addendum #01

Client	Greater Dayton RTA	Date	June 11, 2025
Project	Paratransit Bus Garage	Project #	634-7069

This addendum provides information to clarify or adjust construction items which may affect any or all trade contractors. The original documents for the referenced project are amended as noted in this addendum and made part of said documents and shall govern the work covered by the Form of Proposal. All work to be in strict accordance with the terms, stipulations and conditions of contract documents.

SUMMARY OF ATTACHMENTS

1. **Specifications:**
    a. 083300 – ROLLING SERVICE DOORS
2. **Drawings:**
    a. G002 – MATERIAL I.D. CODES
    b. C200 – DEMOLITION PLAN
    c. C300 – SITE PLAN
    d. C400 – UTILITY PLAN
    e. C401 – UTILITY PLAN
    f. C603 – DETAILS
    g. S001 – GENERAL NOTES, ABBREVIATIONS, & SYMBOL LEGEND
    h. E005 – ELECTRICAL SITE PLAN
    i. E600 – PANEL SCHEDULES
    j. T002 – TECHNOLOGY DETAILS
    k. T003 – TECHNOLOGY DETAILS AND SCHEDULES
    l. T004 – TECHNOLOGY SITE PLAN

PART 1 – SPECIFICATIONS

1. **083300** – revised spec section 2.1, A., 14.

PART 2 – DRAWINGS

1. **G002** – revised gauge of steel studs and track to match structural specifications.
2. **C200** – revised keynote 15 to omit the word “Owner”.
3. **C300** – added decorative fence on south side of bus garage. Revised keynote 3 to reference detail on new sheet C603.
4. **C400** – revised water line size to match plumbing drawings.
5. **C401** – revised water line size to match plumbing drawings.
6. **C603** – new sheet with decorative fence typical details.
7. **S001** – revised FOUNDATIONS notes 1, 8, 9, 12, 13 and 17.
8. **E005** – revised circuit for sliding gate.
9. **E600** – added new circuit for sliding gate to panel BWOPS2 and new spares in panel BWOPS2.
10. **T002** – revised outlet detail notes.
11. **T003** – revised detail notes for camera and access control installation.

12. **T004** – added information for re-using fiber tie to 600 Longworth Street.

End of Addendum

SECTION 083300 - ROLLING SERVICE DOORS

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Springless rolling service doors.

1.2 RELATED SECTIONS

A. Section 055000 - Metal Fabrications: Support framing and framed opening.

1.3 REFERENCES

A. ANSI/DASMA 108 - American National Standards Institute Standard Method For Testing Sectional Garage Doors And Rolling Doors: Determination Of Structural Performance Under Uniform Static Air Pressure Difference.

B. ASTM E 90 - Standard Test Method for Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions and Element.

C. ASTM E 330 - Standard Test Method for Structural Performance of Exterior Windows, Doors, Skylights and Curtain Walls by Uniform Static Air Pressure Difference.

D. ASTM A 653 - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.

E. ASTM A 666 - Standard Specification for Austenitic Stainless Steel Sheet, Strip, Plate, and Flat Bar.

F. ASTM A 924 - Standard Specification for General Requirements for Steel Sheet, Metallic-Coated by the Hot-Dip Process.

G. ASTM B 221 - Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes.

H. NEMA 250 - Enclosures for Electrical Equipment (1000 Volts Maximum).

I. NEMA MG 1 - Motors and Generators.

1.4 DESIGN / PERFORMANCE REQUIREMENTS

A. Single-Source Responsibility: Provide doors, tracks, motors, and accessories from one manufacturer for each type of door. Provide secondary components from source acceptable to manufacturer of primary components.

B. Products Requiring Electrical Connection: Listed and classified by Underwriters Laboratories, Inc. acceptable to authority having jurisdiction as suitable for purpose specified.

1.5 SUBMITTALS

A. Product Data: Manufacturer's data sheets on each product to be used, including:

1. Preparation instructions and recommendations.
2. Storage and handling requirements and recommendations.
3. Details of construction and fabrication.
4. Installation instructions.

B. Shop Drawings: Include project specific detailed plans, elevations, details of framing members, anchoring methods, required clearances, hardware, wiring connections and accessories. Include relationship with adjacent construction.

C. Selection Samples: For each finish product specified, two complete sets of color chips representing manufacturer's full range of available colors and patterns.

D. Verification Samples: For each finish product specified, two samples, minimum size 6 inches (150 mm) long, representing actual product, color, and patterns.

E. Manufacturer's Certificates: Certify products meet or exceed specified requirements.

F. Operation and Maintenance Data: Submit lubrication requirements and frequency, and periodic adjustments required.

1.6 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company specializing in performing Work of this section with a minimum of five years experience in the fabrication and installation of security closures.

B. Installer Qualifications: Installer Qualifications: Company specializing in performing Work of this section with minimum three years and approved by manufacturer.

C. Manufacturer’s Certificates:

1. Certification from manufacturers that products supplied comply with local regulations controlling use of volatile organic compounds (VOCs).
2. Provide certificates from manufacturer for each product required indicating that product complies with specified product requirements and is suitable for use indicated.

1.7 DELIVERY, STORAGE, AND HANDLING

A. Store products in manufacturer's unopened packaging until ready for installation.

B. Protect materials from exposure to moisture. Do not deliver until after wet work is complete and dry.

C. Store materials in a dry, warm, ventilated weathertight location.

1.8 PROJECT CONDITIONS

A. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products

under environmental conditions outside manufacturer's absolute limits.

1.9 COORDINATION

A. Coordinate Work with other operations and installation of adjacent materials to avoid damage to installed materials.

1.10 WARRANTY

A. Warranty: Manufacturer's limited door and operator system, to be free from defects in materials and workmanship for 3 years or 500,000 cycles, whichever occurs first.

B. PowderGuard Finish:

1. PowderGuard Zinc Base Coat applied to guides and headplates plus PowderGuard Premium applied to slat, curtain, bottom bar, and brackets: Manufacturer's limited Zinc Finish warranty for 4 years.

PART 2 PRODUCTS

2.1 SPRINGLESS ROLLING SERVICE DOORS (CD-1 & CD-2)

A. Basis-of Design Product: Subject to compliance with requirements, provide Overhead Door Corporation; EverServe Model 625S Insulated Springless Rolling Service Doors with Stormtite perimeter seals. Due to performance and design requirements, there will be No Substitutions allowed.

1. Curtain: Interlocking roll-formed metal slats as specified with endlocks attached to each end of alternate slats to prevent lateral movement.

a. Flat Profile insulated type F-265i with 20 gauge back covering steel; for doors up to 20 feet wide fabricated of:

1) 20 gauge powder coated steel.

b. Insulation: Slat cavity shall be filled with CFC-free, foamed-in-place, polyurethane insulation.

2. Performance:

a. R-Value: 7.7, U-Value: 0.13.
b. Through Curtain Sound Rating: Sound Rating: STC-28 (STC-30+ with HZ noise generator) as per ASTM E 90.
c. Installed System Sound Rating: STC-21 as per ASTM E 90.
d. U-factor: 0.91 NFRC test report, maximum U-factor of no higher than 1.00.
e. Air Infiltration: Meets ASHRAE 90.1 & IECC 2012/2015 C402.4.3 Air leakage < 1.00 cfm/ft2.

3. Curtain and Hood Finish:

a. Galvanized Steel: Slats and hood galvanized in accordance with ASTM A 653 and receive rust-inhibitive, roll coating process, including 0.2 mils

thick baked-on prime paint, and 0.6 mils thick baked-on polyester top coat.

1) Powder Coat:

(a) PowderGuard Premium powder coat color as selected by the Architect.

2) Non-galvanized exposed ferrous surfaces shall receive one coat of rust-inhibitive primer.

4. Weatherseals:

a. Vinyl bottom seal, exterior guide and internal hood seals.
b. Interior guide weatherseal.
c. Lintel weatherseal.

5. Bottom Bar: Two metal angles, minimum thickness 3/16 inch, bolted back to back to reinforce curtain in the guides.

a. Material:

1) Steel.

6. Guides: Three Structural steel angles provided with high usage guide wear strip to minimize wear and reduce sound.

a. Material:

1) Steel.

7. Brackets:

a. Galvanized steel to support counterbalance, curtain and hood.

8. Finish; Bottom Bar, Hood and Brackets:

a. PowderGuard Premium powder coat color as selected by the Architect.

9. Motor: Direct drive, integrated gear motor/brake assembly sized for openings. Provide with a manual hand chain for operation during power outages. Operator and drive assembly is factory pre-assembled and provided with all wiring harnesses needed direct from the factory.

a. Supply Voltage: 200/240V AC, 1-phase, operating range 200/240V.

10. Control Panel: Electronic controller with microprocessor self-diagnostics. Digital readout indicates door action, alarm conditions and fault conditions. Time delay self-close timer and non-resettable cycle counter are included. Enclosure is IP54 rated (NEMA 3 equivalent). Provide auxiliary contacts for indicator lights that are to be mounted in the direction of travel. Flashing red lights for door rising and lowering. Continuous Green for door at full height.
11. Door Roll: Directly driven, springless roll shall be steel tube with integral shafts, keyed on the Drive End and supported by self-aligning greaseable sealed bearings. Door shall not require any counterbalance device.

12. Hood: Protecting drive motor, barrel, chain, and sprocket from dirt and debris and extending between the support brackets. Provide with internal hood baffle weatherseal. Fabricated of:

    a. 20 gauge galvanized steel with intermediate supports as required.

13. Safety Devices: Provide door with following safety devices:

    a. Photoelectric sensors that cast an invisible beam across the door opening and reverses the downward motion of the door when an object enters the path of the beam.
    b. Provide a 6' light curtain on both side of the door for expanded detection of vehicles and people.
    c. Built-in (to motor assembly) brake mechanism eliminates uncontrolled curtain travel independent of other safeties.
    d. Sensing Edge Protection.

        1) Electric sensing edge.

14. Actuators:

    a. One Open/Close/Stop push button station incorporated into Control Panel in the interior of the building.
    b. .
    c. ** NOTE TO SPECIFIER ** Complete the following paragraph for optional equipment as required; and delete if not required. Specify optional push buttons, loop detectors, radio control, motion detectors, or any combination thereof as required. Considerable thought should be given to the choice of actuators based on the type of traffic and traffic flow through the opening. Contact the manufacturer for additional information.
    d. Radio control. Receivers will match up to current RTA Garaged door operators mounted on all buses. Each door to operate independently.

15. Warning light.

    a. LED type warning lights shall be included. LED are to be strip type that flash red during door operation up and down and hold green when door is open.

    b. Lights will match owner's warning lights at 601 building.

16. Wind load: Design door assembly to withstand wind/suction load of 20 psf (958 Pa) in conformance with DASMA 108-2012 and as required by local codes without damage to door or assembly components.
17. Face-of-wall Mounted.

PART 3 EXECUTION

3.1 EXAMINATION

A. Verify opening sizes, tolerances and conditions are acceptable.

B. Examine conditions of substrates, supports, and other conditions under which this work is to be performed.

C. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

3.2 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.

3.3 INSTALLATION

A. Install in accordance with manufacturer's instructions.

B. Use anchorage devices to securely fasten assembly to wall construction and building framing without distortion or stress.

C. Securely and rigidly brace components suspended from structure. Secure guides to structural members only.

D. Fit and align assembly including hardware; level and plumb, to provide smooth operation.

E. Coordinate installation of electrical service with Division 26. Complete wiring from disconnect to unit components.

F. Coordinate installation of sealants and backing materials at frame perimeter as specified in Section 079200.

G. Install perimeter trim and closures.

H. Instruct Owner’s personnel in proper operating procedures and maintenance schedule.

3.4 Operation

A. Door are intended to operate from magnetic vehicle detection mounted above grade at egress. Entry doors shall operate from wireless transmitters mounted on the bus.

B. Door will open for a preset time coordinated with the owner. Door will then close if Light Curtain, and photo eye allow.

C. Door edge sensor, photo electric sensor and light sensor will halt operation.

D. Door will have a light bar on the door from the direction of travel that flashes red while the door is in operation and holds green when the door is fully open.

