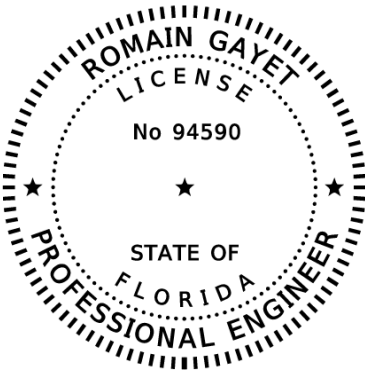


TECHNICAL SPECIAL PROVISION

FOR

BOLLARDS

FINANCIAL PROJECT NO.: 436656-1-52-01



This item has been digitally signed and sealed by Romain Gayet, PE on the date adjacent to the seal.

Printed copies of this document are not considered signed and sealed and the signature must be verified on any electronic copies.

Fla. License No.:	94590
Firm Name:	Jacobs
Firm Address:	200 S Orange Ave #900
City, State, Zip Code:	Orlando, FL 32801
Pages:	1-2

SECTION T519 PIPE BOLLARDS

T519-1 Description.

Construct pipe bollards in accordance with this Section and the Plans.

T519-1 Materials.

T519-1.1 Meet the following requirements:

- | | |
|------------------------|-------------|
| 1. Concrete | Section 347 |
| 2. Polyethylene Sleeve | Section 948 |
| 3. Galvanized Steel | Section 962 |

a. Steel Pipe: Conform to ASTM A 53, Type S, Grade B, Schedule 40, black finish unless galvanizing is required.

- ## 4. Hardware

a. Nuts and bolts shall be regular hexagon type conforming to ASTM A307, Grade A.

- | | |
|---------------|------------------------------------|
| 5. Gravel | No. 57 Stone |
| 6. Weed block | Polypropylene or Polyester Fabrics |

T519-2 Construction Requirements.

T519-2.1 Removable Pipe Bollard

1. Construct concrete foundation with embedded galvanized steel pipe sleeve and bolt in accordance with the Plans.
2. Construct pipe bollard in accordance with the plans.
3. Attach pre-manufactured yellow high-density polyethylene sleeve (per manufacturer's instructions)
4. Provide gravel surround with weed block at locations depicted in the Plans.

T519-2.2 Permanent Pipe Bollard

1. Construct concrete foundation with embedded galvanized steel pipe in accordance with the Plans.
2. Fill bollard with concrete in accordance with the plans. Round off top.
3. Attach pre-manufactured yellow high-density polyethylene sleeve (per manufacturer's instructions)

T519-3 Method of Measurement.

The quantity paid for will be the number of each type as designated, constructed, in place, and accepted. Includes foundations, sleeves, gravel surround, and weed block.

T519-4 Basis of Payment.

Price and payment will be full compensation for all work specified in this Section, including all materials, hardware, labor, and incidentals required to complete the installation.

Payment will be made under:

Item No. 519- 78	Bollard -	each
------------------	-----------	------