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August 18, 2020

Southern Regional WWTP
City of Hollywood, Florida
1621 North 14th St.
Hollywood, FL 33022

Attention: Mr. Coy Mathis – Public Utilities Manager

Subject: Lime Stabilization Equipment
Schwing Bioset, Inc. Quote No. 2019385 rev-H

Dear Mr. Mathis,

Schwing Bioset, Inc. is pleased to propose the following as our scope.

## REPLACEMENT EQUIPMENT

Schwing Bioset proposes the following costs for the removal, replacement, and installation of Lime Stabilization equipment originally purchased in 2004 and Cake pumping equipment originally purchased in 2011.

All units are quoted to include Original Equipment Manufacturer replacement as available only from Schwing Bioset, Inc. Equipment will be provided to match the existing equipment for mounting and dimensions, and matching paint. Each piece of equipment includes commissioning service by Schwing Bioset Factory Technicians. Installation is NOT included in this equipment price section.

## TRANSFER SLUDGE CAKE PUMP

| | |
|---|---|
| Quantity: | Two (2) |
| Model: | KSP 25 V(HD)L |
| Pumping Stroke Length: | 39.4 inches (1000 mm) |
| Diameter - Material (Pumping) Cylinders: | 7 inches (180 mm) |
| Diameter - Differential (Hydraulic) Cylinders: | 4.9 inches (125 mm) |
| Cylinder Ratio: | 2.07 |
| Diameter - Suction Poppets: | 8.3 inches (210 mm) |
| Diameter - Discharge Poppets: | 5.9 inches (150 mm) |

Scope includes:

1. The Sludge Pump shall be equipped with a discharge connection. The discharge connection includes an adapter to 8-inch, 2-bolt coupling and a 2-inch pressure bleed valve.

2. The Sludge Pump water box shall have 1-inch connections for water supply and 1.5 inch overflow drains. Existing water lines and valves shall remain in service.
3. Local maintenance panel shall be furnished, mounted on the Sludge Pump, wiring by Installer (quoted separately). The panel includes MAINTENANCE MODE ON / OFF switch, FORWARD / OFF / REVERSE switch, PUMP JOG pushbutton, and E-STOP pushbutton. The two-hand control system simplifies routine ram changing service and prevents service personnel from putting their hands in the water box when ram motion is possible.
4. The Sludge Pump shall be furnished with retractable casters for maintenance.
5. Sludge Pump frame shall be 304 stainless steel in lieu of existing carbon steel.

**TRANSFER SCREW FEEDER**

| | |
|---|---|
| Quantity: | Two (2) |
| Model: | SD 350 |
| Material of Construction: | 304 Stainless Steel |
| Diameter of Flights: | 13 inches |
| Inlet Length: | 123 inches |
| Inlet Width: | 24 inches |

Scope includes:

1. The hydraulically driven, twin-auger Screw Feeder shall feed material into the Cake Transfer Pump. The augers shall be intermeshing and counter-rotating.
2. The Screw Feeder shall be furnished with hanger bearings to support the end of the screw auger shafts. Existing autogreaser shall be re-mounted to provide lubrication for the Screw Feeder stuffing box and hanger bearings.
3. The Screw Feeder shall be equipped with a three-position actuating lever to control the screw augers (FORWARD / STOP / REVERSE). This lever shall be located on the screw feeder.
4. Hopper and level sensor to be remounted from existing Screw Feeder.
5. New transition pressure sensor is included to optimally control screw speed thus reducing wear and to monitor lack of feed material.

Does not include hopper, or flex connector. Replacement Screw feeder is NOT equipped with a zero speed switch. Existing hydraulic tubing to remain in service.