3.5 ADJUSTING

A. Test for proper operation and adjust as necessary to provide proper operation without binding or distortion.

B. Adjust hardware and operating assemblies for smooth and noiseless operation.

3.6 CLEANING

A. Clean curtain and components using non-abrasive materials and methods recommended by manufacturer.

B. Remove labels and visible markings.

C. Touch-up, repair or replace damaged products before Substantial Completion.

3.7 PROTECTION

A. Protect installed products until completion of project.

END OF SECTION 083300

Material Identification Codes

SPEC	CODE	DESCRIPTION
072726	**AB**	**AIR AND WATER BARRIER**
072726	AB-1	Henry Air-Bloc All Weather STPE, UV-resistant, vapor permeable
095113	**ACT**	**ACOUSTIC CEILING TILE**
095113	ACT-1	Armstrong 704 Cortega, Tegular Edge, 15/16" Grid, Size: 24" x 24", Color : White
102800	**CH**	**COAT HOOKS**
102800	CH-1	Rockwood RM811 Architectural Coat Hook, surface-mounted, material: Cast Brass, finish: Satin Chrome Plated, ADA compliant
083300	**CD**	**COILING DOORS**
083300	CD-1	Coiling door, bus garage, exterior, insulated, Overhead Door EverServe Model 625S, 16'W x 15'H, F-265i slat, face-of-wall mounted, curtain, bottom bar, hood and bracket finish: PowderGuard Premium, guide and headplate finish: PowderGuard Zinc, color: RAL 7022 Umbra Grey
083300	CD-2	Coiling door, bus wash, exterior, insulated, Overhead Door EverServe Model 625S, 15'W x 15'H, F-265i slat, face-of-wall mounted, curtain, bottom bar, hood and bracket finish: PowderGuard Premium, guide and headplate finish: PowderGuard Zinc, color: RAL 7022 Umbra Grey
042200	**CMU**	**CONCRETE MASONRY UNITS**
042200	CMU-1	Nom. 8", refer to structural drawings
093013	**CTW**	**CERAMIC TILE - WALL**
093013	CTW-1	Crossville Portugal, Color: Venho Verde (Cool Mid) UPS, Size: 12" x 24" Application: Wall Grout: Mapei, Kerapoxy CQ, Color: 107 Iron
093013	CTW-2	Crossville Portugal, color: Venho Verde (Cool Mid) UPS, Size: 6" x 24" Application: Base Grout: Mapei, Kerapoxy CQ, color: 107 Iron
071900	**CS**	**CONCRETE SEALERS**
071900	CS-1	Laticrete L&M AQUAPEL waterborne sealer
084413	**CW**	**CURTAIN WALL SYSTEMS**
084413	CW-1	Outside glazed curtain wall system, YKK YCW 750 OG, 7-1/2" deep, finish: Anodized, color: YSN1 - Clear Anodized Plus
224200	**DF**	**DRINKING FOUNTAINS**
224200	DF-1	Elkay LZSTL8WSSK Bottle Filling Station & Versatile Bi-Level ADA Cooler Refrigerated Stainless Lead Reduction Quick Filter Change
087100	**DR TH**	**DOOR THRESHOLDS**
087100	DR TH-1	Pemko 253x3_FG Series Thermal Barrier Threshold, finish: Stainless Steel
	DS	**MANUFACTURED GUTTERS AND DOWNSPOUTS**
074113.19	DS-1	Downspout, bus wash, rectangular, 6"W x 4"D, material: Galvalume, 20 gauge, formed from metal panel coil stock, finish: Fluropon PVDF-Kynar 500, color: Copper Penny
076200	DS-2	Downspout, bus garage, Exceptional Metals, rectangular, Closed-Face, A-Style Elbow, 24 gauge, 6"W x 4"D, color: Matte Black
104413	**FDKB**	**FIRE DEPARTMENT KEY BOX**
104413	FDKB-1	KnoxBox 3262NC, surface-mounted, color: Black
104416	**FE**	**FIRE EXTINGUISHERS**
104416	FE-1	Fire Extinguisher, 4A:60B:C, surface-mounted on bracket
104416	FE-2	Fire Extinguisher, 2A:20B:C, located in cabinet
104413	**FE CAB**	**FIRE EXTINGUISHER CABINETS**
104413	FE CAB-1	Exterior fire extinguisher cabinet, heavy-duty, stainless steel finish
070543.11	**FRP FURG**	**COMPOSITE METAL HYBRID (CMH) CONTINUOUS INSULATION SUB-FRAMING SUPPORT SYSTEMS**
070543.11	FRP FURG-1	GreenGirt SMARTci composite metal hybrid (CMH) z-girt
102800	**GB**	**GRAB BARS**
102800	GB-1	Bobrick B-6806, 36" Long, 1 1/2" diameter, finish: Satin, slip-resistant surface
102800	GB-2	Bobrick B-6806, 42" Long, 1 1/2" diameter, finish: Satin, slip-resistant surface
088000	**GL**	**GLAZING**
088000	GL-21T	Insulating vision glass, 1" thick, fully-tempered, Viracon VNE1-63
088000	GL-41	Insulated spandrel glass, 1" thick, heat strenghthened, Harmony Gray spandrel
	GUT	**MANUFACTURED GUTTERS AND DOWNSPOUTS**
074113.19	GUT-1	Gutter, bus wash, 8-1/2"W x 6-1/2"H, material: Galvalume, 20 gauge, formed from metal panel coil stock, finish: Fluropon PVDF-Kynar 500, color: Copper Penny
076200	GUT-2	Gutter, bus garage, Exceptional Metals, LX-Style, 24 gauge, 8"W x 6"H, color: Matte Black
092900	**GYP BD**	**GYPSUM BOARD (INTERIOR)**
092900	GYP BD-1	5/8", Type X
092900	GYP BD-2	5/8", Type X, impact-resistant
061600	**GYP SHTG**	**GYPSUM SHEATHING (EXTERIOR)**
061600	GYP SHTG-1	5/8", Type X, fiberglass-faced
033000	**HTF**	**CONCRETE FINISHING**
033000	HTF-1	Hard trowel finish, bus garage restroom floor
074113.19	**HT RU**	**ROOF UNDERLAYMENTS**
074113.19	HT RU-1	Roof underlayment, bus wash, Exceptional Metals Exceptional HT (High Temperature) Self-adhesive Roof Underlayment
	INSUL	**INSULATION**
072100	INSUL-1	Extruded polystyrene board, 25 PSI, below grade, 2" thick UNO
072100	INSUL-15	Glass Fiber Mat faced polyisocyanurate, 2" thick
072100	INSUL-40	Unfaced fiberglass batt, 8" thick (bus garage exterior framed walls), 6" thick (bus garage clerestory exterior framed walls)
072100	INSUL-60	Mineral wool
072419	INSUL-70	Roof insulation, Duro-Last Duro-Guard ISO II, closed-cell polyisocyanurate foam core with integrally-laminated fiber-reinforced facer
074113.19	INSUL-80	Composite polyisocyanurate board insulation with factory-applied 3/4" CDX plywood facer
033000	**LBF**	**CONCRETE FINISHING**
033000	LBF-1	Light broom finish, bus garage and bus wash floors
055000	**MET FAB**	**METAL FABRICATIONS**
055000	MET FAB-1	Bollard, surface-mounted steel pipe, 4' tall, Schedule 40, finish: painted PT-8
055000	MET FAB-2	U-bollard, 36"W x 56"H, Schedule 40, finish: painted PT-8
055000	**MET LAD**	**METAL LADDERS**
055000	MET LAD-1	FS Industries IBC Design Flush Top Treads Ships Ladder - 60 Degree Steep Incline with Walk Thru Handrail, heavy-duty bar grating stair treads with nosing, factory welded handrails, finish: Galvanized with paint finish, color: PT-6
055000	MET LAD-2	Kattsafe RL35 vertical fixed ladder with 3' long walkway platform and 6' long Kattsafe GR34 non-penetrating guardrails, high grade aluminum, bus garage roof, finish: Mill
055000	MET LAD-3	Kattsafe RL31 vertical fixed ladder, bus wash, high grade aluminum, finish: Powder Coated, color: tbd
076200/042200	**MF**	**SHEET METAL FLASHING AND TRIM**
076200/042200	MF-1	Stainless steel flashing with drip edge and receiver, 20 gauge
076200/042200	MF-2	Stainless steel insert flashing with hemmed edge and back splices between sections, 20 gauge
102800	**MIR**	**MIRRORS**
102800	MIR-1	Bobrick B-2908, wall-mounted, 24"x36", welded frame, tempered glass mirror, finish: Satin
102800	**MOP**	**MOP AND BROOM HOLDERS**
102800	MOP-1	Bobrick B-223 x 24, wall-mounted, Type 304 Stainless Steel, finish: Satin
074113.19	**MR**	**METAL ROOF PANELS**
074113.19	MR-1	Morin Symmetry Series SYM-12-0, width: 12", height: 1-1/2", 22 gauge, finish: Fluropon PVDF-Kynar 500, color: Copper Penny
074213.13	**MP**	**METAL WALL PANELS**
074213.13	MP-1	Morin Pulse P-1, cover width: 12" nominal, installed vertically, material: Galvalume, 20 gauge, finish: Fluropon PVDF-Kynar 500, color: Copper Penny
074213.13	MP-2	Morin Pulse P-9, cover width: 12" nominal, installed vertically, material: Galvalume, 20 gauge, finish: Fluropon PVDF-Kynar 500, color: Copper Penny
074213.13	MP-3	Morin Matrix MX-6, cover width: 12" nominal, installed vertically, material: Galvalume, 20 gauge, finish: Fluropon PVDF-Kynar 500, color: Copper Penny
074213.13	MP-4	Morin Matrix MX-6, cover width: 12" nominal, installed vertically, material: Galvalume, 18 gauge, finish: Fluropon PVDF-Kynar 500, color: Dove Gray
074213.13	MP-5	Morin Matrix MX-6, cover width: 12" nominal, installed vertically, material: Galvalume, 20 gauge, finish: Fluropon PVDF-Kynar 500, color: Bristol Black
084413	**MWP**	**METAL WINDOW PANELS**
084413	MWP-1	Mapes R Panel, 1" thickness, exterior finish: Standard Kynar, exterior and interior substrates: Tempered Hardboard, core: Isocyanurate, interior finish: Smooth Mill Aluminum
055213	**ORN RAIL**	**ORNAMENTAL RAILING**
055213	ORN RAIL-1	Guardrail, 1/2" x 2" steel bar with 1/2" x 1/2" pickets, galvanized, finish: painted PT-8
	PT	**PAINT**
099600	PT-1	Location: Interior Items: Cast-in-place concrete curbs Products: Macropoxy 646 Fast Cure, two-component, high solids, fast drying polyamide epoxy mastic Sher-Loxanne 800, two-component, isocyanate-free polysiloxane finish Color: Sherwin Williams SW 9163 Tin Lizzie Sheen: Gloss
099600	PT-2	Location: Interior Items: Gypsum board Products: ProMar 200 Zero VOC Interior Latex Primer Macropoxy 646 Fast Cure, two-component, high solids, fast drying polyamide epoxy mastic Color: Sherwin Williams SW 9163 Tin Lizzie Sheen: Semi-gloss
099124	PT-3	Location: Interior Items: Gypsum board Products: ProMar 200 Zero VOC Interior Latex Primer ProMar 200 Zero VOC Interior Latex Color: Sherwin Williams SW 7005 Pure White Sheen: Eg-Shel
099600	PT-4	Location: Interior Items: CMU Products: Kem Cati-Coat HS, two-component, interior/exterior epoxy block filler Macropoxy 646 Fast Cure, two-component, high solids, fast drying polyamide epoxy mastic Sher-Loxanne 800, two-component, isocyanate-free polysiloxane finish Color: Sherwin Williams SW 9163 Tin Lizzie Sheen: Gloss
099124	PT-5	Location: Interior Items: CMU Products: LOXON Acrylic Block Surfacer Pro Industrial Pre-Catalyzed Waterbased Epoxy, K45 Series Color: Sherwin Williams SW 9163 Tin Lizzie Sheen: Semi-gloss
099600	PT-6	Location: Interior Items: Steel beams, X-bracing, underside of roof deck, roof trusses, plumbing piping, mechanical ductwork, electical and technology J-boxes and conduit, miscellaneous panels, ships ladders and landing Products: Macropoxy 646 Fast Cure, two-component, high solids, fast drying polyamide epoxy mastic Sher-Loxanne 800, two-component, isocyanate-free polysiloxane finish Color: Sherwin Williams SW 7645 Thunder Gray Sheen: Gloss
099600	PT-7	Location: Exterior Items: Hollow metal doors and frames Products: Macropoxy 646 Fast Cure, two-component, high solids, fast drying polyamide epoxy mastic Sher-Loxanne 800, two-component, isocyanate-free polysiloxane finish Color: Sherwin Williams SW 7645 Thunder Gray Sheen: Gloss
099600	PT-8	Location: Interior and Exterior Items: Stuctural steel columns, ships ladder support structure, pipe bollards, U-bollards Products: Macropoxy 646 Fast Cure, two-component, high solids, fast drying polyamide epoxy mastic Sher-Loxanne 800, two-component, isocyanate-free polysiloxane finish Color: Sherwin Williams SW 6925 Envy Sheen: Gloss
102800	**PT DSP**	**PAPER TOWEL DISPENSERS**
102800	PT DSP-1	Bobrick B-359033 Trimline Series Recessed Paper Towel Dispenser, Stainless Steel, finish: Satin, 400 multi-fold towels, ADA compliant
112424	**RF A**	**ROOF FALL PROTECTION**
112424	RF P-1	Pro-Bel PBE75-0000, weld to structure roof anchor
112424	RF P-2	Pro-Bel PBE75-0000, weld to structure roof anchor
112424	RF P-3	Pro-Bel HLL-DL3-PB horizontal lifeline system assembly, non-hands free (double lanyard) system, J-clamp
075419	**RF BD**	**ROOF BOARD**
075419	RF BD-1	Duro-Last Duro-Guard DEXcell Glass Mat Roof Board, 5/8" thick
075419	RF BD-2	Duro-Last Duro-Guard DEXcell FA Glass Mat Roof Board, 1/4" thick
077200	**RF H**	**ROOF HATCHES**
077200	RF H-1	Kattsafe KH3054 Roof Access Hatch, 30"W x 54"L
077200	**RF HG**	**ROOF HATCHES**
077200	RF HG-1	Kattsafe KG Roof Hatch Guardrail, to fit 30"W x 54"L hatch, color: Safety Yellow
075419	**RVB**	**ROOF VAPOR BARRIERS**
075419	RVB-1	Duro-Last Vapor Barrier (DL VB), self-adhesive
096513	**RB**	**RESILIENT BASE AND ACCESSORIES**
096513	RB-1	Tarkett Rubber base, 6" Tail Straight, Color: TG2 Shark Fin
075419	**PVC**	**SINGLE-PLY MEMBRANE ROOFING**
075419	PVC-1	Duro-Last Duro-Tuff PVC Roll Roofing Membrane, fully-adhered, 60-mil thick, color: White
	SIGN	**SIGNAGE**
101419	SIGN-1	RTA building sign, 6" deep letters with stand-offs, aluminum letter faces (Pantone # 7481), aluminum returns and backs (Mill finish)
101419	SIGN-2	Building address sign, 6" deep numbers with stand-offs, aluminum letter faces (Pantone # 7481), aluminum returns and backs (Mill finish)
101423.16	SIGN-3	Room identification sign, ELECTRIC, Brushed Aluminum dibond, with braille
101423.16	SIGN-4	Room identification sign, I.T., Brushed Aluminum dibond, with braille
101423.16	SIGN-5	Room identification sign, RESTROOM, Brushed Aluminum dibond, with braille
101423.16	SIGN-6	Room identification sign, JANITOR, Brushed Aluminum dibond, with braille
104416	SIGN-7	Fire extinguisher sign, v-shaped, color: Red / White
104416	SIGN-8	ADA Sign Factory Fire Extinguisher Sign EP5057-STEEL, 6"W x 9"H, 1/8" thick, ADA-compliant with braille, color: Steel / Black
077253	**SN GD**	**SNOW GUARDS**
077253	SN GD-1	S-5 X-Gard 1.0, 1-Pipe System with NEX 2.0, finish: Powder Coated to match roof, use with S-5 S-5-T Clamps
102800	**SP DSP**	**SOAP DISPENSERS**
102800	SP DSP-1	Bobrick B-2111 Classic Series Surface-Mounted Soap Dispenser, Stainless Steel, finish: Satin, ADA compliant
054000	**STL FURG**	**STEEL FURRING (STRUCTURAL)**
054000	STL FURG-1	Sub-girt, 1/2" deep, 16 gauge minimum, galvanized
054000	STL FURG-2	Hat Channel, 7/8" deep, 16 gauge minimum, galvanized
054000	**STL STUD**	**STEEL STUD FRAMING (STRUCTURAL)**
054000	STL STUD-1	C-shaped, 18 gauge minimum (studs), 20 gauge minimum (track), galvanized G90
102800	**TP DSP**	**TOILET PAPER DISPENSERS**
102800	TP DSP-1	Bobrick B-3888 Recessed Multi-Roll Toilet Tissue Dispenser, Stainless Steel, finish: Satin, ADA compliant
042200	**TWF**	**THROUGH-WALL FLASHING**
042200	TWF-1	Termination bar, Stainless Steel
033000	**UVB**	**UNDER SLAB VAPOR BARRIER**
033000	UVB-1	Polyethylene sheet, 15-mil thick
061053	**WD BLKG**	**WOOD BLOCKING**
061053	WD BLKG-1	Solid lumber or plywood blocking, fire-retardent-treated
061053	WD BLKG-2	Solid lumber or plywood blocking, pressure-treated
061600	**WD SHTG**	**WOOD SHEATHING**
061600	WD SHTG-1	Plywood sheathing, 3/4" thick, pressure-treated
097720	**WP**	**WALL PROTECTION**
097720	WP-1	Marlite Pebbled FRP, Color: P 199 Bright White, Class A with coordinating trim pieces, full height
071326	**WPG**	**SELF-ADHERING SHEET WATERPROOFING**
071326	WPG-1	Carlisle CCW MiraDRI 860, 60-mil thick, Carlisle CCW MiraDRAIN 6000
084313	**WW**	**WINDOW WALL SYSTEMS**
084313	WW-1	Outside glazed window wall system, YKK YWW 45 TU, 4-1/2" deep, finish: Anodized, color: YKN1 - Black Anodized Plus

3

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ISSUANCES

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3	ADDENDUM 01	06/11/25

Drawn By
Author

Checked By
Checker

Client No.
634

Project No.
7310

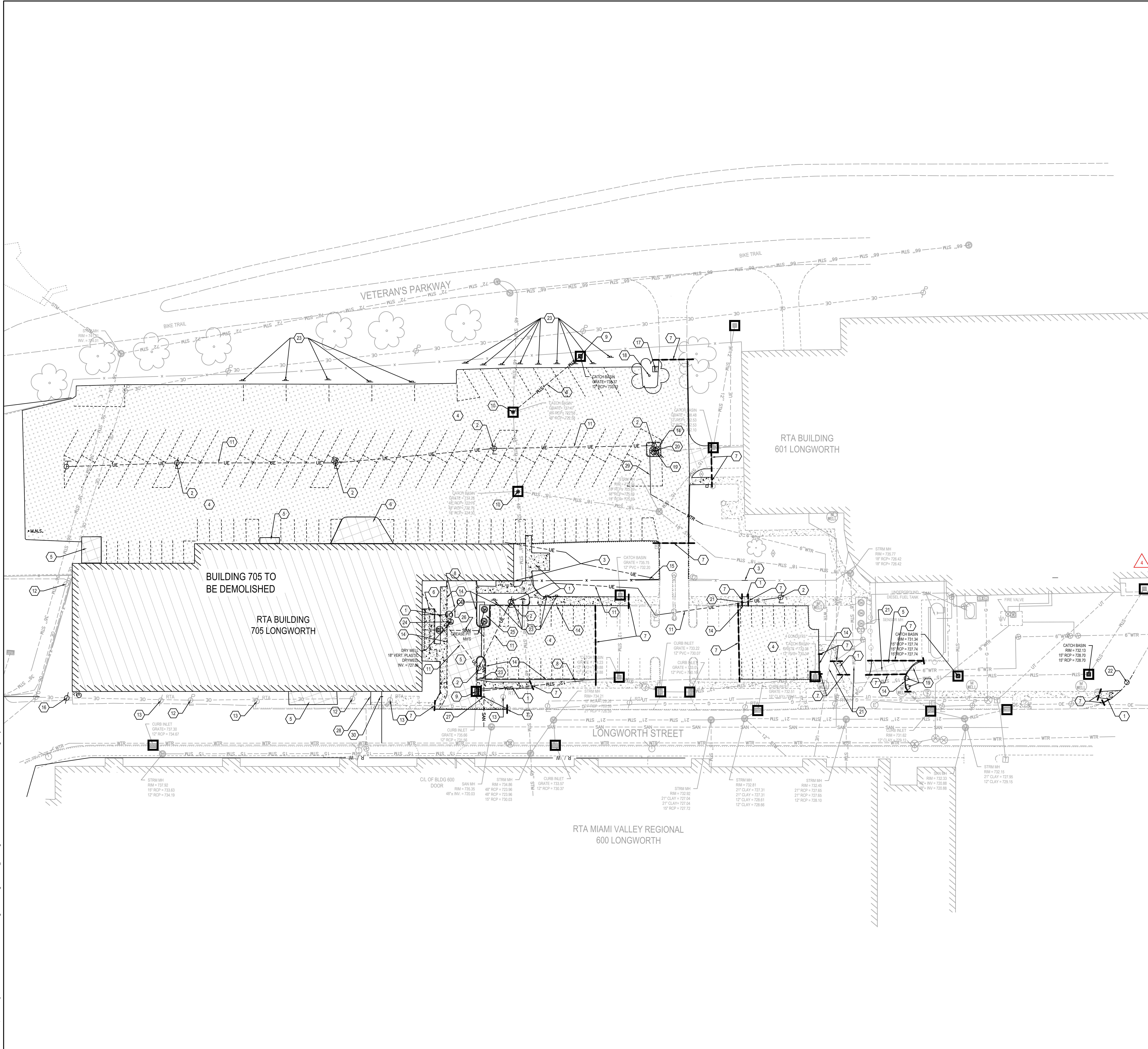
STATE OF OHIO
BRYAN J. GREENE
11115372
REGISTERED ARCHITECT

BRYAN J. GREENE
LICENSE #1115372
EXPIRATION DATE 12/31/2025

MATERIAL I.D. CODES

G002

6/10/2025 8:36:45 AM



LEGEND

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- 1030.00 - Proposed Contour Major
- 1029.50 - Proposed Contour Minor
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- UT - Existing Communications
- UE - Existing Underground Electric
- G - Existing Gas
- SAN - Existing Sanitary Sewer
- WTR - Existing Water
- Proposed Storm Sewer
- UT - Proposed Communications
- UE - Proposed Underground Electric
- G - Proposed Gas
- Proposed Sanitary Sewer
- WTR - Proposed Water
- x - Fence
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- Sanitary Manhole
- Cleanout
- Water Manhole
- Water Valve
- Water Meter
- Fire Hydrant
- Water Shutoff Valve
- Post
- Traffic Control Cabinet
- Traffic Pullbox
- Signal Pedestal
- Unknown Pullbox
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- Control Point
- Deciduous Tree
- Evergreen Tree
- Telephone Manhole
- Telephone Pedestal
- Unknown Valve
- Electic Manhole
- Power Pole
- Light Pole
- Power & Light Pole
- Blank Pole
- Guy Anchor
- Gas Valve
- Gas Shutoff Valve
- Gas Regulator
- M.N.S. - Mag Nail Set

DEMOLITION KEY NOTES

NOTE	DESCRIPTION
1	SIDEWALK TO BE REMOVED
2	LIGHT POLE TO BE REMOVED
3	FENCE TO BE REMOVED
4	ASPHALT PAVEMENT TO BE REMOVED
5	CONCRETE PAVEMENT TO BE REMOVED
6	CONCRETE RAMP TO BE REMOVED
7	PAVEMENT SAWCUT LINE
8	STORM LINE TO BE REMOVED
9	STORM CATCH BASIN TO BE REMOVED
10	STORM CATCH BASIN TO BE PROTECTED
11	UNDERGROUND ELECTRIC LINE TO BE REMOVED OR ABANDONED IN PLACE
12	POWER POLE TO BE PROTECTED
13	RTA POLE TO BE PROTECTED
14	CONCRETE CURB TO BE REMOVED
15	SLIDE GATE TO BE PROTECTED AND SALVAGED FOR RE-USE
16	RTA SUPPORT POLE TO BE REMOVED BY OWNER
17	ELECTRICAL BOX TO BE REMOVED
18	TREE TO BE REMOVED
19	BOLLARD TO BE REMOVED
20	FIRE HYDRANT AND WATER VALVE TO BE RELOCATED, SEE SHEET C400
21	UNDERGROUND UTILITY TO BE PROTECTED
22	MISCELLANEOUS POST TO BE REMOVED
23	MISCELLANEOUS SIGN TO BE REMOVED
24	DRY WELL TO BE REMOVED
25	SANITARY GREASE PIT TO BE REMOVED
26	SANITARY SEWER TO BE REMOVED
27	SANITARY LATERAL TO BE CUT AND CAPPED AT ROW
28	GAS SERVICE TO BE CUT AND CAPPED
29	WATER LINE TO BE REMOVED
30	APPROX. LOCATION OF WATER SERVICE TO BE CUT AND CAPPED AT ROW

GENERAL NOTES

ALL EXISTING UTILITIES ARE SHOWN IN THEIR APPROXIMATE LOCATION ACCORDING TO THE BEST AVAILABLE INFORMATION. THE CONTRACTOR SHALL FIELD LOCATE EXACT LOCATIONS AND ELEVATIONS OF EXISTING UNDERGROUND UTILITIES PRIOR TO CONSTRUCTION.

