

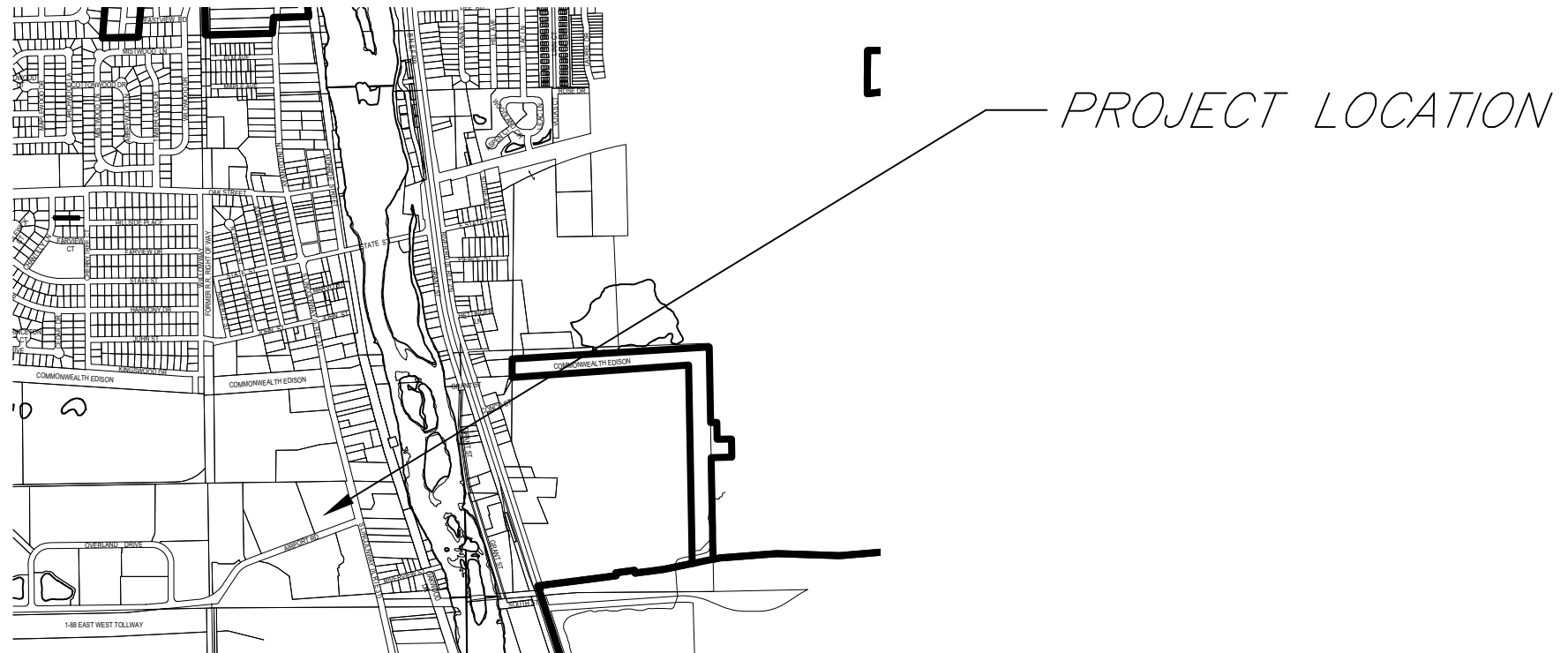
# ENGINEERING DRAWINGS FOR:

# POLICE DEPARTMENT BOLLARD REMOVAL & REPLACEMENT PROJECT

200 S. LINCOLNWAY  
NORTH AURORA, ILLINOIS

## INDEX OF SHEETS

PAGE	DESCRIPTION
1	TITLE SHEET
2	GENERAL NOTES AND SCHEDULE OF QUANTITIES
3	BOLLARD REMOVAL & REPLACEMENT PLAN
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5	ELECTRICAL PLAN
6	CONSTRUCTION DETAILS



THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR JOB SITE SAFETY AS WELL AS SUPERVISION/DIRECTION AND MEANS/METHODS OF CONSTRUCTION

POLICE DEPARTMENT BOLLARD REMOVAL & REPLACEMENT PROJECT NORTH AURORA ILLINOIS	Approved _____ Title _____ Date _____ Job _____ Class _____
TITILE SHEET	
DESIGNED BWT 5/24 DRAWN BWT 5/24 CHECKED	
REVISIONS Date Description	
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SUMMARY OF QUANTITIES