**LUBE PUMP SYSTEM**

| | |
|---|---|
| Quantity: | 2 |
| Lubrication Pump Motor Size: | 2 HP |
| Lubrication Pump Type: | Triplex Piston Pump, VFD Capacity Control |
| Maximum Flowrate: | 66 GPH (250 LPH) |
| Maximum Operating Pressure: | 138 BAR |
| Electrical Service: | 480-volt / 3-phase / 60-hertz |

**Lubrication System Includes:**

1. Each system (Quantity of two (2)) will have one (1) lubrication pump and shall be skid mounted. Skid shall be constructed of 304 stainless steel.
2. NEMA 4X rated VFD motor controller shall be included to control lube flowrate.
3. Inlet strainer, flow indicator, gauge, calibration column, and valves to be skid mounted to match existing unit.
4. Existing injection ring to remain in service.

## REACTOR FEED PISTON PUMP

| | |
|---|---|
| Quantity: | Two (2) |
| Model: | KSP 45 V(HD)-SFMS |
| Pumping Stroke Length: | 39.4 inches (1000 mm) |
| Diameter - Material (Pumping) Cylinders: | 9 inches (230 mm) |
| Diameter - Differential (Hydraulic) Cylinders: | 5.9 inches (150 mm) |
| Cylinder Ratio: | 2.35 |
| Diameter - Suction Poppets: | 8.3 inches (210 mm) |
| Diameter - Discharge Poppets: | 5.9 inches (150 mm) |

Scope includes:

1. The Sludge Pump shall be equipped with a discharge connection. The discharge connection includes an adapter to 8-inch, 2-bolt coupling and a 2-inch pressure bleed valve.
2. The Sludge Pump water box shall have 1-inch connections for water supply and 1.5 inch overflow drains. Existing water lines and valves shall remain in service.
3. Local maintenance panel shall be furnished, mounted on the Sludge Pump, wiring by Installer (quoted separately). The panel includes MAINTENANCE MODE ON / OFF switch, FORWARD / OFF / REVERSE switch, PUMP JOG pushbutton, and E-STOP pushbutton. The two-hand control system simplifies routine ram changing service and prevents service personnel from putting their hands in the water box when ram motion is possible.
4. The Sludge Pump shall be furnished with retractable casters for maintenance.
5. Sludge Pump frame shall be 304 stainless steel in lieu of existing carbon steel.

## SLUDGE FLOW MEASURING SYSTEM

| | |
|---|---|
| Quantity: | Four (4) |

1. Schwing Bioset's proprietary Sludge Flow Measuring System (SFMS) shall be supplied with both the Reactor Feed Pumps and Transfer Sludge Cake Pumps to include next generation diagnostic features.
    - The SFMS shall calculate and record the cylinder filling efficiency (%), instantaneous pumping rate (GALLONS/MIN), and total accumulated pumped volume for previous 24 hours (GALLONS) to an accuracy of +/-5%, in accordance with USEPA 40 CFR Part 60 and Part 503 regulations.
    - These values shall be displayed at the Sludge Pump Control Panel.
    - New diagnostic features include run-dry alarm in addition to the Sludge Flow Measuring System.

2. If calibration of the SFMS is required for regulatory approval, the Installer shall be responsible for coordination and all associated material and labor costs (quoted separately under installation costs of pumps).
    - For SFMS calibration testing, sludge cake is typically pumped into a container (truck, dumpster, etc.) for a set period of time, and weighed using a certified scale.
    - During the test run, the SFMS measures the total volume pumped. Bulk density of the sludge cake is input into the PLC. The SFMS and scale results are then compared.
    - Specific requirements for regulatory approval may vary based on local, state, and federal statutes.
    - Calibration for Sludge Flow Measuring System (SFMS) of two (2) Reactor Feed Piston Pumps.