ALL EROSION CONTROL PRACTICES MUST BE IN PLACE PRIOR TO ANY DEMOLITION ACTIVITIES.

EROSION CONTROL NOTES

- INLET PROTECTION, SEE SHEET C702 FOR DETAILS

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ISSUANCES

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Drawn By: JKH
Checked By: Checker
Client No.: 634
Project No.: 7310

STATE OF OHIO PETER BATTAGLIA E57255 PROFESSIONAL ENGINEER

DEMOLITION PLAN

C200

10/9/2024 3:57:02 PM

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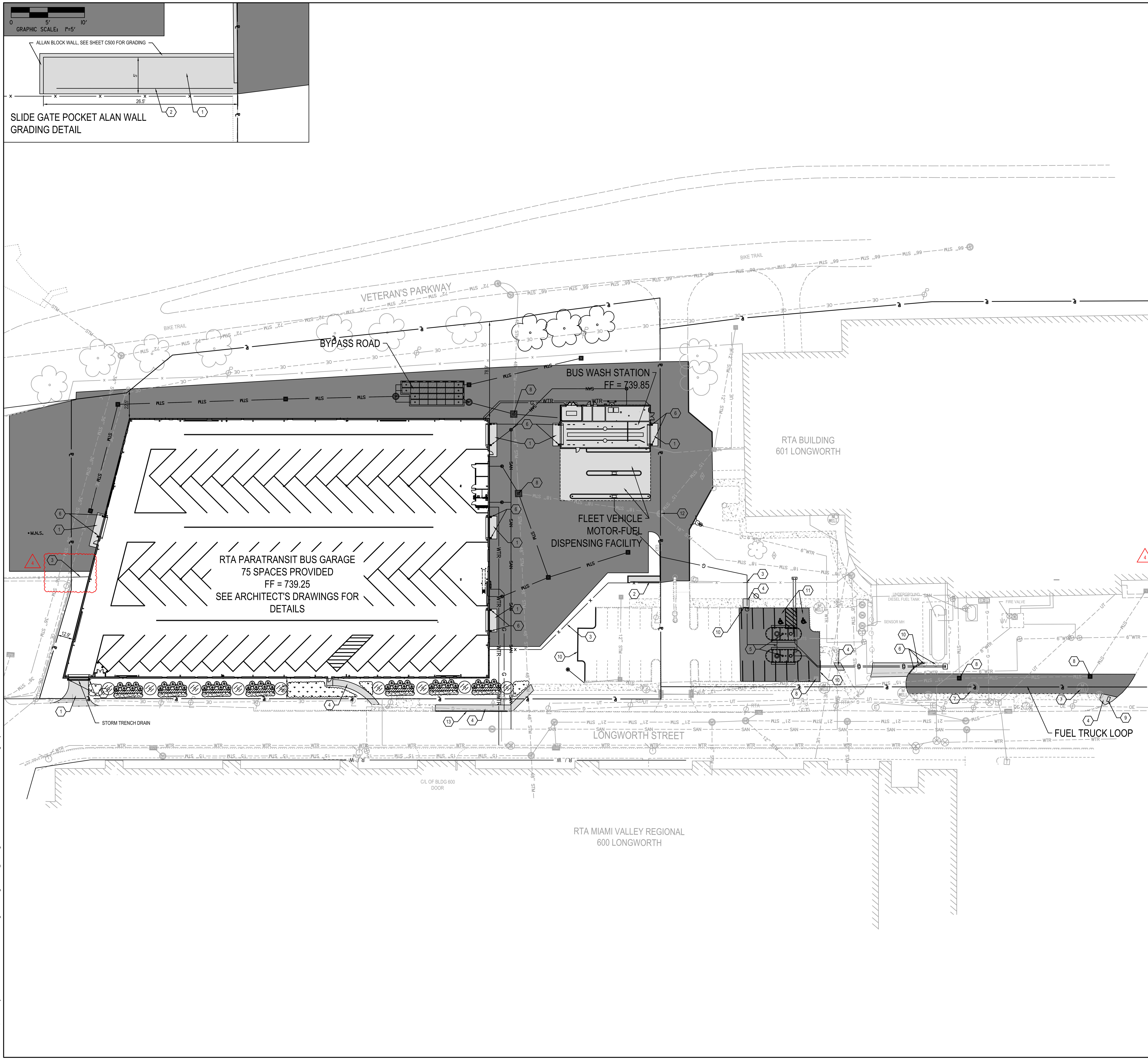

LEGEND

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- Proposed Communications (UT)
- Proposed Underground Electric (UE)
- Proposed Gas (G)
- Proposed Sanitary Sewer
- Proposed Water (WTR)
- Fence (x)
- Storm Manhole
- Catch Basins
- Curb Inlet
- Drywell
- Sanitary Manhole
- Cleanout
- Water Manhole
- Water Valve (WV)
- Water Meter
- Fire Hydrant
- Water Shutoff Valve
- Post
- Traffic Control Cabinet
- Traffic Pullbox
- Signal Pedestal
- Unknown Pullbox
- Flag Pole
- Signs
- Control Point
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- Telephone Manhole
- Telephone Pedestal
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- Electic Manhole
- Power Pole
- Light Pole
- Power & Light Pole
- Blank Pole
- Guy Anchor
- Gas Valve (GV)
- Gas Shutoff Valve
- Gas Regulator
- Mag Nail Set (• M.N.S.)

SITE PLAN LEGEND

- Asphalt Pavement
- Concrete Apron

SITE KEY NOTES

NOTE	DESCRIPTION
1	CONCRETE APRON.
2	SALVAGED GATE, OPERATOR, AND CONTROLS TO BE REINSTALLED
3	NEW ORNAMENTAL STEEL FENCE, TO MATCH EXISTING, SEE DETAIL ON C603
4	NEW 5' WIDE CONCRETE SIDEWALK
5	UNDERGROUND FUEL TANKS, SEE PLUMBING DRAWINGS FOR DETAILS
6	NEW BOLLARD
7	MONITORING WELL TO BE ADJUSTED TO GRADE
8	CATCH BASIN TO BE ADJUSTED TO GRADE
9	ADA SIDEWALK DETECTOR STRIP
10	NEW CONCRETE BARRIER CURB AND PATCH PAVEMENT AS NEEDED
11	VAN ACCESSIBLE HANDICAP PARKING
12	STORM MANHOLE TO BE ADJUSTED TO GRADE
13	CONCRETE CURB PER CITY STANDARDS

CODE EXCEPTION

ACCESSIBLE PARKING SPACES WILL NOT BE REQUIRED FOR THE PARATRANSIT GARAGE SINCE THE PARKING SPACES IN THE GARAGE WILL BE USED EXCLUSIVELY FOR BUSES. SEE EXCEPTION IN SECTION 1106.2 OF CHAPTER 11 OF THE 2024 OHIO BUILDING CODE.

GENERAL NOTES

ANY CRACKED OR BROKEN CURB OR SIDEWALK WITHIN THE LONGWORTH STREET RIGHT-OF-WAY SHALL BE REPLACED WITH THIS CONSTRUCTION.

ANY CURB OR SIDEWALK REPLACEMENT, STREET CUTS AND PAVEMENT REPLACEMENT SHALL BE MADE IN ACCORDANCE WITH THE "RULES AND REGULATIONS FOR MAKING OPENINGS IN A PUBLIC WAY", LATEST EDITION.

THE CONTRACTOR IS RESPONSIBLE FOR DAILY CLEANING AND DEBRIS REMOVAL ON STREETS AND SIDEWALKS THAT COLLECT FUGITIVE DEBRIS FROM THE CONSTRUCTION.

ALL EXISTING UTILITIES ARE SHOWN IN THEIR APPROXIMATE LOCATION ACCORDING TO THE BEST AVAILABLE INFORMATION. THE CONTRACTOR SHALL FIELD LOCATE EXACT LOCATIONS AND ELEVATIONS OF EXISTING UNDERGROUND UTILITIES PRIOR TO CONSTRUCTION.

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ISSUANCES

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4	ADDENDUM 01	06/11/25

Drawn By JKH
Checked By Checker
Client No. 634
Project No. 7310

STATE OF OHIO PETER BATTAGLIA E57255 PROFESSIONAL ENGINEER

SITE PLAN

C300

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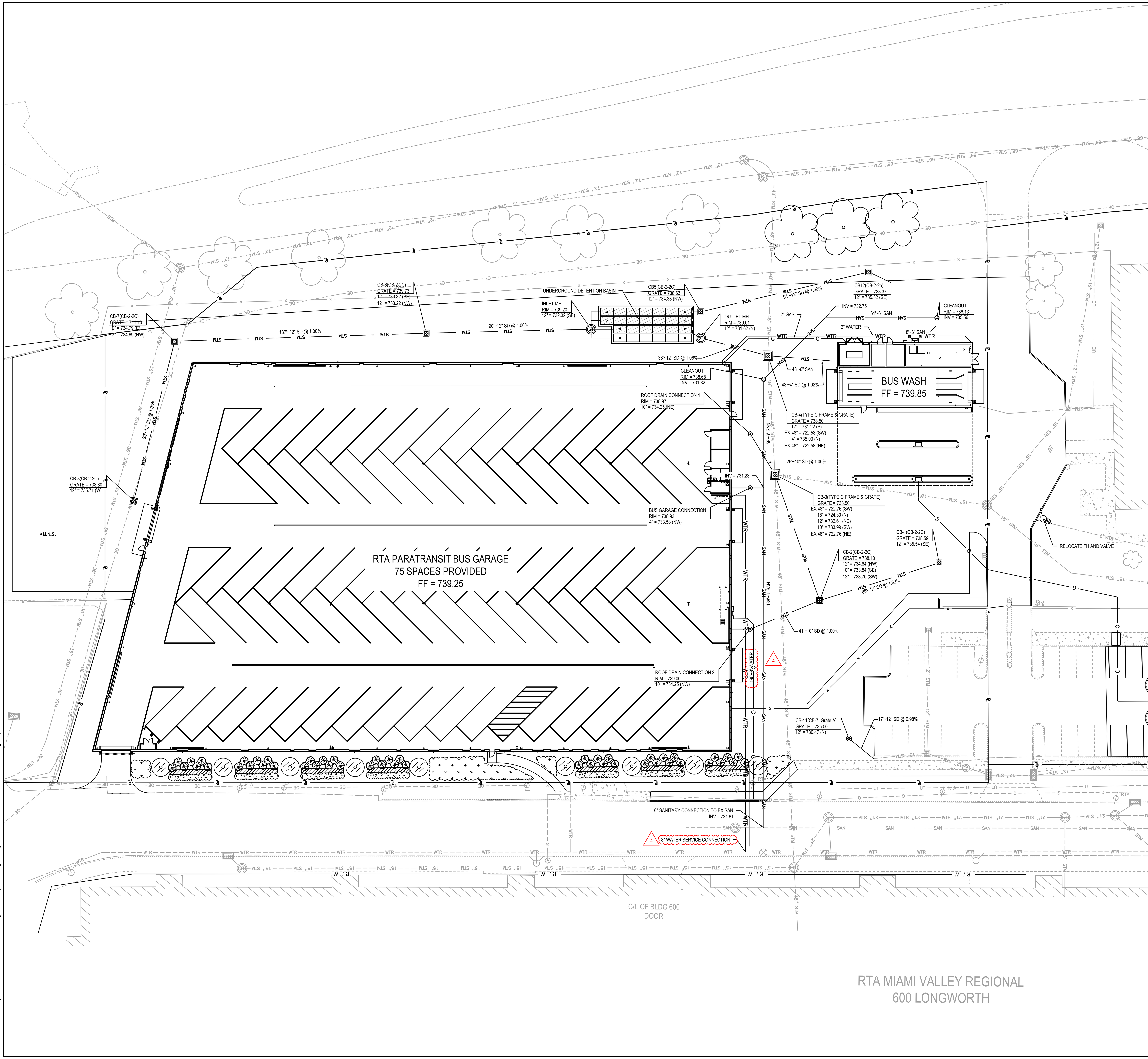

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- Guy Anchor
- GV - Gas Valve
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- Gas Regulator
- M.N.S. - Mag Nail Set

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0 20' 40'
GRAPHIC SCALE: 1"=20'

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Drawn By
JKH
Checked By
Checker
Client No.
634
Project No.
7310

STATE OF OHIO
PETER BATTAGLIA
E51256
PROFESSIONAL ENGINEER

UTILITY PLAN

C400

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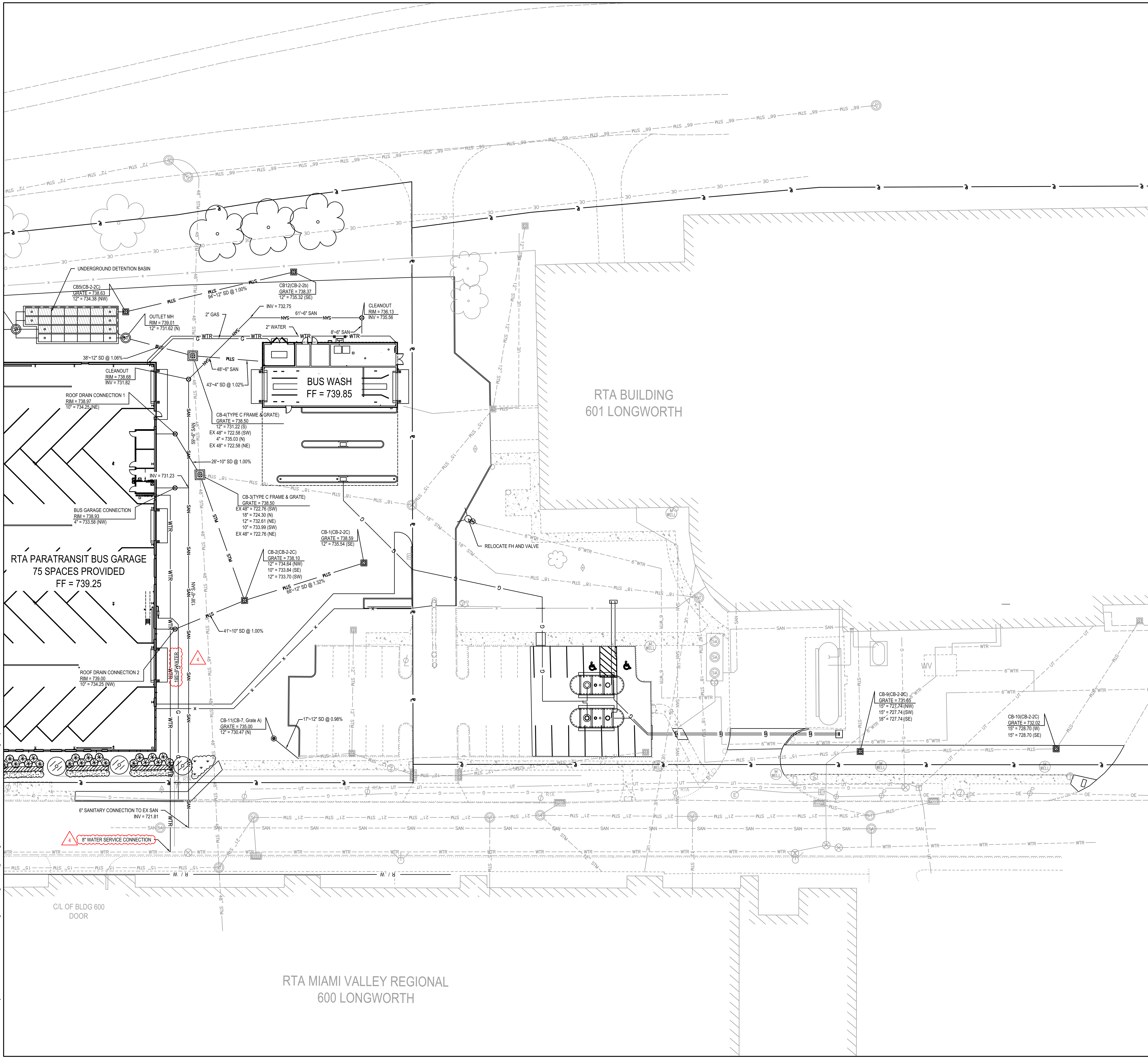

