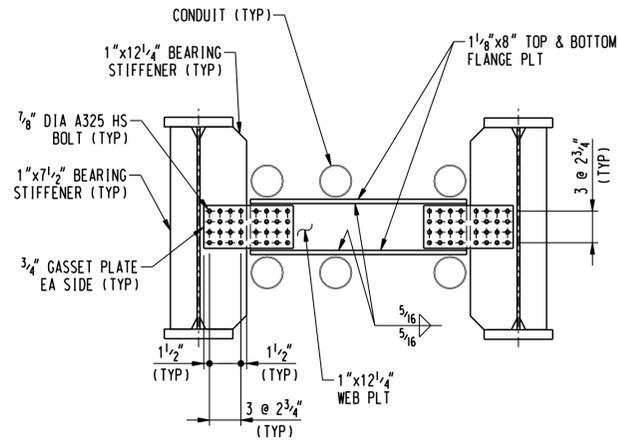


NOTE:
FRP PURLINS SHALL BE DESIGNED BY THE FRP ROOFING MANUFACTURER.

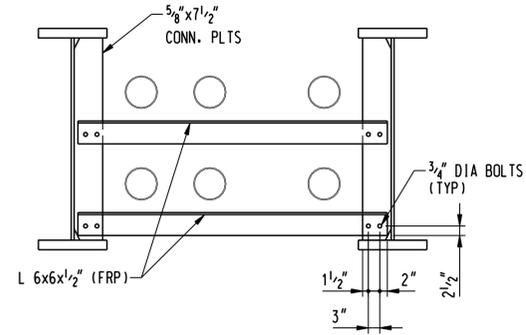
ROOF FRAMING
(R2 SHOWN / R1 SIMILAR)

SCALE: 1/2" = 1'-0"



END BEARING DIAPHRAGM (D1)

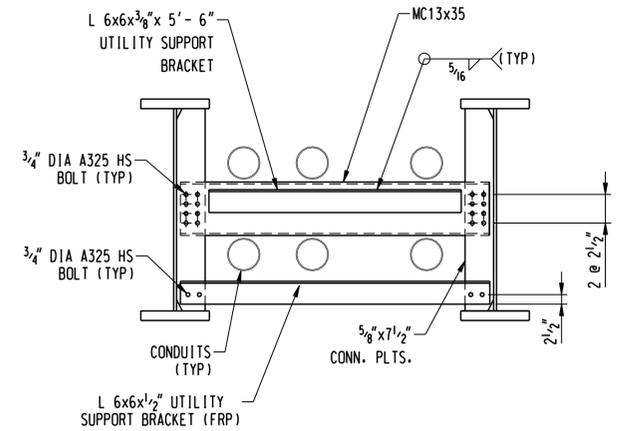
SCALE: 1/2" = 1'-0"



NOTE: UTILITY CABLE HANGERS NOT SHOWN FOR CLARITY.
(1) UTILITY DUCT SUPPORT SYSTEM IS REQUIRED PER CONDUIT.
SEE DETAIL THIS SHEET.

UTILITY SUPPORT DIAPHRAGM (D2)

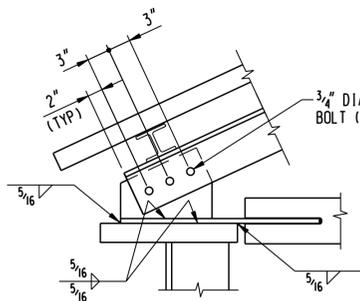
SCALE: 1/2" = 1'-0"



NOTE: UTILITY CABLE HANGERS NOT SHOWN FOR CLARITY.
(1) UTILITY DUCT SUPPORT SYSTEM IS REQUIRED PER CONDUIT.
SEE DETAIL THIS SHEET.