- GENERAL NOTES:
1. ALL ITEMS OF THIS PROJECT SHALL BE GOVERNED BY SPECIFICATIONS INCLUDED IN THE DOCUMENTS LISTED BELOW:
    - A. "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION" PREPARED BY THE DEPARTMENT OF TRANSPORTATION OF THE STATE OF ILLINOIS AND ADOPTED BY SAID DEPARTMENT (LATEST REVISION).
    - B. "SUPPLEMENTAL SPECIFICATIONS AND RECURRING SPECIAL PROVISIONS" ADOPTED BY THE ILLINOIS DEPARTMENT OF TRANSPORTATION (LATEST REVISION DATE).
    - C. "ILLINOIS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS.
    - D. "STANDARD SPECIFICATIONS FOR TRAFFIC CONTROL ITEMS" BY ILLINOIS DEPARTMENT OF TRANSPORTATION.
    - E. "DESIGN MANUAL" BY ILLINOIS DEPARTMENT OF TRANSPORTATION.
    - F. "STANDARD SPECIFICATIONS FOR WATER AND SEWER MAIN CONSTRUCTION IN ILLINOIS" (LATEST REVISION)
    - G. "STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL" BY IEPA, ILLINOIS URBAN MANUAL - A TECHNICAL MANUAL DESIGNED FOR URBAN ECOSYSTEM PROTECTION AND ENHANCEMENT, 2002.
    - H. "TITLE 35" BY ILLINOIS ENVIRONMENTAL PROTECTION AGENCY (IEPA).
    - I. "ILLINOIS URBAN MANUAL" PREPARED BY THE U.S. DEPARTMENT OF AGRICULTURE (LATEST EDITION).
    - J. "FOX METRO WATER RECLAMATION DISTRICT SANITARY SEWER INSTALLATION RULES AND REGULATIONS" (LATEST REVISIONS).
    - K. "KANE COUNTY STORMWATER MANAGEMENT ORDINANCE" (LATEST REVISION).
    - L. LATEST PROJECT MANUAL INCLUDING SPECIAL PROVISIONS

IN ADDITION THE FOLLOWING SPECIAL PROVISIONS SUPPLEMENT THE SAID SPECIFICATIONS, AND IN CASE OF CONFLICT WITH ANY PART OR PARTS OF SAID SPECIFICATIONS, THESE SPECIAL PROVISIONS ABOVE SHALL TAKE PRECEDENCE AND SHALL GOVERN.
  2. SCOPE OF WORK  
THE PROPOSED IMPROVEMENT CONSISTS OF SUPPLYING ALL THE NECESSARY LABOR, MATERIAL AND EQUIPMENT TO SATISFACTORILY CONSTRUCT AND INSTALL ALL IMPROVEMENTS ACCORDING TO THE PLANS
  3. COORDINATION AND RESPONSIBILITIES
    - A. THE QUANTITIES GIVEN IN THE ENGINEER'S BID PROPOSAL ARE INTENDED AS A GUIDE FOR THE CONTRACTOR IN DETERMINING THE SCOPE OF THE COMPLETED PROJECT. IT IS THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE ALL MATERIAL QUANTITIES AND APPRAISE HIMSELF OF ALL SITE CONDITIONS. NO CLAIMS FOR EXTRA WORK WILL BE RECOGNIZED UNLESS ORDERED IN WRITING BY THE ENGINEER.
    - B. A PRECONSTRUCTION CONFERENCE FOR REPRESENTATIVES OF THE OWNER, ENGINEER, VILLAGE ENGINEER, AND CONTRACTOR WILL BE HELD BEFORE THE CONTRACTOR PROCEEDS WITH CONSTRUCTION, AT A TIME AND PLACE CONVENIENT FOR ALL PARTIES, FOR REVIEW OF THE CONTRACTOR'S CONSTRUCTION SCHEDULES, TO ESTABLISH PROCEDURES FOR HANDLING SHOP DRAWINGS AND OTHER SUBMITTALS AND TO ESTABLISH A WORKING UNDERSTANDING AMONG THE PARTIES AS TO THE CONTRACT WORK.
    - C. NO CONSTRUCTION PLANS SHALL BE USED FOR CONSTRUCTION UNLESS SPECIFICALLY MARKED "FOR CONSTRUCTION." PRIOR TO COMMENCEMENT OF CONSTRUCTION, THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS AFFECTING THEIR WORK WITH THE ACTUAL CONDITIONS AT THE JOB SITE. IF THERE ARE ANY DISCREPANCIES FROM WHAT IS SHOWN ON THE CONSTRUCTION PLANS, HE MUST IMMEDIATELY REPORT SAME TO THE ENGINEER BEFORE DOING ANY WORK, OTHERWISE, THE CONTRACTOR ASSUMES FULL RESPONSIBILITY. IN THE EVENT OF A DISAGREEMENT BETWEEN THE CONSTRUCTION PLANS, STANDARD SPECIFICATIONS AND/OR SPECIAL DETAILS, THE CONTRACTOR SHALL SECURE WRITTEN INSTRUCTIONS FROM THE ENGINEER PRIOR TO PROCEEDING WITH ANY PART OF THE WORK AFFECTED BY OMISSIONS OR DISCREPANCIES. FAILING TO SECURE SUCH INSTRUCTION, THE CONTRACTOR WILL BE CONSIDERED TO HAVE PROCEEDED AT HIS OWN RISK AND EXPENSE. IN THE EVENT OF ANY DOUBT OR QUESTION ARISING WITH RESPECT TO THE TRUE MEANING OF THE CONSTRUCTION PLANS OR SPECIFICATIONS, THE DECISION OF THE ENGINEER SHALL BE FINAL AND CONCLUSIVE.
  4. THE CONTRACTOR SHALL COMPLY TO THE FULLEST EXTENT WITH THE LATEST OSHA STANDARDS AND REGULATIONS, OR ANY OTHER AGENCY HAVING JURISDICTION FOR EXCAVATION AND TRENCHING PROCEDURES. THE CONTRACTOR IS RESPONSIBLE FOR DETERMINING THE "MEANS AND METHODS" REQUIRED TO MEET THE INTENT AND PERFORMANCE CRITERIA OF OSHA, AS WELL AS ANY OTHER ENTITY THAT HAS JURISDICTION FOR EXCAVATION AND/OR TRENCHING PROCEDURES.
  5. IN CASE OF DISCREPANCIES BETWEEN PLANS OR RELATIVE TO OTHER PLANS, THIS SITE PLAN WILL TAKE PRECEDENCE. IMMEDIATELY NOTIFY THE ENGINEER IN WRITING OF ANY CONFLICTS.

