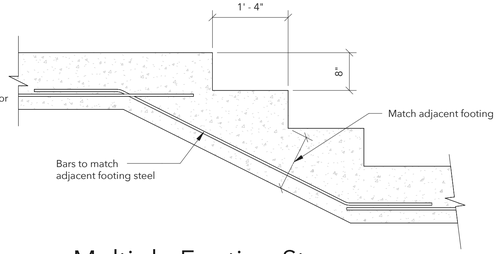

Single Footing Step



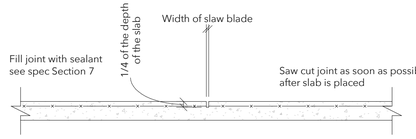

Typical Anchor Bolt Detail




Typical Base Plate

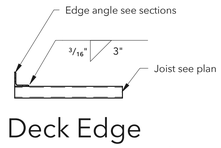



Multiple Footing Step

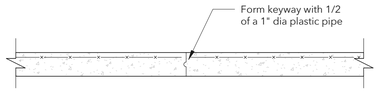



Note: Saw cut joint must be made the same day the slab is placed

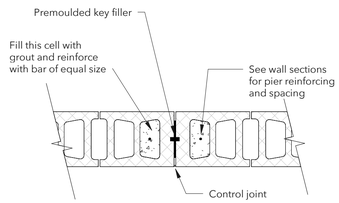
Typical Control Joint




Deck Edge Fastening Detail

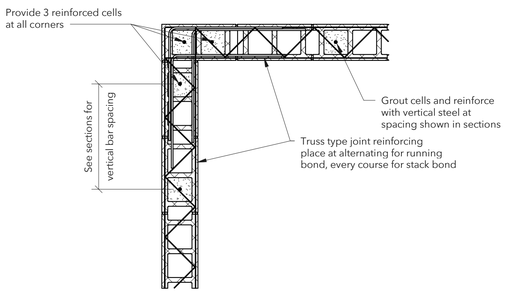



Typical Construction Joint

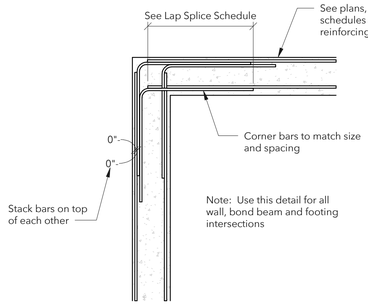



Note:
1. See architectural plan for spacing. If spacing is not shown place joints at 3 times the wall height but not greater than 20'-0" o.c., and at 4'-0" from corners
2. Extend all horizontal reinforcing including bond beam steel thru control joints.

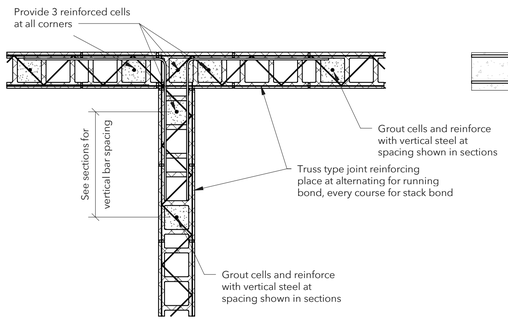
Typical MasonryWall Control Joint



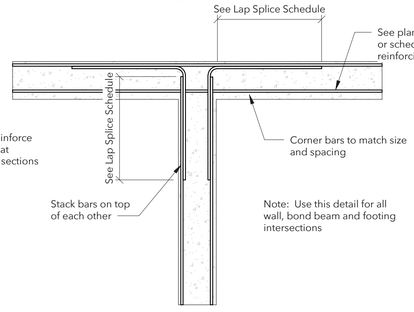

Typical Joint Reinforcing at Corner



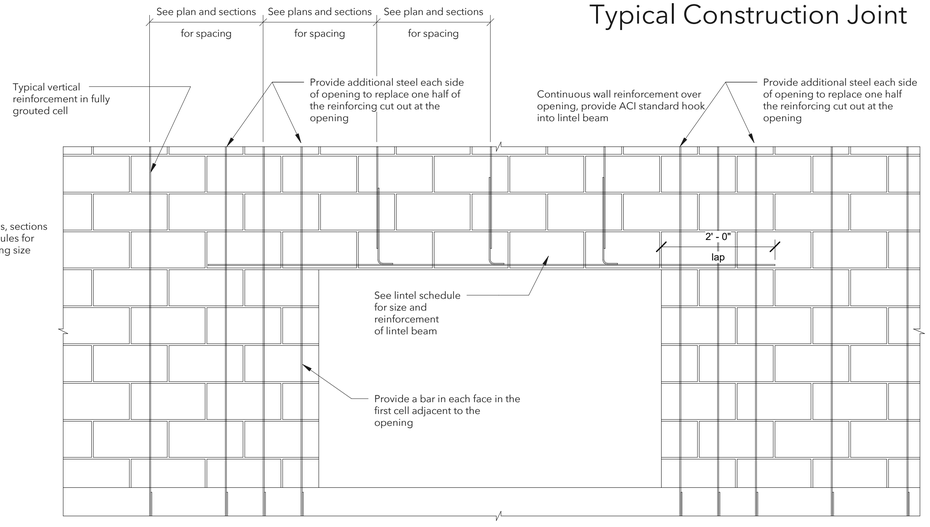

Typical Beam, Wall or Footing Reinforcing at Corners




Typical Joint Reinforcing at Intersection




Typical Beam, Wall or Footing Reinforcing at Intersetions




CMU Lintel Elevation

Express Oil Change & Tire Engineers

Single Building / Left Hand Oil Change / Front Enter / Side Tire Storage

Wagoner, OK

FINAL

| No. | Description | Date |
|---|---|---|
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2026
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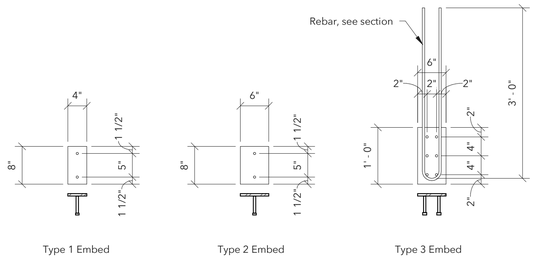
Typical Details

| | |
|---|---|
| Project number | 25041 |
| Date | 1/28/2026 |
| Drawn by | jcj |
| Checked by | jd |

S0.2

Scale 3/4" = 1'-0"

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Type 1 Embed | Type 2 Embed | Type 3 Embed

## Embed plates

¾" plate w/ ½"x4"headed studs

## CONCRETE SCHEDULE

| Concrete Use | Design Strength | Max W/C Ratio | Slump Limits | Entrained Air Range | Weight | Notes |
|---|---|---|---|---|---|---|
| Basement Walls | 4000 psi | n/a | 6" to 8" | 3% to 5% | 150 pcf | Use HRWR |
| Slabs on Composite Metal Deck | 4000 psi | n/a | 6" to 8" | --- | 150 pcf | Use HRWR |
| Slabs on Grade/Grade Beams | 4000 psi | n/a | 6" to 8" | --- | 150 pcf | Use HRWR |

## Metal Deck Attachment Schedule

| Area | Support Fastener/Pattern | Sidelap Fastener/Pattern |
|---|---|---|
| Roof - typical | #12 TEK screws 36/4 pattern | 2 - #10 TEK screws |
| Roof - hatched area | #12 TEK screws 36/4 pattern | 10 - #10 TEK screws |

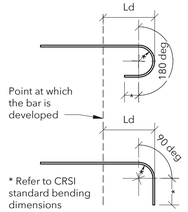
## Reinforcing Steel Lap Splice Lengths

| Bar Size | Column Splices | Bm, Ftg & Wall Splices | |
|---|---|---|---|
| | | Top Bars | Other Bars |
| # 3 | 12" | 19" | 15" |
| # 4 | 15" | 25" | 19" |
| # 5 | 19" | 31" | 24" |
| # 6 | 23" | 37" | 29" |
| # 7 | 26" | 54" | 42" |
| # 8 | 30" | 62" | 48" |
| # 9 | 34" | 70" | 54" |
| # 10 | 38" | 79" | 61" |
| # 11 | 42" | 87" | 67" |

Notes:
1. Top bars are any horizontal reinforcing steel that has another layer of steel more than 2" below the bars or reinforcing steel that has more than 12" of concrete below the bars.
2. All horizontal reinforcing bars in walls may be detailed as "Other Bars".
3. All corner bars may be detailed as "Other Bars".

## Reinforcing Steel Lap Splice & Development Length for Concrete Masonry

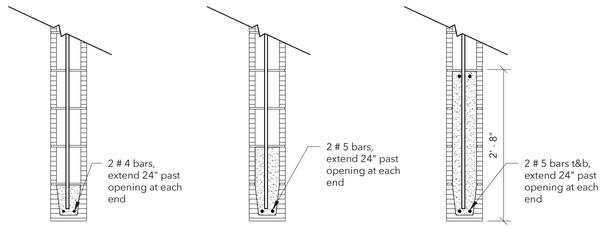
| Bar Size | Bar in center of wall | | | Bar in each face of wall |
|---|---|---|---|---|
| | 6" CMU | 8" CMU | 12" CMU | |
| #3 | 16" | 16" | 16" | 16" |
| #4 | 21" | 21" | 21" | 30" |
| #5 | 32" | 26" | 26" | 46" |
| #6 | 61" | 43" | 40" | 85" |
| #7 | NA | 60" | 46" | 115" |
| #8 | NA | NA | 61" | NA |




Notes:
1. Lengths are for vertical splces in walls.
2. Bar length for center of wall are based on f'm of 1500 psi or greater.
3. Bar length for face of wall are based on f'm of 2000 psi or greater.
4. Refer to General Notes and details for masonry strength.

## Components and Cladding Schedule a = 6.5'

| Area (sf) | Zone 1,2,3 (+) psf | Zone 1 (-) psf | Zone 2 (-) psf | Zone 3 (-) psf | Zone 4 (+) psf | Zone 4 (-) psf | Zone 5 (+) psf | Zone 5 (-) psf |
|---|---|---|---|---|---|---|---|---|
| 10 | 11.5 | -28.3 | -47.5 | -71.5 | 25.9 | -28.1 | 25.9 | -34.5 |
| 50 | 9.8 | -26.6 | -35.8 | -43.0 | 23.2 | -25.4 | 23.2 | -29.2 |
| 100 | 9.1 | -25.9 | -30.7 | -30.7 | 22.1 | -24.3 | 22.1 | -26.9 |



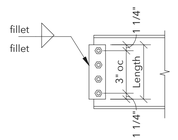

Less than 4'-0" | Less than 8'-0" | Overhead Doors

## CMU Lintel Schedule

## Beam to Column Single Shear Plate Connection Schedule

| Min Beam Depth | Max end reaction | Length | # of bolts | Plate thickness | Fillet weld size |
|---|---|---|---|---|---|
| W10 | 16.7k | 5-1/2" | 2 | 5/16" | 3/16" |

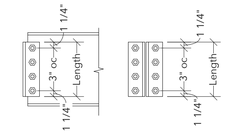
- Use this table for Wide Flange Beams to HSS Columns
- Loads are ASD
- Bolts are 3/4"dia Group A ASTM F3125 Gr A325 in standard or short-slotted holes transverse to direction of load with threads Excluded from shear plane. More than 5 bolts must have short-slotted holes.
- Plate is A36 and welds are E-70XX electrodes
- Beam reactions that exceed the max reaction in this table will use the Double Angle Frame Connection Schedule below.

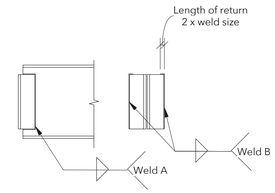



## Beam Double Angle Shear Connection Schedule

| Min Beam Depth | Max end reaction | Length | rows of bolts | Angle thickness | Weld A fillet size | Weld B fillet size |
|---|---|---|---|---|---|---|
| W10 | 14.6k | 5-1/2" | 2 | 1/4" | 3/16" | 1/4" |

- Use this table for Wide Flange Beams to Wide Flange Columns or other Beams
- Loads are ASD
- Bolts are 3/4"dia Group A ASTM F3125 Gr A325 in standard or short-slotted holes transverse to direction of load with threads Excluded from shear plane.
- Angles are A36 and welds are E-70XX electrodes
- Beam reactions that exceed the max reaction in this table will shall be designed by steel fabricator and submit signed/sealed calculations prepared by a Professional Engineer licensed in the State of the Project




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JOHN CANNON JONES
23323
OKLAHOMA
04.22.2026

# Express Oil Change & Tire Engineers

Single Building / Left Hand Oil Change / Front Enter / Side Tire Storage

Wagoner, OK

FINAL

| No. | Description | Date |
|---|---|---|
| IFP-0 | Issue for Permit | 01.28.2026 |
| IFB-0 | Issue for Bid | 03.31.2026 |
| IFC-0 | Issue for Construction | 04.22.2026 |

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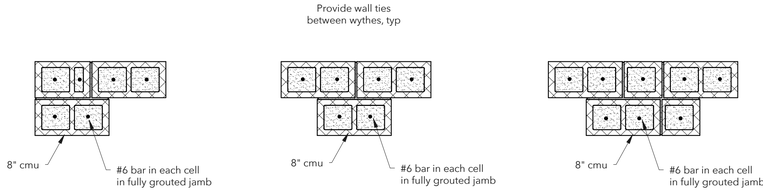
Schedules

| | |
|---|---|
| Project number | 25041 |
| Date | 1/28/2026 |
| Drawn by | jcj |
| Checked by | jd |

S0.3

Scale 3/4" = 1'-0"

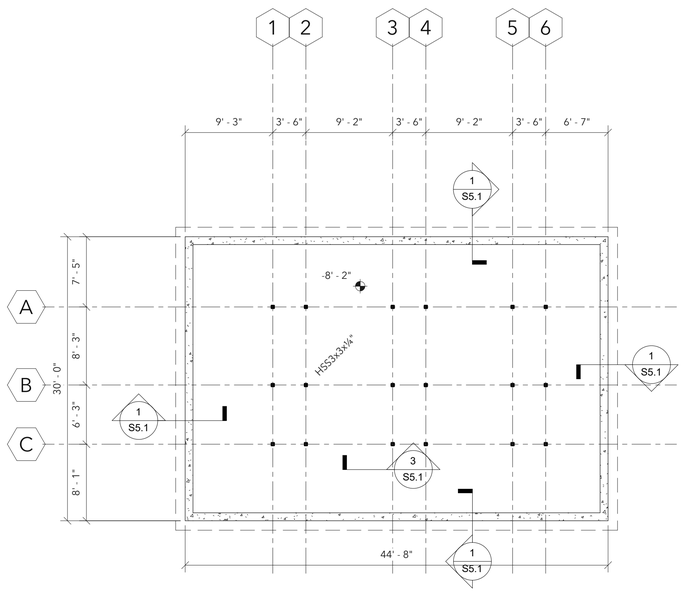
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PELL CITY, ALABAMA
205-884-5334



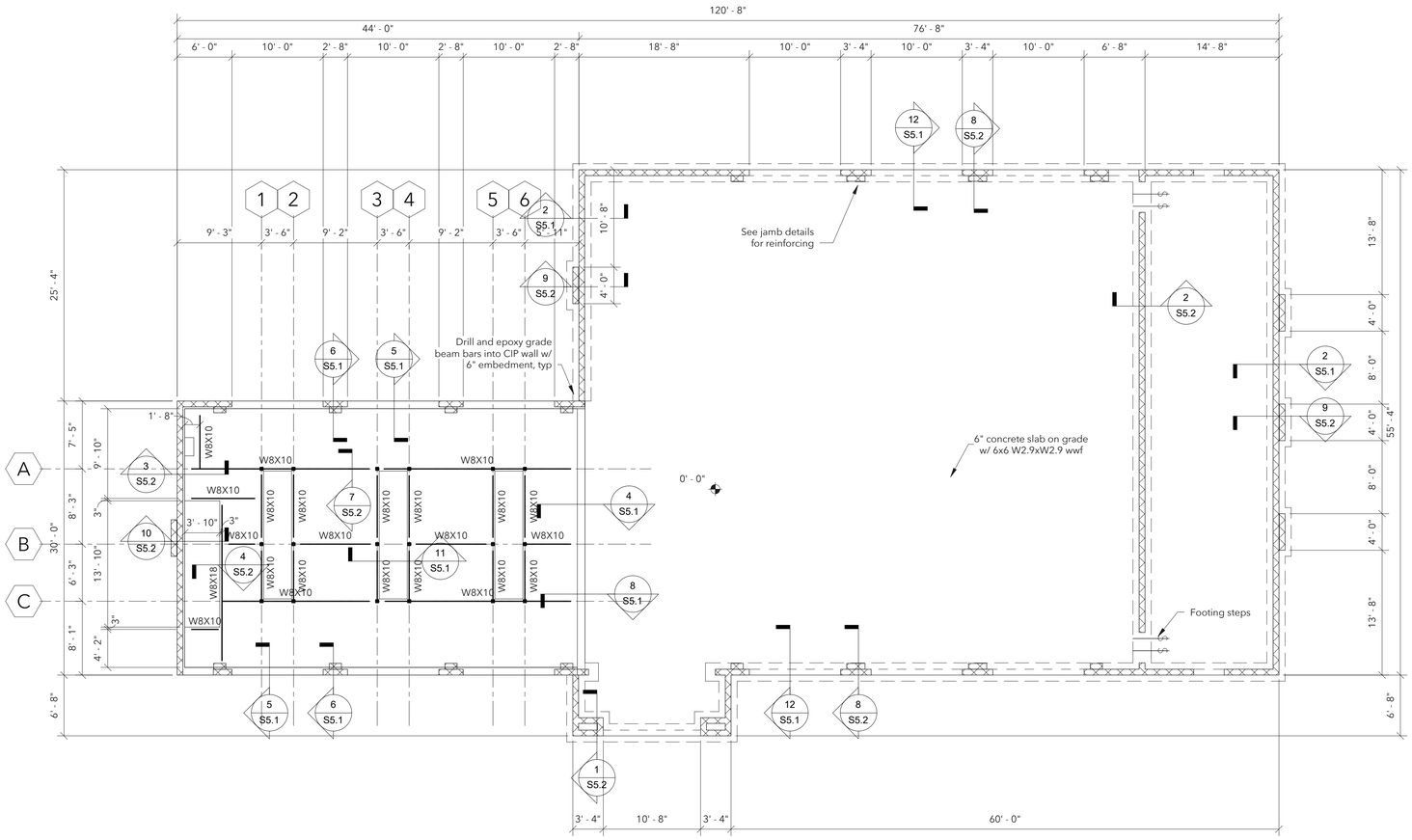

16" Jamb Reinforcing

32" Jamb Reinforcing

40" Jamb Reinforcing




PIT FOUNDATION PLAN
1/8" = 1'-0"




FOUNDATION PLAN
1/8" = 1'-0"

**Sheet Notes:**

1. See Sheet No S0 for typical details and general notes.
2. Reference all elevations to finish floor elevation (+) 0'-0"
3. Floor construction 3" concrete slab with 6x6 W2.9xW2.9 wwf over 2" x 20 ga. galvanized (G60) composite metal deck. Total slab thickness = 5". Provide 5/8" dia puddle welds on 36/4 pattern w/ (3) #12 TEK screw sidelap fasteners per span
4. All steel beam reactions shall be designed for 10 kips (ASD) unless noted otherwise.
5. Refer to architectural for all dimensions, slopes, elevations, etc. not illustrated on this plan. Coordinate all final dimensions and elevations with architectural.

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# Express Oil Change & Tire Engineers

## Single Building / Left Hand Oil Change / Front Enter / Side Tire Storage

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## Foundation Plan

| | |
|---|---|
| Project number | 25041 |
| Date | 1/28/2026 |
| Drawn by | jcj |
| Checked by | jd |

S1.1

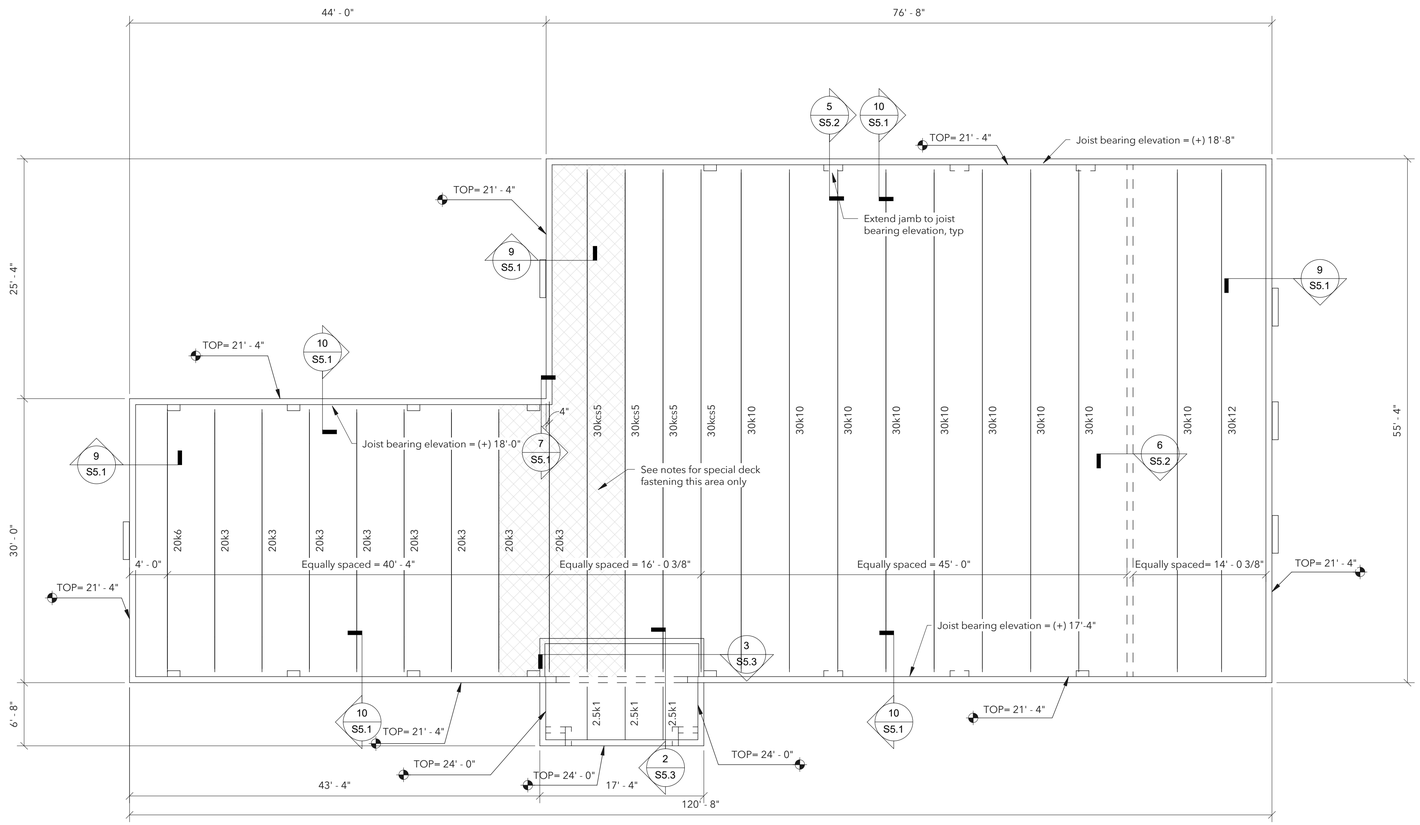
Scale: As indicated

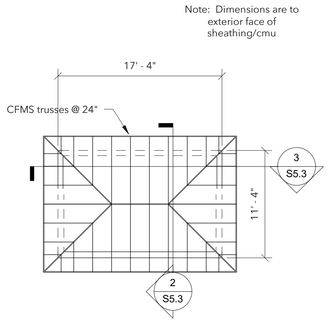
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## HIGH ROOF FRAMING PLAN

1/8" = 1'-0"

**Sheet Notes:**

1. See Sheet No S0.x for typical details and general notes.
2. Reference all elevations to finish floor elevation (+) 0'-0"
3. Truss Bearing Elevation (+) 24'-0".
4. Roof slope = 7"/12", unless noted
5. Roof construction 5/8" plywood deck with H-clips. Attach with 8d nails @ 6" o.c..
6. Refer to architectural drawings for all dimensions, slopes, elevations, etc... not illustrated on this plan. Coordinate all final dimensions and elevations with architectural.
7. Truss loading: Top Chord Live Load = 20psf, Top Chord Dead Load = 10psf, Bottom Chord Dead Load = 10psf.
8. Truss requirements: (note that all of these requirements must be included in the truss submittal prior to receiving approval)
   a) Furnish design calculations sealed by a Professional Engineer licensed in the state of that the project is located for all truss members.
   b) Truss manufacturer shall specify and provide all truss to truss and truss bearing connections, and not contain mention of "by others" in relation to design.
   c) Truss manufacturer shall be responsible for providing and illustrating all temporary and permanent bracing required.

## ROOF FRAMING PLAN

1/8" = 1'-0"

**Sheet Notes:**

1. See S0.x Sheets for typical details and general notes.
2. Reference all elevations to finish floor elevation (+) 0'-0"
3. See plan for Joist Bearing Elevations.
4. Roof construction 1 1/2" x 22 ga. type B painted (gray) metal deck. See S0.3 sheets for attachment details. Paint bar joist gray.
5. Refer to architectural drawings for all dimensions, slopes, elevations, etc... not illustrated on this plan. Coordinate all final dimensions and elevations with architectural.

# Express Oil Change & Tire Engineers

## Single Building / Left Hand Oil Change / Front Enter / Side Tire Storage

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## Roof Framing Plan

| | |
|---|---|
| Project number | 25041 |
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| Drawn by | jcj |
| Checked by | jd |

# S3.1

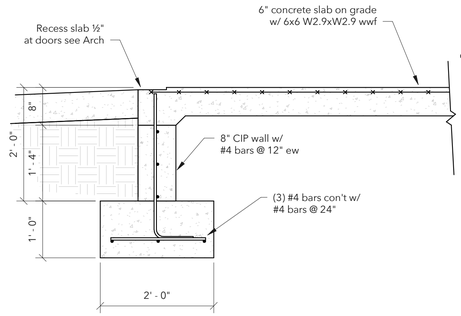
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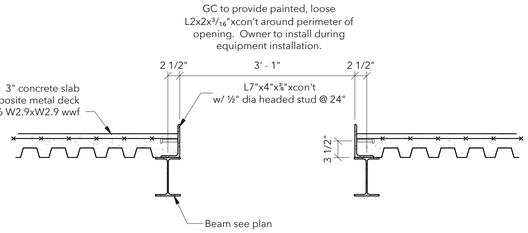
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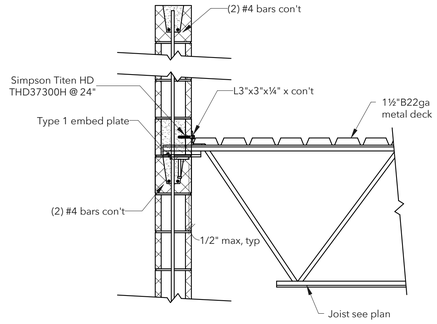

04.22.2026



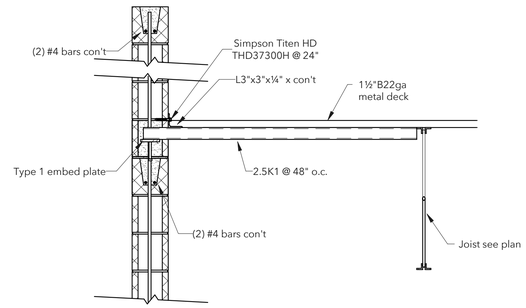

Section 12
3/4" = 1'-0"



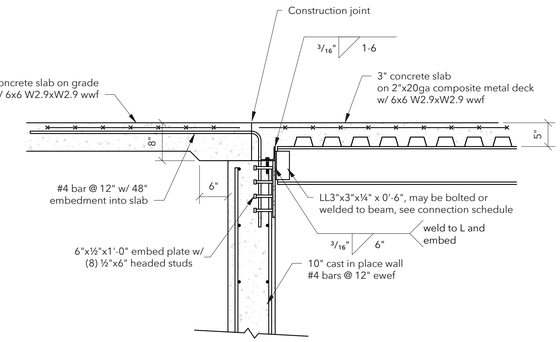

Section 11
3/4" = 1'-0"



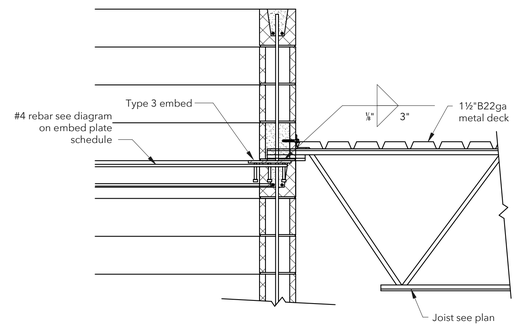

Section 10
3/4" = 1'-0"



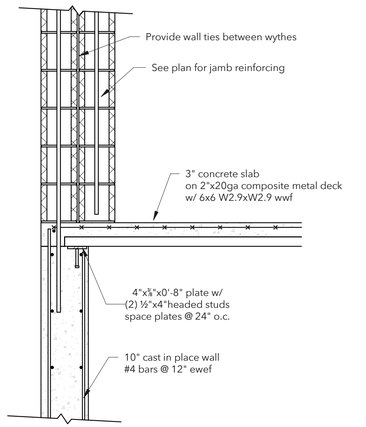

Section 9
3/4" = 1'-0"



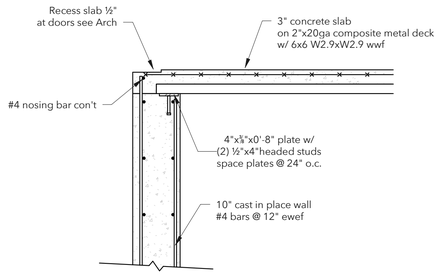

Section 8
3/4" = 1'-0"



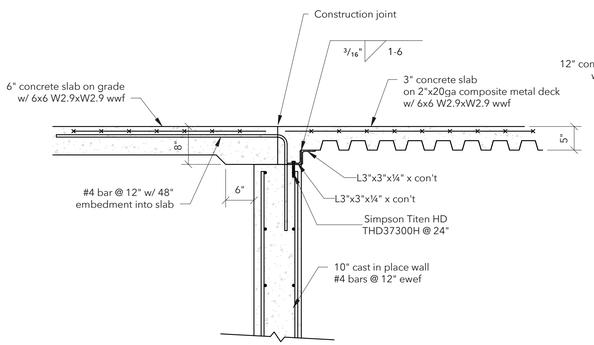

Section 7
3/4" = 1'-0"



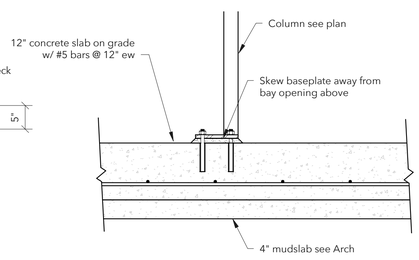

Section 6
3/4" = 1'-0"



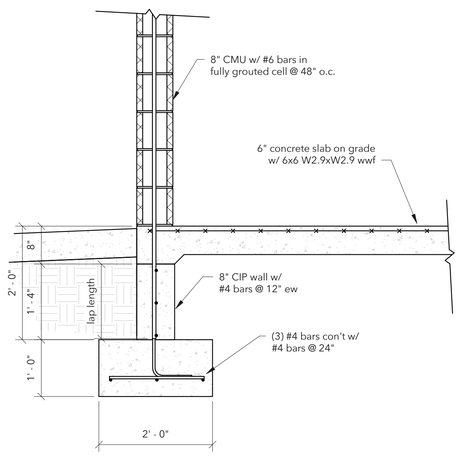

Section 5
3/4" = 1'-0"



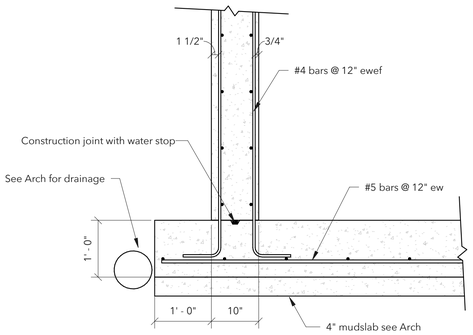

Section 4
3/4" = 1'-0"




Section 3
3/4" = 1'-0"




Section 2
3/4" = 1'-0"




Section 1
3/4" = 1'-0"

# Express Oil Change & Tire Engineers

## Single Building / Left Hand Oil Change / Front Enter / Side Tire Storage

Wagoner, OK

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| No. | Description | Date |
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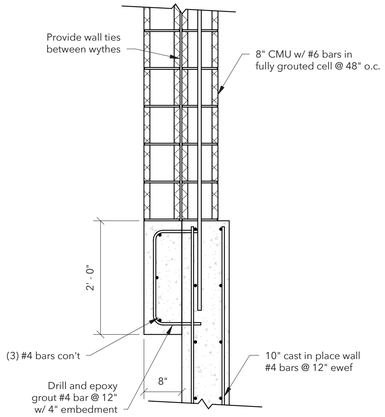
## Sections and Details

| | |
|---|---|
| Project number | 25041 |
| Date | 1/28/2026 |
| Drawn by | jcj |
| Checked by | jd |

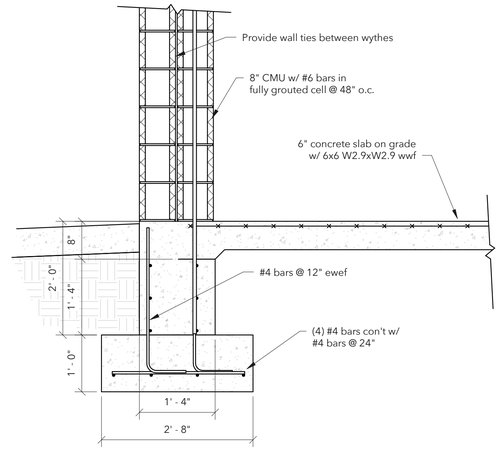
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Scale 3/4" = 1'-0"

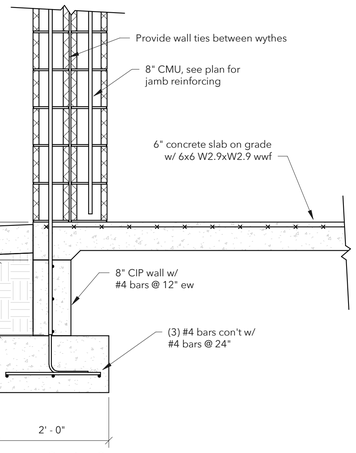
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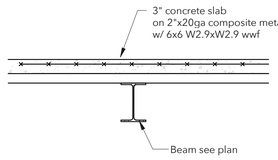

Section 10
3/4" = 1'-0"



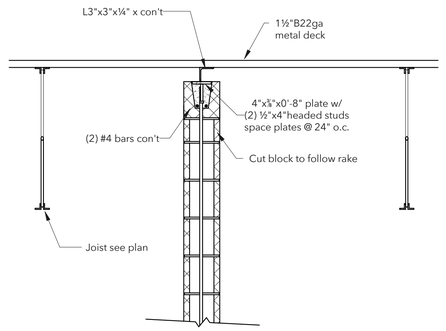

Section 9
3/4" = 1'-0"



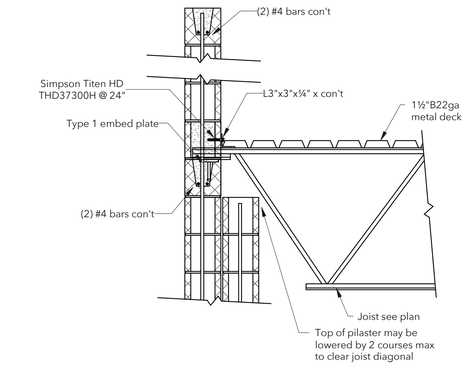

Section 8
3/4" = 1'-0"



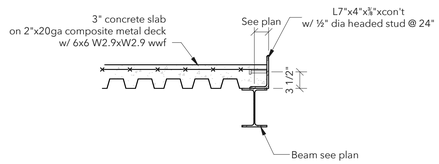

Section 7
3/4" = 1'-0"



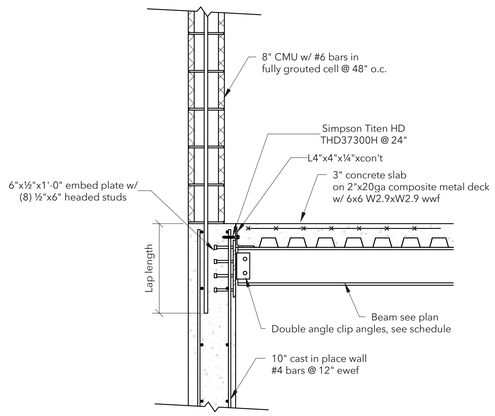

Section 6
3/4" = 1'-0"



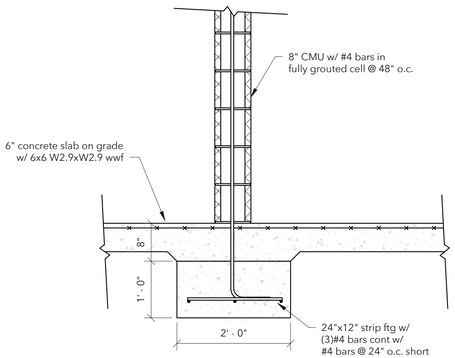

Section 5
3/4" = 1'-0"



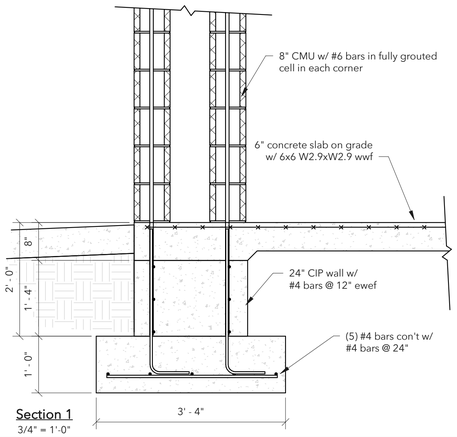

Section 4
3/4" = 1'-0"




Section 3
3/4" = 1'-0"




Section 2
3/4" = 1'-0"




Section 1
3/4" = 1'-0"

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OKLAHOMA

04.22.2026

# Express Oil Change & Tire Engineers

## Single Building / Left Hand Oil Change / Front Enter / Side Tire Storage

Wagoner, OK

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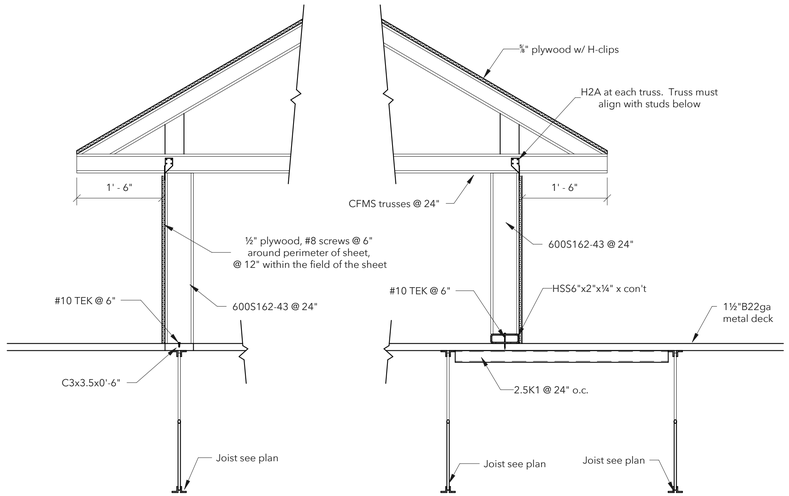
## Sections and Details

| | |
|---|---|
| Project number | 25041 |
| Date | 1/28/2026 |
| Drawn by | jcj |
| Checked by | jd |

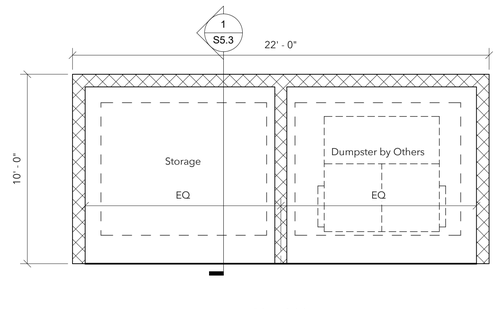
# S5.2

Scale 3/4" = 1'-0"

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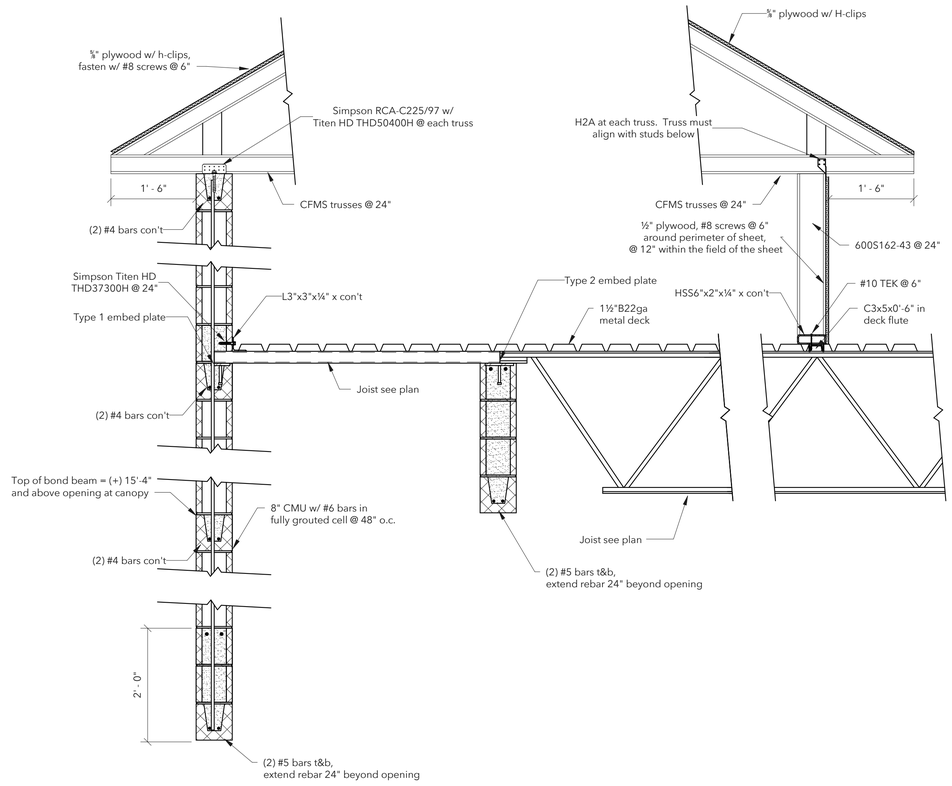



Section 3
3/4" = 1'-0"

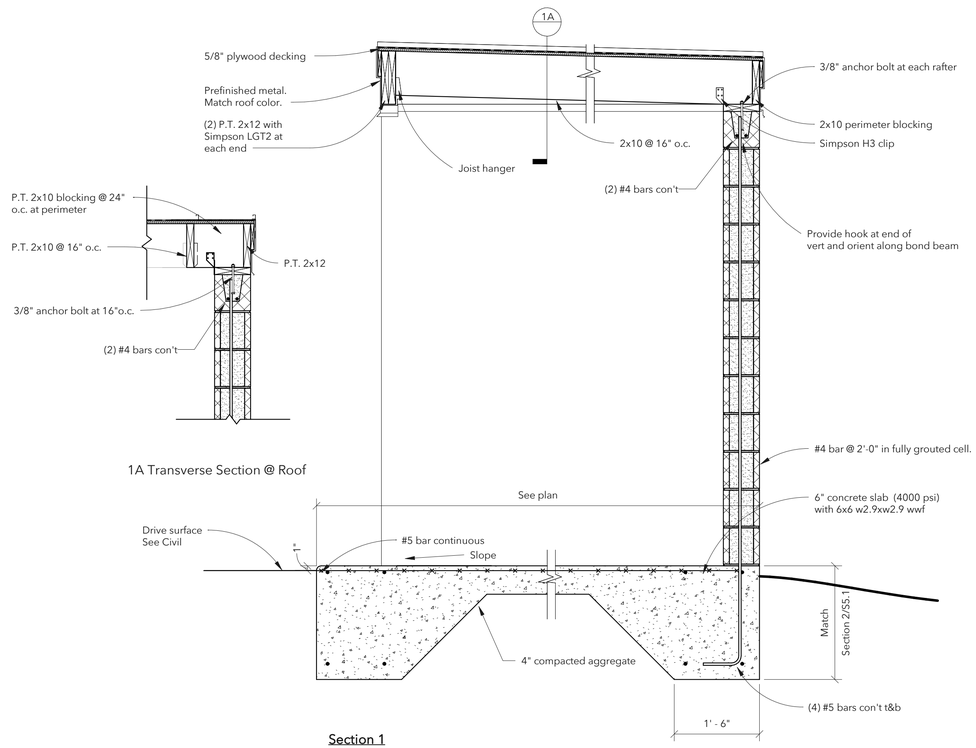



Edge of slab

Dumpster Enclosure Plan
1/4" = 1'-0"




Section 2
3/4" = 1'-0"




1A Transverse Section @ Roof

Section 1
3/4" = 1'-0"

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JOHN CANNON JONES
23323
04.22.2026

# Express Oil Change & Tire Engineers

Single Building / Left Hand Oil Change / Front Enter / Side Tire Storage
Wagoner, OK

FINAL

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Sections and Details

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| Drawn by | jcj |
| Checked by | jd |

S5.3

Scale: As indicated

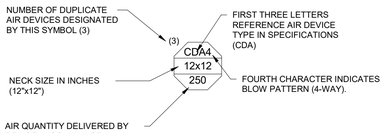
# LEGEND

- 12x20 — DUCT SIZE, FIRST FIGURE IS SIDE SHOWN INSIDE CLEAR DIMENSION UNLESS NOTED OTHERWISE
- 24x12 — LOW PRESSURE, RECTANGULAR (GALVANIZED STEEL)
- 26"ø — ROUND (GALVANIZED STEEL)
- FLEXIBLE DUCT
- R — DUCT RISE
- D — DUCT DROP
- EXISTING DUCTWORK TO REMAIN
- DUCT TRANSITION
- RECTANGULAR TO ROUND DUCT TRANSITION
- TURNING VANES
- FD — FIRE DAMPER AND SLEEVE, PROVIDE ACCESS DOOR
- SD — SMOKE DAMPER AND SLEEVE, PROVIDE ACCESS DOOR
- SD/FD — COMBINATION FIRE/SMOKE DAMPER, PROVIDE ACCESS DOOR
- MANUAL VOLUME DAMPER
- STANDARD 45° BRANCH, SUPPLY OR RETURN, NO SPLITTER
- STANDARD 45° BRANCH, SUPPLY OR RETURN, NO SPLITTER, WITH MANUAL VOLUME DAMPER
- CONICAL SPIN-IN FITTING WITH BUTTERFLY DAMPER
- GRILLE OR REGISTER, CEILING
- A — ACCESS DOOR
- D — CONDENSATE DRAIN PIPING
- AD — AUXILIARY CONDENSATE DRAIN PIPING
- R — REFRIGERANT PIPING (2 LINES TOTAL)
- ELBOW, 90° (LONG RADIUS)
- TEE
- TEE, TURNED UP
- TEE TURNED DOWN
- ELBOW, TURNED DOWN
- ELBOW, TURNED UP
- T — WALL MOUNTED THERMOSTAT
- H — WALL MOUNTED HUMIDISTAT
- S — WALL MOUNTED TEMPERATURE SENSOR
- SMOKE DETECTOR
- TIE NEW INTO EXISTING
- UC — UNDERCUT DOOR 3/4 INCHES
- SUPPLY AIR FLOW
- RETURN OR EXHAUST AIR FLOW

NOTE: THIS LEGEND IS FOR REFERENCE ONLY. ALL SYMBOLS WHICH APPEAR WITHIN THE LEGEND MAY NOT APPLY TO THIS PROJECT.

# ABBREVIATIONS

| | |
|---|---|
| AB.CL'G | ABOVE CEILING |
| ABV. | ABOVE |
| AC | ALTERNATING CURRENT |
| A/C | AIR COMPRESSOR |
| AFF | ABOVE FINISHED FLOOR |
| AHU | AIR HANDLING UNIT |
| AI | ANALOG INPUT |
| ALT. | ALTERNATE |
| AMP | AMPERE |
| AO | ANALOG OUTPUT |
| APPROX. | APPROXIMATELY |
| ARCH. | ARCHITECTURAL |
| AVG | AVERAGE |
| B | BOILER |
| BTU | BRITISH THERMAL UNIT |
| CFM | CUBIC FEET PER MINUTE |
| CH | CHILLER |
| CHWP | CHILLED WATER PUMP |
| CLG | CEILING |
| CT | COOLING TOWER |
| CU | CONDENSING UNIT |
| CWP | CONDENSER WATER PUMP |
| DEFL | DEFLECTION |
| DET | DETAIL |
| DI | DIGITAL INPUT |
| DIA | DIAMETER |
| ø | DIAMETER |
| DO | DIGITAL OUTPUT |
| EDB | ENTERING DRY BULB |
| ELEC. | ELECTRICAL |
| ELEV. | ELEVATION |
| EWB | ENTERING WET BULB |
| EWT | ENTERING WATER TEMPERATURE |
| EXH | EXHAUST |
| EXIST. | EXISTING |
| °F | DEGREES FAHRENHEIT |
| GFF | GAS FIRED FURNACE |
| GPM | GALLONS PER MINUTE |
| FPM | FEET PER MINUTE |
| FPS | FEET PER SECOND |
| FT | FOOT OR FEET |
| HD. | HEAD |
| HP | HORSE POWER |
| HR | HOUR(S) |
| HT. | HEIGHT |
| HTR | HEATER |
| HVAC | HEATING, VENTILATION AND AIR CONDITIONING |
| HWP | HOT WATER PUMP |
| HX | HEAT EXCHANGER |
| HZ | FREQUENCY (HERTZ) |
| ID | INSIDE DIAMETER |
| IN. | INCHES |
| KW | KILOWATT |
| KWH | KILOWATT HOUR |
| MAX. | MAXIMUM |
| MBH. | 1000 BTU PER HOUR |
| MECH. | MECHANICAL |
| MFR. | MANUFACTURER |
| MIN | MINIMUM |
| NO. | NUMBER |
| N/A | NOT APPLICABLE |
| NC | NOISE CRITERIA |
| O.D. | OUTSIDE DIAMETER |
| OA | OUTSIDE AIR |
| ⊖ | OVAL DUCTWORK |
| ORIG. | ORIGINAL |
| PH. | PHASE |
| PIU | POWERED INDUCTION UNIT |
| PRESS | PRESSURE |
| RTN | RETURN AIR |
| RTU | ROOFTOP AIR HANDLING UNIT |
| SDC | STAND ALONE DIGITAL CONTROLLER |
| SENS. | SENSIBLE |
| SQ. | SQUARE |
| SPLY | SUPPLY |
| TEMP | TEMPERATURE |
| VAV | VARIABLE AIR VOLUME |
| W | WATT |
| W/ | WITH |
| W.P.D. | WATER PRESSURE DROP |




1 / MEP## — AIR DEVICE LEGEND
NO SCALE

## GAS FIRED FURNACE SCHEDULE

| EQUIPMENT NO. | MANUFACTURER/ MODEL NO. | CFM | O.A. CFM | E.S.P. (IN. W.C.) | FAN HP | COOLING COIL | GAS HEAT CAP. (MBH) | | VENTING | | ELECTRICAL | | | MOUNTING | WGT. (LBS) | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | INPUT | OUTPUT | INTAKE (IN.) | DISCHARGE (IN.) | MCA | MOCP | VOLTS/PH,/HZ. | | | |
| GFF-1 | TRANE S9X1B040 | 1000 | 150 | 0.5 | 1/2 | CC-1 | 40 | 38.8 | 3 | 3 | 8.8 | 15 | 120/1/60 | HORIZONTAL | 150 | 1), 2), 3) |

REMARKS:
1) UNIT MOUNTED ON EQUIPMENT PLATFORM.
2) PROVIDE WITH 1" THROWAWAY FILTERS.
3) ROUTE CONDENSATE TO HUB DRAIN.

