



James R. Morrissey  
Attorney

**Sent Via Electronic Mail & FedEx**

August 30, 2016

Mr. Robert Stein  
Chairman  
Connecticut Siting Council  
Ten Franklin Square  
New Britain, CT 06051

Dear Chairman Stein:

Enclosed please find an original and fifteen (15) copies of The United Illuminating Company's ("UI") petition to the Connecticut Siting Council requesting a declaratory ruling that no Certificate of Environmental Compatibility and Public Need is required for the proposed minor modifications to UI's New Congress Substation, located at 55 Congress Street in Bridgeport, Connecticut.

Pursuant to the Regulations of Connecticut State Agencies § 16-50j-40, all required parties, including the appropriate municipal official and abutting property owners, have been notified via email and regular mail.

Should you have any questions, please contact me at 203-499-2864.

A check in the amount of \$625 for the required filing fee is also enclosed.

Very truly yours,

James R. Morrissey  
Attorney  
UIL Holdings Corporation  
Counsel for The United Illuminating Company

Enclosures

cc: Amy Hicks, Analyst, The United Illuminating Company

**STATE OF CONNECTICUT  
CONNECTICUT SITING COUNCIL**

PETITION OF THE UNITED	:	PETITION NO. _____
ILLUMINATING COMPANY	:	
FOR A DECLARATORY RULING	:	
THAT NO CERTIFICATE OF	:	
ENVIRONMENTAL COMPATIBILITY	:	
AND PUBLIC NEED IS REQUIRED	:	
FOR PROPOSED MODIFICATIONS TO	:	
THE NEW CONGRESS SUBSTATION	:	August 30, 2016

**1. INTRODUCTION**

Pursuant to Connecticut General Statutes §§ 4-176(a) and 16-50k(g) *et seq.* and the Regulations of Connecticut State Agencies § 16-50j-38 *et seq.*, The United Illuminating Company (“Petitioner,” “UI,” or the “Company”) requests that the Connecticut Siting Council (“Council”) approve by declaratory ruling certain proposed minor modifications to UI’s New Congress Substation (the “Project”), located at 55 Congress Street in Bridgeport, Connecticut (the “Site”).

The proposed modifications form a grounding initiative that consists of burying 4/0 copper grounding conductor within and outside the New Congress Substation (the “Substation”) fence line, adding crushed stone to a certain area outside of the Substation fence line, and replacing eight sections of a fence adjacent to the fence enclosing the Substation. These modifications are necessary to protect the Company’s hard assets, the electrical system, and most importantly, the public by eliminating the risk of hazardous step and touch potentials in the vicinity of the Substation that exist during certain electrical ground fault conditions.

As the Project will not have a substantial adverse environmental effect, the Petitioner asks the Council to determine that the Project does not require a certificate of environmental compatibility and public need.

## **2. PETITIONER**

The United Illuminating Company is an electric distribution company specially chartered by the General Assembly of the State of Connecticut and having its principal place of business at 180 Marsh Hill Road, Orange, Connecticut 06477. UI will lead the proposed construction activities.

Please address all correspondence and/or communications regarding this petition to Petitioner's counsel:

James R. Morrissey  
UIL Holdings Corporation  
157 Church Street  
New Haven, CT 06510  
203.499.2864 (office)  
[james.morrissey@avangrid.com](mailto:james.morrissey@avangrid.com)

Please also provide a copy of all such correspondence and/or communications to the Petitioner's Project Manager:

S. MeeNa Cullen-Corson  
The United Illuminating Company  
180 Marsh Hill Road  
Orange, CT 06477  
203.926.4772 (office)  
[sara.cullen-corson@uinet.com](mailto:sara.cullen-corson@uinet.com)

### **3. PURPOSE OF THE PROJECT**

#### **3.1 AN OVERVIEW OF SUBSTATION GROUNDING**

According to the Institute of Electrical and Electronic Engineers, the safe grounding of substations is critical to provide (i) a means to direct electrical currents from equipment into the earth under both normal and fault conditions without exceeding any operational limits or adversely affecting electrical service and (ii) to prevent the exposure of persons in the vicinity of the substation to the dangers associated with critical electric shock.<sup>1</sup> Through changes in the transmission system topography and the evolution of industry standards surrounding substation grounding, the Company recognizes the need to undertake this Project based on a recent engineering study.

#### **3.2 PROPERTY DESCRIPTION**

The Site is located in a congested area within the City of Bridgeport. It is bounded to the north by the Pequonnock River, to the west by a courthouse and detention center owned by the State of Connecticut, and the south-southwest by a transportation and bus depot owned by the City of Bridgeport. Additionally abutting the Site, albeit not as a record property owner, is the Connecticut Department of Transportation's elevated rail bridge, part of the southwestern Connecticut rail corridor. For a detailed map showing the record property owners abutting the Site, please refer to Attachment I, *Abutters Map*.

The Petitioner constructed the New Congress Substation in the 1960s and has operated it continuously since then. The Site and its immediate surroundings are heavily industrialized and for that reason, in addition to the nature of the modifications, as discussed in greater detail below, the Project will have no adverse environmental effect. Additionally, the Company will

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<sup>1</sup> Institute of Electrical and Electronic Engineers, IEEE Guide for Safety in AC Substation Grounding, January 30, 2000, at 8.

do everything necessary to mitigate any potential construction related impacts through careful planning and diligent oversight.

Although the Site housing the Substation is owned by the Petitioner, UI will install portions of the Project on adjacent property owned by the State of Connecticut (as depicted, in part, on Drawing No. 25243-444, contained within Attachment II).<sup>2</sup> The Company has received consent from the State of Connecticut to undertake this Project and UI will work closely with both the State and the City of Bridgeport to minimize any potential disturbances throughout Project construction.

**Figure 1 – Site Location**



Google Maps – Accessed August 28, 2016 (Map Data 2016)

<sup>2</sup> The Petitioner will additionally install an isolation fence on the State of Connecticut’s property, as Depicted in Attachment III – *Site Pictures* at 1.

### 3.4 PROJECT DESCRIPTION

To meet current industry standards at the Site, the Petitioner will install grounding conductor, crushed rock, and an isolation fence.<sup>3</sup> Each of the grounding elements discussed in greater detail below are depicted in Attachment II, *Construction Drawings*.

- i. Grounding Conductor: The Petitioner will install approximately 2,500 feet of 4/0 copper grounding conductor within the Substation and around its perimeter, inside and outside of the existing fence line. The construction plans call for the installation of certain portions of the conductor above grade, but the Petitioner will install the majority the 2,500 feet in below grade using standard trenching techniques.

**Figure 2 – Example of Conductor Trenching**



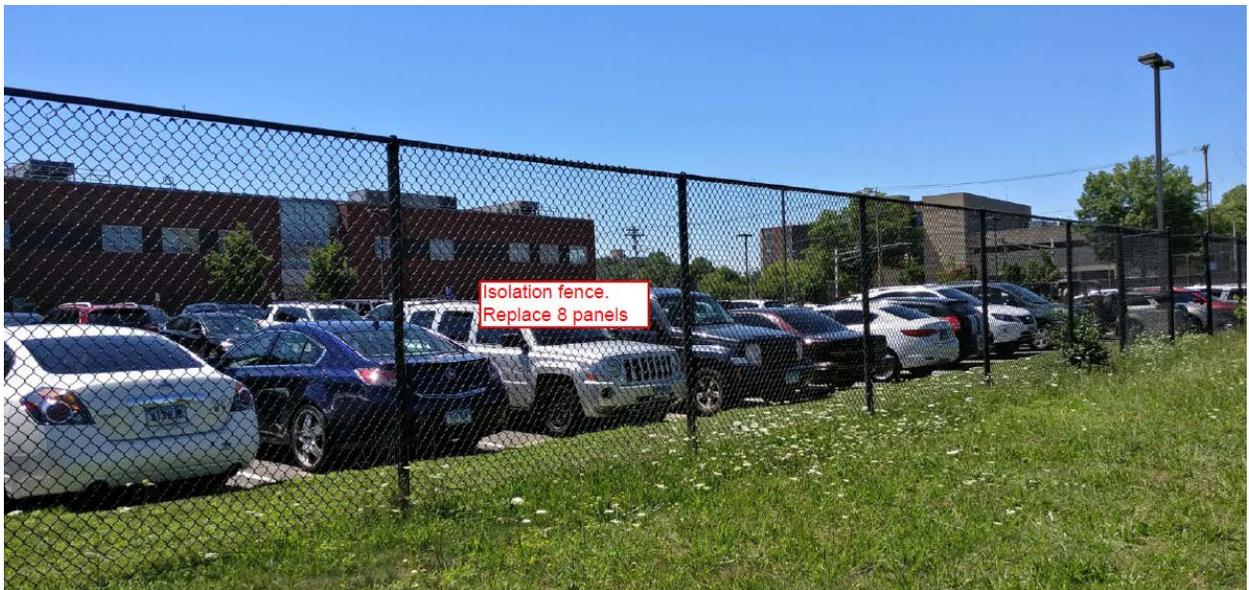
Pentair – Application of ERICO CU-Bond Round Conductor

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<sup>3</sup> See IEEE Standard 80, 2000.

- ii. Crushed Rock: The Petitioner intends to install approximately 3,000 square feet (roughly 1,500 cubic feet) of stone along the fence line, and in certain locations, up to four feet beyond the fence.
- iii. Isolation Fence: A linear fence currently separates the State of Connecticut's parking area from a paved access road for the Substation. The Petitioner will install 80 linear feet of new fence in the same location. However, this new fence will contain two isolation panels on both ends and the Petitioner will isolate the fence posts throughout the run by capping them with polyvinyl chloride ("PVC") sleeves in the foundation.

**Figure 3 – Location of Isolation Fence**



*Attachment 3 – Site Pictures*

#### 4. POTENTIAL ENVIRONMENTAL EFFECTS

As with all projects proposed by UI, the overarching goal is to design a project that meets and or exceeds operational criteria in the most environmentally compatible way possible. The Petitioner is confident that this Project will have no negative environmental impact.

- If contaminated soil is discovered during excavation, the Petitioner will categorize and dispose of such contaminated soil according to all potentially applicable statutes and regulations.
- There are no Connecticut listed species within the Project footprint. *See Attachment IV – DEEP Correspondence.* Further, the Project will not destroy or materially alter any habitat suitable for wildlife.
- The Project, once complete, will positively impact stormwater runoff and drainage with the addition of more pervious surface area (i.e. the addition of crushed stone). Additionally, the Petitioner does not anticipate that civil construction will reach the current depth of the groundwater on the Site (approximately 10-12 feet below ground).
- The Petitioner does not anticipate the erosion of existing features during construction activities. However, to mitigate any potential erosion, UI will utilize sediment controls, including but not limited to: silt fences, hay-bales, compost filter socks, and an anti-tracking pad.
- There are no inland or tidal wetlands located on the Site. Although the coastal jurisdiction line runs along the eastern border of the Substation, the Petitioner does not propose any modifications to the facility within the coastal jurisdiction boundary.