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Drawn By JKH
Checked By Checker
Client No. 634
Project No. 7310

STATE OF OHIO
PETER S. BATTAGLIA
E51255
REGISTERED PROFESSIONAL ENGINEER

UTILITY PLAN

C401

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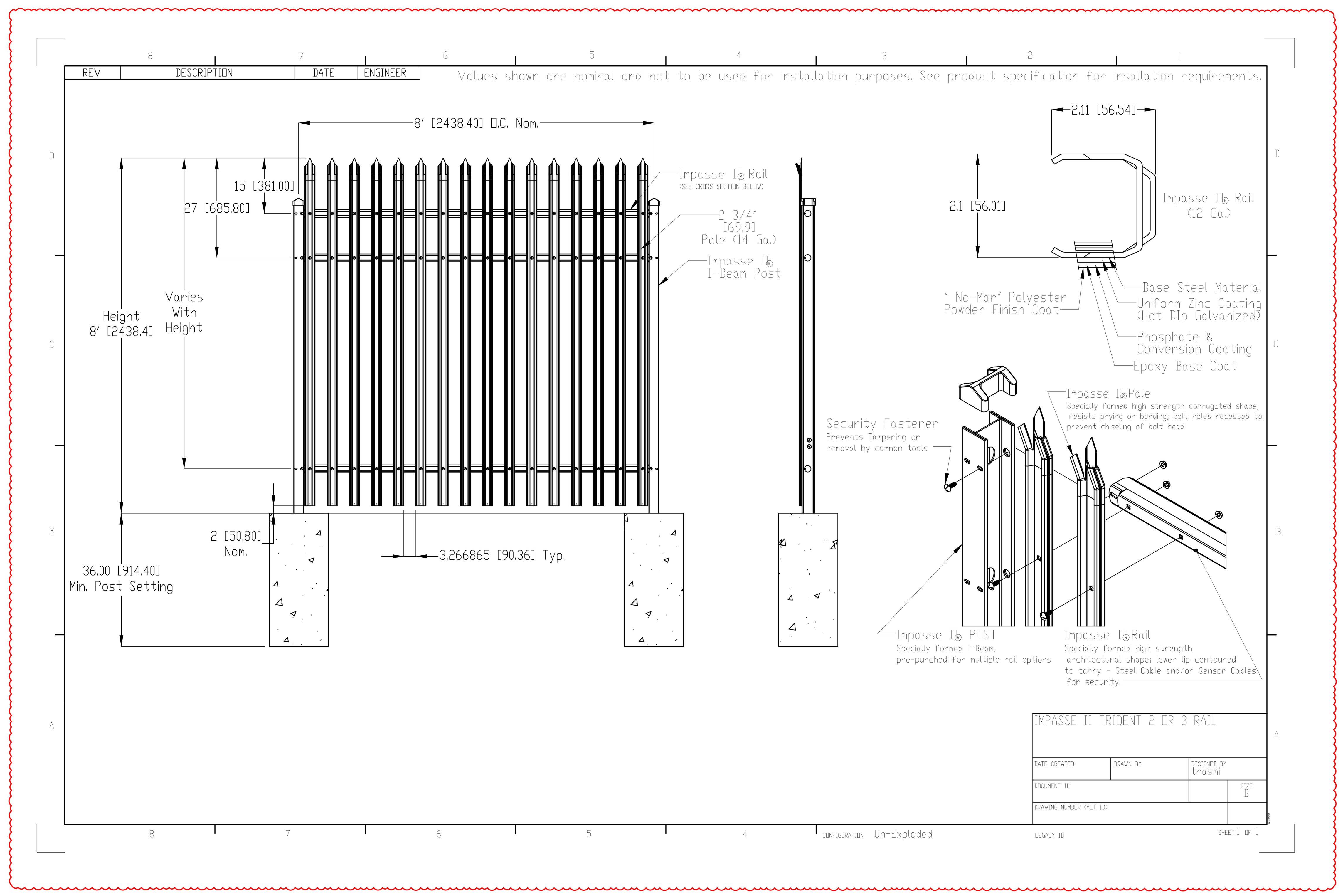

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STATE OF OHIO
PETER BATTAGLIA
E51255
PROFESSIONAL ENGINEER

DETAILS

C603

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STRUCTURAL NOTES

GOVERNING CODE

2024 OHIO BUILDING CODE (REFERENCES IBC 2021 & ASCE 7-16)

DESIGN LOADS

1. ROOF LOAD:
   - A. MINIMUM COMBINATION OF WIND LOAD, LIVE LOAD, RAIN LOAD, OR SNOW LOAD (P_f OR P_m) — 20 PSF*
   - B. ROOF MEMBRANE & INSULATION — 3 PSF
   - C. METAL DECK — 2 PSF
   - D. STEEL JOIST FRAMING LOAD (WHERE APPLICABLE) — 3 PSF
   - E. STEEL JOIST GIRDER FRAMING LOAD (WHERE APPLICABLE) — 2 PSF
   - F. CEILING — 2 PSF
   - G. SPRINKLERS — 3 PSF
   - H. DUCTS, LIGHTS, MISC. MECHANICAL — 2 PSF
   - I. TOTAL LOAD ON JOISTS (INCLUDING JOIST LOAD) — 35 PSF MIN
   - J. TOTAL LOAD ON JOIST GIRDERS (INCLUDING JOIST & JOIST GIRDER LOAD) — 37 PSF MIN
   - K. TOTAL LOAD ON STEEL BEAMS (NOT INCLUDING JOIST OR JOIST GIRDER LOAD) — 33 PSF MIN
   - L. TOTAL LOAD ON STEEL BEAMS (INCLUDING JOIST LOAD, NOT INCLUDING JOIST GIRDER LOAD) — 35 PSF MIN

   *SNOW LOADS:

   - A. GROUND SNOW, Pg = 20 PSF
   - B. SNOW LOAD IMPORTANCE FACTOR, Is = 1.0
   - C. SNOW EXPOSURE FACTOR, Ce = 1.0
   - D. SNOW LOAD THERMAL FACTOR, Ct = 1.2 (UNHEATED & OPEN AIR STRUCTURES)
   - E. SNOW LOAD THERMAL FACTOR, Ct = 1.0 (ALL OTHER STRUCTURES)
   - F. FLAT ROOF SNOW LOAD, Pf = 17 PSF (UNHEATED & OPEN AIR STRUCTURES)
   - G. FLAT ROOF SNOW LOAD, Pf = 14 PSF (OTHER STRUCTURES)
   - H. MINIMUM SNOW LOAD, Pm = 20 PSF

   SEE SNOW DRIFT PLAN FOR DRIFT LOADS (P_d). SPECIFIED DRIFT LOADS (P_d) SHALL BE COMBINED WITH FLAT ROOF SNOW LOAD (P_f) OR SLOPED ROOF SNOW LOAD (P_s) FOR TOTAL SNOW LOADING AT DRIFT CONDITIONS

   SECONDARY ROOF DRAINAGE VIA SCUPPERS OR OVERFLOW DRAINS SHALL BE PROVIDED IN ACCORDANCE WITH THE APPLICABLE PLUMBING CODE AND ASCE 7. SECONDARY ROOF DRAINAGE SHALL BE DESIGNED BY OTHERS TO LIMIT THE TOTAL DEPTH OF WATER (STATIC HEAD + HYDRAULIC HEAD OVER SECONDARY ROOF DRAINS) TO 4" MAXIMUM ABOVE THE ROOF MEMBRANE AT THE PRIMARY ROOF DRAIN.

   COORDINATE ROOF FRAMING WITH FINAL SELECTION OF ROOF SUPPORTED MECHANICAL EQUIPMENT AND ASSOCIATED OPENINGS. ITEMS TO BE COORDINATED INCLUDE SIZE, LOCATION, TOTAL WEIGHT, WEIGHT DISTRIBUTION, AND SUPPORT FRAME REQUIREMENTS.

2. WIND LOAD (PER ASCE 7):
   - A. BASIC DESIGN WIND SPEED, V = 107 MPH
   - B. ALLOWABLE STRESS DESIGN WIND SPEED, V_{ASD} = 85 MPH
   - C. RISK CATEGORY = II
   - D. WIND EXPOSURE = C (ALL WIND DIRECTIONS)
   - E. INTERNAL PRESSURE COEFFICIENT, GCpi = +0.18, -0.18
   - F. DESIGN PRESSURES FOR EXTERIOR COMPONENT AND CLADDING ITEMS NOT SPECIFICALLY DESIGNED BY THE ENGINEER OF RECORD: SEE TYPICAL COMPONENT AND CLADDING WIND PRESSURE TABLE

3. SEISMIC PARAMETERS (GENERAL):
   - A. SEISMIC RISK CATEGORY = II
   - B. SEISMIC IMPORTANCE FACTOR, I_e = 1.0
   - C. MAPPED SPECTRAL RESPONSE ACCELERATION FACTOR AT SHORT PERIOD, S_S = 0.144
   - D. MAPPED SPECTRAL RESPONSE ACCELERATION FACTOR AT 1 SECOND, S_1 = 0.071
   - E. SITE CLASS = D
   - F. DESIGN SPECTRAL RESPONSE ACCELERATION FACTOR AT SHORT PERIOD, S_{DS} = 0.154
   - G. DESIGN SPECTRAL RESPONSE ACCELERATION FACTOR AT 1 SECOND PERIOD, S_{D1} = 0.113
   - H. SEISMIC DESIGN CATEGORY = B
   - N. ANALYSIS PROCEDURE USED = ELFP

4. SEISMIC FORCE RESISTING SYSTEM AND LOAD (BUS GARAGE BUILDING):
   - A. BASIC SEISMIC FORCE RESISTING SYSTEM: STEEL SYSTEMS NOT SPECIFICALLY DETAILED FOR SEISMIC RESISTANCE
   - B. RESPONSE MODIFICATION COEFFICIENT, R = 3
   - C. SEISMIC RESPONSE COEFFICIENT, Cs = 0.051
   - D. DESIGN BASE SHEAR = 95 KIPS

5. SEISMIC FORCE RESISTING SYSTEM AND LOAD (BUS WASH BUILDING):
   - A. BASIC SEISMIC FORCE RESISTING SYSTEM: ORDINARY REINFORCED MASONRY SHEAR WALLS
   - B. RESPONSE MODIFICATION COEFFICIENT, R = 2
   - C. SEISMIC RESPONSE COEFFICIENT, Cs = 0.077
   - D. DESIGN BASE SHEAR = 25 KIPS

6. SPECIAL LOADS:
   - A. INTERIOR WALLS AND PARTITIONS THAT EXCEED 6 FEET IN HEIGHT: 5 PSF HORIZONTAL LIVE LOAD.
   - B. HANDRAILS AND GUARDRAILS:
     - i. TOP RAIL: 200 POUND CONCENTRATED LOAD AT ANY POINT IN ANY DIRECTION OR 5O PLF UNIFORM LOAD APPLIED IN ANY DIRECTION.
     - ii. INTERMEDIATE RAILS, BALUSTERS, AND PANEL FILLERS: HORIZONTALLY APPLIED NORMAL LOAD OF 50 POUNDS ON AN AREA NOT TO EXCEED 1 SQUARE FT., INCLUDING OPENINGS AND SPACE BETWEEN RAILS.

CONSTRUCTION AND SAFETY

1. DOMESTIC STEEL USE REQUIREMENTS AS SPECIFIED IN SECTION 153.011 OF THE REVISED CODE APPLY TO THIS PROJECT. COPIES OF SECTION 153.011 OF THE REVISED CODE CAN BE OBTAINED FROM ANY OF THE OFFICES OF THE OHIO DEPARTMENT OF ADMINISTRATIVE SERVICES. THE FIRST SHEET OF STEEL SHOP DRAWINGS SHALL BEAR A SIGNED CERTIFICATION BY THE FABRICATOR INDICATING THAT NO FOREIGN STEEL IS BEING USED. THE FIRST SHEET OF STEEL SHOP DRAWINGS SHALL ALSO BEAR A SIGNED CERTIFICATION BY THE CONTRACTOR AND FABRICATOR INDICATING THAT NO FOREIGN STEEL IS BEING USED.
2. CONTRACTOR SHALL BRACE ENTIRE STRUCTURE AS REQUIRED TO MAINTAIN STABILITY UNTIL COMPLETE AND FUNCTIONING AS THE DESIGNED UNIT.
3. ENGINEER SHALL NOT BE RESPONSIBLE FOR THE MEANS, METHODS, TECHNIQUES, SEQUENCES OR PROCEDURES OF CONSTRUCTION SELECTED BY CONTRACTOR.
4. THE CONTRACTOR WILL BE SOLELY AND COMPLETELY RESPONSIBLE FOR CONDITIONS OF THE JOB SITE INCLUDING SAFETY OF ALL PERSONS AND PROPERTY DURING PERFORMANCE OF THE WORK. THIS REQUIREMENT WILL APPLY CONTINUOUSLY AND IS NOT LIMITED TO NORMAL WORKING HOURS. WHEN ON SITE, THE ENGINEER IS RESPONSIBLE FOR HIS/HER OWN SAFETY BUT HAS NO RESPONSIBILITY FOR THE SAFETY OF OTHER PERSONNEL OR SAFETY CONDITIONS AT THE SITE.
5. PRIOR TO COMMENCEMENT OF STEEL ERECTION, CONTRACTOR MUST PROVIDE THE STEEL ERECTOR WRITTEN NOTIFICATION THAT THE CONCRETE IN THE FOOTINGS, PIERS AND WALLS OR THE MORTAR IN THE MASONRY PIERS AND WALLS HAS ATTAINED EITHER 75 PERCENT OF THE INTENDED MINIMUM COMPRESSIVE DESIGN STRENGTH OR SUFFICIENT STRENGTH TO SUPPORT THE LOADS IMPOSED DURING STEEL ERECTION.
6. ANCHOR RODS AND FOUNDATION DOWELS SHALL NOT BE REPAIRED, REPLACED OR FIELD-MODIFIED WITHOUT THE WRITTEN APPROVAL OF THE STRUCTURAL ENGINEER OF RECORD.

FUTURE EXPANSION

1. NO ALLOWANCE FOR FUTURE EXPANSION HAS BEEN MADE IN THE STRUCTURAL DESIGN.

LATERAL LOAD RESISTING SYSTEM

1. THE LATERAL LOAD RESISTING SYSTEM CONSISTS OF THE FOLLOWING ELEMENTS:
   - A. BUS GARAGE BUILDING
     - i. METAL DECK DIAPHRAGM AT ROOF
     - ii. STEEL BRACED FRAMES AS INDICATED ON PLAN
   - B. BUS WASH BUILDING
     - i. METAL DECK DIAPHRAGM AT ROOF
     - ii. MASONRY SHEAR WALLS AND STEEL MOMENT FRAMES AS INDICATED ON PLAN.

DEFLECTION AND DRIFT FOR NON-STRUCTURAL COMPONENTS

1. ALL NON-STRUCTURAL COMPONENTS (EXTERIOR WALL ELEMENTS, VENEER, MEP EQUIPMENT, MEP SYSTEMS, ETC.) SHALL BE DESIGNED AND DETAILED TO ACCOMMODATE VERTICAL DEFLECTIONS OF STRUCTURAL FRAMING AND LATERAL DRIFTS OF THE BUILDING STRUCTURE.
2. MAXIMUM VERTICAL DEFLECTION OF PERIMETER ROOF FRAMING IS 0.75 INCHES. FRAMING CAN DEFLECT IN AN UPWARD OR DOWNWARD DIRECTION.
3. LATERAL DRIFT OF THE BUILDING STRUCTURE AT EACH LEVEL IS LISTED BELOW.
   - A. MAXIMUM DRIFT = HEIGHT IN INCHES (RELATIVE TO ELEVATION 0'-0") DIVIDED BY 400.