## COIL SCHEDULE

| EQUIPMENT NO. | MANUFACTURER/ MODEL NO. | TYPE | MAXIMUM FINS PER INCH | ROWS (MIN) | MAXIMUM FACE VEL. (FPM) | AIR | | | | | | DX REFR. TYPE | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | CFM | EDB (°F) | EWB (°F) | LDB (°F) | LWB (°F) | DELTA P (IN. W.C.) | | |
| CC-1 | TRANE 5TXCB003 | DIRECT EXPANSION | -- | -- | -- | 1000 | 79.0 | 66.0 | 57.7 | 56.0 | -- | R-454B | 1) |

REMARKS:
1) MOUNTED ON DISCHARGE OF FURNACE UNIT

## AIR COOLED CONDENSING UNIT SCHEDULE

| EQUIPMENT NO. | MANUFACTURER/ MODEL NO. | SERVICE | NOMINAL CAPACITY (TONS) | ELECTRICAL | | | | | WEIGHT (LBS) | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | DISCONNECT | VOLTS/PH./HZ. 208/1/60 | | VOLTS/PH./HZ. 230/1/60 | | | |
| | | | | | UNIT MCA | UNIT MOCP | UNIT MCA | UNIT MOCP | | |
| CU-1 | TRANE 5TTR4030 | GFF-1 | 2.5 | BY DIV. 16 | 15 | 25 | 17 | 25 | 200 | 1), 2), 3) |

REMARKS:
1) PROVIDE LONG LINE ACCESSORIES AS REQUIRED BY MANUFACTURER.
2) UNITS SHALL BE SIZED AT 95°F AMBIENT AIR TEMPERATURE.
3) LOCATE UNIT ON HOUSEKEEPING PAD. ANCHOR UNIT TO PAD WITH EXPANSION BOLTS.

## POWER VENTILATOR SCHEDULE

| EQUIPMENT NO. | MANUFACTURER/ MODEL NO. | CFM | E.S.P. (IN. W.C.) | RPM | MAX. SONES | ELECTRICAL | | | | LOCATION | TYPE | DRIVE | WGT (LBS.) | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | DISCONNECT | MOTOR STARTER | WATTS | MOTOR VOLTS/PH./HZ. | | | | | |
| EF-1 | COOK GC-146 | 70 | 0.35 | 849 | 1.5 | BY DIV. 26 | BY DIV. 23 | 32 | 115/1/60 | CEILING | CENTRIFUGAL | DIRECT | 15 | 1), 3), 5) |
| EF-2 | COOK GC-146 | 70 | 0.35 | 849 | 1.5 | BY DIV. 26 | BY DIV. 23 | 32 | 115/1/60 | CEILING | CENTRIFUGAL | DIRECT | 15 | 1), 3), 5) |
| EF-3 | COOK 150SQN17D | 3000 | 0.35 | 1649 | 21.4 | BY DIV. 26 | BY DIV. 23 | 1 HP | 115/1/60 | INLINE | CENTRIFUGAL | DIRECT | 120 | 2), 3), 6) |
| EF-4 | COOK 24XP28D102 | 4200 | 0.25 | 971 | 15.8 | BY DIV. 26 | BY DIV. 23 | 3/4 HP | 115/1/60 | WALL | PROPELLER | DIRECT | 150 | 2), 4) |

REMARKS:
1) PROVIDE OCCUPANCY SENSOR FOR FAN OPERATION IN EACH RESTROOM.
2) FAN SHALL RUN CONTINUOUSLY DURING OCCUPIED HOURS. INTERLOCK WITH LOCAL SWITCH. COORDINATE WITH ELECTRICAL.
3) PROVIDE WITH FAN SPEED CONTROLLER.
4) PROVIDE WITH FAN INLET GUARDS.
5) PROVIDE WITH BACKDRAFT DAMPER.
6) PROVIDE FAN WITH EC VARIFLOW DRIVE PACKAGE.

## GAS UNIT HEATER SCHEDULE

| EQUIPMENT NO. | MANUFACTURER/ MODEL NO. | INPUT (MBH) | OUTPUT (MBH) | AIRFLOW CFM | WATTS | ELECTRICAL | | | MOUNTING | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | DISCONNECT | MOTOR STARTER | VOLTS/PH./HZ. | | |
| UH-1 | REZNOR UDAP 150 | 150 | 124 | 1921 | 392 | BY ELEC. | BY MECH. | 115/1/60 | 12'-0" | 1), 2) |
| UH-2 | REZNOR UDAP 150 | 150 | 124 | 1921 | 392 | BY ELEC. | BY MECH. | 115/1/60 | 12'-0" | 1), 2) |
| UH-3 | REZNOR UDAP 200 | 200 | 166 | 2562 | 491 | BY ELEC. | BY MECH. | 115/1/60 | 12'-0" | 1), 2) |
| UH-4 | REZNOR UDAP 200 | 200 | 166 | 2562 | 491 | BY ELEC. | BY MECH. | 115/1/60 | 12'-0" | 1), 2) |

REMARKS:
1) MAINTAIN CLEARANCE PER MANUFACTURERS INSTALL DETAILS. PROVIDE WITH VENT KIT.
2) PROVIDE WITH 24V TRANSFORMER AND LOW VOLTAGE THERMOSTAT.

**OUTSIDE AIR CALCULATIONS**

**MECHANICAL CODE OUTSIDE AIR REQUIREMENT**

| | | Supply Air (cfm) | Area (sq. ft) | Occupancy Classification | Max Number of Occupants/SF (per 1000 SF) | Number of Occupants | O.A. Area Air Rate (cfm / sq. ft) | O.A. People Air Rate (cfm/person) | O.A. Area Air Rate (cfm) | O.A. People Air Rate (cfm) | O.A. (cfm) | Zone Effectiveness | Corrected CFM | MAX OA REQUIRED | Primary O.A. Fraction | Ventilation Effectiveness | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Served By | Space Name | Vpz (Max) | Az | | | Rp | Ra | Pz | | | Vbz | Ez | Voz | Vot | Zp | Ev | |
| AHU-1 | 1 Service Writing | 300 | 144 | Lobbies | -- | 1 | 0.06 | 5 | 9 | 5 | 14 | 0.80 | 17 | 17 | 0.06 | 1 | |
| | 2 Waiting Room | 250 | 122 | Lobbies | -- | 15 | 0.06 | 5 | 7 | 75 | 82 | 0.80 | 103 | 103 | 0.41 | 0.738 | |
| | 4 Manager | 100 | 48 | Office | 5 | 1 | 0.06 | 5 | 3 | 5 | 8 | 0.80 | 10 | 10 | 0.10 | 1 | |
| | 7 Break Room | 250 | 61 | Break Room | 35 | 1 | 0.06 | 10 | 4 | 10 | 14 | 1.80 | 8 | 8 | 0.03 | 1 | |
| | | | | | | | | | | | | | | | OA | Lowest Ev | |
| | | | | | | | | | | | | | | | 137.39 | 1.00 | |


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FINAL

| No. | Description | Date |
|---|---|---|
| IFP-0 | Issue for Permit | 01/28/2026 |
| IFB-0 | Issue for Bid | 03/31/2026 |
| IFC-0 | Issue for Construction | 04/22/2026 |


2026
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Mechanical Legend, Abbreviations and Schedules

| | |
|---|---|
| Project number | 25041 |
| Date | 4/22/2026 |
| Drawn by | CA |
| Checked by | JB |

M0.01

Scale 12" = 1'-0"

4/22/2026 10:04:03 AM

SECTION 15010 - MECHANICAL GENERAL

A. PROVIDE EQUIPMENT, LABOR, MATERIAL, ETC., REQUIRED TO MAKE A COMPLETE WORKING INSTALLATION.
B. INSTALL THE WORK IN ACCORDANCE WITH DRAWINGS, SPECIFICATIONS AND THE STANDARDS AND CODES (LATEST EDITION) THAT APPLY TO THIS WORK. IN THE EVENT OF A CONFLICT, INSTALL WORK IN ACCORDANCE WITH THE MOST STRINGENT CODE REQUIREMENTS DETERMINED BY THE ENGINEER.
C. OBTAIN AND PAY FOR ALL PERMITS AND INSPECTIONS INCLUDING: BUILDING PERMITS, HEALTH DEPARTMENT PERMITS AND SEWER TAP PERMITS. DELIVER TO ENGINEER CERTIFICATES OF INSPECTION AND APPROVAL ISSUED BY AUTHORITIES.
D. ALL EQUIPMENT AND METHOD SHALL BE INSTALLED AND CONNECTED IN ACCORDANCE WITH THE BEST ENGINEERING PRACTICES AND IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
E. DISCONNECT, REMOVE AND RE-INSTALL MECHANICAL SERVICES LOCATED ON OR CROSSING THROUGH CONTRACT LIMITS, ABOVE OR BELOW GRADE, OBSTRUCTING CONSTRUCTION OF PROJECT OR CONFLICTING WITH COMPLETED PROJECT OR ANY APPLICABLE CODES.
F. DRAWINGS AND SPECIFICATIONS ARE COMPLEMENTARY. WORK CALLED FOR BY ONE IS BINDING AS IF CALLED FOR BY BOTH.
G. DRAWINGS ARE DRAWN TO A SMALL SCALE AND ARE DIAGRAMMATIC ONLY. THE DRAWINGS INDICATE SIZE AND GENERAL ARRANGEMENT OF EQUIPMENT. DO NOT SCALE DRAWINGS FOR EXACT LOCATIONS. FIELD MEASUREMENTS TAKE PRECEDENCE.
H. PROVIDE NECESSARY OFFSETS, ELBOWS AND FITTINGS AS REQUIRED TO AVOID CONFLICT WITH EQUIPMENT OF OTHER DIVISIONS AND TO OBTAIN PROPER HEADROOM AND CLEAR PASSAGEWAYS. THIS SHALL BE DONE AT NO ADDITIONAL COST TO THE OWNER.
I. WORK UNDER THIS DIVISION SHALL BE FIRST CLASS WITH EMPHASIS ON NEATNESS AND WORKMANSHIP. INSTALL WORK USING COMPETENT MECHANICS, UNDER SUPERVISION OF FOREMAN, ALL DULY CERTIFIED BY LOCAL AUTHORITIES.
J. INSTALLATION SUBJECT TO ENGINEER'SOBSERVATION, FINAL APPROVAL, AND ACCEPTANCE. ENGINEER MAY REJECT UNSUITABLE WORK.
K. ALL MATERIALS SHALL BE NEW. ALL MATERIALS AND EQUIPMENT FOR WHICH A UL STANDARD, AN AGA APPROVAL, AN AWWA STANDARD, FM LISTING OR ASME REQUIREMENTS IS ESTABLISHED, SHALL BE SO APPROVED AND LABELED OR STAMPED.

L. THE DRAWINGS ARE BASED ON THE USE OF PRODUCTS SPECIFIED AND LISTED FIRST. IF ANY REVISION IN PIPING, CONDUIT WORK, FOUNDATIONS, ANCHOR BOLTS, CONNECTIONS, ETC., IS REQUIRED BY OTHER NAMED PRODUCTS OR APPROVED SUBSTITUTIONS, IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO MAKE SUCH REVISIONS AT NO ADDITIONAL EXPENSE TO THE OWNER.
M. SUBMIT SIX (6) ORIGINAL COPIES OF COMPLETE SHOP DRAWINGS FOR ALL MATERIALS AND EQUIPMENT FURNISHED UNDER DIVISION 15 OF SPECIFICATIONS TO ENGINEER FOR REVIEW. SHOP DRAWINGS SHALL BEAR THE STAMP OF APPROVAL OF THE CONTRACTOR AS EVIDENCE THAT THE DRAWINGS HAVE BEEN CHECKED BY HIM. DRAWING SUBMITTED WITHOUT THIS STAMP OF APPROVAL WILL NOT BE CONSIDERED AND WILL BE RETURNED FOR PROPER RESUBMISSION.
N. REVIEW OF SHOP DRAWINGS DOES NOT RELIEVE CONTRACTOR OF RESPONSIBILITY FOR ERRORS AND OMISSIONS IN SHOP DRAWINGS. CONTRACTOR IS RESPONSIBLE FOR DIMENSIONS AND SIZES OF EQUIPMENT. INFORM ENGINEER IN WRITING OF EQUIPMENT DIFFERING FROM THAT SHOWN.
O. PROVIDE MAINTENANCE AND OPERATING MANUALS BOUND IN 8-1/2" X 11" HARDBACK, THREE-POST BINDERS. MANUALS SHALL CONTAIN WRITTEN INSTRUCTIONS FOR EACH SYSTEM, SHOP DRAWINGS, SCHEMATIC DRAWINGS, EQUIPMENT CATALOG CUTS, MANUFACTURER'S INSTRUCTIONS, MANUFACTURERS WARRANTIES, AND VALVE TAG LIST.
P. PROVIDE AS-BUILT PRINTS AT THE COMPLETION OF JOB. KEEP ONE SET OF PRINTS ON JOB AND RECORD DAY TO DAY CHANGES TO CONTRACT DRAWINGS WITH RED PENCIL. INDICATE ACTUAL LOCATION OF PIPING, DUCTWORK, VALVES, DAMPERS, AND EQUIPMENT. TURN OVER PRINTS TO ENGINEER AT FINAL OBSERVATION.
Q. FURNISH ENGINEER WRITTEN WARRANTY, STATING THAT IF WORKMANSHIP AND/OR MATERIALS EXECUTED UNDER THIS DIVISION IS PROVEN DEFECTIVE WITHIN ONE (1) YEAR AFTER FINAL ACCEPTANCE, SUCH DEFECTS AND OTHER WORK DAMAGED WILL BE REPAIRED AND/OR REPLACED.

SECTION 15050 - BASIC MATERIALS AND METHODS

A. CONCRETE HOUSEKEEPING PADS:
1. PROVIDE CONCRETE HOUSEKEEPING PADS UNDER ALL FLOOR MOUNTED EQUIPMENT, PIPE SUPPORT AND DUCT SUPPORTS AND WHERE INDICATED. CONCRETE SHALL BE 3000 PSI AT 28 DAYS MINIMUM.
2. PADS SHALL BE DOWELED TO FLOOR WITH NOT LESS THAN 4 NO. 4 BARS GROUTED IN PLACE. ANCHOR BOLTS FOR EQUIPMENT SHALL BE POURED INTEGRAL WITH THE PAD. PADS SHALL BE REINFORCED WITH AT LEAST ONE NO. 4 BAR (STIRRUPS). PADS SHALL HAVE CHAMFERED EDGES AND A BROOM FINISH.
3. HOUSEKEEPING PADS SHALL BE NOT LESS THAN 3-1/2 IN. THICK, SIZED AT LEAST 8 IN. LARGER THAN THE EQUIPMENT.

B. ACCESS PANELS:
1. ACCESS PANELS SHALL HAVE WELDED STEEL FRAME, ONE PIECE DOORS, AND SELF LATCHING DOOR LOCKS. LOCKS SHALL BE SCREW DRIVER OPERATED WITH CASE HARDENED STEEL CAM. PANELS SHALL BE MILCOR, CESCO, KARP OR EQUAL.
2. PROVIDE ACCESS PANELS IN WALLS AND CEILINGS AS NEEDED TO ALLOW ACCESS TO VALVES, EQUIPMENT, SHOCK ABSORBERS, TRAP PRIMERS, ETC. AND WHERE NOTED.

C. FIRESTOPPING AND SOUNDSTOPPING:
1. PENETRATIONS THROUGH FLOORS AND FIRE RESISTANT WALLS SHALL BE SEALED TO THE RATED FIRE RESISTANCE EQUAL TO THE WALL. INSTALLATION SHALL BE DONE BY A QUALIFIED INSTALLER, APPROVED BY THE MANUFACTURER.
2. IN AN EXISTING BUILDING ALL PENETRATIONS THROUGH FLOORS AND FIRE RESISTANT WALLS SHALL BE SEALED AT THE END OF EACH WORKING DAY. THESE CLOSURES SHALL HAVE AN EQUAL FIRE RESISTANCE RATING TO THE FLOOR OR WALL.
3. PROVIDE SOUND PROOFING THROUGH NON-RATED WALLS.

D. PIPING SEALS:
1. PROVIDE MODULAR, RESILIENT SEALS AROUND PIPES PENETRATING ALL EXTERIOR WALLS, AND FLOORS BELOW GRADE. PIPING SEALS SHALL BE THUNDERLINE CORP. "LINK SEAL" LS SERIES.

E. CUTTING AND PATCHING:
1. CONTRACTOR SHALL BE RESPONSIBLE FOR CUTTING AND PATCHING. CUT WALLS, FLOORS, CEILINGS, PARTITIONS, ETC., REQUIRED FOR THE INSTALLATION OF THIS WORK IN A NEAT AND CAREFUL MANNER. CORE DRILL FOR PIPE SLEEVES AND OTHER OPENINGS THROUGH FLOORS AND WALLS. SAWCUT LARGER OPENINGS. CUTTING SHALL BE KEPT TO A MINIMUM.
2. REPLACE OR REPAIR DUCTWORK, CONDUIT, PIPING, ETC., THAT IS CUT. PATCH AROUND OPENING CUT BY THIS CONTRACTOR OR PROVIDED BY OTHERS FOR HIM. PATCHING SHALL BE DONE BY AN APPROVED QUALIFIED CONTRACTOR, BUT SHALL BE PAID FOR BY THIS CONTRACTOR. FINISHED PATCHING SHALL RETAIN FIRE AND SMOKE RATINGS OF THE ASSEMBLY AND SHALL MATCH SURROUNDING FINISH.

F. ANCHORS:
1. MOUNT ALL EQUIPMENT, BRACKETS, HANGERS, ANCHORS, ETC. TO SAFELY RESIST THE VIBRATION OR THRUST FORCES AND SUPPORT THE UNIT'S WEIGHT.
2. FLOOR MOUNTED ROTATING OR VIBRATING EQUIPMENT SHALL BE ANCHORED TO THE FLOOR USING GROUTED-IN-PLACE OR CAST-IN-PLACE ANCHOR BOLTS WITH THREE INCH HOOK AND SLEEVE. ANCHOR BOLTS SHALL BE OF THE SIZE RECOMMENDED BY THE MANUFACTURER.
3. FLOOR MOUNTED STATIC ITEMS, WALL AND CEILING MOUNTED EQUIPMENT BRACKET AND HANGERS SHALL BE INSTALLED USING DRILLED ANCHORS. ANCHORS SHALL BE PHILLIPS DRILL COMPANY "RED HEAD" OR MULTI-SET II. SIZE ANCHORS FOR FOUR TIMES THE APPLIED LOAD. BOLTS USED OUTDOORS OR IN A WET ENVIRONMENT SHALL BE HOT DIP GALVANIZED.

G. PIPE IDENTIFICATION:
1. IDENTIFICATION SHALL BE IN ACCORDANCE WITH ANSI-A13.1. PIPE MARKERS SHALL BE SETON'S WEATHER-CODE OR EQUAL.
2. PROVIDE PIPE MARKERS AND DIRECTIONAL ARROWS ON PIPES AT BOTH SIDES OF PARTITIONS AND FLOORS SLABS, AT BRANCH LINE TAKE-OFFS, AT VALVES, AT INTERMEDIATE INTERVALS NOT IN EXCESS OF 20 FT. AND AT CONNECTIONS TO EQUIPMENT.
3. TAPE COLOR BAND IDENTIFYING MARKERS AND ARROWS ON EACH PIPE, BOTH INSULATED AND BARE PIPES. PIPE MARKERS AND ARROWS SHALL BE LOCATED WHERE READILY VISIBLE AND ON LOWER QUADRANTS OF OVERHEAD PIPES.

H. VALVE TAG AND CHART:
1. VALVE TAGS SHALL BE SETON M4506, BLACK FILLED LETTERS WITH BRASS JACK CHAIN. ONE VALVE NUMBER SHALL BE STAMPED ON EACH TAG. IDENTIFY EACH VALVE TAG FOR THE UTILITY IT SERVES, SUCH AS "CW" FOR COLD WATER, HW FOR HOT WATER, ETC. VALVE CHARTS SHALL BE SETON. ATTACH A NUMBERED VALVE TAG TO EACH VALVE.
2. PROVIDE A TYPE WRITTEN CHART IN FRAME UNDER GLASS COVER, GIVING THE FULL LIST OF ALL VALVES INSTALLED UNDER THIS CONTRACT. CHART SHALL LIST VALVE NUMBER, TYPE OF UTILITY, AND LOCATION. MOUNT CHART WHERE DIRECTED BY OWNER. PROVIDE ONE ADDITIONAL COPY TO OWNER.

I. EQUIPMENT IDENTIFICATION:
1. IDENTIFY EACH PIECE OF EQUIPMENT WITH A 1/8 INCH THICK ENGRAVED MELAMINE PLASTIC LAMINATE NAMEPLATE. LETTERS SHALL BE 1/2 INCH HIGH STANDARD STYLE. NAMES, ABBREVIATIONS, AND NUMBERING SHALL AGREE WITH THE CORRESPONDING EQUIPMENT DESIGNATIONS SHOWN ON THE DRAWINGS. USE BLACK LETTERS CUT IN A WHITE BACKGROUND FOR ALL EQUIPMENT ON STANDARD ELECTRICAL POWER
2. FASTEN NAMEPLATES TO EQUIPMENT IN A CONSPICUOUS LOCATION USING SELF-TAPPING STAINLESS STEEL SCREWS, EXCEPT USE CONTACT EPOXY ADHESIVE WHERE SCREWS CANNOT OR SHOULD NOT PENETRATE SUBSTRATE.

J. PIPE SLEEVES:
1. PROVIDE PIPE SLEEVES WHERE PIPES PASS THROUGH FLOORS AND WALLS ABOVE OR BELOW CEILINGS. PROVIDE PIPE SLEEVES IN NEW WALLS AND FLOORS AS THE WORK PROGRESSES. PROVIDE SPLIT PIPE SLEEVES IN NEW WALLS BUILT UP AROUND EXISTING PIPES. TACK WELD SPLIT SLEEVES TOGETHER.
2. SIZE PIPE SLEEVES TO ALLOW CONTINUOUS INSULATION, BUT NOT LESS THAN TWO PIPE SIZES LARGER THAN PIPE. SLEEVES IN WALLS SHALL BE FLUSH WITH WALL, SLEEVES IN FLOORS SHALL EXTEND 3/4 INCHES ABOVE FLOOR AND BE FLUSH WITH STRUCTURE BELOW.
3. SLEEVES IN CONCRETE WALLS, FLOORS OR MASONRY SHALL BE SCH 40 STEEL PIPE, MACHINE CUT. SLEEVES IN GYPSUM BOARD OR PLASTER WALLS SHALL BE 14 GAUGE, ROLLED GALVANIZED SHEET METAL TACK WELDED ON THE LONGITUDINAL SEAM.
4. PROVIDE PLATES AROUND PIPES EXTENDING INTO EXPOSED AREAS WHERE THEY PASS THROUGH WALLS, FLOORS AND CEILINGS. SIZE PLATES TO COMPLETELY COVER PIPE SLEEVES. PLATES SHALL BE BEATON AND CADWELL, KEENEY OR GRINNELL, NICKEL PLATED STEEL, SPLIT PLATES WITH SET SCREW. CONCRETE FLOOR PLATE SHALL BE GRINNELL FIGURE 400.

K. FLASHING:
1. PROVIDE FLASHING AT PIPING AND DUCT PENETRATIONS THROUGH ROOF AND ROOF MOUNTED STRUCTURES FURNISHED UNDER THIS DIVISION. FLASH IN ACCORDANCE WITH ROOFING MANUFACTURERS DETAILS. FLASHING MATERIALS SHALL BE IN ACCORDANCE WITH THE ROOFING MANUFACTURERS SYSTEM.
2. PROVIDE FLASHING AT PIPES PASSING THROUGH FLOORS WITH WATERPROOF MEMBRANE. FLASHING SHALL BE IN ACCORDANCE WITH WATERPROOFING MANUFACTURER'S DETAILS.

SECTION 15260 - HVAC INSULATION

A. GENERAL:
1. ALL INSULATION, JACKETING, AND ADHESIVE SHALL HAVE COMPOSITE SURFACE BURNING CHARACTERISTIC RATING AS TESTED BY ASTM E 84, UL 723, OR NFPA 255 NOT EXCEEDING A FLAME SPREAD OF 25 OR SMOKE DEVELOPED OF 50.
2. SUBMITTALS SHALL USE PAGES FROM MIDWEST INSULATION CONTRACTORS ASSOCIATION - ACOMMERCIAL AND INDUSTRIAL INSULATION STANDARDS@ FOR DEFINING HOW INSULATION MATERIALS WILL BE APPLIED.
3. ALL PIPE OR DUCT INSULATION SHALL BE CONTINUOUS THROUGH WALLS, CEILING OR FLOOR OPENINGS, OR SLEEVES; EXCEPT WHERE FIRESTOP OR FIRESAFING MATERIALS ARE REQUIRED.
4. INSULATE ITEMS MOUNTED IN DUCTWORK WITH THE SAME THICKNESS OF INSULATION AS SPECIFIED FOR DUCTWORK: INCLUDING AIR MEASURING STATIONS, SMOKE DAMPERS, AND AUTOMATIC DAMPERS.
5. REPAIR INSULATION DAMAGED BY WORK UNDER THIS CONTRACT TO MATCH EXISTING WORK OR REPLACE DAMAGED PORTION WITH INSULATION SPECIFIED FOR NEW WORK.

B. ELASTOMERIC CLOSED CELL INSULATION:
1. INSULATION SHALL BE RUBATEX OR ARMSTRONG. SECURE INSULATION WITH CONTACT ADHESIVE IN ACCORDANCE WITH MANUFACTURERS INSTRUCTIONS. EXPOSED OR EXTERIOR INSTALLATIONS SHALL BE PAINTED WITH TWO COATS OF WATER BASE LATEX ENAMEL.
2. PROVIDE 1 IN. THICK INSULATION ON DX REFRIGERANT PIPING, COOLING COIL CONDENATE PIPING, CHILLED WATER RUN-OUTS TO TERMINAL DEVICES, COVERS AND CAPS FOR ALL VALVE STEMS AND OPERATORS, GAUGE COCKS, THERMOMETER WELLS AND OTHER APPURTENANCES SUBJECT TO SWEATING.

C. CONCEALED DUCTWORK:
1. DUCT WRAP SHALL BE 2 IN. THICK, 1.0 PCF WITH ALUMINUM OR FRK FACING, HAVING A MAXIMUM VAPOR TRANSMISSION OF .02 PERMS. MINIMUM INSTALLED "R" VALUE SHALL BE 5.6 WITH 25% COMPRESSION. INSULATION SHALL BE 250 DEG. F RATED AS MANUFACTURED BY OWENS CORNING, MANVILLE, KNAUF, OR CERTAINTEED.
2. APPLY JACKETED DUCTWRAP TO ALL CONCEALED DUCTWORK PROVIDING CONDITIONED AIR, OR OUTSIDE AIR. ONLY INSULATE RETURN DUCTWORK IN NON-CONDITIONED SPACES AND IN CEILING SPACES BELOW A ROOF. PULL INSULATION SNUG, BUT DO NOT COMPRESS INSULATION MORE THAN 1/4 INCH.
3. SECURE DUCTWRAP INSULATION TO DUCTWORK USING ADHESIVE. SECURE INSULATION ON BOTTOM ON SIDES OF HORIZONTAL DUCTWORK AND ALL SIDES OF VERTICAL DUCTWORK WITH INSULPINS WELDED TO DUCT ON 12 TO 18 INCH CENTERS AND WITH CLIPS SLIPPED OVER THE PINS. APPLY CLIPS WITHOUT COMPRESSING INSULATION. MAKE JOINTS BY LAPPING THE FACING A MINIMUM OF 2 INCH AND STAPLING WITH T-5 FLARED STAPLES. VAPOR - SEAL WITH CHILDERS CP-30 LOW ODOR AT ALL STAPLES, CLIP LOCATIONS AND OTHER PENETRATIONS. SEAL JOINTS WITH 3 INCH WIDE FSK TAPE.
4. FOR DUCTWORK INSIDE THERMAL ENVELOPE, INSULATION SHALL BE 2 IN. THICK. FOR DUCTWORK OUTSIDE THE THERMAL ENVELOPE, ALL DUCTWORK EXCEPT EXHAUST SHALL BE 4 IN. THICK (2 LAYERS).

D. EXPOSED DUCTWORK:
1. INSULATION BOARD SHALL BE 2 IN. THICK 3 PCF WITH FRK FACING. MINIMUM INSTALLED "R" VALUE 6. INSULATION SHALL BE 250 DEG. F RATED AS MANUFACTURED BY OWENS CORNING, MANVILLE, KNAUF, OR CERTAINTEED.
2. APPLY 2 IN. THICK INSULATION BOARD WITH FRK FACING TO ALL EXPOSED DUCTWORK PROVIDING CONDITIONED AIR, OR OUTSIDE AIR. INSULATE RETURN DUCTWORK IN NON-CONDITIONED SPACES.
3. SECURE INSULATION WITH INSULPINS (ALL SURFACES) WELDED TO DUCT ON 12 TO 18 IN. CENTERS AND WITH CLIPS SLIPPED OVER PINS. SEAMS AND JOINTS SHALL BE VAPOR SEALED WITH 3 IN. WIDE FSK TAPE. CORNERS AND EDGES OF DUCTWORK SHALL BE REINFORCED WITH ROLL-ON CORNER BEAD. SEAL ALL BREAK AND PUNCTURES WITH VAPOR BARRIER SEALANT AND FSK TAPE.

E. PIPING FINISHES:
1. METAL JACKETING SHALL BE, SMOOTH .016 IN. THICK, TYPE T 3003 ALUMINUM WITH LAMINATED MOISTURE BARRIER. JACKETING SHALL BE CHILDERS, ALUMINUM ROLL JACKETING WITH POLYKRAFT MOISTURE BARRIER. COVER THE FOLLOWING INSULATED SYSTEMS WITH METAL JACKETING: PIPING INSTALLED OUTDOORS. METAL FITTING COVERS SHALL BE TWO PIECE ALUMINUM. COVERS SHALL BE ELL-JAC.
2. CONCEALED PIPING FINISH COVERING SHALL BE THE ALL SERVICE JACKET. FITTINGS SHALL BE COVERED BY WRAPPING THE FITTING WITH FIBER REINFORCED TAPE, WITH A 5 PERCENT OVERLAP. FITTING COVERS SHALL BE ONE PIECE 20 MIL PVC. COVERS SHALL BE CEEL-TITE 550 PVC-UVR BY CEEL-CO OR EQUALS.

A. DUCTWORK FINISHES:
INSULATED DUCTWORK INSTALLED OUTDOORS, INSULATED DUCTWORK WITHIN 8 FT. OF THE FINISHED FLOOR IN A MECHANICAL ROOM SHALL BE COVERED WITH 30 GAUGE GALVANIZED STEEL. COVERING SHALL BE HEMMED, AND FLANGED. SECURE WITH SELF TAPPING SCREWS ON EIGHT INCH CENTERS. DO NOT PUNCTURE VAPOR BARRIER

SECTION 15535 - REFRIGERANT PIPING SYSTEMS

A. REFRIGERANT PIPING SHALL BE TYPE L, HARD DRAWN COPPER TUBING CONFORMING TO ASTM SPECIFICATION B-280, CLEANED AND CAPPED AND MARKED "ACR". FITTINGS FOR REFRIGERANT LINES SHALL BE AS WROUGHT COPPER OR FORGED BRASS CONFORMING TO ANSI/ASME STANDARD B16.22. JOINTS IN REFRIGERANT LINES SHALL BE BRAZED IN ACCORDANCE WITH ANSI B9.1. KEEP REFRIGERATION PIPING SEALED UNTIL IT IS USED. CAP OPEN ENDS OF INSTALLED PIPING UNTIL READY FOR FINAL CONNECTIONS.
B. THE REFRIGERATION SYSTEM PIPING AND ACCESSORIES SHALL BE INSTALLED IN ACCORDANCE WITH THE SAFETY CODE FOR MECHANICAL REFRIGERATION ANSI/ASHRAE 15-92 AND THE REFRIGERATION PIPING CODE ANSI/ASME B31.5. THE REFRIGERANT TUBE SIZES, AND INSTALLATION OF TUBING SHALL BE IN ACCORDANCE WITH THE EQUIPMENT MANUFACTURER'S RECOMMENDATIONS.
C. REFRIGERANT SUCTION LINE SIZE SHALL LIMIT THE TEMPERATURE RISE TO TWO DEGREES F AT FULL LOAD AND HOLD THE REFRIGERANT GAS VELOCITY TO NOT LESS THAN 500 FT. PER MIN. (FPM) IN THE HORIZONTAL NOR LESS THAN 1000 FPM IN THE VERTICAL AT MINIMUM LOAD. REFRIGERANT LIQUID LINE SIZE SHALL LIMIT THE PRESSURE DROP BETWEEN 4 AND 6 PSI AT FULL LOAD.
D. PITCH HOT GAS LINES AND SUCTION LINES APPROXIMATELY 1/8 INCH PER 10 FT. HOT GAS LINES AND SUCTION LINES EXCEEDING 30 FT. VERTICAL LIFT SHALL BE TRAPPED EVERY 20 FT. VERTICAL REFRIGERANT LINES SHALL BE RUN PLUMB, HORIZONTAL LINES SHALL RUN PARALLEL WITH BUILDING WALLS. REFRIGERANT LINES SHALL NOT CONTACT BUILDING STRUCTURE. ISOLATE PIPING WITH RESILIENT LINER IN PIPE SUPPORT OR ELASTOMERIC INSULATION.
E. TEST FOR LEAKS WITH AN ELECTRONIC LEAK DETECTOR. REPAIR LEAKS, REFILL, REPRESSURIZE, AND RETEST. FOLLOW STANDARD CHARGING AND DEHYDRATION PROCEDURES. CHARGE THROUGH THE SYSTEM FILTER-DRIER. CHANGE FILTER DRIERS AFTER 40 HOURS OF OPERATION.
F. PROVIDE A LINE SIZE FILTER-DRIER IN EACH LIQUID REFRIGERANT LINE BETWEEN THE CONDENSER AND THE EXPANSION VALVE. FILTER-DRIER SHALL BE A HENRY VALVE CO., SPORLAN OR ALCO.
G. SERVICE VALVES SHALL BE BACK SEATING TYPE, STEEL OR IRON BODY. PROVIDE SERVICE VALVES AT CONDENSING UNIT. SERVICE VALVES SHALL BE LINES SIZE. VALVES SHALL BE HENRY VALVE CO., COMPRESSOR VALVES, SPORLAN OR ALCO.
H. PROVIDE ISOLATION VALVES AROUND THE FILTER-DRIER TO PERMIT SERVICING THE DRIER WITHOUT LOSS OF REFRIGERANT. ISOLATION VALVES SHALL BE HENRY VALVE CO., 900 SERIES BALL VALVES. SPORLAN AND ALCO ARE APPROVED EQUAL.
I. CHARGING VALVE SHALL BE INSTALLED IN EACH LIQUID REFRIGERANT LINE BETWEEN THE CONDENSER AND THE FILTER DRIER. CHARGING VALVE SHALL BE A HENRY VALVE CO. TYPE 927 OR APPROVED EQUAL. SPORLAN AND ALCO ARE APPROVED EQUAL.

J. SIGHT GLASS SHALL BE INSTALLED IN EACH LIQUID REFRIGERANT LINE AT THE EVAPORATOR COIL. SIGHT GLASS SHALL BE HENRY VALVE CO. MI 31 SERIES DOUBLE PORT STYLE WITH EXTENDED ENDS FOR SOLDERING FOR LINES 5/8 INCH OD OR LARGER. USE MI 30 SERIES SINGLE PORT SOLDERING FOR LINES 5/8 INCH OD OR LARGER. USE MI 30 SERIES SINGLE PORT FOR LINES 1/2 INCH OD AND SMALLER. SPORLAN AND ALCO ARE APPROVED EQUAL.
K. PROVIDE BALANCED EXTERNALLY EQUALIZED THERMOSTATIC EXPANSION VALVE. DISTRIBUTORS SHALL BE MATCHED WITH THERMOSTATIC EXPANSION VALVES AND DIRECT EXPANSION COIL FOR PROPER PERFORMANCE. THERMOSTATIC EXPANSION VALVE (TXV) SHALL BE BALANCED EXTERNALLY EQUALIZED TYPE. DISTRIBUTIONS SHALL BE MATCHED WITH THERMOSTATIC EXPANSION VALVES AND DIRECT EXPANSION COIL FOR PROPER PERFORMANCE. DISTRIBUTORS SHALL BE ALCO OR APPROVED EQUAL. LOCATE BULB IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS. CONNECT THE EQUALIZING LINE TO THE TXV DOWN STREAM OF THE BULB. PROVIDE TRAPPED DOUBLE SUCTION RISERS ON SYSTEMS WITH UNLOADING CAPABILITY, WHEN REQUIRED FOR PROPER OIL RETURN.
L. PROVIDE FLEXIBLE CONNECTORS ON LIQUID LINE, AND SUCTION LINE AT THE CONDENSING UNIT. FLEXIBLE CONNECTORS SHALL BE BRAIDED BRONZE COVERING ON A BRONZE HOSE. END CONNECTORS SHALL BE FEMALE COPPER TUBE TYPE. UNITS SHALL BE RATED NOT LESS THAN 270 PSI AT 250 DEGREES F. UNITS SHALL BE SOUTHEASTERN HOSE, INC., SUPERIOR OR ANACONDA.

SECTION 15620 - DIRECT VENT GAS-FIRED FURNACES

A. GAS-FIRED FURNACES SHALL BE COMPLETELY FACTORY ASSEMBLED INCLUDING COIL, CONDENSATE DRAIN PAN, FURNACE SECTION, FAN MOTOR(S), FILTERS AND CONTROLS IN AN INSULATED CASING THAT CAN BE APPLIED IN EITHER VERTICAL OR HORIZONTAL CONFIGURATION. UNITS SHALL BE RATED AND TESTED IN ACCORDANCE WITH ARI STANDARD 210. UNITS SHALL BE UL LISTED AND LABELED IN ACCORDANCE WITH UL 465 AND 559 FOR INDOOR BLOWER COIL UNITS AND SHALL BE AGA CERTIFIED.

B. UNIT CASING SHALL BE CONSTRUCTED OF ZINC COATED, MINIMUM 20 GAUGE, GALVANIZED STEEL. EXTERIOR SURFACES SHALL BE FINISHED WITH A WEATHER-RESISTANT BAKED ENAMEL FINISH. CASING SHALL BE COMPLETELY INSULATED WITH FIRE-RETARDANT, PERMANENT, ODORLESS GLASS FIBER MATERIAL. KNOCKOUTS SHALL BE PROVIDED FOR UNIT ELECTRIC POWER AND REFRIGERANT PIPING CONNECTIONS. CAPTIVE SCREWS SHALL BE STANDARD ON ALL ACCESS PANELS.

C. FURNACE HEAT EXCHANGER SHALL BE SECTIONAL TYPE, FABRICATED OF HEAVY GAUGE ALUMINIZED STEEL. VENTING SHALL BE DIRECT OUTDOORS. BURNERS SHALL BE MULTI-PORT, IN-SHOT TYPE CONSTRUCTED OF ALUMINIZED STEEL. GAS MAIN AND UNIT SHALL BE AGA APPROVED WITH REDUNDANT VALVE. FURNACE PILOT SHALL BE ELECTRONIC IGNITION. HEAT EXCHANGER SECTION SHALL BE INSULATED WITH FOIL FACE INSULATION.

D. EVAPORATOR COIL SHALL CONSIST OF CONFIGURED ALUMINUM FIN SURFACE MECHANICALLY BONDED TO 3/8 INCH INTERNALLY ENHANCED COPPER TUBING. COIL SHALL BE FACTORY PRESSURE AND LEAK TESTED AT 375 PSIG. COIL SHALL BE ARRANGED FOR BLOW- THROUGH AIRFLOW AND PROVIDED WITH CONDENSATE DRAIN PAN CONSTRUCTED OF PVC PLASTIC. EXTERNAL CONNECTIONS SHALL BE PROVIDED ON EITHER SIDE OF THE UNIT.

E. EVAPORATOR FAN SHALL BE FORWARD CURVED, CENTRIFUGAL-TYPE FAN(S) WITH ADJUSTABLE SPEED DIRECT DRIVE MOTOR. THERMAL OVERLOAD PROTECTION SHALL BE STANDARD ON MOTOR. FAN AND MOTOR BEARINGS SHALL BE PERMANENTLY LUBRICATED.

F. MAGNETIC EVAPORATOR FAN CONTACTOR, LOW VOLTAGE TERMINAL STRIP, CHECK VALVE(S), AND SINGLE POINT POWER ENTRY SHALL BE INCLUDED. ALL NECESSARY CONTROLS SHALL BE FACTOR-INSULATED AND WIRED. EVAPORATOR DEFROST CONTROL SHALL BE INCLUDED TO PREVENT COMPRESSOR SLUGGING BY TEMPORARILY INTERRUPTING COMPRESSOR OPERATION WHEN LOW EVAPORATOR COIL TEMPERATURES ARE ENCOUNTERED.

G. INSTALL UNIT IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS. INSTALL CONDENSATE DRAIN PIPING FROM UNIT TO DRAIN AS INDICATED ON THE DRAWINGS. PROVIDE UNIT WITH NECESSARY VENT PIPING AND CONCENTRIC INTAKE/EXHAUST ACCESSORIES.

H. GAS FIRED FURNACES SHALL BE CARRIER MODEL MXA OR APPROVED EQUAL.

SECTION 15629- UNIT HEATERS - GAS FIRED

A. THIS SPECIFICATION DESCRIBES THE REQUIREMENTS FOR LABOR AND MATERIALS NECESSARY FOR THE INSTALLATION OF GAS FIRED UNIT HEATERS INCLUDED AS PART OF THE BUILDING MECHANICAL SYSTEM.
B. CEILING MOUNTED UNIT HEATER - HORIZONTAL THROW:
1. PERFORMANCE SHALL BE AS INDICATED ON THE EQUIPMENT SCHEDULE AND PLANS.. UNIT HEATERS SHALL HAVE A.G.A. (AMERICAN GAS ASSOCIATION) DESIGN CERTIFICATION.
2. CASING: CASINGS SHALL BE A MINIMUM OF 22-GAUGE DIE-FORMED STEEL. ALL CORNERS SHALL BE ROUNDED WITH NO BREAKS. CASING SHALL BE PROVIDED WITH THREADED HANGER CONNECTIONS FOR UNIT SUSPENSION. ALL METAL SURFACES OF THE CASING SHALL BE TREATED TO PREVENT THE FORMATION AND SPREAD OF RUST. HEATERS SHALL BE PAINTED WITH AN ELECTROSTATICALLY APPLIED PAINT FOR OPTIMUM CORROSION PROTECTION. CASING SHALL BE COATED WITH A MINIMUM 2 MIL DRY FILM THICKNESS COATING. COATING SHALL PASS THE 1000 HOUR SALT SPRAY TEST UNDER ASTM 117.
3. MOTOR: EACH UNIT HEATER SHALL HAVE A SINGLE MOTOR AND PROPELLER. MOTOR SHALL BE TOTALLY ENCLOSED WITH THERMAL OVERLOAD PROTECTION (SINGLE PHASE ONLY). PROPELLER SHALL BE STATICALLY BALANCED WITH A SAFETY FAN GUARD. ALL MOTOR WIRING SHALL BE TERMINATED IN AN ELECTRICAL JUNCTION BOX EITHER SUPPLIED WITH THE UNIT HEATER OR AS AN INTEGRAL PART OF THE MOTOR. MOTORS SHALL BE RATED AND TESTED IN ACCORDANCE WITH NEMA STANDARDS. MOTORS SHALL INCLUDE THE MANUFACTURER'S WARRANTY. MOTORS SHALL BE RATED TO OPERATE IN 104 DEGREES F AMBIENT AIR CONTINUOUSLY.
4. BURNER: BURNER MATERIAL SHALL BE ALUMINIZED STEEL WITH NON-CLOGGING, SLOTTED PORTS AND 409 STAINLESS STEEL SEPARATOR STRIP DESIGNED FOR GOOD LIGHTING CHARACTERISTICS WITHOUT NOISE OF EXTINCTION.
5. HEAT EXCHANGER: UNIT HEAT EXCHANGER SHALL BE CONSTRUCTED OF 20 GAUGE ALUMINIZED STEEL. HEAT EXCHANGER SHALL BE HELIARC MACHINE-WELDED AND DESIGNED WITH CONTOURED STRESS-FREE TUBES.
6. CONTROLS (STANDARD): UNIT HEATER SHALL BE EQUIPPED WITH A 24V CONTROL TRANSFORMER, A FACTORY SUPPLIED TERMINAL BOARD FOR CONNECTION OF LOW VOLTAGE THERMOSTAT AND ACCESSORY FIELD WIRING, OVERHEAT CONTROL, 25V AUTOMATIC GAS VALVE, INTERMITTENT PILOT WITH 100% SHUT-OFF, GAS VALVE PRESSURE REGULATOR, AND ELECTRIC FAN TIMED DELAY RELAY. ALL CONTROLS SHALL BE RATED FOR A MAXIMUM INLET PRESSURE OF ½ PSI GAS PRESSURE. THE GAS VALVE AND FAN TIMER SHALL BE ENERGIZED BY THE THERMOSTAT (OR MANUAL SWITCH) UPON CALL FOR HEAT. THE FAN SHALL BE DELAYED FOR APPROXIMATELY 30 SECONDS AFTER MAIN BURNER IGNITION.
7. THERMOSTAT: SINGLE-STAGE ROOM THERMOSTAT: 1.5 

SECTION 15870 - POWER VENTILATORS

A. POWER VENTILATORS WHICH ARE SCHEDULED OR REFERRED TO BY MODEL NUMBER OR CATALOGUE NUMBER ARE INTENDED TO INCLUDE ALL MATERIALS COVERED BY SUCH NUMBER. ANY REQUIRED ACCESSORIES FOR THE INSTALLATION OF THE FAN ARE TO BE BY THE SAME MANUFACTURER UNLESS OTHERWISE NOTED.

B. ALL WIRING AND ELECTRICAL COMPONENTS SHALL COMPLY WITH THE NATIONAL ELECTRIC CODES (NEC). ALL MATERIALS SHALL BE UL LISTED. FANS SHALL BE UL 705. FANS SHALL BEAR THE AMCA CERTIFIED RATINGS SEAL FOR SOUND AND AIR PERFORMANCE. FAN ASSEMBLY SHALL BEAR AN ENGRAVED ALUMINUM NAMEPLATE. FANS WHEELS SHALL BE BALANCED IN ACCORDANCE WITH AMCA STANDARD 204-96.

C. EACH UNIT SHALL HAVE A BIRDSCREEN CONSTRUCTED OF GALVANIZED WIRE MESH WITH 2 IN. OPENINGS MOUNTED VERTICALLY IN THE UNIT DISCHARGE. THE BIRDSCREEN SHALL PRODUCE MINIMAL EFFECT ON AIR AND SOUND PERFORMANCE.

D. INSTALL FAN IN ACCORDANCE WITH MANUFACTURER'S INSTALLATION INSTRUCTIONS. INSTALL FANS WITH CLEARANCES FOR SERVICE AND MAINTENANCE. MAKE FINAL DUCT CONNECTIONS TO FANS WITH FLEXIBLE CONNECTORS.

E. ROOF CURBS SHALL BE CONSTRUCTED USING MINIMUM 14 GAUGE GALVANIZED STEEL WITH FULLY MITERED AND WELDED CORNERS, INTEGRAL BASE PLATES INTERNALLY REINFORCED WITH 1 IN. X L IN. X 1/8 IN. STEEL ANGLE, FACTORY INSULATED WITH L 1/2 IN. THICK THREE POUND PER CU. FT. DENSITY FIBERGLASS INSULATION. CURBS SHALL BE FABRICATED WITHOUT CANTS. MINIMUM HEIGHT OF CURB SHALL BE 8 IN. ABOVE FINISHED ROOF. CURBS SHALL BE CONSTRUCTED TO MATCH SLOPE OF ROOF AND PROVIDE A LEVEL TOP SURFACE FOR MOUNTING OF MECHANICAL EQUIPMENT.

F. BACK DRAFT DAMPER SHALL BE 606375 EXTRUDED ALUMINUM FRAME, .025 IN THICK FORMED ALUMINUM BLADES, EXTRUDED VINYL EDGE SEALS, SYNTHETIC BEARINGS, MILL FINISH.

G. SIDEWALL PROPELLER FAN - BELT DRIVE:
1. PROPELLER WALL FANS SHALL BE LOW NOISE, BELT DRIVEN. FAN SHALL HAVE A FLANGED MOUNTING PANEL TO FACILITATE MOUNTING IN A WALL OPENING, A ROUNDED ORIFICE RING, A PERMANENT, HEAVY DUTY MOUNTING BRACKET FOR MOTOR AND DRIVES, AND WIRE SAFETY GUARD ON ROOM SIDE OF FAN. MOTORS SHALL BE TOTALLY ENCLOSED. STANDARD EFFICIENCY, MAXIMUM 1800 RPM. BEARINGS SHALL BE SEALED, GREASE LUBRICATED, MOUNTED ON FAN SHAFT. PROVIDE ADJUSTABLE PITCH SHEAVES FOR SINGLE V-BELT DRIVES. PROVIDE HIGH-LIMIT THERMOSTATIC CONTROL. INSTALL WITH VIBRATION ABSORBING MOUNTINGS.
2. PROVIDE WITH GRAVITY-OPERATED BACKDRAFT DAMPER.
3. PROVIDE WITH WALL COLLAR, WEATHERHOOD AND BELT TENSIONER.
4. PROVIDE INTERLOCKS AS NECESSARY THERMOSTAT AND FOR DAMPER ON ASSOCIATED INTAKE LOUVER.
5. FAN SHALL BE MODEL XMWH AS MANUFACTURED BY LOREN COOK COMPANY. GREENHECK, ACME AND PENN VENTILATOR ARE APPROVED EQUAL.

H. SQUARE INLINE EXHAUSTER - DIRECT DRIVE:
1. THE FAN SHALL BE OF BOLTED AND WELDED CONSTRUCTION UTILIZING CORROSION RESISTANT FASTENERS. HOUSING SHALL BE MINIMUM 18 GAUGE STEEL WITH AIRFLOW STRAIGHTENING VANES, INTEGRAL DUCT FLANGES AND HINGED ACCESS DOOR.
2. FAN WHEEL SHALL BE CENTRIFUGAL BACKWARD INCLINED, CONSTRUCTED OF 100% ALUMINUM, INCLUDING A PRECISION MACHINED CAST ALUMINUM HUB. WHEEL INLET SHALL OVERLAP AN AERODYNAMIC ALUMINUM INLET CONE.
3. MOTOR SHALL BE HEAVY DUTY TYPE WITH PERMANENTLY LUBRICATED SEALED BALL BEARINGS AND FURNISHED AT THE SPECIFIED VOLTAGE, PHASE AND ENCLOSURE.
4. FAN SHALL BE MODEL SQI-D AS MANUFACTURED BY LOREN COOK COMPANY. GREENHECK, ACME AND PENN VENTILATOR ARE APPROVED EQUAL.

