ADDENDUM NO. 6

QUESTIONS AND ANSWERS

September 25 , 2020

Montgomery County Shared Services Facility

This addendum is hereby included in and made a part of the Contract. All requirements of the original Bid Documents shall remain in force except as noted by this addendum.

The purpose of this addendum provided by LiRo Engineers, Inc. is to provide bidders with information on the following items:

Questions

Responses to questions received pertaining to this bid solicitation are provided below.

Questions and Responses
Question 1: The item 2535 of the Equipment List (Drawing Q-601) calling for 55 ton PRES Model 1872 by OTC manufacture. The Shop Equipment specification 115100-8 (item 2.3) calling out for the 80 ton press by Nugier Press Company. Please clarify discrepancies **Response:** Equipment list is correct, refer to attached addendum.
Question 2: The City Water line before branching out to the new Fire hydrant and Water line doesn't have the main gate valve. Without inserting the main gate into the City Water Line the chlorinating and testing the project's water lines would also require chlorinating and testing the City Water Line, but the contractor doesn't have any control over the city water line. **Response:** Refer to the attached updated drawing C-110
Question 3: The Robinair AC system in the shop equipment spec is no longer available, please provide an equal **Response:** Please provide the Robinair 17800C instead of the 17800B
Question 4: The Plymovent model you specified is discontinued, see attached alternate, is the acceptable? **Response:** Plymovent model MFE is acceptable.
Question 5: We are still not clear if the ductwork, insulation or refrigeration piping gets painted or not **Response:** Ductwork, insulation, or refrigerant piping does not get painted.
Questions 6: The Finish Selection Schedule on the drawing A-120 listed the (3) three window treatment types. The specification 122413 "Roller Window Shades" doesn't specify the window shades type RS03 called out on the drawings.

a. The Finish Selection Schedule listed for the window shades type RS03 products are a mix of the different companies. The specified Omni screen 3000NET is by Alkenz, not by referenced Verosol; Besides I was told that Alkenz is a Korean company.

Response:
Three different roller window shades are expected per the Finish Selection Schedule on A-120.
RS01 is correct
RS02 is correct, Verosol is a Rollease Acmeda Product
RS03 shall be as follows**: Rollease Acmeda SunShadow, 3000 NET, Openness 1%, Color: White-Beige, Hem Bar: F4115 Heavy Duty Bottom Rail.**
RS03 does not need to be motorized.

Question 7:
Also, the Finish Selection Schedule for RS03 type shades mention the POWERSHADE. Please confirm that the shades should be motorized, the electrical drawings do not address powering shades. Besides the motorized shades are very expensive

Response:
No power or motorization necessary.

Question 8:
Neither civil or architectural drawings has the detail how to connect the downspouts to the 6" storm lines.

Response:
A formed metal at-grade receiver shall be provided to make the transition from the steel downspout to the sub-grade piping, similar to the image attached. Where downspouts terminate at-grade with splash blocks, provide a removable angled downspout attachment.

Question 9:
Please incorporate in the upcoming Addendum the following clarification I had received from the Architect Michael Bray"

Response:
The galvanized steel downspouts are conventional steel minimum thickness of 1/8.

Question 10:

Specification Section 074213, Paragraph 2.3 D states "Match all flashing and trims with the adjacent panels in material gauge and finish. Install these trims per the panel manufacturer's detail's." Based on these could the called out on the drawings the "Extruded Metal by Panel Manufacture" be made with the same 24 ga Kynar-coated material as used on the exterior of the Insulated Metal Panel walls? In other words could the 24 ga Kynar-coated material be used for all wall trim conditions including the extruded metal?

Response:
Yes, that is correct.

Question 11:

As an alternate also proposing using the wall and roof panels by AWIP manufacture.

a. The AWIP manufacture's (3) three wall types matches the MWP01 and MWP02 wall panels requirements, for you to choose from attaching the DM-40, ST-40, and HE-40 wall panels data sheets (panel profiles located on the bottom of the data sheets)
b. Also attaching the data sheet for SR2 Insulated Metal Standing Seam Roof Panel

Response:
AWIP is an acceptable manufacturer, and should have similar products for incorporation into the project for Insulated Metal Wall and Roof Panels.

Question 12:

Can 24 ga Kynar-coated Marquee-Lok Soffit Panel be substituted for the specified MetaforLAT750 Soffit panel? Data sheet is attached.

Response:
No, that is a flat panel, our soffit panel has corrugation. Request for sub rejected.

Question 13:

Specified Glen-Gery Smoked Hickory brick discontinued.

Response:
The contractor shall use the following brick selection for bidding: Glen-Gery Williamsburg Westport.

Question 14:

On the drawing A-120 the Room Finish Schedule listed the room 210E "Break Pad" with the PUP1 floors and 10'-0" ceiling height. I couldn't locate this room, where this room is located?

Response:

Room 210E was inadvertently kept in the Room Finish Schedule, ignore that room, it is the outside break area.

Question 15:

The item 36 of the Addendum #2 had clarified that the interior Aluminum window W5 shall be fire rated. The problem is that the Aluminum Windows don't come fire rated. If these interior windows still needed to be fire rated please consider changing these Interior Aluminum windows to Hollow Metal Fire rated windows.

Response:
The interior window may be constructed from hollow steel, labeled for the rating required.

Question 16:

Can Architect identify CMU Partitions that go to 14'; Example Drawing A-103 Col. Line Q; Partition callout 1MG, Does this Partition get Type 1A?

Response:
Yes the masonry goes up to 14'-0" height, then type 1A is installed on the top of the wall.

Question 17:

Partition Type 1MG, M4G, M6G & 1M8 - Is it the Architects intent to install Partition Type 1A from top of CMU (14') to deck for all 4 Partition Types, as shown on drawing A-050?

Response:
Any partition with the "G" modifier is glazed block, 1M8 is a 1 hour fire-rated masonry wall that is 8 inches thick. Type 1A partition has nothing to do with any of the partitions listed.

Question 18:

Detail 1/A403 is calling out 4MG back to back. Is it the Architects intent to install 1A with GWB on both sides of all 4MG callouts, even if there seems to be clashes?

Response:
You are reading the labels incorrectly. They are "M4G" which are masonry 4 inch with the glazed block modifier.

Question 19:

Drawing A-104 RM 214 & 210C - Is it the Architects intent to install Type 1A above Partition 1MG in these Rms? Detail 3/A300 is showing CMU to deck.

Response:
That has been previously corrected in a released addendum as a revised drawing.

Question 20:

Drawing A103 - RM C107 - Is it the Architects intent to install a Furred GWB partitions on Along East & West Walls?

Response:
Yes, and as illustrated in 12/A501.

Question 21:

Is it the Architect intent to install CFMF for exterior metal soffit support along Col. Line 2, Col. Line 8, and all other places where metal soffit is called out? For example detail 5/A312 is not showing any CFMF support for metal soffit overhang.
Response:

Correct, supplemental CFMF will need to be installed for metal soffit panels.

Question 22:

Is it acceptable to use Roof Purlins as structural support for acoustical ceiling?

Response:

Yes.

Question 23:

The item 36 of the Addendum #2 had clarified that the interior Aluminum window W5 shall be fire rated. The problem is that the Aluminum Windows don't come fire rated. If these interior windows still needed to be fire rated please consider changing these Interior Aluminum windows to Hollow Metal Fire rated windows. ‘

Response:

Duplicate of RFI 152.

Question 24:

Where is spec section 099659 used? I do not see this finish called out anywhere.

Response:

See sheet A-120, HPC01 and HPC03 which each indicate HBGC types as noted in the spec section 2.1, B

Question 25:

For 084313 Storefronts – basis of design is Kawneer 451T which is a 2 x 4 ½" thermal framing system to accommodate 1" glass. Can you see if it's acceptable to use Kawneer's 450 1 ¾" x 4 ½" framing for the interior to accommodate ¼" glass

Response:

It is acceptable to use the Kawneer 450 or equal at interior applications

Question 26:

With the above being said – confirm 1" glazing to be used at all exterior locations and ¼" to be used at interior locations (non-rated)

Response:

1" insulated glazing shall be used at all exterior storefront applications, all interior shall be ¼" glass, tempered where required or indicated

Question 27:

Also under this spec they call for Class 2 clear anodized finish. Class 2 only carries a max of 2 year warranty. It would need to change to class 1 for the 10 year option

Response:

Anodized finish shall meet with the warranty, so Class 1, 10 year option shall be used

Question 28:

Interior details for STL frames (H6, J6, S6/A-601) they are showing and calling out ¼" tempered glass, and for the interior aluminum doors it looks like ¼" also.

Response:

Correct

Question 29:

Details on A-603 show both the insulated glass at the exterior and ¼" glass for the interior; I don't see adapters in the glass pockets for the ¼" glass so that is where I'm assuming 450 frames which have the 1-3/4" siteline but is still 4 ½" deep like the 451t for the exterior for the 1" glazing. The details do not look like they came from Kawneer

Response:

All appurtenances for the complete installation of the desired work shall be provided for a full and compliant product installation, if that includes providing adapters then that is what is expected is provided

Question 30:

Also for the all glass door details (H3, J3, S3/A-601) they are showing ½" temp glass & spec calls for 16mm which is 5/8 – I asked for 5/8, but not sure if that is what they will quote yet

Response:

Products shall meet with written specifications, so use 5/8"

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The purpose of this addendum provided by LiRo Engineers, Inc. is to provide bidders with information on the following items:

Item # 1 Drawing Referenced : Q601, C100 Specification Reference : **REPLACE:** The referenced drawing with the attached.
Item # 2 Drawing Referenced : Specification Reference : 115100 **REPLACE:** The referenced specification with the attached.