ITEM	UNIT	QUANTITY
EXISTING BOLLARD AND FOUNDATION REMOVAL	EACH	8
ELECTRICAL MODIFICATIONS	L SUM	1
BOLLARD FOUNDATION	EACH	8
HALVARD C40 CRASH RATED BOLLARD	EACH	8
BOLLARD COVER	EACH	8
PORTLAND CEMENT CONCRETE SIDEWALK, 5"	SQ FT	800
SIDEWALK REMOVAL	SQ FT	800

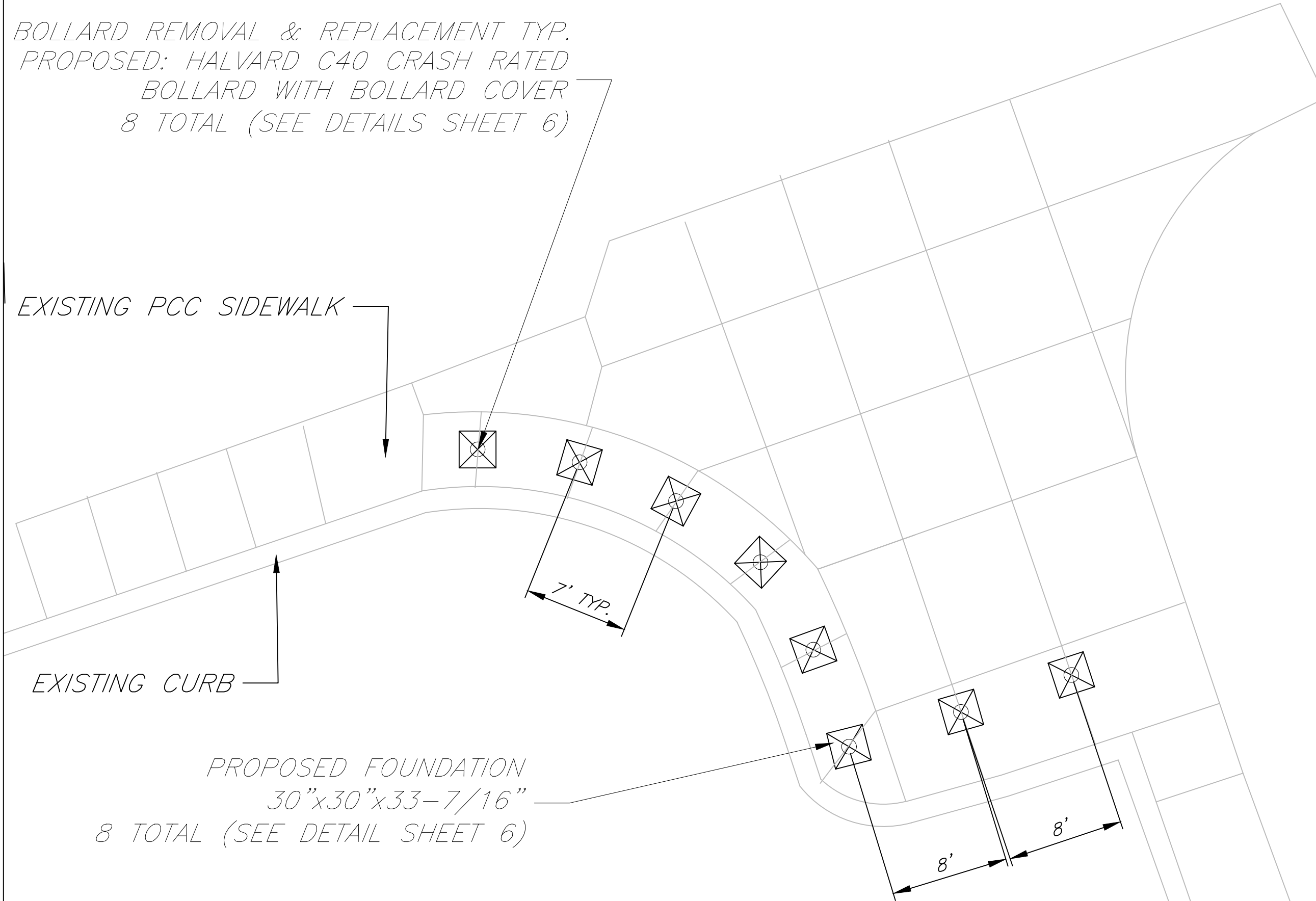
	Designed BWT	5/24	Drawn BWT	5/24	Checked
POLICE DEPARTMENT BOLLARD REMOVAL & REPLACEMENT PROJECT NORTH AURORA ILLINOIS					
Approved			Title		
Date			Job Class		
GENERAL NOTES & SUMMARY OF QUANTITIES					
					
REVISIONS	Description	Date	Approved		
File No. *.DWG					
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BOLLARD REMOVAL & REPLACEMENT TYP.  
 PROPOSED: HALVARD C40 CRASH RATED  
 BOLLARD WITH BOLLARD COVER  
 8 TOTAL (SEE DETAILS SHEET 6)