I. CEILING MOUNTED EXHAUST FAN - DIRECT DRIVE:

1. GC 100 SERIES: THE FAN WHEEL HOUSING AND INTEGRAL OUTLET DUCT SHALL BE INJECTION MOLDED FROM A SPECIALLY ENGINEERED RESIN EXCEEDING UL REQUIREMENTS FOR SMOKE AND HEAT GENERATION. THE OUTLET DUCT SHALL HAVE PROVISION FOR AN ALUMINUM BACKDRAFT DAMPER WITH CONTINUOUS ALUMINUM HINGE ROD. THE INLET BOX SHALL BE MINIMUM 22 GAUGE GALVANIZED STEEL. MOTOR SHALL BE ISOLATION MOUNTED TO A ONE PIECE GALVANIZED STAMPED STEEL INTEGRAL MOTOR MOUNT/INLET. A FIELD WIRING COMPARTMENT WITH RECEPTACLE SHALL BE STANDARD. TO ACCOMMODATE DIFFERENT CEILING THICKNESS, AN ADJUSTABLE PREPUNCHED MOUNTING BRACKET SHALL BE PROVIDED. A WHITE, NON-YELLOWING, HIGH IMPACT STYRENE INJECTION MOLDED GRILL SHALL BE PROVIDED AS STANDARD. WHEEL SHALL BE CENTRIFUGAL FORWARD CURVED TYPE, INJECTION MOLDED OF POLYPROPYLENE RESIN.

2. MOTOR SHALL BE OPEN DRIP PROOF TYPE WITH PERMANENTLY LUBRICATED SEALED BEARINGS AND INCLUDE IMPEDANCE OR THERMAL OVERLOAD PROTECTION AND DISCONNECT PLUG. MOTOR SHALL BE FURNISHED AT THE SPECIFIED VOLTAGE.

3. FAN SHALL BE MODEL GC AS MANUFACTURED BY LOREN COOK COMPANY. GREENHECK, ACME AND PENN VENTILATOR ARE APPROVED EQUAL.

SECTION 15892 - LOW PRESSURE DUCTWORK

A. GENERAL
1. DUCT SYSTEM SHALL BE FABRICATED WITH SHEET METAL THICKNESSES AND REINFORCED IN ACCORDANCE WITH SMACNA, AS SHOWN ON THE DRAWINGS AND AS DESCRIBED HEREIN. DUCTS 18 INCHES AND LARGER ON ANY SIDE SHALL BE STIFFENED BY BEADING ON NOT TO EXCEED 12 INCH CENTERS. UNLESS NOTED OTHERWISE THE MINIMUM PRESSURE/VELOCITY CLASSIFICATION SHALL BE 2 INCH W.G. PLUS OR MINUS, AT 2500 FT. PER MINUTE, DUCT SEAL CLASS "A". DUCT SIZES SHOWN ARE CLEAR INSIDE DIMENSIONS.
2. DUCTWORK HANGERS SHALL BE SUPPORTED BY FASTENERS ATTACHED TO STRUCTURAL STEEL. REPAIR FIRE PROOFING WHICH WAS REMOVED FOR DUCTWORK INSTALLATION. INSTALLATION TO BE DONE BY AN APPROVED QUALIFIED TRADESMAN.
3. INSTALL IN THE DUCTWORK DEVICES FURNISHED BY THE TEMPERATURE CONTROLS SUB-CONTRACTOR. INSTALL SMOKE DETECTORS IN DUCTWORK FURNISHED BY THE DIVISION 16 CONTRACTOR.
4. WATER AND OTHER PIPES SHALL NOT BE ALLOWED TO PASS THROUGH AIR RISERS OR DUCTS, UNLESS APPROVED BY THE ENGINEERS, AND WHEN THIS OCCURS, THE SIZE OF SAID DUCT OR RISER SHALL BE PROPORTIONATELY INCREASED. SANITARY WASTE AND VENT PIPING SHALL NOT PENETRATE ANY DUCTWORK.

B. GALVANIZED STEEL DUCTWORK:
1. GALVANIZED STEEL DUCTWORK SHALL CONFORM TO ASTM A653 (G60). ALL LONGITUDINAL SEAMS SHALL BE GROOVED, DOUBLE OR PITTSBURGH TYPE.

C. DUCTWORK FITTINGS:
1. FOR RECTANGULAR DUCTWORK, VANES SHALL BE PROVIDED IN ELBOWS WITH 90 DEGREE THROATS AND THROAT RADII LESS THAN 1-1/2 TIMES DUCT WIDTH. VANES SHALL BE LOCATED IN ACCORDANCE WITH ASHRAE STANDARDS. DOUBLE-VANE AIRFOIL-TYPE TURNING VANES SHALL BE PROVIDED FOR ALL SQUARE TURNS.

D. HANGERS AND SUPPORTS:
1. PROVIDE CONCRETE INSERTS OR STRUCTURAL STEEL FASTENERS APPROPRIATE FOR BUILDING MATERIALS. PROVIDE TRAPEZE AND RISER SUPPORTS AS REQUIRED. SUPPORT MATERIALS SHALL BE THE SAME AS DUCTWORK SUPPORTING.
2. HANGER, STRAPS AND RODS SHALL WITH SMACNA'S "HVAC DUCT CONSTRUCTION STANDARDS METAL AND FLEXIBLE" STANDARDS
3. DUCT ATTACHMENTS: SHEET METAL SCREWS, BLIND RIVETS OR SELF-TAPPING METAL SCREWS; COMPATIBLE WITH DUCT MATERIALS.

E. SEALANT MATERIAL:
1. SEALANTS SHALL BE SOLVENT OR WATER BASED TYPE U.L. CLASSIFIED MEETING NFPA 90A CLASS 1 WITH ZERO FIRE AND SMOKE DEVELOPMENT RATING. SEALER SHALL BE UNITED SHEET METAL, UNITED DUCT SEALER, OR HARDCAST DT-601. TRANSVERSE SEAMS SHALL BE TAPED AND SEALED WITH TWO LAYERS OF UNITED SHEET METAL, UNI-CAST OR CAULKED WITH DUCT SEALER.

F. FLEXIBLE CONNECTORS:
1. INSTALL FLEXIBLE CONNECTORS AT ALL SUPPLY AND EXHAUST FANS AND OTHER AIR HANDLING UNITS WITH INLET AND OUTLET DUCT OR CASING CONNECTIONS. CONNECTORS SHALL NOT BE PAINTED. CONNECTORS SHALL NOT BE USED AS TRANSITION PIECES BETWEEN FAN AND DUCTWORK.
2. CONNECTORS SHALL BE NOT LESS THAN 4 INCHES LONG (IN CLEAR) AND PROPERLY ATTACHED TO DUCT AND FAN CONNECTION COLLAR BY 1 X 1/8 INCH DRAW BAND (FABRICATED OF THE SAME MATERIAL AS ADJACENT DUCTWORK) FIRMLY CLAMPED AROUND COLLARS IN SUCH A MANNER AS TO BE AIRTIGHT AND SECURED TO COLLARS WITH SHEET METAL SCREWS.
3. FLEXIBLE CONNECTORS SHALL BE U.L. LISTED, NEOPRENE COATED HEAVY GLASS FABRIC. FABRIC SHALL BE VENTGLAS, MANUFACTURED BY VENTFABRICS, INC.

G. FLEXIBLE DUCTWORK:
1. FLEXIBLE DUCTS SHALL BE USED FOR STRAIGHT RUNS OF DUCT OR OFFSETS UP TO 45 DEGREES, BUT NOT EXCEEDING 48 INCHES IN LENGTH. THE USE OF FLEXIBLE DUCTS AS ELBOWS WITH MORE THAN A 45 DEGREE BEND WILL NOT BE PERMITTED.
2. FLEXIBLE DUCT SHALL BE UL LISTED AND LABELED AS CLASS 1, AIR DUCT CONNECTOR, IN ACCORDANCE WITH U.L. STANDARD 181 AND SHALL MEET THE REQUIREMENTS OF THE LATEST NFPA BULLETIN, NO. 90A AND NO. 90B FOR FLAME SPREAD AND SMOKE DEVELOPMENT RATING.
3. FLEXIBLE DUCT SHALL BE RATED FOR A MAXIMUM PRESSURE OF 6 INCH POSITIVE AND 3/4 INCH NEGATIVE AND 4000 FPM MAXIMUM VELOCITY. AIR DUCT SHALL CONSIST OF: CPE LINER, COATED CONTINUOUS STEEL WIRE HELIX, FIBERGLASS INSULATING BLANKET, FIBERGLASS SCRIM AND REINFORCED ALUMINUM VAPOR BARRIER. THERMAL CONDUCTANCE SHALL BE .23 OR LESS.
4. DUCT SHALL BE FLEXMASTER TYPE 8M OR PRIOR APPROVED EQUAL.

A. VOLUME DAMPERS:
1. SINGLE BLADE DAMPERS SHALL BE CONSTRUCTED OF .22 GAUGE GALVANIZED STEEL (BLADE AND FRAME). SINGLE BLADE DAMPERS SHALL BE LIMITED TO A 12 INCH HIGH BLADE. BLADE EDGES SHALL BE CRIMPED OR REINFORCED. DAMPER LEVERS SHALL INDICATE POSITIVELY THE OPEN AND CLOSED POSITION. END BEARINGS SHALL BE MOLDED SYNTHETIC. DAMPERS SHALL BE RUSKIN MD25 OR APPROVED EQUAL (RUSKIN MDRS25 FOR ROUND DUCTS).
2. MULTIBLADE DAMPERS SHALL BE CONSTRUCTED OF SHEET METAL THE SAME MATERIAL AS THE ADJACENT DUCTWORK. DAMPER FRAME SHALL BE NOT LESS THAN 16 GA., DAMPER BLADES NOT WIDER THAN 6 INCHES CRIMPED OR REINFORCED. DAMPER LEVERS SHALL INDICATE POSITIVELY THE OPEN AND CLOSED POSITION. END BEARINGS SHALL BE MOLDED SYNTHETIC. DAMPER SHALL BE RUSKIN MD35 OR APPROVED EQUAL.

B. FIRE DAMPERS:
1. FIRE DAMPERS SHALL BE UNDERWRITERS APPROVED AND LABELED (UL555). DAMPERS SHALL BE FABRICATED OF GALVANIZED STEEL AND SHALL BE OF SUCH A DESIGN AND LENGTH AS TO FUNCTION AS A WALL MOUNTING SLEEVE, WHICH SHALL BE A PART OF THE FIRE DAMPER. SLEEVES SHALL BE OF WELDED OR BOLTED CONSTRUCTION. CRIMPING OR TABS WILL NOT BE ACCEPTABLE SUBSTITUTES FOR WELDING OR BOLTING.
2. FIRE DAMPERS SHALL BE RUSKIN DIDB2 SERIES FOR 1 2 HOUR RATING. FIRE DAMPERS SHALL BE RUSKIN DIDB23 SERIES FOR 3 HOUR RATING. INSTALL STYLE A FIRE DAMPERS BEHIND DUCTED GRILLES AND REGISTERS IN RATED WALLS. INSTALL STYLE B OR C FIRE DAMPERS IN DUCTED OPENINGS IN RATED WALLS. AIR BALANCE AND PREFCO ARE APPROVED EQUAL.

C. DAMPER HARDWARE:
1. ALL HARDWARE SHALL BE SMACNA ACCEPTED. INSULATED DUCTWORK (CONCEALED) - VENTLOK 638 ELEVATED DIAL REGULATOR. INSULATED DUCTWORK (EXPOSED) - VENTLOK 644 - SELF LOCKING REGULATOR. UNINSULATED DUCTWORK - VENTLOK 555 OR 560 QUADRANTS.

D. DUCT ACCESS DOORS:
1. ACCESS DOORS SHALL BE HINGED, CONSTRUCTED OF THE SAME MATERIAL AS THE DUCTWORK. DOOR EDGES SHALL BE SEALED WITH 3/4 INCH WIDE X 1/8 INCH THICK NEOPRENE SPONGE GASKETING. DOOR HARDWARE SHALL BE VENTLOK #100 LATCHES. ACCESS DOORS ON INSULATED DUCTWORK SHALL BE DOUBLE WALL CONSTRUCTION WITH 1 INCH OF RIGID 3 PCF FIBERGLASS INSULATION.
2. PROVIDE DUCT ACCESS DOORS AT ALL DUCT MOUNTED DEVICES REQUIRING ADJUSTMENT OR RESETTING. ACCESS DOORS SHALL BE APPROXIMATELY 18 INCHES HIGH BY 24 INCHES WIDE. IN SMALLER DUCTWORK, THE HEIGHT SHALL BE REDUCED TO BE 2 INCHES LESS THAN THAT OF THE DUCTWORK.

SECTION 15906 - TEMPERATURE CONTROLS

A. GENERAL:
1. FURNISH AND INSTALL AN ELECTRIC SYSTEM OF AUTOMATIC TEMPERATURE CONTROL AS SPECIFIED HEREIN AND AS SHOWN ON THE CONTRACT DRAWINGS AS MANUFACTURED BY HONEYWELL, JOHNSON CONTROLS, INVENSYS, OR APPROVED EQUAL.
2. EXTRA COSTS INCURRED BY USE OF OTHER THAN BASE BID CONTROL SYSTEM, SUCH AS WIRING, CONTRACT DRAWINGS CHANGES, CHANGES IN DESIGN, ADDED SUPERVISION, ETC., SHALL BE THE RESPONSIBILITY OF THE TEMPERATURE CONTROL SUBCONTRACTOR (TCSC).
3. SYSTEM DOCUMENTATION SHALL INCLUDE THE FOLLOWING: MANUFACTURER'S DATA SHEETS OF ALL PRODUCTS (ORIGINAL COPIES), COMPLETE DESCRIPTION OF OPERATION OF ALL CONTROL LOOPS, INCLUDING RECOMMENDED SETPOINTS AND RANGES OF ADJUSTMENT; FULLY LABELED ELEMENTARY DIAGRAM (ELECTRICAL LADDER DIAGRAM), AND LISTS OF ALL PROPOSED DEVICES AND EQUIPMENT

B. MOTOR OPERATORS: MOTOR OPERATOR SHALL BE SPRING RETURN TYPE, WHICH RETURNS MOTOR ACTUATOR SHAFT TO ITS FULL NORMAL MECHANICAL TRAVEL UPON POWER FAILURE. DAMPER MOTOR DRIVE MECHANISM WILL INCLUDE HOLDING BRAKE TO KEEP THE RETURN SPRING FROM DRAWING THE ACTUATOR FROM DRIVING TOWARD ITS NORMAL POSITION UNLESS POWER IS INTERRUPTED. SUPPLY AND INSTALL ELECTRIC MOTOR OPERATORS FOR ALL DAMPERS. UNIT SHALL BE HONEYWELL MS8105A SERIES OR APPROVED EQUAL.

C. AUTOMATIC DAMPERS: ALL CONTROL DAMPERS SHALL BE STANDARD PRODUCTS OF DAMPER OR TEMPERATURE CONTROL MANUFACTURERS UNLESS NOTED OTHERWISE. LOCAL FABRICATION OF DAMPERS IS NOT ALLOWED. DAMPERS SHALL BE OPPOSED BLADE TYPE. FURNISH FOR INSTALLATION BY THE MECHANICAL CONTRACTOR ALL MOTOR OPERATED DAMPERS. DAMPERS SHALL BE RUSKIN MODEL CD50. GREENHECK IN AN APPROVED EQUAL.

D. THERMOSTATS:
1. PROVIDE HVAC THERMOSTAT WITH THE FOLLOWING FEATURES: SEVEN DAY PROGRAMMING, TWO OCCUPIED/TWO UNOCCUPIED PERIODS PER DAY, AUTOMATIC HEAT/COOL CHANGEOVER WITH 2°F MINIMUM DEAD BAND, TWO STAGE HEATING, TWO STAGE COOLING, TOUCHSCREEN DISPLAY, AUXILIARY CONTACT, AND TEMPERATURE OVERRIDE. THERMOSTAT SHALL BE HONEYWELL VISIONPRO 8000 OR EQUAL.
2. PROVIDE HEATER AND VENTILATION THERMOSTAT WITH THE FOLLOWING FEATURES: SINGLE STAGE CONTROL, ON/OFF/AUTO SWITCHING, AND ADJUSTABLE SETPOINT CONTROL

E. TEMPERATURE CONTROL WIRING:
1. ALL CONTROL WIRING AND CONDUIT REQUIRED TO COMPLETE THE TEMPERATURE CONTROL SYSTEM SHALL BE PROVIDED BY THE TEMPERATURE CONTROL SUB-CONTRACTOR. ALL WIRING SHALL CONFORM TO STANDARDS AND SPECIFICATIONS OUTLINED IN DIVISION 16. WIRE SIZE SHALL BE IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS AND NATIONAL ELECTRIC CODE. MINIMUM CONDUIT SHALL BE 1/2 INCH DIAMETER. TCSC SHALL COORDINATE ALL CONTROL POWER REQUIREMENTS WITH ELECTRICAL CONTRACTOR PRIOR TO BID.
2. ELECTRIC CONNECTIONS BETWEEN THE VARIOUS UNIT CONTROL CABINETS SHALL BE MADE BY THE TCSC. ALL WIRING MUST BE TAGGED ON BOTH ENDS WITH PANEL NUMBER AND TERMINAL NUMBER.
3. THE TCSC IS RESPONSIBLE FOR ALL REQUIRED PROCESS AND ELECTRICAL CONNECTIONS TO ALL EQUIPMENT, CONTROL DEVICES, AND FIELD INSTRUMENTS. TCSC SHALL FURNISH AND INSTALL ALL CONDUITS, RACEWAYS, ETC., REQUIRED. TCSC SHALL FURNISH AND INSTALL ALL CONTROL AND INTERLOCK WIRING. TCSC SHALL FURNISH AND INSTALL ALL REQUIRED AUXILIARY STARTER CONTACTS OR RELAYS, ETC., FOR A COMPLETE ELECTRICAL INTERLOCK AND CONTROL WIRING SYSTEM.

F. INSTALLATION:
1. THE ENTIRE CONTROL SYSTEM, INCLUDING LOW VOLTAGE WIRING, WITH THE EXCEPTION OF DUCT MOUNTED AUTOMATIC DAMPERS AND SMOKE DETECTORS, SHALL BE INSTALLED BY THE TEMPERATURE CONTROL CONTRACTOR, WHO SHALL MAKE ALL TESTS AND ADJUSTMENTS. ALL CONTROLS SHALL BE FIELD-TESTED AND FIELD-CALIBRATED
2. SET POINTS OF ALL CONTROLLING INSTRUMENTS ARE INDICATED AT A SPECIFIC POINT; HOWEVER, ALL SET POINTS SHALL BE ADJUSTABLE UP AND DOWN FROM THE POINT INDICATED.
3. CONTRACTOR SHALL SUBMIT TENTATIVE LOCATIONS OF ALL CONTROL DEVICES AND COMPONENTS (INCLUDING TEMPERATURE SENSORS) TO THE ARCHITECT FOR WRITTEN APPROVAL PRIOR TO INSTALLATION. CONTRACTOR SHALL PAY PARTICULAR ATTENTION TO LOCATION OF CONTROL DEVICES AND COMPONENTS TO LOCATION OF CONTROL DEVICES AND COMPONENTS. EFFECTS OF DRAFTS, RADIANT HEAT, VIBRATION, ETC ARE TO BE CONSIDERED WHEN INSTALLING CONTROL DEVICES AND COMPONENTS.
4. PRIOR TO ORDERING FACTORY ASSEMBLED EQUIPMENT WHICH CONTAINS INTEGRAL CONTROL DEVICES AND COMPONENTS, THE CONTRACTOR SHALL OBTAIN A WRITTEN STATEMENT FROM BOTH THE MANUFACTURER AND THE INSTALLING CONTRACTOR THAT THEY HAVE REVIEWED THE APPROPRIATE SUBMITTAL DATA AND ARE AWARE OF THE MAKE, MODEL, TYPE, SIZE, CHARACTERISTICS, ETC. OF THE FACTORY ASSEMBLED CONTROL DEVICES AND COMPONENTS WHICH THEY SHALL BE REQUIRED TO INTERFACE TO AND/OR CONTROL.
5. ALL CONTROL DEVICES (BOTH FIELD AND PANEL MOUNTED) SHALL BE LABELED TO INDICATE BOTH THEIR CONTROL SYSTEMS DESIGNATION, E.G., RTU-1 THERMOSTAT. UNLESS INDICATED OTHERWISE, ABBREVIATIONS AND ACRONYMS FOR ALL ID TAGS AND PANEL FACEPLATES SHALL BE APPROVED BY THE ENGINEER.
6. ALL CONTROL DEVICES ARE TO BE MOUNTED IN ACCESSIBLE LOCATIONS. ALL DEVICES EXPOSED TO THE WEATHER SHALL BE HOUSED IN WEATHERPROOF ENCLOSURES.
7. AT THE COMPLETION OF THE JOB, TCSC SHALL CORRECT HIS DRAWINGS TO INCLUDE ANY CHANGES MADE DURING CONSTRUCTION. TCSC SHALL PROVIDE COLOR-CODED DRAWINGS INDICATED ALL TEMPERATURE ZONES AND EQUIPMENT (3 COPIES).

G. OPERATION TEST AND OWNER'S INSTRUCTION:
1. AT COMPLETION, TCSC SHALL OPERATE THE SYSTEM FOR A PERIOD OF AT LEAST THREE DAYS OF EIGHT HOURS EACH ON THE NEW SYSTEMS TO DEMONSTRATE FULFILLMENT OF THE REQUIREMENTS OF THE CONTRACT. DURING THIS TIME, ALL ADJUSTMENTS SHALL BE MADE TO THE EQUIPMENT SO THAT IT IS IN FIRST-CLASS OPERATING CONDITION. THE ENTIRE SYSTEM IS TO BE LEFT IN OPERATING CONDITION ACCEPTABLE TO THE ENGINEER.
2. UPON COMPLETION OF THE WORK AND ACCEPTANCE BY THE OWNER, TCSC SHALL PROVIDE ONE SCHEDULED FOUR-HOUR PERIOD OF FORMAL INSTRUCTION TO THE OWNER'S OPERATING PERSONNEL WHO HAVE RESPONSIBILITY FOR THE MECHANICAL SYSTEM.

H. SEQUENCE OF OPERATIONS:
1. HVAC UNITS:
   1. NORMAL OPERATION:
      1. UNITS SHALL BE CONTROLLED BY SPACE THERMOSTAT. FAN SHALL OPERATE CONTINUOUSLY DURING OCCUPIED MODE AND INTERMITTENTLY DURING UNOCCUPIED MODE.
      2. HEATING AND COOLING SHALL BE ENABLED BY THERMOSTAT.
      3. COOLING SETPOINT SHALL BE 73°F (ADJUSTABLE).
      4. HEATING SETPOINT SHALL BE 68°F (ADJUSTABLE).
      5. OUTSIDE AIR DAMPER SHALL OPEN DURING OCCUPIED MODE AND CLOSE DURING UNOCCUPIED MODE. OUTSIDE AIR DAMPER SHALL BE NORMALLY CLOSED AND RETURN TO NORMAL POSITION UPON LOSS OF POWER.
2. EXHAUST FANS:
   1. INTERLOCK EXHAUST FANS AS NOTED ON SCHEDULE.

SECTION 15936 - REGISTERS, GRILLES AND DIFFUSERS

A. PRODUCT PERFORMANCE DATA SHALL BE TAKEN FROM TESTS CONDUCTED IN ACCORDANCE WITH ANSI/ASHRAE 70, AND ARI-890.

B. THE NOMINAL OR DUCT CONNECTION SIZE OF GRILLES (NOT OVERALL DIMENSIONS) IS GIVEN ON PLANS. GRILLES AND REGISTERS INCLUDING VOLUME CONTROLLERS SHALL BE CONSTRUCTED OF THE SAME MATERIALS SPECIFIED FOR THE GRILLE. THE GRILLE FINISH SHALL BE WHITE UNLESS NOTED OTHERWISE.

C. REFER TO ARCHITECTURAL DRAWINGS FOR THE VARIOUS CEILING TYPES. REFER TO DRAWINGS OF REFLECTED CEILING PLANS FOR LOCATION OF CEILING DIFFUSERS AND GRILLES. MOUNTING FRAMES SHALL BE PROVIDED FOR ALL GRILLES AND REGISTERS MOUNTED IN DRYWALL, PLASTER, CONCRETE OR MASONRY OPENINGS.

D. SUPPLIER SHALL CHECK ALL AIR DISTRIBUTION AND RETURN AIR DEVICES FOR PROPER PERFORMANCE, NOISE AND ACCESSORIES. ANY DEVICE EXCEEDING NOISE LEVEL HEREIN SPECIFIED SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEERS.

E. CONTRACTOR SHALL COORDINATE OPENINGS IN HARD CEILINGS, FURRED WALLS, MASONRY WALLS, AND FLOORS. MOUNT EACH DEVICE SECURELY TO AVOID RATTLING AND VIBRATION. DEVICES SHALL BE PARALLEL TO THE PLANE OF THE SURFACES THEY ARE MOUNTED.

F. CEILING DIFFUSER TYPE A - TITUS MODEL TDC STEEL LOUVERED FACE DIFFUSER WITH 12 X 12 INCH MODULE AND 9 X 9 INCH UNIFORM BACKPAN. DIFFUSER SHALL INCLUDE ROUND NECK, REMOVABLE CORE OF FIXED DEFLECTION LOUVERS AND EQUALIZING GRID. DIFFUSER SHALL BE SUITABLE FOR SURFACE MOUNTING WITH AIR PATTERN AS SHOWN ON DRAWINGS.

G. RETURN/EXHAUST/GRILLES TYPE A - TITUS MODEL 350 RL STEEL GRILLE. GRILL SHALL INCLUDE ONE SET OF FIXED BLADES SET AT 35º DEFLECTION ON 3/4 INCH SPACING).

H. RETURN/EXHAUST/GRILLES TYPE B - TITUS MODEL 50F ALUMINUM EGG CRATE GRILL. GRILLE SHALL INCLUDE 2 X 2 X 2 INCH ALUMINUM GRID.

I. RETURN/EXHAUST/GRILLES TYPE C - TITUS MODEL 33R STEEL HEAVY DUTY BAR GRILLE. GRILLE SHALL INCLUDE ONE SET OF FIXED BLADES SET AT 38º DEFLECTION ON 2 INCH SPACING. BARS SHALL BE 14 GAUGE STEEL. BARS SHALL BE REINFORCED BY PERPENDICULAR STEEL BARS SPACED ON 6 INCH MAXIMUM CENTERS.

SECTION 15990 - TESTING, ADJUSTING AND BALANCING

A. THE TEST AND BALANCE CONTRACTOR SHALL BE AN INDEPENDENT CONTRACTOR THAT REGULARLY PERFORMS AIR AND WATER SYSTEMS TESTING AND BALANCING. MINIMUM QUALIFICATIONS FOR ACCEPTANCE SHALL BE GENERAL MEMBERSHIP IN NEBB, OR AABC, EXCEPT THAT AFFILIATION WITH MANUFACTURERS, INSTALLING, CONTRACTORS, OR ENGINEERING FIRMS MAY NOT PRECLUDE ACCEPTANCE.

B. PERFORM TESTING AND BALANCING PROCEDURES ON EACH SYSTEM ACCORDING TO THE PROCEDURES CONTAINED IN ASHRAE APPLICATIONS HANDBOOK, AABC OR NEBB NATIONAL STANDARDS.

C. CUT INSULATION, DUCTS, PIPES, AND EQUIPMENT CABINETS FOR INSTALLATION OF TEST PROBES TO THE MINIMUM EXTENT NECESSARY TO ALLOW ADEQUATE PERFORMANCE OF PROCEDURES. AFTER TESTING AND BALANCING, CLOSE PROBE HOLES AND PATCH INSULATION WITH NEW MATERIALS IDENTICAL TO THOSE REMOVED. RESTORE VAPOR BARRIER AND FINISH ACCORDING TO THE INSULATION SPECIFICATIONS FOR THIS PROJECT.

D. MARK EQUIPMENT SETTINGS WITH PAINT OR OTHER SUITABLE, PERMANENT IDENTIFICATION MATERIAL, INCLUDING DAMPER-CONTROL POSITIONS, VALVE INDICATORS, FAN-SPEED-CONTROL LEVERS, AND SIMILAR CONTROLS AND DEVICES, TO SHOW FINAL SETTINGS

E. SET HVAC SYSTEM AIRFLOW AND WATER FLOW RATES WITHIN THE FOLLOWING TOLERANCES:
1. SUPPLY, RETURN, AND EXHAUST FANS: PLUS 5 TO PLUS 10 PERCENT.
2. AIR OUTLETS AND INLETS: 0 TO MINUS 10 PERCENT.
3. HEATING-WATER FLOW RATE: 0 TO MINUS 10 PERCENT.
4. COOLING-WATER FLOW RATE: 0 TO MINUS 5 PERCENT.

F. WITHIN 90 DAYS OF COMPLETING TESTING, ADJUSTING, AND BALANCING, PERFORM ADDITIONAL TESTING AND BALANCING TO VERIFY THAT BALANCED CONDITIONS ARE BEING MAINTAINED THROUGHOUT AND TO CORRECT UNUSUAL CONDITIONS. IF INITIAL TESTING, ADJUSTING, AND BALANCING PROCEDURES WERE NOT PERFORMED DURING NEAR-PEAK SUMMER AND WINTER CONDITIONS, PERFORM ADDITIONAL INSPECTIONS, TESTING, AND ADJUSTING DURING NEAR-PEAK SUMMER AND WINTER CONDITIONS.

G. THE MECHANICAL CONTRACTOR=S RESPONSIBILITIES: FURNISH THE TEST AND BALANCE CONTRACTOR ONE COMPLETE SET OF ACCEPTED EQUIPMENT DATA AND ONE COMPLETE SET OF ACCEPTED MECHANICAL SHOP DRAWINGS. THE MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR ADVISING THE TEST AND BALANCE CONTRACTOR OF ANY CHANGE(S) MADE TO THE SYSTEM(S) DURING THE CONSTRUCTION PROCESS. MECHANICAL CONTRACTOR SHALL PROVIDE DRAWINGS, SPECIFICATIONS, SHOP DRAWINGS, CONTROL DIAGRAMS, ETC, DETAILING THE CHANGE(S) TO THE TEST AND BALANCE CONTRACTOR. REPLACE AND/OR INSTALL PULLEYS, BELTS, DAMPERS AND TRIM PUMP IMPELLERS AS REQUIRED FOR THE CORRECT BALANCE AS DIRECTED BY THE TEST AND BALANCE CONTRACTOR. ALLOCATE TIME IN THE CONSTRUCTION SCHEDULE FOR TEST AND BALANCE PROCEDURE, ASSIST THE TEST AND BALANCE CONTRACTOR IN COORDINATING WORK WITH THE OTHER TRADES, AND PREPARE THE SYSTEM FOR TESTING AND BALANCING.


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Job No.25346


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JEFFREY A. BOYER
4/22/26

# Express Oil Change & Tire Engineers
## Single Building / Left Hand Oil Change / Front Enter / Side Tire Storage
Wagoner, OK

FINAL

| No. | Description | Date |
|---|---|---|
| | | |
| IFP-0 | Issue for Permit | 01/28/2026 |
| IFB-0 | Issue for Bid | 03/31/2026 |
| IFC-0 | Issue for Construction | 04/22/2026 |


2026
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Mechanical Specifications

| | |
|---|---|
| Project number | 25041 |
| Date | 4/22/2026 |
| Drawn by | CA |
| Checked by | JB |

M0.03

Scale 12" = 1'-0"

4/22/2026 10:04:04 AM

COM*check* Software Version COMcheckWeb

## Mechanical Compliance Certificate

**Project Information**

Energy Code: 2018 IECC
Project Title: EOC - Wagoner, OK
Location: Wagoner, Oklahoma
Climate Zone: 3a
Project Type: New Construction

Construction Site:
Wagoner, Oklahoma

Owner/Agent:
Express Oil Change & Tire
Engineering
1885 Southpark Drive
Birmingham, Alabama 35244
(205) 733-6912
jdavis@expressoil.com

Designer/Contractor:
Jeff Boyer
Pinnacle Engineering
2031 Shady Crest Drive
Hoover, Alabama 35216

**Additional Efficiency Package(s)**

Credits: 1.0 Required 0.0 Proposed

**Mechanical Systems List**

**Quantity System Type & Description**

1 DFP-1 (Single Zone):
Heating: 1 each - Central Furnace, Gas, Capacity = 39 kBtu/h
Minimum Efficiency = 80% E<sub>t</sub>, Required Efficiency: 80.00 % E<sub>t</sub> or 80% AFUE
Cooling: 1 each - Split System, Capacity = 30 kBtu/h, Air-Cooled Condenser, Unknown Economizer
Proposed Efficiency = 14.30 SEER, Required Efficiency = 13.00 SEER
Minimum Expected System Utility Factor (EUF) = 0.00, Required EUF = 0.00
Fan System: FAN SYSTEM 1 (Office – Compliance (Motor nameplate HP and fan efficiency method) : Passes

Fans:
FAN 1 Supply, Constant Volume, 1000 CFM, 0.3 motor nameplate hp, 0.5 fan efficiency grade, 0.0 total fan efficiency, 0.0 design fan efficiency , fan exception: Single fan <= 5HP

1 UH-1,2 (Unknown w/ PerimeterSystem):
Heating: 2 each - Unit Heater, Gas, Capacity = 150 kBtu/h
Proposed Efficiency = 83.00% Et, Required Efficiency: 80.00 % Et

1 UH-3,4 (Unknown w/ PerimeterSystem):
Heating: 2 each - Unit Heater, Gas, Capacity = 200 kBtu/h
Proposed Efficiency = 83.00% Et, Required Efficiency: 80.00 % Et

1 Water-Heater:
Electric Storage Water Heater, Capacity: 30 gallons w/ Circulation Pump
No minimum efficiency requirement applies

**Mechanical Compliance Statement**

Compliance Statement: The proposed mechanical design represented in this document is consistent with the building plans, specifications, and other calculations submitted with this permit application. The proposed mechanical systems have been designed to meet the 2018 IECC requirements in COMcheckWeb Version COMcheckWeb and to comply with any applicable mandatory requirements listed in the Inspection Checklist.

Jeff Boyer, PE — 1/28/26
Name - Title — Signature — Date



COM*check* Software Version COMcheckWeb

## Inspection Checklist

Energy Code: 2018 IECC

Requirements: 58.0% were addressed directly in the COMcheck software
Text in the "Comments/Assumptions" column is provided by the user in the COMcheck Requirements screen. For each requirement, the user certifies that a code requirement will be met and how that is documented, or that an exception is being claimed. Where compliance is itemized in a separate table, a reference to that table is provided.

| Section # & Req.ID | Plan Review | Complies? | Comments/Assumptions |
|---|---|---|---|
| C402.4.1 (PR117) | The skylight area <= 3 percent of the gross roof area. | ☐Complies ☐Does Not ☐Not Observable ☐Not Applicable | |
| C402.4.2 (PR144) | In enclosed spaces > 2,500 ft2 directly under a roof with ceiling heights >15 ft, and used as an office, lobby, atrium, concourse, corridor, storage space, gymnasium/exercise, convention center, automotive service, manufacturing, non-refrigerated warehouse, retail store, distributionsorting area, transportation, or workshop, the combined skylight area for the daylight zone under skylights is >= half the floor area; (b) the skylight system has a minimum visible transmittance with a skylight VT >= 0.40, or a minimum skylight effective aperture >= 0.30. | ☐Complies ☐Does Not ☐Not Observable ☐Not Applicable | |
| C406 (PR97) | Plans, specifications, and/or calculations provide all information with which compliance can be determined for the mechanical equipment efficiency credits. | ☐Complies ☐Does Not ☐Not Observable ☐Not Applicable | Requirement will be met. |

**Additional Comments/Assumptions:**

| Section # & Req.ID | Plan Review | Complies? | Comments/Assumptions |
|---|---|---|---|
| C103.2 (PR117) | Plans and/or specifications provide all information with which compliance can be determined, including the building envelope and document where exceptions to the standard are claimed. | ☐Complies ☐Does Not ☐Not Observable ☐Not Applicable | |
| C103.3 (PR27) | Plans, specifications, and/or calculations provide all information with which compliance can be determined for the mechanical equipment and systems to be installed, including the location and document where exceptions to the standard are claimed. Load calculations shall be prepared using engineering standards and handbooks. | ☐Complies ☐Does Not ☐Not Observable ☐Not Applicable | Requirement will be met. |
| C103.2 (PR37) | Plans, specifications, and/or calculations provide all information with which compliance can be determined for the lighting and other heating systems and equipment and document where exceptions to the standard are claimed. Equipment sized per manufacturer's sizing guide. | ☐Complies ☐Does Not ☐Not Observable ☐Not Applicable | Requirement will be met. |
| C103.2 (PR47) | Plans, specifications, and/or calculations provide all information with which compliance can be determined for the interior lighting and electrical systems and equipment that are to be installed, including the location and document where exceptions to the standard are claimed. Information provided should include interior lighting power calculations, wattage of bulbs and ballasts, transformers and control devices. | ☐Complies ☐Does Not ☐Not Observable ☐Not Applicable | |
| C103.2 (PR87) | Plans, specifications, and/or calculations provide all information with which compliance can be determined for the interior lighting and electrical systems and equipment and document where exceptions to the standard are claimed. Information provided should include interior lighting power calculations, wattage of bulbs and ballasts, transformers and control devices. | ☐Complies ☐Does Not ☐Not Observable ☐Not Applicable | |
| C402.4.1 (PR137) | The vertical fenestration area <= 30 percent of the gross above-grade wall area. | ☐Complies ☐Does Not ☐Not Observable ☐Not Applicable | |

1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)



| Section # & Req.ID | Plan Review | Complies? | Comments/Assumptions |
|---|---|---|---|
| C402.4.1 (PR117) | The skylight area <= 3 percent of the gross roof area. | ☐Complies ☐Does Not ☐Not Observable ☐Not Applicable | |
| C402.4.2 (PR144) | In enclosed spaces > 2,500 ft2 directly under a roof with ceiling heights >15 ft, and used as an office, lobby, atrium, concourse, corridor, storage space, gymnasium/exercise, convention center, automotive service, manufacturing, non-refrigerated warehouse, retail store, distributionsorting area, transportation, or workshop, the combined skylight area for the daylight zone under skylights is >= half the floor area; (b) the skylight system has a minimum visible transmittance with a skylight VT >= 0.40, or a minimum skylight effective aperture >= 0.30. | ☐Complies ☐Does Not ☐Not Observable ☐Not Applicable | |
| C406 (PR97) | Plans, specifications, and/or calculations provide all information with which compliance can be determined for the additional energy efficiency package options. | ☐Complies ☐Does Not ☐Not Observable ☐Not Applicable | Requirement will be met. |

**Additional Comments/Assumptions:**

1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)



| Section # & Req.ID | Footing / Foundation Inspection | Complies? | Comments/Assumptions |
|---|---|---|---|
| C303.2 (FO67) | Slab edge insulation installed per manufacturer's instructions. | ☐Complies ☐Does Not ☐Not Observable ☐Not Applicable | |
| C303.2.1 (FO67) | Exterior insulation protected against damage, sunlight, moisture, wind, landscaping and equipment maintenance activities. | ☐Complies ☐Does Not ☐Not Observable ☐Not Applicable | |
| C105 (FO37) | Installed slab-on-grade insulation type and R-value consistent with insulation specifications reported in plans and COMcheck reports. | ☐Complies ☐Does Not ☐Not Observable ☐Not Applicable | See the Envelope Assemblies table for values. |
| C402.2.6 (FO77) | Slab edge insulation depth/length. Slab insulation extending away from building is covered by pavement or >= 10 inches of soil. | ☐Complies ☐Does Not ☐Not Observable ☐Not Applicable | See the Envelope Assemblies table for values. |
| C403.12.2 (FO97) | Snow/ice melting system and freeze protection system equipped with controls configured to limit service hr, pavement temperature and outdoor temperature. Future connection to comply. | ☐Complies ☐Does Not ☐Not Observable ☐Not Applicable | **Exception:** Requirement does not apply. |
| C403.12.3 (FO97) | Snow/ice melting system and freeze protection system controls configured to limit service hr, pavement temperature and outdoor temperature. | ☐Complies ☐Does Not ☐Not Observable ☐Not Applicable | |

**Additional Comments/Assumptions:**

1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)



| Section # & Req.ID | Framing / Rough-In Inspection | Complies? | Comments/Assumptions |
|---|---|---|---|
| C303.3 (FR137) | Fenestration products rated in accordance with NFRC. | ☐Complies ☐Does Not ☐Not Observable ☐Not Applicable | |
| C303.3 (FR137) | Fenestration products are certified as to performance labels or certificates provided. | ☐Complies ☐Does Not ☐Not Observable ☐Not Applicable | |
| C402.4.4 (FR100) | Vertical fenestration SHGC value. | ☐Complies ☐Does Not ☐Not Observable ☐Not Applicable | See the Envelope Assemblies table for values. |
| C402.4.5 C402.4.5 4 (FR87) | Installed vertical fenestration U-factor and SHGC consistent with label specifications and as reported in plans and COMcheck reports. | ☐Complies ☐Does Not ☐Not Observable ☐Not Applicable | See the Envelope Assemblies table for values. |
| C402.5.1 (FR26) | The building envelope contains a continuous air barrier that is sealed in an approved manner and either penetrations are sealed in an approved manner. Air barrier penetrations are sealed in an approved manner. | ☐Complies ☐Does Not ☐Not Observable ☐Not Applicable | |
| C402.5.2 C402.5.6 (FR187) | Factory-built fenestration and doors are labeled as meeting air leakage requirements. | ☐Complies ☐Does Not ☐Not Observable ☐Not Applicable | |
| C402.5.7 (FR177) | Vestibules are installed on all building entrances. Doors have self-closing devices. | ☐Complies ☐Does Not ☐Not Observable ☐Not Applicable | |

**Additional Comments/Assumptions:**

1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)



| Section # & Req.ID | Plumbing Rough-In Inspection | Complies? | Comments/Assumptions |
|---|---|---|---|
| C404.5 (PL67) | Heated water supply piping conforms to the mandatory requirements. Refer to section details. | ☐Complies ☐Does Not ☐Not Observable ☐Not Applicable | Requirement will be met. |
| C404.5.2 (PL67) | Automatic time switches installed to control hot water pump for recirculating hot water system or heat trace. | ☐Complies ☐Does Not ☐Not Observable ☐Not Applicable | Requirement will be met. |
| C404.6.3 (PL77) | Pumps that circulate water between a heater and storage tank have controls that prevent operation when water in the tank is hotter than the setpoint. | ☐Complies ☐Does Not ☐Not Observable ☐Not Applicable | Requirement will be met. |
| C404.7 (PL87) | Demand recirculation water systems have controls that start the pump upon receiving a signal from the action of a user of a fixture or appliance and limits the temperature of water entering the cold water piping to 104°F. | ☐Complies ☐Does Not ☐Not Observable ☐Not Applicable | Requirement will be met. |

**Additional Comments/Assumptions:**

1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)



| Section # & Req.ID | Mechanical Rough-In Inspection | Complies? | Comments/Assumptions |
|---|---|---|---|
| C402.2.6 (MR42) | Thermally ineffective panel surfaces of direct-fired space heaters have insulation >= R-2. | ☐Complies ☐Does Not ☐Not Observable ☐Not Applicable | Requirement will be met. |
| C402.5.5 C403.2.4.3 (MR3) | Stair and elevator shaft vents have motorized dampers that automatically close. Reference section C403.7.7 for operational details. | ☐Complies ☐Does Not ☐Not Observable ☐Not Applicable | |
| C403.11.3 (MR617) | HVAC piping mechanically insulated in accordance with Table C403.11.3. Insulation exposed to weather is protected from damage and is protected with shielding from solar radiation. | ☐Complies ☐Does Not ☐Not Observable ☐Not Applicable | Requirement will be met. |
| C403.8.1 (MR57) | HVAC fan systems at design conditions shall not exceed the fan system motor nameplate hp or fan system bhp. | ☐Complies ☐Does Not ☐Not Observable ☐Not Applicable | Requirement will be met. See the Mechanical Systems list for values. |
| C403.8.1 (ME117) | Fans have efficiency grade (FEG) >= 67. The total efficiency of the fan at the design point of operation is within 15 % of maximum total efficiency of the fan. | ☐Complies ☐Does Not ☐Not Observable ☐Not Applicable | Requirement will be met. |
| C403.8.4 (ME142) | Motors for fans that are not less than 1/12 hp and less than 5 hp are electronically commutated motors or have a minimum motor efficiency of 70 percent. These motors have the capability to operate at part | ☐Complies ☐Does Not ☐Not Observable ☐Not Applicable | Requirement will be met. |
| C403.8.5 (ME143) | Each DX cooling system > 65 kBtu and chiller watercooledpositive cooling tower fans shall have VSD fan that is designed to vary the indoor fan airflow as a function of load and comply with detailed requirements of this section. | ☐Complies ☐Does Not ☐Not Observable ☐Not Applicable | Requirement will be met. |
| C403.12.1 (ME73) | Systems that heat outside the building are equipped with snow/ice controls controlled by an occupancy sensing device or timer switch. | ☐Complies ☐Does Not ☐Not Observable ☐Not Applicable | Requirement will be met. |
| C403.2.2 (ME59) | Natural or mechanical ventilation is provided in accordance with Chapter 4 of the IMC. Where Chapter 4: Mechanical ventilation has capability to reduce outdoor air supply | ☐Complies ☐Does Not ☐Not Observable ☐Not Applicable | Requirement will be met. |
| C403.7.1 (ME39) | Demand control ventilation provided for spaces >500 ft2 and >25 people/1000 ft2 occupant density and served by systems with air side economizers, automatic modulating outside air damper control, or design airflow >3,000 cfm | ☐Complies ☐Does Not ☐Not Observable ☐Not Applicable | Requirement will be met. |
| C403.7.2 (ME115) | Enclosed parking garage ventilation has automatic contaminant detection and capacity to stage or modulate fans to 50% or less of design capacity | ☐Complies ☐Does Not ☐Not Observable ☐Not Applicable | **Exception:** Requirement does not apply. |

**Additional Comments/Assumptions:**

1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)



| Section # & Req.ID | Mechanical Rough-In Inspection | Complies? | Comments/Assumptions |
|---|---|---|---|
| C403.4.1 (ME137) | HVAC systems serving guestrooms in Group R-1 and R-2 occupancies. Each guestroom is provided with controls that automatically limit temperature setpoint and ventilation (see sections C403.7.8.1 and C403.7.6.2). | ☐Complies ☐Does Not ☐Not Observable ☐Not Applicable | Requirement will be met. |
| C403.7.4 (ME17) | Exhaust air energy recovery on systems meeting Table C403.7.4(1) and C403.7.4(2). | ☐Complies ☐Does Not ☐Not Observable ☐Not Applicable | Requirement will be met. |
| C403.7.5 (ME138) | Kitchen exhaust systems comply with replacement air and conditioned supply air limitations, and satisfy hood capture efficiency and maximum exhaust rate criteria. | ☐Complies ☐Does Not ☐Not Observable ☐Not Applicable | **Exception:** Requirement does not apply. |
| C403.11.1 (ME60) | HVAC ducts and plenums insulated in accordance to C403.11.1 and sealed in accordance with C403.11.2. C403.11.2, verification may need to occur during installation inspection. | ☐Complies ☐Does Not ☐Not Observable ☐Not Applicable | Requirement will be met. See the Mechanical Systems list for values. |
| C403.4.1.1 (ME63) | Heating for vestibules and air curtains with integral heating include automatic controls that shut off the heating when outdoor air temperatures > 45F. Vestibule heating and cooling systems controlled by a thermostat in the vestibule with heating setpoint =< 60F and cooling setpoint >= 80F. | ☐Complies ☐Does Not ☐Not Observable ☐Not Applicable | **Exception:** Requirement does not apply. |
| C403.3.3 (ME35) | Air outlets and zone terminal devices kBtuh - 50% >240 kBtuh - 25% | ☐Complies ☐Does Not ☐Not Observable ☐Not Applicable | Requirement will be met. |
| C408.2.2.1 (ME133) | Air outlets and zone terminal devices have means for air balancing. | ☐Complies ☐Does Not ☐Not Observable ☐Not Applicable | Requirement will be met. |
| C403.5.1 C403.5.1.1 C403.5.2 (ME123) | Refrigerated display cases, walk-in coolers and walk-in freezers served by remote compressors and remote condensers not located in a conditioned space. Fan-powered condensers that comply with Sections C403.5.1 and refrigeration compressor systems that comply with C403.5.2. | ☐Complies ☐Does Not ☐Not Observable ☐Not Applicable | Requirement will be met. |

**Additional Comments/Assumptions:**

1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)



| Section # & Req.ID | Rough-In Electrical Inspection | Complies? | Comments/Assumptions |
|---|---|---|---|
| C405.2.2 (EL227) | Spaces required to have light reduction controls provide manual control that allows the occupant to reduce the connected lighting load in accordance with Table lighting in sideways and open areas, controlled with occupant sensors that reduce the lighting power in the area by 50% or more when the areas are unoccupied. The occupant sensors control lighting in each sideway or open area such that no more than lighting beyond the sideway being controlled by the sensor. | ☐Complies ☐Does Not ☐Not Observable ☐Not Applicable | Requirement will be met. |
| C405.2.1 C405.2.1 (EL187) | Occupancy sensors installed in classrooms/lecture/training rooms, conference/meetingroms/purpose rooms, employee lunch and lounges/breakrooms, enclosed office, open plan office areas, restrooms, locker/changing rooms, and warehouse storage areas, and other spaces <= 300 sqft that are enclosed by floor-to-ceiling height partitions. Reference section language C405.2.1.2 for control function in warehouse storage areas and C405.2.1.3 for open plan office spaces. | ☐Complies ☐Does Not ☐Not Observable ☐Not Applicable | Requirement will be met. |
| C405.2.1 (EL197) | Occupancy sensors control function in spaces <= 300 sq.ft. have controls in sensor controls in open office spaces >= 300 sq.ft. have controls 1) automatically reduce lighting power in each control zone by >= 80% of the control zone lighting power within 20 minutes of all occupants leaving that control zone, and 4) are initiated manually or by occupants in a manner consistent with Sections C405.2.2.1 and C405.2.2.2. | ☐Complies ☐Does Not ☐Not Observable ☐Not Applicable | |
| C405.2.1 (EL207) | Occupant sensor control function in spaces <= 300 sq.ft. have controls in sensor controls in open office spaces >= 300 sq.ft. have controls 1) automatically reduce lighting power in each control zone by >= 80% of the control zone lighting power within 20 minutes of all occupants leaving that control zone, and 4) are initiated manually or by occupants in a manner consistent with Sections C405.2.2.1 and C405.2.2.2. | ☐Complies ☐Does Not ☐Not Observable ☐Not Applicable | |
| C405.2.2 C405.2.2 C405.2.1 (EL212) | Each area not served by occupancy sensors (per C405.2.1) have time-switch controls and functions detailed in sections C405.2.2.1 and C405.2.2.2 | ☐Complies ☐Does Not ☐Not Observable ☐Not Applicable | |