- The Project will not interfere with radio or television signals.
- The Project will have no impact on electric and magnetic fields because the modifications will in no way modify or increase the voltage of the electricity flowing through the Substation.
- The Project will comply with state and local noise ordinances and construction activities will take place, except in limited exceptional or emergency circumstances, during normal working hours (7 AM to 4 PM) Monday through Friday.
- The Project will not impact the scenic values of the Site in any way as the vast majority of the Project will take place below-grade or at grade. The replacement isolation fence will look nearly identical (2 inch chain link).
- The Project will take place at an existing Substation and thus, will not impact any historic or cultural values.

## **5. PUBLIC HEALTH AND SAFETY**

The Petitioner is immensely concerned with safety. Overall, the Project will meet or exceed all health and safety requirements. Each employee working on site will:

- Receive required general and Site-specific health and safety training;
- Comply with all health and safety controls as directed by local, state, and federal requirements;
- Understand and employ the Site health and safety plan;
- Know the location of local emergency care facilities, travel times, ingress and egress routes; and
- Immediately report all unsafe conditions to the construction manager.

During construction, heavy equipment must access the Site within normal working hours. Such vehicles will access the Substation via a paved access road or through the State of Connecticut's parking area when work is required beyond the Substation fence. Limited staging is required and UI will store Project equipment and materials within the Substation.

## **6. CONCLUSION**

The minor modifications the Petitioner proposes will significantly improve the grounding infrastructure at the Substation and will help prevent equipment failure and associated service interruptions as well as provide a safe environment for both workers and the general public. Further, the Project will have no adverse environmental effect on the Site or the surrounding area. For these reasons, the Petitioner asks that the Council approve this Project by declaratory ruling that no certificate of environmental compatibility and public need is required.

Respectfully submitted,

**THE UNITED ILLUMINATING COMPANY**

By: \_\_\_\_\_

James R. Morrissey  
Attorney  
UIL Holdings Corporation  
157 Church Street  
New Haven, CT 06510

**CERTIFICATION**

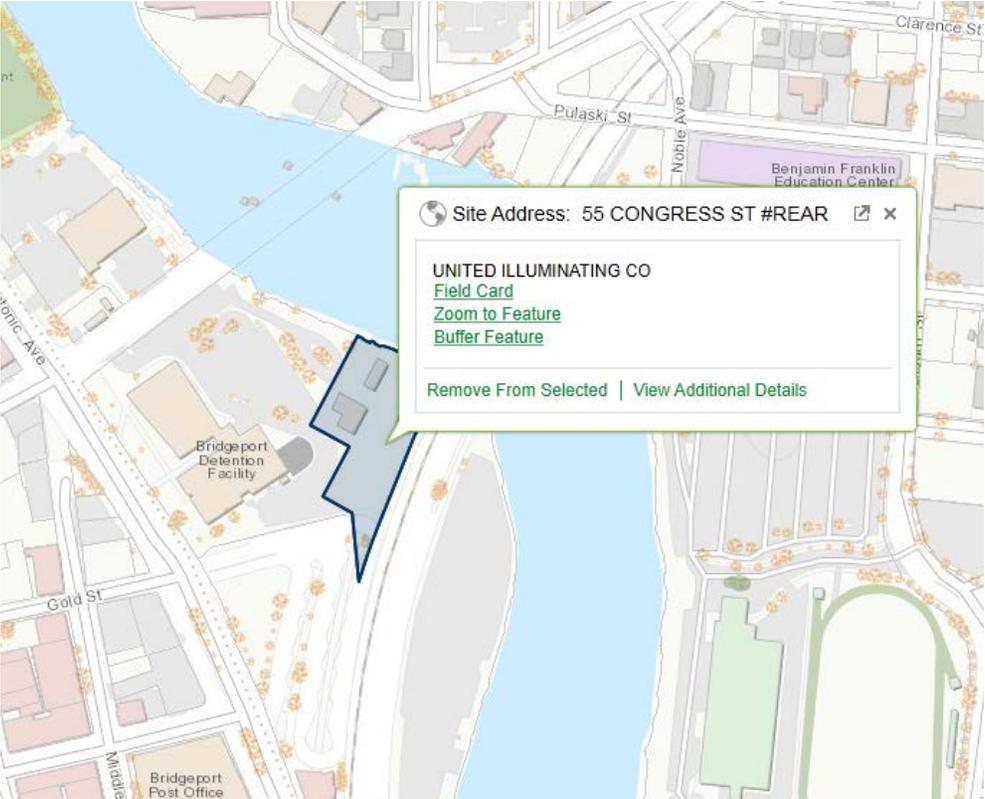
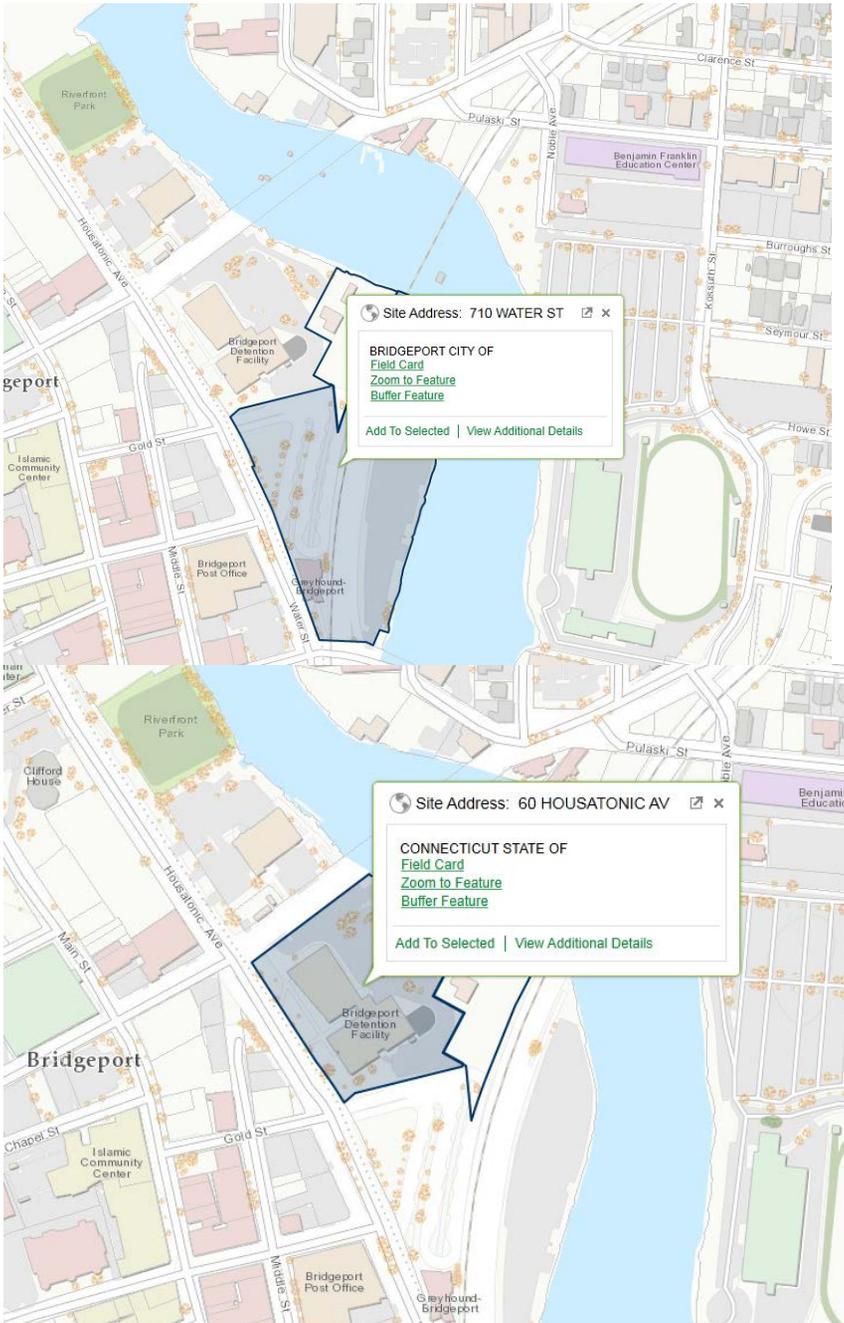
This is to certify that on this 30<sup>th</sup> day of August, 2016, an original and fifteen (15) copies of the foregoing was sent via FedEx to the Connecticut Siting Council, 10 Franklin Square, New Britain, Connecticut, and prior to such, notice of this filing was sent to all required entities, in accordance with § 16-50j-40 of the Regulations of Connecticut State Agencies.

By:\_\_\_\_\_

James R. Morrissey  
Attorney  
UIL Holdings Corporation  
157 Church Street  
New Haven, CT 06510

# Attachment I

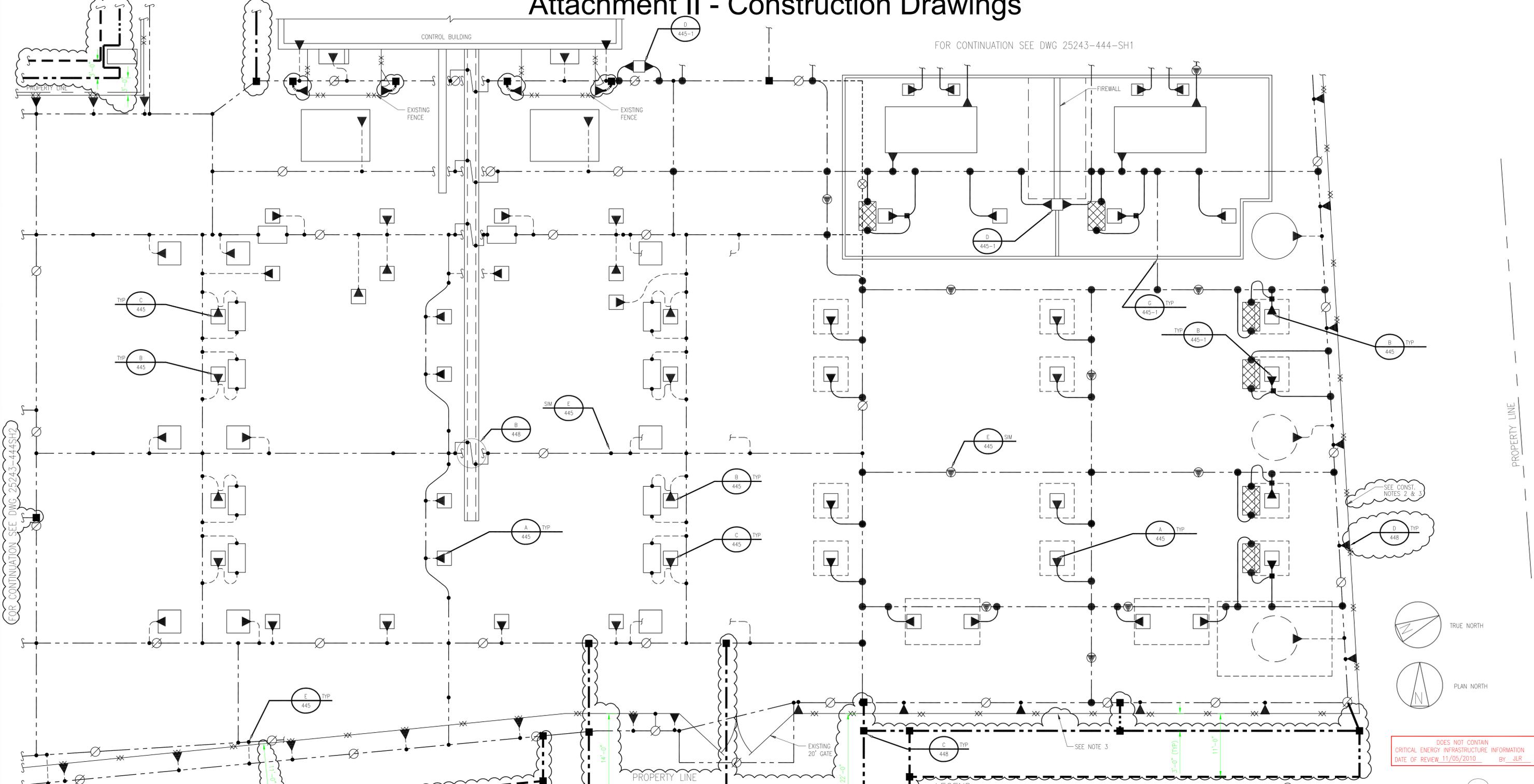
## Abutters Map – 55 Congress Street (New Congress Substation)