SECTION 115100 - SHOP EQUIPMENT

PART 1 – GENERAL

1.1 RELATED DOCUMENTS

A. The General Provisions of the Contract, including General and Special Conditions and the requirements of Division 1, apply to the Work in this Section.

1.2 WORK INCLUDED

A. Equipment items as listed below by Equipment Mark Number:

1. CHARGER, BATTERY, FIXED
   Equipment Mark Number: 2130
   Submittal requirements: PD, OM

2. SMALL TIRE MOUNTER/DEMOUNTER
   Equipment Mark Number: 2451
   Submittal requirements: PD, OM

3. PRESS, ELECTRIC/HYDRAULIC, 80 TON
   Equipment Mark Number: 2535
   Submittal requirements: PD, OM

4. SAW, BAND
   Equipment Mark Number: 2690
   Submittal requirements: PD, OM

5. VISE
   Equipment Mark Number: 2832
   Submittal requirements: PD

6. WELDING CURTAIN
   Equipment Mark Number: 2910
   Submittal requirements: PD, OM

7. PORTABLE WELDING CURTAIN
   Equipment Mark Number: 2915
   Submittal requirements: PD, OM

8. OXYACETYLENE TORCH
   Equipment Mark Number: 2920
   Submittal requirements: PD, OM

9. PLASMA CUTTER
   Equipment Mark Number: 2925
   Submittal requirements: PD, OM

10. FLOOR SCRUBBER
    Equipment Mark Number: 3357
    Submittal requirements: PD, OM

11. PORTABLE VACUUM SYSTEM
    Equipment Mark Number: 3624
    Submittal requirements: PD, OM

12. WASHER, HI-PRESSURE/HOT WATER, NG
    Equipment Mark Number: 3720
    Submittal requirements: PD, OM, T

13. HOSE REEL FOR 3720
    Equipment Mark Number: 3721
    Submittal requirements: PD, OM, T

14. CART, BATTERY LIFT
    Equipment Mark Number: 5015
    Submittal requirements: PD

15. WHEEL DOLLY
    Equipment Mark Number: 5312
    Submittal requirements: PD, OM

16. LIFT TABLE
    Equipment Mark Number: 5325
    Submittal requirements: PD, OM

17. DRAIN PAN, PORTABLE, USED OIL
    Equipment Mark Number: 8165
    Submittal requirements: PD, OM

18. DRAIN PAN, PORTABLE, USED COOLANT
    Equipment Mark Number: 8166
    Submittal requirements: PD, OM

19. OIL FILTER PRESS
    Equipment Mark Number: 8492
    Submittal requirements: PD, OM

20. FILTER, ELCTROSTATIC, PORTABLE
    Equipment Mark Number: 9350
    Submittal requirements: PD, OM

21. SPILL KIT
    Equipment Mark Number: 9985
    Submittal requirements: PD

B. Provide roughing-in, installation of equipment, and final connection of utilities, with labor, services, and incidentals necessary for complete and operational equipment installation.

1. Coordinate and verify all electrical and utility connections with all trades prior to equipment ordering and purchase.

C. Piping, wiring, and switching between equipment and utilities.

1.3 QUALITY ASSURANCE

A. All components shall be factory tested and documented to operate as a complete system

B. Manufacturer's Representative: The manufacturer authorized representative shall be factory trained and certified personnel providing service, startup, and quality control field labor for the project from their local office.

1. Installation: Provide a qualified manufacturer's representative at site to supervise work related to equipment installation, check out and start up.
2. Training: Provide technical representative to train Owner's maintenance personnel in operation and maintenance of specified equipment.

C. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.

D. AMCA Compliance: Fans shall have AMCA-Certified performance ratings and shall bear the AMCA-Certified Ratings Seal.

E. NEMA Compliance: Motors and electrical accessories shall comply with NEMA standards

1.4 ACTION SUBMITTALS

A. Refer to above submittal requirements. The following abbreviations are used to indentify submittals required:

1. PD- Product Data
2. SD- Shop drawings
3. OM- Operation and Maintenance manual
4. T- Training of owners personnel on specific equipment items.

B. Product Data: For each type of product indicated. Include rated capacities, operating characteristics, electrical requirements, wiring diagrams, and provided accessories.

1. Restrict submitted material to pertinent data. For instance, do not include manufacturer's complete catalog when pertinent information is contained on a single page.

C. Shop drawings and schematics detailing fabrication, installation, piping layout, materials and finishes, system interconnections, and utility connections of equipment assemblies. Indicate dimensions, weights, loadings, required clearances, method of field assembly, components, and location and size of each field connection.

1.5 INFORMATION SUBMITTALS

A. Factory tests and inspection reports prior to shipping.

B. Field test and start-up reports, indicating and interpreting test results relative to compliance with specified requirements, for information.

C. Certificates: For certification required in "Quality Assurance" Article

1.6 CLOSEOUT SUBMITTALS

A. Operation and Maintenance Manual:

1. Provide a Complete parts list, operating instructions, and maintenance manual covering equipment at time of installation including, but not limited to:

a. Description of system and components.
b. Schematic diagrams of electrical, plumbing and compressed air systems.
c. Provide approved submittal as part of O&M clearly identifying manufacturer and provided model number.
d. Manufacturer's printed operating instructions.
e. Printed listing of periodic preventive maintenance items and recommended frequency required to validate warranties. Failure to provide maintenance information will indicate that preventive maintenance is not a condition for validation of warranties.
f. List of original manufacturer's parts, including suppliers' part numbers and cuts, recommended spare parts stockage quantity and local parts and service source.
g. Include vendor contact information for service and warranty
h. Include all start-up and testing reports

2. Assemble and provide copies of manual in 8-1/2 by 11 inch format. Foldout diagrams and illustrations are acceptable. Provide copies per provisions of Division 1 - General Requirements.

1.7 MAINTENANCE MATERIAL SUBMITTALS

A. Furnish extra materials that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.

1. Belts: One set(s) for each belt-driven unit
2. Filters: one set for each unit containing a filter

1.8 WARRANTY

A. Warrant work specified herein for one year from substantial completion against defects in materials, function and workmanship.

B. Warranty shall include materials and labor necessary to correct defects.

C. Defects shall include, but not be limited to noisy, rough, or substandard operation; loose, damaged, and missing parts; and abnormal deterioration of finish.

D. All parts shall be readily available locally in the United States.

E. Any units or parts which prove defective during the warranty period will be replaced with OEM parts and transportation prepaid

1.9 PRODUCT DELIVERY, STORAGE, AND HANDLING

A. Deliver equipment in manufacturer's containers, appropriately packaged and/or crated for protection during domestic shipment and storage in humid, dusty conditions.

B. Indelibly label all containers, including those contained in others, on outside with item description(s) per title and Mark Number of this specification.

C. Provide equipment and materials specified complete in one shipment for each equipment item. Split or partial shipments are not permissible.

1.10 LABELING

A. Nameplate: Manufacturer shall securely attach in a prominent location on each major item of equipment a non-corrosive nameplate with stamped figures showing manufacturer's name, address, model number, serial number and pertinent utility or operating data.

B. Lifting capacity shall be painted with letters and numbers 3 inches high Minimum on both sides of lifting mast assembly.

C. All electrical equipment and materials shall be new and shall be listed by Underwriter's Laboratories, Inc. (U.L.), or other National Recognized Testing Laboratory (NRTL), in categories for which standards have been set by that agency and labeled as such in the manufacturer's plant

PART 2 – PRODUCTS

2.1 CHARGER, BATTERY, FIXED
Equipment Mark Number: 2130

A. Manufacturers

1. Basis-of-Design Product: Subject to compliance with requirements, provide equipment by Associated Equipment Corporation or approved equal

B. Capacities and Dimensions:

1. DC output rating: 70 amps
2. Charging capacity: 1 to 15, 12 VDC batteries.
3. Clamp rating: 400 amps.

C. Features and Construction:

1. Battery Types: 12 Volt Flooded, AGM, and Gel Cell batteries- including Spiral Cell, Orbital, or Optima batteries.
2. Cabinet: Unit shall be enclosed in bonderized steel cabinet with reinforced frame and gasketed access panel.
3. Display: Analog meter and 3 LED display indicating charge status.
4. AC cord: 6’ 16 gauge-3
5. DC leads: 6.5’, 4 AWG
6. Electrical stability system technology
7. Program for deep discharge recovery of flooded batteries.
8. Diagnostic capability to indicate weak or defective batteries.

D. Accessories: Bus bar set with fiberglass backboard assembly shall be complete with connecting cables, insulated clamp storage bar, and 10 pair of 10 gauge, 300 amp rated charging leads, 36 inches long premounted at bus bar end with vinyl insulated safety clamps on other end Provide with three foot 4 AWG cables to connect to charger or additional bus bars. Associated No. 6075, quantity two of four each.