**Additional Comments/Assumptions:**

1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)



| Section # & Req.ID | Rough-In Electrical Inspection | Complies? | Comments/Assumptions |
|---|---|---|---|
| C405.2.1 (EL207) | Occupancy sensors installed in classrooms/lecture/training rooms, conference/meetingroms/purpose rooms, employee lunch and lounges/breakrooms, enclosed office, open plan office areas, restrooms, locker/changing rooms, and warehouse storage areas, and other spaces <= 300 sqft that are enclosed by floor-to-ceiling height partitions. Reference section language C405.2.1.2 for control function in warehouse storage areas and C405.2.1.3 for open plan office spaces. | ☐Complies ☐Does Not ☐Not Observable ☐Not Applicable | |
| C405.2.1 (EL197) | Occupancy sensors control function in spaces <= 300 sq.ft. have controls in sensor controls in open office spaces >= 300 sq.ft. have controls 1) automatically reduce lighting power in each control zone by >= 80% of the control zone lighting power within 20 minutes of all occupants leaving that control zone, and 4) are initiated manually or by occupants in a manner consistent with Sections C405.2.2.1 and C405.2.2.2. | ☐Complies ☐Does Not ☐Not Observable ☐Not Applicable | |
| C405.2.2 C405.2.2 C405.2.1 (EL212) | Each area not served by occupancy sensors (per C405.2.1) have time-switch controls and functions detailed in sections C405.2.2.1 and C405.2.2.2 | ☐Complies ☐Does Not ☐Not Observable ☐Not Applicable | |

**Additional Comments/Assumptions:**

1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)



| Section # & Req.ID | Insulation Inspection | Complies? | Comments/Assumptions |
|---|---|---|---|
| C303.1 (IN3) | Roof insulation installed per manufacturer's instructions. Blown or poured loose-fill insulation is installed only where the roof slope is <=3 in 12. | ☐Complies ☐Does Not ☐Not Observable ☐Not Applicable | |
| C402.2.3 (IN297) | Insulation installed on a suspended ceiling having ceiling tiles is not being used to comply with insulation requirements. Continuous insulation board installed in 2 or more layers with edge joints offset between layers. | ☐Complies ☐Does Not ☐Not Observable ☐Not Applicable | |
| C303.1 (IN37) | Building envelope insulation is labeled with an R-value, certified by the manufacturer to provide R-value and other relevant data. | ☐Complies ☐Does Not ☐Not Observable ☐Not Applicable | |
| C303.2 (IN77) | Above-grade wall insulation installed per manufacturer's instructions. | ☐Complies ☐Does Not ☐Not Observable ☐Not Applicable | |
| C105 (IN67) | Installed above-grade wall insulation type and R-value consistent with insulation specifications reported in plans and COMcheck reports. | ☐Complies ☐Does Not ☐Not Observable ☐Not Applicable | See the Envelope Assemblies table for values. |
| C402.2.3 (IN87) | Installed floor insulation type and R-value consistent with insulation specifications reported in plans and COMcheck reports. | ☐Complies ☐Does Not ☐Not Observable ☐Not Applicable | See the Envelope Assemblies table for values. |
| C402.2.6 (IN187) | Radiant panels and associated insulation installed such that heat transfer from the panel surfaces to the occupants or indoor space are | ☐Complies ☐Does Not ☐Not Observable ☐Not Applicable | |
| C402.3 (IN57) | High-rise roofs satisfy one of the following: 3-year-aged solar reflectance index >= 64 3-year-aged emittance >= 0.75 or 3-year-aged solar reflectance index >= 64.0 | ☐Complies ☐Does Not ☐Not Observable ☐Not Applicable | |
| C105 (IN27) | Installed roof insulation type and R-value consistent with insulation specifications reported in plans and COMcheck reports. For some ceiling systems, verification may need to occur during the insulation | ☐Complies ☐Does Not ☐Not Observable ☐Not Applicable | See the Envelope Assemblies table for values. |
| C402.5.1 (IN127) | All sources of air leakage in the building thermal envelope are sealed, caulked, gasketed, weatherstripped or wrapped with a moisture vapor-permeable wrapping material to minimize air leakage. | ☐Complies ☐Does Not ☐Not Observable ☐Not Applicable | |

**Additional Comments/Assumptions:**

1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)



| Section # & Req.ID | Final Inspection | Complies? | Comments/Assumptions |
|---|---|---|---|
| C403.3.3 C403.3.3.1 (FI177) | Furnished O&M instructions for HVAC equipment to the building owner or designated representative. | ☐Complies ☐Does Not ☐Not Observable ☐Not Applicable | |
| C403.3.3 C408.2.5 (FI87) | Furnished O&M manuals for HVAC equipment within 90 days of system acceptance. | ☐Complies ☐Does Not ☐Not Observable ☐Not Applicable | Requirement will be met. |
| C402.5.6 (FI137) | Weatherstrips installed on all loading dock doors that have equipment in direct contact along the top and sides of vehicles parked in the doorway. | ☐Complies ☐Does Not ☐Not Observable ☐Not Applicable | |
| C402.5.8 (FI267) | Recessed luminaires in thermal envelope to limit infiltration and be IC rated, labeled, sealed, have interior finish and laminate housing. | ☐Complies ☐Does Not ☐Not Observable ☐Not Applicable | |
| C403.2.2 (FI177) | HVAC systems and equipment capacity does not exceed calculated loads. | ☐Complies ☐Does Not ☐Not Observable ☐Not Applicable | Requirement will be met. |
| C403.2.4.1 (FI477) | Heating and cooling to each zone is controlled by a thermostat control. Minimum one humidity control device for humidification/dehumidification systems. | ☐Complies ☐Does Not ☐Not Observable ☐Not Applicable | Requirement will be met. |
| C403.4.1.2 (FI587) | Thermostatic controls have a 5 °F deadband. | ☐Complies ☐Does Not ☐Not Observable ☐Not Applicable | Requirement will be met. |
| C403.2.4.1.3 (FI597) | Temperature controls have setpoint overlap restrictions. | ☐Complies ☐Does Not ☐Not Observable ☐Not Applicable | Requirement will be met. |
| C403.2.4 (FI597) | Each zone equipped with setback thermostat or control system or clock or programmable control system. | ☐Complies ☐Does Not ☐Not Observable ☐Not Applicable | Requirement will be met. |
| C403.2.4.2.1, C403.2.4.2.2 (FI407) | Automatic Controls: Setback to 55°F (heat) and 85°F (cool) 7-day clock, 2-hour occupant override, 10-hour backup. | ☐Complies ☐Does Not ☐Not Observable ☐Not Applicable | Requirement will be met. |
| C403.2.4.3 (FI417) | Systems include optimum start controls. | ☐Complies ☐Does Not ☐Not Observable ☐Not Applicable | Requirement will be met. |
| C404.3 (FI117) | Heat traps installed on supply and discharge piping of non-circulating systems. | ☐Complies ☐Does Not ☐Not Observable ☐Not Applicable | Requirement will be met. |

1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)



| Section # & Req.ID | Final Inspection | Complies? | Comments/Assumptions |
|---|---|---|---|
| C404.4 (FI257) | All piping insulated in accordance with section details and Table C403.11.3. | ☐Complies ☐Does Not ☐Not Observable ☐Not Applicable | Requirement will be met. |
| C404.6.1 (FI127) | Controls are installed that limit the operation of a recirculation pump based on the temperature of water in storage tank. System return pipe is a dedicated return pipe or a cold water supply pipe. | ☐Complies ☐Does Not ☐Not Observable ☐Not Applicable | Requirement will be met. |
| C405.4.1 (FI167) | Interior installed lamp and fixture wattage is consistent with values as shown on the approved lighting plans, demonstrating proposed watts are less than or equal to allowed watts. | ☐Complies ☐Does Not ☐Not Observable ☐Not Applicable | See the Interior Lighting fixture schedule for values. |
| C405.5.1 (FI197) | Exterior lighting power is consistent with values as shown on the approved lighting plans, demonstrating proposed watts are less than or equal to allowed watts. | ☐Complies ☐Does Not ☐Not Observable ☐Not Applicable | See the Exterior Lighting fixture schedule for values. |
| C408.1.1 (FI017) | Building operations and maintenance information is provided to the owner. Documents will cover: manufacturers' information; maintenance requirements, procedures and means of illustrating to owner how building, equipment and systems are designed, installed, maintained, and operated | ☐Complies ☐Does Not ☐Not Observable ☐Not Applicable | Requirement will be met. |
| C408.2.1 (FI287) | Commissioning plan developed by registered design professional or approved agency. | ☐Complies ☐Does Not ☐Not Observable ☐Not Applicable | Requirement will be met. |
| C408.2.3 (FI317) | HVAC equipment has been tested to ensure proper operation. | ☐Complies ☐Does Not ☐Not Observable ☐Not Applicable | Requirement will be met. |
| C408.2.3 (FI107) | HVAC control systems have been tested to ensure proper operation, calibration and adjustment of controls | ☐Complies ☐Does Not ☐Not Observable ☐Not Applicable | Requirement will be met. |
| C408.2.4 (FI297) | Preliminary commissioning report completed and certified by registered design professional or approved agency. | ☐Complies ☐Does Not ☐Not Observable ☐Not Applicable | Requirement will be met. |
| C408.2.5 (FI77) | Furnished HVAC as-built drawings submitted within 90 days of system acceptance. | ☐Complies ☐Does Not ☐Not Observable ☐Not Applicable | Requirement will be met. |
| C408.2.5 (FI167) | Furnished as-built drawings for lighting systems within 90 days of system acceptance. | ☐Complies ☐Does Not ☐Not Observable ☐Not Applicable | |

1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)



| Section # & Req.ID | Final Inspection | Complies? | Comments/Assumptions |
|---|---|---|---|
| C408.2.5 C408.2.5.1 (FI437) | An air and/or hydronic system balancing report is provided for HVAC systems. | ☐Complies ☐Does Not ☐Not Observable ☐Not Applicable | Requirement will be met. |
| C408.3.5 4 (FI302) | Final commissioning report due to building owner within 90 days of receipt of certificate of occupancy. | ☐Complies ☐Does Not ☐Not Observable ☐Not Applicable | Requirement will be met. |
| C408.3 (FI337) | Lighting systems have been tested to ensure proper calibration, adjustment, programming, and operation. | ☐Complies ☐Does Not ☐Not Observable ☐Not Applicable | |

**Additional Comments/Assumptions:**

1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)



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ALABAMA — JEFFREY A. BOYER — 29662 — REGISTERED PROFESSIONAL ENGINEER
4/22/26

# Express Oil Change & Tire Engineers
## Single Building / Left Hand Oil Change / Side Tire Storage
Wagoner, OK

FINAL

| No. | Description | Date |
|---|---|---|
| IFP-0 | Issue for Permit | 01/28/2026 |
| IFB-0 | Issue for Bid | 03/31/2026 |
| IFC-0 | Issue for Construction | 04/22/2026 |

2026
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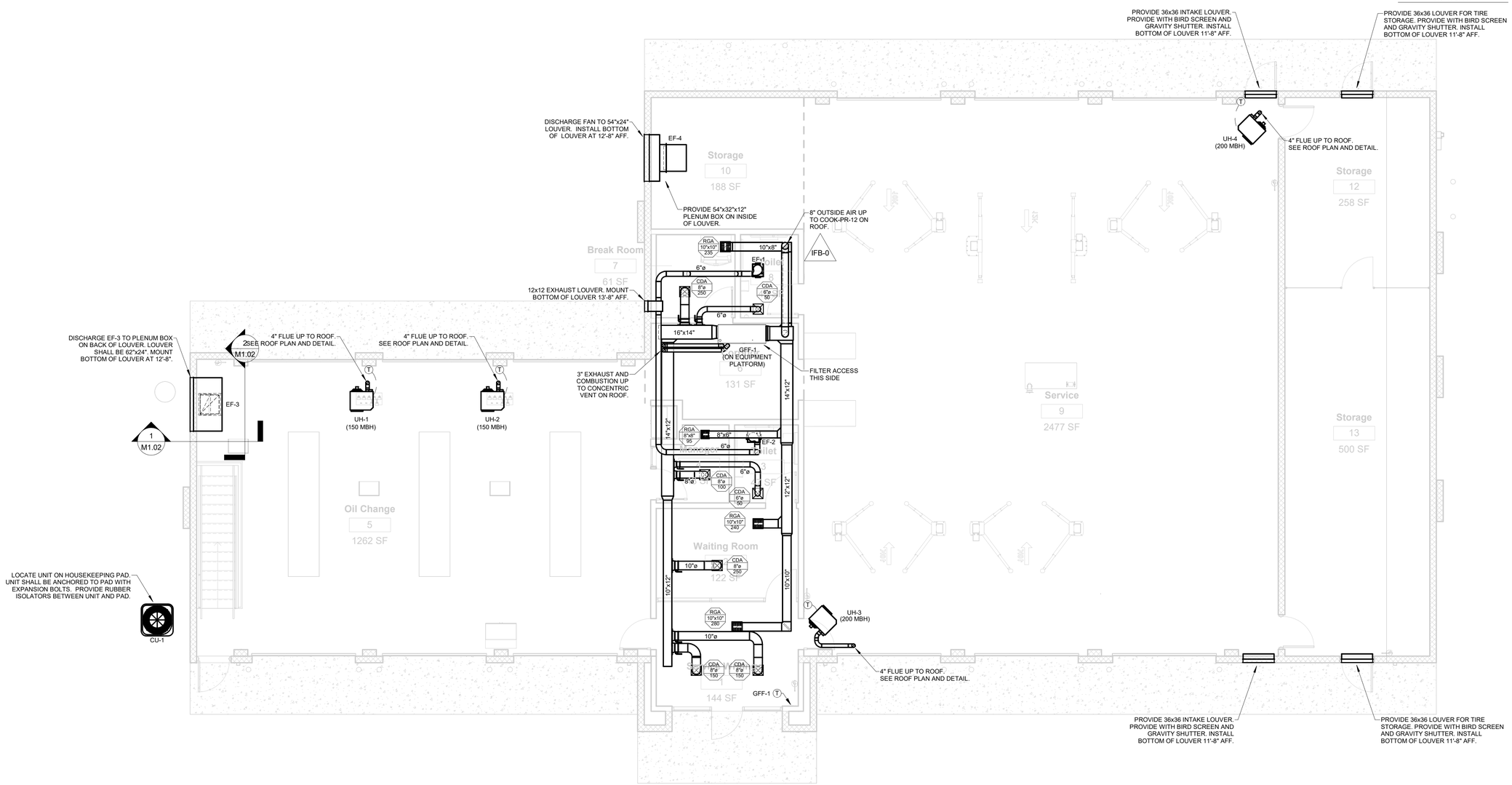
Mechanical Comcheck

| | |
|---|---|
| Project number | 25041 |
| Date | 4/22/2026 |
| Drawn by | CA |
| Checked by | JB |

M0.04

Scale 6" = 1'-0"

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MAIN FLOOR PLAN
MECHANICAL
3/16" = 1'-0"
NORTH

GENERAL NOTES:

1. VERIFY EXISTING CONDITIONS IN FIELD PRIOR TO BEGINNING WORK.
2. SPACE ABOVE CEILING IS LIMITED. CAREFUL COORDINATION WITH LIGHTING, ELECTRICAL, PLUMBING, STRUCTURAL, AND ARCHITECTURAL WORK IS CRITICAL TO DUCTWORK INSTALLATION.
3. PROVIDE NECESSARY OFFSETS IN PIPING, ELECTRICAL CONDUIT, AND DUCTWORK AS REQUIRED TO ACCOMMODATE NEW WORK. DRAWINGS ARE DIAGRAMMATIC AND DO NOT SHOW ALL DETAILS NOR CHANGES IN DUCTWORK ELEVATIONS NECESSARY FOR COMPLETE INSTALLATION.
4. COORDINATE CEILING AIR DEVICE LOCATIONS WITH LIGHTING PLAN AND ARCHITECT'S REFLECTED CEILING PLAN.
5. DUCTWORK SHALL BE RUN TIGHT TO STRUCTURE. AVOID CROSSING OVER LIGHTS AND OTHER DUCTS DUE TO TIGHT CLEARANCES.
6. LOUVERS SHALL BE RUSKIN ELF6375DX OR APPROVED EQUAL. PROVIDE UNIT WITH BIRDSCREEN AND MILL ALUMINUM FINISH. COORDINATE EXACT HEIGHT AND COLOR OF LOUVER WITH ARCHITECT PRIOR TO ORDERING.
7. MOUNT TEMPERATURE CONTROLS 48" ABOVE FINISHED FLOOR. COORDINATE EXACT LOCATION WITH ARCHITECT.
8. SPILL CONDENSATE FROM AHUS INTO NEAREST FLOOR DRAIN.
9. PROVIDE ENGRAVED PLASTIC LABEL AT TERMINATION OF EACH AUXILIARY CONDENSATE DRAIN LINE READING AS FOLLOWS:
   "AHU-### AUXILIARY DRAIN LINE "
   "NOTIFY MAINTENANCE PERSONNEL WHEN WATER IS FLOWING"
10. CONNECT CONDENSATE DRAIN PIPING TO AIR HANDLING UNITS IN ACCORDANCE WITH DETAILS.
11. OUTSIDE AIR VENTILATION INTAKES FOR OIL CHANGE AND SERVICE AREAS WILL BE PROVIDED BY INTAKE LOUVERS AND OPEN ROLL-UP DOORS. DOORS SHALL BE OPEN WHILE VENTILATION SYSTEM IS ENABLED.


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JEFFREY A. BOYER
4/22/26


# Express Oil Change & Tire Engineers

Single Building / Left Hand Oil Change / Front Enter / Side Tire Storage

Wagoner, OK

FINAL

| No. | Description | Date |
|---|---|---|
| | | |
| IFP-0 | Issue for Permit | 01/28/2026 |
| IFB-0 | Issue for Bid | 03/31/2026 |
| IFC-0 | Issue for Construction | 04/22/2026 |


2026
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## Mechanical Floor Plan

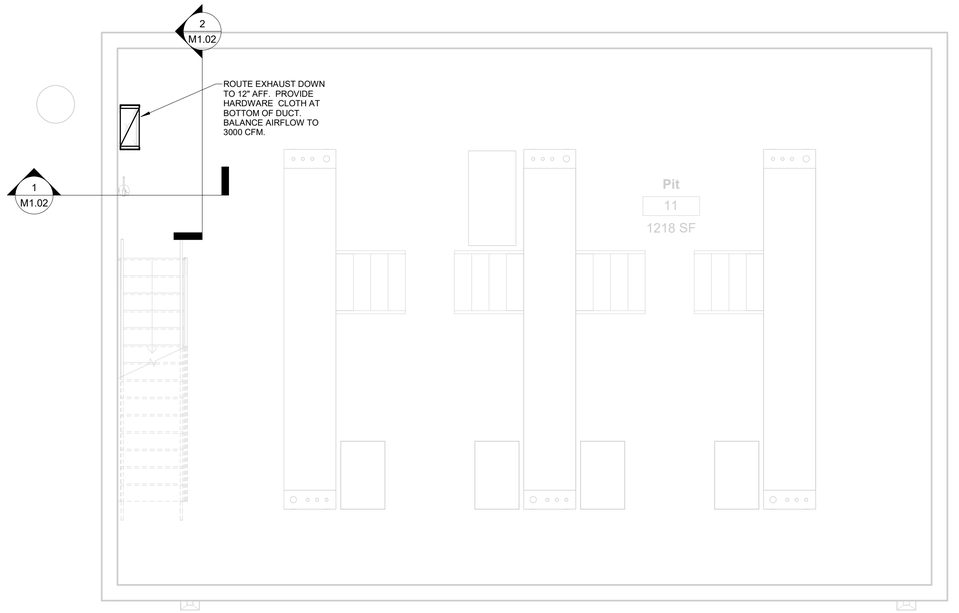
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|---|---|
| Project number | 25041 |
| Date | 4/22/2026 |
| Drawn by | CA |
| Checked by | JB |

# M1.01

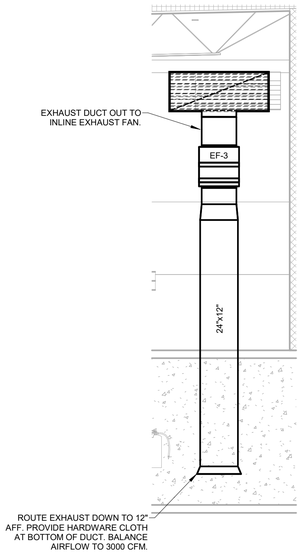
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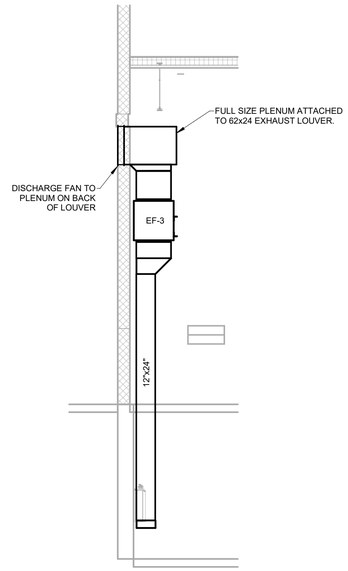
Pinnacle ENGINEERING, INC.
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Job No.25346




NORTH PIT FLOOR PLAN MECHANICAL 1/4" = 1'-0"




2 M1.02 Pit Exhaust Elevation 1/4" = 1'-0"




1 M1.02 Section Through Pit Exhaust2 1/4" = 1'-0"

GENERAL NOTES:

1. VERIFY EXISTING CONDITIONS IN FIELD PRIOR TO BEGINNING WORK.
2. SPACE ABOVE CEILING IS LIMITED. CAREFUL COORDINATION WITH LIGHTING, ELECTRICAL, PLUMBING, STRUCTURAL, AND ARCHITECTURAL WORK IS CRITICAL TO DUCTWORK INSTALLATION.
3. PROVIDE NECESSARY OFFSETS IN PIPING, ELECTRICAL CONDUIT, AND DUCTWORK AS REQUIRED TO ACCOMMODATE NEW WORK. DRAWINGS ARE DIAGRAMMATIC AND DO NOT SHOW ALL DETAILS NOR CHANGES IN DUCTWORK ELEVATIONS NECESSARY FOR COMPLETE INSTALLATION.
4. COORDINATE CEILING AIR DEVICE LOCATIONS WITH LIGHTING PLAN AND ARCHITECT'S REFLECTED CEILING PLAN.
5. DUCTWORK SHALL BE RUN TIGHT TO STRUCTURE. AVOID CROSSING OVER LIGHTS AND OTHER DUCTS DUE TO TIGHT CLEARANCES.
6. LOUVERS SHALL BE RUSKIN ELF6375DX OR APPROVED EQUAL. PROVIDE UNIT WITH BIRDSCREEN AND MILL ALUMINUM FINISH. COORDINATE EXACT HEIGHT AND COLOR OF LOUVER WITH ARCHITECT PRIOR TO ORDERING.
7. MOUNT TEMPERATURE CONTROLS 48" ABOVE FINISHED FLOOR. COORDINATE EXACT LOCATION WITH ARCHITECT.
8. SPILL CONDENSATE FROM AHUS INTO NEAREST FLOOR DRAIN.
9. PROVIDE ENGRAVED PLASTIC LABEL AT TERMINATION OF EACH AUXILIARY CONDENSATE DRAIN LINE READING AS FOLLOWS:
   "AHU-### AUXILIARY DRAIN LINE."
   "NOTIFY MAINTENANCE PERSONNEL WHEN WATER IS FLOWING"
10. CONNECT CONDENSATE DRAIN PIPING TO AHU IN ACCORDANCE WITH DETAILS.

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JEFFREY A. BOYER
OKLAHOMA
4/22/26

# Express Oil Change & Tire Engineers

Single Building / Left Hand Oil Change / Front Enter / Side Tire Storage

Wagoner, OK

FINAL

| No. | Description | Date |
|---|---|---|
| | | |
| IFP-0 | Issue for Permit | 01/28/2026 |
| IFB-0 | Issue for Bid | 03/31/2026 |
| IFC-0 | Issue for Construction | 04/22/2026 |
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## Partial Mechanical Floor Plans - Pit and Platform

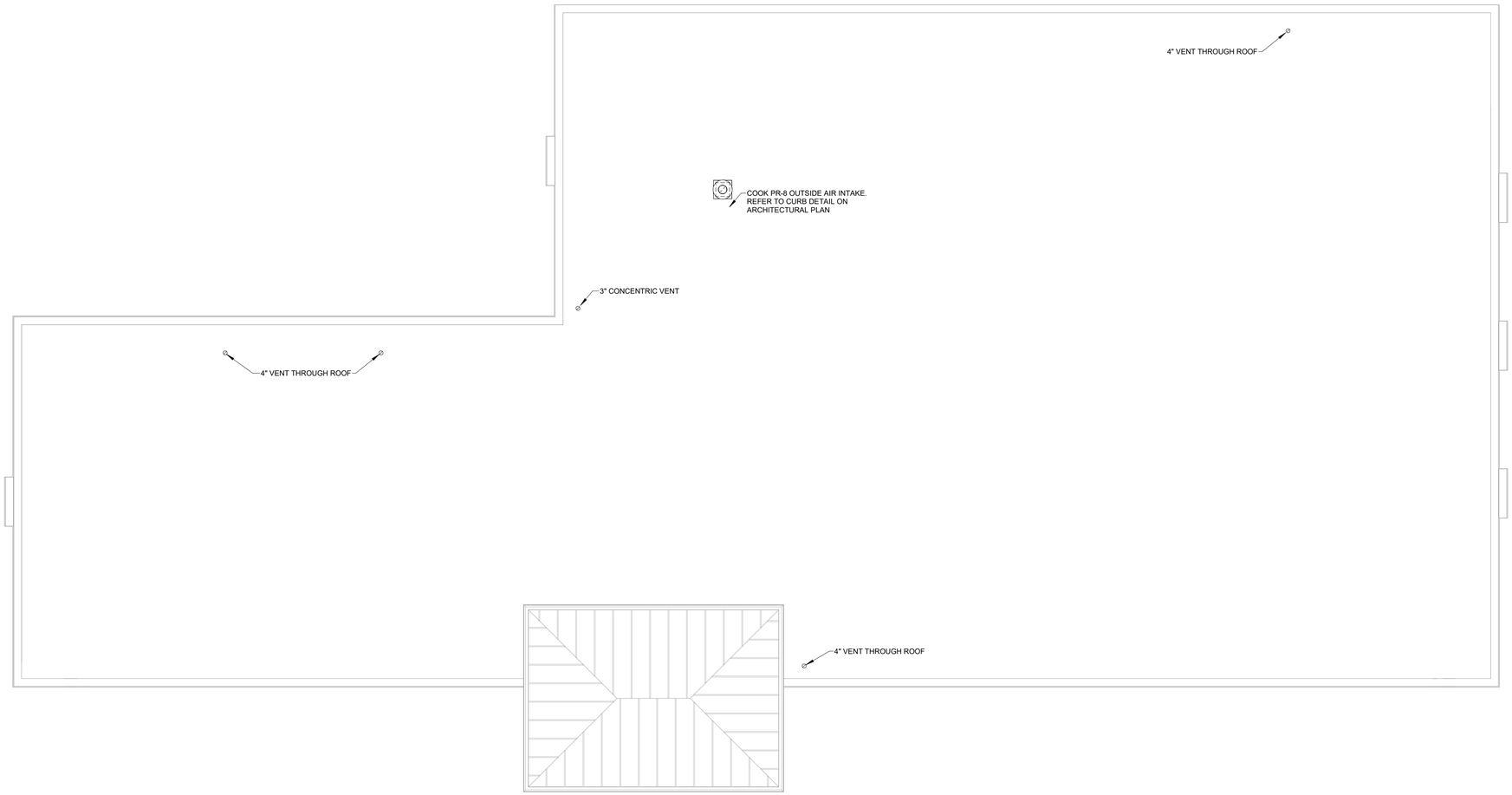
| | |
|---|---|
| Project number | 25041 |
| Date | 4/22/2026 |
| Drawn by | CA |
| Checked by | JB |

# M1.02

Scale As indicated

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Engineering & Design Consultants
2111 Parkway Office Circle, Suite 125
Birmingham, AL 35244
(205) 733-6912 FAX: (205) 733-6913
Job No.25346




NORTH

MECHANICAL ROOF PLAN
3/16" = 1'-0"

GENERAL NOTES:

1. VERIFY EXISTING CONDITIONS IN FIELD PRIOR TO BEGINNING WORK.

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JEFFREY A. BOYER
4/22/26

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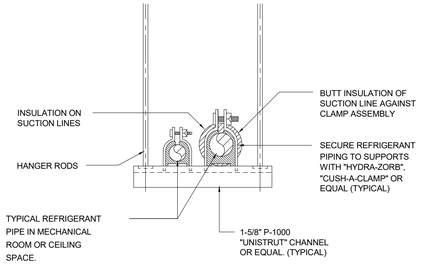
## Mechanical Roof Plan

| | |
|---|---|
| Project number | 25041 |
| Date | 4/22/2026 |
| Drawn by | CRA |
| Checked by | JAB |

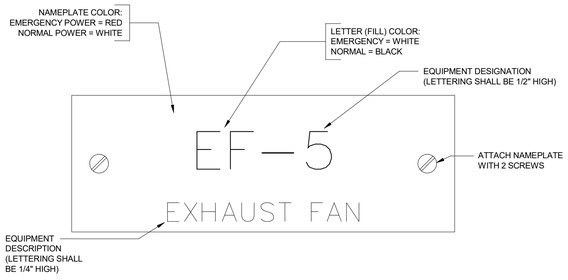
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Scale As indicated

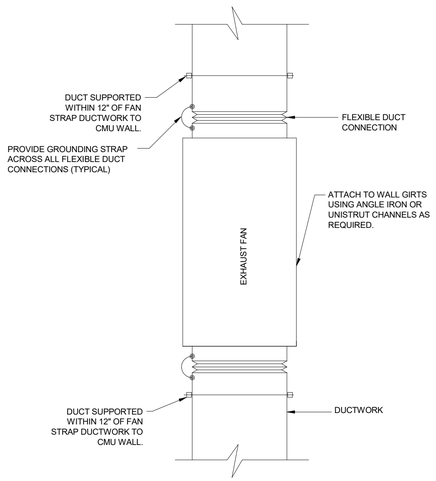
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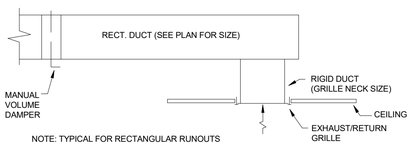

7 M2.01 **REFRIGERANT PIPING SUPPORT DETAIL**
TYPICAL FOR PIPING SUSPENDED FROM STRUCTURE
NO SCALE



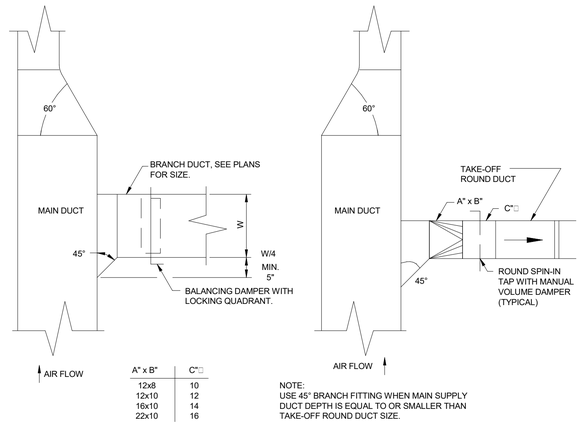

8 M2.01 **MECHANICAL EQUIPMENT NAMEPLATE DETAIL**
NO SCALE




9 M2.01 **INLINE EXHAUST FAN DETAIL**
NO SCALE



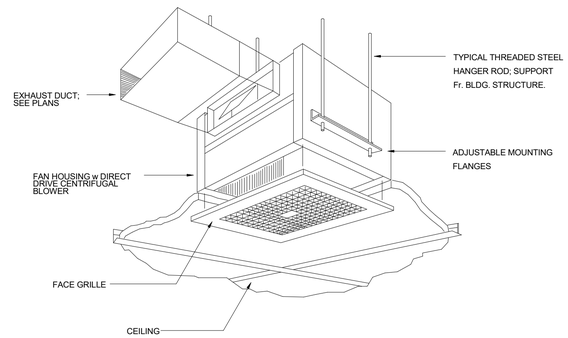

4 M2.01 **TYPICAL RETURN AND EXHAUST RUN-OUT DETAIL**
NO SCALE



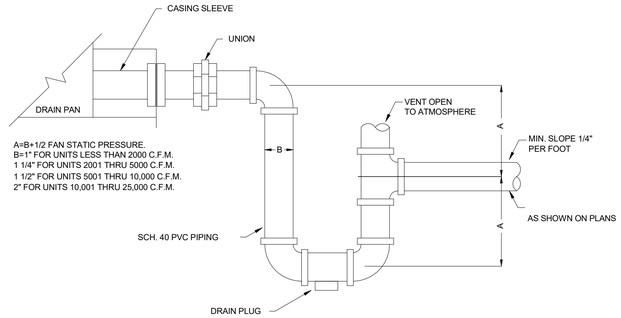

| A" x B" | C"□ |
|---|---|
| 12x8 | 10 |
| 12x10 | 12 |
| 16x10 | 14 |
| 22x10 | 16 |

NOTE:
USE 45° BRANCH FITTING WHEN MAIN SUPPLY DUCT DEPTH IS EQUAL TO OR SMALLER THAN TAKE-OFF ROUND DUCT SIZE.

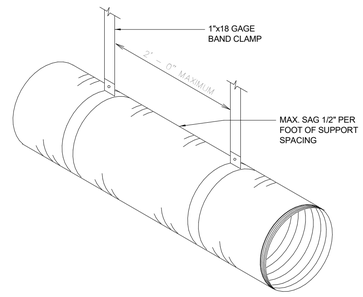
5 M2.01 **TYPICAL DUCT TAKEOFF DETAIL**
NO SCALE



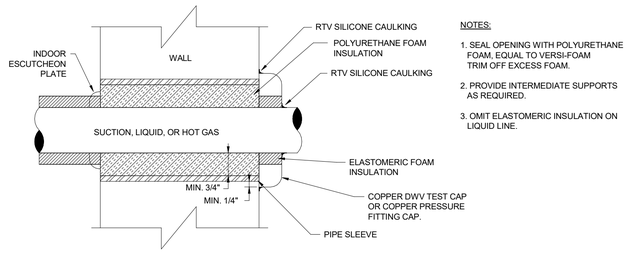

6 M2.01 **EXHAUST FAN INSTALLATION DETAIL(CEILING)**
NO SCALE




1 M2.01 **CONDENSATE DRAIN TRAP DETAIL**
NO SCALE




2 M2.01 **FLEXIBLE DUCT SUPPORT DETAIL**
NO SCALE




NOTES:
1. SEAL OPENING WITH POLYURETHANE FOAM, EQUAL TO VERSI-FOAM TRIM OFF EXCESS FOAM.
2. PROVIDE INTERMEDIATE SUPPORTS AS REQUIRED.
3. OMIT ELASTOMERIC INSULATION ON LIQUID LINE.

3 M2.01 **REFRIGERANT LINE - WALL PENETRATION DETAIL**
NO SCALE

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4/22/26

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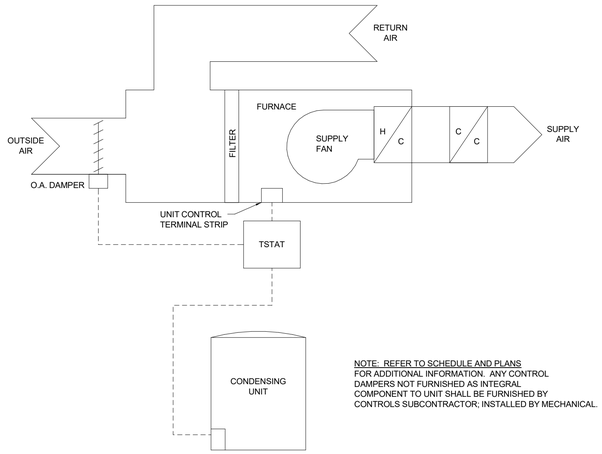
Mechanical Details

| | |
|---|---|
| Project number | 25041 |
| Date | 4/22/2026 |
| Drawn by | CA |
| Checked by | JB |

M2.01

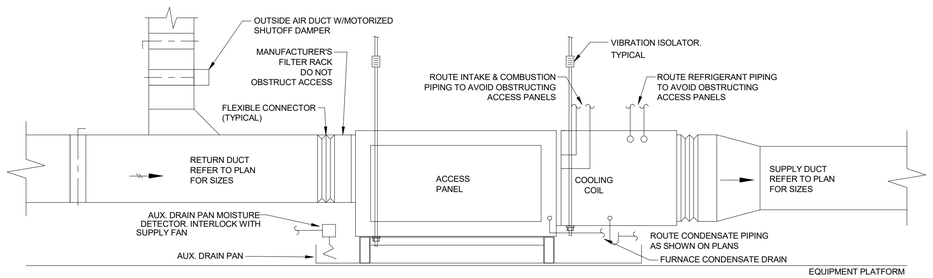
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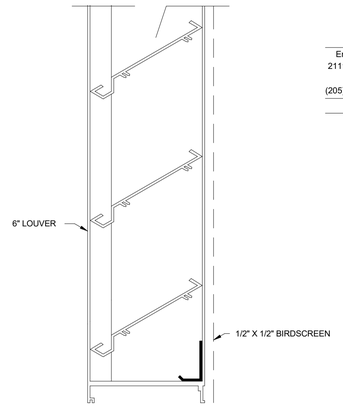



NOTE: REFER TO SCHEDULE AND PLANS
FOR ADDITIONAL INFORMATION. ANY CONTROL DAMPERS NOT FURNISHED AS INTEGRAL COMPONENT TO UNIT SHALL BE FURNISHED BY CONTROLS SUBCONTRACTOR; INSTALLED BY MECHANICAL.

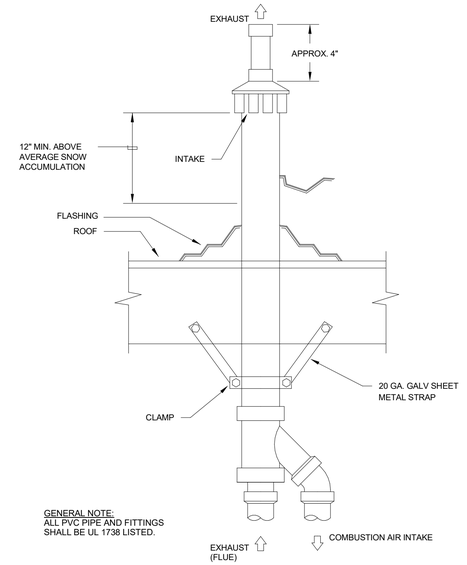
7 / M2.02 **HVAC CONTROL DIAGRAM**
TYPICAL
NO SCALE




4 / M2.02 **FURNACE AND COOLING COIL UNIT DETAIL**
NO SCALE

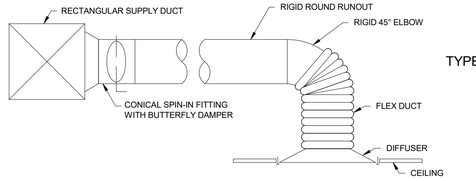



1 / M2.02 **LOUVER DETAIL**
NO SCALE

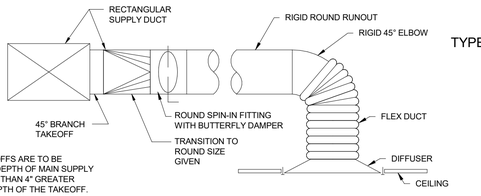



GENERAL NOTE:
ALL PVC PIPE AND FITTINGS SHALL BE UL 1738 LISTED.

8 / M2.02 **CONCENTRIC ROOF TERMINATION DETAIL**
NO SCALE




TYPE 1



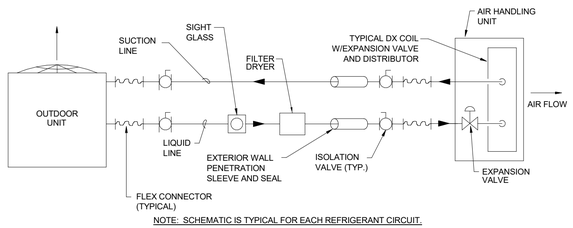

TYPE 2

NOTE:
TYPE 2 TAKEOFFS ARE TO BE USED WHEN DEPTH OF MAIN SUPPLY DUCT IS LESS THAN 4" GREATER THAN THE DEPTH OF THE TAKEOFF.

5 / M2.02 **TYPICAL DIFFUSER RUN-OUT DETAIL**
NO SCALE

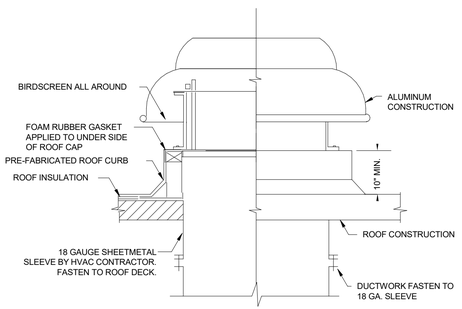



2 / M2.02 **WALL EXHAUST FAN OR SUPPLY DETAIL**
NO SCALE

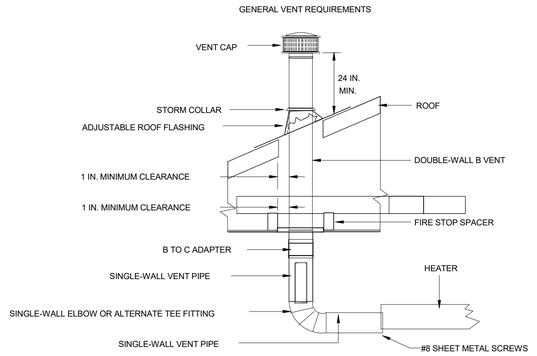



NOTE: SCHEMATIC IS TYPICAL FOR EACH REFRIGERANT CIRCUIT.

9 / M2.02 **REFRIGERANT PIPING DETAIL**
NO SCALE




6 / M2.02 **EXHAUST DOME DETAIL**
NO SCALE




3 / M2.02 **HEATER VENTING DETAIL**
NO SCALE


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Mechanical Details

| | |
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| Project number | 25041 |
| Date | 4/22/2026 |
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| Checked by | JB |

M2.02

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# PLUMBING LEGEND, SYMBOLS AND ABBREVIATIONS

| | |
|---|---|
| ——— – ——— – ——— | DOMESTIC COLD WATER |
| ——— – – ——— | DOMESTIC HOT WATER |
| ——— – – – ——— | DOMESTIC HOT WATER RETURN |
| ——— ——— ——— ——— ——— | SANITARY VENT |
| ——— | SANITARY WASTE |
| 1/2"ø 2PSI | 2 PSI GAS |

| | |
|---|---|
| | BALL VALVE |
| | VALVE IN VERTICAL |
| | CAP ON END OF PIPE |
| CO | CLEANOUT - FLOOR TYPE |
| CO | CLEANOUT - WALL TYPE |
| | P-TRAP |
| | PIPE TURNING DOWN |
| | PIPE TURNING UP |
| | TEE DOWN |
| | TEE UP |
| | TIE NEW INTO EXISTING |
| P-1 | PLUMBING FIXTURE NUMBER |
| XX | RISER NUMBER |
| | WATER HAMMER ARRESTOR |
| | PLUG TYPE CLEANOUT |
| | BALANCING VALVE |
| | CHECK VALVE |
| | GATE VALVE |
| | REDUCED PRESSURE ZONE BFP |
| | THERMOSTATIC MIXING VALVE |
| | FLOOR SINK |
| | FLOOR DRAIN |
| | ROOF DRAIN/OVERFLOW DRAIN |
| XX | FOOD SERVICE EQUIPMENT |

| | |
|---|---|
| ABV | ABOVE |
| AFF | ABOVE FINISHED FLOOR |
| INV | INVERT |
| BFF | BELOW FINISHED FLOOR |
| CW | COLD WATER |
| DN | DOWN |
| EX | EXISTING |
| HW | HOT WATER |
| WS | WASTE STACK |
| VS | VENT STACK |
| AC | ABOVE CEILING |
| WHA | WATER HAMMER ARRESTOR |
| BFG | BELOW FINISHED GRADE |
| TMV | THERMOSTATIC MIXING VALVE |
| TP | TRAP PRIMER |
| DS | DOWNSPOUT |
| UG | UNDER GROUND |

# PLUMBING FIXTURE CONNECTION SCHEDULE

| EQUIPMENT NO. | DESCRIPTION | HOT WATER | COLD WATER | WASTE | VENT | REMARKS |
|---|---|---|---|---|---|---|
| WC-1 | WATER CLOSET, ADA COMPLIANT | -- | 1/2" | 4" | 2" | PRESSURE ASSIST TANK TYPE |
| EW-1 | EYEWASH | 1/2" | 1/2" | 2" | 1-1/2" | PROVIDE WITH MIXING VALVE |
| EWC-1 | ELECTRIC WATER COOLER | -- | 1/2" | 2" | 1-1/2" | WALL MOUNT ADA WITH BOTTLE FILLER |
| LAV-1 | LAVATORY, ADA COMPLIANT | 1/2" | 1/2" | 1-1/2" | 1-1/2" | WALL MOUNTED, PROVIDE TRAP WRAP AND MIXING VALVE |
| SK-1 | SERVICE SINK | 1/2" | 1/2" | 2" | 1-1/2" | ROUTE TO INTERCEPTOR |
| WH-1 | WALL HYDRANT | -- | 1/2" | -- | -- | -- |
| FD-1 | FLOOR DRAIN | -- | -- | 2" | 1-1/2" | PROVIDE TRAP GUARD |
| CMVB | COFFEE MAKER VALVE BOX | -- | 1/2" | -- | -- | -- |

# ELECTRIC WATER HEATER SCHEDULE

| EQUIPMENT NO. | MANUFACTURER AND MODEL NO. | SERVICE | EFF (%) | ENTERING WATER TEMP (°F) | LEAVING WATER TEMP (°F) | RECOVERY RATE (GPH) | STORAGE CAPACITY (GAL.) | TANK DIMENSIONS | | ELECTRICAL | | | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | HEIGHT (INCHES) | DIAMETER (INCHES) | HEATING ELEMENTS | | VOLTS/PH/HZ | |
| | | | | | | | | | | WATTAGE | QNTY | | |
| EWH-1 | A.O. SMITH ECS-30X | BATHROOMS/EYEWASH | -- | 60 | 120 | 21 | 30 | 3'-3" | 1'-8" | 4.5 KW | 1 | 240 / 1 / 60 | |

# RECIRCULATION PUMP SCHEDULE

| EQUIPMENT NO. | MANUFACTURER/ MODEL NO. | SERVICE | TYPE | FLOW (GPM) | HEAD (FT.) | RPM | ELECTRICAL | | | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | HP | DISCONNECT | VOLTS/PH./HZ. | |
| REC-1 | TACO 2400-10S | HOT WATER RETURN | INLINE | 2 | 10 | 3450 | 1/10 | BY DIV. 16 | 120/1/60 | 1) |

REMARKS:
1) PROVIDE AQUASTAT AND TIMER. INSTALL IN ACCORDANCE WITH IECC REQUIREMENTS.
2) PUMP SHALL BE STAINLESS STEEL BODY FOR DOMESTIC USE.

# GREASE INTERCEPTOR SCHEDULE

| EQUIPMENT NO. | MANUFACTURER/ MODEL NO. | FLOW RATE (GPM) | LIQUID HOLDING CAPACITY (GAL) | CONNECTION SIZES | | UNIT DIMENSIONS | | | REMARKS |
|---|---|---|---|---|---|---|---|---|---|
| | | | | INLET (IN.) | OUTLET (IN.) | LENGTH (IN.) | WIDTH (IN.) | DEPTH (IN.) | |
| OS-1 | STRIEM OS-25 | 25 | 21 | 3 | 3 | 2'-3" | 1'-11" | 1'-3" | 1) |

REMARKS:
1) PROVIDE EXTENSION TO MATCH GRADE.

## WASTE FLOW CALCULATION SUMMARY

| | GALLONS PER DAY (GPD) | # OF PEOPLE/ CARS | GPD |
|---|---|---|---|
| PER EMPLOYEE | 8 | 8 | 64 |
| PER CAR SERVED | 8 | 45 | 360 |
| | | BUILDING TOTAL (GPD) | 424 |

REMARKS:
1) NO CARS WASHED ON SITE.