	Parcel Address	Abutter
1	710 Water Street, Bridgeport	The City of Bridgeport
2	60 Housatonic Avenue, Bridgeport	The State of Connecticut (Judicial Branch)

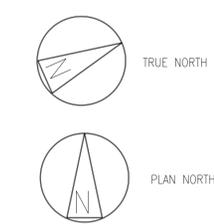
# Attachment II - Construction Drawings

FOR CONTINUATION SEE DWG 25243-444-SH1



FOR CONTINUATION SEE DWG 25243-444SH2

PROPERTY LINE



DOES NOT CONTAIN CRITICAL ENERGY INFRASTRUCTURE INFORMATION  
DATE OF REVIEW 11/05/2010 BY: JLR

- CONSTRUCTION NOTES**
- THE CONTRACTOR SHALL FURNISH AND INSTALL ALL BELOW GRADE GROUND CONDUCTORS AND CONNECTORS.
  - THE CONTRACTOR SHALL GROUND THE FENCE POSTS AT 20FT INTERVALS.
  - THE CONTRACTOR SHALL BOND THE FENCE FABRIC AT 20FT INTERVALS ALONG THE FENCE.

- REFERENCE DRAWINGS**
- ELECTRICAL SITE PLAN
  - 115KV ELECTRICAL SWITCHYARD PLAN
  - 115KV ELECTRICAL SWITCHYARD PLAN
  - 115KV SWITCHYARD SECTIONS
  - 115KV SWITCHYARD DETAILS
  - 115KV SWITCHYARD SECTIONS
  - 115KV SWITCHYARD SECTIONS
  - SWITCHYARD FOUNDATION PLAN
  - SWITCHYARD FOUNDATION DETAILS
  - RACEWAY AND LIGHTING PLAN
  - GROUNDING PLAN
  - GROUNDING, RACEWAY, AND LIGHTING DETAILS
  - SWITCHYARD STRUCTURES
- 25243-001
  - 25243-439
  - 25243-439-SH1
  - 25243-440-SH1
  - 25243-440-SH2
  - 25243-440-SH3
  - 25243-441
  - 25243-442, SH1 & SH2
  - 25243-443 & SH1
  - 25243-444-SH1
  - 25243-445 & SH1
  - 25243-446-SH2, SH3, SH4 & SH5
  - 25243-463

- GENERAL NOTES**
- THE SYMBOL INDICATES AN ITEM NUMBER IN THE MATERIAL LIST, SEE THE MATERIAL LIST FOR ITEM DESCRIPTIONS.
  - SEE DRAWING 25243-443 FOR CABLE TRENCH PLAN AND DETAILS.
  - 6" OF CRUSHED ROCK SHALL BE INSTALLED 4FT OUTSIDE OF PERIMETER FENCE.

**LEGEND:**

- EXISTING 4/0 COPPER GROUND GRID CONDUCTOR
- EXISTING GROUND ROD, 10 FOOT LENGTH
- EXISTING EXOTHERMAL WELD CONNECTION
- EXISTING 4/0 COPPER GROUND STINGER
- EXISTING EXOTHERMAL WELD CONNECTION
- EXISTING 4/0 COPPER GROUND STINGER
- EXISTING SWITCH GROUNDING MAT
- EXISTING PREFABRICATED CABLE TRENCH
- EXISTING FENCE
- NEW 4/0 COPPER GROUND GRID CONDUCTOR AT 1.5'
- EXISTING GROUND ROD, 10 FOOT LENGTH (YG06)
- EXISTING EXOTHERMAL WELD CONNECTION (SEE DETAILS FOR ITEM NUMBERS)
- EXISTING 4/0 COPPER GROUND STINGER (YG01)
- EXISTING BOLTED GROUND CONNECTION (YG05)
- EXISTING SWITCH GROUNDING MAT (YG12)
- NEW 4/0 COPPER GROUND GRID CONDUCTOR AT 5'
- COMPRESSION CONNECTION
- AREAS BACKCIRCLED ON THIS DRAWING INDICATE WORK ASSOCIATED WITH PROJECT 184625 - GROUNDING ENHANCEMENT

<b>BLACK &amp; VEATCH</b> Building a world of difference®							
DESIGNER	JDN	DRAWN	JSF				
CHECKED	JPL	DATE	04/30/1991				
PROJECT #	17856						
NO	DATE	REVISION	DRN	CHKD	DESN	SUPR.	
D	01/22/2016	ISSUED FOR CONSTRUCTION-PROJECT 184625-GROUNDING ENHANCEMENT	TJD	TKD	AKK	MAY	
C	01/29/2015	ISSUED FOR UI 90% REVIEW-PROJECT 184625-GROUNDING ENHANCEMENT	WDS	TKD	AKK	MAY	
B	12/10/2014	ISSUED FOR UI 70% REVIEW-PROJECT 184625-GROUNDING ENHANCEMENT	WDS	TKD	MDM	MAY	
A	10/28/2014	ISSUED FOR UI 30% REVIEW-PROJECT 184625-GROUNDING ENHANCEMENT	SLC	TKD	MDM	MAY	

**APPROVED FOR CONSTRUCTION**  
THE DISTRIBUTION AND USE OF THE NATIVE FORMAT CAD FILE OF THIS DRAWING IS UNCONTROLLED. THE USER SHALL VERIFY TRACEABILITY OF THIS DRAWING TO THE LATEST CONTROLLED VERSION.

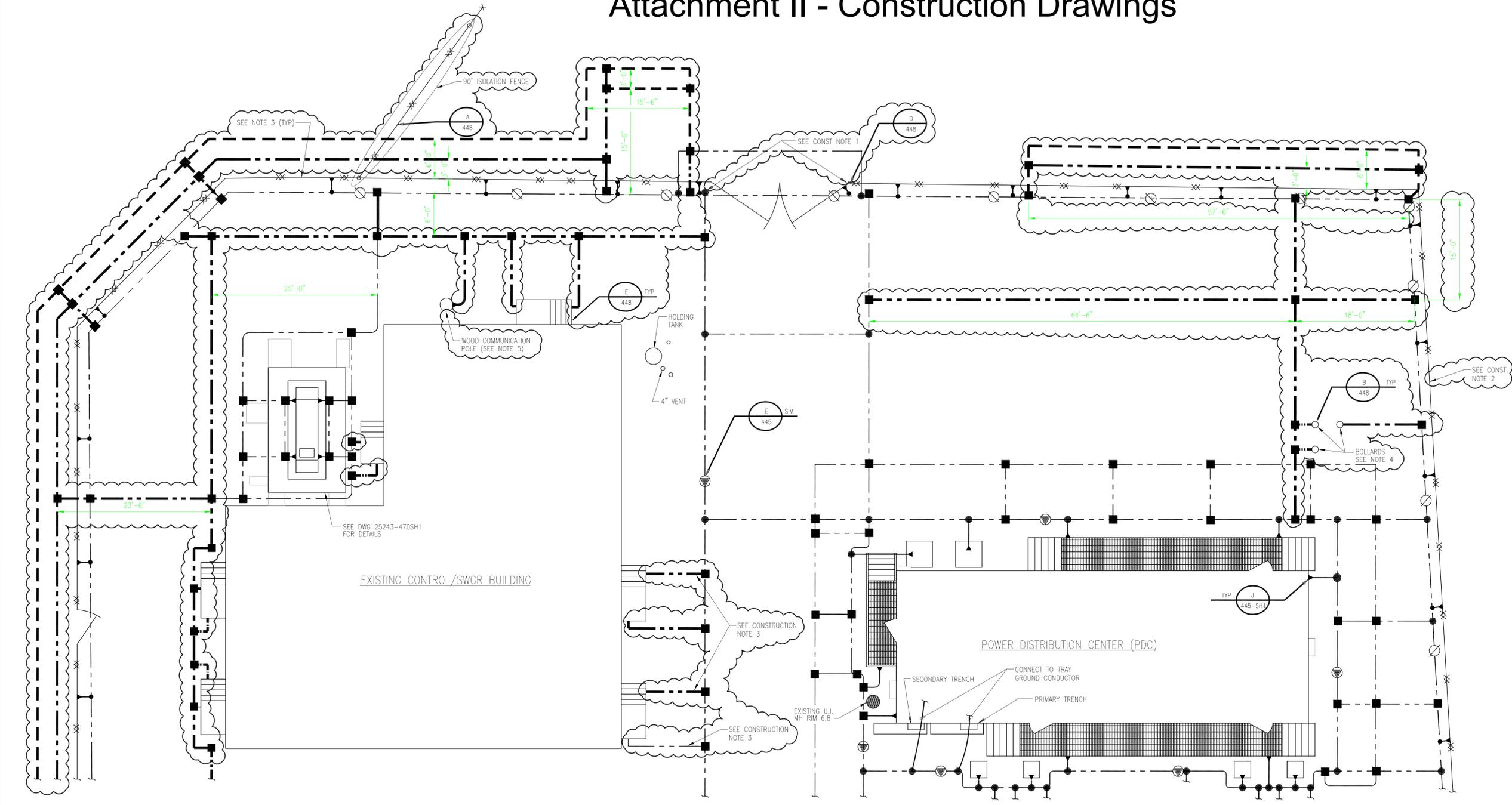
8	04-26-00	ISSUED FOR CONSTRUCTION	MSL	DJK	ALS	DJK
7	08-27-99	ISSUED FOR BID	MSL		ALS	DJK
6	04-16-99	ISSUED TO UI FOR REVIEW - SUBSTATION ADDITION	MSL		ALS	DJK
5	09-09-94	AS BUILT	WFJR		BH	
4	03-17-92	REVISED FENCE LOCATION	JSF	DJK	TJH	DJK
3	10-30-91	ISSUED FOR SUBSTATION CONSTRUCTION	JSF	TJH	JDN	DJK
2	07-12-91	ISSUED TO UI FOR FINAL REVIEW	JSF	JPL	JDN	DJK
1	04-30-91	ISSUED TO UI FOR INTERMEDIATE REVIEW	GMM	JDN	JDN	DJK
9	03-20-01	AS BUILT		MM		
No	Date	Revision	By	Chkd.	Engr.	Supv.