E. Utilities Available: 120 VAC, 1 phase,.

F. Finish: Durable enamel in manufacturer's standard color.

2.2 TIRE MOUNTER/ DEMOUNTER
Equipment Mark Number: 2451

A. Manufacturers

1. Basis-of-Design Product: Subject to compliance with requirements, provide equipment by Hennessy Industries

B. Capacities and Dimensions:

1. Wheel handled- Alloy and steel for car and light trucks
2. Rim Diameter- 6” to 24” External
3. Maximum tire diameter- 50” Max
4. Maximum rim width- 14” Max

C. Features and Construction:

1. Bead loosening system: Hand or foot control up to 14” wide
2. Wheel clamping system: 4 clamps- air cylinder operated
3. Mount/demount mechanism: Swing away
4. Helper devices: 18” automated vertical stroke
5. Inflation gauge: 0-60 psi
6. Air supply gauge: 0-300 psi
7. Warranty- 3 years

D. Controls: ON/OFF switching and other electrical controls shall meet applicable National Electrical Code requirements.

E. Accessories

1. Bead loosener shoe socks
2. Grey high spoke duckhead mount/demount tool
3. Grip Max plus 28” clamps

F. Utilities Available:

1. Electrical: 1 Hp electric motor, 115V, 1 phase, 20 Amp.

G. Finish: Durable enamel in manufacturer's standard color

2.3 PRESS, ELECTRIC/HYDRAULIC, 80 TON
Equipment Mark Number: 2535

A. Manufacturers

1. Basis-of-Design Product: Subject to compliance with requirements, provide equipment by OTC or approved equal

B. Capacities and Dimensions:

1. Minimum capacity: 55 tons.

2. Minimum inside width: 48 inches.

3. Ram travel: 13 inches.

C. Features and Construction:

1. Hydraulic pump and motor: The hydraulic pump, motor, and reservoir shall be contained in module located outside the press frame.

a. Pump: The hydraulic pump shall be a high quality, constant flow, radial piston type without packing and shall be direct coupled to the drive motor.

2. Movable cylinder: The press head and cylinder (ram) shall be movable from side to side of the head rails. Quick acting 90 degree locking cams shall lock the head at desired location.

3. Table: The press table shall be vertically adjustable with a self-locking table winch and cable that is mounted outside of frame.

4. Construction: Press shall have all channel ends and corners cut and ground for safety.

a. Frame uprights: The press frame uprights shall be fabricated of steel channels.

b. Head and table rails: Head and table rails shall be fabricated of steel.

c. Base members: Both press and pump module base members shall be fabricated of steel angle.

d. Table locking pins: Press shall have a minimum of four locking pins.

5. Equipment protection: The press shall have a ram travel limit valve to prevent overextension of ram and a maximum capacity relief valve to prevent loading more than 110 percent of press capacity. An adjustable pressure relief valve shall also be provided to allow press operator to set maximum pressure at any point between zero and maximum capacity.

6. Power supply: Connections for hookup to junction box

7. Controls: Press controls shall be mounted on the pump module located outside the press frame so that the front of the press is clear.

a. Hydraulic controls: There shall be two hand operated hydraulic valves.

b. ON-OFF control: Pump motor shall be controlled by a pushbutton magnetic starter with overload protection.

c. Gauge: A large, dial type pressure gauge shall be mounted on the outside of the press frame to isolate gauge from mechanical shock.

d. Standard accessories: Press shall include two flat parallels with "V" grooves, two "V" ram noses, and two flat ram noses as standard accessories.

D. Utilities Available: 480 VAC, 3 phase.

E. Finish: Durable enamel in manufacturer's standard color.

2.4 REFRIGERANT RECLAMATION SYSTEM, PORTABLE, R-12/22/134
Equipment Mark No. 2640

A. Manufacturers

1. Basis-of-Design Product: Subject to compliance with requirements, provide equipment by Robinair

B. General Description: Combination portable recovery, recycling, evacuation, and recharging for R-12, R-134a, R-22, R-502, MP, and HP type refrigerant fluids.

C. Capacities and Dimensions:

1. Tanks: minimum 50 pound refillable, qty 2
2. Operating range: 50 to 105 F.
3. Recovery rate:

a. Vapor: slightly less than 1/2 pound per minute.
b. Liquid: 1 pound per minute.

4. Recycling rate- 4 lbs/min
5. Recycling filter-drier- 1150 g x H-9
6. Pump free air displacement- 6 cfm

D. Features and Construction:

1. Can accommodate multiple refrigerants
2. Microprocessor controlled. Prompts lead through programming and also signal when its time to charge the filter-drier, vacuum pump oil, and compressor oil.
3. Float chamber: Unit shall possess a float chamber that automatically adjusts from liquid to vapor.

4. Electronic Scale: Simple recharge to factory specifications. Weighs recovered refrigerant and provides tank overfill protection.
5. Provide with a vacuum pump to thoroughly evacuate the system.
6. Lockout panel to prevent mixing of refrigerants.
7. Heavy-duty filter drier: Unit shall include a filter-drier to remove moisture and acid from the refrigerant. Capacity to handle up to 200 pounds between change-overs. Provide with three sets of charging hpses- one for R012, one for R-134a, and one for refrigerants using ¼" SAE fittings.
8. Recycling: Unit shall be capable of recycling, making an initial pass through the filter-drier. Additional recycling shall be programmable in case of compressor burnout or other conditions.
9. Power cord: Unit shall be provided with a minimum 6-foot power cord and plug compatible with facility's receptacles.

E. Accessories

1. Provide one additional set of replacement hoses for the garage.
2. Provide with heavy-duty vinyl dust cover.
3. Provide two replacement filters for each reclaim system provided.

F. Utilities Available: 120 VAC, 1 phase

2.5 SAW, BAND
Equipment Mark Number: 2690

A. Manufacturers

1. Basis-of-Design Product: Subject to compliance with requirements, provide equipment by Wellsaw or approved equal

B. Capacities and Dimensions:

1. Motor: 1/2 HP OPD.

2. Minimum horizontal cutting capacity:

a. Rectangular cut: 9-1/2 by 11 inches wide.

b. Round cut: 9-1/2 inches diameter.

c. 45 degree cut: 5-1/2 by 5-1/2 inches.

3. Minimum vertical cutting capacity:

a. Work table: 8 by 10 inches.

b. Throat: 9-1/2 inches high by 6-1/4 inches deep.

4. Blade speeds: 76, 141, and 268 feet per minute.

5. Minimum blade size: 1/2 by 93 inches.

6. Band Wheels: minimum 11” cast iron.

7. Minimum height to top of bed: 26 inches.

C. Features and Construction:

1. Conversion: Saw shall be capable of operation in either vertical or horizontal mode. Conversion from one mode to the other shall be accomplished by self-locking frame release latch and installing or removing vertical work table.

2. Blade support: Ball bearing blade guides shall be provided for full three-way blade support.

3. Drives: There shall be a three speed V-belt drive system from motor with gear and pinion drive to blade.

4. Blade speed change: A stepped pulley shall provide for blade speed change.

5. Frame feed: Frame feed downward motion shall be adjustable.

6. Coolant system: A submersible coolant pump and four gallon capacity reservoir shall be provided.

7. Vise: Manual screw/quick action- A dog and ratchet mechanism type vise with locating pins for modification to 45 degree cuts shall be provided.

8. Fabrication: Saw frame shall be constructed of welded angle steel with sheet steel panels.

9. Mobility:

   a. Retractable wheel assembly: Two rubber wheels shall be mounted on front legs of saw frame with foot actuated jacking lever.

   b. Pull Handle

10. Handle: A pull-out type handle shall automatically lock saw head in down position.

11. Adjustable stock stop

12. Replaceable pivot bar and bushing

13. OSHA blade guards

14. Power cord: A 6 foot, three wire power cord shall include a grounded plug.

15. Provide stock stand

D. Controls: ON/OFF switch shall be mounted in a control box, equipped with overload and low voltage protection.

E. Utilities Available: 120 VAC, 1/2 HP.

F. Finish: Durable enamel in manufacturer's standard color

2.6 VISE
Equipment Mark Number: 2832

A. Manufacturers

1. Basis-of-Design Product: Subject to compliance with requirements, provide equipment by Reed Manufacturing Company or approved equal.

B. Capacities and Dimensions:

1. Minimum jaw width: 5 inches.
2. Minimum jaw opening: 6 inches.
3. Minimum throat depth: 6-1/4 inches.
4. Minimum pipe capacity: 1/8 to 4-1/2 inches.

C. Features and Construction:

1. Slide bar: Machined steel slide bar with oil port shall operate in machined channel.
2. Base: 360 degree swivel base shall include locking device.
3. Construction: Semi-steel cast body shall include hardened tool steel nut and screw.
4. Jaws: Main and pipe jaw facings shall be replaceable.
5. Wear compensation: Adjustable collar shall eliminate handle slack.

D. Finish: Durable enamel in manufacturer's standard color.

2.7 WELDING CURTAIN
Equipment Mark Number: 2910

A. Manufacturers

1. Basis-of-Design Product: Subject to compliance with requirements, provide equipment by Steiner Industries or approved equal

B. Capacities and Dimensions

1. Length: 30 feet (verify in field)
2. Height: 15 feet

C. Features and Construction:

1. Curtain material:

a. 13 oz flame retardant vinyl laminated polyester with brass grommets for hanging of the curtain. Coordinate color with owner prior to ordering.
b. Provide combination curtain with 52 inch high flame retardant orange tinted vinyl center that starts 30” up from bottom.