FOUNDATIONS

1. FOUNDATION DESIGN IS BASED UPON RECOMMENDATIONS DESCRIBED IN THE FOLLOWING DOCUMENTS INCLUDED IN THE APPENDIX OF THE PROJECT MANUAL.
   - A. GEOTECHNICAL EXPLORATION REPORT BY GEOTECHNOLOGY (NOW UES) DATED JULY 21, 2021, IDENTIFIED AS GEOTECHNOLOGY PROJECT NO. J038716.01)
   - B. GEOTECHNICAL REPORT ADDENDUM NO. 1 BY UES (GEOTECHNOLOGY) DATED OCTOBER 16, 2024.
2. FOUNDATION SYSTEM:
   - A. FOUNDATION SYSTEM FOR COLUMNS AND EXTERIOR WALLS CONSISTS OF PILE CAPS AND GRADE BEAMS SUPPORTED ON AUGER CAST PILES. SEE AUGER CAST PILE NOTES FOR ADDITIONAL INFORMATION.
   - B. FOUNDATION SYSTEM FOR INTERIOR FLOOR SLABS CONSISTS OF GROUND IMPROVEMENT WITH STONE COLUMNS. SEE SPECIFICATIONS FOR ADDITIONAL INFORMATION.
3. LATERAL SOIL PRESSURES: LATERAL EARTH PRESSURES INDICATED BELOW DO NOT INCLUDE HYDROSTATIC OR COMPACTION PRESSURES DURING BACKFILL OPERATIONS. WALLS SHALL HAVE ADEQUATE DRAINAGE TO PREVENT HYDROSTATIC PRESSURES. COMPACT USING HAND-OPERATED TAMPERS ONLY.
   - A. CANTILEVERED RETAINING WALLS (ACTIVE PRESSURE): 47 PSF EQUIVALENT FLUID PRESSURE (TRIANGULAR DISTRIBUTION) + 39 PSF SURCHARGE (RECTANGULAR DISTRIBUTION).
   - B. FOUNDATION WALLS WITH LATERAL RESTRAINT AT TOP (AT-REST PRESSURE): 67 PSF EQUIVALENT FLUID PRESSURE (TRIANGULAR DISTRIBUTION) + 56 PSF SURCHARGE (RECTANGULAR DISTRIBUTION).
   - C. PASSIVE PRESSURE: 307 PSF EQUIVALENT FLUID PRESSURE (TRIANGULAR DISTRIBUTION).
4. ALL AREAS WITHIN THE FOOTPRINT OF THE BUILDING, INCLUDING UTILITY TRENCHES, MUST BE FREE OF ANY WET AND/OR SOFT AREAS PRIOR TO PLACEMENT OF FILL MATERIAL OR SLAB.
5. CONTRACTOR SHALL CONTACT UTILITY COMPANIES FOR LOCATING UNDERGROUND SERVICES AND IS RESPONSIBLE FOR THEIR PROTECTION AND SUPPORT.
6. FROST DEPTH IS 30 INCHES BELOW GRADE. BOTTOM OF PILE CAPS, GRADE BEAMS, AND MAT SLABS THAT ARE NOT PART OF AN INSULATED FROST PROTECTED FOUNDATION SYSTEM AND ARE NOT WITHIN CONDITIONED SPACE MUST BE BELOW SPECIFIED MINIMUM FROST DEPTH AS MEASURED FROM EXTERIOR GRADE. MAINTAIN SPECIFIED TOP OF FOUNDATION ELEVATIONS AND THICKEN FOUNDATIONS OR PLACE CLSM BELOW FOUNDATIONS AS REQUIRED.
7. FOUNDATIONS MAY BE PLACED WITHOUT SIDE FORMS IF EXCAVATED WALLS STAND APPROXIMATELY VERTICAL.
8. FILL MATERIALS: FOLLOWING THE GEOTECHNICAL REPORT RECOMMENDATIONS, ALL FILL MATERIALS SHALL BE APPROVED BY THE SPECIAL INSPECTION AGENCY'S GEOTECHNICAL ENGINEER, INCLUDING THE SUITABILITY OF ALL EXCAVATED ON-SITE SOILS FOR RE-USE. MATERIAL SHALL NOT BE PLACED ON FROZEN GROUND.
   - A. CONTROLLED LOW STRENGTH MATERIAL (CLSM): SELF LEVELING AND SELF COMPACTING CEMENTITIOUS MATERIAL WITH AN UNCONFINED COMPRESSIVE STRENGTH BETWEEN 50 PSI AND 150 PSI.
   - B. FILL MATERIALS: ON-SITE, NON-ORGANIC, CLAYEY SOILS, BEDROCK, OR BORROW MATERIAL.
   - C. FREE-DRAINING GRANULAR FILL: NARROWLY GRADED MIXTURE OF CRUSHED STONE PER ASTM D448 WITH COARSE AGGREGATE GRADING SIZE 67 WITH 100 PERCENT PASSING A 1 INCH SIEVE AND NO MORE THAN 5 PERCENT PASSING A NO. 4 SIEVE OR AASHTO NO 57 – CRUSHED AGGREGATE.
   - D. IMPERVIOUS FILL: LEAN CLAYEY GRAVEL AND SAND MIXTURE CAPABLE OF COMPACTING TO A DENSE STATE.
   - E. WELL GRADED GRANULAR MATERIAL: WELL GRADED MIXTURE OF CRUSHED GRAVEL, CRUSHED STONE, AND SAND PER ASTM D294 WITH AT LEAST 95 PERCENT PASSING A 1 ½" SIEVE AND NOT MORE THAN 8 PERCENT PASSING A NO. 200 SIEVE OR ODOT 304.
9. FILL COMPACTION REQUIREMENTS: COMPACT FILL MATERIALS AS DESCRIBED BELOW AND IN THE GEOTECHNICAL REPORT RECOMMENDATIONS. ~~FILL SHALL BE PLACED IN SHALLOW LIFTS (6 TO 8 INCH LIFTS IN LOOSE THICKNESS).~~
   - A. STRUCTURAL FILL: STRUCTURAL FILL IS DEFINED AS FILL LOCATED WITHIN ZONES OF INFLUENCE OF STRUCTURES. A ZONE OF INFLUENCE OF A STRUCTURE IS THE AREA BELOW THE FOOTPRINT OF THE STRUCTURE AND PROJECTING 2 HORIZONTAL TO 1 VERTICAL OUTWARD AND DOWNWARD FROM THE BEARING ELEVATION OF THE STRUCTURE. FILL SHALL BE COMPACTED TO 98% STANDARD PROCTOR MAXIMUM DRY DENSITY. THE ACCEPTABLE MOISTURE CONTENT RANGE OF COMPACTED FILL IS -2% TO +3% OF OPTIMUM MOISTURE CONTENT DETERMINED FROM ASTM D698.
   - B. NON-STRUCTURAL FILL: FILL SHALL BE COMPACTED TO 95% STANDARD PROCTOR MAXIMUM DRY DENSITY. THE ACCEPTABLE MOISTURE CONTENT RANGE OF COMPACTED FILL IS -3% TO +3% OF OPTIMUM MOISTURE CONTENT DETERMINED FROM ASTM D698.
   - C. FLOOR SLAB SUBGRADE: FILL SHALL BE COMPACTED TO 98% STANDARD PROCTOR MAXIMUM DRY DENSITY. THE ACCEPTABLE MOISTURE CONTENT RANGE OF COMPACTED FILL IS 0% TO +3% OF OPTIMUM MOISTURE CONTENT DETERMINED FROM ASTM D698.
   - D. FREE-DRAINING GRANULAR FILL: FILL SHALL BE COMPACTED TO 75% RELATIVE DENSITY PR ASTM D4253 AND ASTM D4254.
   - E. WELL-GRADED GRANULAR FILL MATERIAL: COMPACT TO 98% STANDARD PROCTOR MAXIMUM DRY DENSITY WITHIN 0% TO +3% OF OPTIMUM MOISTURE CONTENT FOLLOWING ASTM D698
10. BACKFILL AGAINST WALLS:
    - A. INTERIOR AND EXTERIOR SIDES OF SHALLOW FOUNDATIONS WALLS:
      - i. CLSM OR COMPACTED NON-STRUCTURAL FILL MATERIALS.
    - B. RETAINED SIDE OF CANTILEVERED RETAINING WALLS:
      - i. MINIMUM 18 INCH WIDE ZONE OF COMPACTED FREE-DRAINING GRANULAR FILL UP TO WITHIN 24 INCHES OF FINISHED GRADE. THE TOP 24 INCHES OF BACKFILL SHALL BE COMPACTED CLAYEY MATERIAL. A 12 INCH THICK BY 12 INCH WIDE FREE-DRAINING GRAVEL ZONE WRAPPED WITH A NON-WOVEN DRAINAGE GEOTEXTILE SHALL BE PLACED AT THE BASE OF THE FREE-DRAINING GRANULAR FILL. A 4-INCH DIAMETER RIGID PERFORATED PIPE SHALL BE LOCATED AT THE BASE OF THE GRAVEL ZONE AND WRAPPED WITHIN THE GEOTEXTILE. THE PLASTIC PIPE SHALL BE CONNECTED TO A SUITABLE GRAVITY OUTLET (E.G., THE PROPOSED STORM SEWER SYSTEM).
11. FILL BELOW MAT SLABS NOT SUPPORTED BY AUGER CAST PILES.
    - A. CLSM OR COMPACTED STRUCTURAL FILL MATERIALS.
12. FILL BELOW FLOOR SLABS:
    - A. SUBGRADE: PROOF ROLL AND COMPACT TOP 12" ACCORDING TO THE FILL COMPACTION NOTE SECTION ABOVE PRIOR TO PLACEMENT OF BASE COURSE.
    - B. BASE COURSE CAPILLARY BREAK: 6" OF WELL-GRADED GRANULAR MATERIAL BELOW FLOOR SLAB COMPACTED ACCORDING TO THE FILL COMPACTION NOTE SECTION ABOVE.
13. FILL AT UTILITY TRENCHES BELOW FOUNDATIONS, EXCAVATED PRIOR TO FOUNDATION CONSTRUCTION.
    - A. BACKFILL TRENCHES UNDER FOUNDATIONS AND WITHIN 18 INCHES OF BOTTOM OF FOUNDATIONS WITH CLSM TO THE BOTTOM OF FOUNDATION ELEVATION.
    - B. BACKFILL TRENCHES EXCAVATED UNDER FOUNDATIONS AND MORE THAN 18 INCHES BELOW BOTTOM OF FOUNDATIONS WITH CLSM, STRUCTURAL FILL, OR GRANULAR FILL MATERIAL COMPACTED ACCORDING TO THE GEOTECHNICAL REPORT RECOMMENDATIONS.
14. FILL AT UTILITY TRENCHES BELOW FOUNDATIONS, EXCAVATED AFTER FOUNDATION CONSTRUCTION.
    - A. BACKFILL TRENCHES EXCAVATED UNDER EXISTING FOOTINGS WITH CLSM TO THE BOTTOM OF FOUNDATION ELEVATION.
15. SEAL UTILITY TRENCH AT THE EXTERIOR FOUNDATION WALL BY USING CLSM TO CREATE A DAM AND PREVENT ENTRY OF WATER.
16. FINISHED GRADE SHALL SLOPE AWAY FROM THE PERIMETER FOUNDATION.
17. EXCAVATIONS:
    - A. EXCAVATIONS IN THE VICINITY OF EXISTING FOUNDATIONS SHALL BE PERMITTED WITHOUT ANY SPECIAL MEASURES AS LONG AS THE BOTTOM NEAR EDGE OF THE EXCAVATION IS ABOVE A LINE WITH SLOPE OF 2 HORIZONTAL TO 1 VERTICAL EXTENDING OUTWARD AND DOWNWARD FROM THE NEAREST BOTTOM CORNER OF THE EXISTING FOUNDATION.
    - B. EXCAVATIONS IN THE VICINITY OF EXISTING FOUNDATIONS WITH THE BOTTOM NEAR EDGE OF THE EXCAVATION BELOW A LINE WITH SLOPE OF 2 HORIZONTAL TO 1 VERTICAL EXTENDING OUTWARD AND DOWNWARD FROM THE NEAREST BOTTOM CORNER OF THE EXISTING FOUNDATION ~~SHALL BE MADE ONLY WITH THE APPROVAL OF THE STRUCTURAL ENGINEER AND THE~~ SPECIAL INSPECTION AGENCY'S GEOTECHNICAL ENGINEER. SUCH EXCAVATIONS MAY ~~REQUIRE SPECIAL TEMPORARY EXCAVATION BRACING OR~~ UNDERPINNING OF EXISTING FOUNDATIONS, WHICH IS THE RESPONSIBILITY OF THE CONTRACTOR AS PART OF ITS SELECTED MEANS, METHODS, TECHNIQUES, SEQUENCES, OR PROCEDURES. CONTRACTOR SHALL SUBMIT TEMPORARY EXCAVATION BRACING AND UNDERPINNING DETAILS PRIOR TO EXCAVATION. CONTRACTOR SHALL PERFORM THESE EXCAVATIONS ~~WITH CAUTION SO AS NOT TO UNDERMINE ANY EXISTING STRUCTURE FOUNDATIONS.~~ EXCAVATIONS SHALL BE MADE FOLLOWING THE GEOTECHNICAL EXPLORATION REPORT'S RECOMMENDATIONS AND OBSERVED BY THE SPECIAL INSPECTION AGENCY'S GEOTECHNICAL ENGINEER.
18. UTILITY TRENCHES PARALLEL TO FOOTINGS AND WITH PIPES BELOW THE BOTTOM OF FOOTING ELEVATION MUST BE LOCATED SO THAT THE SLOPE BETWEEN THE PIPE INVERT ELEVATION AND THE NEAREST BOTTOM CORNER OF THE FOOTING IS A MINIMUM OF 2 HORIZONTAL TO 1 VERTICAL.

AUGER CAST PILES

1. INSTALL AUGER CAST PILES IN ACCORDANCE WITH IBC 1810.4.
2. AUGER PILES SHALL HAVE A MINIMUM DIAMETER OF 16 INCHES AND BE GROUTED WITH A VOLUME NOT LESS THAN 115% OF THE VOLUME OF THE AUGERED HOLE. PLACE PILES BY BORING A HOLLOW SHAFT AUGER INTO GROUND TO A PREDETERMINED DEPTH. PUMP GROUT THROUGH THE AUGER'S SHAFT WITH SUFFICIENT PRESSURE TO PREVENT COLLAPSE OF THE HOLE AS THE AUGER IS WITHDRAWN AND ENSURE LATERAL PENETRATION OF SOFT ZONES AND VOIDS IN SURROUNDING SOIL.
3. PILE DESIGN LOADS (ALLOWABLE STRESS DESIGN):
   - A. DOWNWARD = 90 KIPS
   - B. UPWARD = 45 KIPS
4. CONCRETE GROUT STRENGTH: 4000 PSI AT 28 DAYS.
5. THE AUGERCAST PILE CONTRACTOR SHALL HAVE AT LEAST 5 YEARS EXPERIENCE IN THE INSTALLATION OF AUGERCAST PILES.
6. DO NOT INSTALL PILES UNTIL EXCAVATION IN PILE AREA IS COMPLETE TO A LEVEL 6 TO 12 INCHES ABOVE PILE CAP BOTTOM. FINAL EXCAVATION FOR PILE CAPS WILL BE DONE AFTER PILE INSTALLATION IS COMPLETE.
7. A METAL SHELL SHALL BE INSTALLED AROUND THE PERIMETER OF EACH PILE FROM THE TOP OF PILE ELEVATION TO AN ELEVATION 24 INCHES BELOW GRADE.
8. THE INSTALLATION OF ALL AUGERCAST PILES SHOULD BE OBSERVED BY A GEOTECHNICAL ENGINEER.

GROUND IMPROVEMENT WITH STONE COLUMNS

1. DESIGN AND INSTALL AGGREGATE PIERS BELOW THE SLAB ON GRADE IN A TURN-KEY FASHION TO MEET THE FOLLOWING DESIGN CRITERIA.
   - A. UNIFORM ALLOWABLE BEARING CAPACITY SHALL BE GREATER THAN OR EQUAL TO 250 PSF.
   - B. MAXIMUM LONG-TERM OVERALL SETTLEMENTS SHALL NOT EXCEED 0.5 INCHES, AND MAXIMUM LONG-TERM MAXIMUM DIFFERENTIAL SETTLEMENTS SHALL NOT EXCEED 0.25 INCHES OVER ANY 25 FOOT LENGTH.

CAST-IN-PLACE CONCRETE (03-30-00)

1. CONCRETE MIXTURES: REFER TO CONCRETE MIXTURE REQUIREMENTS TABLE FOR CONCRETE MIX INFORMATION.
2. DETAILING REQUIREMENTS
   - A. CONTRACTION JOINTS IN SLABS ON GROUND SHALL NOT EXCEED A LENGTH TO WIDTH RATIO OF 1.5:1. SEE PLAN FOR MAXIMUM JOINT SPACING.
   - B. CONSTRUCTION JOINTS IN SLABS ON GROUND MAY BE LOCATED AT ANY CONTRACTION JOINT LOCATION. SEE DRAWINGS FOR TYPICAL DETAILS.
   - C. PROVIDE 3/4" CHAMFER AT CORNERS OF EXPOSED CONCRETE.
   - D. CONDUITS AND PIPES OF ALUMINUM SHALL NOT BE EMBEDDED IN STRUCTURAL CONCRETE UNLESS EFFECTIVELY COATED TO PREVENT ALUMINUM-CONCRETE REACTION OR ELECTROLYTIC ACTION BETWEEN ALUMINUM AND STEEL.
   - E. SEE ARCHITECTURAL DRAWINGS AND SPECIFICATIONS FOR VAPOR BARRIER REQUIREMENTS. VAPOR BARRIER, WHERE REQUIRED, SHALL BE PLACED OVER GRANULAR BASE.
3. CONCRETE PLACEMENT
   - A. DO NOT BACKFILL AGAINST RETAINING WALLS UNTIL CONCRETE STRENGTH HAS REACHED 0.75 f'c AND A MINIMUM OF 7 DAYS.
   - B. ROUGHENED SURFACES, WHERE INDICATED, SHALL BE ROUGHENED TO A FULL AMPLITUDE OF APPROXIMATELY 1/4 INCH AND BE CLEAN AND FREE OF LAITANCE.

CONCRETE REINFORCING (03-20-00)

1. MATERIALS
   - A. DEFORMED BARS: ASTM A615, GRADE 60.
   - B. WELDED WIRE REINFORCEMENT: ASTM A1064, FLAT SHEETS ONLY.
2. REINFORCING DEVELOPMENT AND LAP SPLICES (UNLESS NOTED OTHERWISE).
   - A. WELDED WIRE REINFORCEMENT: LAP WELDED WIRE REINFORCEMENT MINIMUM 1 FULL SPACE PLUS 2 INCHES.
   - B. SEE REINFORCING BAR DEVELOPMENT TABLES FOR REQUIRED DEVELOPMENT AND LAP SPLICE LENGTHS.