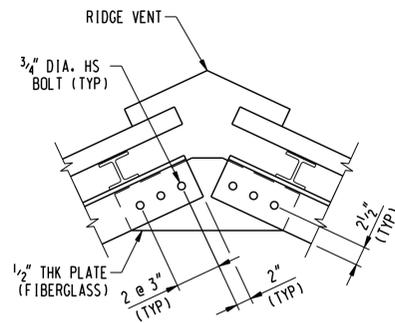
INTERMEDIATE DIAPHRAGM (D3)

SCALE: 1/2" = 1'-0"



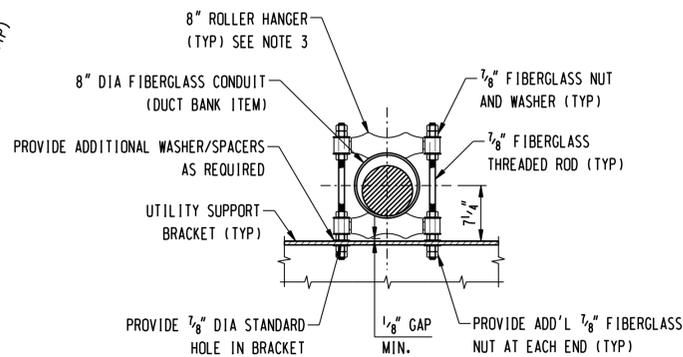
DETAIL A

SCALE: 1" = 1'-0"



DETAIL B

SCALE: 1" = 1'-0"

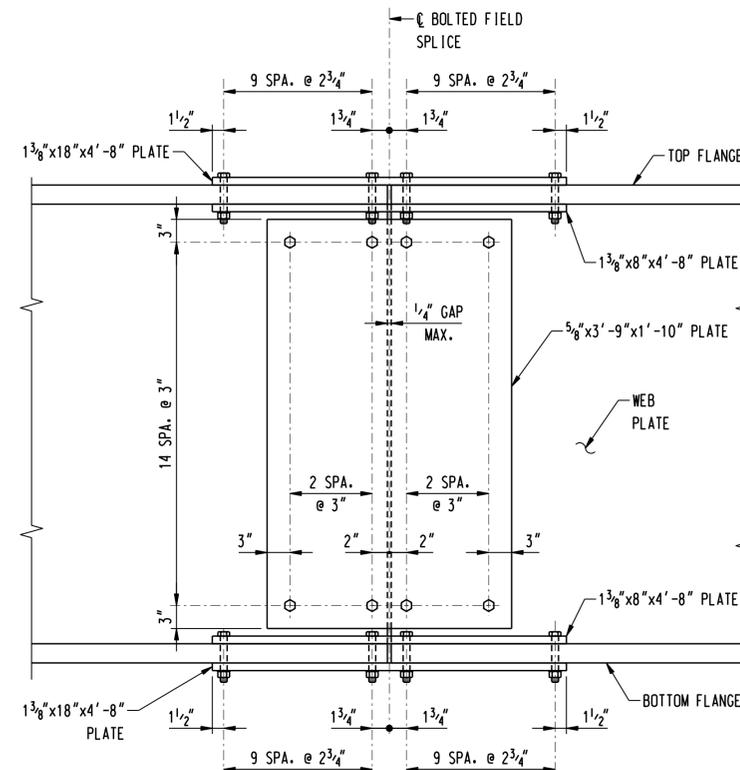


UTILITY DUCT SUPPORT SYSTEM

N.T.S.

NOTES:

1. THE COST OF FURNISHING AND INSTALLING THE 8" DIA. FIBERGLASS CONDUITS SHALL BE INCLUDED IN THE COST OF THE STANDARD DUCT BANK.
2. THE COST OF FURNISHING AND INSTALLING THE UTILITY DUCT SUPPORT SYSTEM INCLUDING THE 8" ROLLER HANGER SHALL BE INCLUDED IN THE COST OF THE ITEM FIBERGLASS STRUCTURAL SHAPES". QTY = 126 EA.
3. THE ROLLER HANGER ASSEMBLY SHALL BE TWO-ROD ROLLER HANGER BY: ERICO, MODEL No. 605 (ELECTRO GALVANIZED), PART No. 6050800PL.
4. FOR FIBERGLASS REINFORCED POLYMER (FRP) ROOFING DETAILS AND INFORMATION SEE SHEET 01224-16303 PG 012.

