

GATE OPERATORS

PART 1 – GENERAL

1.01 DESCRIPTION

A. This Section describes the requirements for furnishing and installing the following:

1. Sliding gate operators.

B. Related Sections:

1. Chain link fences and gates are specified in Section 32 31 13.

1.02 SUBMITTALS

A. Product Data: Manufacturer's printed information and installation instructions including required clearances.

B. Shop Drawings: Include complete details of gate operators.

C. Test Reports: Manufacturer's affidavits demonstrating that the gate mechanism has been tested to 200,000-cycles without breakdown. Each operator shall bear a label indicating that the operator mechanism has been tested at full power and pressure of ally hydraulic components, full stress tests of all mechanical components and electrical tests of all overload devices.

1.03 QUALITY ASSURANCE

A. Installer: Company specializing in the installation of the type(s) of gate work specified, with a minimum of 3-years successful experience.

B. Manufacturer: Company specializing in the manufacture of the type of operating gate work of the type specified, with a minimum of 5-years successful experience.

C. Comply with NEMA, UL 325 and CSA standards.

1.04 PROTECTION

A. Protect products against damage during transportation.

B. Protect adjacent construction and finishes as required to prevent damage during installation.

1.05 COORDINATION

A. Coordinate installation of vehicle gates and operators to avoid interference with work of other Sections.

1.06 WARRANTY

A. Warrant gate operators to be free from defects in materials and workmanship for a period of 5-years from date of Substantial Completion. This warranty shall be in addition to and not a limitation of other rights the County may have against the Developer Design/Builder under the Contract Documents.

PART 2 – PRODUCTS

2.01 SLIDING GATE OPERATOR

A. Approved Manufacturer: Hy-Security Gate Operator Model 222 SS-ST or approved equal.

- B. Operation shall be by means of a metal rail passing between a pair of hydraulically driven solid metal wheels with polyurethane treads. Operator motors shall be hydraulic, gear roller type, and system shall not include belts, gears, pulleys, roller chains or sprockets to transfer power from operator to gate panel. The operator shall generate a minimum horizontal pull of 300-pounds without the drive wheels slipping and without distortion of supporting arms. Operator shall be capable of handling gates weighing up to 1,000-pounds. Gate panel velocity shall not be less than 1.0-foot per second and shall be stopped gradually to prevent shock loads to the gate and operator assembly.
- C. Standard mechanical components shall include the following:
1. Supporting Arms: Cast aluminum channel. Arms shall incorporate a fully bushed, 1-1 bronze bearing surface, action on arm pivot pins.
 2. Arm Pivot Pins: 3/4-inch diameter stainless steel with integral tabs for ease of removal.
 3. Tension Spring: 2-1/2-inch heavy duty, 800-pound capacity.
 4. Tension Adjustment: Finger tightened nut, not requiring the use of tools.
 5. Drive Release: Instantly release tension on both drive wheels, and disengage them from contact with drive rail in a single motion, for manual operation.
 6. Limit Switches: Fully adjustable, toggle type.
 7. Electrical Enclosure: Metal, with hinged lid gasketed for protection from intrusion and foreign objects.
 8. Chassis: 1/4-inch steel base plate and 10-gauge sides and back welded and ground smooth.
 9. Cover: 16-gauge galvanized sheet metal with powder paint finish. All joints welded, filled and ground smooth. Finished corners square and true with no visible joints.
 10. Finish: Fully zinc plated with finish coat of high gloss powder paint withstanding 1000-hour salt spray test.
 11. Drive Wheels: 6-inch diameter metal hub with polyurethane tread.
 12. Drive Rail: Extruded 6061 T6, not less than 1/8-inch thick. Drive rail shall incorporate alignment pins for ease of replacement or splicing. Pins shall enable a perfect butt splice.
 13. Hydraulic Hose: 1/4-inch synthetic, rated to 2,750-psi.
 14. Hydraulic Valves: Individually replaceable cartridge type, in an integrated hydraulic manifold.
 15. Hose Fittings: At manifold shall be quick-disconnect type, others shall be swivel type.
 16. Hydraulic Fluid: High performance type with a viscosity index greater than 375.
 17. Provide 0 to 2000-psi pressure gauge, mounted on the manifold.
 18. Hydraulic fluid reservoir shall be formed from a single piece of metal, non-welded, and shall be powder painted on the inside and outside.
- C. Electrical Components:
1. Pump Motor: 1-HP, 56C, TEFC, continuous duty motor, with a service factor of 1.15 or greater.
 2. All components shall have overload protection.

3. Controls: Smart Touch Controller Board with 128K memory containing:
 - a. Inherent entrapment sensor.
 - b. Built-in "warn before operate" system.
 - c. Built-in timer to close.
 - d. Liquid crystal display for reporting of functions.
 - e. 19 programmable output relay options.
 - f. Anti-tailgate mode.
 - g. Built-in power surge/lightening strike protection.
 - h. Capable of event logging EEPROM for trouble shooting diagnostics.
 - i. RS232 port for connection to laptop or other computer peripheral and RS485 connection of Master/Slave systems.
4. Transformer: 75 VA non-jumpered taps, for all common voltages.
5. Control Circuit: 24VDC.
- D. External Sensors: External sensors capable of reversing the gate in either direction upon sensing an obstruction.
- E. Control Devices: Provide inbound and outbound vehicle detection inductance loops embedded in concrete.
- F. Provide Fire Department-approved lock box near each gate operator for Fire Department access to key switch or other means for opening gate. Locate where directed by the Fire Department. Lock box shall be surface-mounted. Provide mounting plates and accessories required for mounting to fence posts. Coordinate keying with Fire Department.

PART 3 – EXECUTION

3.01 INSPECTION

- A. Verify that conditions are satisfactory for the installation of gate operators. If unsatisfactory conditions exist, do not commence installation until such conditions have been corrected. Verify that backing post or equivalent structure and concrete slab is adequate to support loads for gate operator.

3.02 INSTALLATION

- A. Install gate operators according to manufacturer's instructions. Adjust for smooth, trouble-free operation.
- B. Advise and consult with the County's Representative to obtain the County's requirements for standard available programmable features or adjustable controls (such as time delays, interlocks, or safety devices), and make necessary adjustments.
- C. Instruct County's personnel on proper operation and maintenance of gate operator.

END OF SECTION