## SANITARY SYSTEM SUMMARY

| TOTAL LOAD (FIXTURE UNITS) | GPM |
|---|---|
| 12.5 | 14 |

## WATER METER SUMMARY

| TOTAL LOAD (FIXTURE UNITS) | GPM |
|---|---|
| 16 | 18 |


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Plumbing Legend, Abbreviations, and Schedules

| | |
|---|---|
| Project number | 25041 |
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| Drawn by | CA |
| Checked by | JB |

P0.01

Scale 12" = 1'-0"

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SECTION 15011 - PLUMBING GENERAL

A. PROVIDE EQUIPMENT, LABOR, MATERIAL, ETC., REQUIRED TO MAKE A COMPLETE WORKING INSTALLATION.
B. INSTALL THE WORK IN ACCORDANCE WITH DRAWINGS, SPECIFICATIONS AND THE STANDARDS AND CODES (LATEST EDITION) THAT APPLY TO THIS WORK. IN THE EVENT OF A CONFLICT, INSTALL WORK IN ACCORDANCE WITH THE MOST STRINGENT CODE REQUIREMENTS DETERMINED BY THE ENGINEER. OBTAIN AND PAY FOR ALL PERMITS AND INSPECTIONS INCLUDING: BUILDING PERMITS, HEALTH DEPARTMENT PERMITS AND SEWER TAP PERMITS. DELIVER TO ENGINEER CERTIFICATES OF INSPECTION AND APPROVAL ISSUED BY AUTHORITIES.
C. ALL EQUIPMENT AND METHOD SHALL BE INSTALLED AND CONNECTED IN ACCORDANCE WITH THE BEST ENGINEERING PRACTICES AND IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
D. DISCONNECT, REMOVE AND RE-INSTALL PLUMBING SERVICES LOCATED ON OR CROSSING THROUGH CONTRACT LIMITS, ABOVE OR BELOW GRADE, OBSTRUCTING CONSTRUCTION OF PROJECT OR CONFLICTING WITH COMPLETED PROJECT OR ANY APPLICABLE CODES.
E. PROVIDE CUTTING OF PAVEMENT, SIDEWALKS, DRIVEWAYS, ETC., EXCAVATING, TRENCHING, SHORING AND DE-WATERING. PROVIDE BACKFILL MATERIAL AND PERFORM BACKFILLING.
F. RESTORE SITE TO ORIGINAL CONDITION OR NEW FINAL GRADES. PROVIDE PAVING, CONCRETE, SEED, OR SOD.
G. DRAWINGS AND SPECIFICATIONS ARE COMPLEMENTARY. WORK CALLED FOR BY ONE IS BINDING AS IF CALLED FOR BY BOTH.
H. DRAWINGS ARE DRAWN TO A SMALL SCALE AND ARE DIAGRAMMATIC ONLY. THE DRAWINGS INDICATE SIZE AND GENERAL ARRANGEMENT OF EQUIPMENT. DO NOT SCALE DRAWINGS FOR EXACT LOCATIONS. FIELD MEASUREMENTS TAKE PRECEDENCE.
I. PROVIDE NECESSARY OFFSETS, ELBOWS AND FITTINGS AS REQUIRED TO AVOID CONFLICT WITH EQUIPMENT OF OTHER DIVISIONS AND TO OBTAIN PROPER HEADROOM AND CLEAR PASSAGEWAYS. THIS SHALL BE DONE AT NO ADDITIONAL COST TO THE OWNER.
J. WORK UNDER THIS DIVISION SHALL BE FIRST CLASS WITH EMPHASIS ON NEATNESS AND WORKMANSHIP. INSTALL WORK USING COMPETENT MECHANICS, UNDER SUPERVISION OF FOREMAN, ALL DULY CERTIFIED BY LOCAL AUTHORITIES.
K. INSTALLATION SUBJECT TO ENGINEER'SOBSERVATION, FINAL APPROVAL, AND ACCEPTANCE. ENGINEER MAY REJECT UNSUITABLE WORK.
L. ALL MATERIALS SHALL BE NEW. ALL MATERIALS AND EQUIPMENT FOR WHICH A UL STANDARD, AN AGA APPROVAL, AN AWWA STANDARD, FM LISTING OR ASME REQUIREMENTS IS ESTABLISHED, SHALL BE SO APPROVED AND LABELED OR STAMPED.
M. THE DRAWINGS ARE BASED ON THE USE OF PRODUCTS SPECIFIED AND LISTED FIRST. IF ANY REVISION IN PIPING, CONDUIT WORK, FOUNDATIONS, ANCHOR BOLTS, CONNECTIONS, ETC., IS REQUIRED BY OTHER NAMED PRODUCTS OR APPROVED SUBSTITUTIONS, IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO MAKE SUCH REVISIONS AT NO ADDITIONAL EXPENSE TO THE OWNER.
N. SUBMIT SIX (6) ORIGINAL COPIES OF COMPLETE SHOP DRAWINGS FOR ALL MATERIALS AND EQUIPMENT FURNISHED UNDER DIVISION 15 OF SPECIFICATIONS TO ENGINEER FOR REVIEW. SHOP DRAWINGS SHALL BEAR THE STAMP OF APPROVAL OF THE CONTRACTOR AS EVIDENCE THAT THE DRAWINGS HAVE BEEN CHECKED BY HIM. DRAWINGS SUBMITTED WITHOUT THIS STAMP OF APPROVAL WILL NOT BE CONSIDERED AND WILL BE RETURNED FOR PROPER RESUBMISSION.
O. REVIEW OF SHOP DRAWINGS DOES NOT RELIEVE CONTRACTOR OF RESPONSIBILITY FOR ERRORS AND OMISSIONS IN SHOP DRAWINGS. CONTRACTOR IS RESPONSIBLE FOR DIMENSIONS AND SIZES OF EQUIPMENT. INFORM ENGINEER IN WRITING OF EQUIPMENT DIFFERING FROM THAT SHOWN.
P. PROVIDE MAINTENANCE AND OPERATING MANUALS BOUND IN 8-1/2" X 11" HARDBACK, THREE-POST BINDERS. MANUALS SHALL CONTAIN WRITTEN INSTRUCTIONS FOR EACH SYSTEM, SHOP DRAWINGS, SCHEMATIC DRAWINGS, EQUIPMENT CATALOG CUTS, MANUFACTURER'S INSTRUCTIONS, MANUFACTURERS WARRANTIES, AND VALVE TAG LIST.
Q. PROVIDE AS-BUILT PRINTS AT THE COMPLETION OF JOB. KEEP ONE SET OF PRINTS ON JOB AND RECORD DAY TO DAY CHANGES TO CONTRACT DRAWINGS WITH RED PENCIL. INDICATE ACTUAL LOCATION OF PIPING, VALVES, AND EQUIPMENT. TURN OVER PRINTS TO ENGINEER AT FINAL OBSERVATION.
R. FURNISH ENGINEER WRITTEN WARRANTY, STATING THAT IF WORKMANSHIP AND/OR MATERIALS EXECUTED UNDER THIS DIVISION IS PROVEN DEFECTIVE WITHIN ONE (1) YEAR AFTER FINAL ACCEPTANCE, SUCH DEFECTS AND OTHER WORK DAMAGED WILL BE REPAIRED AND/OR REPLACED.

SECTION 15051 - BASIC MATERIALS AND METHODS

A. ACCESS PANELS:
1. ACCESS PANELS SHALL HAVE WELDED STEEL FRAME, ONE PIECE DOORS, AND SELF LATCHING DOOR LOCKS. LOCKS SHALL BE SCREW DRIVER OPERATED WITH CASE HARDENED STEEL CAM. PANELS SHALL BE MILCOR, CESCO, KARP OR EQUAL.
2. PROVIDE ACCESS PANELS IN WALLS AND CEILINGS AS NEEDED TO ALLOW ACCESS TO VALVES, EQUIPMENT, SHOCK ABSORBERS, TRAP PRIMERS, ETC. AND WHERE NOTED.
B. FIRESTOPPING AND SOUNDSTOPPING:
1. PENETRATIONS THROUGH FLOORS AND FIRE RESISTANT WALLS SHALL BE SEALED TO THE RATED FIRE RESISTANCE EQUAL TO THE WALL. INSTALLATION SHALL BE DONE BY A QUALIFIED INSTALLER, APPROVED BY THE MANUFACTURER.
2. PROVIDE SOUND PROOFING THROUGH NON-RATED WALLS.
C. PIPING SEALS:
1. PROVIDE MODULAR, RESILIENT SEALS AROUND PIPES PENETRATING ALL EXTERIOR WALLS, AND FLOORS BELOW GRADE. PIPING SEALS SHALL BE THUNDERLINE CORP. "LINK SEAL" LS SERIES.
D. CUTTING AND PATCHING:
1. CONTRACTOR SHALL BE RESPONSIBLE FOR CUTTING AND PATCHING. CUT WALLS, FLOORS, CEILINGS, PARTITIONS, ETC., REQUIRED FOR THE INSTALLATION OF THIS WORK IN A NEAT AND CAREFUL MANNER. CORE DRILL FOR PIPE SLEEVES AND OTHER OPENINGS THROUGH FLOORS AND WALLS. SAWCUT LARGER OPENINGS. CUTTING SHALL BE KEPT TO A MINIMUM.

2. REPLACE OR REPAIR DUCTWORK, CONDUIT, PIPING, ETC., THAT IS CUT. PATCH AROUND OPENING CUT BY THIS CONTRACTOR OR PROVIDED BY OTHERS FOR HIM. PATCHING SHALL BE DONE BY AN APPROVED QUALIFIED CONTRACTOR, BUT SHALL BE PAID FOR BY THIS CONTRACTOR. FINISHED PATCHING SHALL RETAIN FIRE AND SMOKE RATINGS OF THE ASSEMBLY AND SHALL MATCH SURROUNDING FINISH.
E. ANCHORS:
1. MOUNT ALL EQUIPMENT, BRACKETS, HANGERS, ANCHORS, ETC. TO SAFELY RESIST THE VIBRATION OR THRUST FORCES AND SUPPORT THE UNIT'S WEIGHT.
2. FLOOR MOUNTED ROTATING OR VIBRATING EQUIPMENT SHALL BE ANCHORED TO THE FLOOR USING GROUTED-IN-PLACE OR CAST-IN-PLACE ANCHOR BOLTS WITH THREE INCH HOOK AND SLEEVE. ANCHOR BOLTS SHALL BE OF THE SIZE RECOMMENDED BY THE MANUFACTURER.
3. FLOOR MOUNTED STATIC ITEMS, WALL AND CEILING MOUNTED EQUIPMENT BRACKET AND HANGERS SHALL BE INSTALLED USING DRILLED ANCHORS [(OR CAST IN PLACE INSERTS]. ANCHORS SHALL BE PHILLIPS DRILL COMPANY "RED HEAD" OR MULTI-SET II. SIZE ANCHORS ![AND INSERTS] FOR FOUR TIMES THE APPLIED LOAD. BOLTS USED OUTDOORS OR IN A WET ENVIRONMENT SHALL BE HOT DIP GALVANIZED.
A. PIPE IDENTIFICATION:
1. IDENTIFICATION SHALL BE IN ACCORDANCE WITH ANSI-A13.1. PIPE MARKERS SHALL BE SETON'S WEATHER-CODE OR EQUAL.
2. PROVIDE PIPE IDENTIFICATION AND DIRECTIONAL ARROWS ON PIPES AT BOTH SIDES OF PARTITIONS AND FLOORS SLABS, AT BRANCH LINE TAKE-OFFS, AT VALVES, AT INTERMEDIATE INTERVALS NOT IN EXCESS OF 20 FT. AND AT CONNECTIONS TO EQUIPMENT.
3. TAPE COLOR BAND IDENTIFYING MARKERS AND ARROWS ON EACH PIPE, BOTH INSULATED AND BARE PIPES. PIPE MARKERS AND ARROWS SHALL BE LOCATED WHERE READILY VISIBLE AND ON LOWER QUADRANTS OF OVERHEAD PIPES.
B. VALVE TAG AND CHART:

1. VALVE TAGS SHALL BE SETON M4506, BLACK FILLED LETTERS WITH BRASS JACK CHAIN. ONE VALVE NUMBER SHALL BE STAMPED ON EACH TAG. IDENTIFY EACH VALVE TAG FOR THE UTILITY IT SERVES, SUCH AS "CW" FOR COLD WATER, HW FOR HOT WATER, ETC. VALVE CHARTS SHALL BE SETON. ATTACH A NUMBERED VALVE TAG TO EACH VALVE.
2. PROVIDE A TYPE WRITTEN CHART IN FRAME UNDER GLASS COVER, GIVING THE FULL LIST OF ALL VALVES INSTALLED UNDER THIS CONTRACT. CHART SHALL LIST VALVE NUMBER, TYPE OF UTILITY, AND LOCATION. MOUNT CHART WHERE DIRECTED BY OWNER. PROVIDE ONE ADDITIONAL COPY TO OWNER.
A. EQUIPMENT IDENTIFICATION:
1. IDENTIFY EACH PIECE OF EQUIPMENT WITH A 1/8 INCH THICK ENGRAVED MELAMINE PLASTIC LAMINATE NAMEPLATE. LETTERS SHALL BE 1/2 INCH HIGH STANDARD STYLE. NAMES, ABBREVIATIONS, AND NUMBERING SHALL AGREE WITH THE CORRESPONDING EQUIPMENT DESIGNATIONS SHOWN ON THE DRAWINGS. USE BLACK LETTERS CUT IN A WHITE BACKGROUND FOR ALL EQUIPMENT ON STANDARD ELECTRICAL POWER
2. FASTEN NAMEPLATES TO EQUIPMENT IN A CONSPICUOUS LOCATION USING SELF-TAPPING STAINLESS STEEL SCREWS, EXCEPT USE CONTACT EPOXY ADHESIVE WHERE SCREWS CANNOT OR SHOULD NOT PENETRATE SUBSTRATE.
B. PIPE SLEEVES:
1. PROVIDE PIPE SLEEVES WHERE PIPES PASS THROUGH FLOORS AND WALLS ABOVE OR BELOW CEILINGS. PROVIDE PIPE SLEEVES IN NEW WALLS AND FLOORS AS THE WORK PROGRESSES. PROVIDE SPLIT PIPE SLEEVES IN NEW WALLS BUILT UP AROUND EXISTING PIPES. TACK WELD SPLIT SLEEVES TOGETHER.
2. SIZE PIPE SLEEVES TO ALLOW CONTINUOUS INSULATION, BUT NOT LESS THAN TWO PIPE SIZES LARGER THAN PIPE. SLEEVES IN WALLS SHALL BE FLUSH WITH WALL, SLEEVES IN FLOORS SHALL EXTEND 3/4 INCHES ABOVE FLOOR AND BE FLUSH WITH STRUCTURE BELOW.
3. SLEEVES IN CONCRETE WALLS, FLOORS OR MASONRY SHALL BE SCH 40 STEEL PIPE, MACHINE CUT. SLEEVES IN GYPSUM BOARD OR PLASTER WALLS SHALL BE 14 GAUGE, ROLLED GALVANIZED SHEET METAL TACK WELDED ON THE LONGITUDINAL SEAM.
4. PROVIDE PLATES AROUND PIPES EXTENDING INTO EXPOSED AREAS WHERE THEY PASS THROUGH WALLS, FLOORS AND CEILINGS. SIZE PLATES TO COMPLETELY COVER PIPE SLEEVES. PLATES SHALL BE BEATON AND CADWELL, KEENEY OR GRINNELL, NICKEL PLATED STEEL, SPLIT PLATES WITH SET SCREW. CONCRETE FLOOR PLATE SHALL BE GRINNELL FIGURE 400.
C. FLASHING:
1. PROVIDE FLASHING AT PIPING AND DUCT PENETRATIONS THROUGH ROOF AND ROOF MOUNTED STRUCTURES FURNISHED UNDER THIS DIVISION. FLASH IN ACCORDANCE WITH ROOFING MANUFACTURERS DETAILS. FLASHING MATERIALS SHALL BE IN ACCORDANCE WITH THE ROOFING MANUFACTURERS SYSTEM.
2. PROVIDE FLASHING AT PIPES PASSING THROUGH FLOORS WITH WATERPROOF MEMBRANE. FLASHING SHALL BE IN ACCORDANCE WITH WATERPROOFING MANUFACTURER'S DETAILS.

SECTION 15261 - PLUMBING INSULATION

A. GENERAL:
1. ALL INSULATION, JACKETING, AND ADHESIVE SHALL HAVE COMPOSITE SURFACE BURNING CHARACTERISTIC RATING AS TESTED BY ASTM E 84, UL 723, OR NFPA 255 NOT EXCEEDING A FLAME SPREAD OF 25 OR SMOKE DEVELOPED OF 50.
2. SUBMITTALS SHALL USE PAGES FROM MIDWEST INSULATION CONTRACTORS ASSOCIATION – "COMMERCIAL AND INDUSTRIAL INSULATION STANDARDS" FOR DEFINING HOW INSULATION MATERIALS WILL BE APPLIED.
3. ALL PIPE INSULATION SHALL BE CONTINUOUS THROUGH WALLS, CEILING OR FLOOR OPENINGS, OR SLEEVES; EXCEPT WHERE FIRESTOP OR FIRESAFING MATERIALS ARE REQUIRED.
4. INSULATE ITEMS MOUNTED IN PIPING WITH THE SAME THICKNESS OF INSULATION AS SPECIFIED FOR PIPING.
5. REPAIR INSULATION DAMAGED BY WORK UNDER THIS CONTRACT TO MATCH EXISTING WORK OR REPLACE DAMAGED PORTION WITH INSULATION SPECIFIED FOR NEW WORK.
B. DOMESTIC WATER PIPING:
1. INSULATION SHALL BE 850 DEG. F RATED AS MANUFACTURED BY OWENS CORNING, MANVILLE OR KNAUF. ROUTED OR MOLDED FITTING INSULATION SHALL BE HAMFAB.
2. INSULATION SHALL HAVE FACTORY-APPLIED, REINFORCED, FLAME RETARDANT, VAPOR BARRIER JACKET EQUAL TO OWENS-CORNING ASJ WITH SELF-SEALING LAP. BUTT JOINTS SHALL BE TAPED WITH FIELD-APPLIED ASJ TAPE 3 IN. WIDE.
3. INSULATION THICKNESSES SHALL BE IN ACCORDANCE WITH INTERNATIONAL ENERGY CONSERVATION CODE FOR PIPE SIZES NOTED ON PLAN.
4. ALL FITTINGS AND VALVES SHALL BE INSULATED WITH PREFORMED FIBER GLASS FITTINGS OR MITERED SECTIONS OF PIPE INSULATION. INSULATION SHALL BE OF EQUAL THICKNESS TO THE ADJACENT PIPE INSULATION.
5. METAL SHIELDS SHALL BE INSTALLED BETWEEN HANGERS OR SUPPORTS AND THE PIPING INSULATION. RIGID INSULATION INSERTS SHALL BE INSTALLED AS REQUIRED BETWEEN THE PIPE AND THE INSULATION SHIELDS. INSERTS SHALL BE OF EQUAL THICKNESS TO THE ADJACENT INSULATION AND SHALL BE VAPOR SEALED AS REQUIRED.
C. ELASTOMERIC CLOSED CELL INSULATION:
1. INSULATION SHALL BE ARMSTRONG. SECURE INSULATION WITH CONTACT ADHESIVE IN ACCORDANCE WITH MANUFACTURERS INSTRUCTIONS. EXPOSED OR EXTERIOR INSTALLATIONS SHALL BE PAINTED WITH TWO COATS OF WATER BASE LATEX ENAMEL.
2. PROVIDE 1 IN. THICK INSULATION ON DX REFRIGERANT PIPING, COOLING COIL CONDENATE PIPING, AND CAPS FOR ALL VALVE STEMS AND OPERATORS, GAUGE COCKS, THERMOMETER WELLS AND OTHER APPURTENANCES SUBJECT TO SWEATING.
D. PIPING FINISHES:
1. METAL JACKETING SHALL BE, SMOOTH .016 IN. THICK, TYPE T 3003 ALUMINUM WITH LAMINATED MOISTURE BARRIER. JACKETING SHALL BE CHILDERS, ALUMINUM ROLL JACKETING WITH POLYKRAFT MOISTURE BARRIER. COVER THE FOLLOWING INSULATED SYSTEMS WITH METAL JACKETING: PIPING INSTALLED OUTDOORS AND EXPOSED PIPING INDOORS WITHIN 8 FT. OF FINISHED FLOOR. METAL FITTING COVERS SHALL BE TWO PIECE ALUMINUM. COVERS SHALL BE ELL-JAC.
2. CONCEALED PIPING FINISH COVERING SHALL BE THE ALL SERVICE JACKET. FITTINGS SHALL BE COVERED BY WRAPPING THE FITTING WITH FIBER REINFORCED TAPE, WITH A 5 PERCENT OVERLAP. FITTING COVERS SHALL BE ONE PIECE 20 MIL PVC. COVERS SHALL BE CEEL-TITE 550 PVC-UVR BY CEEL-CO OR EQUALS.

SECTION 15410 - PLUMBING PIPING

A. THE WORK REQUIRED UNDER THIS SECTION INCLUDES ALL WORK NECESSARY FOR A COMPLETE INSTALLATION OF SANITARY WASTE PIPING, STORM PIPING AND DOMESTIC WATER PIPING INSIDE THE BUILDING TO 5 FEET OUTSIDE THE BUILDING. SUBMIT SCHEDULE OF PIPE AND FITTINGS FOR EACH SERVICE.
B. DOMESTIC WATER PIPING: WATER PIPING WITHIN THE BUILDING SHALL BE COPPER TUBE, TYPE "L" HARD TEMPER, ASTM B-88. PIPING BELOW GROUND SHALL BE COPPER TUBE, TYPE "K" SOFT TEMPER, ASTM B-88. FITTINGS SHALL BE WROUGHT COPPER, SOLDER TYPE, ASTM B-75, ANSI B16.22. SOLDER UNIONS SHALL BE WROT COPPER, WITH COPPER GROUND JOINT. ASTM B75, ANSI B16.22. DI-ELECTRIC, EPSO, 250 LB. WOG. SOLDER METAL SHALL CONFORM TO ASTM B32, LEAD-FREE.
C. STORM, SANITARY WASTE, AND VENT PIPING: ABOVE GROUND: SCHEDULE 40 PVC-DWV ASTM D-2665 USING SOLVENT CEMENT ASTM D02565. HORIZONTAL PIPING FOR FIXTURE ROUGH-INS MAY BE DWV COPPER, ASTM B-306. BELOW GROUND: SCHEDULE 40 PVC-DWV ASTM D-2665 USING SOLVENT CEMENT ASTM D-2564.
D. STORM, SANITARY WASTE AND VENT TYPE FITTINGS: ABOVE GROUND: I)NO HUB CAST IRON SOIL PIPE FITTINGS WITH COUPLING ASSEMBLY CISPI STANDARD 310.) SCHEDULE 40 PVC-DWV, ASTM D-2855 USING SOLVENT CEMENT ASTM D-2564. BELOW GROUND: SCHEDULE 40 PVC-DWV, ASTM D-2855 USING SOLVENT CEMENT ASTM D-2564.
E. BALL VALVES: VALVES SHALL BE NIBCO T-585-70, FULL PORT BALL TYPE WITH BRONZE BODY, CHROME PLATED BALL AND BRONZE THREADED ENDS, 600 PSI WOG OR NIBCO S-585-70 IN COPPER LINES. HAMMOND, CRANE, APOLLO, MILWAUKEE, OR APPROVED EQUAL.
F. ALL PIPING SHALL BE ROUTED TO CONSERVE BUILDING SPACE, BE COORDINATED WITH ITEMS INSTALLED BY OTHER TRADES AND NOT INTERFERE WITH ACCESS TO OR OPERATION OF THE FACILITY.
G. PROVIDE ROOF FLASHINGS FOR PIPE PENETRATIONS THROUGH ROOF, TO BE INSTALLED BY ROOFING CONTRACTOR
H. WATER PIPING WITHIN BUILDING SHALL BE SIZE INDICATED ON PLANS AND RISERS. IN THE EVENT NO SIZE IS SHOWN, PIPE SIZE OR SIZE REQUIRED BY THE PLUMBING CODE. PIPING SHALL BE SLOPED TOWARD A SYSTEM DRAIN AND TOWARD OUTLETS, TO PROVIDE FOR SYSTEM DRAIN-DOWN. IF INSTALLED NEAR EXTERIOR WALLS, PIPING SHALL BE LOCATED ON THE INTERIOR SIDE OF INSULATION. INSTALL PIPING TO PREVENT DIRECT CONTACT BETWEEN FERROUS AND NON-FERROUS MATERIALS. ALLOW FLEXIBILITY FOR EXPANSION IN PIPING.
I. DOMESTIC WATER PIPING SYSTEM SHALL BE TESTED WITH POTABLE WATER AT A PRESSURE OF 125 PSIG OR 25 PSIG ABOVE DESIGN WORKING PRESSURE, WHICHEVER IS GREATER FOR 12 HOURS. TEST SHALL BE CONDUCTED WITH PLUMBING INSPECTOR UNLESS APPROVED OTHERWISE IN WRITING.
J. WATER DISTRIBUTION PIPING SHALL BE DISINFECTED PRIOR TO OCCUPANCY OR SYSTEM START-UP WITH A CHLORINE SOLUTION 50 PPM. ALLOW SYSTEM TO STAND FOR SIX HOURS MINIMUM, THEN EXERCISE ALL VALVES TO ENSURE TREATMENT OF ALL BRANCHES AND COMPONENTS. SYSTEM SHALL BE FLUSHED WITH POTABLE WATER AFTER DISINFECTION AND PRIOR TO PLACEMENT INTO SERVICE.
K. STORM, SANITARY WASTE AND VENT PIPING SHALL BE TESTED IN ACCORDANCE WITH WATER TEST AS SPECIFIED IN THE INTERNATIONAL PLUMBING CODE, IN ADDITION TO ANY TESTS REQUIRED BY THE LOCAL PLUMBING OFFICIAL. (10 FEET OF HEAD WITH NO APPARENT LEAKS. HOLD FOR 30 MINUTES MINIMUM). FLUSH ALL GRAVITY PIPING INCLUDING FLOOR DRAINS AND ROOF DRAINS PRIOR TO TURNING OVER TO THE OWNER.
L. ALL PIPE SHALL BE CUT SQUARE. REAM PIPE AND TUBE ENDS AND REMOVE BURRS. CLEAN THE ENDS OF PIPES TO REMOVE OIL, GREASE AND OXIDES. PREPARE PIPING CONNECTIONS TO EQUIPMENT WITH FLANGES OR UNIONS.
M. ALL SOLDERED PIPING AND EQUIPMENT CONNECTIONS SHALL BE PROPERLY PREPARED IN ACCORDANCE WITH GOOD PIPING PRACTICE. APPLY A THIN LAYER OF FLUX TO ONLY THE MALE TUBING. ROTATE INTO THE FITTING WITH ONE OR TWO REVOLUTIONS.
N. DOMESTIC WATER PIPING: ROUTE PIPING IN ORDERLY MANNER, PLUMB AND PARALLEL TO BUILDING STRUCTURE, AND MAINTAIN GRADIENT. INSTALL PIPING TO ALLOW FOR EXPANSION AND CONTRACTION WITHOUT STRESSING PIPE, JOINTS, OR CONNECTED EQUIPMENT. PROVIDE CLEARANCE FOR INSTALLATION OF INSULATION AND ACCESS TO VALVES AND FITTINGS. PROVIDE ACCESS WHERE VALVES AND FITTINGS ARE NOT EXPOSED. INSTALL VALVES WITH STEMS UPRIGHT OR HORIZONTAL. PROVIDE DRAIN VALVES AT LOW POINTS IN SYSTEMS. TEST WATER PIPING BEFORE BEING INSULATED OR CONCEALED IN WALLS OR CEILING.
O. STORM, SANITARY WASTE, AND VENT PIPING: HORIZONTAL SOIL, WASTE AND DRAINAGE LINES WITHIN BUILDING SHALL HAVE A MINIMUM UNIFORM SLOPE OF 1/8 INCH PER FOOT ON 3 INCH AND LARGER, AND 1/4 INCH PER FOOT ON LINES 2 INCH AND SMALLER. TURNS IN SANITARY, SOIL, AND DRAIN PIPING SHALL BE MADE USING 45 DEGREE ELBOWS, WYES, QUARTER, EIGHTH, SIXTEENTH BENDS, OR OTHER BENDS APPROVED BY THE PLUMBING CODE. DO NOT USE SANITARY TEES OR CROSSES EXCEPT WHERE DISCHARGING FROM HORIZONTAL TO VERTICAL. MAKE CHANGES IN PIPE SIZES WITH REDUCING FITTINGS AND RECESSED REDUCERS. DO NOT REDUCE LINE SIZE IN DIRECTION OF FLOW. PROVIDE CLEANOUTS IN ALL HORIZONTAL TURNS IN WASTE PIPING GREATER THAN 45 DEGREES. PROVIDE DEEP SEAL TRAPS ON ALL FLOOR DRAINS, AND TRAP PRIMERSSEAL WHERE REQUIRED BY CODE OR AS INDICATED ON DRAWINGS. INDIRECT WASTE LINES DUMPING INTO FLOOR OR HUB DRAINS SHALL MAINTAIN A 2-INCH AIR GAP BETWEEN THE END OF THE WASTE LINE AND THE RIM OF THE FLOOR OR HUB DRAIN.

SECTION 15416 - GAS PIPING SYSTEMS

A. PROVIDE COMPLETE INSTALLATION OF GAS PIPING FROM THE "POINT OF DELIVERY" UP TO AND INCLUDING CONNECTION TO ALL GAS-FIRED EQUIPMENT. CONNECT EQUIPMENT ITEMS FURNISHED UNDER OTHER SECTIONS OF SPECIFICATIONS. TEST IN ACCORDANCE WITH A.G.A., STANDARD GAS CODE, N.F.P.A. 54, AND APPLICABLE STATE AND LOCAL CODES.
B. ROUTE GAS SERVICE ENTRANCE PIPING INTO BUILDING TO AVOID INTERFERENCE AND DAMAGE. PROVIDE MANUAL SHUTOFF VALVE, GAS COCK AND GAUGE. VALVES SHALL BE LABELED.
C. PROVIDE ACCESS PANELS FOR VALVES AND OTHER ITEMS REQUIRING MAINTENANCE IN ENCLOSED SPACES. AVOID INSTALLING GAS APPURTENANCES IN ENCLOSED SPACES WHERE POSSIBLE. INSTALL IN ENCLOSED SPACES ONLY AS ALLOWED BY APPLICABLE CODES.
D. SUBMIT MANUFACTURER'S LITERATURE ON ALL MATERIALS AND EQUIPMENT INCLUDING: PIPE, PIPE COATING, ANODES, VALVES, FLEXIBLE CONNECTORS, FITTINGS, REGULATORS, RELIEF VALVES, GAUGES.
E. GAS SERVICE:
1. COORDINATE INSTALLATION OF GAS SERVICE LINE WITH LOCAL GAS COMPANY. PAY ALL FEES.
2. PROVIDE 12 INCH ELEVATED METER MOUNTING PADS ON TOP OF A 4 INCH THICK CONCRETE PAD FOR SUPPORT OF GAS METER AND PIPING.
3. PROVIDE (TWO) 8 INCH DIAMETER PIPE BOLLARDS FOR GAS METER PROTECTION. BOLLARDS SHALL BE SIX FEET LONG (3 FEET BELOW GRADE), MOUNTED IN A 24 INCH DIAMETER HOLE, FILLED WITH 3,000 PSI CONCRETE.
F. INTERIOR PIPING: CONNECT TO ENTERING LINE AND DISTRIBUTE GAS TO EQUIPMENT ITEMS REQUIRING GAS AND AS INDICATED. PERFORM WORK IN ACCORD WITH APPLICABLE A.G.A., N.F.P.A. 54, STATE AND LOCAL CODES. INSTALL GAS STOP VALVES AND DRIP LEGS AT EACH EQUIPMENT ITEM. PIPING SHALL BE ADEQUATELY DRAINED WITH A MINIMUM SLOPE OF 1/4 INCH PER 15 FEET AND DRIP LEGS (FULL SIZE OF PIPE) INSTALLED AT ADDITIONAL POINTS WHERE CONDENSATE MAY COLLECT. INSTALL PRESSURE REDUCING VALVES AS REQUIRED TO PROVIDE PRESSURE WITHIN EQUIPMENT MANUFACTURER'S REQUIREMENTS.
G. EXTERIOR PIPING: EXTERIOR PIPING SHALL BE SCHEDULE 40 CARBON STEEL. PIPING 2 INCH AND SMALLER MAY USE THREADED FITTINGS. PIPING 2 2 INCH AND LARGER SHALL USE WELDED FITTINGS AND FLANGED VALVES. EXTERIOR PIPING SHALL BE PAINTED WITH AN ALKYD ENAMEL PRIMER (MINIMUM DRY THICKNESS 3 MILS). EXTERIOR PIPING SHALL BE SUPPORTED ON GALVANIZED B-LINE CHANNELS AND PIPE CLAMPS.
H. UNDERGROUND PIPING:
1. UNDERGROUND PIPING SHALL BE CARBON STEEL - A53/A106-WELDED OR POLYETHYLENE. UNDERGROUND STEEL PIPING SHALL HAVE AT LEAST 18 INCH OF PROPER BACKFILL COVER.
2. UNDERGROUND PIPING SHALL BE PROTECTED FROM CORROSION. PROVIDE COATED PIPING AND FITTINGS. REPAIR COATING AT WELDS. INSTALL SACRIFICIAL ANODES ON STEEL PIPING INTERVALS NOT EXCEEDING 100 FT.
3. WHERE PIPES PENETRATE BASEMENT WALLS AND FOUNDATIONS INSTALL THUNDERLINE LINK SEAL.
4. 1. GAS LINES ROUTED UNDER A BUILDING SHALL BE STEEL AND SHALL BE ENCASED IN A SCH 40 OUTER CONDUIT (AT LEAST 3 PIPE SIZES LARGER THAN THE GAS LINE). CONDUIT SHALL BE SEAL WELDED TO THE GAS PIPE INSIDE THE BUILDING. CONDUIT SHALL BE VENTED TO OUTDOORS. CONDUIT SHALL BE PROTECTED FROM CORROSION SIMILARLY TO UNDERGROUND PIPING.
I. PIPE/TUBING:
1. STEEL PIPE: ASTM A53 GRADE A OR B, TYPE F, ERW OR SEAMLESS. SCHEDULE 40.
2. ASTM A106 SEAMLESS. SCHEDULE 40.
3. TUBING (STEEL) ASTM A539.
4. PLASTIC PIPE ASTM D2513 POLYETHYLENE. DRISCO PIPE 6500 OR PRIOR APPROVED EQUAL.
J. FITTINGS:
1. WELDED (STEEL): WELDING FITTINGS SHALL BE CARBON STEEL BUTT WELDING TYPE CONFORMING TO ASTM-234. ELBOWS SHALL BE LONG RADIUS TYPE. WELDING TEES SHALL BE USED ON BRANCH CONNECTIONS EQUAL TO OR GREATER THAN 2 THE DIAMETER OF THE MAIN RUN. FITTINGS SHALL BE LADISH, TUBE-TURN OR WELDBAND. CARBON STEEL REINFORCED BRANCH, WELDING FITTINGS UP TO 3 INCHES, BUT NOT GREATER THAN 2 THE DIAMETER OF THE MAIN RUN MAY BE USED. FITTINGS SHALL BE BONNEY FORGE OR PHOENIX FORGING.
2. THREADED (MALLEABLE, IRON): SCREWED FITTINGS SHALL BE MALLEABLE IRON ASTM A-197 CLASS 150 CONFORMING TO ANSI B16.3. DIMENSIONS CONFORMING TO FEDERAL SPEC WW-P-521. FITTINGS SHALL BE GRINNELL, FLAGG OR STOCKHAM.
3. HEAT FUSION/COMPRESSION (POLYETHYLENE): SOCKET TYPE FUSION SHALL MEET THE REQUIREMENTS OF ASTM 2683. FITTINGS SHALL BE LISTED AND MARKED ASTM D2513. BUTT TYPE FUSION FITTINGS SHALL MEET THE REQUIREMENTS OF ASTM D3261.
K. UNIONS (DIELECTRIC): CLASS 250 MALLEABLE, SCREWED ASTM A-197.
L. VALVES:
1. 1 INCH AND SMALLER: BALL VALVE - CLASS 125 BRASS FULL PART, 2 PIECE BODY, CHROME PLATED BALL, BLOWOUT PROOF STEAM, TFE SEATS.
2. 2 INCHES AND SMALLER: PLUG COCK - CLASS 125 CAST IRON, SCREWED, FULL PORT AGA LISTED. ANSI B16.33 HOMESTEAD FIGURE 601.
3. 2 2 INCHES AND LARGER: PLUG VALVE - CLASS 125 FLANGED CAST IRON ASTM A126 CONFORMING TO ANSI B16.1.
M. PIPE COATING: X-TRU COAT OR PRIOR APPROVED EQUAL INCLUDING JOINTS AND FITTINGS.
N. PRESSURE REGULATORS: CAST IRON OR ALUMINUM BODY AND SPRING CASE WITH STAINLESS STEEL VALVE STEAM, SEAT RING AND VALVE PLUG, PLATED STEEL SPRINGS, NEOPRENE DIAPHRAGM AND GASKETS AND TFE DISC. REGULATING VALVES SHALL BE SIZED FOR THE FLOW INDICATED AND FOR INLET AND OUTLET PRESSURES INDICATED. OUTLET PRESSURE SHALL BE MAINTAINED UNDER THE DESIGN FLOW CONDITION AND AT NO FLOW. REGULATING VALVES TWO PSI AND BELOW SHALL HAVE LEAK LIMITING DEVICES. REGULATING VALVES OVER TWO PSI SHALL BE VENTED FULL SIZE TO OUTSIDE OF THE BUILDING. OTHER REGULATING VALVES REQUIRING ACCESS TO THE ATMOSPHERE SHALL BE EQUIPPED WITH VENT PIPING LEADING TO OUTSIDE. PROVIDE A PRESSURE RELIEF VALVE IF THE REGULATOR CONNECTION SIZE EXCEEDS TWO-INCHES. REGULATING VALVES SHALL BE FISHER, MAXITROL OR PRIOR APPROVED EQUAL MEETING ANSI Z21.18.
O. PRESSURE GAGE: FOR MEDIUM PRESSURE GAS; 0-5 PSI RANGE. FOR LOW PRESSURE GAS; 0-30 INCH W.C. RANGE. USE LOW PRESSURE TYPE 2-1/2 INCH DIAL PRESSURE GAGE WITH APPROPRIATE RANGE, OCI MODEL CO 34, TRERICE, WEKSLER OR APPROVED EQUAL.


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SECTION 15430 - PLUMBING SPECIALTIES

A. THIS SPECIFICATION DESCRIBES THE REQUIREMENTS FOR LABOR AND MATERIALS REQUIRED FOR THE INSTALLATION OF PLUMBING SPECIALTIES INCLUDED AS PART OF THE BUILDING PLUMBING SYSTEM.

B. MANUFACTURER'S LITERATURE INDICATING MODEL NUMBERS AND OPTIONS SHALL BE SUBMITTED FOR ALL FIXTURES AND EQUIPMENT. FORMAT SHALL INCLUDE A SCHEDULE OF THE SPECIALTIES SUBMITTED AND INCLUDE IDENTIFICATION NUMBER OF EACH ITEM, SUCH AS "FD-1 FLOOR DRAIN," A LIST OF EACH COMPONENT, ACCESSORY, AND OPTION OF THE ITEM BEING SUBMITTED. THIS SCHEDULE MUST BE INCLUDED IN THE FRONT OF THE SUBMITTAL PAGE.

C. CLEANOUTS SHALL CONSIST OF A COATED CAST IRON BODY WITH THREADED TOP WITH SPIGOT OR NO-HUB CONNECTION AND GASKETED BRONZE CLOSURE PLUG WITH COUNTERSUNK SLOT. HEAD SHALL BE ADJUSTABLE IN HEIGHT, PROVIDE NON-SKID COVERS FOR FLOOR CLEANOUTS. PROVIDE THREAD SHIELD TO PROTECT ADJUSTMENT THREADS FROM CONCRETE AS REQUIRED. CLEANOUTS SHALL BE INSTALLED IN HORIZONTAL RUNS AT SPACING OF NO MORE THAN 75 FEET. INSTALL CLEANOUTS AT THE BASE OF EVERY SOIL AND WASTE STACK, AND AT EACH 90 DEGREE CHANGE IN DIRECTION. INSTALL CLEANOUTS WHICH ARE NOT EASILY ACCESSIBLE UP THROUGH FLOOR OR WALL AND PROVIDE APPLICABLE COVERS. INSTALL CLEANOUTS TO ALLOW AT LEAST 18" FOR RODDING.

D. WATER HAMMER ARRESTORS SHALL BE CONSTRUCTED OF A STAINLESS STEEL OR COPPER SHELL, STAINLESS STEEL OR ELASTOMER BELLOWS, WITH PRECHARGE OF AIR, NITROGEN, OR ARGON. ARRESTERS SHALL CONFORM TO ASSE STD. 1010, AND SHALL BE ZURN "SHOKTROL", JOSAM "ABSORBOTRON", WADE "SHOKSTOP", OR PRECISION PLUMBING PRODUCTS "SHOCK ARRESTOR". UNIT SHALL BE SIZED IN ACCORDANCE WITH TO PDI STANDARDS. WATER HAMMER ARRESTORS SHALL BE SIZED TO ACTUAL PIPE SIZE AND INSTALLED AS NEAR THE SHOCK SOURCE AS PRACTICAL. INSTALL TO ALLOW UNOBSTRUCTED PATH FROM SHOCK SOURCE TO ARRESTOR.

E. BALANCING VALVES (DOMESTIC HOT WATER RETURN): VALVES SHALL BE BELL AND GOSSETT CB SERIES CIRCUIT SETTER. PRESETTABLE BALANCE VALVE, VARIABLE ORIFICE FLOW METER AND POSITIVE SHUT-OFF SERVICE VALVE. EQUIPMENT WITH CAPPED READOUT VALVES FITTED WITH INTERNAL CHECK VALVES, ¼ INCH NPT TAPPED AND PLUGGED DRAIN PORT. BRONZE BODY/BRASS BALL CONSTRUCTION WITH GLASS AND CARBON FILLED TFE SEAT RINGS, SOLDER CONNECTIONS. VALVES TO HAVE DIFFERENTIAL PRESSURE READ-OUT PORTS ACROSS VALVE SEAT AREA. FURNISH WITH PREFORMED INSULATION TO PERMIT ACCESS FOR BALANCE AND READ-OUT. TACO IS AN APPROVED EQUAL.

F. PRESSURE REDUCING VALVES: VALVES SHALL BE EQUAL TO WATTS SERIES U5B-GG BRONZE BODY SINGLE SEATED WITH COMPOSITION DIAPHRAGM AND STAINLESS STEEL SPRING, DIRECT ACTING WITH STRAINER ON INLET SIDE, INTEGRAL BY-PASS CHECK VALVE, GAUGE, AND THREADED ENDS. INSTALL IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.

G. TRAP GUARD SEALS: PROVIDE AN ELASTOMERIC, NORMALLY CLOSED TRAP GUARD DEVICE TO PREVENT EVAPORATION OF THE TRAP SEAL AND TO PROTECT AGAINST SEWER GASES FROM BACKING UP INTO HABITABLE AREAS. DEVICE SHALL OPEN WITH FLUID AND ALLOWS LIQUID DRAINAGE TO FLOW THROUGH INTO THE BUILDING DRAIN. TRAP SEAL SHALL BE TRAP GUARD BY PRO-VENT SYSTEMS OR APPROVED EQUAL.

H. FLOOR DRAINS (FD-1): DRAIN SHALL INCLUDE COATED CAST IRON BODY WITH BOTTOM OUTLET, ½" TRAP PRIMER CONNECTION, COMBINATION INVERTIBLE MEMBRANE CLAMP AND ADJUSTABLE COLLAR WITH TYPE "B" ROUND POLISHED NICKEL-BRONZE LIGHT DUTY STRAINER TOP WITH SQUARE HEELPROOF OPENINGS AND SECURED GRATE. DRAIN SHALL BE ZURN ZN-415-P-NH OR EQUAL BY JAY R. SMITH, WADE, OR JOSAM. PROVIDE 3 FT. SQ., 6 MIL BUTYL MEMBRANE, AT EACH FLOOR DRAIN. CLAMP MEMBRANE. MEMBRANE SHALL BE RECESSED IN THE FLOOR SLAB WITH TOPPING POURED OVER IT. DRAINS INSTALLED IN ELEVATED BUILDING FLOORS SHALL BE SEALED IN SUCH A MANNER AS TO PREVENT LEAKAGE OF WATER AROUND TRAP AND BODY TO CEILING BELOW.

I. FLOOR DRAIN (FD-2): DRAIN SHALL INCLUDE SUR-SET BUCKET, 9" DIAMETER MEDIUM DUTY CAST IRON GRATE, COATED CAST IRON BODY, ½" TRAP PRIMER CONNECTION, BOTTOM OUTLET, SEEPAGE PAN, AND COMBINATION MEMBRANE CLAMP. DRAIN SHALL BE ZURN Z-554-P-NH OR EQUAL BY JAY R. SMITH, WADE, OR JOSAM. PROVIDE 3 FT. SQ., 6 MIL BUTYL MEMBRANE, AT EACH FLOOR DRAIN. CLAMP MEMBRANE. MEMBRANE SHALL BE RECESSED IN THE FLOOR SLAB WITH TOPPING POURED OVER IT. DRAINS INSTALLED IN ELEVATED BUILDING FLOORS SHALL BE SEALED IN SUCH A MANNER AS TO PREVENT LEAKAGE OF WATER AROUND TRAP AND BODY TO CEILING BELOW.

J. ROOF DRAINS (RD): DRAIN SHALL CONSIST OF COATED CAST IRON BODY WITH NON-PUNCTURING FLUSHING CLAMP WITH INTEGRAL GRAVEL STOP AND DECK CLAMP. DRAIN SHALL HAVE AN ADJUSTABLE EXTENSION TO PLACE FLASHING CLAMP ABOVE INSULATION WHILE BODY RESTS ON THE ROOF STRUCTURE. PROVIDE WITH ALUMINUM ROOF DOME. PROVIDE 1710 EXPANSION JOINT IF PIPING IS NOT OFFSET BELOW THE ROOF. DRAIN SHALL BE JAY R. SMITH 1015Y-R-C-AD OR EQUAL BY WADE, JOSAM, OR ZURN. ROOF DRAINS SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS. COORDINATE THE WORK WITH ROOF DECK AND ROOFING CONTRACTOR TO INSURE PROPER AND TIMELY INSTALLATION.

K. OVERFLOW DRAINS (OD): DRAIN SHALL CONSIST OF COATED CAST IRON BODY WITH NON-PUNCTURING FLASHING CLAMP, TWO (2) INCH WATER DAM, AND DECK CLAMP. PROVIDE ALUMINUM ROOF DOME. PROVIDE 1710 EXPANSION JOINT IF PIPING IS NOT OFFSET BELOW ROOF. DRAIN SHALL BE J.R. SMITH 1080Y-R-C-AD OR EQUAL BY WADE, JOSAM, OR ZURN. OVERFLOW DRAINS SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS. COORDINATE THE WORK WITH ROOF DECK AND ROOFING CONTRACTOR TO INSURE PROPER AND TIMELY INSTALLATION.

L. DOWNSPOUT NOZZLES: WALL MOUNTED OUTLET NOZZLE FOR STORM DRAINAGE, PLAIN BRONZE BODY, DECORATION FACE OF WALL AND FLANGE, WITH SCREEN AND THREADED CONNECTOR. UNITS SHALL BE JAY R SMITH 1770-BS OR EQUAL BY ZURN, WADE, OR JOSAM.

M. HUB DRAIN (HD): DRAIN SHALL INCLUDE CAST IRON DEEP SEAL "P" TRAP WITH INDIRECT WASTE FUNNEL INLET AND SIDE OUTLET THREADED AND WITH ½ INCH THREADED FLUSH CONNECTION. DRAIN SHALL BE JOSAM 8821-051 OR EQUAL BY ZURN, JAY R. SMITH, OR WADE.

N. REDUCED PRESSURE ZONE BACKFLOW PREVENTER (ASSE 1015): BACKFLOW PREVENTER SHALL INCLUDE NPT BODY CONNECTIONS, QUARTER TURN, FULL PORT, RESILIENT SEATED BRONZE BALL VALVE, AND STRAINER. UNIT SHALL BE WATTS SERIES 909 QT OR EQUAL BY WILKINS, OR CONBRACO. BACKFLOW PREVENTERS SHALL BE INSTALLED IN ACCORDANCE WITH PER MANUFACTURER'S INSTRUCTIONS. AFTER INSTALLATION, BUT BEFORE SYSTEM IS PUT INTO SERVICE, TEST BACKFLOW PREVENTER FOR FUNCTIONALITY WITH TEST KIT AS RECOMMENDED BY MANUFACTURER. PIPE DISCHARGE FROM BACKFLOW PREVENTER VENT WITH CONNECTION-SIZE COPPER TUBING TO NEAREST FLOOR DRAIN. ENSURE AIR GAP IS PROVIDED IN RELIEF LINE EITHER BY AIR GAP FITTING OR ELEVATED DISCHARGE ABOVE DRAINS. BACKFLOW PREVENTER PIPING SHALL BE INSTALLED WITH UNIONS FOR REMOVAL.

O. WALL HYDRANTS (WH-1): WALL HYDRANTS SHALL BE NICKEL BRONZE PLATED, INTEGRAL VACUUM BREAKER, 3/4 INCH HOSE THREAD, KEY OPERATOR, NON-FREEZE TYPE, HOUSED IN A RECESSED STAINLESS STEEL BOX WITH HINGED LOCKING COVER. HYDRANT SHALL BE JAY R. SMITH 5509 QT OR EQUAL BY WADE, JOSAM OR ZURN. INSTALL WALL HYDRANTS AS INDICATED ON DRAWINGS, MINIMUM HEIGHT 18" A.F.F. UNLESS OTHERWISE INDICATED.

P. HOSE BIBB (HB-1): CHROME PLATED, ¾ INCH HOSE THREAD OUTLET, LOCK SHIELD CAP WITH INTEGRAL VACUUM BREAKER. CHICAGO FAUCET NO. 952 OR T&S BRASS.

Q. OIL SEPARATOR: STRIEM HIGH EFFICIENCY OIL/WATER SEPARATOR MODEL OS-25 SHALL BE LIFETIME GUARANTEED AND MADE IN THE USA. SEPARATOR SHALL BE CERTIFIED TO IAPMO IGC 325 AND CARRY A UPC LISTING. SEPARATOR SHALL BE CONSTRUCTED OF POLYETHYLENE. SEPARATOR SHALL BE MANUFACTURED FOR ABOVE- OR BELOW-GRADE INSTALLATION. FIELD ADJUSTABLE RISER SYSTEM IS AVAILABLE AS AN OPTION TO BRING MANHOLE COVER TO GRADE. SEPARATOR FLOW RATE SHALL BE 25 GPM. SEPARATOR LIQUID HOLDING CAPACITY SHALL BE 21 GALLONS AND OIL CAPACITY SHALL BE 5.25 GALLONS. SOLIDS CAPACITY SHALL BE 6 GALLONS. COVER SHALL PROVIDE WATER/GAS-TIGHT SEAL AND HAVE A MAXIMUM 450 LBS. LOAD CAPACITY WHEN UNIT IS INSTALLED ABOVE-GRADE, AND 2,500 LBS. WHEN BURIED WITH SR16 RISER.

SECTION 15440 - PLUMBING FIXTURES

A. THIS SPECIFICATION DESCRIBES THE REQUIREMENTS FOR PLUMBING FIXTURES AND THEIR INSTALLATION.

B. SUBMITTALS SHALL INCLUDE MANUFACTURER'S DATA SHEETS AND DIMENSIONAL INFORMATION ON ALL FIXTURES AND ACCESSORIES. FORMAT SHALL INCLUDE A SCHEDULE OF THE FIXTURES SUBMITTED AND INCLUDE IDENTIFICATION NUMBER OF EACH ITEM, SUCH AS "P-1 WATER CLOSET", AND LIST OF EACH COMPONENT AND ACCESSORY OF THE FIXTURE, INCLUDING MANUFACTURER'S MODEL NUMBER. THIS SCHEDULE MUST BE INCLUDED IN THE FRONT OF THE SUBMITTAL BOOKLET.

C. VITREOUS WARE SHALL BE WHITE, REGULAR SECTION, OF WEIGHT REQUIRED, FREE FROM CRACKS, FLAWS, BLISTERS, CRAZES OR OTHER DEFECTS. PROVIDE WITH MOUNTING BRACKETS FOR WALL MOUNTED FIXTURES UNLESS FLOOR CARRIERS ARE INDICATED.

D. STAINLESS STEEL SHALL HAVE MACHINE GROUND FINISH. DECKS AND SINK COMPARTMENT SIDES SHALL BE BUFFED. EXPOSED SURFACES SHALL HAVE NO. 4 SATIN FINISH. INTERIOR SURFACES SHALL BE DEADENED. EXPOSED METAL PIPING SHALL BE CHROMIUM PLATED AND PROTECTED DURING CONSTRUCTION BY A COAT OF GREASE.

E. WATER CLOSET AND URINAL CARRIERS SHALL HAVE TAPERED THREAD FACE PLATE, PLASTIC COUPLING WITH TEST CAP, AND NEOPRENE RUBBER GASKET. LAVATORY, SINK AND URINAL CARRIERS SHALL HAVE RECTANGULAR STRUCTURAL STEEL UPRIGHTS. CARRIERS SHALL HAVE NECESSARY ACCESSORIES FOR PROPER INSTALLATION. CARRIERS SHALL BE ACCORDING TO ANSI A112.6.1M.

F. WATER CLOSETS AND URINALS SHALL HAVE BOLT CAPS.

G. SEATS SHALL BE WHITE, SOLID PLASTIC, WITH INTERNAL CHECK AND MOLDED STAINLESS STEEL HINGE WITHOUT VISIBLE METAL PARTS, EXCEPT AS HEREINAFTER SPECIFIED.

H. CHROMIUM PLATED TRAPS SHALL BE BRASS WITH CHROMIUM PLATED NIPPLE TO WALL AND ESCUTCHEON.

I. FITTINGS AND ACCESSORIES SPECIFIED DESIGNATE TYPE ONLY; PROVIDE MODIFICATIONS TO MAKE FITTINGS WORK PROPERLY WITH FIXTURE AND PIPING. PROVIDE NECESSARY TAILPIECE AND SHANKS.