**The United Illuminating Company**

Drawn: [ ] Date: 4/30/91 Scale: 1/8"=1'-0"  
 Chkd.: [ ] Design Engr.: [ ] Design Supv.: [ ]

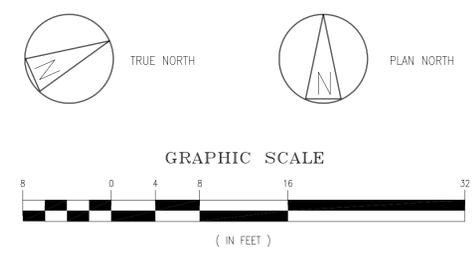
<b>GROUNDING AND RACEWAY PLAN</b>		
<b>CONGRESS STREET SUBSTATION</b>		
CAD FILE NAME	SEQUENCE No.	DRAWING NUMBER
	052247	25243-444

# Attachment II - Construction Drawings



FOR CONTINUATION SEE DWG 25243-444SH2

FOR CONTINUATION SEE DWG 25243-444



- CONSTRUCTION NOTES:**
1. THE CONTRACTOR SHALL REPLACE COPPER BRAIDS AT THE INDICATED LOCATIONS.
  2. THE CONTRACTOR SHALL BOND THE FENCE FABRIC ALONG ITS LENGTH.
  3. THE CONTRACTOR SHALL REPAIR THE ASPHALT IN THIS AREA PER DETAILS SHOWN ON DRAWING 25243-449.

- LEGEND:**
- EXISTING 4/0 COPPER GROUND GRID CONDUCTOR
  - GROUND ROD, 10 FOOT LENGTH
  - EXISTING EXOTHERMAL WELD CONNECTION
  - EXISTING FENCE
  - NEW GROUND ROD, 10 FOOT LENGTH (YG06)
  - 4/0 COPPER GROUND STINGER
  - NEW 4/0 COPPER GROUND GRID CONDUCTOR AT 1.5'
  - NEW 4/0 COPPER GROUND GRID CONDUCTOR AT 5'
  - COMPRESSION CONNECTION
  - ☁ AREAS BACKCIRCLED ON THIS DRAWING INDICATE WORK ASSOCIATED WITH PROJECT 184625 - GROUNDING ENHANCEMENT

**APPROVED FOR CONSTRUCTION**  
 THE DISTRIBUTION AND USE OF THE NATIVE FORMAT CAD FILE OF THIS DRAWING IS UNCONTROLLED. THE USER SHALL VERIFY TRACEABILITY OF THIS DRAWING TO THE LATEST CONTROLLED VERSION.

DOES NOT CONTAIN CRITICAL ENERGY INFRASTRUCTURE INFORMATION  
 DATE OF REVIEW 11/05/2010 BY JLR

- GENERAL NOTES**
1. THE SYMBOL INDICATES AN ITEM NUMBER IN THE MATERIAL LIST, SEE THE MATERIAL LIST FOR ITEM DESCRIPTIONS.
  2. SEE DRAWING 25243-443-SH1 FOR CABLE TRENCH PLAN AND DETAILS.
  3. 6" CRUSHED ROCK SHALL BE INSTALLED 4 FEET OUTSIDE THE PERIMETER FENCE.
  4. ALL THE EXISTING METAL POSTS AND BOLLARDS IN THE STATION SHALL BE GROUNDED.
  5. COMMUNICATIONS POLE STINGER SHALL BE BONDED TO THE GROUND GRID.

**REFERENCE DRAWINGS**

ELECTRICAL SITE PLAN	25243-001
115KV ELECTRICAL SWITCHYARD PLAN	25243-439
115KV ELECTRICAL SWITCHYARD PLAN	25243-439-SH1
115KV SWITCHYARD SECTIONS	25243-440-SH1
115KV SWITCHYARD DETAILS	25243-440-SH2
115KV SWITCHYARD SECTIONS	25243-440-SH3
SWITCHYARD FOUNDATION PLAN	25243-441
SWITCHYARD FOUNDATION DETAILS	25243-442, SH1 & SH2
RACEWAY AND LIGHTING PLAN	25243-443 & SH1
GROUNDING AND RACEWAY PLAN	25243-444
GROUNDING, RACEWAY, AND LIGHTING DETAILS	25243-445 & SH1
SWITCHYARD STRUCTURES	25243-446-SH2, SH3, SH4 & SH5
SWITCHYARD STRUCTURES	25243-463
GROUNDING PLAN	25243-444SH2

<b>BLACK &amp; VEATCH</b> Building a world of difference®									
DESIGNER	JDG	DRAWN	MSL						
CHECKED	DJK	DATE	04/16/1999						
PROJECT #	61820								
NO	DATE	REVISION		DRN	CHKD	DESN	SUPR.		
D	01/22/2016	ISSUED FOR CONSTRUCTION-PROJECT 184625-GROUNDING ENHANCEMENT		TJD	TKD	AKK	MAV		
C	01/29/2015	ISSUED FOR UI 90% REVIEW-PROJECT 184625-GROUNDING ENHANCEMENT		WDS	TKD	AKK	MAV		
B	12/10/2014	ISSUED FOR UI 70% REVIEW-PROJECT 184625-GROUNDING ENHANCEMENT		TOP	TKD	MDM	MAV		
A	10/28/2014	ISSUED FOR UI 30% REVIEW-PROJECT 184625-GROUNDING ENHANCEMENT		SLC	TKD	MDM	MAV		

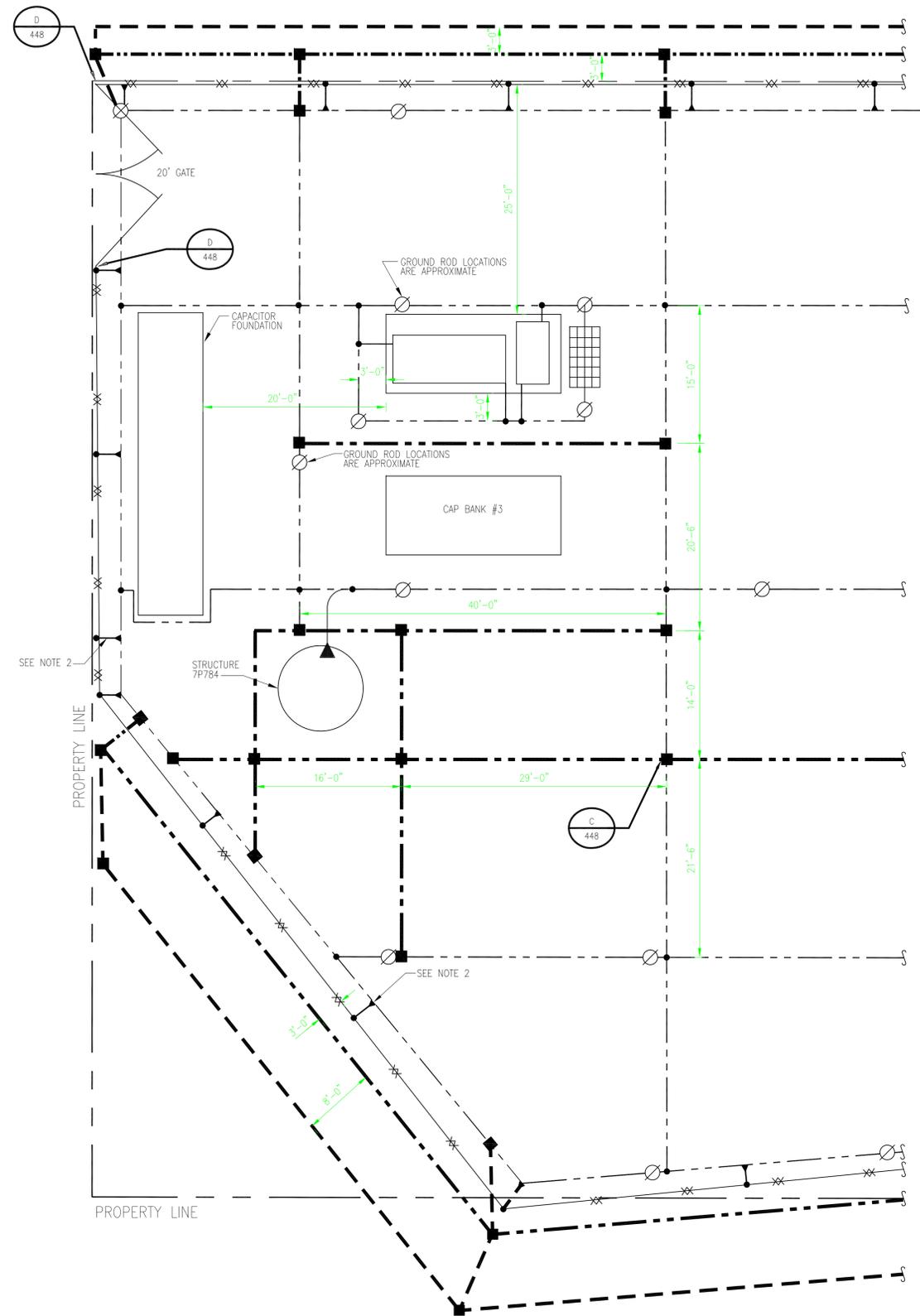
3	03-20-01	AS BUILT							
2	04-26-00	ISSUED FOR CONSTRUCTION	MSL	DJK	JDC	DJK			
1	09-14-99	ISSUED FOR BID	MSL		JDC	DJK			
0	04-16-99	ISSUED TO UI FOR REVIEW - SUBSTATION ADDITION	MSL		JDC	DJK			
No	Date	Revision	By	Chkd.	Engr.	Supv.			