**TWIN SCREW MIXER**

| | |
|---|---|
| Quantity: | Two (2) |
| Model: | SD 350HD |
| Material of Construction: | A36 Carbon Steel |
| Diameter of Flights: | 13 inches |
| Inlet Length: | 60 inches |
| Inlet Width: | 24 inches |

Scope includes:

1. The hydraulically driven, twin-auger Screw Mixer shall feed material into the Reactor Feed Pump. The augers shall be intermeshing and counter-rotating. Screw hydraulic drive to be next generation high torque hydraulic drive in lieu of obsoleted Gear reducer with hydraulic motor.
2. The Screw Mixer shall be furnished with hanger bearings to support the end of the screw auger shafts. Existing autogreaser shall be re-mounted to provide lubrication for the Screw Feeder stuffing box and hanger bearings.
3. The Screw Feeder shall be equipped with a three-position actuating lever to control the screw augers (FORWARD / STOP / REVERSE). This lever shall be located on the screw feeder.
4. Replacement hopper, gasket, and inlet flex connectors are included.
5. Replacement Level sensor and Transition pressure sensor are included.

**HYDRAULIC POWER UNIT -REACTOR FEED**

| | |
|---|---|
| Quantity: | Two (2) |
| Model: | 800L – 125HP |
| Reservoir Size: | 215 gallons |
| Motor Size: | 125 HP |
| Hydraulic Pump (Sludge Pump): | Rexroth A11VO190 |
| Hydraulic Pump (Screw Feeder): | Rexroth A11VO60 |
| Electrical Service: | 480 Volt / 3 Phase / 60 Hertz |

Scope includes:

1. Rexroth axial piston pumps shall be supplied to drive the separate hydraulic circuits for the Sludge Pump and Screw Feeder.
2. Recirculating hydraulic oil conditioning loop shall include the following:
    - A constant volume hydraulic pump.
    - A remote air-cooled heat exchanger to match existing.
    - Temperature sensor and solenoid valve to regulate oil flow and cooler fan.
3. Premium efficient, TEFC motor shall be supplied.
4. Power Unit shall include initial fill of oil, pressure gauge, pressure sensors, relief valves, clean-out cover, and combination temperature and sight gauges.
5. Hydraulic tubing and hoses to connect equipment shall be included.
    - Carbon steel seamless hydraulic tubing shall be supplied in nominal 20 feet lengths. Installer shall field cut to fit.
    - Schwing Bioset shall supply all fittings required for installation.
    - Hydraulic tubing and fittings shall be installed and painted by Installer (quoted separately under installation).
    - Existing supports for the hydraulic tubing shall remain in service.
6. Hydraulic unit Frame and tank frame shall be 304 stainless steel in lieu of existing carbon steel.

**CONTROL PANELS**

| Quantity: | Part number: | Function: | Electrical Service: |
|---|---|---|---|
| Two (2) | 39101328 (less starter panel) | Control Panel for HPU – Transfer Sludge Pumps (existing starter panel to remain in service) | 120v/1∅/60Hz |
| Two (2) | 30364297 | Control Panel for HPU – Reactor Feed Pumps | 120v/1∅/60Hz |
| Two (2) | 30364298 | Motor Starter Panel for HPU – Reactor Feed Pumps | 480v/3∅/60Hz |
| One (1) | 30364299 | Reactor Isolation Panel | 120v/1∅/60Hz |
| Two (2) | 30368757 | Motor Starter Panel for Lime feed and sulfamic feed | 480v/3∅/60Hz |
| One (1) | 30367886 | Control Panel for Electric Ball Valves, Scrubbers, and Conveyors | 480v/3∅/60Hz |
| Two (2) | 30334135 | Control Panel for Duplex Hydraulic unit and Hydraulic Ball Valve control | 480v/3∅/60Hz |

Scope includes:

1. Above Replacement Control Panels are manufactured by Schwing Bioset specifically to control Schwing Bioset supplied equipment.
2. Panels shall be NEMA 4X, 316 SS in lieu of existing 304 sst.
3. Above panels shall be provided to be consistent with existing panel.
4. Panel shall be UL508A listed and be provided to fit into existing panel locations
5. Allen Bradley compact Logix PLC with HMI shall be used to control all panel functions consistent with existing panels.

6. Schwing Bioset input and output devices shall be supplied consistent with existing panel.
7. Motor starters are included as provided with existing panel.
8. Isolation Panel (30364299) shall be reconfigured to a Remote I/O panel for greater reliability.
9. Motor Starter Panel (30368757) shall be equipped with a 480vac VFD in lieu of the existing 90vdc variable speed drive.