J. INSTALL EYEWASH STATION WITHIN 10 FEET OF HAZARD AREA, COMPLETELY UNOBSTRUCTED FROM VIEW OR ACCESS. ANCHOR TO FLOOR IN ACCORDANCE WITH MANUFACTURER'S REQUIREMENTS. PROVIDE AND INSTALL STRAINER AT DOMESTIC WATER INLET TO STATION. PROVIDE AND INSTALL ON WALL ABOVE STATION, A PLASTIC ENGRAVED SIGN READING "EMERGENCY USE ONLY", WHITE LETTERS ON RED BACKGROUND. PROVIDE MINIMUM 5 GALLON CONTAINER AND PROVIDE TEST FOR ALL EYEWASHES AND EMERGENCY SHOWERS. SUBMIT REPORT TO ARCHITECT OR ENGINEER PRIOR TO FINAL INSPECTION.

K. FIXTURES

WC-1 WATER CLOSET (17-1/2" HIGH, FLOOR MOUNT, TANK TYPE):
1. KOHLER K-43979 VITREOUS CHINA, 1.6 GALLON FLUSH; CLOSE COUPLED TANK WITH ELONGATED BOWL.
2. KOHLER K-7637 3/8" POLISHED CHROME ANGLE SUPPLY WITH STOP.
3. BENEKE 527SS ELONGATED SELF-SUSTAINING WITH CHECK HINGES, OPEN FRONT, HEAVY DUTY SOLID PLASTIC SEAT.

LAV-1 LAVATORY (ADA COMPLIANT, WALL HUNG):
1. AMERICAN STANDARD DECLYN WALL-HUNG LAVATORY, VITREOUS CHINA, WITH OVER FLOW AND 4" FAUCET CENTERS, DRILLED FOR CONCEALED ARM CARRIER.
2. ZURN Z-7443-VP SINGLE CONTROL FAUCET, LEVER HANDLE, 4" CENTER MOUNT, 1-1/4" GRID STRAINER.
3. MCGUIRE 170 1/2" X 3/8" SWEAT LAVATORY SUPPLIES WITH WHEEL HANDLE STOPS.
4. MCGUIRE 8902, 1-1/4 INCH X 1-1/2 INCH P-TRAP WITH ESCUTCHEON; ZURN GH, 1-1/4" OFFSET HANDICAP GRID DRAIN.
5. TRAP AND SUPPLIES COVERED WITH TRAP WRAP EQUAL TO BROCHAR INDUSTRIES.
6. ZURN Z-1231 LAVATORY CONCEALED ARM CARRIER.

EW-1 EYE/FACE WASH (PEDESTAL MOUNT):
1. STAINLESS STEEL BOWL WITH TWIN EYEWASH HEADS WITH FLIP TOP COVERS, CHROME PLATED WATER EYEWASH ASSEMBLY.
2. INCLUDE UNIVERSAL EMERGENCY SIGN CONFORMING TO ANSI Z535.1.
3. INCLUDE MIXING VALVE/TEMPERED WATER BLENDING SYSTEM.
4. EQUAL TO GUARDIAN G1825. CONFORM TO ANSI Z358.1.

EWC-1 WATER COOLER (WALL MOUNT, BOTTLE FILLING STATION, ADA):
1. ELKAY LZSTL8WSVRSK. HANDS FREE, ADA COMPLIANT DUAL STATION WITH BOTTLE FILLING STATION.
2. MCGUIRE 8902 P-TRAP WITH ESCUTCHEON.
3. MCGUIRE 170 STOP AND SUPPLY.

SK-1 LAUNDRY TUB (SINGLE COMPARTMENT):
1. FIAT MODEL NO. FL-1 SINGLE MOLDED STONE LAUNDRY TUB WITH FREE DRAINING SOAP TRAY ON BACK LEDGE. INCLUDE FOUNTHWHITE BAKED ENAMEL ANGLE LEGS THAT SLIP INTO MOLDED SOCKETS. SELF-LEVELING LEGS WITH FLOOR ANCHORS.
2. FIAT MODEL A-1 BRASS FAUCET WITH SWING SPOUT.
3. MCGUIRE 170 1/2" X 3/8" SWEAT LAVATORY SUPPLIES WITH WHEEL HANDLE STOPS.
4. MCGUIRE #150 TRAY PLUG WITH RUBBER STOPPER (1-1/2").
5. MCGUIRE #8912 1-1/2" X 1-1/2", 17 GAUGE BRASS P-TRAP.

CMVB COFFEE MAKE VALVE BOX:
1. GUY GRAY MODEL BIM 875.
2. 1/2" FIP x 1/4" O.D. OUTLET COMPRESSION ANGLE VALVE.
3. BOX IS 16 GAUGE STEEL WITH EPOXY FINISH.

L. ACCEPTABLE MANUFACTURERS: FIXTURES, VITREOUS CHINA - AMERICAN STANDARD, CRANE, ELJER, KOHLER FIXTURES, STAINLESS STEEL - JUST, ELKAY FLUSH VALVES - SLOAN, DELANEY, ZURN TOILET SEATS - OLSONITE, SPERZEL, CHURCH, BENEKE, BEMIS FAUCETS - T&S BRASS, SPEAKMAN, CHICAGO, SYMMONS, ELJER TERRAZZO - FIAT, CUTLER, FLORESTONE, STERN-WILLIAMS TRIM, CHROMED BRASS - MCGUIRE, SANITARY DASH, BRIDGEPORT SHOWER MIXING VALVES - POWERS, LEONARD, LAWLER, SYMMONS, SPEAKMAN, ZURN SHOWER HEADS - SYMMONS, SPEAKMAN, ZURN ELECTRIC WATER COOLERS - ELKAY, HALSEY TAYLOR, SUNROC, OASIS, HAWS. USE ONLY WATER COOLERS WHICH DO NOT USE CFC'S FOR REFRIGERATION. SCRUB SINKS - ELJER, AMERICAN STANDARD, KOHLER, CRANE CARRIERS - J. R. SMITH, JOSAM, ZURN, WADE EMERGENCY EQUIPMENT - GUARDIAN, HAWS, WESTERN, SPEAKMAN

M. INSTALL PLUMBING FIXTURE LEVEL AND PLUMB, IN ACCORDANCE WITH FIXTURE MANUFACTURER'S PUBLISHED LITERATURE, ROUGH-IN DRAWINGS, CODES REGULATIONS, AND REFERENCE STANDARDS. FASTEN PLUMBING FIXTURES SECURELY TO SUPPORTS OR BUILDING STRUCTURE. RIGIDLY SUPPORT WATER SUPPLIES BEHIND OR WITHIN WALL CONSTRICTION. PROVIDE STOP VALVE IN THE WATER SUPPLY TO EACH FIXTURE IN AN ACCESSIBLE LOCATION. CONNECT WALL HUNG URINALS TO WASTE PIPING WITH RED BRASS NIPPLES. CONNECT FIXTURES TO WATER SUPPLY WITH COPPER OR BRASS (NO STEEL). EACH FIXTURE, FLOOR DRAIN AND PIECE OF EQUIPMENT REQUIRING CONNECTION TO DRAINAGE SYSTEM TO HAVE SEPARATE TRAPS INSTALLED AS CLOSE TO FIXTURE AS POSSIBLE. PROVIDE IRON OR STEEL BACKING FOR ALL WALL MOUNTED FIXTURES (OR WOOD BACKING ONLY IF BUILDING STRUCTURE IS WOOD). PROVIDE ESCUTCHEONS AT EACH WALL, FLOOR AND CEILING PENETRATION IN EXPOSED FINISHED LOCATIONS AND WITHIN CABINETS AND MILLWORK. APPLY SCP3154 PRIMER AND GENERAL ELECTRIC CO.'S NO. 1702 SILICONE SANITARY SEALANT AROUND PLUMBING FIXTURES TO CONCEAL VOIDS AT WALL AND CONTACT POINTS OF FIXTURE AFTER WALLS HAVE BEEN PAINTED. APPLY SCP3154 PRIMER AND GENERAL ELECTRIC CO.'S SILPRUF SEALANT ON PLAIN CONCRETE WALLS.

SECTION 15450 - PLUMBING EQUIPMENT

A. ELECTRIC WATER HEATERS:
1. WATER HEATER SHALL COMPLY WITH UL 1453.
2. STORAGE TANK CONSTRUCTION: ASME-CODE STEEL WITH 150 PSIG WORKING-PRESSURE RATING. STEEL JACKET WITH ENAMELED FINISH.
3. TAPPINGS: FACTORY FABRICATED OF MATERIALS COMPATIBLE WITH TANK FOR PIPING CONNECTIONS, RELIEF VALVE, PRESSURE GAGE, THERMOMETER, DRAIN, ANODE RODS, AND CONTROLS AS REQUIRED. ATTACH TAPPINGS TO TANK SHELL BEFORE TESTING AND LABELING. TAPPINGS SHALL HAVE THREADED ENDS ACCORDING TO ASME B1.20.1, PIPE THREADS.
4. INTERIOR FINISH: MATERIALS AND THICKNESSES COMPLYING WITH NSF 61, BARRIER MATERIALS FOR POTABLE-WATER TANK LININGS. EXTEND FINISH INTO AND THROUGH TANK FITTINGS AND OUTLETS.
5. INSULATION: COMPLY WITH ASHRAE 90.1. SURROUND ENTIRE STORAGE TANK EXCEPT CONNECTIONS AND CONTROLS.
6. HEATING ELEMENTS: ELECTRIC, SCREW-IN OR BOLT-ON, IMMERSION TYPE. STAGING AS NOTED IN SCHEDULE.
7. TEMPERATURE CONTROL: ADJUSTABLE IMMERSION THERMOSTAT.
8. SAFETY CONTROLS: AUTOMATIC, HIGH-TEMPERATURE-LIMIT AND LOW-WATER CUTOFF DEVICES OR SYSTEMS.
9. DRAIN VALVE: ASSE 1005, CORROSION-RESISTANT METAL, FACTORY INSTALLED.
10. ANODE RODS: FACTORY INSTALLED, MAGNESIUM.
11. DIP TUBE: FACTORY INSTALLED. NOT REQUIRED IF COLD-WATER INLET IS NEAR BOTTOM OF STORAGE TANK.
12. SPECIAL REQUIREMENT: NSF 5 CONSTRUCTION.
13. ACCEPTABLE MANUFACTURERS ARE LOCHINVAR, A. O. SMITH, OR PRIOR APPROVAL EQUAL.

B. THERMAL EXPANSION TANK (DOMESTIC WATER):
1. PRE-CHARGED HYDROPNEUMATIC STEEL EXPANSION TANK, CONSTRUCTED IN ACCORDANCE WITH SECTION VIII OF ASME BOILER AND PRESSURE CODE, WITH ALL WELDS CONFORMING TO ASME SECTION IX. TANK MUST BE STAMPED WITH A MAXIMUM WORKING PRESSURE OF 125 PSI, AND A MAXIMUM WORKING TEMPERATURE OF 200 DEGREES F. ALL INTERNAL WETTED PARTS MUST COMPLY WITH FDA REGULATIONS AND APPROVALS. AN INTERNAL BUTYL DIAPHRAGM WILL BE USED TO ISOLATE AIR FROM WATER. AMTROL OR APPROVED EQUAL AST SERIES.


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JEFFREY A. BOYER
4/22/26


# Express Oil Change & Tire Engineers
## Single Building / Left Hand Oil Change / Front Enter / Side Tire Storage
Wagoner, OK

FINAL

| No. | Description | Date |
|---|---|---|
| | | |
| IFP-0 | Issue for Permit | 01/28/2026 |
| IFB-0 | Issue for Bid | 03/31/2026 |
| IFC-0 | Issue for Construction | 04/22/2026 |
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2026
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Plumbing Specifications

| | |
|---|---|
| Project number | 25041 |
| Date | 4/22/2026 |
| Drawn by | CA |
| Checked by | JB |

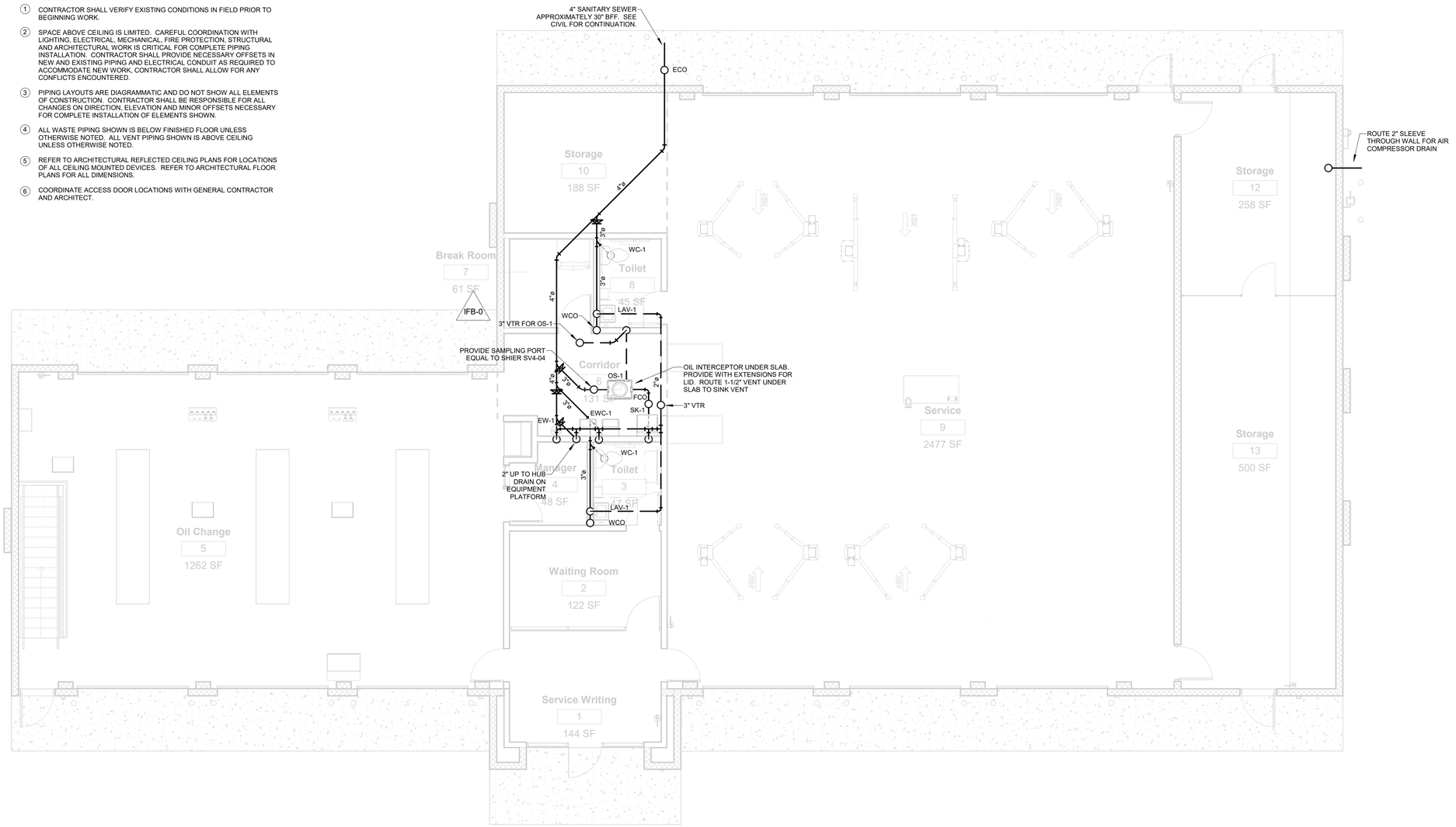
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Scale 12" = 1'-0"

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GENERAL NOTES:

1. CONTRACTOR SHALL VERIFY EXISTING CONDITIONS IN FIELD PRIOR TO BEGINNING WORK.
2. SPACE ABOVE CEILING IS LIMITED. CAREFUL COORDINATION WITH LIGHTING, ELECTRICAL, MECHANICAL, FIRE PROTECTION, STRUCTURAL AND ARCHITECTURAL WORK IS CRITICAL FOR COMPLETE PIPING INSTALLATION. CONTRACTOR SHALL PROVIDE NECESSARY OFFSETS IN NEW AND EXISTING PIPING AND ELECTRICAL CONDUIT AS REQUIRED TO ACCOMMODATE NEW WORK. CONTRACTOR SHALL ALLOW FOR ANY CONFLICTS ENCOUNTERED.
3. PIPING LAYOUTS ARE DIAGRAMMATIC AND DO NOT SHOW ALL ELEMENTS OF CONSTRUCTION. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CHANGES ON DIRECTION, ELEVATION AND MINOR OFFSETS NECESSARY FOR COMPLETE INSTALLATION OF ELEMENTS SHOWN.
4. ALL WASTE PIPING SHOWN IS BELOW FINISHED FLOOR UNLESS OTHERWISE NOTED. ALL VENT PIPING SHOWN IS ABOVE CEILING UNLESS OTHERWISE NOTED.
5. REFER TO ARCHITECTURAL REFLECTED CEILING PLANS FOR LOCATIONS OF ALL CEILING MOUNTED DEVICES. REFER TO ARCHITECTURAL FLOOR PLANS FOR ALL DIMENSIONS.
6. COORDINATE ACCESS DOOR LOCATIONS WITH GENERAL CONTRACTOR AND ARCHITECT.




NORTH

MAIN FLOOR PLAN
PLUMBING - GRAVITY
3/16" = 1'-0"


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Wagoner, OK

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2026
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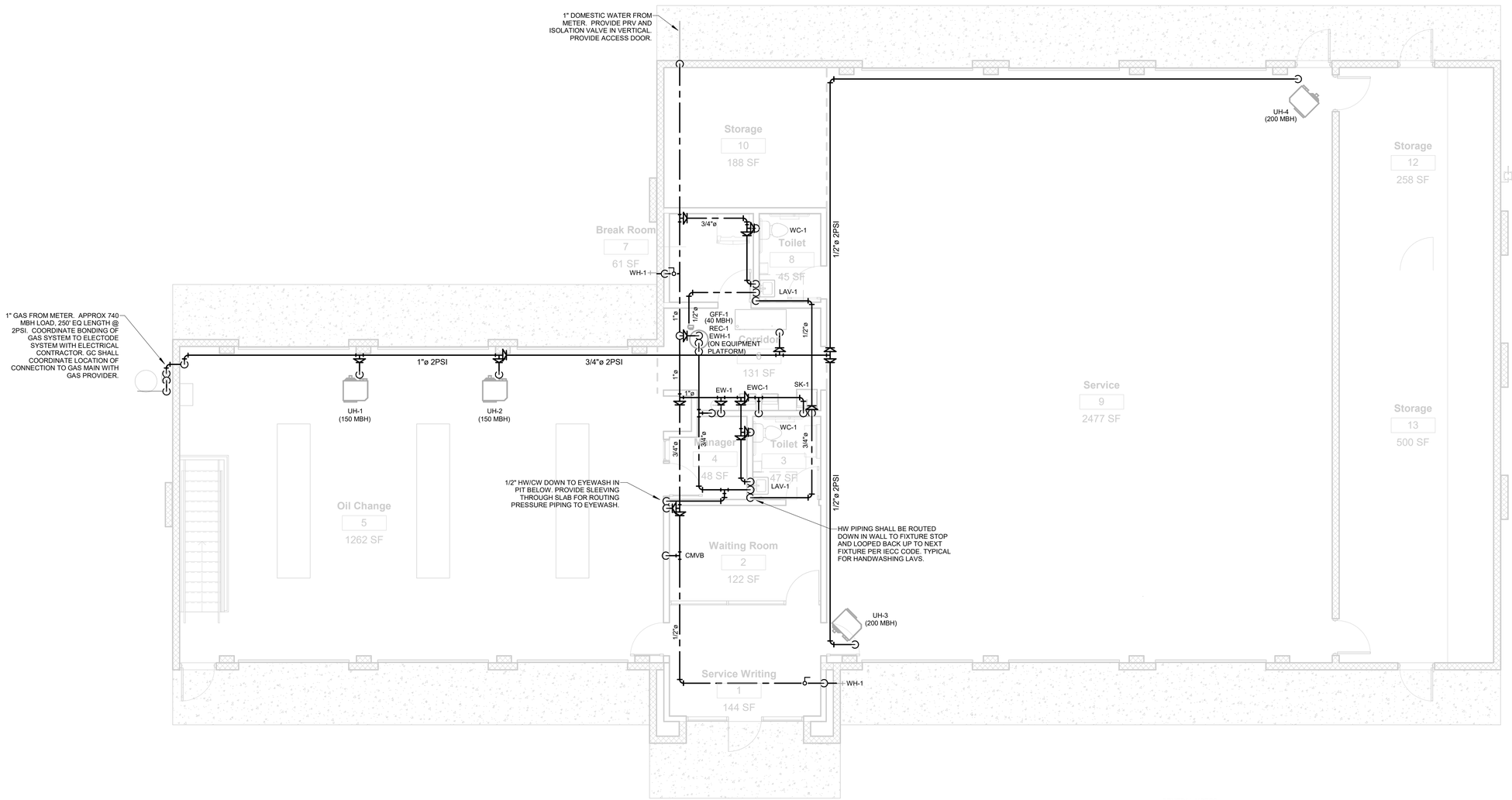

Plumbing Floor Plan Gravity

| | |
|---|---|
| Project number | 25041 |
| Date | 4/22/2026 |
| Drawn by | CA |
| Checked by | JB |

P1.01

Scale: As indicated

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NORTH

MAIN FLOOR PLAN
PLUMBING - PRESSURE
3/16" = 1'-0"

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1. CONTRACTOR SHALL VERIFY EXISTING CONDITIONS IN FIELD PRIOR TO BEGINNING WORK.
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3. PIPING LAYOUTS ARE DIAGRAMMATIC AND DO NOT SHOW ALL ELEMENTS OF CONSTRUCTION. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CHANGES ON DIRECTION, ELEVATION AND MINOR OFFSETS NECESSARY FOR COMPLETTE INSTALLATION OF ELEMENTS SHOWN.
4. ALL PRESSURE PIPING SHOWN IS ABOVE THE CEILING UNLESS OTHERWISE NOTED. CONCEALED PIPING SHALL BE PEX OR COPPER. EXPOSED PIPING IN PUBLIC SPACES SHALL BE COPPER.
5. REFER TO ARCHITECTURAL REFLECTED CEILING PLANS FOR LOCATIONS OF ALL CEILING MOUNTED DEVICES. REFER TO ARCHITECTURAL FLOOR PLANS FOR ALL DIMENSIONS.
6. COORDINATE ACCESS DOOR LOCATIONS WITH GENERAL CONTRACTOR AND ARCHITECT.


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JEFFREY A. BOYER
4/22/26


# Express Oil Change & Tire Engineers

Single Building / Left Hand Oil Change / Front Enter / Side Tire Storage

Wagoner, OK

FINAL

| No. | Description | Date |
|---|---|---|
| | | |
| IFP-0 | Issue for Permit | 01/28/2026 |
| IFB-0 | Issue for Bid | 03/31/2026 |
| IFC-0 | Issue for Construction | 04/22/2026 |


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## Plumbing Floor Plan Pressure

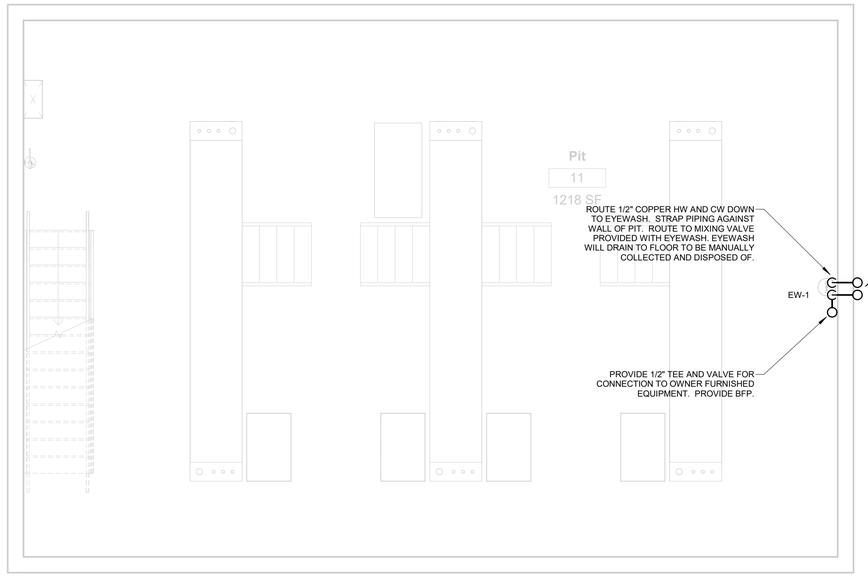
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|---|---|
| Project number | 25041 |
| Date | 4/22/2026 |
| Drawn by | CA |
| Checked by | JB |

P1.02

Scale: As indicated

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Pinnacle ENGINEERING, INC.
Engineering & Design Consultants
2111 Parkway Office Circle, Suite 125
Birmingham, AL 35244
(205) 733-6912 FAX: (205) 733-6913
Job No.25346




NORTH

PIT FLOOR PLAN PLUMBING
1/4" = 1'-0"

GENERAL NOTES:

1. CONTRACTOR SHALL VERIFY EXISTING CONDITIONS IN FIELD PRIOR TO BEGINNING WORK.
2. SPACE ABOVE CEILING IS LIMITED. CAREFUL COORDINATION WITH LIGHTING, ELECTRICAL, MECHANICAL, FIRE PROTECTION, STRUCTURAL AND ARCHITECTURAL WORK IS CRITICAL FOR COMPLETE PIPING INSTALLATION. CONTRACTOR SHALL PROVIDE NECESSARY OFFSETS IN NEW AND EXISTING PIPING AND ELECTRICAL CONDUIT AS REQUIRED TO ACCOMMODATE NEW WORK. CONTRACTOR SHALL ALLOW FOR ANY CONFLICTS ENCOUNTERED.
3. PIPING LAYOUTS ARE DIAGRAMMATIC AND DO NOT SHOW ALL ELEMENTS OF CONSTRUCTION. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CHANGES ON DIRECTION, ELEVATION AND MINOR OFFSETS NECESSARY FOR COMPLETTE INSTALLATION OF ELEMENTS SHOWN.
4. ALL PRESSURE PIPING SHOWN IS ABOVE THE CEILING UNLESS OTHERWISE NOTED. ALL TRAP PRIMER LINES AND HOT WATER RETURN LINES SHALL BE ½" UNLESS OTHERWISE NOTED.
5. REFER TO ARCHITECTURAL REFLECTED CEILING PLANS FOR LOCATIONS OF ALL CEILING MOUNTED DEVICES. REFER TO ARCHITECTURAL FLOOR PLANS FOR ALL DIMENSIONS.
6. COORDINATE ACCESS DOOR LOCATIONS WITH GENERAL CONTRACTOR AND ARCHITECT.

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JEFFREY A. BOYER
OKLAHOMA
4/22/26

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## Partial Plumbing Floor Plans - Pit and Platform

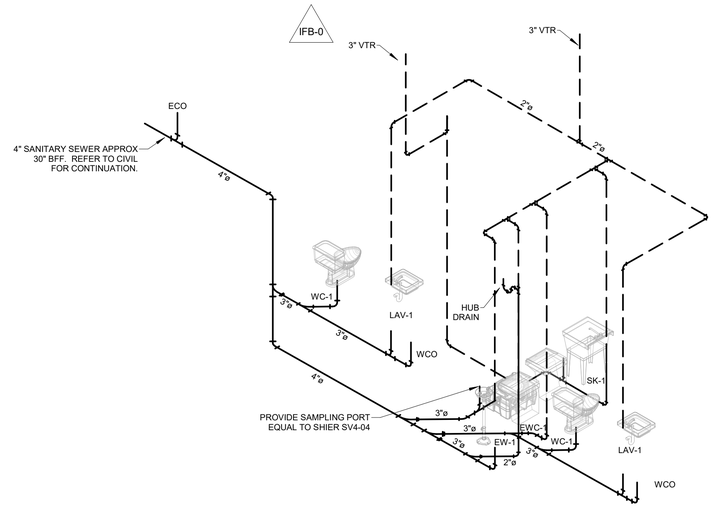
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# P1.03

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1 P2.01 Gravity Riser

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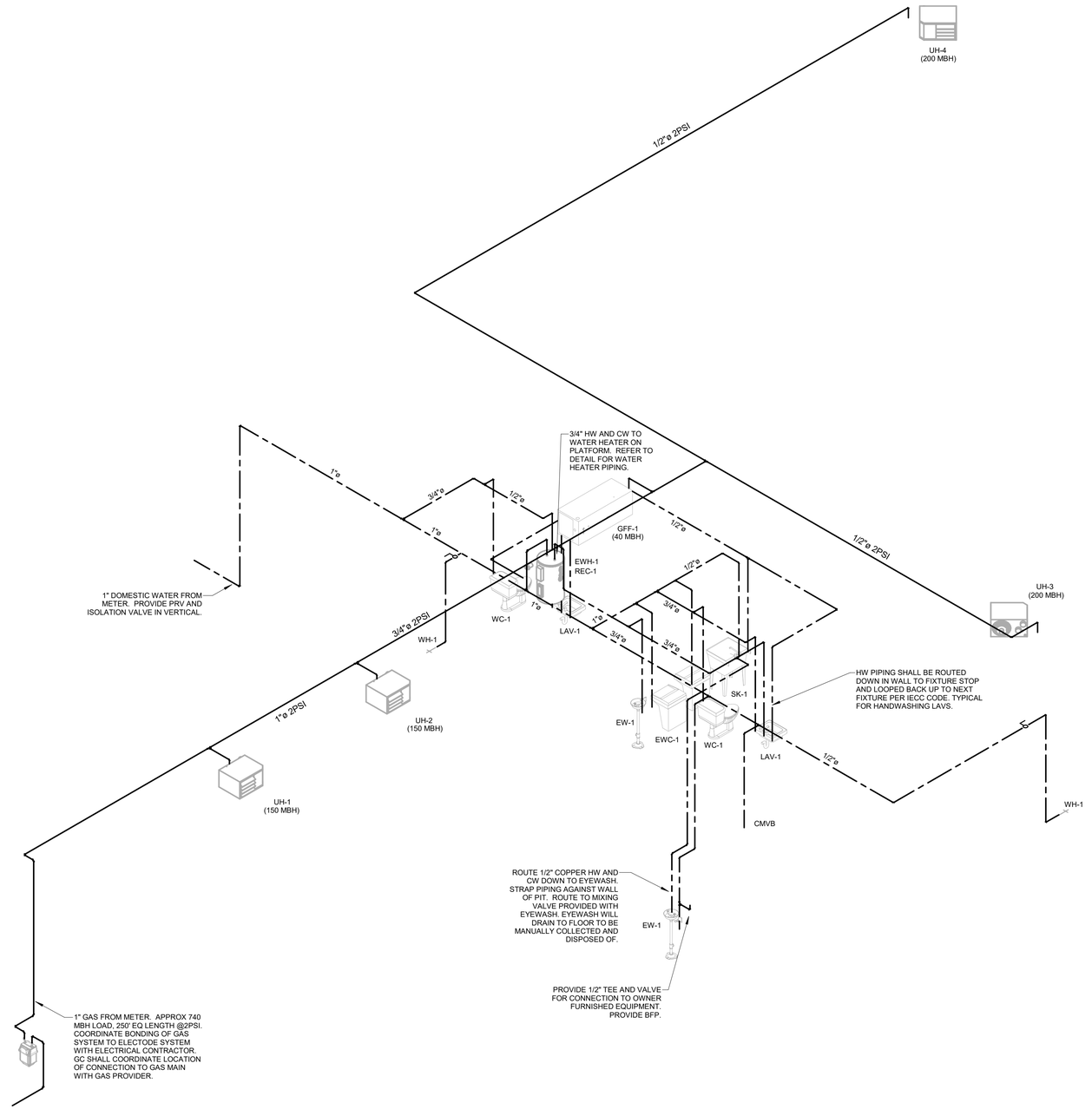
Plumbing Riser - Gravity

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|---|---|
| Project number | 25041 |
| Date | 4/22/2026 |
| Drawn by | CA |
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P2.01

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2 P2.02 Pressure Riser

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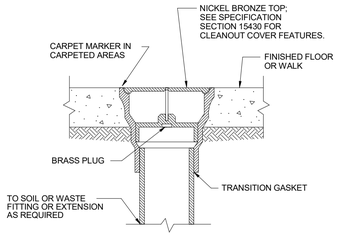
Plumbing Riser - Pressure

| | |
|---|---|
| Project number | 25041 |
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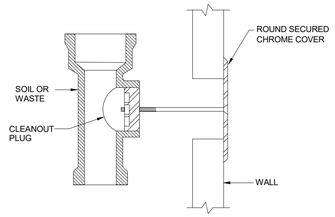
P2.02

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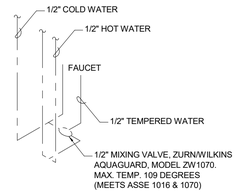
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7 P2.03 **FLOOR CLEANOUT**
NO SCALE

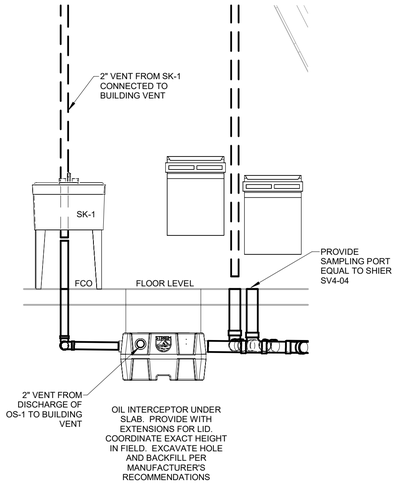



4 P2.03 **WALL CLEANOUT**
NO SCALE

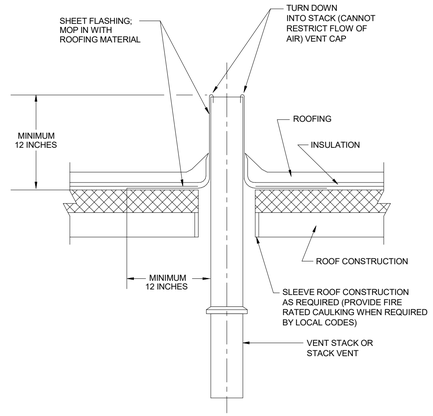



SINGLE

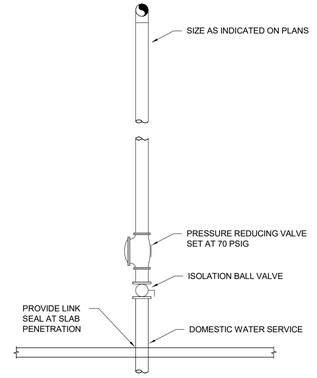
1 P2.03 **TYPICAL LAVATORY MIXING VALVE**
SCALE: NONE



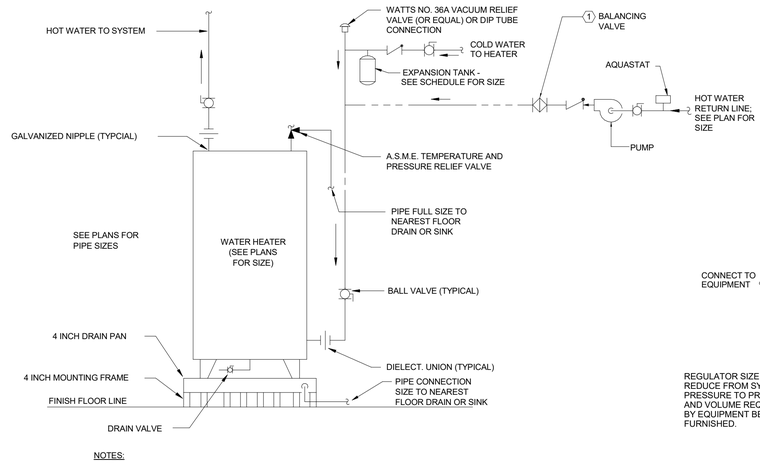

8 P2.03 **OIL INTERCEPTOR DETAIL**
1/2" = 1'-0"




5 P2.03 **VENT THROUGH ROOF DETAIL**
NO SCALE

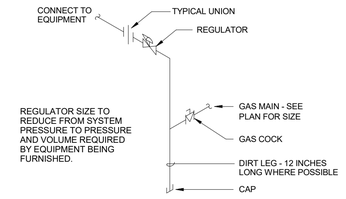



2 P2.03 **DOMESTIC WATER ENTRANCE DETAIL**
NO SCALE




NOTES:
1. SET THE BALANCING VALVE PER MANUFACTURER'S INSTRUCTIONS.

6 P2.03 **ELECTRIC WATER HEATER (FLOOR MOUNTED)**
NO SCALE




3 P2.03 **TYPICAL GAS CONNECTION**
NO SCALE


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4/22/26


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Plumbing Details

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|---|---|
| Project number | 25041 |
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P2.03

Scale 1/2" = 1'-0"

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# LIGHTING FIXTURE SCHEDULE

| TYPE | MANUFACTURER | CATALOG NUMBER | LAMPS LAMP | LAMPS WATTS | LAMPS TYPE | MTG. TYPE | MTG. HT. | REC. DEPTH | DESCRIPTION | IMAGE |
|---|---|---|---|---|---|---|---|---|---|---|
| L1P | MAXLITE | BPHE3-U090WCS | LOT | 90 | LED | P | 12' AFF | – | ROUND ECO PENDANT HIGH BAY GEN 3 FIXTURE WITH 12600 LUMEN OUTPUT, 4000K COLOR TEMPERATURE. PROVIDE ALL REQUIRED ACCESSORIES FOR HOOK AND CHAIN MOUNTING. |  |
| | APPROVED EQUAL | | | | | | | | | |
| L2P | MAXLITE | LSV4U23WCSCR MLCHKLSV15 | LOT | 35 | LED | P | * | – | 4' LINEAR LED FIXTURE, PENDANT MOUNTED WITH ALUMINUM VAPOR TIGHT HOUSING, SELECTABLE WATTAGE, 4500 LUMEN OUTPUT, 4000K COLOR TEMPERATURE. PROVIDE ALL REQUIRED ACCESSORIES FOR SUSPENDED MOUNTING. SEE LIGHTING PLANS FOR LOCATIONS AND QUANTITIES. * VERIFY MOUNTING HEIGHT ABOVE FINISHED FLOOR PRIOR TO INSTALLATION. |  |
| | APPROVED EQUAL | | | | | | | | | |
| L2 | MAXLITE | LSV4U23WCSCR | LOT | 35 | LED | S | C | – | 4' LINEAR LED FIXTURE, SURFACE MOUNTED WITH ALUMINUM VAPOR TIGHT HOUSING, SELECTABLE WATTAGE, 4500 LUMEN OUTPUT, 4000K COLOR TEMPERATURE. PROVIDE ALL REQUIRED ACCESSORIES FOR SURFACE MOUNTING. SEE LIGHTING PLANS FOR LOCATIONS AND QUANTITIES. |  |
| | APPROVED EQUAL | | | | | | | | | |
| L3 | MAXLITE | MLFP24G522WCSCR ML24G4CHK | LOT | 38 | LED | LI | C | – | 2X4 LAY-IN LED FLAT PANEL FIXTURE WITH SELECTABLE WATTAGE, SELECTABLE COLOR TEMPERATURE, 4000 LUMEN OUTPUT, DIMMABLE DRIVER, UNIVERSAL VOLTAGE, FLANGE KIT, HANGING CABLES AND POLYSTYRENE LENS. |  |
| | APPROVED EQUAL | | | | | | | | | |
| L3E | MAXLITE | MLFP24G522WCSCREM ML24G4CHK | LOT | 38 | LED | LI | C | – | 2X4 LAY-IN LED FLAT PANEL FIXTURE WITH SELECTABLE WATTAGE, SELECTABLE COLOR TEMPERATURE, 4000 LUMEN OUTPUT, DIMMABLE DRIVER, UNIVERSAL VOLTAGE, FLANGE KIT, CABLE HANGERS, POLYSTYRENE LENS. AND EMERGENCY BATTERY PACK. |  |
| | APPROVED EQUAL | | | | | | | | | |
| L4 | MAXLITE | M55UC4W-CSBWCR M-VCLV2 | LOT | 38 | LED | W | 10'AFF | – | FIXED WALL MOUNTED LED FIXTURE WITH BLACK FINISH, DIE-CAST ALUMINUM HOUSING, SELECTABLE COLOR TEMPERATURE, 3512 LUMEN OUTPUT, WIDE DISTRIBUTION. UL LISTED FOR WET LOCATION. |  |
| | APPROVED EQUAL | | | | | | | | | |
| L4E | MAXLITE | M55UC4W-CSBWCRE2 M-VCLV2 | LOT | 38 | LED | W | 10'AFF | – | FIXED WALL MOUNTED LED FIXTURE WITH BLACK FINISH, DIE-CAST ALUMINUM HOUSING, SELECTABLE COLOR TEMPERATURE, 3512 LUMEN OUTPUT, WIDE DISTRIBUTION, ELECTRONIC DRIVER, AND EMERGENCY BATTERY PACK. UL LISTED FOR WET LOCATION. |  |
| | APPROVED EQUAL | | | | | | | | | |
| L5 | PROVIDED BY GENERAL CONTRACTOR | | FURNISHED WITH UNIT | | | R | C | – | RECESSED LED DOWNLIGHT WITH 4000K COLOR TEMPERATURE, 3000 LUMEN OUTPUT, AND EMERGENCY BATTERY PACK. UL LISTED FOR WET LOCATION. FIXTURES ARE PROVIDED BY GENERAL CONTRACTOR AS PART OF THE METAL AWNING SYSTEM. | |
| | PROVIDED BY GENERAL CONTRACTOR | | | | | | | | | |
| | PROVIDED BY GENERAL CONTRACTOR | | | | | | | | | |
| S1 | PROVIDED BY SIGN MANUFACTURER | | FURNISHED WITH UNIT | | | W | NOTE 3 | – | WALL MOUNTED LED SIGN LIGHTING FIXTURE. NOTE 2. | |
| | PROVIDED BY SIGN MANUFACTURER | | | | | | | | | |
| | PROVIDED BY SIGN MANUFACTURER | | | | | | | | | |
| S2 | PROVIDED BY SIGN MANUFACTURER | | FURNISHED WITH UNIT | | | W | NOTE 3 | – | WALL MOUNTED LED LIGHT FIXTURE. NOTE 2. | |
| | PROVIDED BY SIGN MANUFACTURER | | | | | | | | | |
| | PROVIDED BY SIGN MANUFACTURER | | | | | | | | | |
| BL | MAXLITE | EMT-2WH | FURNISHED WITH UNIT | | | W | 9'AFF | – | WALL MOUNTED TWO HEAD LED EMERGENCY FIXTURE WITH WHITE THERMOPLASTIC HOUSING, 1100 LUMEN OUTPUT, SELF DIAGNOSTICS, AND EMERGENCY BATTERY PACK. |  |
| | APPROVED EQUAL | | | | | | | | | |
| XL | MAXLITE | EXT-GW | FURNISHED WITH UNIT | | | W | AD | – | WHITE THERMOPLASTIC LED EXIT SIGN WITH SINGLE FACE, GREEN LETTERS, UNIVERSAL MOUNTING, SELF DIAGNOSTICS, AND EMERGENCY BATTERY PACK. |   |
| | APPROVED EQUAL | | | | | | | | | |

ABBREVIATIONS: LI–LAY–IN C–CEILING LG–LENS GASKETING GMF–INTERNAL SLOW BLOW FUSE FL–FLUORESCENT MH–METAL HALIDE HO–HIGH OUTPUT
AFF–ABOVE FINISH FLOOR P–PENDENT FC–FROM CEILING R–RECESSED AM–ABOVE MIRROR W–WALL AD–ABOVE DOOR
S–SURFACE DTT–DOUBLE TWIN TUBE FLUORESCENT CA–CANOPY TC–TOP OF METAL CANOPY AW–ABOVE WINDOW VA–VERIFY WITH ARCHITECT

LIGHTING FIXTURE SCHEDULE GENERAL NOTES:

1. FIXTURE OUTLET BOX LOCATIONS SHOWN ON THE DRAWINGS ARE DIAGRAMMATIC AND APPROXIMATE IN LOCATION. EXACT POSITION OF THE OUTLET BOX SHALL DEPEND ON THE FIXTURE AND THE MOUNTING DETAIL.
2. MOUNTING AND SUPPORT DETAILS FOR LIGHTING FIXTURES SHALL BE SUBMITTED TO AND APPROVED BY THE ENGINEER BEFORE THE FIXTURES ARE INSTALLED. NO COMBUSTIBLE MATERIALS SHALL BE USED.
3. WET LOCATION FIXTURES SHALL BE MOUNTED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATION SO AS TO ENSURE THE PREVENTION OF MOISTURE FROM ENTERING THE FIXTURE. IN ADDITION, EACH CONDUIT ENTRY WILL BE SEALED BY USE OF AN APPROVED SWEDGE FITTING WITH A NEOPRENE SEAL, AS MANUFACTURED BY JOHN REMKE COMPANY OR APPROVED EQUAL.
4. OUTLET BOXES SERVING WET LOCATION FIXTURE SHALL BE CODE SIZE, WITH A WATERTIGHT SOLID CAST TOP. CONDUIT ENTRIES SHALL BE THREADED.
5. FIXTURE MOUNTING HEIGHTS IN SCHEDULE ARE TYPICAL UNLESS NOTED OTHERWISE ON DRAWINGS.
6. FOR LIGHTING PACKAGE PRICING, CONTACT THE FOLLOWING:

MIKE MCMAKEN
REXEL ENERGY SOLUTIONS
(M) 906-235-2979
MIKE.MCMAKEN@REXELENERGY.COM

STEPHEN MITCHELL
MAXLITE
(M) 908-256-3115
SMITCHELL@MAXLITE.COM

LIGHTING FIXTURE SCHEDULE NOTES:

1. SEE MOUNTING DETAIL ON THIS SHEET FOR MORE INFORMATION.
2. INSTALLED BY SIGN COMPANY.
3. VERIFY MOUNTING HEIGHT WITH SIGN COMPANY BEFORE ROUGHING IN.

GENERAL NOTES:

1. VERIFY ALL DOOR SWINGS WITH ARCHITECTURAL BEFORE ROUGHING IN LIGHT SWITCHES TO ENSURE PROPER SWITCH LOCATION. VERIFY ALL CASEWORK DETAILS TO ENSURE THAT ALL OUTLETS ABOVE CASEWORK ARE AT THE PROPER HEIGHT.
2. SERVICE TO THE BUILDING SHALL BE 120/240 VOLTS, 1PHASE, 3WIRE.
3. ALL CONDUIT SHALL BE RUN CONCEALED UNLESS SPECIFICALLY SHOWN EXPOSED, OR INSTALLED IN EXPOSED CEILING.
4. THE CONTRACTOR SHALL CHECK ALL LIGHTING FIXTURES FOR EXACT TYPE MOUNTING AND SPACE REQUIRED BEFORE ROUGHING IN.
5. THE CONTRACTOR SHALL WORK CLOSELY WITH THE GENERAL CONTRACTOR AND VERIFY EXACT TYPE OF EQUIPMENT TO BE INSTALLED AND THE DIMENSIONS WHICH MAY AFFECT THE EXACT PLACEMENT OF ELECTRICAL WORK.
6. VERIFY THE EXACT LOCATION OF ALL MOTORS AND EQUIPMENT BEFORE ROUGHING IN. LIKEWISE APPRAISE ALL TRADES OF THE LOCATIONS OF ELECTRICAL WORK THAT AFFECTS WALL THICKNESS, PLUMBING, MECHANICAL, ETC.
7. ALL CONDUIT STUBBED OUT FOR FUTURE SHALL BE CAPPED AND HAVE LOCATION MARKED WITH A 2" SQUARE, PAINTED RED, WITH CONDUIT NAME AND SIZE SHOWN IN WHITE.
8. ALL BRANCH CIRCUITS AND FEEDERS SHALL HAVE AN INSULATED GROUND WIRE PULLED IN THE CONDUIT WITH CURRENT CONDUCTOR UNLESS SPECIFICALLY NOTED OTHERWISE ON THE PLANS. THE GROUNDING CONDUCTOR SHALL BE SIZED ACCORDING TO TABLE 250-122 OF THE LATEST EDITION OF THE NATIONAL ELECTRICAL CODE UNLESS INDICATED TO BE LARGER IN THE SPECIFICATIONS OR PLANS.
9. DO ALL WORK IN COMPLIANCE WITH ALL APPLICABLE CODES, LAWS AND ORDINANCES, THE NATIONAL ELECTRICAL CODE (HEREINAFTER REFERRED TO AS "CODE" OR "NEC"), THE AMERICANS WITH DISABILITIES ACT, AND THE REGULATIONS OF THE LOCAL AUTHORITIES HAVING JURISDICTION AND, WHERE APPLICABLE, UTILITY COMPANIES. OBTAIN AND PAY FOR ANY AND ALL REQUIRED PERMITS, INSPECTIONS, CERTIFICATES OF INSPECTIONS AND APPROVAL, AND THE LIKE, AND DELIVER SUCH CERTIFICATES TO THE OWNER.
10. THE MAIN SERVICE SHALL HAVE THE GROUNDED CONDUCTOR (NEUTRAL) GROUNDED TO THE GROUNDING ELECTRODE SYSTEM AT THE SUPPLY SIDE OF THE SERVICE DISCONNECTING MEANS BY A GROUNDING ELECTRODE CONDUCTOR NOT SMALLER THAN THAT SHOWN IN TABLE 250-66 OF THE NEC. THE GROUNDED CONDUCTOR (NEUTRAL), THE GROUNDING ELECTRODE CONDUCTOR, AND THE EQUIPMENT GROUNDING CONDUCTOR CONNECTIONS SHALL BE MADE INSIDE THE SERVICE ENTRANCE EQUIPMENT.
11. ALL CONDUCTORS SHALL BE COPPER, EXCEPT AS SHOWN ON DRAWINGS.
12. MINIMUM CONDUCTOR SIZE SHALL BE #12.
13. ALL CONDUIT INSTALLED INDOORS SHALL BE EMT, OTHERWISE SHALL BE IMC.
14. SWITCH AND RECEPTACLE COVER PLATES SHALL BE STAINLESS STEEL.
15. ALL DEVICES SHALL BE GRAY.
16. ALL FUSES SHALL BE DUAL ELEMENT, TIME DELAY, RATED 100,000 AIC.
17. ALL DISCONNECT SWITCHES SHALL BE HEAVY DUTY TYPE.
18. ALL CONDUCTORS SHALL BE DUAL RATED THHN/THWN TYPE INSULATION.
19. GUTTERS (WIREWAYS) SHALL BE SIZED AS SHOWN OR AS REQUIRED BY CODE. ALL GUTTERS SHALL HAVE HINGED COVERS WITH APPROVED FASTENING DEVICES & SHALL BE A STANDARD MANUFACTURED ITEM WITH U.L. LABEL. GUTTERS FROM AC DUCT MATERIAL ARE NOT ACCEPTABLE. GUTTERS SHALL BE AS MANUFACTURED BY HOFFMAN, SQUARE "D", B & C OR APPROVED EQUAL. GUTTER TAPS SHALL BE ILSCO TYPE GTA OF PTA WITH GTC OR PTC INSULATING COVERS.
20. IT SHALL BE THE RESPONSIBILITY OF THIS CONTRACTOR, PRIOR TO BID, TO REAFFIRM WITH THE UTILITY COMPANIES INVOLVED, THAT THE LOCATION, ARRANGEMENT (AND THE POWER COMPANY: VOLTAGE, PHASE & METERING REQUIRED) AND CONNECTIONS AT THE UTILITY SERVICE ARE IN ACCORDANCE WITH THEIR REGULATIONS & REQUIREMENTS. IF THEIR REQUIREMENTS ARE AT A VARIANCE WITH THESE DRAWINGS & SPECIFICATIONS, THE CONTRACT PRICE SHALL INCLUDE ANY ADDITIONAL COST NECESSARY TO MEET THOSE REQUIREMENTS WITHOUT EXTRA COST TO THE OWNER AFTER A CONTRACT HAS BEEN ENTERED INTO.
21. ON MANY PROJECTS, THE UTILITY COMPANY MAY LEVY CHARGES DUE TO LOCATION, SIZE OR TYPE OF SERVICE INVOLVED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THESE CHARGES, UNLESS SUCH CHARGES ARE NOT AVAILABLE PRIOR TO BID & CONTRACTOR SO DOCUMENTS AT BID OPENING. SHOULD THE THE COST NOT BE AVAILABLE, PRIOR TO BID, THE CONTRACTOR SHALL SUBMIT A LETTER SO STATING WITH HIS BID.
22. ARRANGE WITH UTILITY COMPANIES FOR SUCH SERVICE AS SHOWN OR HEREIN SPECIFIED & INSTALLATION OF METER WHERE SHOWN. FURNISH WITH SHOP DRAWINGS, A SIGNED DOCUMENT FROM UTILITY COMPANIES DESCRIBING THE LOCATION & TYPE OF SERVICES TO BE FURNISHED AND ANY REQUIREMENTS THEY MAY HAVE. THIS DOCUMENT SHALL BE SIGNED FOR EACH UTILITY COMPANY BY A PERSON RESPONSIBLE FOR GRANTING SUCH SERVICES.
23. PAY ALL CHARGES (IF ANY) IN CONNECTION THEREWITH, INCLUDING PERMANENT METER DEPOSIT. METER DEPOSIT WILL BE REFUNDED TO THE CONTRACTOR AT TIME OF OWNER'S ACCEPTANCE.
24. FINAL EQUIPMENT CONNECTIONS – CONTRACTOR IS RESPONSIBLE FOR PROVIDING ALL LABOR AND MATERIALS REQUIRED TO MAKE FINAL ELECTRICAL CONNECTIONS TO ALL EQUIPMENT FURNISHED BY THIS CONTRACTOR AND/OR FURNISHED BY OTHERS. VERIFY ALL ELECTRICAL REQUIREMENTS WITH EQUIPMENT SUPPLIER PRIOR TO ROUGH IN.