**The United Illuminating Company**

Drawn: [ ] Date: 04/16/99 Scale: 1/8"=1'-0"  
 Chkd.: [ ] Design Engr.: [ ] Design Supv.: [ ]

<b>GROUNDING PLAN</b>		
<b>CONGRESS STREET SUBSTATION</b>		
CAD FILE NAME	SEQUENCE No.	DRAWING NUMBER
	061504	25243-444SH1

# Attachment II - Construction Drawings



FOR CONTINUATION SEE DWG 25243-444

**NOTES:**

1. OCB, TRANS, LAS ETC TO BE GROUNDED ACCORDING TO MANUFACTURER'S SPECIFICATIONS.
2. FENCE POSTS SHALL BE GROUNDED AT 20FT INTERVALS.
3. THIS DRAWING IS CREATED FROM DRAWING 25243-403 TO SEPARATE GROUNDED FROM RACEWAY.

**LEGEND:**

- EXISTING 4/0 COPPER GROUND GRID CONDUCTOR
- EXISTING GROUND ROD, 10 FOOT LENGTH
- EXISTING EXOTHERMAL WELD CONNECTION
- EXISTING ERICO PREFABRICATED GRD MAT 30x50 OF 6" THINNED SOLID COPPER WIRE 6x6 MESH
- NEW 4/0 COPPER GROUND GRID CONDUCTOR AT 1.5'
- NEW 4/0 COPPER GROUND GRID CONDUCTOR AT 5'
- PROPERTY LINE
- EXISTING 4/0 COPPER GROUND STINGER
- NEW COMPRESSION CONNECTION

**APPROVED FOR CONSTRUCTION**  
 THE DISTRIBUTION AND USE OF THE NATIVE  
 FORMAT CAD FILE OF THIS DRAWING IS  
 UNCONTROLLED. THE USER SHALL VERIFY  
 TRACEABILITY OF THIS DRAWING TO THE LATEST  
 CONTROLLED VERSION.



DOES NOT CONTAIN  
 CRITICAL ENERGY INFRASTRUCTURE INFORMATION  
 DATE OF REVIEW 11/15/2010 BY: JLR

<b>BLACK &amp; VEATCH</b> Building a world of difference®							
DESIGNER	MDM	DRAWN	SLC				
CHECKED	TKD	DATE	10/28/2014				
PROJECT #	184625						
NO	DATE	REVISION	DRN	CHKD	DESN	SUPR.	
D	01/22/2016	ISSUED FOR CONSTRUCTION-PROJECT 184625-GROUNDING ENHANCEMENT	TJD	TKD	AKK	MAV	
C	01/29/2015	ISSUED FOR UI 90% REVIEW-PROJECT 184625-GROUNDING ENHANCEMENT	WDS	TKD	AKK	MAV	
B	12/10/2014	ISSUED FOR UI 70% REVIEW-PROJECT 184625-GROUNDING ENHANCEMENT	TOP	TKD	MDM	MAV	
A	10/28/2014	ISSUED FOR UI 30% REVIEW-PROJECT 184625-GROUNDING ENHANCEMENT	SLC	TKD	MDM	MAV	

**NEW DRAWING**

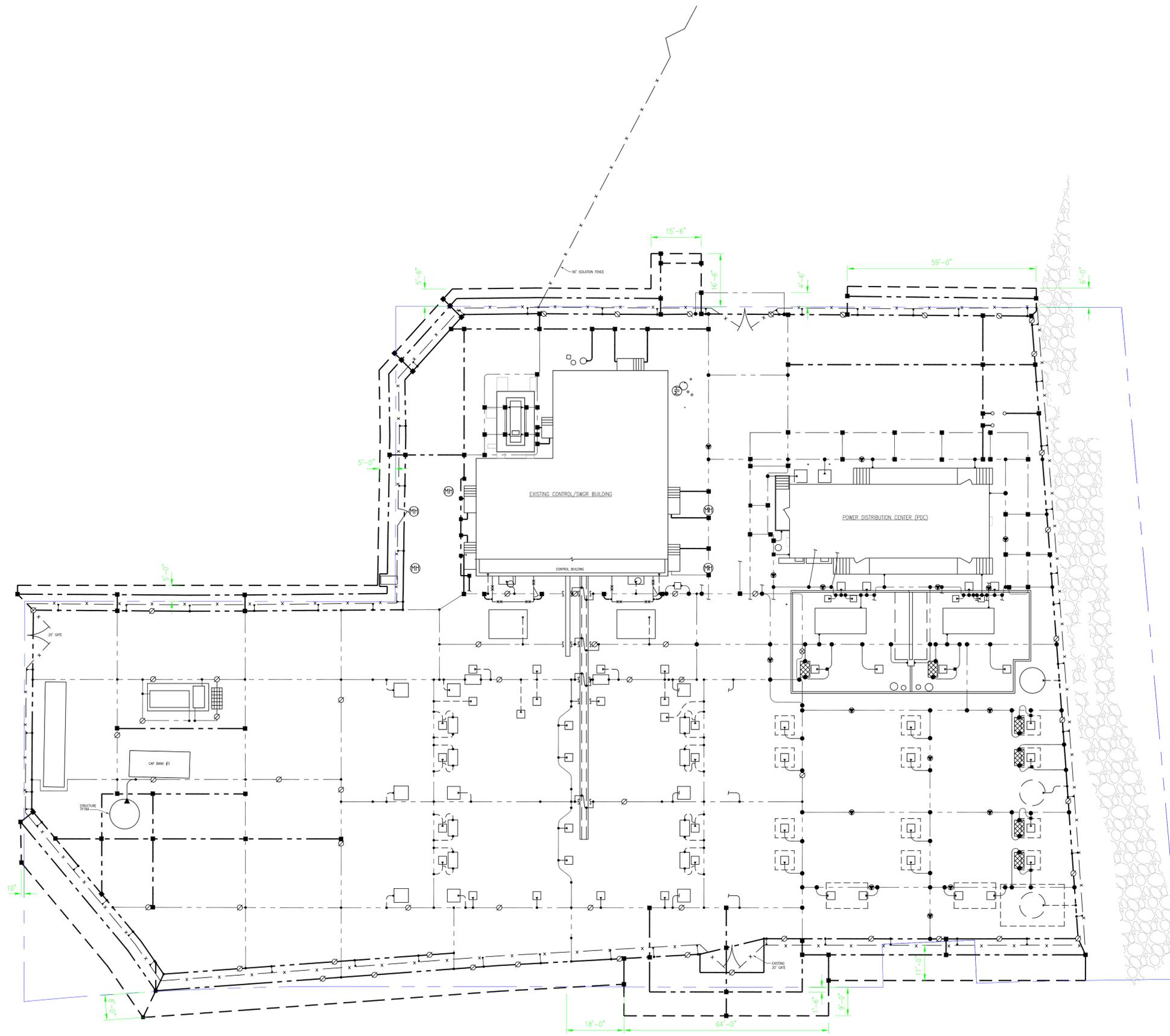
No	Date	Revision	By	Chkd.	Engr.	Supv.

**ui**  
 The United Illuminating Company

Drawn: \_\_\_\_\_ Date: 10/16/2014 Scale: 1/8"=1'-0"  
 Chkd.: \_\_\_\_\_ Design Engr.: \_\_\_\_\_ Design Supv.: \_\_\_\_\_

GROUNDING PLAN 115KV YARD		
CONGRESS STREET SUBSTATION		
CAD FILE NAME	SEQUENCE No.	DRAWING NUMBER
	-	25243-444SH2

# Attachment II - Construction Drawings



- LEGEND:**
- PROPERTY LINE
  - NEW 4/0 COPPER GROUND GRID CONDUCTOR AT 1.5'
  - NEW 4/0 COPPER GROUND GRID CONDUCTOR AT 5'

- REFERENCE DRAWINGS:**
- |                |              |
|----------------|--------------|
| GROUNDING PLAN | 25243-444    |
| GROUNDING PLAN | 25243-444SH1 |
| GROUNDING PLAN | 25243-444SH2 |

**PRELIMINARY**  
NOT TO BE USED FOR CONSTRUCTION  
**NEW DRAWING**

<b>BLACK &amp; VEATCH</b> Building a world of difference®									
DESIGNER	TKD	DRAWN	TDP						
CHECKED	JBS	DATE	03/19/2015						
PROJECT #	185873								
NO.	DATE	ISSUED FOR UI 90% REVIEW	REVISION	TDP	JBS	TKD	DJK		
				DRN	CHKD	DES	SUPR.		