2. Framing: Heavy duty 16 gauge galvanized steel track with roller end stop.
3. Durable, smooth rolling nylon roller and hooks.
4. Slip-fit construction
5. Each curtain section shall incorporate hook and loop closured sewn along vertical edges
6. Provide with a metal chain sewn into the bottom hem to reduce curtain movement.
7. Provide 3/8” suspended rod and mounting brackets to suspend curtain

2.8 PORTABLE WELDING CURTAIN
Equipment Mark Number: 2915

A. Manufacturers

1. Basis-of-Design Product: Subject to compliance with requirements, provide equipment by Steiner Industries or approved equal

B. Capacities and Dimensions

1. Maximum length: 4 feet
2. Maximum height: 5 feet
3. Three sections

C. Features and Construction:

1. Curtain material: 13 oz flame retardant vinyl laminated polyester. Coordinate color with owner prior to ordering.
2. Framing: Heavy duty 18 gauge steel 1 inch square tube frame, 1-1/8 inch tube corners and legs with quick snap connections.
3. 2 inch high locking caster wheels attached to platform leg to accommodate mobility.
4. Slip-fit construction
5. Any screen to be used horizontally or vertically
6. Provide with 24 inch study platform legs. Legs to be adjustable 90 degrees to prevent worker interference.

2.9 OXYACETYLENE TORCH
Equipment Mark Number: 2920

A. Manufacturers

1. Basis-of-Design Product: Subject to compliance with requirements, provide equipment by WCTA / Lincoln Electric Company or approved equal.

B. Capacities and Dimensions:

1. Acetylene working pressure: 0 to 15 PSI.
2. Acetylene tank pressure: 0 to 200 PSI.
3. Oxygen working pressure: 0 to 80 PSI.
4. Oxygen tank pressure: 0 to 3,000 PSI.
5. Cuts up to 1" thick and welds up to 1/8"
6. Torch hose: Twin oxy acetylene 3/16-inch diameter by 240 inches long.

C. Features and Construction:

1. Materials: Regulator bodies, torch handles, and flow and pressure valves shall be brass and stainless steel construction.
2. Seals: Double "O" ring seals shall be used on all attachments to permit hand tighten of connections.
3. Welding specification: Ready to weld up to 1/4-inch material.
4. Cutting specification: Ready to cut up to 1/2-inch material.
5. Standard equipment:

a. Safety check valves:

1) Acetylene.
2) Oxygen.

b. Goggles.
c. Torch handle.
d. Cutting attachment.
e. Gas mixer.
f. 20 feet of double lined hose.
g. Flint torch lighter.
h. Regulators with gauges:

1) Acetylene.
2) Oxygen.

i. Spark lighter.

D. Accessories:

1. Welding tips: No.0 Part:1600840; No.2 Part:1600860; No.4 Part: 1600880.
2. Cutting tips: No.0 Part:1500830.
3. Heating tips: No.6 Part:1800710.
4. Soapstone holder: KH541, one each.
5. Soapstone: KH542, one set of ten each.
6. Lighter flints: KH571, one box of five single flints.

7. Tip cleaners: KH575, one case of 10 each.
8. Gas dual cylinder cart: Model No. K1702-1, one each.

2.10 PLASMA CUTTER
Equipment Mark Number: 2925

A. Manufacturers

1. Basis-of-Design Product: Subject to compliance with requirements, provide equipment by Miller Electric Manufacturing Company or approved equal

B. Capacities and Dimensions:

1. Rated output: 60 amps at 140 VDC, 50 percent duty cycle (230V).
2. Open circuit voltage, maximum: 230 VDC.
3. Amps input at rated output, single phase, 60 hertz:

   a. 208 volts: 47 amps
   b. KVA: 9.9.
   c. KW: 9.8.

4. Plasma Gas Flow/Pressure: 6.75 CFM at 90 PSI.

C. Features and Construction:

1. Operation: Welder shall be an air plasma device with a rated cutting capable of 7/8 inch mild/stainless steel and a maximum severe cutting capable of 1-1/4 inch mild/stainless steel.
2. Cutting torch: Welder shall include ICE-60T hand-held plasma-cutting torch with 50 foot cable, epoxy shield cup, cup mounted drag shield and quick-disconnect.
3. Line votage compensation- provides peak performance power under variable input voltage conditions (+-15%) for steady and cleaner ending cuts.
4. Fan on-demand cooling circuit: cooling system operates only when needed. Welder shall include a post flow circuit that calculates the length of postflow time to provide shielding gas after the torch trigger is released to extend the life ofconsumables and welding torch.
5. Pilot arc switch: Welder shall allow the operator to cut grates, chain link fence and other perforated metals automatically without re-triggering the gun.
6. Gas/air supply: Welder shall include a built-in automatic gas/air filter and regulator and a quick connect gas/air fitting.
7. Work cable: Welder shall include a 50-foot work cable with clamp.
8. Housing: Welder components shall be enclosed in a heavy formed sheet metal housing. Cooling fan motor shall be a totally enclosed, permanently lubricated, sleeve bearing type. All controls shall be front-mounted for easy access and visibility.
9. Power cord: Welder shall be provided with a minimum 10 foot power cord and NEMA 6-50R plug compatible with the facility's welding receptacles.

D. Controls: Controls shall be located on the front panel of welder and include Pilot Arc Switch, Gas/Air Pressure Gauge, Output Control, Trouble Lights (Pressure Light, Cup Light and Temperature Light), Ready Light, Power Light and Power Switch.

E. Accessories:

1. Plasma circle-cutting guides: Guide set for cutting straight lines or circles up to 12 inches in diameter, Model No. 195-981, one each.
2. Roller guide to assist operator in obtaining recommended standoff distances, to maximize cutting performance and improve tip life, Model No. 194-883, one each.
3. Running gear and cord warp, Model No. 300-511, one each.
4. Cart, model 300-511, one each.

F. Utilities Available: 208 VAC, 1 phase, 47A.

G. Finish: Durable enamel in manufacturer's standard color.

2.11 FLOOR SCRUBBER
Equipment Mark Number: 3357

A. Manufacturers

1. Basis-of-Design Product: Subject to compliance with requirements, provide equipment by Tennant Company or approved equal

B. Capacities and Dimensions:

1. Scrubbing paths: 36 inches
2. Forward speed: 0 to 3.1 MPH
3. Brushes:

a. Type: 36 inch cylindrical, two each
b. Motors: 3/4 hp, two each
c. Down pressure: 0 to 90 pounds

4. Solution tank: Minimum 30 gallons
5. Recovery tank: Minimum 40 gallons
6. Batteries: 6 volt, 335 AHC, six each
7. Minimum aisle turn: 67-1/2 inches, maximum
8. Maximum overall dimensions, nominal:

a. Length: 63 inches
b. Width (body): 28.25 inches
c. Width (scrub head): 38.25 inches
d. Height: 43 inches

9. Gradeability (full/empty): 6 degrees/8 degrees
10. Features and Construction:

a. Construction: Frame shall be glass fiber reinforced and high impact resistant. Brush housing shall be 3/16 inch aluminum with the scrub head being impact resistant. Tanks shall be rotationally molded polyethylene.
b. Operating system: The operators console shall be height adjustable and water resistant with an hour meter gauge and battery discharge indictor. Unit shall have power forward and reverse and brushes and water shall automatically shut off when the machine is stopped.
c. Scrubbing system: Brushes shall be designed for use on rough textured floors and attached with a spring clip system requiring no tools for changes. Brushes shall pick up small debris commonly found on floors during scrub operation without operator adjustment. For easy serviceability, the scrub head shall be modular and removed with four pins and three disconnects, requiring no tools.
d. Recycling system: Unit shall be equipped with a system that recycles the solution, which enables up to three hours of continuous runtime. Recovery and pick up systems that do not leave the floor virtually dry will not be accepted.
e. Vacuum fan: The vacuum fan shall be a 14,000 rpm, dual 0.8 hp, two-stage, 73-inch water lift with stainless steel permanent lint filter and tangential discharge. Fan shall be at least 4 inches above the waterline with the recovery tank having a 10-gallon demisting system that causes air to change direction at least four times.
f. Squeegee: The squeegee shall be of parabolic breakaway design. The squeegee assembly shall be a free floating swing type constructed of non-rusting stainless steel and aluminum with the squeegee capable of swinging to wrap around front wheels to allow all water to be picked up on 180 degree turns. No tools shall be required on either the front or rear squeegee for change outs.
g. Propelling system: The transaxle shall be completely sealed, maintenance free gear-type with two pneumatic, foam filled, non-marking, 4.1 x 3.5 x 6 inch tires and two 5 inch neoprene, non-marking casters.
h. Battery charger: 30 amp with automatic shut off.
i. Power cord: provide with a minimum 6 foot power cord and plug compatible with the facility's welding receptacles

11. Utilities Available: 120 VAC, 30 A
12. Finish: Durable enamel in manufacturer’s standard color

2.12 PALLET JACK

Equipment Mark Number: 3401

A. Manufacturers

1. Basis-of-Design Product: Subject to compliance with requirements, provide equipment by Wesco or approved equal

B. Features and Construction

1. 3 mm thick forks

2. Adjustable fork connection rods

3. Rubber coated handle

4. 7” mold-on polyurethane steering wheels

5. 3” mold-on polyurethane load wheels

6. Entry and Exit rollers

7. 210 degree steering

8. 5,500 lb. capacity

2.13 PORTABLE VACUUM SYSTEM
Equipment Mark Number: 3624

A. Manufacturers

1. Basis-of-Design Product: Subject to compliance with requirements, provide equipment by Dynabrade or approved equal

B. Capacities and Dimensions:

1. Storage capacity: Minimum 9.9 gallons
2. Water pressure static lift: Minimum 90 inches
3. Sound level: Maximum 76 Decibels

C. Features and Construction

1. Number of vacuum outlets: 2
2. Number of pneumatic outlets: 2
3. Construction: stainless steel drum with plastic and metal components
4. Variable speed vacuum control
5. HEPA filtration (0.3 micron) with felt insert and paper bag.
6. Power cord: Provide with a minimum 26 foot power cord and plug compatible with the facility's welding receptacles

D. Controls: Variable speed vacuum control. Electronic thermal protection device prevents heat overload of motor.

E. Accessories:

1. x2- 1 1/4 inch I.D. x 20’ long light weight coaxial hose with built in 3/8 inch I.D air supply tubing.
2. Wall mount bracket
3. One disposable paper bag

F. Utilities:

1. Electric: 120 VAC,60 hz, 1 phase, 27 foot plug connection

2.14 WASHER, HI-PRESSURE/HOT WATER, NG
Equipment Mark Number: 3720

A. Manufacturers

1. Basis-of-Design Product: Subject to compliance with requirements, provide equipment by Hotsy Corporation or approved equal.