## DUPLEX HYDRAULIC POWER UNIT

| **Quantity:** | **Two (2)** |
|---|---|
| Motor size: | 1.5 HP, 480V / 3∅ / 60Hz (two (2) motors) |

SBI proposes replacement of the existing Ball Valve Duplex Hydraulic Power Unit. New Duplex Hydraulic Power Unit includes a common frame constructed of 304 stainless steel and initial fill of Quintolubric Synthetic Oil compatible with existing unit.

Control panel and installation quoted below.

## DEWATERED SLUDGE CAKE VALVES

| Quantity: | Tag # | Actuation: | Location: |
|---|---|---|---|
| Nine (9) | CPV-82271<br>CPV-82272<br>CPV-82273<br>CPV-82274<br>CPV-82275<br>CPV-83201<br>CPV-83202<br>CPV-83202<br>CPV-83204 | Hydraulic | Upstream of Twin-Screw Mixer |
| Four (4) | | Electric (480v3Ø60Hz) to replace Manual Handwheel | Between Bioset Reactor Feed Pumps and Reactor inlet |
| Two (2) | CPV-83205<br>CPV-83206 | Electric (480v3Ø60Hz) | Downstream of Reactor outlet |

Supply of the replacement Sludge Cake Ball Valves, hardware, and gaskets located in the Dewatering Building and the Lime stabilization building as described herein.

These valves were originally supplied by Schwing as the only suitable valves that would work with our pumping system, hydraulic actuation system, and control panel configuration.

1. High Pressure 8” Ball valves, ANSI class 600, carbon steel body with stainless ball and trim shall be provided. All valves are Series 6760 for uniform supply.
2. Replacement hydraulic lines to hydraulic actuators are included.

- Carbon steel seamless hydraulic tubing shall be supplied in nominal 20 feet lengths. Installer shall field cut to fit.
- Schwing Bioset shall supply all fittings required for installation.
- Hydraulic tubing and fittings shall be installed and painted by Installer (quoted separately).
- Existing supports for the hydraulic tubing shall remain in service.

3. Studs, nuts, and gaskets for flanged joints listed above.
4. Control Panel shall be provided consistent with existing panel 30367886 which includes controls for all Electric actuated ball valves, scrubbers, and conveyors. Panel shall be UL508A listed and 316 SS in lieu of existing 304 stainless (quoted in control panel section).

Existing piping, piping supports, and appurtenances are NOT included and shall remain in service. Installation quoted separately.

- Valves and hardware shall be provided with manufacturer's standard finish.

**LIME FEED CONVEYOR**

| **Quantity:** | **Two (2)** |
|---|---|
| Motor size: | 5 HP, 480V / 3∅ / 60Hz |

**Scope includes:**

1. A variable speed Lime Screw Feeder shall be furnished to meter and discharge lime into the Twin-Screw Mixer hopper.
2. Lime Screw shall be 6-inch nominal diameter x 7 ft length to match existing.
3. New flex connectors are included at the conveyor inlet and outlet.

**SULFAMIC ACID FEEDER**

| **Quantity:** | **Two (2)** |
|---|---|
| Motor size: | 1/4 HP [0.18 kW], 480V / 3∅ / 60Hz |

**Scope includes:**

4. A variable speed chemical feeder shall be furnished to discharge dry sulfamic acid into the mixing feed hopper.
5. A stainless-steel feed hopper shall be furnished with storage capacity for approximately 90 lbs [40 kg] of dry sulfamic acid.
6. Sulfamic Acid Feeder shall be mounted on the mixing feed hopper.
7. Replacement Feeder VFD Panel above is required with the new Sulfamic feeder to power the 480vac motor in lieu of the existing 1/4HP 90vdc motor (powered by existing Power panel 30368757).