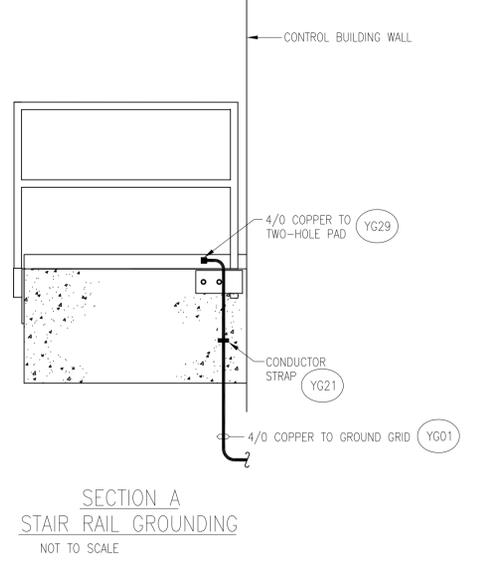
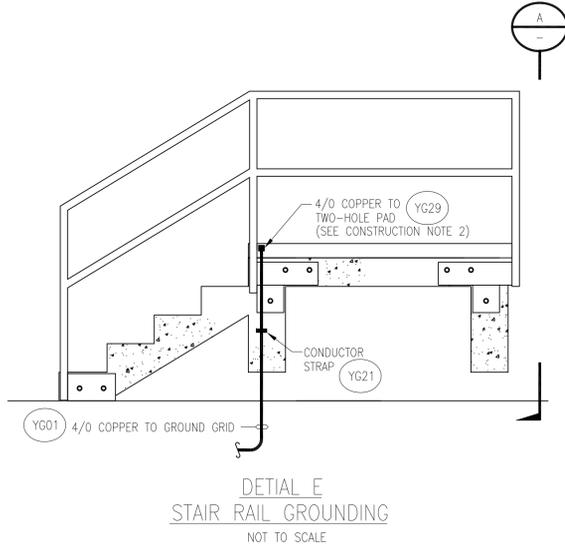
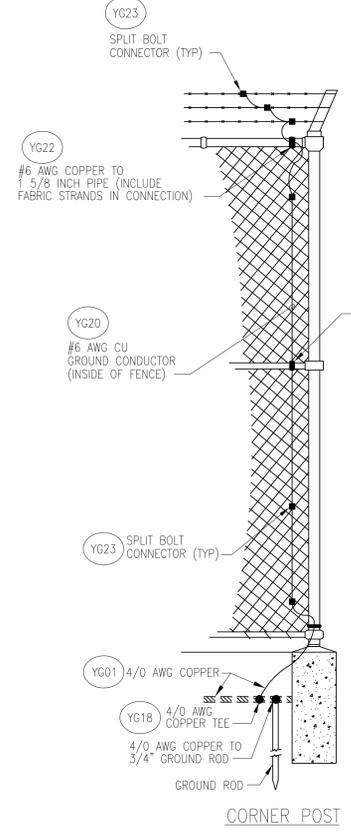
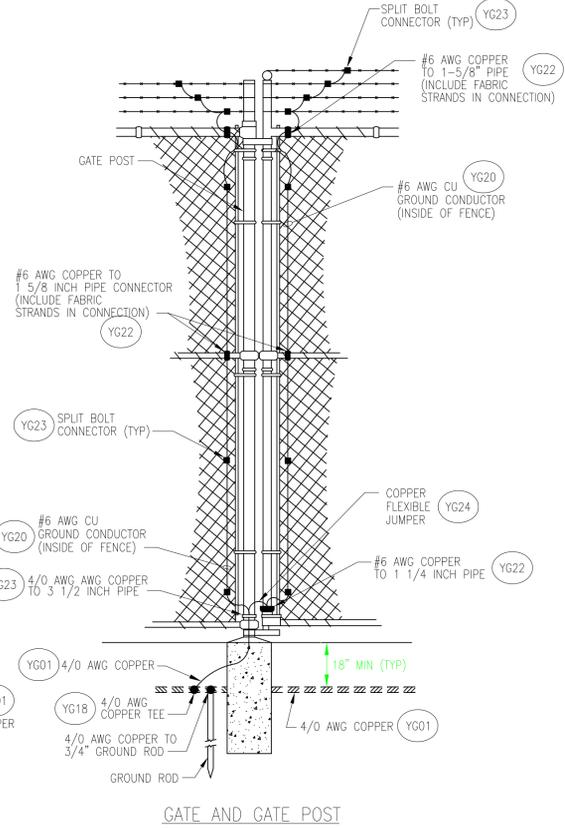
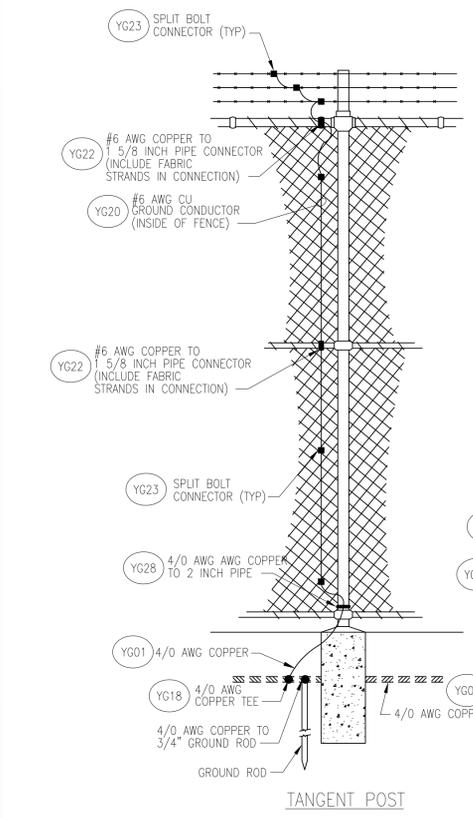
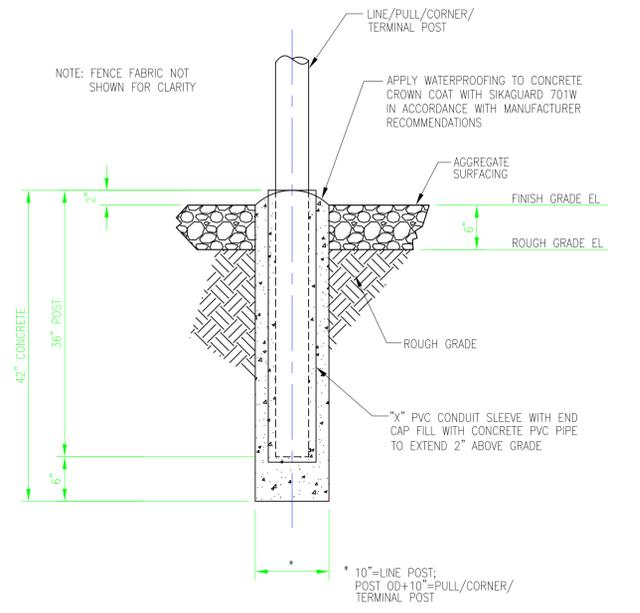
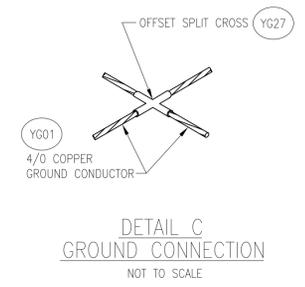
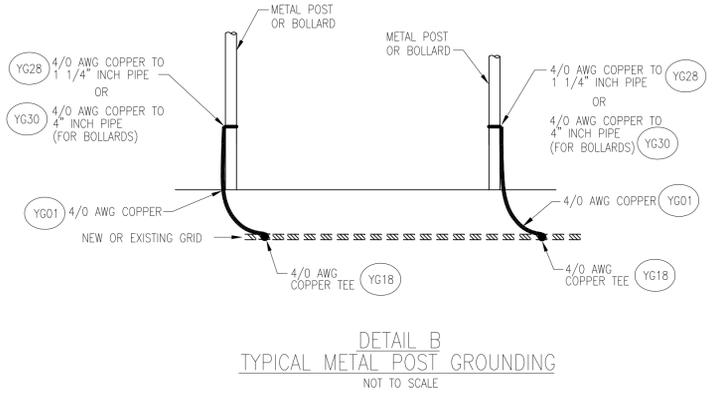
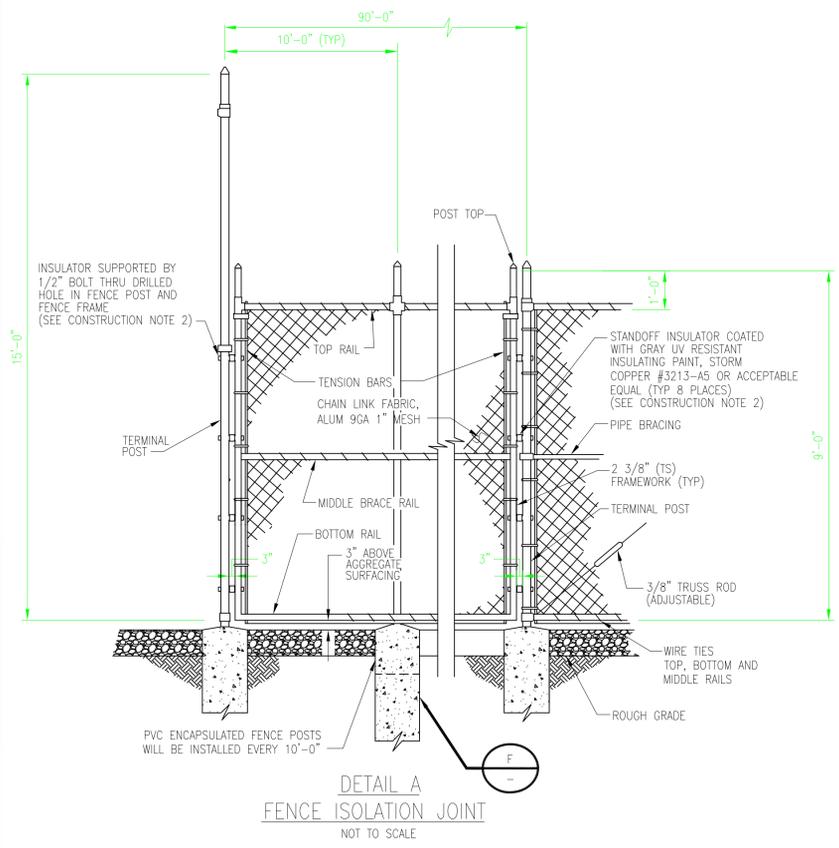
No.	Date	Revision	By	Chkd.	Engr.	Supv.

**ui**  
*The United Illuminating Company*

Drawn	Date 03/19/2015	Scale: 1/16"=1'-0"
Chkd.	Design Engr.	Design Supv.

OVERALL GROUNDING PLAN		
CONGRESS STREET SUBSTATION		
CAD FILE NAME	SEQUENCE No.	DRAWING NUMBER
	090762	25243-444SH3

# Attachment II - Construction Drawings



DETAIL D: TYPICAL FENCE GROUNDING. NOT TO SCALE.

DESIGNER	MDM	DRAWN	TDP				
CHECKED	TKD	DATE	10/28/2014	D	01/22/2016	ISSUED FOR CONSTRUCTION-PROJECT 184625-GROUNDING ENHANCEMENT	TJD
				C	01/29/2015	ISSUED FOR UI 90% REVIEW-PROJECT 184625-GROUNDING ENHANCEMENT	WDS
				B	12/10/2014	ISSUED FOR UI 70% REVIEW-PROJECT 184625-GROUNDING ENHANCEMENT	TDP
				A	10/28/2014	ISSUED FOR UI 30% REVIEW-PROJECT 184625-GROUNDING ENHANCEMENT	TDP
PROJECT #	184625						
NO	DATE	REVISION	DRN	CHKD	DESN	SUPR.	

**NEW DRAWING**

APPROVED FOR CONSTRUCTION  
THE DISTRIBUTION AND USE OF THE NATIVE FORMAT CAD FILE OF THIS DRAWING IS UNCONTROLLED. THE USER SHALL VERIFY TRACEABILITY OF THIS DRAWING TO THE LATEST CONTROLLED VERSION.

- CONSTRUCTION NOTES:**
- THE CONSTRUCTION CONTRACTOR SHALL FURNISH AND INSTALL ALL NEW GROUNDING CONDUCTOR AND FITTINGS.
  - THE CONSTRUCTION CONTRACTOR SHALL COAT THE DRILLED HOLES WITH GALVANIC PAINT AND ALLOW TO DRY BEFORE BOLTING THE INSULATORS.
- GENERAL NOTES:**
- THE SYMBOL INDICATES ITEM NUMBERS IN THE BILL OF MATERIALS. SEE BILL OF MATERIALS FOR ITEM DESCRIPTIONS.