B. General Description:

1. Hi-pressure/hot water natural gas fired washer shall be designed for effective cleaning of vehicle exteriors through the use of handheld wash wands. Washer shall be complete and operable with all equipment items necessary for a complete wash system, including required piping to all hose reels and wash wands shown on the Drawings.
2. OSHA requirements: The system shall meet or exceed all applicable OSHA standards.
3. Electrical wiring: Electrical wiring shall be in accordance with the latest edition of the National Electric Code and the appropriate sections of Division 26.
4. Certification: Unit must be ETL, UL, CGA or CSA certified and must conform with UL Standard 1776 for pressure washers.

C. Capacities and Dimensions:

1. Pump motor: 20 HP, 1,725 RPM.
2. Maximum discharge capacity: 7.8 GPM.
3. Operating pressure: 3,000 PSI.
4. Float tank capacity: 10 gallons.
5. Heat rise capability: 140 degrees F at 8 GPM.
6. Hose:

a. Inside diameter: 1/2 inch.
b. Length: 50 feet.
c. Burst pressure: 12,000 PSI, minimum.
d. Quantity: One each.

D. Features and Construction:

1. Fabrication: Unit shall be welded frame with enclosed motor cabinet, and enclosed coil cabinet.
2. Water pump: High-pressure pump shall have positive displacement with ceramic plungers, forged brass head, oil bath crankcase, and Buna-N and cloth “V” seals. Both sides of pump shall be fed from the float tank. Pump shall have an oil drain for ease of oil changes.

3. Burner: 720,450 BTU/hour ring type natural draft gas burner shall have aspirating spuds and AGA-listed controls. Manually operated pilot shut-off valve shall be provided to independently shut-off gas supply to pilot. Unit shall be equipped with 24 volt electronic spark ignition. Sealed pressure switch shall control opening and closing of gas valve.
4. Heating coil: Vertically fired water heating coil shall be fabricated with 300 feet of 1 inch, hydrostatic pressure tested tubing, 14,900 PSI burst pressure rated. Coil skin shall be aluminized steel for corrosion resistance. Heating coil to be insulated with fiberfrax ceramic blanket.
5. Wand assembly: Trigger gun control with 48-inch chrome plated wand and polymer insulated grip and side handle.
6. Nozzles: Three hardened stainless steel nozzles with 1/4 inch male quick coupler shall be provided, one each 0 degree, 15 degree, and 40 degree patterns.
7. Pump drive motor: Belt drive system with triple groove cast iron pulleys, grip notch V-section banded belt and auto tensioning arm for belt alignment and tension shall be provided. Motor shall be mounted to side out rails for removal. Belts and pulleys shall be covered for operator safety.
8. Float tank: Float tank shall be composed of polyethylene plastic with automatic nonplugging float valve.
9. Unloader valve: Pressure maintenance during multiple gun operation shall be provided by unloader valve.
10. Pressure switch: Automatic burner shut-off protection shall be provided by pressure switch.
11. Relief valve: Pressure relief valve shall be located at the discharge port of the coil for over pressurization protection.
12. Thermostat: Adjustable thermostat shall control water temperature to a maximum of 248 degrees F.

E. Controls: Control panel shall include magnetic motor control with overload protection and ON/OFF water heater switch, individual burner and motor rocker style monetary switches, adjustable temperature controller, hour meter and detergent metering valve, safety and pressure relief value, pressure switch.

F. Accessories:

1. Draft diverter, 12 inch, natural gas, Hotsy No. 87177300, one each.
2. Remote control (Smart Box): Remote water tight three button control system to activate unit and HEAT/SOAP and rinse function with timer and automatic shut-off, Hotsy No. 89169890, one each.
3. Security keyswitch: Remote water resistant key switch to secure operation of Hotsy equipment to authorized personnel, Hotsy (San Antonio – Smart Control Systems, LLC, DBA Hotsy Equipment Co., 3452 IH35 North, Suite 120, San Antonio, Texas 78219, 800-468-7999) No. 75.0401.
4. Structural machine stand-four feet tall. Stand to be fabricated from stainless steel angle with welded connections.
5. Provide with commercial auto off mechanical timer with 2 hour duration and without a hold option.

G. Utilities Available:

1. Electrical: 460 VAC, 3 phase, 20 HP.
2. Water: 3/4 inch, 8 GPM.
3. Natural gas: 720 CFH.
4. Exhaust: 10 inch with draft diverter.

H. Finish: Epoxy powder coating in manufacturer's standard color.

2.15 HOSE REEL FOR 3720
Equipment Mark Number: 3721

A. Manufacturers

1. Basis-of-Design Product: Subject to compliance with requirements, provide equipment by Hotsy Corporation or approved equal.

B. General Description:

1. Hose Reel for mark Number 3720
2. OSHA requirements: The system shall meet or exceed all applicable OSHA standards.
3. Electrical wiring: Electrical wiring shall be in accordance with the latest edition of the National Electric Code and the appropriate sections of Division 26.

C. Capacities and Dimensions:

1. Hose:

a. Inside diameter: 1/2 inch.
b. Length: 50 feet.
c. Burst pressure: 12,000 PSI, minimum.
d. Quantity: One each.

D. Features and Construction:

1. Wand assembly: Trigger gun control with 48-inch chrome plated wand and insulated grip and side handle.
2. Nozzles: Three hardened stainless steel nozzles with 1/4 inch male quick coupler shall be provided, one each 0 degree, 15 degree, and 40 degree patterns.

E. Components:

1. Wand and hose assembly: One each in addition to standard wand and hose assembly. Hose (50 foot), Hotsy No. 87393930, one each. Gun, Hotsy No. 8749170, one each. Lance, Hotsy No. 87253880, one each. Quick Disconnect, Hotsy No. 98021640, two each. . Nozzle (0 degree), Hotsy No. 87087010, one each. Nozzle (15 degree), Hotsy No. 87087020, one each. Nozzle (40 degree), Hotsy No. 87087040, one each.

2. Hose Reel: Manually retractable reel capable of housing 1/2 inch 50 foot hose, Hotsy No. 89045180, one each with wall mounting kit, Hotsy No. 98022680.

F. Finish: Manufacturer's standard finish in manufacturer's standard color

2.16 WASHER, PARTS SMALL
Equipment Mark Number: 3785

A. Manufacturers

1. Basis-of-Design Product: Subject to compliance with requirements, provide equipment by Zep equipment or approved equal

B. Capacities and Dimensions:

1. Pump:

a. Pump output: Maximum 168 gph.

2. Minimum tank size

a. Width: 36"
b. Depth: 24"
c. Height: 28"

3. Reservoir capacity: 35 gallons.
4. Agitating capacity: 400 pounds

a. 10 cfm @ 100 psi to agitate

C. Features and Construction:

1. Cabinet: 10 gauge steel
2. Adjustable agitation speed up to 160 strokes per minute
3. Spring-loaded lid for easy opening and closing
4. Flow through brush with on-off control
5. Two particulate filtration systems, 100 micron and 50 micron
6. Visible filter bowls and change indicator signal when filters need to be changed
7. 165 degree F UL approved fire link. In the event of a fire the platform will lower and the lid closes automatically.
8. Connection for filter bag
9. Power supply: Provide 115 volt 10' grounded power cord.

D. Accessories:

1. Provide Dyna 170 solvent based cleaner to fill unit.
2. Provide Dyna-trap filter bag

E. Utilities Available:

1. Electrical: 120 VAC, 1 phase, 1 amp

F. Finish: Baked-on epoxy powder coated.

2.17 CART, BATTERY LIFT
Equipment Mark Number: 5015

A. Manufacturers

1. Basis-of-Design Product: Subject to compliance with requirements, provide equipment by Global Industrial Equipment or approved equal

B. Capacities and Dimensions:

1. Load capacity: 750 pounds.
2. Lowered height: 5 3/4 inches.
3. Lift: 54 inches.
4. Minimum platform dimensions:

a. Width: 30 inches.
b. Depth: 22 inches.

C. Features and Construction:

1. Construction: Steel frame and braces shall be welded construction.
2. Table adjustments: Foot operated hydraulic pump shall raise and lower table 1-1/4 vertical inches with each stroke of the fold away foot pedal. Hydraulic pump shall have valve for selection of RAISE or LOWER mode.
3. Wheels: Rubber tread 8”x2” rear tires shall be mounted on metal wheels with roller ball bearing hubs. Front lower truck frame shall be equipped with two 3-1/2” casters for positioning of vehicle.