EXISTING PCC SIDEWALK

EXISTING CURB

PROPOSED FOUNDATION  
 30"x30"x33-7/16"  
 8 TOTAL (SEE DETAIL SHEET 6)



<b>VILLAGE OF NORTH AURORA</b> Crossroads on the Fox	Designed BWT 5/24 Drawn BWT 5/24 Checked	Date _____ Job Class _____
	POLICE DEPARTMENT BOLLARD REMOVAL & REPLACEMENT PROJECT ILLINOIS NORTH AURORA BOLLARD REMOVAL & REPLACEMENT	
REVISIONS Date Description Approved	File No. *DWG Sheet 3 of 6	

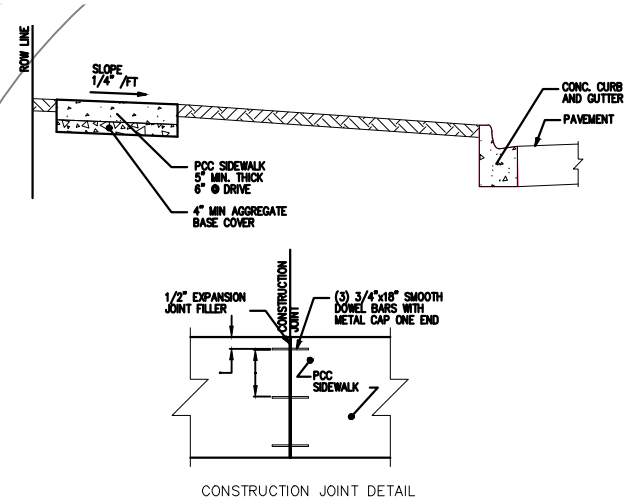
PCC SIDEWALK REMOVAL AND REPLACEMENT, 5" (JOINTS IN REPLACED SIDEWALK TO MATCH EXISTING), 750 SQ. FT.

EXISTING PCC SIDEWALK

EXISTING CURB

NOTE: ADA COMPLIANT PEDESTRIAN ACCESS SHALL BE MAINTAINED AT ALL TIMES FROM THE PARKING LOT TO THE POLICE STATION FRONT DOORS.

MATCH EXISTING GRADE AT ALL LOCATIONS WHERE MEETS EXISTING CONCRETE. OVERALL DIRECTION OF SLOPE TO MATCH SURROUNDING CONCRETE



- NOTES:
1. PARKWAY SLOPE SHALL BE A MINIMUM OF 2% AND MAXIMUM OF SLOPE TO BE 6%.
  2. SIDEWALK SHALL BE A MINIMUM OF 5" THICK, 6" AT DRIVE WITH WWF.
  3. CONTRACTION JOINTS, "V" TYPE, SHALL BE TOOLED IN THE SURFACE OF THE SIDEWALK AT 5 FOOT INTERVALS.
  4. EXPANSION JOINTS 1/2" SHALL BE PROVIDED EVERY 50 FEET, AND AT ALL LOCATIONS WHERE SIDEWALK ABUTS CONCRETE CURBS.
  5. THE FINISHED SIDEWALK SURFACE SHALL HAVE A BROOM TEXTURE.
  6. CONSTRUCTION JOINTS, AS SHOWN, SHALL BE CONSTRUCTED AT ALL TERMINUS ENDS WHERE THE SIDEWALK IS NOT CONSTRUCTED CONTINUOUS.
  7. SIDEWALK SURFACE SHALL BE SPRAY CURED WHEN TEMPERATURE IS EXPECTED TO EXCEED 85° THAT DAY.