GIDEON WAMAE, P.E.
4120 OVERLOOK CIRCLE, TRUSSVILLE, AL 35173
GWAMAE@GW-ENG.COM | 205.413.4112



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LICENSED PROFESSIONAL ENGINEER
GIDEON WAMAE
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OKLAHOMA
3/31/26

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General Notes & Fixture Schedules

| | |
|---|---|
| Project number | 25041 |
| Date | 12/16/2025 |
| Drawn by | TH |
| Checked by | GW |

E100

Scale NO SCALE

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# GRAPHICAL ELECTRICAL SYMBOLS

| BRANCH CIRCUIT SYMBOLS | | |
|---|---|---|
| | BRANCH CIRCUIT | HOMERUN TO 20A, 1POLE CIRCUIT BREAKER IN PANELBOARD OR DEVICE NOTED. WIRE SIZE IS 2#12&1#12GRD–3/4"C. |
| | BRANCH CIRCUIT | CONCEALED IN CEILING OR WALL. |
| | BRANCH CIRCUIT | CONCEALED IN FLOOR. |
| EX | BRANCH CIRCUIT | EXISTING CONDUIT BARS DENOTE NEW CONDUCTORS. |
| | BRANCH CIRCUIT | EXPOSED. |
| o | BRANCH CIRCUIT | RISER UP. |
| • | BRANCH CIRCUIT | RISER DOWN. |
| **BRANCH CIRCUIT NOTES** | | |
| | BRANCH CIRCUIT | 3#12&1#12GRD–3/4"C |
| | BRANCH CIRCUIT | 4#12&1#12GRD–3/4"C |
| 10 | BRANCH CIRCUIT | 2#10&1#10GRD–3/4"C |
| 10 | BRANCH CIRCUIT | 3#10&1#10GRD–3/4"C |
| SIZE CONDUIT PER NEC FOR GREATER NUMBER OF CONDUCTORS OR AS NOTED. THE NUMBER IN THE CIRCUIT INDICATES AWG WIRE SIZE AND THE HASHMARKS INDICATE THE NUMBER OF WIRES REQUIRED. EQUIPMENT GROUND CONDUCTOR SHALL BE SIZED IN ACCORDANCE WITH NEC TABLE 250–122. THE NUMBER OF HASH MARKS DO NOT INCLUDE EQUIPMENT GROUNDING CONDUCTOR. | | |

| GENERAL SYMBOLS | |
|---|---|
| J | JUNCTION BOX. |
| J | WALL MOUNTED JUNCTION BOX. |
| J | WALL MOUNTED JUNCTION BOX WITH FLEXIBLE CONNECTION TO EQUIPMENT. |
| W | ONE GANG BOX WITH 3/4"C. STUB UP ABOVE ACCESSIBLE CEILING WITH COAXIAL CABLE AND TV JACKS. |
| $T | MANUAL MOTOR STARTER WITH THERMAL PROTECTION. |
| | SAFETY SWITCH, NON–FUSED. |
| | SAFETY SWITCH, FUSED. |
| | CIRCUIT BREAKER MOUNTED IN NEMA 1 ENCLOSURE UNLESS NOTED OTHERWISE |
| | LIGHTING PANEL AND/OR RECEPTACLE PANEL. |
| | POWER PANEL. |
| TR | TRANSFORMER. |
| | GROUND. |

| GENERAL ABBREVIATIONS | |
|---|---|
| H | MOUNTING HEIGHT ABOVE FINISHED FLOOR. |
| AF | ABOVE FINISHED FLOOR. |
| WP | WEATHER PROOF – NEMA 3R |
| RT | RAIN TIGHT – NEMA 4. |
| EP | EXPLOSION PROOF. |
| TP | TAMPER PROOF. |
| A | MOUNT ABOVE COUNTER. |
| BC | MOUNT BELOW COUNTER. |
| F | FLUSH MOUNTED. |
| SLD | SEE SINGLE LINE DIAGRAM. |
| GFI | GROUND FAULT INTERRUPTING. |
| C | CONDUIT. |
| EC | EMPTY CONDUIT |
| GC | FLEXIBLE CONDUIT. |
| SFC | SEALTITE FLEXIBLE CONDUIT. |
| EMT | ELECTRICAL METALLIC TUBING. |
| IMC | INTERMEDIATE METALLIC CONDUIT. |
| RG | RIGID CONDUIT. |
| PVC | NONMETALLIC RIGID CONDUIT. |
| EX | EXISTING. |
| XR | EXISTING TO BE REMOVED |
| RL | EXISTING TO BE REMOVED AND RELOCATED. |
| RQ | EXISTING TO BE REMOVED. EXTEND CIRCUIT CONDUCTORS AS REQUIRED AND INSTALL FINISHED BLANK COVER. |
| RR | EXISTING TO BE REMOVED AND REPLACED WITH NEW. |
| RL'D | RELOCATED POSITION. |
| EM | EMERGENCY BATTERY PACK |

| LIGHTING FIXTURE & CONTROL SYMBOLS | | |
|---|---|---|
| 1 A | CEILING OUTLET | FIXTURE TYPE "A" CIRCUIT #1. |
| | CEILING OUTLET | EXISTING. |
| | CEILING OUTLET | FLUORESCENT FIXTURE, SINGLE OR CONTINUOUS, LENGTHS AS SHOWN. |
| | CEILING OUTLET | FLUORESCENT STRIP. |
| | WALL OUTLET | BRACKET TYPE FIXTURE. |
| | WALL OUTLET | FLUORESCENT BRACKET TYPE FIXTURE. |
| $ | SWITCH OUTLET | A.C. TYPE, SINGLE POLE, 20A, 125/277V. |
| $3 | SWITCH OUTLET | A.C. TYPE, THREE WAY, 20A, 125/277V. |
| $4 | SWITCH OUTLET | A.C. TYPE, FOUR WAY, 20A, 125/277V. |
| $OS | SWITCH OUTLET | 180° DUAL TECH SENSOR LIGHTING MOTION DETECTOR, WALL MOUNTED. WATT STOPPER #DW–100. |
| PP | SWITCH OUTLET | LIGHTING MOTION DETECTOR POWER PACK. INSTALL ABOVE ACCESSIBLE CEILING. |
| M | SWITCH OUTLET | LIGHTING MOTION DETECTOR, CEILING MOUNTED. |
| **SWITCH OUTLET NOTES** | | |
| "a" "b" ETC. | FIXTURE CORRESPONDS TO A SWITCH DENOTED WITH THE SAME LOWER CASE LETTER. | |

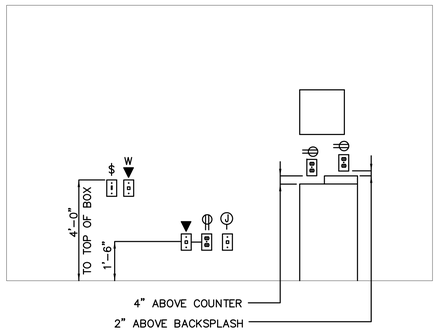
| EXIT LIGHT SYMBOLS | |
|---|---|
| XL | WALL OR CEILING MOUNTED, SINGLE FACE, NO ARROW. |
| XL | CEILING MOUNTED, DOUBLE FACE, LEFT OR RIGHT ARROWS. |
| XL | WALL OR CEILING MOUNTED, SINGLE FACE, LEFT OR RIGHT ARROW. |
| XL | WALL OR CEILING MOUNTED, SINGLE FACE, LEFT AND RIGHT ARROWS. |
| XL | CEILING MOUNTED, DOUBLE FACE, LEFT AND RIGHT ARROWS. |

| RECEPTACLE OUTLET SYMBOLS | | |
|---|---|---|
| | WALL OUTLET | DUPLEX RECEPTACLE, 20A, 125V, 3WIRE, NEMA 5–20R. |
| | WALL OUTLET | DOUBLE DUPLEX RECEPTACLE, 20A, 125V, 3WIRE, NEMA 5–20R, SINGLE PLATE. |
| | WALL OUTLET | DUPLEX RECEPTACLE, 20A, 125V, NEMA 5–20R, GFCI, WEATHER–RESISTANT, WITH EXTRA DUTY IN–USE WEATHERPROOF COVER. HUBBELL CATALOG #GFR5362SGGY/WP8M |
| | WALL OUTLET | SINGLE RECEPTACLE, 20A, 250V, 3WIRE, NEMA 6–20R. |
| | WALL OUTLET | SINGLE RECEPTACLE, 20A, 250V, 3WIRE, NEMA L6–20R. |
| | FLOOR OUTLET | FLUSH MOUNTED IN–GRADE WITH DOUBLE DUPLEX RECEPTACLE, 20A, 125V, 3WIRE, NEMA 5–20R, FOUR SPACES FOR KEYSTONE CONNECTORS, AND BRUSHED BRASS COVER LEGRAND RFB4E OR EQUAL. |
| | CEILING OUTLET | DUPLEX RECEPTACLE, 20A, 125V, 3WIRE, NEMA 5–20R. |
| **RECEPTACLE OUTLET NOTES** | | |
| "G" | GROUND FAULT INTERRUPTER. | |
| "GA" | GROUND FAULT INTERRUPTER, MOUNTED ABOVE COUNTER. | |
| "A" | MOUNTED ABOVE COUNTER. | |
| "BC" | MOUNTED BELOW COUNTER. | |
| "DF" | FOR DRINKING FOUNTAIN. | |

| VOICE/DATA OUTLET & CONDUIT SYMBOLS | | |
|---|---|---|
| ▶ | VOICE/DATA OUTLET | WALL MOUNTED, WITH 3/4" CONDUIT HOMERUN TO NEAREST TELEPHONE CABINET OR BACKBOARD UNLESS NOTED OTHERWISE. |
| | VOICE/DATA OUTLET | TELEPHONE BACKBOARD – 3/4" PLYWOOD PAINTED WITH TWO COATS OF FIRE RETARDANT PAINT, 48"x96" HIGH, UNLESS SHOWN OTHERWISE. |
| **VOICE/DATA OUTLET NOTES** | | |
| "A" | MOUNTED ABOVE COUNTER. | |
| "BC" | MOUNTED BELOW COUNTER. | |

NOTES:

1. INDICATED MOUNTING HEIGHTS ARE FROM FINISHED FLOOR TO CENTERLINE OF OUTLET BOX, UNLESS OTHERWISE NOTED.
2. REFER TO ARCHITECTURAL DETAILS FOR ADDITIONAL REQUIREMENTS.
3. INSTALL OUTLETS THAT ARE IN CLOSE PROXIMITY ON THE SAME CENTERLINE.
4. MOUNTING HEIGHTS SHOWN HERE ARE TYPICAL UNLESS NOTED OTHERWISE ON DRAWINGS.




DETAIL
TYPICAL MOUNTING HEIGHTS
NOT TO SCALE


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Express Oil Change & Tire Engineers
Single Building / Left Hand Oil Change / Front Enter / Side Tire Storage
Wagoner, OK

FINAL

| No. | Description | Date |
|---|---|---|
| | | |
| IFP-0 | Issue for Permit | 01/28/2026 |
| IFB-0 | Issue for Bid | 03/31/2026 |
| IFC-0 | Issue for Construction | 04/22/2026 |


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Symbol Legends and Details

| | |
|---|---|
| Project number | 25041 |
| Date | 12/16/2025 |
| Drawn by | TH |
| Checked by | GW |
| Scale | NO SCALE |

E101

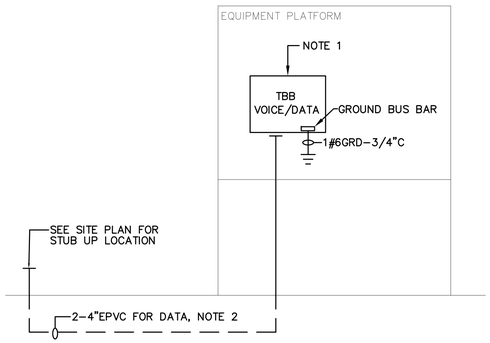
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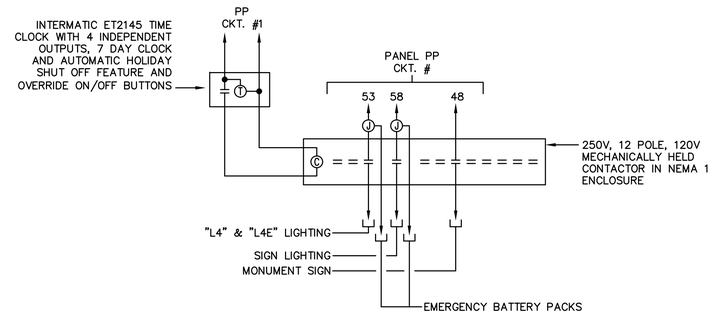

DETAIL
ARC FLASH HAZARD WARNING LABEL
NOT TO SCALE

NOTES:

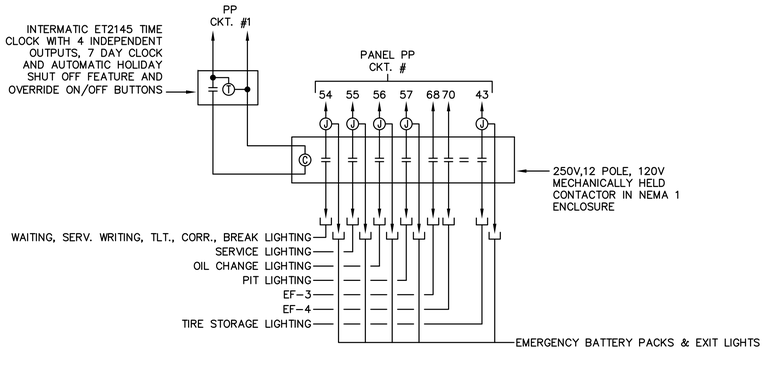
1. 48"x48" FREE STANDING TELEPHONE BACKBOARD. PROVIDE ACCESS AND WORK SPACE CLEARANCE AS REQUIRED BY LOCAL TELECOM UTILITY COMPANY.
2. CONDUIT ELBOWS SHALL BE SWEEPING WITH NO HARD ANGLES.




SINGLE LINE DIAGRAM
AUXILIARY
NOT TO SCALE




WIRING DIAGRAM
CONTACTOR C-2
NOT TO SCALE



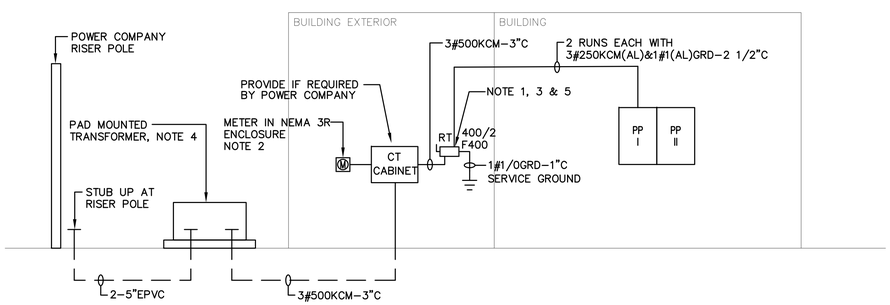

WIRING DIAGRAM
CONTACTOR C-1
NOT TO SCALE

GENERAL NOTES:

1. COORDINATE SERVICE SECONDARY FROM UTILITY TRANSFORMER TO METER WITH POWER COMPANY BEFORE BID AND PRICING. PROVIDE PER POWER COMPANY REQUIREMENTS.
2. EQUIPMENT WITH ALUMINUM FEEDERS SHALL BE PROVIDED WITH DUAL RATED TERMINALS.

NOTES:

1. SERVICE ENTRANCE RATED DISCONNECT SWITCH, NEMA 3R ENCLOSURE
2. COORDINATE METERING WITH POWER COMPANY BEFORE ROUGHING IN.
3. PROVIDE 2"X3" ENGRAVED LABEL WITH BLUE LETTERING INDICATING MAXIMUM AVAILABLE FAULT CURRENT AND DATE OF CALCULATION.
4. UTILITY PAD MOUNTED TRANSFORMER. FURNISH AND INSTALL CONCRETE PAD PER POWER COMPANY REQUIREMENTS. CONTACT UTILITY COMPANY FOR PAD SPECIFICATIONS AND REQUIRED TERMINATIONS AT TRANSFORMER BEFORE BID AND PRICING. INCLUDE COSTS IN BID. COORDINATE EXACT LOCATION OF TRANSFORMER, PROVIDE CLEARANCES AS REQUIRED BY POWER COMPANY.
5. SERVICE DISCONNECT SHALL BE MOUNTED SUCH THAT CENTER OF OPERATING HANDLE SHALL NOT BE LESS THAN 4' AND NOT MORE THAN 6'-7" ABOVE GRADE.




SINGLE LINE DIAGRAM
POWER
NOT TO SCALE

PANEL LOAD SUMMARY

Panel: PP (SECTION I)

| Equipment | LIGHT&CONT. | RCPT | O/M | CB SIZE | CIRCUIT # | PHASE A | PHASE B | CIRCUIT # | CB SIZE | LIGHT & CONT. | RCPT | O/M | Equipment |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CONTACTOR C-1 & C-2 | | | 100 | 20/1 | 1 | 100 | | 2 | 20/1 | | | | SPARE |
| OUTDOOR RECEPTACLE | | 200 | | 20/1 | 3 | | 800 | 4 | 20/1 | | 600 | | SERVICE WRITING RECEP. |
| WAITING ROOM RECEP. | | 800 | | 20/1 | 5 | 1600 | | 6 | 20/1 | | 800 | | MANAGER RECEPTACLE |
| TLT/CORR/BREAK RECEP. | | 800 | | 20/1 | 7 | | 1000 | 8 | 20/1 | | 200 | | BREAK RECEPTACLE |
| SERVICE RECEPTACLE | | 400 | | 20/1 | 9 | 600 | | 10 | 20/1 | | 200 | | BREAK RECEPTACLE |
| SERVICE RECEPTACLE | | 400 | | 20/1 | 11 | | 600 | 12 | 20/1 | | 200 | | BREAK FRIDGE RECEPTACLE |
| MANAGER RECEPTACLE | | 400 | | 20/1 | 13 | 800 | | 14 | 20/1 | | 400 | | SERVICE RECEPTACLE |
| SERVICE RECEPTACLE | | 400 | | 20/1 | 15 | | 1200 | 16 | 20/1 | | 800 | | COFFEE MAKER |
| TIRE CHANGER | | | 900 | 20/2 | 17 | 3900 | | 18 | 30/2 | | | 3000 | ALIGNMENT LIFT |
| | | | 900 | | 19 | | 3900 | 20 | | | | 3000 | |
| 10K LIFT | | | 1440 | 20/2 | 21 | 2880 | | 22 | 20/2 | | | 1440 | 10K LIFT |
| | | | 1440 | | 23 | | 2880 | 24 | | | | 1440 | |
| 10K LIFT | | | 1440 | 20/2 | 25 | 2880 | | 26 | 20/2 | | | 1440 | 10K LIFT |
| | | | 1440 | | 27 | | 2880 | 28 | | | | 1440 | |
| 12K LIFT | | | 1440 | 20/2 | 29 | 2640 | | 30 | 20/2 | | | 1200 | WHEEL BALANCER |
| | | | 1440 | | 31 | | 2640 | 32 | | | | 1200 | |
| AIR COMPRESSOR | | | 3360 | 60/2 | 33 | 3560 | | 34 | 20/1 | | 200 | | EQUIPMENT PLATFORM RECEP. |
| | | | 3360 | | 35 | | 3760 | 36 | 20/1 | | 400 | | SERVICE DESK RECEPT. |
| IRRIGATION CONTROLLER | | 200 | | 20/1 | 37 | 600 | | 38 | 20/1 | | 400 | | SERVICE RECEPTACLE |
| OIL CHANGE RECEPTACLE | | 600 | | 20/1 | 39 | | 1200 | 40 | 20/1 | | 600 | | OIL CHANGE RECEPTACLE |
| SUMP PUMP | | 1176 | | 20/1 | 41 | 1376 | | 42 | 20/1 | | 200 | | OIL CHANGE DESK RECEP. |
| Sub-Total | 0 | 5376 | 17260 | | | 20936 | 20860 | | | 0 | 5000 | 14160 | Sub-Total |

| | TOTAL CONNECTED LOAD PER PHASE | |
|---|---|---|
| LOAD TYPE | Phase A | Phase B |
| LIGHTING & CONTINUOUS LOADS | 0.00 | 0.00 |
| RECEPTACLES | 5176.00 | 5200.00 |
| MOTORS/OTHER | 15760.00 | 15660.00 |
| TOTAL | 20936.00 | 20860.00 |

| | | |
|---|---|---|
| TOTAL CONNECTED LIGHTING LOAD | 0.00 | KVA |
| TOTAL CONNECTED RECEPTACLE LOAD | 10.38 | KVA |
| TOTAL CONNECTED MOTOR/OTHER LOAD | 31.42 | KVA |
| TOTAL CONNECTED LOAD | 41.80 | KVA |

* Diversified per NEC Table 220.44.

| | |
|---|---|
| ENCLOSURE | NEMA 1 |
| MOUNTING | SURFACE |
| MAIN TYPE | ML |
| SIZE | 400A |
| FEED THRU | YES |
| FEED | BOTTOM |
| BUS RATING | 400A |
| SERVICE RATED | NO |
| MIN FULL EQUIP KAIC RATING | 22 |
| TYPE | LOAD CENTER |
| MANUFACTURER | |
| OTHER | |

| | | | |
|---|---|---|---|
| VOLTS | 120/ 240 | V | 1 Phase , 3 Wire & Grd Bus Bar |

PANEL LOAD SUMMARY

Panel: PP (SECTION II)

| Equipment | LIGHT | RCPT | O/M | CB SIZE | CIRCUIT # | PHASE A | PHASE B | CIRCUIT # | CB SIZE | LIGHT | RCPT | O/M | Equipment |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TIRE STORAGE LIGHTING | 300 | | | 20/1 | 43 | 500 | | 44 | 20/1 | | 200 | | OIL CHANGE DESK RECEP. |
| OIL CHANGE DESK RECEP. | | 200 | | 20/1 | 45 | | 400 | 46 | 20/1 | | 200 | | OIL CHANGE DESK RECEP. |
| SPARE | | | | 20/1 | 47 | 100 | | 48 | 20/1 | 100 | | | MONUMENT SIGN |
| PIT RECEPTACLE | | 600 | | 20/1 | 49 | | 800 | 50 | 20/1 | | 200 | | PIT RECEPTACLE |
| ELECTRIC DRAIN SYSTEM | | 400 | | 20/1 | 51 | 800 | | 52 | 20/1 | | 400 | | TBB RECEPTACLE |
| EXTERIOR LIGHTING | 150 | | | 20/1 | 53 | | 550 | 54 | 20/1 | 400 | | | INTERIOR LTG. |
| SERVICE LIGHTING | 1638 | | | 20/1 | 55 | 2366 | | 56 | 20/1 | 728 | | | OIL CHANGE LIGHTING |
| PIT LIGHTING | 540 | | | 20/1 | 57 | | 1890 | 58 | 20/1 | 1350 | | | SIGN LIGHTING |
| SPARE | | | | 20/1 | 59 | 0 | | 60 | 20/1 | | | | SPARE |
| FUTURE EV CHARGER | | | | 50/2 | 61 | | 50 | 62 | 20/1 | | | 50 | REC-1 |
| | | | | | 63 | 1680 | | 64 | 25/2 | | | 1680 | CU-1 |
| SPARE | | | | 20/1 | 65 | | 1680 | 66 | | | | 1680 | |
| EWH-1 | | | 2250 | 25/2 | 67 | 3900 | | 68 | 20/1 | 1650 | | | EF-3 |
| | | | 2250 | | 69 | | 3900 | 70 | 20/1 | 1650 | | | EF-4 |
| UH-3 & UH-4 | | | 100 | 20/1 | 71 | 300 | | 72 | 20/1 | | 200 | | EXTERIOR RECEPTACLE |
| UH-1 & UH-2 | | | 100 | 20/1 | 73 | | 1750 | 74 | 15/1 | | | 1650 | GFF-1 |
| DRINKING FOUNTAIN | | 200 | | 20/1 | 75 | 200 | | 76 | 20/1 | | | | SPARE |
| HEATED ENCLOSURE | | 500 | | 20/1 | 77 | | 700 | 78 | 20/1 | | 200 | | LOT BELL |
| HEATED ENCLOSURE | | 500 | | 20/1 | 79 | 500 | | 80 | 20/1 | | | | SPARE |
| LIFT RECEPTACLE | | 600 | | 20/1 | 81 | | 600 | 82 | 20/1 | | | | SPARE |
| LIFT RECEPTACLE | | 600 | | 20/1 | 83 | | | 84 | 20/1 | | | | SPARE |
| Sub-Total | 2628 | 3600 | 4700 | | | 10346 | 12320 | | | 5878 | 1400 | 5060 | Sub-Total |

| | TOTAL CONNECTED LOAD PER PHASE | | | DEMAND LOAD (VA) | |
|---|---|---|---|---|---|
| LOAD TYPE | Phase A | Phase B | DEMAND FACTOR | Phase A | Phase B |
| LIGHTING & CONTINUOUS LOADS | 4416.00 | 4090.00 | 1.25 | 5520.00 | 5112.50 |
| RECEPTACLES | 7676.00 | 7700.00 | * | 6338.00 | 6350.00 |
| MOTORS/OTHER | 19790.00 | 21390.00 | 1.00 | 19790.00 | 21390.00 |
| TOTAL | 31882.00 | 33180.00 | | 31648.00 | 32852.50 |

| | | |
|---|---|---|
| TOTAL CONNECTED LIGHTING LOAD | 8.51 | KVA |
| TOTAL CONNECTED RECEPTACLE LOAD | 5.00 | KVA |
| TOTAL CONNECTED MOTOR/OTHER LOAD | 9.76 | KVA |
| TOTAL CONNECTED LOAD | 23.27 | KVA |

* Diversified per NEC Table 220.44.

WIRE SIZE CALCULATIONS

| | | |
|---|---|---|
| LARGEST PHASE DEMAND | 32.85 | KVA |
| NO. OF PHASES | 2.00 | |
| DEMAND LOAD | 65.71 | KVA |
| TOTAL DEMAND LOAD | 65.71 | KVA |
| SUPPLY VOLTAGE | 240.00 | V |
| DEMAND AMPS | 273.77 | AMPS |
| MINIMUM CCT AMPS | 273.77 | AMPS |
| VOLTS | 120/ 240 | |

| | |
|---|---|
| ENCLOSURE | NEMA 1 |
| MOUNTING | SURFACE |
| MAIN TYPE | ML |
| SIZE | 400A |
| FEED THRU | NO |
| FEED | TOP |
| BUS RATING | 400A |
| SERVICE RATED | NO |
| MIN FULL EQUIP KAIC RATING | 22 |
| TYPE | LOAD CENTER |
| MANUFACTURER | |
| OTHER | |

V 1 Phase , 3 Wire & Grd Bus Bar

EQUIPMENT ELECTRICAL REQUIREMENTS SCHEDULE

| EQUIPMENT | LOCATION | KW | HP | AMP | CIRCUIT BREAKER | DISCONNECT SWITCH/FUSE | CONDUCTORS & CONDUIT | VOLTAGE | CONNECTION |
|---|---|---|---|---|---|---|---|---|---|
| (4) 10K LIFT | SERVICE 9 | – | 2 | 12.0 | 20/2 | – | 2#12&1#12GRD-3/4"C | 240V,1ø | HARDWIRED |
| 12K LIFT | SERVICE 9 | – | 2 | 12.0 | 20/2 | – | 2#12&1#12GRD-3/4"C | 240V,1ø | HARDWIRED |
| AIR COMPRESSOR | STORAGE 12 | – | 5 | 28.0 | 60/2 | 60/2, F40 | 2#8&1#10GRD-3/4"C | 240V,1ø | HARDWIRED |
| TIRE CHANGER | SERVICE 9 | – | – | 6.0 | 20/2 | 30/2 | 2#12&1#12GRD-3/4"C | 240V,1ø | HARDWIRED |
| WHEEL BALANCER | SERVICE 9 | – | – | 20.0 | 20/2 | 30/2 | 2#12&1#12GRD-3/4"C | 240V,1ø | HARDWIRED |
| ALIGNMENT LIFT | SERVICE 9 | – | – | 26.0 | 30/2 | 30/2, F30 | 2#10&1#10GRD-3/4"C | 240V,1ø | HARDWIRED |

NOTES:

1. CONTRACTOR SHALL COORDINATE REQUIREMENTS SHOWN HERE WITH OWNER BEFORE ROUGHING IN. PROVIDE ELECTRICAL PER OWNER EQUIPMENT VENDOR REQUIREMENTS.


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OKLAHOMA
3/31/26


# Express Oil Change & Tire Engineers

Single Building / Left Hand Oil Change / Front Enter / Side Tire Storage

Wagoner, OK

FINAL

| No. | Description | Date |
|---|---|---|
| | | |
| IFP-0 | Issue for Permit | 01/28/2026 |
| IFB-0 | Issue for Bid | 03/31/2026 |
| IFC-0 | Issue for Construction | 04/22/2026 |

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Single Line Diagram & Panelboard Schedules

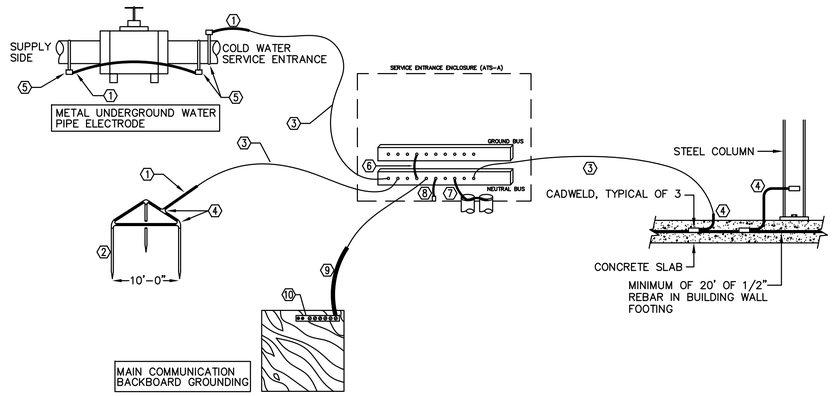
| | |
|---|---|
| Project number | 25041 |
| Date | 12/16/2025 |
| Drawn by | TH |
| Checked by | GW |

E102

Scale NO SCALE


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## GROUNDING SYSTEM DETAIL
NOT TO SCALE

### GROUNDING SYSTEM DETAIL – KEY NOTES

1. 1/0 BARE GROUNDING ELCTRODE CONDUCTOR.
2. 3/4"x10'-0" CLAD STEEL GROUND ROD, DRIVEN 24" BELOW GRADE, MINIMUM.
3. 1/0 BARE GROUNDING ELECTRODE CONDUCTOR IN 2"PVC-40.
4. EXOTHERMIC WELD CONNECTOR:
   TWO CABLES TO GROUND ROD, CADWELD #GT OR #GY
   CABLE TO CABLE TEE, CADWELD #TA
   ONE CABLE TO GROUND ROD, CADWELD #GR
5. CAST BRONZE, UL LISTED GROUND CLAMP, O-Z/GEDNEY TYPE-G.
6. MAIN BONDING JUMPER, SIZED BY EQUIPMENT MANUFACTURER PER NEC 250-66.
7. BONDING JUMPER TO GROUNDING BUSHING. AND BONDING JUMPERS FROM CONDUIT TO CONDUIT. ALL CONDUIT CONNECTED TO THE SERVICE ENTRANCE ENCLOSURE SHALL BE BONDED, SIZED PER NEC 250.
8. BONDING JUMPER, SIZED BY MANUFACTURER PER 250-66.
9. 1/0 BARE BONDING JUMPER.
10. 6 CONDUCTOR GROUND BUS, COPPER OR ALUMINUM RATED, ILSCO #PDE.

### TYPICAL FEEDER DESIGNATION

#_ & 1#_GRD – _C (_A/_P)

- #_ : NUMBER OF CIRCUIT CONDUCTORS; SIZE OF CIRCUIT CONDUCTORS "AWG UNLESS NOTED kCMIL"
- 1#_GRD : SIZE OF GROUNDING CONDUCTOR
- _C : SIZE OF CONDUIT
- _A/_P : PROTECTIVE DEVICE TO WHICH THE CIRCUIT IS CONNECTED

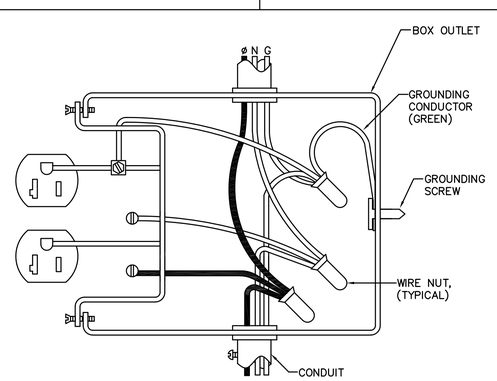
NOTE:

1. CONDUCTOR INSULATION TO BE 600V UNLESS OTHERWISE INDICATED.

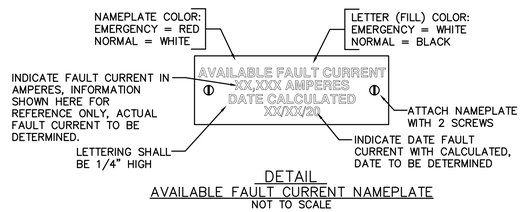
### TYPICAL LUMINAIRE, DEVICE AND CIRCUIT DESIGNATIONS

| | |
|---|---|
| o(R)1 | LUMINAIRE TYPE 'R', CIRCUIT NO. 1, CONTROLLED BY SWITCH "a" |
| 2(A)b | FLUORESCENT LUMINAIRE TYPE 'A', CIRCUIT NO. 2, CONTROLLED BY SWITCH "b" |
| 2 | WALL OUTLET WITH RECEPTACLE NOTED, CONNECT TO CIRCUIT NO. 2 |
| 1 | EQUIPMENT CONNECTION – CONNECT TO CIRCUIT NO. 1 |

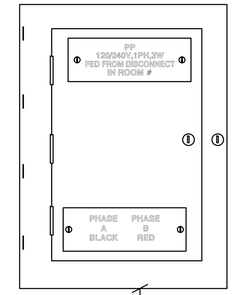
DETAIL
WIRING DESIGNATION
NOT TO SCALE



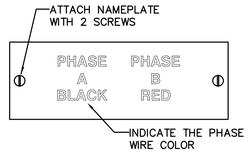

DETAIL
RECEPTACLE INSTALLATION
NOT TO SCALE



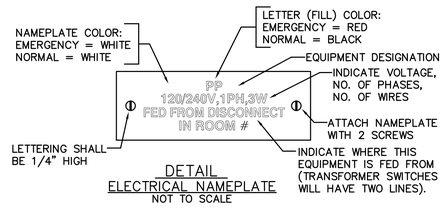

DETAIL
AVAILABLE FAULT CURRENT NAMEPLATE
NOT TO SCALE



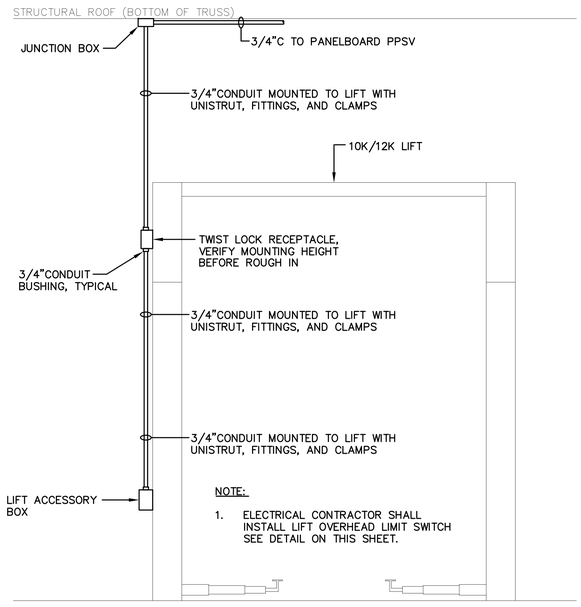

DETAIL
120/240V PANELBOARD INSTALLATION & NAMEPLATE DETAIL
NOT TO SCALE



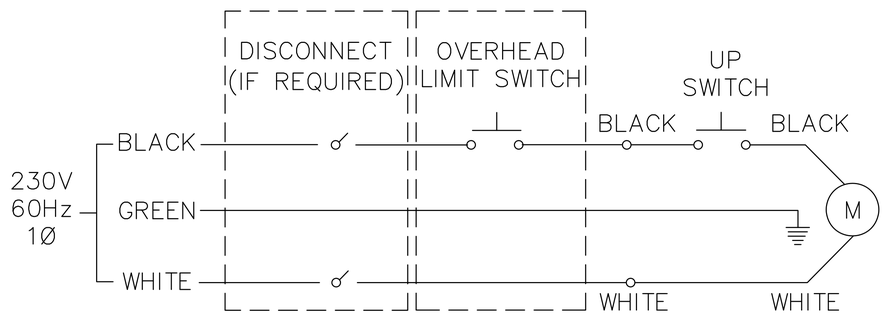

DETAIL
120/240V PANELBOARD ELECTRICAL NAMEPLATE
NOT TO SCALE




DETAIL
ELECTRICAL NAMEPLATE
NOT TO SCALE




ELEVATION
LIFT POWER DETAIL
NOT TO SCALE




LIFT LIMIT SWITCH
WIRING DETAIL
NOT TO SCALE

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34026
OKLAHOMA
3/31/26

# Express Oil Change & Tire Engineers

Single Building / Left Hand Oil Change / Front Enter / Side Tire Storage
Wagoner, OK

FINAL

| No. | Description | Date |
|---|---|---|
| | | |
| IFP-0 | Issue for Permit | 01/28/2026 |
| IFB-0 | Issue for Bid | 03/31/2026 |
| IFC-0 | Issue for Construction | 04/22/2026 |

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Details

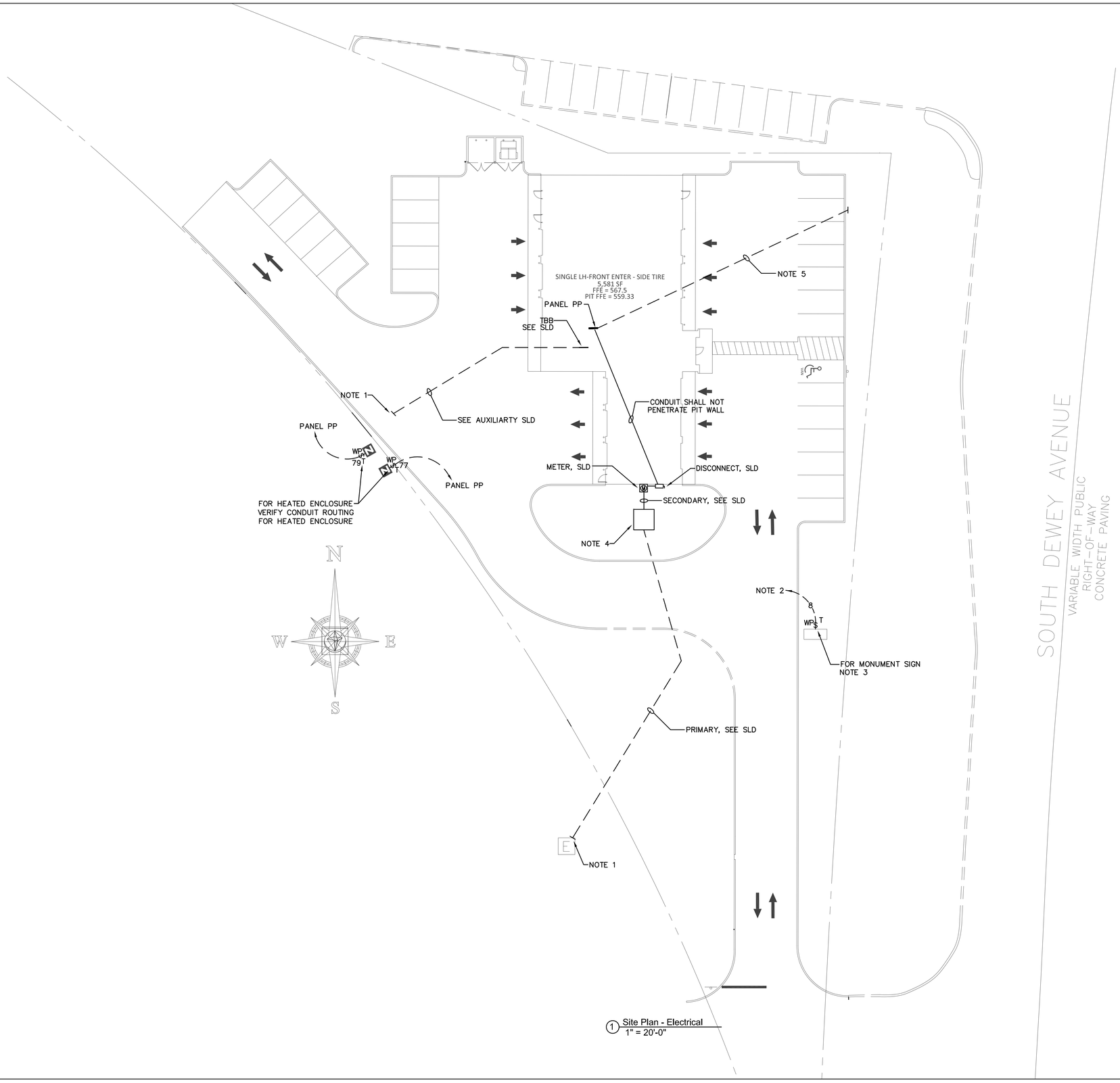
| | |
|---|---|
| Project number | 25041 |
| Date | 12/16/2025 |
| Drawn by | TH |
| Checked by | GW |

E103

Scale NO SCALE

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GWAMAE@GW-ENG.COM | 205.413.4112

4/23/2026 8:51:11 AM




1 Site Plan - Electrical
1" = 20'-0"

NOTES;

1. VERIFY EXACT LOCATION OF STUB UP BEFORE ROUGH IN.
2. HOMERUN TO PANELBOARD PP THROUGH LIGHTING CONTACTOR C-2.
3. LOCATION OF MONUMENT SIGN SHOWN HERE IS FOR CIRCUIT INFORMATION ONLY. VERIFY EXACT LOCATION OF MONUMENT SIGN WITH CIVIL PRIOR TO ROUGH IN.
4. UTILITY PAD MOUNTED TRANSFORMER. FURNISH AND INSTALL CONCRETE PAD PER POWER COMPANY REQUIREMENTS. CONTACT UTILITY COMPANY FOR PAD SPECIFICATIONS AND REQUIRED TERMINATIONS AT TRANSFORMER BEFORE BID AND PRICING. INCLUDE COST IN BID.
5. PROVIDE 1-1" EMPTY CONDUIT. HOMERUN TO PANEL PP FOR FUTURE EV CHARGING STATION. VERIFY EXACT LOCATION OF STUB UP WITH ARCHITECT AND CIVIL PRIOR TO INSTALLATION.

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Site Plan - Electrical

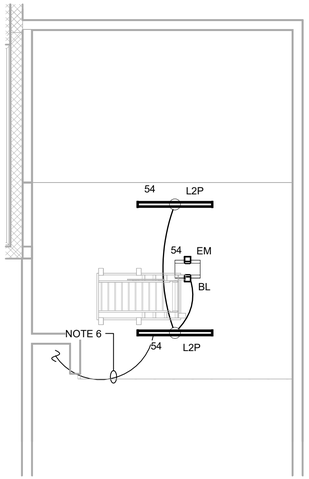
| | |
|---|---|
| Project number | 25041 |
| Date | 12/16/2025 |
| Drawn by | TH |
| Checked by | GW |

E104

Scale 1" = 20'-0"

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2 Equipment Platform Plan - Lighting
1/4" = 1'-0"

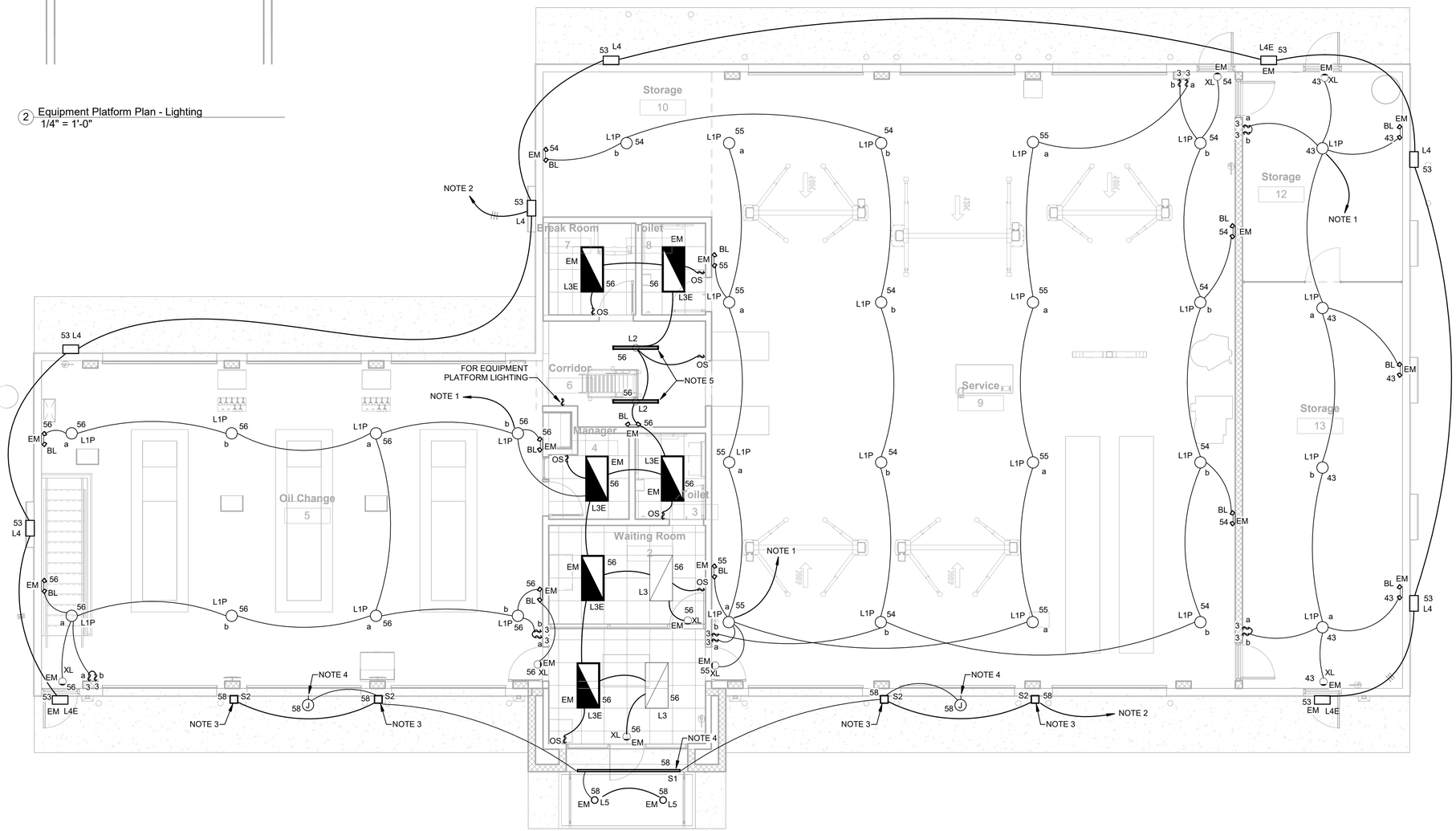
GENERAL NOTES:

1. CONNECT ALL "BL", "XL" AND EMERGENCY BATTERY PACKS IN FIXTURES MARKED "EM" TO UNSWITCHED HOT LEG OF CIRCUIT.
2. ENSURE LIGHTING FIXTURES L1 AND L2 DO NOT CONFLICT WITH OVERHEAD DOORS.
3. FOR THE LIGHTING PACKAGE PRICING CONTACT THE FOLLOWING:

   MIKE MCMAKEN
   REXEL ENERGY SOLUTIONS
   (M) 906 - 235 - 2979
   MIKE.MCMAKEN@REXELENERGY.COM
4. ALL CONDUIT CROSSING OVERHEAD DOORS SHALL BE MOUNTED AS TIGHT TO THE STRUCTURE AS POSSIBLE TO AVOID CONFLICT WITH THE OVERHEAD DOOR TRACK.
5. OIL CHANGE BUILDING IS A MINOR REPAIR GARAGE AND IS UNCLASSIFIED. SEE MECHANICAL DRAWINGS FOR PROVIDED VENILATION.
6. ALL L1P FIXTURES SHALL BE INSTALLED SO THAT THE FIXTURES HANG JUST BELOW THE OVERHEAD DOOR TRACK WHILE THEY ARE OPEN. COORDINATE EXACT LOCATION OF FIXTURES TO ENSURE FIXTURES ARE NOT MOUNTED ABOVE HEATERS.