D. Finish: Durable enamel in manufacturer's standard color.

2.18 WHEEL DOLLY
Equipment Mark Number: 5312

A. Manufacturers

1. Basis-of-Design Product: Subject to compliance with requirements, provide equipment by SEFAC or approved equal

B. Capacities and Dimensions:

1. Lifting capacity: Minimum 1500 pounds.

2. Extended height: Minimum 36 inches.
3. Safety chain length: Minimum 72 inches.
4. Fork Adjustment: 16 inches to 26 inches

C. Features and Construction:

1. Construction: Heavy steel welded construction.
2. Lifting crank: Hand pumped hydraulic cylinder enables lifting and lowering of roller supports.
3. Safety chain: Chain with hook to hold wheel set in place during removal and transport.
4. Roller support arms: Pull out extension for tandem wheels.
5. Rear mounted swivel casters for tight turning radius

D. Finish: Durable enamel in manufacturer's standard color.

2.19 LIFT TABLE
Equipment Mark Number: 5325

A. Manufacturers

1. Basis-of-Design Product: Subject to compliance with requirements, provide equipment by Global Industrial or approved equal

B. Capacities and Dimensions:

1. Platform dimensions: 63”L x 32”W

2. Capacity: 1100 lbs

3. Lower Height: 11-1/4”

4. Lift Height: 38”

C. Features and Construction:

1. Steel

2. Lift time: 55 strokes

3. Foot operated

4. Wheels: 5” Polyurethane

D. Finish: Durable enamel in manufacturer's standard color BLue

2.20 DRAIN PAN, PORTABLE, USED COOLANT
Equipment Mark Number: 8165 AND 8166

A. Manufacturers

1. Basis-of-Design Product: Subject to compliance with requirements, provide equipment by Graco inc or approved equal

B. Capacities and Dimensions:

1. Minimum tank capacity: 25 gallons.
2. Drain bowl height adjustment, nominal: 45 inches to 69 inches.
3. Operating temperature: 30 degrees to 105 degrees

C. Features and Construction:

1. Construction: Polyethylene tank with used filter tray, tool holders, and sight gauge.
2. Two large wheels shall be fixed and the other two shall be swivel casters.
3. Drain bowl assembly: A vertically adjustable drain bowl assembly with lock screw and removable filter screen..
4. Hose site gauge: Permanent clear hose site gauge shows you when to stop filling.

D. Finish: Durable enamel in manufacturer's standard color.

2.21 OIL FILTER PRESS
Equipment Mark Number: 8492

A. Manufacturers

1. Basis-of-Design Product: Subject to compliance with requirements, provide equipment by Gray Automotive Products or approved equal

B. Capacities and Dimensions:
1. Crushes filters up to 9” tall
2. Stand dimensions
   a. Width: 29”
   b. Depth: 27”
   c. Height: 61”
3. Crushing Chamber
   a. Height: 16-1/4”
   b. Width: 10”
   c. Depth: 8”
4. Overall dimensions
   a. Height: 85-1/2”
   b. Width: 20-1/2”
   c. Depth: 16-3/4”

C. Features and Construction:
1. Air operated.
2. With catch basin connection

3. Interlocking feature to prevent door from opening until the ram is fully retracted.

D. Finish: Durable enamel in manufacturer's standard color.

2.22 FILTER, ELECTROSTATIC
Equipment Mark Number: 9350

A. Manufacturers

1. Basis-of-Design Product: Subject to compliance with requirements, provide equipment by Plymovent Corporation or approved equal

B. Capacities and Dimensions:

1. Airflow: 883 CFM, nominal.
2. Motor: 1 HP.
3. Maximum noise level: 70 dBa, maximum.
4. Coverage: Arc of 360 degrees with 10-foot radius.

C. Features and Construction:

1. Filter unit: Unit shall be constructed of steel and house filters, impeller, and a TEFC model 110 volt single phase fan motor with spark resistant fan. Unit shall be equipped with a top hinged access door for service and filter replacement with a filter protection shield below the air inlet to eliminate damage to the filter elements. Unit shall be equipped with four 4 inch swivel type lockable casters and a three-prong plug 16-foot power cord.
2. Filtration: Unit shall utilize a multi stage filtration system with the first stage being a washable 3/4 inch deep aluminum mesh pre filter, the second being an electrostatic ionizer with spring loaded stainless steel wires charged to 12,000 volts, and the third being a 176 square foot collection cell charged to 6000 volts with a filtering efficiency of 98 to 99 percent for particulates down to .000005 mm. The unit shall have the capability to house an active carbon filter to absorb unpleasant odors.
3. Extraction arm assembly: Extraction arm, Model# KUA-3-S shall be 6-1/4 inches in diameter, ball bearing collar mounted, and capable of tilting 110 degrees and rotating 360 degrees with a vertical reach of 10 feet and a horizontal circular reach of approximately 19 feet 6 inches in diameter. The arm shall have manual ratcheting and locking airflow damper included in the ring handle, five adjustable friction joints, three friction links, and constructed of black polyemide flex hose covering internal plated steel supports.
4. Filter monitoring system: Unit shall have a monitoring system to alert operator of inadequate filtration system performance. When this occurs, a yellow warning light and an audible alarm shall activate for 20 seconds. After this period, a red light shall activate and the filter fan shall be automatically disabled. The operator must then clean the collection and ionization cells before restarting the filter system.

D. Controls: ON/OFF power switch shall be located on the side panel below steering handle.

E. Accessories:

1. Hood mounted, 24 volt, 20 watt halogen lamp: Model No. HL-20/24-160 with cord and 115/24 volt transformer, one each.
2. Activated Carbon Filter: Model No. CF-002.
3. Replacement pre-filter: Model No. FF-3000, one each
4. Replacement Collection Cell: Model No. EC-3000
5. Replacement Ionizing Cell: Model No. IM-3000

F. Utilities Available: 120 VAC, 1 HP.

G. Finish: Powder coated in manufacturers standard color.

2.23 SPILL KIT
Equipment Mark Number: 9985

A. Manufacturers

1. Basis-of-Design Product: Subject to compliance with requirements, provide equipment by New Pig or approved equal

B. General Description

1. Spill kit contains an assortment of products for absorbing only oil

C. Capacity and Dimensions

1. Absorbency: up to 39 gallons

D. Features and Construction:

1. Chemical and water resistant polyethylene 65-gallon overpack- treated with UV inhibitors
2. Easy-open, threaded lid
3. Absorbents are packed in protective baskets with a lid for long-term protection against UV degradation; lift out baskets provide easy, organized access to contents for quick spill response
4. Empty overpack can be used as a low-cost shipping container for used-absorbents
5. Booms/socks and pads to meet NFPA 99standards for static decay
6. Provide UV-resistant overpack spill kit cover to accommodate outdoor use
7. UN certified
8. Construction

    a. Overpack: Polyethylene
    b. Booms: Co-Poly outer skin and Polypropylene inner skin and filler
    c. Polypropylene inner skin and filler
    d. Mats: Polypropylene

9. Contents included:

    a. x2- 5” x 10’ oil only booms

b. x9- 3” x 10’ oil only booms
c. x40 mat absorbents
d. x10- temporary disposal bags and ties
e. x6- tamperproof labels
f. x1- instruction manual

PART 3 – EXECUTION

3.1 INSPECTION

A. Coordinate location of rough-in work and utility stub-outs to assure match with equipment to be installed.

B. Inspect delivered equipment for damage from shipping and exposure to weather.

C. Compare delivered equipment with packing lists and specifications to assure receipt of all items.

3.2 INSTALLATION

A. Perform work under direct supervision of Foreman or Construction Superintendent with authority to coordinate installation of scheduled equipment with Architect.

B. Install equipment in accordance with plans, shop drawings and manufacturer's instructions:

1. Positioning: Place equipment in accordance with any noted special positioning requirements generally level, plumb and at right angles to adjacent work.
2. Fitting: Where field cutting or trimming is necessary, perform in a neat, accurate, professional manner without damaging equipment or adjacent work.
3. Anchorage: Attach equipment securely to floor, as directed by Architect, to prevent damage resulting from inadequate fastening. Installation fasteners shall be installed to avoid scratching or damaging adjacent surfaces.
4. Upon completion of work, finish surfaces shall be free of tool marks, scratches, blemishes, and stains.

3.3 TESTING

A. Perform tests and inspections.

1. Manufacturer's Field Service: Engage a factory-authorized service representative to start-up inspect, test, and adjust components, assemblies, and equipment installations, including connections, check operation of the equipment and components for operation and performance as specified and examine the finish for damage. Provide report in writing that the installation meets the requirements and shall include information concerning minor adjustments and minor repairs, which may be required before final acceptance by the Owner.

2. Test and adjust controls and safeties. Replace damaged and malfunctioning controls and equipment

B. Prepare test and inspection reports

C. After final connections are made and prior to authorizing payment, specified equipment shall be tested for compliance with all specified features in the presence of the Architect using acceptance procedures provided by the manufacturer.

3.4 CLEANUP

A. Touch-up damage to painted finishes.

B. Wipe and clean equipment of any oil, grease, and solvents, and make ready for use.

C. Clean area around equipment installation and remove packing or installation debris from job site.

D. Notify Architect for acceptance inspection.

3.5 TRAINING

A. Engage a factory-authorized service representative to train Owner's maintenance personnel to adjust, operate, and maintain equipment

B. Direct the technical representative to provide specified hours of training to designated Owner's maintenance personnel in operation and maintenance of the following equipment. Coordinate, with Owner, training schedule and list of personnel to be trained.