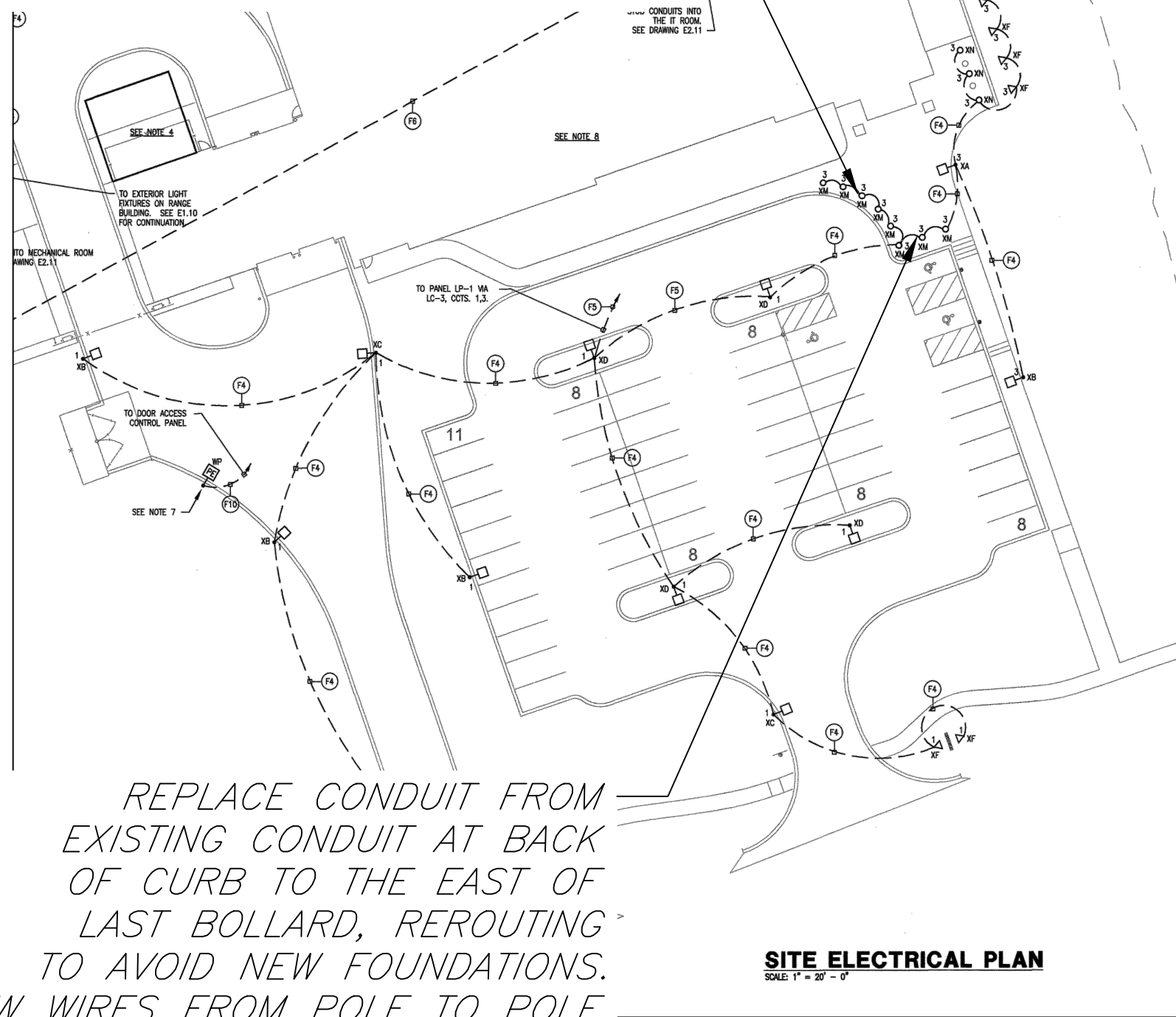
SIDEWALK DETAIL

DESIGNED	BWT	5/24
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APPROVED		
<p>POLICE DEPARTMENT BOLLARD REMOVAL &amp; REPLACEMENT PROJECT ILLINOIS</p> <p>NORTH AURORA</p> <p>SIDEWALK REMOVAL &amp; REPLACEMENT</p>		
<p>Approved Title _____ Date _____ Job Class _____</p>		
REVISIONS	Description	Approved
	Date	
	File No.	*.DWG
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REMOVE EXISTING CONDUITS AND WIRE FROM PROPOSED FOUNDATION LOCATIONS. ALL WIRES SHALL BE REMOVED.



REPLACE CONDUIT FROM EXISTING CONDUIT AT BACK OF CURB TO THE EAST OF LAST BOLLARD, REROUTING TO AVOID NEW FOUNDATIONS. NEW WIRES FROM POLE TO POLE

**ELECTRICAL NOTES:**

1. VERIFY THE TERMINATION POINT OF THE EMPTY CONDUIT WITH THE ELECTRIC COMPANY, PRIOR TO BIDDING. PROVIDE PULL ROPE IN EMPTY CONDUIT.
2. VERIFY THE TERMINATION POINT OF THE EMPTY CONDUIT WITH THE CABLE COMPANY, PRIOR TO BIDDING. PROVIDE PULL ROPE IN EMPTY CONDUIT.
3. VERIFY THE TERMINATION POINT OF THE EMPTY CONDUIT WITH THE TELEPHONE COMPANY, PRIOR TO BIDDING. PROVIDE PULL ROPE IN EMPTY CONDUIT.
4. IN THE AREAS INDICATED, NO UNDERGROUND ELECTRICAL CONDUITS SHALL BE RUN WITH 10 FEET OF THE EXTERIOR EDGE OF THE AREA (FUTURE BUILDING EXPANSION), UNLESS SERVING A DEAD END RUN LIGHT POLE.
5. UNDER BASE BID ONLY, REFER TO NOTE 4.
6. ALL UNDERGROUND FEEDERS SHALL BE RUN A MINIMUM OF 36" BELOW FINISHED GRADE.
7. PROVIDE A STEEL WEATHER RESISTANT PEDASTAL FOR THE EXTERIOR PROX. DETECTOR AS MANUFACTURED BY VIKING #VE-GNP. PROVIDE A MATCHING BACKBOX. MOUNT THE PEDASTAL TO A CONCRETE BASE (SEE XF BASE DETAIL) WITH THE PROPER ANCHOR BOLTS.
8. THE ELECTRICAL CONTRACTOR SHALL DISCONNECT AND REMOVE ALL EXISTING LIGHT POLES, FIXTURES AND ASSOCIATED CONCRETE BASES LOCATED IN THE EXISTING PARKING LOT. SEE DRAWING C1.0 FOR LOCATIONS AND QUANTITIES. DISCONNECT AND REMOVE ALL WIRING BACK TO THE SOURCE.