## RECIRCULATION LOOP SYSTEM

| | |
|---|---|
| Quantity: | Two (2) |

1. Schwing Bioset's recirculation loop pipeline is included for each pump to facilitate hot start-up and produce class-A sludge after prolonged shutdown.
2. The recirculation loop consists of a 2-inch pipeline from pump discharge back to Twin-Screw mixer. A 2-inch 120v electrically actuated ball valve shall be opened to allow wash water to be pumped through the loop while lime is added until target temperature is achieved. Upon preheating the system, sludge is added to the hopper, the downstream 8-inch valve is opened, and the 2-inch recirculation valve is closed.
3. Two (2) 2-inch nozzles are included to be welded into the existing pipeline. The ball valve is controlled by respective pump control panel.
4. Heat trace of the 8" pipeline upstream of the reactor is also included to assist heating of sludge in that section of pipe during prolonged shutdowns. Heat trace is controlled by control Panel 30367886.

## SPECIAL TOOLS

One (1) set of tools is included with Reactor Feed Pumps.
One (1) set of tools is included with Transfer Sludge Cake Pumps.

## COMMISSIONING SPARE PARTS

Schwing Bioset recommends changing out the hydraulic oil filter after the first 50 hours of Hydraulic Power Unit operation. The following spare parts shall be furnished for this purpose.

| **Item:** | **Quantity:** |
|---|---|
| Hydraulic Oil Filters | One (1) set per unit |

**No other spare parts are included with this quotation.**

## FIELD SERVICE

Schwing Bioset will provide a trained service technician to assist start-up, and / or to train the owner's personnel in the operation and maintenance of the Schwing Bioset supplied equipment.

The service technician shall be made available for Thirty-two (32) days over Eight (8) trips.
Controls technician shall be made available for Nine (9) days over Three (3) trips to assist communication with Plant SCADA.

If required, additional service may be purchased at the prevailing rates at the time service is performed. Current service rates are as follows:

- US $142.00 per hour – standard eight (8) hour day.

- US $213.00 per hour – overtime (over and above the standard eight (8) hour day.)
- US $284.00 per hour – Sundays and holidays.
- Travel and per diem (i.e., hotel, food, car) expenses at cost + 15%.

**REACTOR CLEANOUT**

Reactor Cleaning schedule to start on a Friday after 2:00 pm and completed by the following Sunday at 4:00 pm.
Solids to be substantially hauled off site.
Flush water to be provided by owner.
Drain water to be allowed in building drain.
Replacement pressure sensor and temperature sensors are included.

**INSTALLATION PHASE TIME SCHEDULE– SEE EXHIBIT A – SEPARATE DOCUMENT**

**MAINTENANCE PLAN – SEE EXHIBIT B – SEPARATE DOCUMENT**

**PAINTING**

Schwing Bioset standard primer and finish coatings shall be factory applied as follows, **unless otherwise noted above**. Stainless steel surfaces shall not be painted.

- Surface Preparation – Sandblast SSPC-SP6.
- 1st Coat – Tnemec N140F Pota-Pox Plus Epoxy 2-3 mils DFT
- 2nd Coat – Tnemec N69 Hi-Build Epoxoline II, 3-5 mils DFT
- 3rd Coat – Tnemec N69 Hi-Build Epoxoline II, 3-5 mils DFT.

All field touch-up painting of equipment shall be performed by Installer (quoted separately).