MASONRY

1. MASONRY CONSTRUCTION AND MATERIALS SHALL CONFORM TO ALL REQUIREMENTS OF "SPECIFICATIONS FOR MASONRY STRUCTURES" (TMS 602-2016) EXCEPT AS MODIFIED BY THE REQUIREMENTS OF THESE CONTRACT DOCUMENTS.
2. COMPRESSIVE STRENGTH SHALL BE DETERMINED FOR EACH TYPE OF MASONRY BY THE UNIT STRENGTH METHOD.
   - A. CONCRETE MASONRY: f'm = 2000 PSI AT 28 DAYS.
3. MATERIALS
   - A. CONCRETE MASONRY UNITS: ASTM C90 TYPE I.
     - i. BELOW GRADE: NORMAL WEIGHT AGGREGATE PER ASTM C33.
     - ii. ABOVE GRADE: LIGHTWEIGHT AGGREGATE PER ASTM C331 OR NORMAL WEIGHT.
   - B. MORTAR: ASTM C270
     - i. ALL MASONRY UNLESS NOTED OTHERWISE: TYPE S
   - C. PORTLAND CEMENT-LIME MORTAR:
     - i. PORTLAND CEMENT: TYPE I.
     - ii. HYDRATED LIME: TYPE S.
   - D. MASONRY CEMENT MORTAR IS PERMITTED.
   - E. GROUT: ASTM C476. SLUMP 8" TO 11". MINIMUM COMPRESSIVE STRENGTH = 2000 PSI AT 28 DAYS.
   - F. REINFORCING STEEL: ASTM A615, ASTM A706, OR ASTM A996, 60 KSI YIELD.
   - G. HORIZONTAL JOINT REINFORCING FOR SINGLE WYTHE CONCRETE MASONRY: ASTM A951 9 GAGE LADDER TYPE. HOT DIPPED GALVANIZED PER ASTM A153 CLASS B. PLACE HORIZONTAL JOINT REINFORCING AT 16" CENTERS VERTICALLY FOR CONCRETE MASONRY. LAP HORIZONTAL JOINT REINFORCING 6" MINIMUM. HORIZONTAL JOINT REINFORCING SHALL BE DISCONTINUOUS ACROSS MOVEMENT JOINTS.
4. MORTAR PROPORTIONS MUST BE ACCURATELY MEASURED PRIOR TO MIXING. ADD CEMENT TO MIX IN FULL BAG QUANTITIES. MEASURE SAND IN BOX WITH VOLUME OF ONE CUBIC FOOT AS OFTEN AS NECESSARY TO MAINTAIN CONSISTENT PROPORTIONS AND AT LEAST ONCE DAILY AND EVERY 4 HOURS OF MIXING.
5. SEE ARCHITECTURAL DRAWINGS FOR LOCATIONS AND SPECIFICATIONS OF FIRE RATED MASONRY.
6. PROVIDE PREFABRICATED "L" AND "T" SHAPED HORIZONTAL JOINT REINFORCING AT WALL INTERSECTIONS.
7. KEEP AIR SPACE BEHIND VENEER FREE OF MORTAR DROPPINGS.
8. RUNNING BOND PATTERN SHALL BE USED FOR ALL MASONRY WORK UNLESS OTHERWISE NOTED.
9. PROVIDE MOVEMENT (CONTROL AND EXPANSION) JOINTS IN WALLS WHERE INDICATED ON ARCHITECTURAL DRAWINGS. BOND BEAMS SHALL BE DISCONTINUOUS ACROSS MOVEMENT JOINTS UNLESS NOTED OTHERWISE:
   - A. MOVEMENT JOINTS IN CONCRETE BLOCK: SASH BLOCK UNIT WITH PREFORMED SHEAR KEY. CAULK BOTH FACES. ALTERNATE DETAILS FOR CONTROL JOINTS MAY BE ACCEPTABLE -- SUBMIT DETAILS FOR APPROVAL.
   - B. PROVIDE BUILDING PAPER BOND BREAK BELOW LINTEL BEARING ADJACENT TO CONTROL JOINTS.
10. UNLESS NOTED OTHERWISE ON PLANS, UNDER LINTELS, BEARING PLATES, BEAMS, ETC.; FILL CELLS WITH GROUT, 3 COURSES MINIMUM BELOW BEARING.
11. ALL REINFORCING STEEL SHALL BE SUPPORTED AND FASTENED TO APPROVED POSITIONERS LOCATED AT 192 BAR DIAMETERS MAXIMUM SPACING AND WITH A MINIMUM OF TWO POSITIONERS PER GROUT POUR (ONE NEAR THE BOTTOM AND ONE NEAR THE TOP) TO PREVENT DISPLACEMENT DURING THE PLACEMENT OF GROUT.
12. GROUT ALL CELLS BELOW GRADE SOLID.

STRUCTURAL STEEL

1. MATERIALS (UNLESS NOTED OTHERWISE):
   - A. W AND WT SHAPES: ASTM A992, Fy = 50 KSI
   - B. C AND MC SHAPES (DEPTH ≥ 8 INCHES): ASTM A992, Fy = 50 KSI
   - C. C AND MC SHAPES (DEPTH < 8 INCHES): ASTM A36, Fy = 36 KSI
   - D. L SHAPES: ASTM A572, GRADE 50, Fy = 50 KSI
   - E. PLATES AND BARS (THICKNESS ≤ 4 INCHES): ASTM A572, GRADE 50, Fy = 50 KSI
   - F. HSS SHAPES: ASTM A500, GRADE C, Fy = 50 KSI
   - G. BOLTS: ASTM F3125, GRADE A325-N, 3/4" DIAMETER (UNLESS NOTED OTHERWISE)
   - H. ANCHOR RODS (TYPICAL): ASTM F1554, GRADE 36
   - I. THREADED RODS: ASTM A36
   - J. WELDS: AWS E70XX, LOW HYDROGEN ELECTRODES.
   - K. NON-SHRINK NON-METALLIC GROUT: CRD-C-621 AND ASTM C1107 FOR INTERIOR AND EXTERIOR APPLICATIONS, FLUID TYPE.
     - i. LIMIT GYPSUM CONTENT TO 1.5% MAXIMUM AT EXTERIOR APPLICATIONS.
2. CONNECTIONS:
   - A. CONNECTIONS SHALL BE DESIGNED BY A LICENSED ENGINEER WORKING FOR THE FABRICATOR (AISC 303-22, OPTION 3), UNLESS NOTED OTHERWISE. CONNECTIONS SHALL BE DESIGNED FOR THE LOADS AND FORCES PROVIDED IN THE STRUCTURAL DRAWINGS. CONNECTIONS LOADS AND FORCES PROVIDED IN THE DRAWINGS WERE DETERMINED USING LRFD LOAD COMBINATIONS.
   - B. BOLTED CONNECTIONS ARE TO BE INSTALLED SNUG TIGHT OR PRETENSIONED UNLESS OTHERWISE NOTED.
     - i. PRETENSIONED BOLTS SHALL USE DIRECT-TENSION INDICATING WASHERS (ASTM F959) OR TENSION-CONTROL, HIGH-STRENGTH BOLT-NUT-WASHER ASSEMBLIES (ASTM F 1852).
   - C. FIELD CONNECTIONS SHALL BE BOLTED EXCEPT WHERE WELDED CONNECTIONS ARE INDICATED ON THE STRUCTURAL DRAWINGS.
3. A VERTICAL STABILIZER PLATE MUST BE PROVIDED ON EACH COLUMN FOR STEEL JOISTS AND JOIST GIRDERS. THE STABILIZER PLATE SHALL BE A MINIMUM OF 6 INCHES BY 6 INCHES, SHALL EXTEND A MINIMUM OF 3 INCHES BELOW THE BOTTOM OF THE BOTTOM CHORD, AND SHALL EXTEND A MINIMUM OF 1 INCH ABOVE THE TOP OF THE BOTTOM CHORD. THE PLATE IS REQUIRED TO HAVE A 13/16 INCH DIAMETER HOLE TO PROVIDE AN ATTACHING POINT FOR GUYING CABLES.
4. AT COLUMNS, BEAMS FRAMING INTO THE OPPOSITE SIDES OF THE SAME GIRDER OR COLUMN WEB SHALL HAVE EITHER ERECTION SEAT ANGLES OR SHALL HAVE SHEAR CONNECTIONS THAT ALLOW ERECTION OF EACH BEAM INDEPENDENTLY WITH AT LEAST ONE NON-COMMON BOLT.
5. WHERE JOISTS AND JOIST GIRDERS BEAR ON STEEL BEARING PLATES AND COLUMN CAP PLATES, FABRICATOR SHALL VERIFY THAT SUPPORTING ELEMENTS ARE WIDER THAN THE JOIST OR JOIST GIRDER SEAT SUCH THAT SPECIFIED FILLET WELDS CAN BE INSTALLED. WHERE FABRICATOR FINDS SUPPORTING ELEMENTS ARE NOT WIDER THAN JOIST OR JOIST GIRDER SEAT, FABRICATOR SHALL CONTACT ENGINEER FOR DIRECTION.
6. ALL FRAMING COPES SHALL HAVE A MINIMUM RADIUS OF 1/2".

STEEL JOISTS

1. THE DESIGN, FABRICATION, AND ERECTION OF STEEL JOISTS AND JOIST GIRDERS SHALL CONFORM TO THE REQUIREMENTS OF THE LATEST EDITION OF THE SPECIFICATIONS ADOPTED BY THE STEEL JOIST INSTITUTE.
2. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR REVIEW BY ENGINEER. FABRICATION SHALL NOT BEGIN PRIOR TO SHOP DRAWING APPROVAL BY ENGINEER.
3. JOIST MANUFACTURER SHALL DESIGN JOISTS AND JOIST GIRDERS AT THE BUS GARAGE BUILDING FOR THE NET UPLIFT LOADS IDENTIFIED ON SHEET S004.
4. JOIST MANUFACTURER SHALL DESIGN JOISTS AT THE BUS WASH BUILDING FOR A NET UPLIFT LOAD OF 36 PSF. NET UPLIF LOAD WAS DETERMINED USING LRFD LOAD COMBINATIONS.
5. JOIST MANUFACTURER SHALL PROVIDE ADDITIONAL BRIDGING AS REQUIRED TO BRACE JOISTS AND JOIST GIRDERS SUBJECT TO NET UPLIFT.
6. CONNECTIONS:
   - A. K-SERIES JOISTS: WELD EACH SIDE OF JOIST SEAT TO SUPPORTING STEEL WITH 2 1/2 INCHES OF 1/8 INCH FILLET WELD.
   - B. LH SERIES JOISTS (LH02-06): WELD EACH SIDE JOIST SEAT TO SUPPORTING STEEL WITH 2 1/2 INCHES OF 3/16 INCH WELD.
   - C. LH SERIES JOISTS (LH07-17), AND JOIST GIRDERS WITH A SELF WEIGHT LESS THAN OR EQUAL TO 50PLF: WELD EACH SIDE JOIST SEAT TO SUPPORTING STEEL WITH 2 1/2 INCHES OF 1/4 INCH WELD.
   - D. K-JOISTS AT COLUMNS AND K-JOISTS IN BAYS OF 40 FEET AND LONGER TO HAVE (2) 1/2 INCH DIAMETER A307 ERECTION BOLTS. LH JOISTS AT COLUMNS AND LH JOISTS IN BAYS OF 40 FEET AND LONGER TO HAVE (2) 3/4 INCH DIAMETER A325 ERECTION BOLTS. EXCEPT AT COLUMNS, ERECTION BOLTS ARE NOT REQUIRED WHERE JOISTS AND BRIDGING HAVE BEEN PRE-ASSEMBLED INTO PANELS.
7. JOISTS SHALL HAVE MINIMUM BRIDGING AS REQUIRED BY THE SJI AND AS OTHERWISE NOTED ON THE STRUCTURAL DRAWINGS. ALL BRIDGING RUNS AND DETAILS SHALL BE SHOWN ON JOIST SHOP DRAWINGS. FOR JOIST SPANS EXCEEDING OSHA TABLES A AND B FROM SUBPART R-STEEL ERECTION 1926.757, INSTALL A LINE OF BOLTED X-BRIDGING NEAR MID-SPAN PRIOR TO SLACKING HOIST LINES. FOR JOISTS BETWEEN 60 FEET AND 100 FEET, TWO LINES OF BOLTED X-BRIDGING SHALL BE INSTALLED NEAR THE THIRD POINTS OF THE JOIST PRIOR TO SLACKING HOIST LINES.
8. PLACE ADDITIONAL X-BRIDGING AT THE END OF EACH HORIZONTAL BRIDGING RUN IN LAST SPACE BETWEEN JOISTS, EXCEPT WHERE HORIZONTAL BRIDGING RUNS TERMINATE AT MASONRY WALLS. WHERE BRIDGING RUNS TERMINATE AT MASONRY WALLS, HORIZONTAL BRIDGING SHALL BE ANCHORED TO WALL.
9. NO MODIFICATION THAT AFFECTS THE STRENGTH OF A JOIST OR JOIST GIRDER SHALL BE MADE WITHOUT THE APPROVAL OF THE PROJECT STRUCTURAL ENGINEER OF RECORD.
10. WHERE JOISTS DO NOT CONNECT DIRECTLY TO THE COLUMN CAP PLATE, AT THE JOIST CLOSEST TO EACH COLUMN, PROVIDE DIAGONAL L2X2X3/16. ANGLE SHALL BE WELDED TO TOP OF COLUMN OR TO BOTTOM FLANGE OF BEAM AND TO THE FIRST TOP CHORD PANEL POINT OF JOIST WITH 2 INCH OF 1/8 INCH FILLET EACH END. ANGLE SHALL BE SUPPLIED BY THE STRUCTURAL STEEL FABRICATOR.
11. EXTEND BOTTOM CHORD OF ALL JOIST GIRDERS AND ALL JOISTS AT OR NEAREST COLUMN LOCATIONS TO LAP WITH STABILIZER PLATE.
12. WHERE STEEL JOISTS AT OR NEAR COLUMNS SPAN MORE THAN 60 FEET, THE JOISTS SHALL BE SET IN TANDEM WITH ALL BRIDGING INSTALLED.
13. UNLESS NOTED OTHERWISE, K-SERIES JOISTS SHALL HAVE 2 1/2 INCH DEEP SEATS, AND LH-SERIES JOISTS SHALL HAVE 5" DEEP SEATS. PROVIDE MATCHING HEIGHT SEATS ON SHORT SPAN JOISTS WHICH HAVE COMMON BEARING WITH LONG SPAN AND DEEP LONG SPAN JOISTS.
14. PROVIDE SLOPING JOIST AND JOIST GIRDER SEATS WHERE THE SLOPE EXCEEDS 1/4" PER FOOT.
15. JOIST GIRDERS SHALL HAVE 7 1/2" DEEP SEATS.
16. JOIST MANUFACTURER SHALL DESIGN JOIST SEATS FOR LATERAL ROLLOVER FORCE OF 500 LBS. ROLLOVER FORCE WAS DETERMINED USING LRFD LOAD COMBINATIONS THAT INCLUDE WIND AND SEISMIC LOADS.
17. JOIST MANUFACTURER SHALL DESIGN JOIST AND JOIST GIRDER TOP AND BOTTOM CHORDS FOR ADDITIONAL BENDING STRESSES RESULTING FROM A 250 LB CONCENTRATED BEND CHECK DEAD LOAD APPLIED AT ANY LOCATION ALONG JOIST OR JOIST GIRDER SPANS.

STEEL DECKING (05-31-00)

1. THE DESIGN, FABRICATION, AND ERECTION OF ALL STEEL DECK SHALL CONFORM TO THE REQUIREMENTS OF THE LATEST EDITION OF THE SPECIFICATIONS OF THE STEEL DECK INSTITUTE.
2. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR REVIEW BY ENGINEER. FABRICATION SHALL NOT BEGIN PRIOR TO SHOP DRAWING APPROVAL BY ENGINEER.
3. MATERIALS:
   - A. SEE PLAN AND METAL DECK SCHEDULE FOR SIZE, GAGE, MIN Fy, AND REQUIRED SUPPORT FASTENERS AND SIDELAP FASTENERS.
   - B. SELF DRILLING SCREWS (SDS): HEX WASHER HEAD SELF-DRILLING TAPPING SCREWS (ASTM C1513) MANUFACTURED FROM CARBON STEEL (ASTM A510, MIN GRADE 1018). ZINC PLATING SHALL MEET MINIMUM CORROSION RESISTANCE REQUIREMENTS OF ASTM F1941.
4. METAL DECK SHALL BE PROVIDED TO RUN CONTINUOUS OVER AT LEAST 3 SPANS EXCEPT AS NOTED OTHERWISE.
5. CONNECT METAL DECK TO STRUCTURAL MEMBERS, INCLUDING PERIMETER ANGLES.
6. MINIMUM METAL DECK END BEARING ON SUPPORTS = 1 1/2".
7. LAP ENDS OF METAL DECK 4" MINIMUM.
8. WELDING OF METAL DECK SHALL BE IN ACCORDANCE WITH AWS D1.3-08.