**FEEDER SCHEDULE:**

TAG	FEEDER
F1	EMPTY 4" PVC CONDUIT WITH PULL WIRE FOR COMED PRIMARY
F2	EMPTY 2" PVC CONDUIT WITH PULL WIRE FOR CABLE SERVICE
F3	EMPTY 3" PVC CONDUIT WITH PULL WIRE FOR TELEPHONE SERVICE
F4	2#10 & 1#10 GRD, IN 1" CONDUIT (480 VOLT)
F5	4#10 & 1#10 GRD, IN 1" CONDUIT (480 VOLT)
F6	3" PVC CONDUIT WITH PULL WIRE FOR LOW VOLTAGE WIRING BETWEEN BUILDINGS
F7	2#10 & 1#10 GRD, IN 1" CONDUIT (120 VOLT)
F8	4#10 & 1#10 GRD, IN 1" CONDUIT (120 VOLT)
F9	6#10 & 1#10 GRD, IN 1" CONDUIT (120 VOLT)
F10	PROXIMITY READER WIRING IN 1" CONDUIT

**SITE ELECTRICAL PLAN**  
SCALE: 1" = 20' - 0"

EXISTING SITE ELECTRICAL PLANS

Designed BWT	5/24
Drawn BWT	5/24
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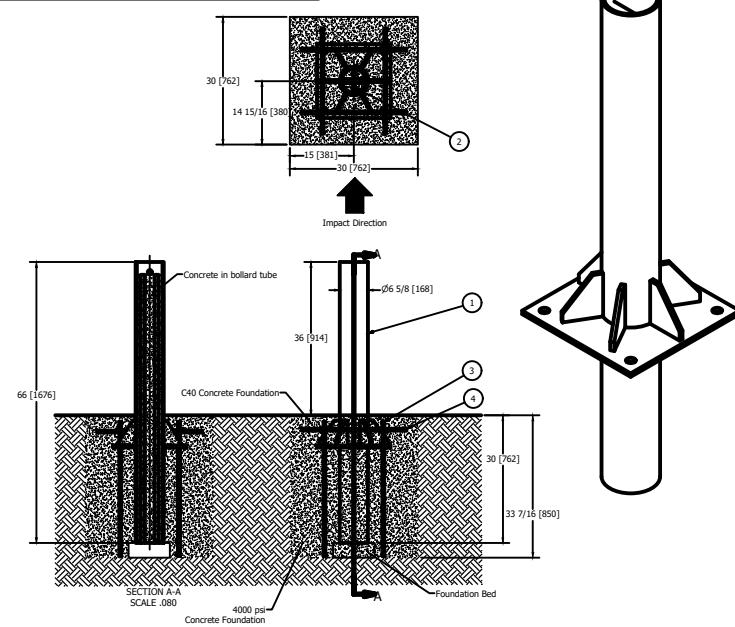
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NORTH AURORA ILLINOIS  
ELECTRICAL PLAN



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Approved \_\_\_\_\_ Date \_\_\_\_\_  
Title \_\_\_\_\_ Job Class \_\_\_\_\_

### Halvard R-1040-C40 Crash-Rated Bollard



#### General Description:

Built to prevent small vehicles from purposefully or accidentally intruding into sensitive areas, our Halvard C40 Crash-Rated Bollard is engineered to keep pedestrians and storefronts safe. Engineered in Canada and certified to ASTM F2656-20 SC40 P1 in American testing facilities, one of these bollards is enough to stop a 2430-pound vehicle traveling at 40 mph with less than 3.3 feet of penetration.

For more information on bollard post installation, please visit: [www.reliance-foundry.com/bollard-installation](http://www.reliance-foundry.com/bollard-installation)

#### Specifications:

Total Height: 66" [1676]  
 Height above grade: 36" [914]  
 Height below grade: 30" [762]  
 Body Diameter: 6 5/8" [168]  
 Weight: 175 lbs [79.4 kg]  
 Material: Steel

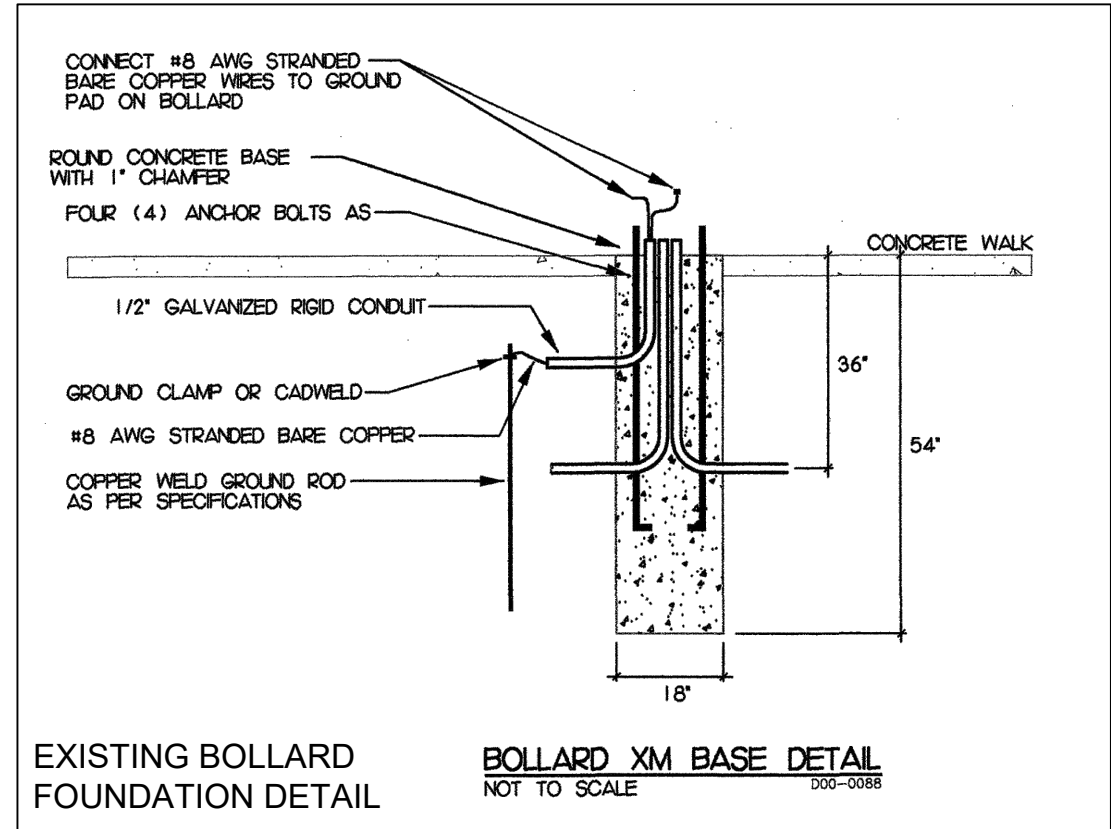
Unit 207, 6450 - 148 Street, Surrey, BC V3S 7G7, Canada  
 1-877-789-3245 info@reliance-foundry.com  
[www.reliance-foundry.com](http://www.reliance-foundry.com)