## EQUIPMENT SCOPE OF SUPPLY SUMMARY

| Item | Quantity | Equipment Cost | Installation Cost | Extended Maintenance Plan Cost |
|---|---|---|---|---|
| Transfer Sludge Cake Pump: | Two (2) | $ 227,200 | $ 167,700 | - |
| Sludge Flow Measuring System (SFMS®): | Two (2) | | | |
| Transfer Twin Screw Feeder: | Two (2) | $ 177,470 | | |
| Pipeline Lubrication Skid: | Two (2) | $ 30,600 | $ 11,100 | - |
| Reactor Feed Piston Pump: | Two (2) | $ 253,400 | $ 86,900 | - |
| Sludge Flow Measuring System (SFMS®): | Two (2) | | | |
| Twin-Screw Mixer: | Two (2) | $ 291,300 | $ 48,600 | - |
| Power Unit -Reactor Feed: | Two (2) | $ 232,400 | $ 48,800 | - |
| Control Panels: | Twelve (12) | $ 410,160 | $ 74,600 | - |
| Duplex Hydraulic Power Unit: | Two (2) | $ 65,200 | $ 74,200 | - |
| Dewatered Sludge Cake Valves: | Fifteen (15) | $ 425,700 | $ 157,900 | - |
| Lime Feeder: | Two (2) | $ 35,000 | $ 11,200 | - |
| Sulfamic Acid Feeder: | Two (2) | $ 28,200 | $ 5,800 | - |
| Recirculation Loop System | Two (2) | $ 23,500 | $ 22,400 | - |
| Tools | Two (2) sets | $ 6,460 | - | - |
| Commissioning Spare Parts | One (1) lot | $ 1,210 | - | - |
| Commissioning Service | One (1) lot | (Included with equipment) | - | - |
| Reactor Cleanout | One (1) lot | - | $ 27,300 | - |
| Extended Maintenance Plan -Service | One (1) lot | - | - | $ 541,532 |
| Extended Maintenance Plan -Parts | One (1) lot | - | - | $ 350,000 |
| | **Sub-total** | **$ 2,207,800** | **$ 736,500** | **$ 891,532** |
| **Total price for the above listed equipment scope of supply:** | | **$ 3,835,832** | | |

All prices are quoted:
DDP jobsite Incoterms® 2010
Price is valid for 90 days
Price is in US dollars

## EQUIPMENT PAYMENT TERMS

Equipment Terms:
10% with purchase order.
20% upon approval of submittals, net 30 days.
60% upon shipment, net 30 days.
10% upon final acceptance, not to exceed 120 days from delivery.

Payment terms offered are subject to final credit approval.
Schwing Bioset does accept City of Hollywood, FL terms and conditions

**INSTALLATION PAYMENT TERMS:**

The fee for services described in this scope shall be invoiced in monthly progress payment in accordance with a Schedule of Values, net 30 days. If there are changes in scope or protracted delays resulting from reasons beyond our control, SBI will expect to negotiate an equitable adjustment in our compensation.

**SUBMITTALS**

Eight (8) to ten (10) weeks after receipt of approved order.

**O & M MANUALS**

Two (2) electronic and Two (2) hard copies shall be furnished.

**DELIVERY**

Eighteen (18) to twenty-four (24) weeks after receipt of approved submittals.

**EQUIPMENT AND SERVICES TO BE PROVIDED BY INSTALLER**

1. Installation, offloading, field assembly, and erection of the Schwing Bioset, Inc. (SBI) supplied equipment (as quoted separately above).
2. Racks, trays or supports for hydraulic lines, sludge lines, or control wiring (existing to remain in service).
3. Miscellaneous metal (quoted separately above).
4. Field painting of any of the SBI supplied equipment (as quoted separately above). SBI will supply a can of touch-up paint for field application by the installing contractor. All touch up painting required due to normal wear and tear during shipping shall the responsibility of Installer (quoted separately above).
5. Field wiring (as quoted separately above).
6. Labor and material for preliminary, final field, system performance, and system integrity tests (SBI shall startup and test for proper function included with installation quote above).
7. It is the Installer's responsibility to field verify building dimensions, equipment access, and that equipment layout/dimensions are suitable to accommodate the SBI supplied equipment.
8. Water and drain piping (existing shall remain in service).
9. Anchor bolts, nuts, and washers for the SBI supplied equipment (existing shall remain in service). Installer shall provide anchors where anchor location change from existing (quoted separately above).