**REFERENCE DRAWINGS:**

GROUNDING AND RACEWAY PLAN	25243-444
GROUNDING PLAN	25243-444SH1 AND SH2
BILL OF MATERIALS	25243-499A

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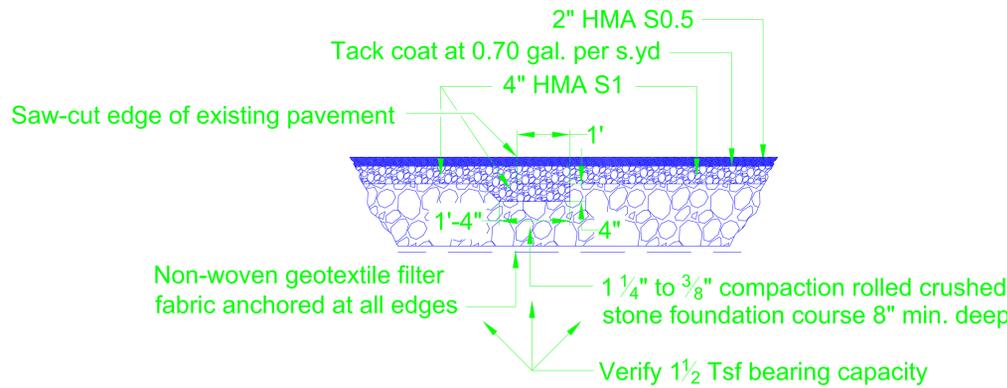
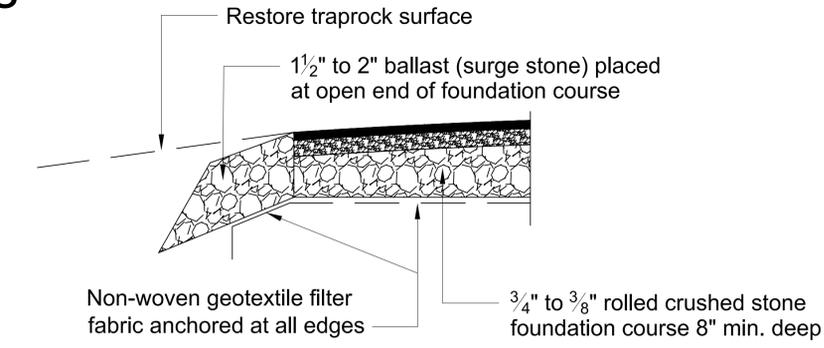
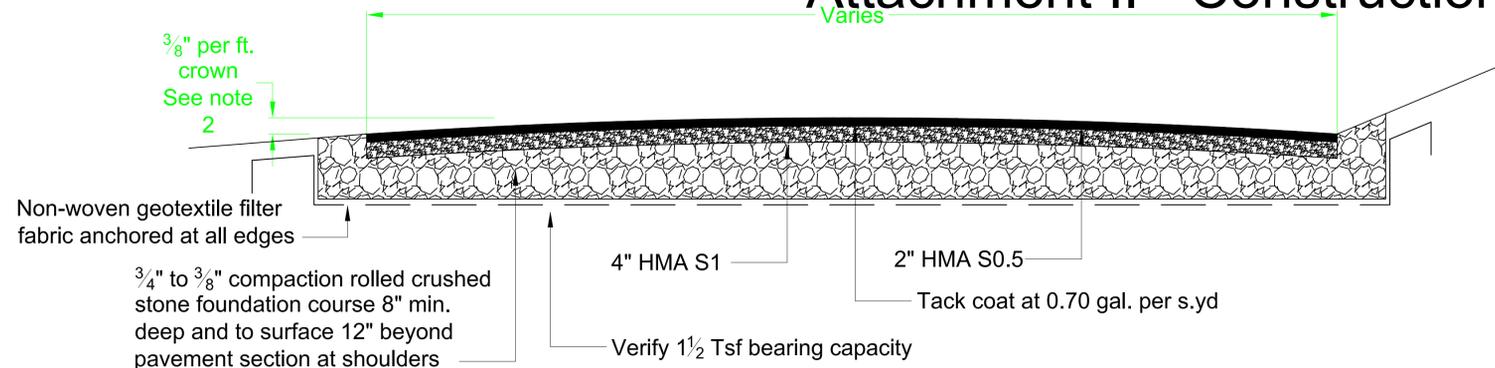
GROUNDING DETAILS

CONGRESS STREET SUBSTATION

Drawn	Date	Scale	CAD FILE NAME	SEQUENCE No.	DRAWING NUMBER
	10/01/2014	NONE			25243-448
Chkd.	Design Engr.	Design Supv.			

No	Date	Revision	By	Chkd.	Engr. Supv.

# Attachment II - Construction Drawings



1. Saw-cut edge of existing pavement
2. Place geotextile filter fabric and stone foundation course throughout new pavement area
3. Excavate existing foundation course below pavement to dimensions shown
4. Place and compact HMA S1 support beam below existing pavement as shown and continue placement and compaction of S1 layer throughout new pavement area
5. Coat S1 layer and saw-cut edge of existing S0.5 layer with tack coat at 0.70 gal. per sq. yd.
6. Place and compact HMA S0.5 layer throughout new pavement area.

## OLD TO NEW PAVEMENT TRANSITION SECTION

### N.T.S.

1. All existing pavement and underlying soils shall be removed to the depths required to produce the profiles shown. Remaining soils shall be determined to be unyielding to vehicle wheel loads with unsuitable material removed and replaced with Foundation Course material as specified on the section above.
2. The site may require a competently drained open-graded foundation course protected from the incursion of fines. In this case, a non-woven geotextile filter fabric shall be employed to completely and continuously enclose an 8" min. foundation course of 3/4" to 3/8" crushed stone which is to be drained through ballast (surge) stone upon its lower side as shown on or determined from the plans.
3. Traffic directly upon the compacted foundation course shall be avoided.
4. Where pavement is to extend to existing structures, geotextile filter fabric shall be anchored back over the foundation course and anchored into it.
5. The sub-base native material shall be sloped to promote drainage within the foundation course material to daylight upon the lowest edge of the pavement area.
6. HMA materials including tack coat and their placement shall strictly conform to the requirements of ConnDOT Superpave Mix Design and Placement applicable to Municipal Pavements.
7. Surface drainage patterning as shown on the plans shall be accomplished through the adjustment of the foundation course depth which shall in no case be less than 8" deep..

8. The site is underlain by numerous subsurface utility lines and structures. It shall be the Contractor's responsibility to notify CBYD for delimitation of such utilities prior to commencing the work.
9. To the extent possible, new paving should be graded to preserve existing manhole cover elevations. Where this is not possible, adjustments to the frames and covers shall be incorporated as part of the work.
10. The sequencing of work shall be planned so as to permit UI access to the substation as required throughout the grading and paving process. Paving operations shall be coordinated with the Transmission and Substation Department of United Illuminating to provide an uninterrupted placement, compaction, and curing of asphalt materials prior to the imposition of vehicle loads.
11. The Contractor shall notify the [System Maintenance Department civil engineer at (203) 926-4881] at least 24 hours in advance of the need for inspections which shall be performed upon completion of grubbing and the exposure of sub-base site soils, placement, shaping, and compaction of the foundation course, and placement of binder and wearing courses of asphalt.

REFERENCE DRAWINGS:  
GROUNDING PLAN 25243-444SH1

APPROVED FOR CONSTRUCTION  
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<b>BLACK &amp; VEATCH</b> Building a world of difference®									
DESIGNER	AKK	DRAWN	WDS						
CHECKED	TKD	DATE	01/29/2015						
PROJECT #	184625								
B	01/22/2016	ISSUED FOR CONSTRUCTION-PROJECT 184625-GROUNDING ENHANCEMENT	TJD	TKD	AKK	MAV			
A	01/29/2015	ISSUED FOR UI 90% REVIEW-PROJECT 184625-GROUNDING ENHANCEMENT	WDS	TKD	AKK	MAV			
NO	DATE	REVISION	DRN	CHKD	DESN	SUPR			

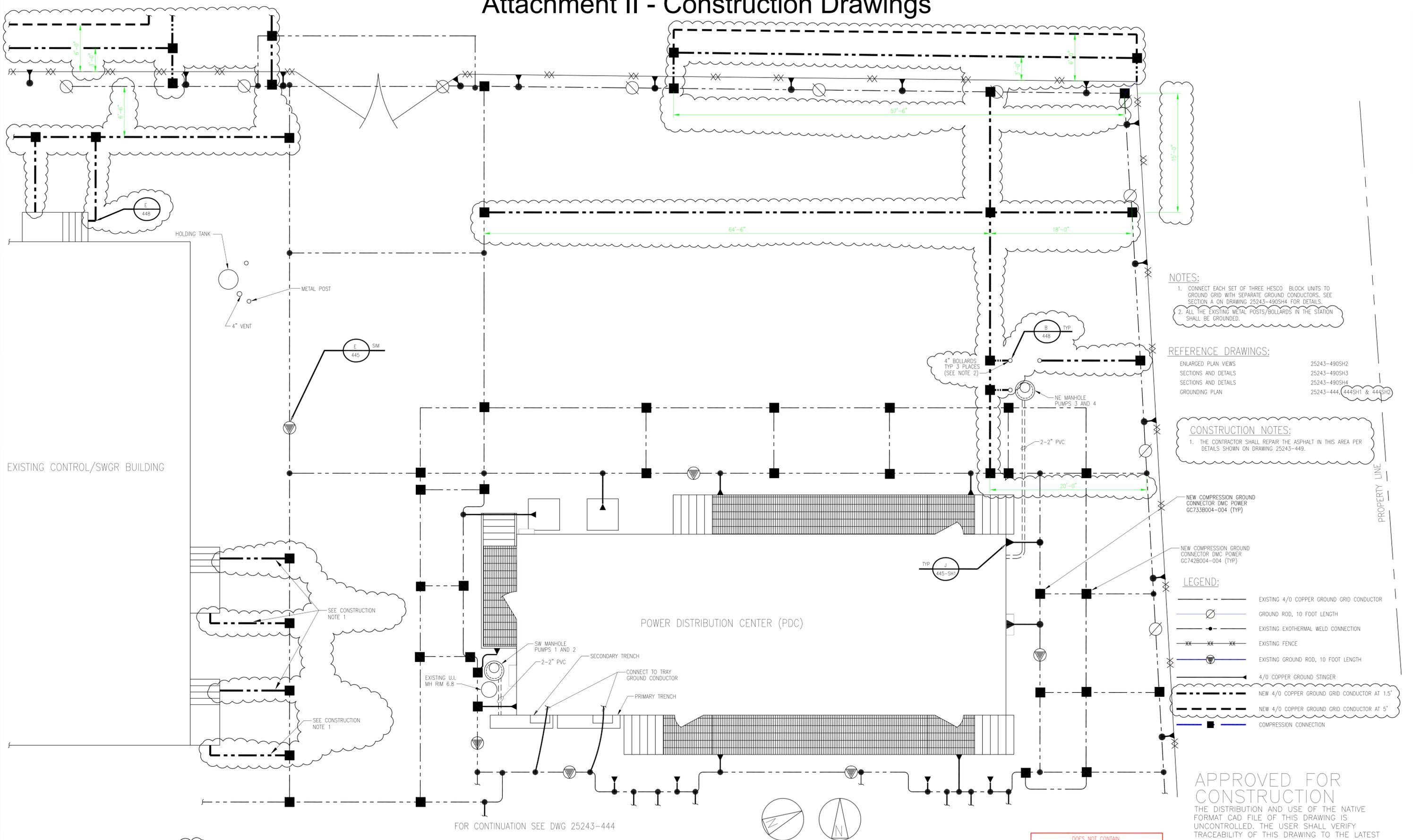
**NEW DRAWING**

No	Date	Revision	By	Chkd.	Engr.	Supv.