### Halvard R-1040-C40 Crash-Rated Bollard

ITEM	QTY	PART NUMBER	DESCRIPTION	WEIGHT (lbs)
1	1	R-1040-C40	Halvard R-1040-C40	175
2	2	Rebar Size#8	Rebar Size#8 - 65" Length (Included with bollard)	6.5
3	4	Rebar Size#4	Rebar Size#4 - 32" Length (Not Included)	0.8
4	4	Rebar Size#4	Rebar Size#4 - 24" Length (Not Included)	0.6

- Notes:
- Embedment details are for reference illustration only. Minimum foundation sizes depend on local soil conditions, weather conditions, and engineering requirements.
  - Bollard is provided as shown, with parts listed below. Concrete foundation and/or installation not provided by Reliance Foundry.
  - This drawing is not drawn to scale. Dimensions provided herein are for reference only. Please consult Reliance Foundry sales professionals if any dimension is critical to your particular installation.
  - Reliance Foundry reserves the right to amend design and specifications without prior notice for product improvement.

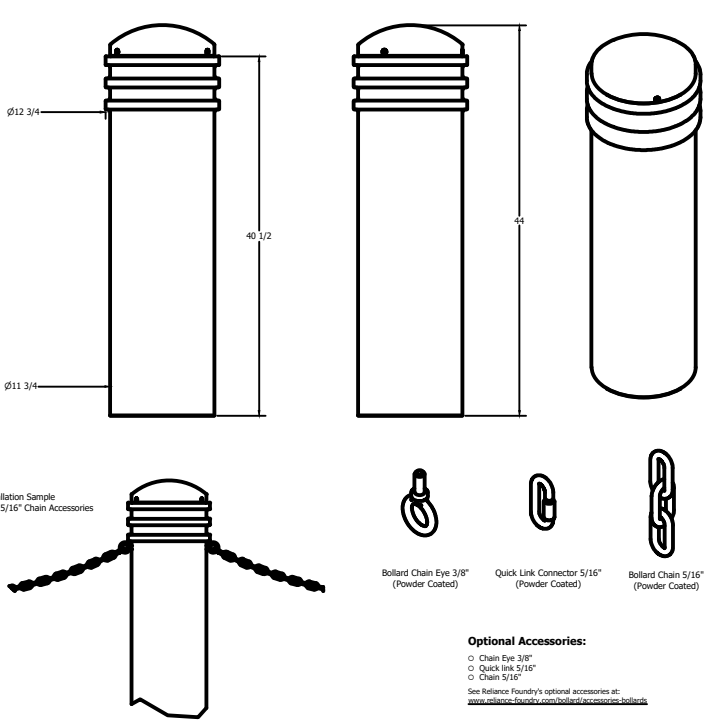
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### EXISTING BOLLARD FOUNDATION DETAIL

### BOLLARD XM BASE DETAIL NOT TO SCALE D00-0088

### Bollard R-7743



#### General Description:

The R-7743 Decorative Bollard offers a clean, simple design suitable for any location. Made from resilient carbon steel, its wide body suits larger pipe reinforcement (up to 10 3/4" diameter) for better impact protection. Bollard surfaces are protected by a durable powder coating, available in 6 standard colors, to prevent wear and corrosion. Use as fixed, stand-alone bollards or cover impact-resistant security posts.