NOTES:

1. HOMERUN TO 20A, 1POLE CIRCUIT BREAKER IN PANELBOARD PP THROUGH LIGHTING CONTACTOR C-1. SEE DETAIL ON SHEET E102.
2. HOMERUN TO 20A, 1POLE CIRCUIT BREAKER IN PANELBOARD PP THROUGH LIGHTING CONTACTOR C-2. SEE DETAIL ON SHEET E102.
3. JUNCTION BOX FOR SIGN COMPANY PROVIDED FIXTURE SHALL BE MOUNTED FLUSH WITH EXTERIOR FACE OF WALL AT 60" ABOVE GRADE ON CENTER.
4. JUNCTION BOX FOR SIGN COMPANY PROVIDED FIXTURE SHALL BE MOUNTED ON EXTERIOR FACE OF WALL AT 17'AFF. COORDINATE EXACT LOCATION WITH SIGN LIGHTING INSTALLER BEFORE ROUGHING IN.
5. SURFACE MOUNT FIXTURE TO CEILING IN THIS AREA.
6. CONNECT TO LIGHTING BRANCH CIRCUIT ON MAIN LEVEL. CONNECT TO LIGHT SWITCH ON MAIN LEVEL.




1 Main Level Plan - Lighting
3/16" = 1'-0"

PLAN NORTH


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OKLAHOMA
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# Express Oil Change & Tire Engineers

Single Building / Left Hand Oil Change / Front Enter / Side Tire Storage

Wagoner, OK

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| IFB-0 | Issue for Bid | 03/31/2026 |
| IFC-0 | Issue for Construction | 04/22/2026 |

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## Main Level Plan - Lighting

| | |
|---|---|
| Project number | 25041 |
| Date | 12/16/2025 |
| Drawn by | TH |
| Checked by | GW |
| Scale | As indicated |

E200


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GENERAL NOTES:

1. CONNECT ALL "BL", "XL" AND EMERGENCY BATTERY PACKS IN FIXTURES MARKED "EM" TO UNSWITCHED HOT LEG OF CIRCUIT.

2. FOR THE LIGHTING PACKAGE PRICING CONTACT THE FOLLOWING:

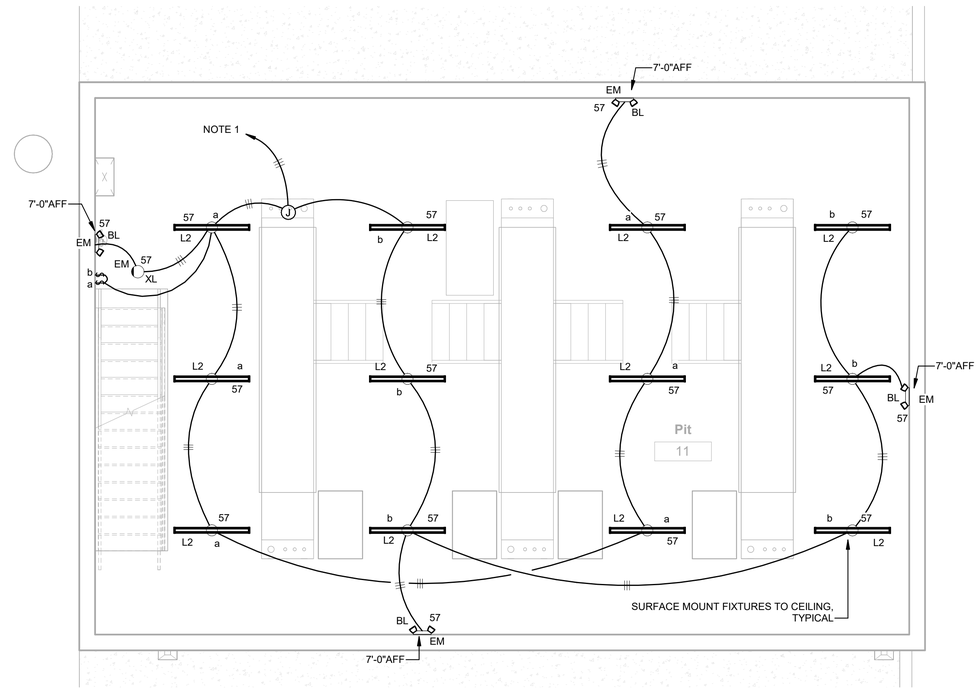
   MIKE MCMAKEN
   REXEL ENERGY SOLUTIONS
   (M) 906 - 235 - 2979
   MIKE.MCMAKEN@REXELENERGY.COM

3. OIL CHANGE BUILDING IS A MINOR REPAIR GARAGE AND IS UNCLASSIFIED. SEE MECHANICAL DRAWINGS FOR PROVIDED VENILATION.

4. ADJUST LIGHT FIXTURES AS NEEDED TO AVOID CONFLICT WITH STRUCTURAL STEEL.

NOTES:

1. HOMERUN TO 20A, 1POLE CIRCUIT BREAKER IN PANELBOARD PP THROUGH LIGHTING CONTACTOR C-1.




1 Pit Level Plan - Lighting
1/4" = 1'-0"

PLAN NORTH


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OKLAHOMA
3/31/26

# Express Oil Change & Tire Engineers

## Single Building / Left Hand Oil Change / Front Enter / Side Tire Storage

Wagoner, OK

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| | | |
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Pit Level Plan - Lighting

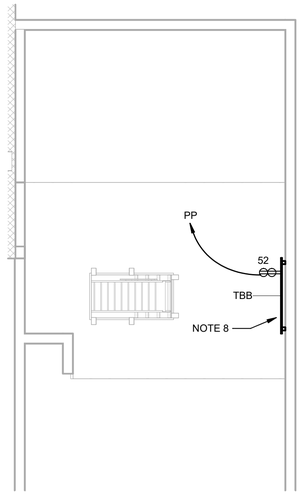
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|---|---|
| Project number | 25041 |
| Date | 12/16/2025 |
| Drawn by | TH |
| Checked by | GW |

E201

| | |
|---|---|
| Scale | 1/4" = 1'-0" |


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Equipment Platform Plan - Power & Voice/Data
1/4" = 1'-0"

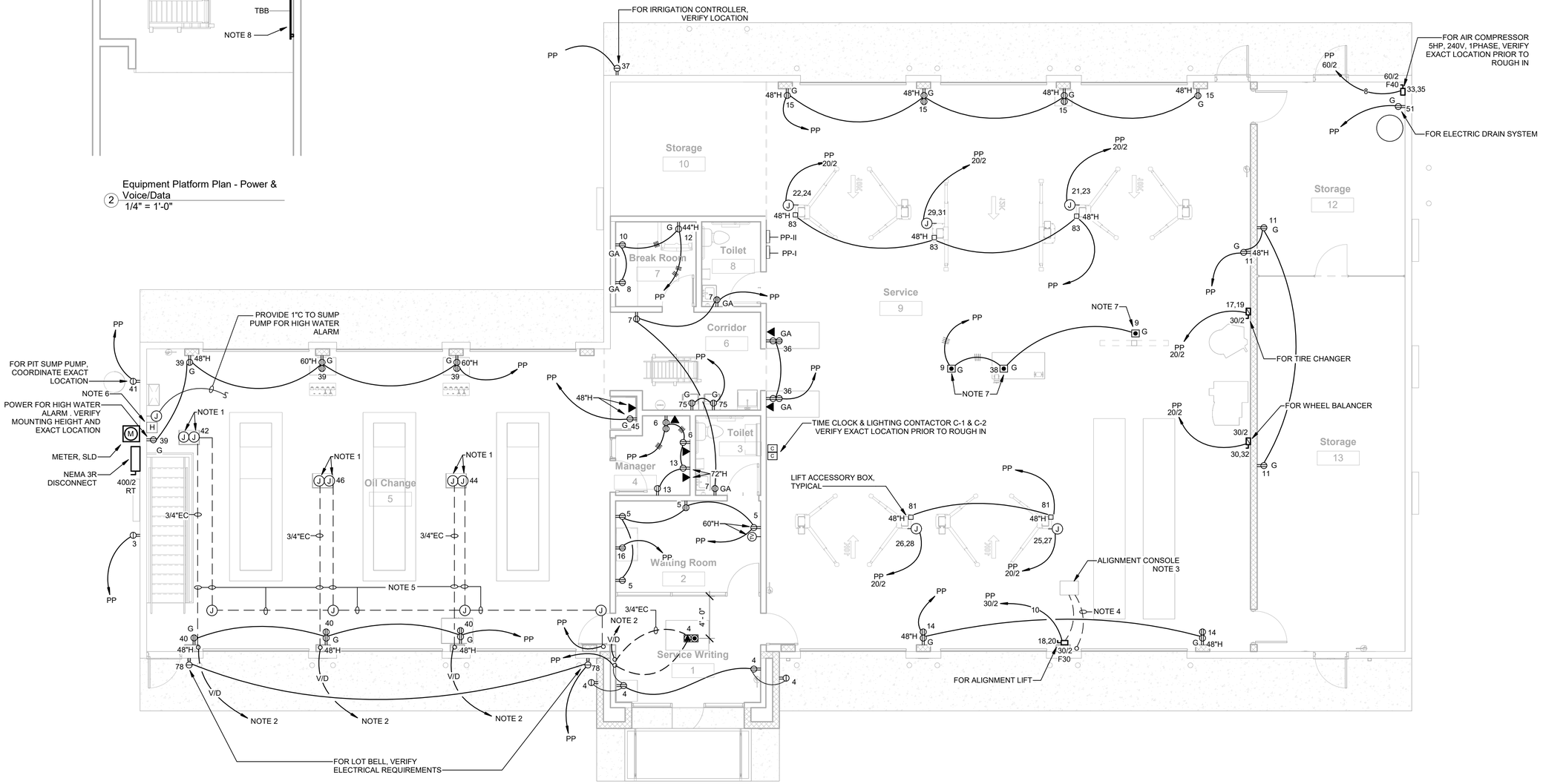
NOTES:

1. 3/4" CONDUIT STUBBED UP 18" INTO WORK PEDESTAL BASE POST. PROVIDE FLEXIBLE CONDUIT INTO WORK PEDESTAL CABINET. COORDINATE OUTLET REQUIREMENTS PRIOR TO ROUGH IN.
2. HOMERUN 3/4"EC TO TELEPHONE BACKBOARD.
3. LOCATIONS SHOWN HERE ARE APPROXIMATE. FIELD COORDINATE EXACT LOCATION OF CONSOLE & CONDUIT WITH OWNER & ALIGNMENT LIFT SHOP DRAWINGS BEFORE ROUGH-IN.
4. PROVIDE 1 1/2" EMPTY CONDUIT FROM CONSOLE, STUBBED 8" UP ON INSIDE FACE OF EXTERIOR WALL.
5. CONDUIT FOR WORK PEDESTALS IN OIL CHANGE AREA SHALL BE MOUNTED/ROUTED ON THE CEILING OF THE PIT IN LIEU OF IN THE SLAB.
6. ELECTRICAL CONTRACTOR SHALL FURNISH AND INSTALL ZOELLER - Z CONTROL APAK INDOOR ALARM WITH MECHANICAL FLOAT, MODEL # 10-4014. SEE MANUFACTURERS INSTALLATION INSTRUCTIONS PRIOR TO ROUGH IN. PROVIDE BATTERIES.
7. CONTRACTOR SHALL PROVIDE UNISTRUT SPANNING BETWEEN BAR JOISTS FOR MOUNTING OF CEILING RECEPTACLES.
8. PRIOR TO INSTALLATION, VERIFY EXACT LOCATION OF TBB. ENSURE TBB DOES NOT CONFLICT WITH EQUIPMENT, DUCTWORK OR PIPING.

GENERAL NOTES:

1. CONTRACTOR SHALL VERIFY/COORDINATE LOCATION OF ALL POWER & DATA OUTLETS FOR EQUIPMENT. OBTAIN OWNER'S APPROVAL BEFORE ROUGH IN, NO EXCEPTIONS. NO ADDITIONAL COMPENSATION SHALL BE AWARDED FOR ANY ADDITIONAL WORK REQUIRED TO RELOCATE OUTLETS DUE TO CONTRACTOR'S FAILURE TO COORDINATE WITH OWNER.
2. ALL HORIZONTAL CONDUIT RUNS SHALL BE A MINIMUM OF 8' ABOVE FINISHED FLOOR EXCEPT FOR DROPS. ENSURE CONDUIT DOES NOT CONFLICT WITH OVERHEAD DOOR.
3. OIL CHANGE BUILDING IS A MINOR REPAIR GARAGE AND IS UNCLASSIFIED. SEE MECHANICAL DRAWINGS FOR PROVIDEDVENILATION.
4. EXPRESS OIL CHANGE HAS OBTAINED EQUIPMENT AVALABILITYAND SPECIAL VOLUME PRICING ON POWER EQUIPMENT AND LIGHTING CONTROL PACKAGES FROM REXEL. SEE CONTACTS BELOW FOR PRICING AND INFORMATION:

   MIKE MCMAKEN
   REXEL ENERGY SOLUTIONS
   (M) 906-235-2979
   MIKE.MCMAKEN@REXELENERGY.COM
5. ALL CONDUIT CROSSING OVERHEAD DOORS SHALL BE MOUNTED AS TIGHT AS POSSIBLE TO THE STRUCTURE TO AVOID CONFLICT WITH THE OVERHEAD DOOR TRACK.
6. FINAL EQUIPMENT CONNECTIONS - CONTRACTOR IS RESPONSIBLE FOR PROVIDING ALL LABOR AND MATERIALS REQUIRED TO MAKE FINAL ELECTRICAL CONNECTIONS TO ALL EQUIPMENT FURNISHED BY THIS CONTRACTOR AND/OR FURNISHED BY OTHERS. VERIFY ALL ELECTRICAL REQUIREMENTS WITH EQUIPMENT SUPPLIER PRIOR TO ROUGH IN.
7. ALL 120V, 20A RECEPTACLE BRANCH CIRCUITS IN OIL CHANGE BAY, SERVICE BAY AND STORAGE SHALL BE GFCI PROTECTED.




1 Main Level Plan - Power & Voice/Data
3/16" = 1'-0"


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OKLAHOMA
3/31/26


# Express Oil Change & Tire Engineers

Single Building / Left Hand Oil Change / Front Enter / Side Tire Storage

Wagoner, OK

FINAL

| No. | Description | Date |
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| | | |
| IFP-0 | Issue for Permit | 01/28/2026 |
| IFB-0 | Issue for Bid | 03/31/2026 |
| IFC-0 | Issue for Construction | 04/22/2026 |

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Main Level Plan - Power & Voice/Data

| | |
|---|---|
| Project number | 25041 |
| Date | 12/16/2025 |
| Drawn by | TH |
| Checked by | GW |

E300

Scale: As indicated


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GENERAL NOTES:

1. OIL CHANGE BUILDING IS A MINOR REPAIR GARAGE AND IS UNCLASSIFIED. SEE MECHANICAL DRAWINGS FOR PROVIDED VENILATION.

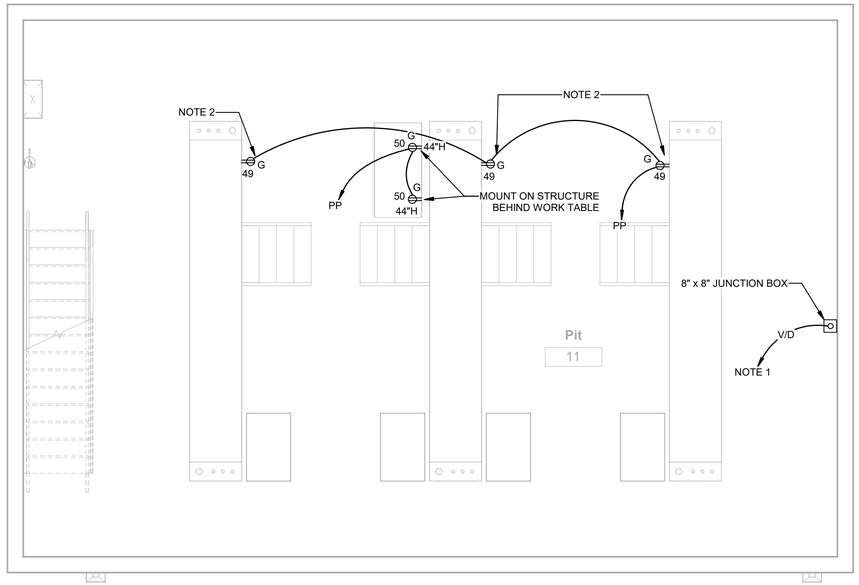
2. EXPRESS OIL CHANGE HAS OBTAINED EQUIPMENT AVALABILITY AND SPECIAL VOLUME PRICING ON POWER EQUIPMENT AND LIGHTING CONTROL PACKAGES FROM REXEL. SEE CONTACTS BELOW FOR PRICING AND INFORMATION:

MIKE MCMAKEN
REXEL ENERGY SOLUTIONS
(M) 906-235-2979
MIKE.MCMAKEN@REXELENERGY.COM

NOTES:

1. 2"EC HOMERUN TO TELEPHONE BACKBOARD ON EQUIPMENT PLATFORM.

2. MOUNT RECEPTACLES ONTO STRUCTURAL COLUMN.




1 Pit Level Plan - Power & Voice/Data
1/4" = 1'-0"

PLAN NORTH


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## Pit Level Plan - Power & Voice/Data

| | |
|---|---|
| Project number | 25041 |
| Date | 12/16/2025 |
| Drawn by | TH |
| Checked by | GW |

E301

| | |
|---|---|
| Scale | 1/4" = 1'-0" |


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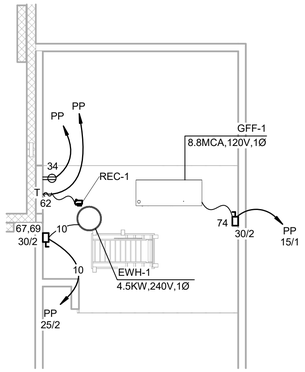

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GENERAL NOTES:

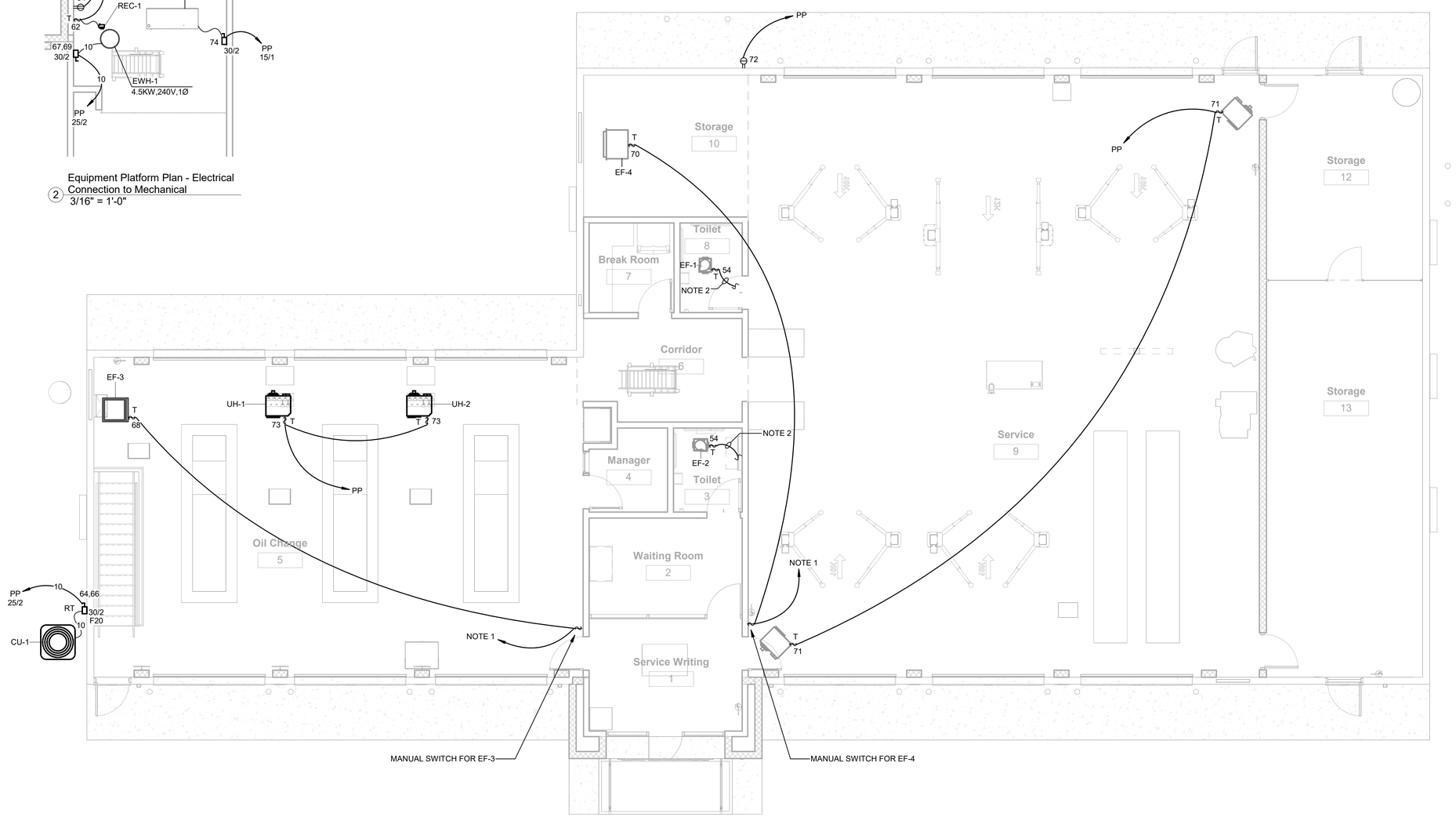
1. OIL CHANGE BUILDING IS A MINOR REPAIR GARAGE AND IS UNCLASSIFIED. SEE MECHANICAL DRAWINGS FOR PROVIDED VENILATION.

NOTES:

1. CONNECT TO 20A, 1POLE CIRCUIT BREAKER IN PANELBOARD PP THROUGH LIGHTING CONTACTOR C-1. SEE WIRING DIAGRAM ON SHEET E102 FOR MORE INFORMATION.
2. CONNECT TO LIGHTING CIRCUIT AND CONTROLS IN THIS AREA.




2 Equipment Platform Plan - Electrical Connection to Mechanical
3/16" = 1'-0"




1 Main Level Plan - Electrical Connection to Mechanical
3/16" = 1'-0"

PLAN NORTH


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Main Level Plan - Elec. Conn. to Mech.

| | |
|---|---|
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| Drawn by | TH |
| Checked by | GW |
| Scale | 3/16" = 1'-0" |

E400

4/23/2026 8:57:47 AM

SECTION 16010 - ELECTRICAL SPECIFICATIONS

GENERAL REQUIREMENTS

A. Carefully examine General Conditions, other specification Sections, and other drawings (in addition to electrical), in order to be fully acquainted with their effect on electrical work.

B. Do all work in compliance with laws and ordinances and local authorities having jurisdiction and, where applicable, utility companies. Obtain and pay for any and all required permits, inspections, certificates of inspections and approval, and the like, and deliver such certificates to the Architect.

C. Cooperate with other trades and contractors at job. Perform work in such manner and at such times as not to delay work of other trades. Complete all work as soon as the condition of the structure and installation of equipment will permit. Patch, in a satisfactory manner and by the proper craft, any work damaged by electrical work.

D. All equipment (wiring devices, light fixtures, panelboards, disconnect switches, conductors, raceways, boxes, cabinets, circuit breakers, low voltage equipment, auxiliary systems, motors, machines, etc.) used for this project shall be tested by Underwriter's Laboratories, Inc and have "UL" nameplate.

E. Coordinate placement of equipment above ceiling to facilitate proper clearance for serving of equipments.

F. Take finish dimensions at the job site in preference to scale dimensions.

G. Obtain from manufacturer's data on all equipment, the dimensions of which may affect electrical work. Use this data to coordinate proper service characteristics, entry locations, etc., and to ensure minimum clearances are maintained.

H. The electrical contractor shall have had experience of at least the same size and scope as this project, on at least two other projects, within the last 5 years in order to be qualified to bid this project. This qualification shall also apply to his subcontractors.

I. Workmen shall be experienced in their respective trade. Workmanship of installed work shall be first class and will be so judged by the Architect/Engineer. Substandard work shall be removed and replaced.

J. The Bidders shall visit the site to thoroughly familiarize themselves with existing conditions prior to submitting their bid. No allowances will be made for lack of knowledge of existing conditions.

K. Provide one_Year warranty of conformance with drawings and specifications. In addition to the foregoing warranty, Contractor shall and does hereby warrant all materials and equipment furnished under this Division of the Specifications to be free from defects and to function or operate satisfactorily for one year after final acceptance of the work, and that any items not meeting this requirement will be made good by him without cost to owner, provided such defects or failures are not due to abuse, neglect, or lack of reasonable and ordinary maintenance.

L. Unless otherwise specified, provide only new, standard first grade materials throughout, conforming to standards established by Underwriter's Laboratories, Inc., and so marked and labeled, together with manufacturer's brand or trademark. All equipment subject to approval of Architect/Engineer before installation. All like items shall be of one manufacture.

M. Any equipment or materials shown on the drawings to be removed and reinstalled shall be cleaned and, if necessary repaired to like new condition prior to reinstallation.

N. Where shown on the drawings or specified herein, furnish and install electrical equipment. Furnish all materials, hardware, equipment, labor and services required for the installation of complete and properly working installations as shown on the drawings and described herein.

O. All work shall be executed in a workmanlike manner and shall present a neat and mechanical appearance upon completion. Care shall be exercised that all items are plumb, straight, level.

P. Equipment grounding conductors shall be bonded at each enclosure and pole base. All equipment grounding conductors shall be connected to a common bus, bonded to the equipment enclosure.

Q. An equipment grounding jumper shall be installed from the receptacle ground terminal to the outlet box.

CONDUITS

A. Conduit: Rigid and IMC shall be galvanized outside and inside by hot dipping. EMT shall be Electro_Galvanized. Conduit shall be as manufactured by Republic, Wheatland, Triangle, Pittsburgh Standard, Youngstown, or Allied.

B. Sealtight flexible metal conduit shall consist of flexible galvanized steel tubing with a liquidtight jacket of PVC. All flexible conduit shall have a copper bonding conductor wound into conduit body.

C. Couplings and connectors on rigid and IMC shall be standard threaded type, galvanized outside and inside by hot dipping. Clamp type and threadless are not acceptable. Couplings and connectors, for rigid and IMC shall be as manufactured by Raco or Appleton.

D. EMT connectors shall be steel, set screw unless required by code to be compression type, equipped with insulating throats. Connectors couplings shall be O-Z/Gedney 7000ST or 7000RST series, T & B 5123 - 5623 series, Midwest Electric series 1650, or equal series of Raco. Cast metal couplings will not be approved for any location.

E. EMT couplings shall be steel, set screw unless required by code to be compression type. Couplings shall be O-Z/Gedney 6000S or 6000RS series, T & B 5120 - 5620 series, Midwest Electric series 660, or equal series of Raco. Cast metal connectors will not be approved for any location.

F. Connectors raintight: Meyers or approved equal.

G. Bushings on rigid and IMC shall be threaded malleable iron with integral noncombustible insulator. Rigid and IMC bushings shall be O-Z/Gedney "IBC" series, T & B BIM series, Midwest Electric series 1031 - 1043 or equal by Penn Union. Grounding bushings shall be O-Z/Gedney "IBC-L" series, T & B 3870 - 3999 series, Midwest Electric GLL series or equal by Penn Union.

H. Watertight Flex Connectors: O-Z/Gedney, Raco, or Midwest Electric with insulating throat.

I. EMT conduit with set screw shall be used for all branch circuits, power feeders, auxiliary, signaling and controls circuits in none hazardous dry locations for 2" and smaller. EMT may be used exposed where not subject to physical damage. EMT with compression fitting may be used in damp locations up to the 2" limit. Otherwise use rigid or intermediate hot dipped galvanized inside and out steel, threaded for screwed fitting only conduits unless specified on the drawings otherwise.

J. Conduits shall be sized in accordance with the latest National Electrical Code except that conduits containing more than two conductors shall be sized based on 35% fill and 3/4" conduit shall contain no wire larger than #10 and no more than 6#12 or 4#10 wires. Conduit shall be sized larger than required above when so shown on the drawings or when required by local Code. Minimum size conduit shall be 3/4".

K. Where conduit enters boxes, they shall be secured in place with approved insulating fittings.

L. The use of running threads is absolutely prohibited. All conduit shall be jointed with approved conduit couplings. All couplings on IMC and rigid conduit shall be threaded.

M. All conduits shall be supported within 3 feet of each coupling, fitting, outlet box, junction box, cabinet or equipment enclosure Conduit supports shall be independent of ducts, plumbing piping, ceiling supports, etc. Conduits shall not be supported by junction boxes, pull boxes, fixtures, etc.

N. All exposed conduit threads, metal supports, etc., exposed to the elements or exterior of building shall be painted with rust preventive paint.

CONDUCTORS

A. Conductors for general use, sized #10 and smaller, shall be solid copper. Conductors #8 and larger, and any size to motors or vibrating equipment shall be stranded copper.

B. All conductor insulation shall be 600 volt THHN/THWN.

C. Wire connections, #10 and smaller connections shall be made with insulated wire connectors with steel spring connector threads. Wire connectors shall be "Twister" Wire-Nut series as manufactured by Ideal Industries, Inc. or approved equal.

D. On wire larger than #10, shall be made with approved solderless connectors and covered with Scotch #33 electrical tape so that the insulation is equal to conductor insulation.

E. Connection of stranded conductors, #8 and larger, to bus bars in switchboards, panelboards, equipment enclosures, junction boxes, etc. shall be made with individual lugs, size as required by conductor, bolted to bus bar with full size bolts and nuts with lock washers.

F. Conductors and conduits shall be continuous between outlets.

G. No conductor shall be pulled until conduit is cleaned of all foreign matter.

H. Where installed in panelboards, cabinets, wireways, switches and equipment wire and cable shall be neatly formed and tied.

I. Conductors sized #10 AWG and below shall have permanently colored insulation. Conductors sized #8 AWG and above shall be color coded by either permanently colored insulation or by means of colored tape applied to the conductor within 12" of each termination and in each endosure, junction box, etc.

JUNCTION BOXES

A. Shall be standard type, with knockouts, made of hot dipped galvanized steel, Steel City, Raco, Appleton, or Bowers.

B. Ceiling outlet boxes shall be 4" octagon 1-1/2" deep or larger as required due to number of wires.

C. Boxes shall be provided with approved 3/8" fixture studs when required to support stem mounted light fixtures.

D. Except when located in exposed concrete block, switch and receptacle boxes shall be 4" square with trim ring for single gang installation. Appropriate gang boxes shall be used for mounting ganged switches.

E. When installed in exposed concrete block, switch and receptacle boxes shall be square type designed for exposed block installation.

F. Outlet boxes shall be securely fastened to structural members and shall not be supported by dry wall, gypsum board, plaster, etc. The device or plate installed in conjunction with the outlet box shall not be used for support. There shall be no more knockouts opened in any outlet box than are required. Boxes shall be sealed during construction.

G. Under no circumstances shall through-the-wall boxes be used. Back to back boxes shall be staggered at least 3 inches, except in fire rated partitions, in which case, back to back boxes shall be staggered at least 24 inches.

H. Outlet boxes two gangs and wider shall not be supported by attachment clips or any means which supports the boxes from less than two opposite sides of the box. Such outlet boxes in stud walls shall be supported securely by support members spanning between studs.

I. Outlet boxes installed in fire rated partitions shall be boxed in with wall board or other suitable fire rated material as required to maintain or restore the fire rating of the assembly.

**WIRING DEVICES**

A. Manufacturers' Names: Shortened versions (shown in parentheses) of the following manufacturers' names are used in other Part 2 articles:

1. Cooper Wiring Devices; a division of Cooper Industries, Inc. (Cooper).
2. Hubbell Incorporated; Wiring Device-Kellems (Hubbell).
3. Leviton Mfg. Company Inc. (Leviton).
4. Pass & Seymour/Legrand; Wiring Devices & Accessories (Pass & Seymour).

B. Convenience Receptacles, 125 V, 20 A: Comply with NEMA WD 1, NEMA WD 6 configuration 5-20R, and UL 498.

1. Products: Subject to compliance with requirements, provide one of the following:
   a. Cooper; 5351 (single), 5352 (duplex).
   b. Hubbell; HBL5351 (single), CR5352 (duplex).
   c. Leviton; 5891 (single), 5352 (duplex).
   d. Pass & Seymour; 5381 (single), 5352 (duplex).

C. Duplex GFCI Convenience Receptacles, 125 V, 20 A:

1. Products: Subject to compliance with requirements, provide one of the following:
   a. Cooper; GF20.
   b. Pass & Seymour; 2084.

A. Switches, 120/277 V, 20 A:

1. Products: Subject to compliance with requirements, provide one of the following:
   a. Cooper; 2221 (single pole), 2222 (two pole), 2223 (three way), 2224 (four way).
   b. Hubbell; CS1221 (single pole), CS1222 (two pole), CS1223 (three way), CS1224 (four way).
   c. Leviton; 1221-2 (single pole), 1222-2 (two pole), 1223-2 (three way), 1224-2 (four way).
   d. Pass & Seymour; 20AC1 (single pole), 20AC2 (two pole), 20AC3 (three way), 20AC4 (four way).

B. Single and combination plate types to match corresponding wiring devices.

1. Plate-Securing Screws: Metal with head color to match plate finish.
2. Material for Finished Spaces: stainless steel 302 **0.04-inch- (1-mm-)** thick.
3. Material for Unfinished Spaces: Galvanized steel.
4. Material for Damp Locations: Cast aluminum with spring-loaded lift cover, and listed and labeled for use in "wet locations."

F. Wet-Location, Weatherproof Cover Plates: NEMA 250, complying with type 3R weather-resistant, extra duty, die-cast aluminum with lockable in-use cover.

G. Color: Wiring device catalog numbers in Section Text do not designate device color.

1. Wiring Devices Connected to Normal Power System: Gray unless otherwise indicated or required by NFPA 70 or device listing.
2. Wiring Devices Connected to Emergency Power System: Red.

H. Comply with NECA 1, including the mounting heights listed in that standard, unless otherwise noted.

I. Coordination with Other Trades:

1. Take steps to insure that devices and their boxes are protected. Do not place wall finish materials over device boxes and do not cut holes for boxes with routers that are guided by riding against outside of the boxes.
2. Keep outlet boxes free of plaster, drywall joint compound, mortar, cement, concrete, dust, paint, and other material that may contaminate the raceway system, conductors, and cables.
3. Install device boxes in brick or block walls so that the cover plate does not cross a joint unless the joint is troweled flush with the face of the wall.
4. Install wiring devices after all wall preparation, including painting, is complete.

J. Conductors:

1. Do not strip insulation from conductors until just before they are spliced or terminated on devices.
2. Strip insulation evenly around the conductor using tools designed for the purpose. Avoid scoring or nicking of solid wire or cutting strands from stranded wire.
3. The length of free conductors at outlets for devices shall meet provisions of NFPA 70, Article 300, without pigtails.
4. Existing Conductors:
   a. Cut back and pigtail, or replace all damaged conductors.
   b. Straighten conductors that remain and remove corrosion and foreign matter.
   c. Pigtailing existing conductors is permitted provided the outlet box is large enough.

K. Device Installation:

1. Replace all devices that have been in temporary use during construction or that show signs that they were installed before building finishing operations were complete.
2. Keep each wiring device in its package or otherwise protected until it is time to connect conductors.
3. Do not remove surface protection, such as plastic film and smudge covers, until the last possible moment.
4. Connect devices to branch circuits using pigtails that are not less than 6 inches (152 mm) in length.
5. When there is a choice, use side wiring with binding-head screw terminals. Wrap solid conductor tightly clockwise, 2/3 to 3/4 of the way around terminal screw.
6. Use a torque screwdriver when a torque is recommended or required by the manufacturer.
7. When conductors larger than No. 12 AWG are installed on 15- or 20-A circuits, splice No. 12 AWG pigtails for device connections.
8. Tighten unused terminal screws on the device.
9. When mounting into metal boxes, remove the fiber or plastic washers used to hold device mounting screws in yokes, allowing metal-to-metal contact.

L. Receptacle Orientation:

10. Install ground pin of vertically mounted receptacles up, and on horizontally mounted receptacles to the right.
11. Install hospital-grade receptacles in patient-care areas with the ground pin or neutral blade at the top.

M. Device Plates: Do not use oversized or extra-deep plates. Repair wall finishes and remount outlet boxes when standard device plates do not fit flush or do not cover rough wall opening.

N. Dimmers:

1. Install dimmers within terms of their listing.
2. Verify that dimmers used for fan speed control are listed for that application.
3. Install unshared neutral conductors on line and load side of dimmers according to manufacturers' device listing conditions in the written instructions.

O. Arrangement of Devices: Unless otherwise indicated, mount flush, with long dimension vertical and with grounding terminal of receptacles on top. Group adjacent switches under single, multigang wall plates.

P. Adjust locations of floor service outlets and service poles to suit arrangement of partitions and furnishings.

**PANELBOARDS**

A. Product Data: For each type of panelboard, switching and overcurrent protective device, transient voltage suppression device, accessory, and component indicated. Include dimensions and manufacturers' technical data on features, performance, electrical characteristics, ratings, and finishes.

B. Source Limitations: Obtain panelboards, overcurrent protective devices, components, and accessories from single source from single manufacturer.

1. Comply with NEMA PB 1 including handling requirements.

D. Comply with NFPA 70.

E. Coordinate layout and installation of panelboards and components with other construction that penetrates walls or is supported by them, including electrical and other types of equipment, raceways, piping, encumbrances to workspace clearance requirements, and adjacent surfaces. Maintain required workspace clearances and required clearances for equipment access doors and panels.

F. Enclosures: Flush-and surface-mounted cabinets as shown on drawings.

1. Rated for environmental conditions at installed location.
   a. Outdoor Locations: NEMA 250, Type 4X (stainless steel).
   b. Indoor location NEMA 1 with hinged Front Cover: Entire front trim hinged to box and with standard door within hinged trim cover.
2. Finishes:
   a. Back Boxes: Stainless Steel.
3. Directory Card: Inside panelboard door, mounted in transparent card holder.

G. Phase, Neutral, and Ground Buses:

1. Material: Hard-drawn copper, 98 percent conductivity.
2. Equipment Ground Bus: Adequate for feeder and branch-circuit equipment grounding conductors; bonded to box.

H. Future Devices: Mounting brackets, bus connections, filler plates, and necessary appurtenances required for future installation of devices.

I. Panelboard Short-Circuit Current Rating: Fully rated to interrupt symmetrical short-circuit current available at terminals. See drawings for rating.

J. Manufacturers: Subject to compliance with requirements, provide products by either: Eaton, General Electric Company; Siemens, and Square D.

K. Branch Overcurrent Protective Devices for Circuit-Breaker Frame Sizes Larger Than 125 A: Bolt-on circuit breakers; plug-in circuit breakers where individual positive-locking device requires mechanical release for removal. Branch circuit breakers shall be HACR type. Molded-Case Circuit Breaker (MCCB): Comply with UL 489, with interrupting capacity to meet available fault currents.

L. Examine panelboards before installation. Reject panelboards that are damaged or rusted or have been subjected to water saturation.

M. Examine elements and surfaces to receive panelboards for compliance with installation tolerances and other conditions affecting performance of the Work.

N. Proceed with installation only after unsatisfactory conditions have been corrected.

O. Install panelboards and accessories according to NEMA PB 1.1.

P. Mount panelboard cabinet plumb and rigid without distortion of box. Mount recessed panelboards with fronts uniformly flush with wall finish and mating with back box.

Q. Install filler plates in unused spaces.

R. Arrange conductors in gutters into groups and bundle and wrap with wire ties after completing load balancing.

TEMPORARY POWER

A. The electrical contractor shall provide temporary electrical wiring for construction. The temporary service shall be single phase, three wire, 120/240 volts fused at main disconnect. All receptacles on this temporary service shall be protected by ground fault interruptible circuit breakers.

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GIDEON WAMAE
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OKLAHOMA
3/31/26

Express Oil Change & Tire Engineers
Single Building / Left Hand Oil Change / Front Enter / Side Tire Storage
Wagoner, OK

FINAL

| No. | Description | Date |
|---|---|---|
| | | |
| IFP-0 | Issue for Permit | 01/28/2026 |
| IFB-0 | Issue for Bid | 03/31/2026 |
| IFC-0 | Issue for Construction | 04/22/2026 |
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Specifications

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|---|---|
| Project number | 25041 |
| Date | 12/16/2025 |
| Drawn by | TH |
| Checked by | GW |

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## COMcheck Software Version 4.1.5.5

# Interior Lighting Compliance Certificate

### Project Information

Energy Code: 2018 IECC
Project Title: Express Oil Change & Tire Engineers
Project Type: New Construction

Construction Site: Wagoner, OK
Owner/Agent: Express Oil Change Birmingham, AL
Designer/Contractor: Taylor Higginbotham GW Engineering Trussville, AL

### Additional Efficiency Package(s)

Credits: 1.0 Required 1.0 Proposed:
Reduced Lighting Power, 1.0 credit

### Allowed Interior Lighting Power

| A Area Category | B Floor Area (ft2) | C Allowed Watts / ft2 | D Allowed Watts (B X C) |
|---|---|---|---|
| 1-Automotive Facility | 6782 | 0.64 | 4334 |
| | | Total Allowed Watts = | 4334 |

### Proposed Interior Lighting Power

| A Fixture ID : Description / Lamp / Wattage Per Lamp / Ballast | B Lamps/ Fixture | C # of Fixtures | D Fixture Watt. | E (C X D) |
|---|---|---|---|---|
| 1-Automotive Facility | | | | |
| LED 8: L1L1P: Other: | 1 | 29 | 100 | 2900 |
| LED 9: L2/L2P: Other: | 1 | 16 | 50 | 800 |
| LED 10: L3/L3E: Other: | 1 | 8 | 36 | 288 |
| | | | Total Proposed Watts = | 3988 |

**Interior Lighting PASSES: Design 8% better than code**

### Interior Lighting Compliance Statement

*Compliance Statement:* The proposed interior lighting design represented in this document is consistent with the building plans, specifications, and other calculations submitted with this permit application. The proposed interior lighting systems have been designed to meet the 2018 IECC requirements in COMcheck Version 4.1.5.5 and to comply with any applicable mandatory requirements listed in the Inspection Checklist.

Taylor Higginbotham — Name - Title
Taylor Higginbotham — Signature
01/27/2026 — Date



## COMcheck Software Version 4.1.5.5

# Exterior Lighting Compliance Certificate

### Project Information

Energy Code: 2018 IECC
Project Title: Express Oil Change & Tire Engineers
Project Type: New Construction
Exterior Lighting Zone: 2 (Neighborhood business district (LZ2))

Construction Site: Wagoner, OK
Owner/Agent: Express Oil Change Birmingham, AL
Designer/Contractor: Taylor Higginbotham GW Engineering Trussville, AL

### Allowed Exterior Lighting Power

| A Area/Surface Category | B Quantity | C Allowed Watts / Unit | D Tradable Wattage | E Allowed Watts (B X C) |
|---|---|---|---|---|
| Entry canopy | 9 ft2 | 0.25 | Yes | 2 |
| Illuminated area of facade wall or surface | 1750 ft2 | 0.07 | No | 131 |
| | | | Total Tradable Watts (a) = | 2 |
| | | | Total Allowed Watts = | 134 |
| | | | Total Allowed Supplemental Watts (b) = | 400 |

(a) Wattage tradeoffs are only allowed between tradable areas/surfaces.
(b) A supplemental allowance equal to 400 watts may be applied toward compliance of both non-tradable and tradable areas/surfaces.

### Proposed Exterior Lighting Power

| A Fixture ID : Description / Lamp / Wattage Per Lamp / Ballast | B Lamps/ Fixture | C # of Fixtures | D Fixture Watt. | E (C X D) |
|---|---|---|---|---|
| Entry canopy (9 ft2): Tradable Wattage | | | | |
| LED 1: L5/L4E: Other: | 1 | 5 | 38 | 190 |
| Illuminated area o' facade wall or surface (1750 ft2): Non-tradable Wattage | | | | |
| LED 2: L4: Other: | 1 | 6 | 38 | 228 |
| | | | Total Tradable Proposed Watts = | 190 |

**Exterior Lighting PASSES: Design 38% better than code**

### Exterior Lighting Compliance Statement

*Compliance Statement:* The proposed exterior lighting design represented in this document is consistent with the building plans, specifications, and other calculations submittec with this permit application. The proposed exterior lighting systems have been designed to meet the 2018 IECC requirements in COMcheck Version 4.1.5.5 and to comply with any applicable mandatory requirements listed in the Inspection Checklist.

Taylor Higginbotham — Name - Title
Taylor Higginbotham — Signature
01/27/2026 — Date



## COMcheck Software Version 4.1.5.5

# Inspection Checklist

Energy Code: 2018 IECC

Requirements: 0.0% were addressed directly in the COMcheck software

Text in the "Comments/Assumptions" column is provided by the user in the COMcheck Requirements screen. For each requirement, the user certifies that a code requirement will be met and how that is documented, or that an exception is being claimed. Where compliance is itemized in a separate table, a reference to that table is provided.

| Section # & Req.ID | Plan Review | Complies? | Comments/Assumptions |
|---|---|---|---|
| C103.2 [PR4]1 | Plans, specifications, and/or calculations provide all information with which compliance can be determined for the interior lighting and electrical systems and equipment and document where exceptions to the standard are claimed. Information provided should include interior lighting power calculations, wattage of bulbs and ballasts, transformers and control devices. | ☐Complies ☐Does Not ☐Not Observable ☐Not Applicable | |
| C103.2 [PR8]1 | Plans, specifications, and/or calculations provide all information with which compliance can be determined for the exterior lighting and electrical systems and equipment and document where exceptions to the standard are claimed. Information provided should include exterior lighting power calculations, wattage of bulbs and ballasts, transformers and control devices. | ☐Complies ☐Does Not ☐Not Observable ☐Not Applicable | |

**Additional Comments/Assumptions:**

1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)



| Section # & Req.ID | Rough-In Electrical Inspection | Complies? | Comments/Assumptions |
|---|---|---|---|
| C405.2.2.2 [EL22]1 | Spaces required to have light-reduction controls have a manual control that allows the occupant to reduce the connected lighting load in a reasonably uniform illumination pattern >= 50 percent. | ☐Complies ☐Does Not ☐Not Observable ☐Not Applicable | |
| C405.2.1, C405.2.1.1 [EL18]1 | Occupancy sensors installed in classrooms/lecture/training rooms, conference/meeting/multipurpose rooms, copy/print rooms, lounges/breakrooms, enclosed offices, open plan office areas, restrooms, storage rooms, locker rooms, warehouse storage areas, and other spaces <= 300 sqft that are enclosed by floor-to-ceiling height partitions. Reference section language C405.2.1.2 for control function in warehouses and section C405.2.1.3 for open plan office spaces. | ☐Complies ☐Does Not ☐Not Observable ☐Not Applicable | |
| C405.2.1, C405.2.1.2 [EL19]1 | Occupancy sensors control function in warehouses: In warehouses, the lighting in aisleways and open areas is controlled with occupant sensors that automatically reduce lighting power by 50% or more when the areas are unoccupied. The occupant sensors control lighting in each aisleway independently and do not control lighting beyond the aisleway being controlled by the sensor. | ☐Complies ☐Does Not ☐Not Observable ☐Not Applicable | |
| C405.2.1, C405.2.1.3 [EL20]1 | Occupant sensor control function in open plan office areas: Occupant sensor controls in open office spaces >= 300 sq.ft. have controls 1) configured so that general lighting can be controlled separately in control zones with floor areas <= 600 sq.ft. within the space, 2) automatically turn off general lighting in all control zones within 20 minutes after all occupants have left the space, 3) are configured so that general lighting power in each control zone is reduced by >= 80% of the ful zone general lighting power within 20 minutes of all occupants leaving that control zone, and 4) are configured such that any daylight responsive control will activate space general lighting or control zone general lighting only when occupancy for the same area is detected. | ☐Complies ☐Does Not ☐Not Observable ☐Not Applicable | |
| C405.2.2, C405.2.2.1, C405.2.2.2 [EL21]1 | Each area not served by occupancy sensors (per C405.2.1) have time-switch controls and functions detailed in sections C405.2.2.1 and C405.2.2.2. | ☐Complies ☐Does Not ☐Not Observable ☐Not Applicable | |

1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)



| Section # & Req.ID | Rough-In Electrical Inspection | Complies? | Comments/Assumptions |
|---|---|---|---|
| C405.2.3, C405.2.3.1, C405.2.3.2 [EL23]1 | Daylight zones provided with individual controls that control the lights independent of general area lighting. See code section C405.2.3 Daylight-responsive controls for applicable spaces, C405.2.3.1 Daylight responsive control function and section C405.2.3.2 Sidelit zone. | ☐Complies ☐Does Not ☐Not Observable ☐Not Applicable | |
| C405.2.4 [EL26]1 | Separate lighting control devices for specific uses installed per approved lighting plans. | ☐Complies ☐Does Not ☐Not Observable ☐Not Applicable | |
| C405.2.4 [EL27]1 | Additional interior lighting power allowed for special functions per the approved lighting plans and is automatically controlled and separated from general lighting. | ☐Complies ☐Does Not ☐Not Observable ☐Not Applicable | |
| C405.2.5 [EL28]1[a] | Manual controls required by the energy code are in a location with ready access to occupants and located where the controlled lights are visible, or identify the area served and their status. | ☐Complies ☐Does Not ☐Not Observable ☐Not Applicable | |
| C405.2.6 [EL30]1[a] | Automatic lighting controls for exterior lighting installed. Controls will be daylight controlled, set based on business operation time-of-day, or reduce connected lighting > 30%. | ☐Complies ☐Does Not ☐Not Observable ☐Not Applicable | |
| C405.3 [EL6]1 | Exit signs do not exceed 5 watts per face. | ☐Complies ☐Does Not ☐Not Observable ☐Not Applicable | |

**Additional Comments/Assumptions:**

1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)



| Section # & Req.ID | Final Inspection | Complies? | Comments/Assumptions |
|---|---|---|---|
| C333.3, C408.2.5.2 [FI17]1 | Furnished O&M instructions for systems and equipment to the building owner or designated representative. | ☐Complies ☐Does Not ☐Not Observable ☐Not Applicable | |
| C405.4.1 [FI18]1 | Interior installed lamp and fixture lighting power is consistent with what is shown on the approved lighting plans, demonstrating proposed watts are less than or equal to allowed watts. | ☐Complies ☐Does Not ☐Not Observable ☐Not Applicable | *See the Interior Lighting fixture schedule for values.* |
| C405.5.1 [FI19]1 | Exterior lighting power is consistent with what is shown on the approved lighting plans, demonstrating proposed watts are less than or equal to allowed watts. | ☐Complies ☐Does Not ☐Not Observable ☐Not Applicable | *See the Exterior Lighting fixture schedule for values.* |
| C408.2.5.1 [FI16]1 | Furnished as-built drawings for electric power systems within 90 days of system acceptance. | ☐Complies ☐Does Not ☐Not Observable ☐Not Applicable | |
| C408.3 [FI33]1 | Lighting systems have been tested to ensure proper calibration, adjustment, programming, and operation. | ☐Complies ☐Does Not ☐Not Observable ☐Not Applicable | |

**Additional Comments/Assumptions:**

1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)




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GIDEON WAMAE
34026
OKLAHOMA
3/31/26


# Express Oil Change & Tire Engineers

Single Building / Left Hand Oil Change / Front Enter / Side Tire Storage

Wagoner, OK

FINAL

| No. | Description | Date |
|---|---|---|
| | | |
| IFP-0 | Issue for Permit | 01/28/2026 |
| IFB-0 | Issue for Bid | 03/31/2026 |
| IFC-0 | Issue for Construction | 04/22/2026 |
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COMcheck

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|---|---|
| Project number | 25041 |
| Date | 12/16/2025 |
| Drawn by | TH |
| Checked by | GW |

E600

Scale: NO SCALE


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4120 OVERLOOK CIRCLE, TRUSSVILLE, AL 35173
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