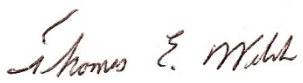
**EQUIPMENT AND SERVICES NOT INCLUDED**

1. Storage of equipment and/or costs for long-term storage (longer than 3 months).
2. Spare parts not specifically mentioned in this scope.
3. Cost for Engineer, Owner, or Contractor to witness any shop test.
4. Additional costs to supply alternate products other than specifically mentioned in this scope.

5. Networking, hardware, communication modules, or power supplies not specifically mentioned in this scope.
6. PLC programming software or software licenses not specifically mentioned in this scope.
7. Field service technicians or special tools not specifically mentioned in this scope.
8. Motor starters or variable frequency drives not specifically mentioned in this scope.
9. Permitting, licenses, or other 3rd party charges
10. Supply power for power tools & equipment
11. Water supply for washdown
12. Performance or payment bonds
13. Cost of owner or third-party inspections
14. SBI shall not be encumbered from working overtime or premium hours, if desired. SBI not responsible for additional charges by third parties in the event SBI works premium time.

If you have any questions, please don't hesitate to contact me by phone (239-216-1776) or E-mail (twelch@schwingbioset.com).

Yours very truly,
Schwing Bioset, Inc.



Tom Welch
Southeast Regional Sales Manager

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www.schwingbioset.com

Southern Regional WWTP
City of Hollywood, Florida
1621 North 14th St.
Hollywood, FL 33022

August 18, 2020

Attention: Mr. Coy Mathis – Public Utilities Manager

Subject: Installation Schedule of Equipment
Schwing Bioset, Inc. Quote No. 2019385 rev-H

Dear Mr. Mathis,

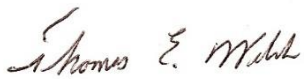
Schwing Bioset, Inc. is pleased to propose the following as our scope of supply.

Hollywood FL Installation Services work plan per Scope 2019385RevH

| Phase | Equipment | | Duration | | |
|---|---|---|---|---|---|
| 1 | Reactor Isolation Panel | | Mount 3 Days | Electrical: 2 Weeks | Commissioning 3 Days |
| | Lime/Acid MSP | | | | |
| | Valve,Scrubber,Coneyor MSP | | | | |
| | Duplex HPU MSP | | | | |
| | Duplex HPU | | Mech & Piping 2 Days | | |
| | | | | | **Estimated Time 4 Weeks** |
| 2 | Transfer KSP | | Demo/Install Mech:2 weeks | Electrical: 2 Weeks | Commissioning & SFMS testing: 3 weeks |
| | Trensfer SD | | | | |
| | Lube pump | | | | |
| | Reactor KSP | | | | |
| | Reactor SD | | | | |
| | Reactor PP | | | | |
| | Lime Conveyor | | | | |
| | Acid Feeder | | | | |
| | Recirc Pipeline Tie In | | | | |
| | | | | | **Estimated Time 7 Weeks** |
| 3 | Transfer KSP | | Demo/Install Mech:2 weeks | Electrical: 2 Weeks | Commissioning & SFMS testing: 3 weeks |
| | Trensfer SD | | | | |
| | Lube pump | | | | |
| | Reactor KSP | | | | |
| | Reactor SD | | | | |
| | Reactor PP | | | | |
| | Lime Conveyor | | | | |
| | Acid Feeder | | | | |
| | Recirc Pipeline Tie In | | | | |
| | | | | | **Estimated Time 7 Weeks** |
| | | | | | |
| | | | | | |
| 4 | Hydraulic Ball Valves | | 3 days | Electrical: 3 Weeks | Commissioning 2 days |
| | KSP-Reactor Ball Valves | | 2 Days | | |
| | Reactor outlet Ball Valves | | 1 Day | | |
| | Reactor Cleaning | | 3 Days | | |
| | | | | | **Estimated Time 3 Weeks** |
| | | | | | **Total Estimated Time 22 Weeks** |

If you have any questions, please don't hesitate to contact me by phone (239-216-1776) or E-mail (twelch@schwingbioset.com).

Yours very truly,
**Schwing Bioset, Inc.**



Tom Welch
Southeast Regional Sales Manager