#### Specifications:

Height: 44"  
 Base Diameter: 11 3/4"  
 Weight: 154 lbs (Bollard Only)  
 Material: Steel Body with Ductile Iron Cap  
 Max. Interior Security Post Size: 10 3/4" x 39"

#### Finish Options:

Polyster Powdercoated

See Reliance Foundry's standard color options at: [www.reliance-foundry.com/bollard-color-options](http://www.reliance-foundry.com/bollard-color-options)

#### Installation Options:

- Fixed - Anchor Casting in New Concrete (see sheet 2 of 9)
- Fixed - Concrete Insert Anchor in Existing Concrete (see sheet 3 of 9)
- Fixed - Adhesive Anchor in Existing Concrete (see sheet 4 of 9)
- Fixed - Anchor Casting with Concrete Form (see sheet 5 of 9)
- Post Cover - New Post in New Concrete (see sheet 6 of 9)
- Post Cover - New Post in Existing Concrete (see sheet 7 of 9)
- Post Cover - Existing Post with Adhesive Anchor (see sheet 8 of 9)
- Post Cover - Existing Post with Concrete Anchor (see sheet 9 of 9)

For more information on bollard post installation, please visit: [www.reliance-foundry.com/bollard-installation](http://www.reliance-foundry.com/bollard-installation)

#### Care and Maintenance:

Reliance's line of bollards are finished with a long-lasting powder-coating. Proper care and maintenance are required. Regularly-performed inspections and routine cleaning will ensure that a bollard retains its aesthetic appeal and does not become damaged by the elements.

See Reliance Foundry's maintenance guide at: [www.reliance-foundry.com/bollard-maintenance](http://www.reliance-foundry.com/bollard-maintenance)

Unit 207, 6450 - 148 Street, Surrey, BC V3S 7G7, Canada  
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[www.reliance-foundry.com](http://www.reliance-foundry.com)

### Bollard R-7743

ITEM	QTY	PART NUMBER	DESCRIPTION	WEIGHT (lbs)
1	1	R7743B	R7743 Base	142 lbs
2	1	R7743C	R7743 Cap	12 lbs
3	1	R7500BAR 1"	R7500 Threaded Bar 1" x 43"	8 lbs
4	1	Washer 1" OD 2"	Washer 1" OD 2" Thick 1/8"	1/8 lbs
5	2	Hex Nut 1"	Hex Nut 1" - requires 1 1/2" wrench	1/4 lbs
6	3	Hexagon Socket Set Screw 3/8" x 7/16"	Hex Socket Set Screw 3/8" x 7/16" - requires 3/16" hex key	1/4 lbs
7	3	Polyethylene Plug 3/8"	Polyethylene Plug 3/8"	LDPE Black

- Installation Sample with 5/16" Chain Accessories:
- Chain Eye 3/8" (Powder Coated)
  - Quick Link Connector 5/16" (Powder Coated)
  - Bollard Chain 5/16" (Powder Coated)

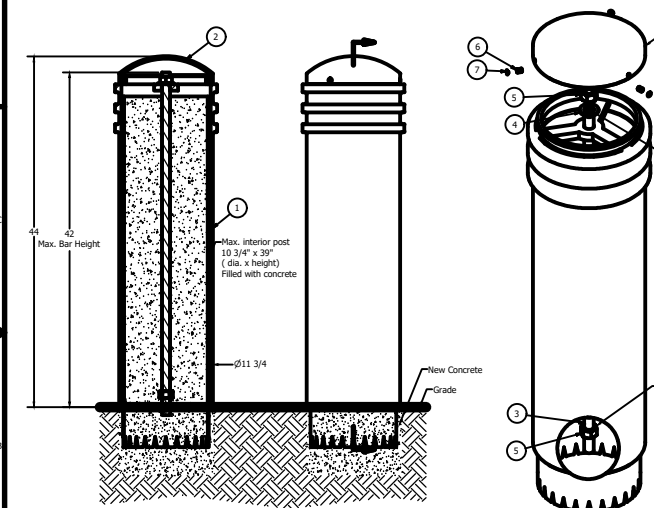
Optional Accessories:

- Chain Eye 3/8"
- Quick Link 5/16"
- Chain 5/16"

See Reliance Foundry's optional accessories at: [www.reliance-foundry.com/bollard-accessories](http://www.reliance-foundry.com/bollard-accessories)

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#### Specifications:

Height: 44"  
 Base Diameter: 11 3/4"  
 Weight: 154 lbs (Bollard Only)  
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ITEM	QTY	PART NUMBER	DESCRIPTION	MATERIAL	WEIGHT
1	1	R7743B	R7743 Base	Steel Powder Coated	142 lbs
2	1	R7743C	R7743 Cap	Ductile Iron Powder Coated	12 lbs
3	1	R7500BAR 1"	R7500 Threaded Bar 1" x 43"	Steel Plated	8 lbs
4	1	Washer 1" OD 2"	Washer 1" OD 2" Thick 1/8"	Steel Plated	1/8 lbs
5	2	Hex Nut 1"	Hex Nut 1" - requires 1 1/2" wrench	Steel Plated	1/4 lbs
6	3	Hexagon Socket Set Screw 3/8" x 7/16"	Hex Socket Set Screw 3/8" x 7/16" - requires 3/16" hex key	Stainless Steel	1/4 lbs
7	3	Polyethylene Plug 3/8"	Polyethylene Plug 3/8"	LDPE Black	

- Notes:
- Bollard post is provided as shown. Concrete, foundation and/or installation ordered separately or provided by others.
  - Minimum foundation sizes depend on local soil conditions, weather conditions, and engineering requirements.
  - Dimensions provided herein are for reference only. Please consult Reliance Foundry sales professionals if any dimension is critical to your particular installation.
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Designed BWT 5/24  
 Drawn BWT 5/24  
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 CONSTRUCTION DETAILS  
 Date Job Class



REVISIONS	Description	Approved	Date

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 Sheet 6 of 6