1. SCRUBBER, FLOOR BATTERY, WALK BEHIND
   Equipment Mark Number: 3357
   Hours Required: 1

2. WASHER, PARTS, SMALL
   Equipment Mark Number: 3785
   Hours Required: 1

3. WHEEL BALANCER, ELECTRONIC, BUS
   Equipment Mark Number: 4912
   Hours Required: 1

4. PERSONNEL FALL PROTECTION UNIT
   Equipment Mark Number 6235
   Hours Required: 2

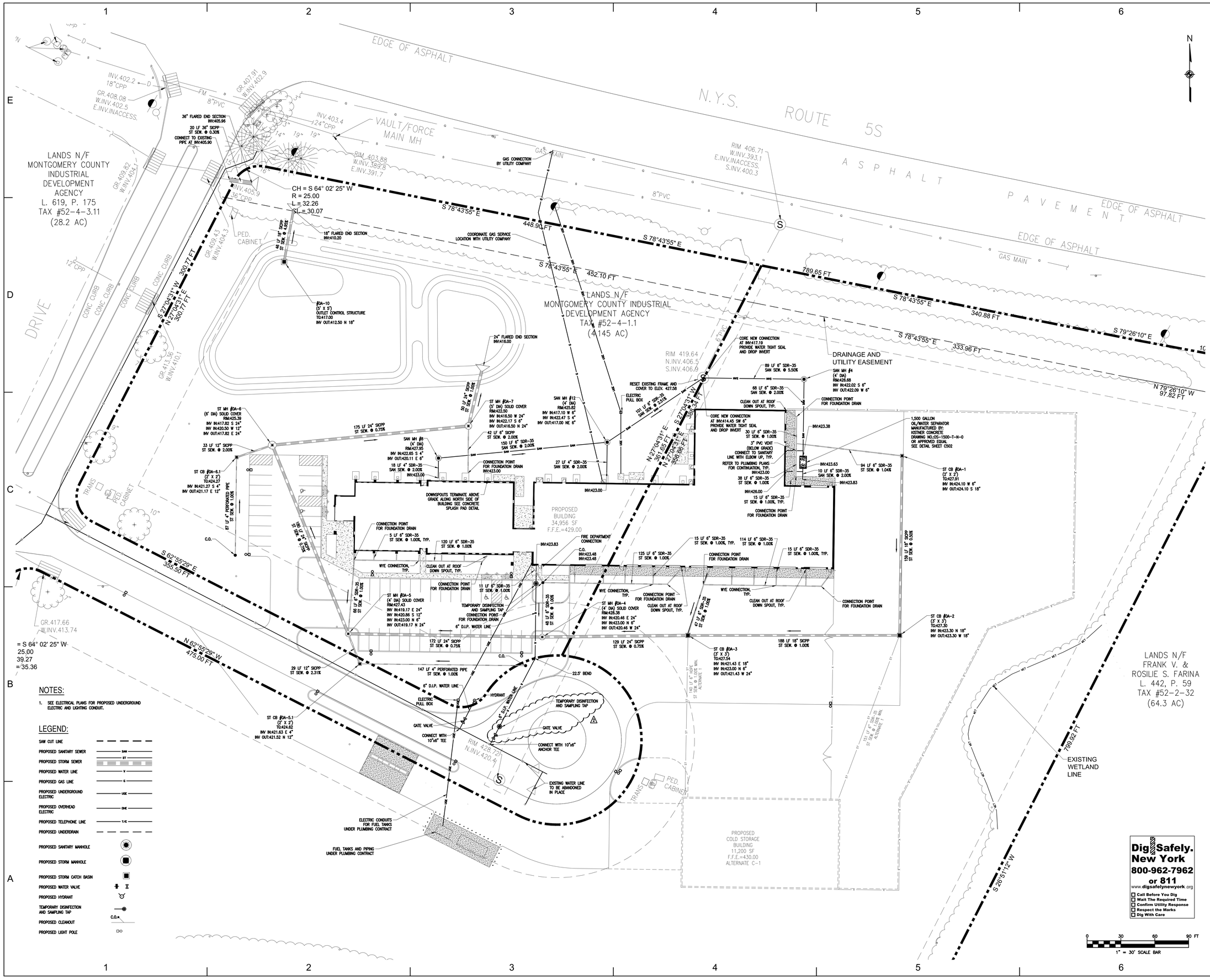
5. FILTER, ELCTROSTATIC, PORTABLE
   Equipment Mark Number: 9350

Hours required: 1

C. Obtain, from technical representative, a list of Owner's personnel trained in equipment operations and maintenance.

D. Provide a Windows compatible movie file format recording on DVD disk of the training session. The DVD training movie can be of a live session or a produced training video.

END OF SECTION 115100



PROJECT TITLE

MONTGOMERY COUNTY SHARED SERVICES FACILITY

PROJECT ADDRESS

115 PARK DRIVE
FULTONVILLE, NY

MONTGOMERY COUNTY NY
Made of Something Stronger

ARCHITECT

FoitAlbert ASSOCIATES
Architecture. Engineering. Surveying. Environmental.
295 Main Street, Suite 200 / Buffalo, New York 14203 / 716.856.3933 / www.foit-albert.com

SHEET SIZE	30X42
REFERENCED:	
REFERENCED BACKGROUND	

LiRo Engineers, Inc.
A LiRo Group Company
Syosset, N.Y. 516-214-8157[T]

MARK	DATE	DESCRIPTION
2	09.25.20	ADDENDUM 6
REVISION		
1	08.14.20	BID DOCUMENTS
MARK	DATE:	DESCRIPTION
ISSUE		

PROJECT NO:	19045.00
CAD DWG FILE:	
DESIGN BY:	J. BUSH
DRAWN BY:	J. BUSH
CHK'D BY:	B.HUTTEMAN

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SHEET TITLE

UTILITY PLAN

C-110

M:\MEP Projects\2019\19-185-1606 Montgomery Co - Shared Facility\1 Drawings\Sheets\Civil Sheet\C-110.dwg
Sep 24, 2020 - 9:47am

EQUIPMENT LIST

OF/OI	OWNER FURNISHED/OWNER INSTALLED
OF/CI	OWNER FURNISHED/CONTRACTOR INSTALLED
CF/OI	CONTRACTOR FURNISHED/OWNER INSTALLED
CF/CI	CONTRACTOR FURNISHED/CONTRACTOR INSTALLED