SUPPORT OF MEP SYSTEMS

1. THE FOLLOWING NOTES APPLY TO MEP SYSTEMS ATTACHED TO THE UNDERSIDE OF THE ROOF STRUCTURE.
2. REACTIONS IDENTIFIED IN THE NOTES INCLUDE MEP COMPONENT WEIGHTS PLUS WEIGHTS OF HANGERS, RACKS, AND SUPPLEMENTAL SUPPORT FRAMING. REACTIONS DO NOT INCLUDE SEISMIC FORCES. REFER TO MEP SPECIFICATION SECTIONS FOR SESIMIC DESIGN REQUIREMENTS (IF APPLICABLE).
3. INSTALLATION OF ANCHORS OR FASTENERSUSED TO ATTACH MEP SYSTEMS TO THE ROOF STRUCTURE SHALL SATISFY ALL REQUIREMENTS PROVIDED BY THE ANCHOR OR FASTENER SUPPLIERS.
4. MEP SYSTEMS SHALL NOT BE SUPPORTED BY METAL DECK.
5. MEP SYSTEMS SUPORTED BY FORMED CONCRETE SLABS:
   - A. THE MAXIMUM REACTION AT ANY SINGLE HANGER SHALL NOT EXCEED 300 LBS. THE SUM OF ALL HANGER REACTIONS WITHIN ANY 3'-0" RADIUS SHALL NOT EXCEED 300 LBS.
6. MEP SYSTEMS SUPPORTED BY STEEL BEAMS:
   - A. THE MAXIMUM REACTION AT ANY SINGLE HANGER SHALL NOT EXCEED 500 LBS. THE SUM OF ALL HANGER REACTIONS WITHIN ANY 3'-0" LENGTH SHALL NOT EXCEED 500 LBS.
   - B. HANGERS SHALL BE CENTERED BELOW BEAMS OR SUPPORTED BY SUPPLEMENTAL FRAMING THAT SPANS BETWEEN COLUMNS OR PRIMARY ROOF FRAMING. HANGER CONFIGURATIONS THAT INDUCE TORSION ON BEAMS ARE NOT PERMITTED.
7. MEP SYSTEMS SUPPORTED BY STEEL JOISTS OR JOIST GIRDERS:
   - A. THE MAXIMUM REACTION AT ANY SINGLE HANGER SHALL NOT EXCEED 250 LBS. THE SUM OF ALL HANGER REACTIONS WITHIN ANY 3'-0" LENGTH SHALL NOT EXCEED 250 LBS.
   - B. HANGERS SHALL BE CENTERED BELOW JOISTS OR SUPPORTED BY SUPPLEMENTAL FRAMING THAT SPANS BETWEEN COLUMNS OR PRIMARY ROOF FRAMING. HANGER CONFIGURATIONS THAT INDUCE TORSION ON JOISTS ARE NOT PERMITTED.
8. SUPPLEMENTAL FRAMING FOR SUPPORT OF MEP SYSTEMS
   - A. SUPPLEMENTAL FRAMING SHALL CONSIST OF STEEL OR UNISTRUT MEMBERS ATTACHED TO COLUMNS OR PRIMARY ROOF FRAMING.
   - B. DESIGN OF SUPPLEMENTAL FRAMING IS DELEGATED TO A QUALIFIED PROFESSIONAL ENGINEER REGISTERED IN THE STATE WHERE THE PROJECT IS LOCATED. A DELEGATED DESIGN SUBMITTAL IS REQUIRED FOR SUPPLMENTAL FRAMING. THE SUBMITTAL SHALL BE SIGNED AND SEALED BY THE DESIGN ENGINEER AND INCLUDE ANALYSIS DATA AND SHOP DRAWINGS.
   - C. SUPPLEMENTAL FRAMING SHALL SPAN BETWEEN COLUMNS OR PRIMARY ROOF FRAMING. CANTILEVERED SUPPLEMENTAL FRAMING CONFIGURATIONS THAT INDUCE TORSION ON PRIMARY ROOF FRAMING MEMBERS ARE NOT PERMITTED.

ABBREVIATIONS

NAME	DESCRIPTION
ADDL =	ADDITIONAL
ADH =	ADHESIVE
AFF =	ABOVE FINISHED FLOOR
ARCH =	ARCHITECT
B/ =	BOTTOM OF
BLDG =	BUILDING
BOT =	BOTTOM
BRG =	BEARING
CFS =	COLD-FORMED STEEL
CJ =	CONTRACTION JOINT
CJP =	COMPLETE JOINT PENETRATION
CL =	CENTER LINE
CLR =	CLEAR
CLSM =	CONTROLLED LOW STRENGTH MATERIAL
CMU =	CONCRETE MASONRY UNIT
COL =	COLUMN
CONC =	CONCRETE
CONN =	CONNECTION
CONT =	CONTINUOUS
D&A	DRILL & ADHESIVE ANCHOR
DEG or ° =	DEGREE
DIA or ø =	DIAMETER
EA =	EACH
EF =	EACH FACE
EL =	ELEVATION
EMB =	EMBEDMENT
EOD =	EDGE OF DECK
EQ =	EQUAL
ES =	EACH SIDE
EW =	EACH WAY
EXIST =	EXISTING
EXP =	EXPANSION
EXT =	EXTERIOR
F/ =	FACE OF
FDN =	FOUNDATION
FS =	FAR SIDE
FTG =	FOOTING
GA =	GAGE
GALV =	GALVANIZED
GB =	GRADE BEAM
HORIZ =	HORIZONTAL
INFO =	INFORMATION
INT =	INTERIOR
JST BRG =	JOIST BEARING
Ld =	TENSION DEVELOPMENT LENGTH OF REINFORCING BAR IN CONCRETE
Ld-CMU =	TENSION DEVELOPMENT LENGTH OF REINFORCING BAR IN GROUTED CMU
Ldc =	COMPRESSION DEVELOPMENT LENGTH OF REINFORCING BAR IN CONCRETE
LDH =	LONG DIMENSION HORIZONTAL
Ldh =	HOOKED BAR TENSION DEVELOPMENT LENGTH OF REINFORCING BAR IN CONCRETE
LDV =	LONG DIMENSION VERTICAL
LLH =	LONG LEG HORIZONTAL
LLV =	LONG LEG VERTICAL
Ls =	LAP SPLICE LENGTH OF REINFORCING BAR IN CONCRETE
Ls-CMU =	LAP SPLICE LENGTH OF REINFORCING BAR IN GROUTED CMU
Lsc =	COMPRESSION LAP SPLICE LENGTH OF REINFORCING BAR IN CONCRETE
LSL =	LONG-SLOTTED
MCJ =	MASONRY CONTROL JOINT
MECH =	MECHANICAL
MEP =	MECHANICAL/ELECTRICAL/PLUMBING
MFR =	MANUFACTURER
NS =	NEAR SIDE
oc =	ON CENTER
OPNG =	OPENING
OPP =	OPPOSITE
OVS =	OVERSIZED
PAF =	POWER-ACTUATED FASTENER
PC =	PILE CAP
PJP =	PARTIAL JOINT PENETRATION
PL =	PLATE
PT =	PRETENSIONED
RD =	ROOF DRAIN
REINF =	REINFORCING
REQ'D =	REQUIRED
RTU =	ROOF TOP UNIT
SC =	SLIP-CRITICAL
SCHED =	SCHEDULE
SDS =	SELF DRILLING SCREWS
SEOR =	STRUCTURAL ENGINEER OF RECORD
SIM =	SIMILAR
SOG =	SLAB ON GRADE
SPA =	SPACE or SPACES
SRD =	SECONDARY ROOF DRAIN
SS =	STAINLESS STEEL
SSL =	SHORT-SLOTTED
ST =	SNUG-TIGHTENED
STD =	STANDARD
STIFF =	STIFFENER
STL =	STEEL
T&B =	TOP & BOTTOM
T/ =	TOP OF
UNO =	UNLESS NOTED OTHERWISE
VERT =	VERTICAL
VIF =	VERIFY IN FIELD
w/ =	WITH
w/o =	WITHOUT
WP =	WORK POINT
WWR =	WELDED WIRE REINFORCING

SYMBOL LEGEND

SYMBOL	DESCRIPTION
ⓝ n	COLUMN LINE DESIGNATION
◇ n	FACE OF BUILDING
Pn	PILE CAP MARK
BPn	BASE PL MARK
Wn	CMU VERTICAL WALL REINFORCING MARK
Kn	KEYNOTE MARK
▶	STEP T/FTG
	SLAB STEP
⊕	ELEVATION INDICATION
Dn	DECK MARK

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GDRTA PARATRANSIT BUS GARAGE

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ISSUANCES

No.	Description	Date
1	CONSTRUCTION SET	02/14/25
2	BID SET	04/28/25
3	ADDENDUM 01	06/11/25

Drawn By	DRM
Checked By	CJB
Client No.	634
Project No.	7310

STATE OF OHIO
CHRISTOPHER JAMES BUCKREUS
82481
REGISTERED
PROFESSIONAL ENGINEER
06/11/2025

GENERAL NOTES, ABBREVIATIONS, & SYMBOL LEGEND

S001

6/11/2025 4:43:54 PM

2 WORKING DAYS
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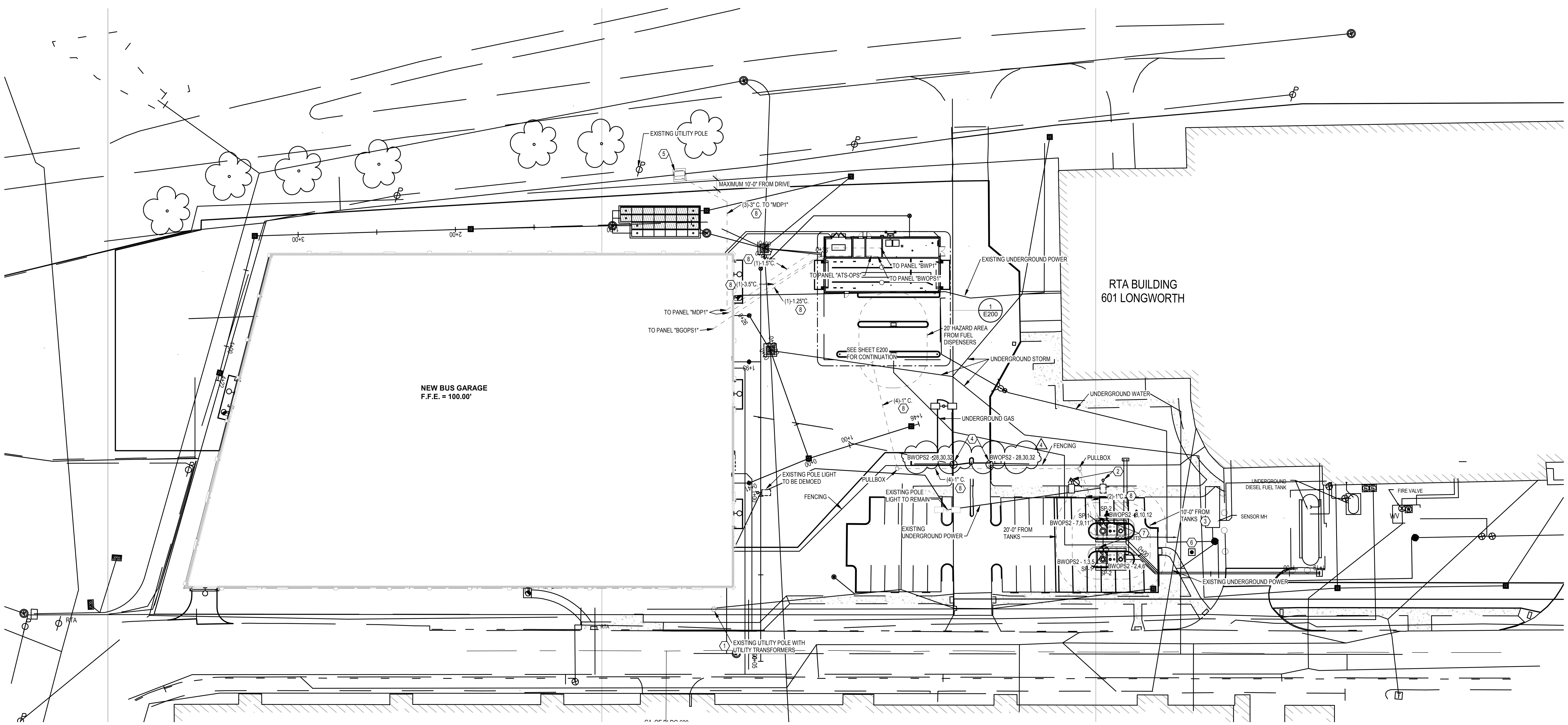
OHIO UTILITIES PROTECTION SERVICE

PLAN NOTES

1. EXISTING UTILITY SERVICE TO BE PULLED BACK TO UTILITY POLE FROM EXISTING MAIN PANEL.
2. EXISTING POLE LIGHT TO BE REMOVED AND RELOCATED. EXTEND CONDUIT, WIRING AND CONTROLS TO NEW LOCATION AS REQUIRED.
3. ALL CONDUITS WITHIN 10'-0" OF TANKS SHALL BE RIGID TYPE UNDER FUELING HAZARD AREA AND AT SEAL OFFS.
4. E.C. SHALL DISCONNECT POWER TO GATES AND RECONNECT TO NEW ELECTRICAL SYSTEM IN BUS GARAGE. COORDINATE EXACT LOCATION AND VOLTAGE / WIRING REQUIREMENTS PRIOR TO ROUGH-IN.
5. NEW PAD-MOUNT UTILITY TRANSFORMER. E.C. TO PROVIDE TRANSFORMER PAD AND METERING EQUIPMENT AS REQUIRED. COORDINATE EXACT DIMENSIONS, REQUIREMENTS AND LOCATION WITH AES OHIO PRIOR TO ROUGH-IN.
6. EMERGENCY FUEL DISPENSING SHUT OFF SWITCH. COORDINATE EXACT LOCATION WITH OTHERS PRIOR TO ROUGH-IN AND PROVIDE ACCORDINGLY.
7. E.C. TO PROVIDE SEAL-OFFS ON CONDUITS AT PANELS AND EQUIPMENT FEEDING THE FUELING EQUIPMENT.
8. CONDUIT(S) UNDER DRIVE SHALL BE CONCRETE ENCASED. REFER TO DETAILS ON SHEET E003.



1 **ELECTRICAL SITE PLAN**
SCALE: 1" = 30'-0"

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ISSUANCES

No.	Description	Date
1	CONSTRUCTION SET	02/14/25
3	BID SET	04/28/25
4	ADDENDUM 1	06/09/25

Drawn By
JRW
Checked By
ASA
Client No.
634
Project No.
7310

2/14/25

ELECTRICAL SITE PLAN

E005

6/6/2025 10:53:07 AM

DISTRIBUTION PANEL: MDP1

Location: ELECTRIC BG2 **Mounting:** FLOOR **A.I.C. Rating:** SEE SINGLE LINE
Supply From: UTILITY TRANSFORMER **Enclosure:** TYPE 1 **Mains Type:** MB
Voltage: 480Y/277V-3PH-4W **Mains Rating:** 800 A
Feeder Size: SEE SINGLE LINE **Spec. Ref. #:**

CKT	CIRCUIT DESCRIPTION	APPROX. CONNECTED LOAD	FRAME SIZE	POLES	TRIP SETTING	BREAKER TYPE	NUMBER OF CONDUCTORS	WIRE SIZE	GROUND SIZE	CONDUIT SIZE	SEE NOTE
1	SPD	0.00 kVA	60 A	3	60 A	--	--	--	--	--	--
2	ATS-OPS	42.80 kVA	100 A	3	100 A						
3	BWP1	201.04 kVA	400 A	3	400 A						
4	BGP1	10.80 kVA	100 A	3	100 A						
5	T1, BGP2	35.73 kVA	200 A	3	125 A						
6	ARU-1	28.77 kVA	100 A	3	100 A						
7	ARU-2	28.77 kVA	100 A	3	100 A						
8											
9											
10											
11											
12											
13											
14											
15											
16											
17											
18											
19											
20											

Load Classification	Connected...	Demand Factor	Estimated...	Panel Totals	
Lighting	9506 VA	125.00%	11882 VA		
Motor	123352 VA	105.83%	130544 VA	Total Conn. Load:	347.89 kVA
Other	5116 VA	100.00%	5116 VA	Total Est. Demand:	257.5 kVA
Receptacle	209920 VA	52.38%	109960 VA	Total Conn.:	418 A
				Total Est. Demand:	310 A

NOTES:

TOTAL CONNECTED	ESTIMATED DEMAND
347.89 kVA	257.5 kVA (310 A)

Panel: BGP1

Location: ELECTRIC BG2 **Mounting:** Surface **A.I.C. Rating:** SEE SINGLE LINE
Supply From: MDP1 **Enclosure:** Type 1 **Mains Type:** MLO
Voltage: 480Y/277V-3PH-4W **Mains Rating:** 100 A

CKT	Circuit Description	Trip	Poles	A		B		C		Poles	Trip	Circuit Description	CKT
1	GARAGE - L	20 A	1	2106...	2329...					1	20 A	GARAGE - L	2
3	GARAGE - L	20 A	1			2012...	2042...			1	20 A	GARAGE - L	4
5	BGLE1	40 A	1					2310...	0 VA	1	20 A	Spare	6
7	Spare	20 A	1	0 VA	0 VA					1	20 A	Spare	8
9	Spare	20 A	1			0 VA	0 VA			1	20 A	Spare	10
11	Space	--	1					--	--	1	--	Space	12
			Total Load:	4.44 kVA		4.05 kVA		2.31 kVA					

Load Classification	Connected...	Demand Factor	Estimated...	Panel Totals	
Lighting	8489 VA	125.00%	10611 VA		
Other	2310 VA	100.00%	2310 VA	Total Conn. Load:	10.8 kVA
				Total Est. Demand:	12.92 kVA
				Total Conn.:	13 A
				Total Est. Demand:	16 A

Notes:

TOTAL CONNECTED	ESTIMATED DEMAND
10.8 kVA	12.92 kVA (16 A)

Panel: BGP2

Location: ELECTRIC BG2 **Mounting:** Surface **A.I.C. Rating:** SEE SINGLE LINE
Supply From: T1 **Enclosure:** Type 1 **Mains Type:** MB
Voltage: 208Y/120V-3PH-4W **Mains Rating:** 225 A

CKT	Circuit Description	Trip	Poles	A		B		C		Poles	Trip	Circuit Description	CKT
1	ELEC/GEN RECEP.	20 A	1	360 VA	1248...					2	30 A	HPCU-1,SHP-1	2
3	LCP	20 A	1			800 VA	1248...			--	--	--	4
5	RECEPTACLE	20 A	1					720 VA	720 VA	1	20 A	RECEPTACLE	6
7	RECEPTACLE	20 A	1	540 VA	1248...					2	30 A	HPCU-2,SHP-2	8
9	BGP3	100 A	3			6103...	1248...			--	--	--	10
11	--	--	--					5637...	1000...	1	20 A	WATER COOLERS	12
13	--	--	--	5055...	360 VA					1	20 A	RR/JAN RECEP.	14
15	DWH-1	20 A	3			1500...	540 VA			1	20 A	ROOF RECEP.	16
17	--	--	--					1500...	600 VA	1	15 A	EF-2	18
19	--	--	--	1500...	1500...					1	20 A	ECH-1 (JAN)	20
21	EAST FANS	20 A	1			148 VA	1500...			1	20 A	ECH-1 (RR)	22
23	WEST FANS	20 A	1					111 VA	0 VA	1	20 A	Spare	24
25	IT RECEP.	20 A	1	540 VA	0 VA					1	20 A	Spare	26
27	Spare	20 A	1			0 VA	0 VA			1	20 A	Spare	28
29	Spare	20 A	1					0 VA	0 VA	1	20 A	Spare	30
31	Space	--	1	--	--					1	--	Space	32
33	Space	--	1			--	--			1	--	Space	34
35	Space	--	1					--	--	1	--	Space	36
37	Space	--	1	--	--					1	--	Space	38
39	Space	--	1			--	--			1	--	Space	40
41	Space	--	1					--	--	1	--	Space	42
			Total Load:	12.35 kVA		13.09 kVA		10.29 kVA					