 The United Illuminating Company		
Drawn	Date	Scale
	01/29/2015	NONE
Chkd.	Design Engr.	Design Supv.

SUBSTATION ACCESS DRIVE STANDARD PAVEMENT SECTIONS AND NOTES		
CONGRESS STREET SUBSTATION		
CAD FILE NAME	SEQUENCE No.	DRAWING NUMBER
	-	25243-449

# Attachment II - Construction Drawings



**NOTES:**

- CONNECT EACH SET OF THREE HESCO BLOCK UNITS TO GROUND GRID WITH SEPARATE GROUND CONDUCTORS. SEE SECTION A ON DRAWING 25243-490SH4 FOR DETAILS.
- ALL THE EXISTING METAL POSTS/BOLLARDS IN THE STATION SHALL BE GROUNDED.

**REFERENCE DRAWINGS:**

ENLARGED PLAN VIEWS	25243-490SH2
SECTIONS AND DETAILS	25243-490SH3
SECTIONS AND DETAILS	25243-490SH4
GROUNDED PLAN	25243-444, 444SH1 & 444SH2

**CONSTRUCTION NOTES:**

- THE CONTRACTOR SHALL REPAIR THE ASPHALT IN THIS AREA PER DETAILS SHOWN ON DRAWING 25243-449.

NEW COMPRESSION GROUND CONNECTOR DMC POWER GC733B004-004 (TYP)

NEW COMPRESSION GROUND CONNECTOR DMC POWER GC742B004-004 (TYP)

**LEGEND:**

- EXISTING 4/0 COPPER GROUND GRID CONDUCTOR
- GROUND ROD, 10 FOOT LENGTH
- EXISTING EXOTHERMAL WELD CONNECTION
- EXISTING FENCE
- EXISTING GROUND ROD, 10 FOOT LENGTH
- 4/0 COPPER GROUND STINGER
- NEW 4/0 COPPER GROUND GRID CONDUCTOR AT 1.5"
- NEW 4/0 COPPER GROUND GRID CONDUCTOR AT 5"
- COMPRESSION CONNECTION

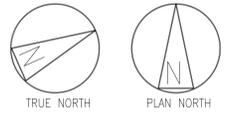
**APPROVED FOR CONSTRUCTION**

THE DISTRIBUTION AND USE OF THE NATIVE FORMAT CAD FILE OF THIS DRAWING IS UNCONTROLLED. THE USER SHALL VERIFY TRACEABILITY OF THIS DRAWING TO THE LATEST CONTROLLED VERSION.

EXISTING CONTROL/SWGR BUILDING

POWER DISTRIBUTION CENTER (PDC)

FOR CONTINUATION SEE DWG 25243-444



DOES NOT CONTAIN CRITICAL ENERGY INFRASTRUCTURE INFORMATION  
DATE OF REVIEW 11/08/2013 BY MC

<b>BLACK &amp; VEATCH</b> Building a world of difference®							
DESIGNER	RLT	DRAWN	JKS				
CHECKED	-	DATE	07/08/2013				
PROJECT #	180588						
NO	DATE	REVISION	DRN	CHKD	DESN	SUPR.	
D	01/22/2016	ISSUED FOR CONSTRUCTION-PROJECT 184625-GROUNDING ENHANCEMENT	TJD	TKD	AKK	MAV	
C	01/29/2015	ISSUED FOR UI 90% REVIEW-PROJECT 184625-GROUNDING ENHANCEMENT	WDS	TKD	AKK	MAV	
B	12/10/2014	ISSUED FOR UI 70% REVIEW-PROJECT 184625-GROUNDING ENHANCEMENT	TDP	TKD	MDM	MAV	
A	10/28/2014	ISSUED FOR UI 30% REVIEW-PROJECT 184625-GROUNDING ENHANCEMENT	SLC	TKD	MDM	MAV	

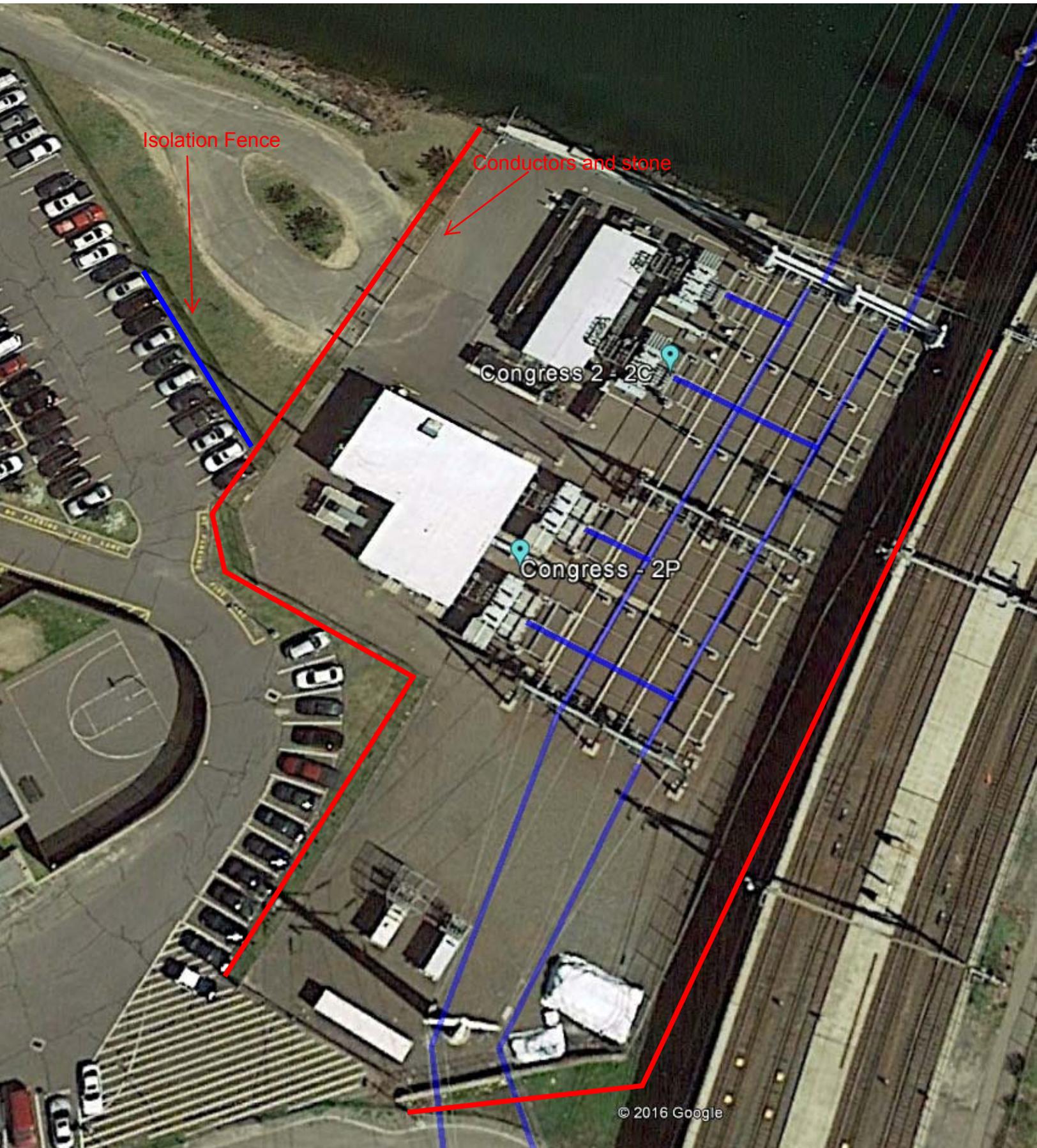
1	11/26/2013	CONFORMED TO CONSTRUCTION RECORDS	WDS	JBS	ANL	MAV
No	Date	Revision	By	Chkd.	Engr.	Supv.

**ui**  
The United Illuminating Company

Drawn: [ ] Date: 07/08/2013 Scale: 3/16" = 1'-0"  
 Design Engr.: [ ] Design Supv.: [ ]

TEMPORARY FLOOD WALL GROUNDING AND CONDUIT PLAN		
CONGRESS STREET SUBSTATION		
CAD FILE NAME	SEQUENCE No.	DRAWING NUMBER
	088150	25243-490SH6

# Attachment III - Site Pictures



# Attachment III - Site Pictures

MNR raised train bridge



Eastern, backside of the property

# Attachment III - Site Pictures

Beginning of  
isolation section.

Grounding  
conductors and  
rock installed  
outside of this  
fence (East, South  
and West sides)

Western, front side  
of the property



# Attachment III - Site Pictures



Isolation fence.  
Replace 8 panels

Western, front side  
of the property

# Attachment III - Site Pictures

Conductors and stone outside of the fence

Southeast side of the property



# Attachment IV - DEEP Correspondence

Connecticut Department of

ENERGY &  
ENVIRONMENTAL  
PROTECTION

April 22, 2016

Joseph E. Lenahan III  
Fuss & O'Neill, Inc.  
56 Quarry Road  
Trumbull, CT 06611  
jlenahan@fando.com

Project: Baird-Congress, Installation of Transmission Towers within Existing Rights-of-Way along Railroad, Pulaski Street and Crescent Avenue in Bridgeport and Stratford  
NDDDB Determination No.: 201605119

Dear Joseph E. Lenahan III,

I have reviewed Natural Diversity Data Base (NDDDB) maps and files regarding the area delineated on the map provided for the proposed Baird-Congress, Installation of Transmission Towers within Existing Rights-of-Way along Railroad, Pulaski Street and Crescent Avenue in Bridgeport and Stratford, Connecticut. I do not anticipate negative impacts to State-listed species (RCSA Sec. 26-306) resulting from your proposed activity at the site based upon the information contained within the NDDDB. The result of this review does not preclude the possibility that listed species may be encountered on site and that additional action may be necessary to remain in compliance with certain state permits. This determination is good for one year. Please re-submit an NDDDB Request for Review if the scope of work changes or if work has not begun on this project by April 22, 2017.

Natural Diversity Data Base information includes all information regarding critical biological resources available to us at the time of the request. This information is a compilation of data collected over the years by the Department of Energy and Environmental Protection's Natural History Survey and cooperating units of DEEP, private conservation groups and the scientific community. This information is not necessarily the result of comprehensive or site-specific field investigations. Consultations with the Data Base should not be substitutes for on-site surveys required for environmental assessments. Current research projects and new contributors continue to identify additional populations of species and locations of habitats of concern, as well as, enhance existing data. Such new information is incorporated into the Data Base as it becomes available.

Please contact me if you have further questions at (860) 424-3592, or [dawn.mckay@ct.gov](mailto:dawn.mckay@ct.gov) . Thank you for consulting the Natural Diversity Data Base.

Sincerely,

Dawn M. McKay  
Environmental Analyst 3