EQUIP #	DESCRIPTION	NOTES	MANUFACTURER	MODEL #	FURNISHED BY/INSTALLED BY OF/OI; OF/CI; CF/CI; CF/OI
1040	SHELVING UNIT- BIN, NUT AND BOLT		EQUIPTO	904S	CF/CI
1113	CABINET, 9 DRAWER- METAL SHELF STORAGE		STANLEY VIDMAR	SEP 3144-AL	CF/CI
1140	CABINET, PAINT/INK		STANLEY VIDMAR	PIC40M	CF/CI
1141	CABINET, ACID/CORROSSIVE		STANLEY VIDMAR	CAC45M	CF/CI
1142	CABINET, FLAMMABLE		STANLEY VIDMAR	FLC45M	CF/CI
1305	LADDER, SAFETY, ROLLING- 50 DEGREE - 70"H		LADDERMAN	D7R2	CF/CI
1306	PORTABLE STAIRS	RELOCATED FROM EXISTING FACILITY			OF/CI
1640	RACK, TIRE, THREE TIER RACK	RELOCATED FROM EXISTING FACILITY			OF/CI
1680	SHELVING UNIT, 18"		EQUIPTO	773-7S	CF/CI
1765	TABLE, LAYOUT, STEEL TOP, 117"WX30"DX36"H		BENCH DEPOT	KN36117	CF/CI
1776	TABLE, LAYOUT, WOOD TOP, 120"WX30"WX36"H		BENCH DEPOT	KN36120	CF/CI
1860	WORKBENCH, SEVERE USE, STEEL TOP, 72" X 32" X 34"H		SERVICE SCAFFOLD	SSC SERIES HDWB3000	CF/CI
2020	ANVIL WITH STAND	RELOCATED FROM EXISTING FACILITY			OF/CI
2030	BENCH, BATTERY				CF/CI
2110	TIRE INFLATION CAGE	RELOCATED FROM EXISTING FACILITY			OF/CI
2130	CHARGER, BATTERY, FIXED		ASSOCIATED EQUIPMENT CORP	ESS6008	CF/CI
2210	DRILL PRESS, VARIABLE SPEED, 20"	RELOCATED FROM EXISTING FACILITY			OF/CI
2211	DRILL PRESS	RELOCATED FROM EXISTING FACILITY			OF/CI
2450	LARGE TIRE MOUNTER/DEMOUNTER	RELOCATED FROM EXISTING FACILITY			OF/CI
2451	SMALL TIRE MOUNTER/DEMOUNTER		HENNESSY INDUSTRIES- COATS	70X-3	CF/CI
2535	PRESS, ELECTRONIC/HYDRAULIC- HEAVY DUTY- 55 TON		OTC	1872	CF/CI
2640	REFRIGERANT RECLAMATION SYSTEM, PORTABLE		RCBINAIR	17800C	CF/CI
2880	LATHE	RELOCATED FROM EXISTING FACILITY			OF/CI
2890	SAW, BAND, COMBINATION, VERT./HORIZ.		WELLSAW	58 BW	CF/CI
2714	CUTOFF WHEEL	RELOCATED FROM EXISTING FACILITY			OF/CI
2832	VISE, COMBINATION, SWIVEL BASE, 5"		REED MANUFACTURING	3CA	CF/CI
2881	BENCH GRINDER	RELOCATED FROM EXISTING FACILITY			OF/CI
2900	WELDER, MIG, PORTABLE	RELOCATED FROM EXISTING FACILITY			OF/CI
2901	WELDER, MIG, PORTABLE	RELOCATED FROM EXISTING FACILITY			OF/CI
2910	WELDING CURTAIN		STEINER	ADJUST-A-WALL A4407	CF/CI
2915	PORTABLE WELDING CURTAIN		STEINER	PROTECT-O-SCREENS 53454	CF/CI
2920	TORCH, OXYACETYLENE, PORTABLE, W/ CART		LINCOLN	KH655	CF/CI
2925	PLASMA CUTTER		MILLER	SPECTRUM 875	CF/CI
3357	SCRUBBER, FLOOR, BATTERY, WALK BEHIND		TENNANT COMPANY	5700 C-ES	CF/CI
3400	FORKLIFT, DIESEL	RELOCATED FROM EXISTING FACILITY			OF/CI
3401	PALLET JACK		WESCO	273383	CF/CI
3624	PORTABLE VACUUM SYSTEM		DYNABRADE	51300	CF/CI
3720	GAS PRESSURE WASHER, HOT WATER		HOTSY COORPORATION	5735SS	CF/CI
3721	HOSE REEL FOR 3720		HOTSY COORPORATION	89045180	CF/CI
3785	WASHER, PARTS, JET SPRAY, SMALL		ZEP	DYNA-BRUTE FB	CF/CI
3786	WASHER, PARTS, JET SPRAY, SMALL	RELOCATED FROM EXISTING FACILITY			OF/CI
4912	WHEEL BALANCER, ELECTRONIC,LARGE TIRE	RELOCATED FROM EXISTING FACILITY			OF/CI
4913	WHEEL BALANCER, ELECTRONIC, SMALL TIRE	RELOCATED FROM EXISTING FACILITY			OF/CI
5015	CART, BATTERY LIFT		GLOBAL INDUSTRIAL	WG232024	CF/CI
5030	CART, PARTS		PUCEL INDUSTRIES	2448-DT-3	CF/CI
5080	CRANE, JIB, COMPRESSION, 12' SPAN, 1 TON		ABELL-HOWE	J904B	CF/CI
5280	CRANE, PORTABLE, 2 TON		SPX	FC4400	CF/CI
5290	DOLLY, DRUM, 600-LB		HAMILTON CASTER	DM-232-E	CF/CI
5312	WHEEL DOLLY		STERTIL KONI	SKWD-500BATT	CF/CI
5313	JACK STAND- TALL	RELOCATED FROM EXISTING FACILITY			OF/CI
5314	JACK STAND-SHORT	RELOCATED FROM EXISTING FACILITY			OF/CI
5316	TRANSMISSION JACK- FLOOR MOUNTED- AIR OPERATED	RELOCATED FROM EXISTING FACILITY			OF/CI
5317	HEAVY DUTY FLOOR JACK	RELOCATED FROM EXISTING FACILITY			OF/CI
5318	SMALL FLOOR JACK	RELOCATED FROM EXISTING FACILITY			OF/CI
5319	10 TON AIR LIFT	RELOCATED FROM EXISTING FACILITY			OF/CI
5320	PIPE THAW MACHINE	RELOCATED FROM EXISTING FACILITY			OF/CI
5321	BALLYMORE MAN LIFT	RELOCATED FROM EXISTING FACILITY			OF/CI
5322	JUMPING JACK	RELOCATED FROM EXISTING FACILITY			OF/CI
5323	PORTABLE GENERATOR	RELOCATED FROM EXISTING FACILITY			OF/CI
5324	STRUT TAMMER	RELOCATED FROM EXISTING FACILITY			OF/CI
5325	LIFT TABLE		GLOBAL INDUSTRIAL	WG988933	CF/CI
5362	CHAIN HOIST		COFFING	EC-2008	CF/CI
5600	PORTABLE LIFT- SET OF 6	QTY 4 WITH 15 INCH FORKS AND QTY 2 WITH 22 INCH FORKS	MOHAWK	MP-18-558	CF/CI
5670	2-POST AUTOMOTIVE LIFT- 16,000 LBS		MOHAWK	TP-16	CF/CI
5703	LIFT, DRIVE-ON, PARALLELOGRAM,40,000 LBS, 30 FT LONG TRACK	PROVIDE WITH 28,000 LB JACKING BEAM AND TRACK LIGHTS	MOHAWK	40-30-S	CF/CI
5704	CONTROLLER, PLATFORM LIFT				CF/CI
8122	TIRE CAROUSEL		VIDIR	45200	CF/CI
8165	DRAIN PAN, PORTABLE, USED OIL		GRACO	238866 SERIES D	CF/CI
8166	DRAIN PAN, PORTABLE, USED COOLANT		GRACO	248632 SERIES D	CF/CI
8492	OIL FILTER PRESS		GRAY AUTOMOTIVE PRODUCTS	OP-160	CF/CI
9350	FILTER, ELECTROSTATIC		PLYMOVENT	MFE	CF/CI
9351	MISCELLANIOUS METAL STORAGE	RELOCATED FROM EXISTING FACILITY			OF/CI
9352	CONDUIT AND PIPE STORAGE RACK	RELOCATED FROM EXISTING FACILITY			OF/CI
9989	CUTTING EDGES AND SCRAPPING BLAD STORAGE	RELOCATED FROM EXISTING FACILITY			OF/CI

ALT GC-2

GENERAL NOTES

1. THE PLANS ARE DIAGRAMMATIC AND INDICATE ONLY THE SIZE AND GENERAL ARRANGEMENT OF PIPING AND EQUIPMENT. EXACT LOCATION OF ALL ELEMENTS SHALL BE DETERMINED AS WORK PROGRESSES, IN COOPERATION AND COORDINATION WITH THE WORK OF ALL OTHER TRADES. IT IS NOT INTENDED TO SHOW EVERY ITEM OF WORK OR MINOR PIECE OF EQUIPMENT, BUT THE CONTRACTOR SHALL FURNISH AND INSTALL WITHOUT ADDITIONAL REMUNERATION ANY COMPONENT NECESSARY TO COMPLETE THE SYSTEM IN ACCORDANCE WITH THE BEST PRACTICE.
2. ITEMS OF WORK OR EQUIPMENT SHOWN ON THE DRAWINGS ONLY, OR CALLED FOR IN THE SPECIFICATIONS ONLY, SHALL BE FURNISHED AND INSTALLED IN THE SAME MANNER AS IF THEY APPEARED ON BOTH THE DRAWINGS AND SPECIFICATIONS.
3. DRAWINGS DO NOT INDICATE ALL OFFSETS, CHANGES IN ELEVATIONS, ETC. WHICH MAY BE REQUIRED. THE CONTRACTOR SHALL MAKE SUCH CHANGES IN PIPING AND LOCATION OF EQUIPMENT, ETC. TO ACCOMMODATE WORK WITH THAT OF OTHER CONTRACTORS.
4. INSTALL EQUIPMENT AND PIPING TO AVOID INTERFERENCE WITH THE OPERATION OR SERVICING AND MAINTENANCE OF EQUIPMENT.
5. ALL PHYSICAL ATTRIBUTES OF EQUIPMENT AND DEVICES ARE BASED ON THOSE MANUFACTURERS LISTED IN THE SPECIFICATIONS AND/OR THE EQUIPMENT SCHEDULES. THE RESPECTIVE CONTRACTORS ARE RESPONSIBLE FOR ALL CHANGES BROUGHT ABOUT BY USE OF ITEMS BY OTHER MANUFACTURERS. THE ARCHITECT/ENGINEER HAS RESERVED THE RIGHT TO REJECT ITEMS BY OTHER MANUFACTURERS IF THOSE ITEMS DO NOT MATCH THE PHYSICAL ATTRIBUTES OF THE MANUFACTURERS LISTED.
6. PROVIDED MANUFACTURERS AND MODEL NUMBERS INDICATED ARE THE BASIS OF DESIGN PRODUCT. REFER TO SPEC SECTIONS FOR FURTHER INFORMATION.
7. CONTRACTOR TO BE RESPONSIBLE FOR ALL WORK ASSOCIATED WITH RELOCATING EQUIPMENT IDENTIFIED ON THE EQUIPMENT SCHEDULE TO BE RELOCATED FROM THE EXISTING FACILITY, INCLUDING DISCONNECTING, HAULING, AND INSTALLATION.

PROJECT TITLE

MONTGOMERY COUNTY SHARED SERVICES FACILITY

PROJECT ADDRESS

115 PARK DRIVE
FULTONVILLE, NY

MONTGOMERY COUNTY NY
Made of Something Stronger

ARCHITECT

FoitAlbert ASSOCIATES
Architecture. Engineering. Surveying. Environmental.
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SHEET SIZE 30X42
REFERENCED:
REFERENCED BACKGROUND

LiRo Engineers, Inc.
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Syosset, N.Y. 516-214-8157[T]

MARK	DATE	DESCRIPTION
2	09.24.20	ADDENDUM #6
1	09.04.20	ADDENDUM #1

REVISION

MARK	DATE	DESCRIPTION
1	08.14.20	BID DOCUMENTS

ISSUE

PROJECT NO: 19045.00
CAD DWG FILE:
DESIGN BY: DSG
DRAWN BY: DRW
CHK'D BY: CHK

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SHEET TITLE

MECHANICAL EQUIPMENT SCHEDULES

Q-601

Sep 24, 2020 - 11:42am M:\MEP Projects\2019\19-150-1800 Montgomery Co - Shared Fac\Rvt11 Drawings\Sheets\Equipment\Q601 EQUIPMENT SCHEDULES.dwg