Load Classification	Connected...	Demand Factor	Estimated...	Panel Totals	
Motor	27267 VA	104.13%	28392 VA		
Other	800 VA	100.00%	800 VA	Total Conn. Load:	35.73 kVA
Receptacle	7660 VA	100.00%	7660 VA	Total Est. Demand:	36.85 kVA
				Total Conn.:	99 A
				Total Est. Demand:	102 A

Notes:

TOTAL CONNECTED	ESTIMATED DEMAND
35.73 kVA	36.85 kVA (102 A)

Panel: BGP3

Location: BUS GARAGE BG1 **Mounting:** Surface **A.I.C. Rating:** SEE SINGLE LINE
Supply From: BGP2 **Enclosure:** Type 1 **Mains Type:** MB
Voltage: 208Y/120V-3PH-4W **Mains Rating:** 100 A

CKT	Circuit Description	Trip	Poles	A		B		C		Poles	Trip	Circuit Description	CKT
1	EF-1	15 A	3	1129...	1129...					3	15 A	EF-1	2
3	--	--	--			1129...	1129...			--	--	--	4
5	--	--	--					1129...	1129...	--	--	--	6
7	EF-1	15 A	3	1129...	1129...					3	15 A	EF-1	8
9	--	--	--			1129...	1129...			--	--	--	10
11	--	--	--					1129...	1129...	--	--	--	12
13	WEST FANS	20 A	1	148 VA	720 VA					1	20 A	RECEPTACLE	14
15	EAST FANS	20 A	1			222 VA	360 VA			1	20 A	ROOF RECEP.	16
17	RECEPTACLE	20 A	1					540 VA	0 VA	3	20 A	Spare	18
19	RECEPTACLE	20 A	1	720 VA	0 VA					--	--	--	20
21	ROOF RECEP.	20 A	1			540 VA	0 VA			--	--	--	22
23	Spare	20 A	1					0 VA	0 VA	1	20 A	Spare	24
25	Spare	20 A	1	0 VA	0 VA					1	20 A	Spare	26
27	Spare	20 A	1			0 VA	0 VA			1	20 A	Spare	28
29	Space	--	1					--	--	1	--	Space	30
31	Space	--	1	--	--					1	--	Space	32
33	Space	--	1			--	--			1	--	Space	34
35	Space	--	1					--	--	1	--	Space	36
37	Space	--	1	--	--					1	--	Space	38
39	Space	--	1			--	--			1	--	Space	40
41	Space	--	1					--	--	1	--	Space	42
			Total Load:	6.10 kVA		5.64 kVA		5.06 kVA					

Load Classification	Connected...	Demand Factor	Estimated...	Panel Totals	
Motor	13916 VA	106.08%	14763 VA		
Receptacle	2880 VA	100.00%	2880 VA	Total Conn. Load:	16.8 kVA
				Total Est. Demand:	17.64 kVA
				Total Conn.:	47 A
				Total Est. Demand:	49 A

Notes:

TOTAL CONNECTED	ESTIMATED DEMAND
16.8 kVA	17.64 kVA (49 A)

Panel: BWP1

Location: ELECTRIC BW5 **Mounting:** Surface **A.I.C. Rating:** SEE SINGLE LINE
Supply From: MDP1 **Enclosure:** Type 1 **Mains Type:** MB
Voltage: 480Y/277V-3PH-4W **Mains Rating:** 400 A

CKT	Circuit Description	Trip	Poles	A		B		C		Poles	Trip	Circuit Description	CKT
1	T2	70 A	3	2925...	368 VA					1	20 A	BUS WASH - L	2
3	--	--	--			2577...	649 VA			1	20 A	CANOPY - L	4
5	--	--	--					2385...	2853...	3	125 A	PUMP CONT PNL	6
7	RO SYSTEM	15 A	3	1108...	2853...					--	--	--	8
9	--	--	--			1108...	2853...			--	--	--	10
11	--	--	--					1108...	4432...	3	20 A	WASH CONT PNL	12
13	BLOWER CONT PNL	125 A	3	2963...	4432...					--	--	--	14
15	--	--	--			2963...	4432...			--	--	--	16
17	--	--	--					2963...	0 VA	3	20 A	Spare	18
19	BWLE1	20 A	1	1006...	0 VA					--	--	--	20
21	Spare	20 A	1			0 VA	0 VA			--	--	--	22
23	Spare	20 A	1					0 VA	0 VA	1	20 A	Spare	24
25	Spare	20 A	1	0 VA	0 VA					1	20 A	Spare	26
27	Space	--	1			--	--			1	--	Space	28
29	Space	--	1					--	--	1	--	Space	30
31	Space	--	1	--	--					1	--	Space	32
33	Space	--	1			--	--			1	--	Space	34
35	Space	--	1					--	--	1	--	Space	36
37	Space	--	1	--	--					1	--	Space	38
39	Space	--	1			--	--			1	--	Space	40
41	Space	--	1					--	--	1	--	Space	42
			Total Load:	68.01 kVA		66.94 kVA		66.09 kVA					

Load Classification	Connected...	Demand Factor	Estimated...	Panel Totals	
Lighting	1017 VA	125.00%	1271 VA		
Motor	5906 VA	109.69%	6478 VA	Total Conn. Load:	201.04 kVA
Other	1006 VA	100.00%	1006 VA	Total Est. Demand:	110.31 kVA
Receptacle	193110 VA	52.59%	101555 VA	Total Conn.:	242 A
				Total Est. Demand:	133 A

Notes:

TOTAL CONNECTED	ESTIMATED DEMAND
201.04 kVA	110.31 kVA (133 A)

Panel: BWP2

Location: ELECTRIC BW5 **Mounting:** Surface **A.I.C. Rating:** SEE SINGLE LINE
Supply From: T2 **Enclosure:** Type 1 **Mains Type:** MB
Voltage: 208Y/120V-3PH-4W **Mains Rating:** 150 A

CKT	Circuit Description	Trip	Poles	A		B		C		Poles	Trip	Circuit Description	CKT
1	WTR SOFTNER...	20 A	1	180 VA	360 VA					1	20 A	ROOF RECEP.	2
3	EXTERIOR RECEP.	20 A	1			720 VA	360 VA			1	20 A	BW RECEP.	4
5	EF-4 (EQUIP. RM)	20 A	3					240 VA	1248...	2	30 A	HPCU-3,SHP-3	6
7	--	--	--	240 VA	1248...					--	--	--	8
9	--	--	--			240 VA	240 VA			3	20 A	EF-3	10
11	EF-4 (IT RM)	20 A	3					240 VA	240 VA	--	--	--	12
13	--	--	--	240 VA	240 VA					--	--	--	14
15	--	--	--			240 VA	208 VA			2	20 A	GFUH-2 (S)	16
17	GFUH-1	20 A	2					208 VA	208 VA	--	--	--	18
19	--	--	--	208 VA	208 VA					2	20 A	GFUH-2 (N)	20
21	IT RECEP.	20 A	1			360 VA	208 VA			--	--	--	22
23	Spare	20 A	2					0 VA	0 VA	1	20 A	Spare	24
25	--	--	--	0 VA	0 VA					1	20 A	Spare	26
27	Spare	20 A	1			0 VA	0 VA			1	20 A	Spare	28
29	Spare	20 A	1					0 VA	0 VA	1	20 A	Spare	30
31	Spare	20 A	1	0 VA	0 VA					1	20 A	Spare	32
33	Space	--	1			--	--			1	--	Space	34
35	Space	--	1					--	--	1	--	Space	36
37	Space	--	1	--	--					1	--	Space	38
39	Space	--	1			--	--			1	--	Space	40
41	Space	--	1					--	--	1	--	Space	42
			Total Load:	2.92 kVA		2.58 kVA		2.38 kVA					

Load Classification	Connected...	Demand Factor	Estimated...	Panel Totals	
Motor	5906 VA	109.69%	6478 VA		
Receptacle	1980 VA	100.00%	1980 VA	Total Conn. Load:	7.89 kVA
				Total Est. Demand:	8.46 kVA
				Total Conn.:	22 A
				Total Est. Demand:	23 A

Notes:

TOTAL CONNECTED	ESTIMATED DEMAND
7.89 kVA	8.46 kVA (23 A)

Panel: BWOPS1

Location: ELECTRIC BW5 **Mounting:** Surface **A.I.C. Rating:** SEE SINGLE LINE
Supply From: ATS-OPS **Enclosure:** Type 1 **Mains Type:** MB
Voltage: 480Y/277V-3PH-4W **Mains Rating:** 100 A

CKT	Circuit Description	Trip	Poles	A		B		C		Poles	Trip	Circuit Description	CKT
1	T3	50 A	3	8276...	7500...					3	60 A	BGOPS1	2
3	--	--	--			7216...	6300...			--	--	--	4
5	--	--	--					7106...	6400...	--	--	--	6
7	Spare	20 A	1	0 VA	0 VA					1	20 A	Spare	8
9	Spare	20 A	1			0 VA	0 VA			1	20 A	Spare	10
11	Spare	20 A	1					0 VA	0 VA	1	20 A	Spare	12
13	Space	--	1	--	--					1	--	Space	14
15	Space	--	1			--	--			1	--	Space	16
17	Space	--	1					--	--	1	--	Space	18
19	Space	--	1	--	--					1	--	Space	20
21	Space	--	1			--	--			1	--	Space	22
23	Space	--	1					--	--	1	--	Space	24
			Total Load:	15.78 kVA		13.52 kVA		13.51 kVA					

Load Classification	Connected...	Demand Factor	Estimated...	Panel Totals	
Motor	32648 VA	102.39%	33428 VA		
Other	1000 VA	100.00%	1000 VA	Total Conn. Load:	42.8 kVA
Receptacle	9150 VA	100.00%	9150 VA	Total Est. Demand:	43.58 kVA
				Total Conn.:	51 A
				Total Est. Demand:	52 A

Notes:

TOTAL CONNECTED	ESTIMATED DEMAND
42.8 kVA	43.58 kVA (52 A)

Panel: BWOPS2

Location: ELECTRIC BW5 **Mounting:** Surface **A.I.C. Rating:** SEE SINGLE LINE
Supply From: T3 **Enclosure:** Type 1 **Mains Type:** MB
Voltage: 208Y/120V-3PH-4W **Mains Rating:** 100 A

CKT	Circuit Description	Trip	Poles	A		B		C		Poles	Trip	Circuit Description	CKT
1	SP-1 (E TANK)	20 A	3	901 VA	901 VA					3	20 A	SP-2 (E TANK)	2
3	--	--	--			901 VA	901 VA			--	--	--	4
5	--	--	--					901 VA	901 VA	--	--	--	6
7	SP-1 (W TANK)	20 A	3	901 VA	901 VA					3	20 A	SP-2 (W TANK)	8
9	--	--	--			901 VA	901 VA			--	--	--	10
11	--	--	--					901 VA	901 VA	--	--	--	12
13	DOOR CONTROLS	20 A	1	360 VA	360 VA					1	20 A	DOOR CONTROLS	14
15	FUEL DISP. (W)	20 A	1			500 VA	500 VA			1	20 A	FUEL DISP. (E)	16
17	VEEDEROOT	20 A	1					750 VA	500 VA	1	20 A	BLOCK HEATER	18
19	BATTERY	20 A	1	500 VA	0 VA					1	20 A	Spare	20
21	IT RECEP.	20 A	1			360 VA	360 VA			1	20 A	IT RECEP.	22
23	IT RECEP.	20 A	1					360 VA	1560...	2	20 A	OHD-1 (N)	24
25	OHD-1 (S)	20 A	2	1560...	1560...					--	--	--	26
27	--	--	--			1560...	333 VA			3	20 A	FENCE GATE	28
29	Spare	20 A	1					0 VA	333 VA	--	--	--	30
31	Spare	20 A	1	0 VA	333 VA					--	--	--	32
33	Spare	20 A	1			0 VA	0 VA			2	20 A	Spare	34
35	Spare	20 A	1					0 VA	0 VA	--	--	--	36
37	Spare	20 A	3	0 VA	--					1	--	Space	38
39	--	--	--			0 VA	--			1	--	Space	40
41	--	--	--					0 VA	--	1	--	Space	42
			Total Load:	8.28 kVA		7.22 kVA		7.11 kVA					

Load Classification	Connected...	Demand Factor	Estimated...	Panel Totals	
Motor	17048 VA	104.58%	17828 VA		
Receptacle	5550 VA	100.00%	5550 VA	Total Conn. Load:	22.6 kVA
				Total Est. Demand:	23.38 kVA
				Total Conn.:	63 A
				Total Est. Demand:	65 A

Notes:

TOTAL CONNECTED	ESTIMATED DEMAND
22.6 kVA	23.38 kVA (65 A)

Panel: BGOPS1

Location: ELECTRIC BG2 **Mounting:** Surface **A.I.C. Rating:** SEE SINGLE LINE
Supply From: BWOPS1 **Enclosure:** Type 1 **Mains Type:** MB
Voltage: 480Y/277V-3PH-4W **Mains Rating:** 60 A

CKT	Circuit Description	Trip	Poles	A		B		C		Poles	Trip	Circuit Description	CKT
1	T4	30 A	3	7500...	0 VA					1	20 A	Spare	2
3	--	--	--			6300...	0 VA			1	20 A	Spare	4
5	--	--	--					6400...	0 VA	1	20 A	Spare	6
7	Space	--	1	--	--					1	--	Space	8
9	Space	--	1			--	--			1	--	Space	10
11	Space	--	1					--	--	1	--	Space	12
			Total Load:	7.50 kVA		6.30 kVA		6.40 kVA					

Load Classification	Connected...	Demand Factor	Estimated...	Panel Totals	
Motor	15600 VA	105.00%	16380 VA		
Other	1000 VA	100.00%	1000 VA	Total Conn. Load:	20.2 kVA
Receptacle	3600 VA	100.00%	3600 VA	Total Est. Demand:	20.98 kVA
				Total Conn.:	24 A
				Total Est. Demand:	25 A

Notes:

TOTAL CONNECTED	ESTIMATED DEMAND
20.2 kVA	20.98 kVA (25 A)

Panel: BGOPS2

Location: ELECTRIC BG2 **Mounting:** Surface **A.I.C. Rating:** SEE SINGLE LINE
Supply From: T4 **Enclosure:** Type 1 **Mains Type:** MB
Voltage: 208Y/120V-3PH-4W **Mains Rating:** 100 A

CKT	Circuit Description	Trip	Poles	A		B		C		Poles	Trip	Circuit Description	CKT
1	IT RECEP.	20 A	1	360 VA	360 VA					1	20 A	IT RECEP.	2
3	IT RECEP.	20 A	1			360 VA	360 VA			1	20 A	DOOR CONTROLS	4
5	DOOR CONTROLS	20 A	1					360 VA	360 VA	1	20 A	IT RECEP.	6
7	DOOR CONTROLS	20 A	1	180 VA	360 VA					1	20 A	IT RECEP.	8
9	DOOR CONTROLS	20 A	1			540 VA	360 VA			1	20 A	DOOR CONTROLS	10
11	OHD-1 (S)	20 A	2					1560...	1000...	1	20 A	FACP	12
13	--	--	--	1560...	1560...					2	20 A	OHD-1 (E)	14
15	OHD-1 (N)	20 A	2			1560...	1560...			--	--	--	16
17	--	--	--					1560...	1560...	2	20 A	OHD-1 (N)	18
19	OHD-1 (N)	20 A	2	1560...	1560...					--	--	--	20
21	--	--	--			1560...	0 VA			2	20 A	Spare	22
23	Spare	20 A	1					0 VA	0 VA	--	--	--	24
25	Spare	20 A	1	0 VA	0 VA					1	20 A	Spare	26
27	Spare	20 A	1			0 VA	0 VA			1	20 A	Spare	28
29	Spare	20 A	1					0 VA	0 VA	1	20 A	Spare	30
31	Spare	20 A	1	0 VA	0 VA					1	20 A	Spare	32
33	Spare	20 A	1			0 VA	0 VA			1	20 A	Spare	34
35	Space	--	1					--	--	1	--	Space	36
37	Space	--	1	--	--					1	--	Space	38
39	Space	--	1			--	--			1	--	Space	40
41	Space	--	1					--	--	1	--	Space	42
			Total Load:	7.50 kVA		6.30 kVA		6.40 kVA					

Load Classification	Connected...	Demand Factor	Estimated...	Panel Totals	
Motor	15600 VA	105.00%	16380 VA		
Other	1000 VA	100.00%	1000 VA	Total Conn. Load:	20.2 kVA
Receptacle	3600 VA	100.00%	3600 VA	Total Est. Demand:	20.98 kVA
				Total Conn.:	56 A
				Total Est. Demand:	58 A

Notes:

TOTAL CONNECTED	ESTIMATED DEMAND
20.2 kVA	20.98 kVA (58 A)

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ISSUANCES

No.	Description	Date
1	CONSTRUCTION SET	02/14/25
3	BID SET	04/28/25
4	ADDENDUM 1	06/09/25

Drawn By: JRW
Checked By: ASA
Client No.: 634
Project No.: 7310

2/14/25

PANEL SCHEDULES

E600

6/6/2025 10:53:10 AM