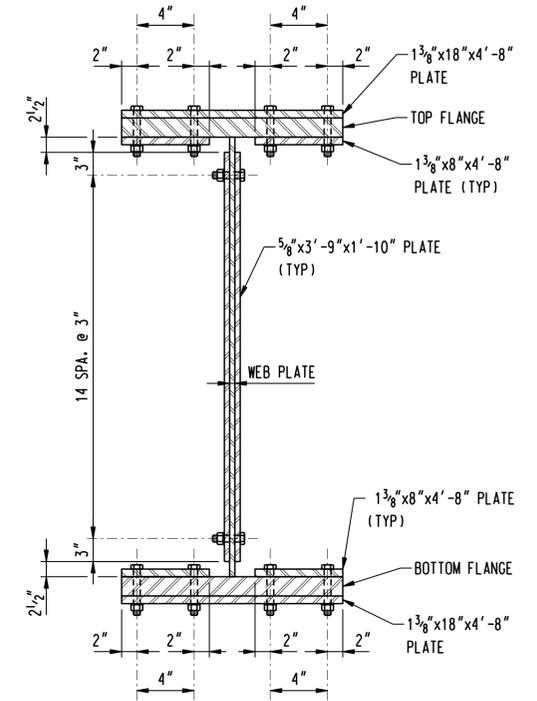


ELEVATION

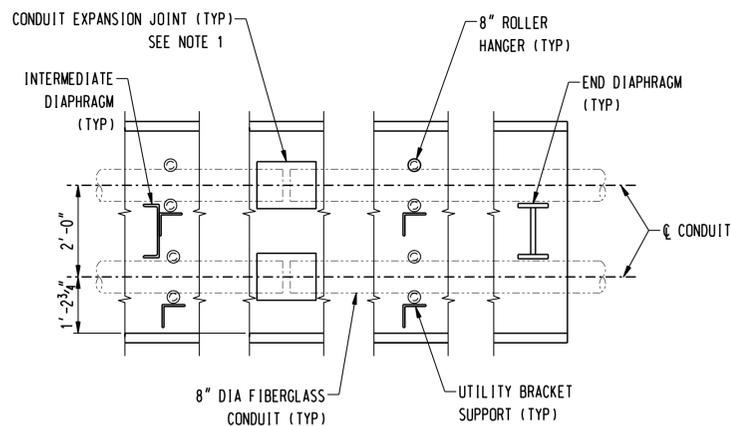
NOTE:
ALL BOLTS AT FIELD SPLICES SHALL BE 7/8" DIA. UNLESS NOTED OTHERWISE.

FIELD SPLICE

N.T.S.



SECTION



NOTE:
CONDUIT EXPANSION JOINT SHALL BE LOCATED NEAR MID-SPAN OF STRUCTURE.

Double Expansion Joint w/ O-Ring
Fitting IPS No. 80C-XW-39 with Tight Lock Joint

Manufacturer: Champion Fiberglass
6400 Spring Stuebner Rd
Spring, TX 77389
(203) 655-8900

UTILITY DUCT BANK PROFILE

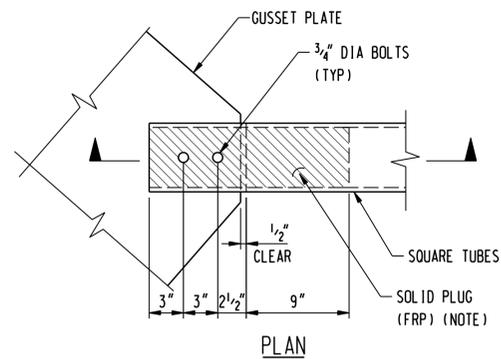
N.T.S.

no.	date	revisions	by	chk
2	6/1/06	ISSUED 60% PRELIMINARY	D.Q.	B.K.
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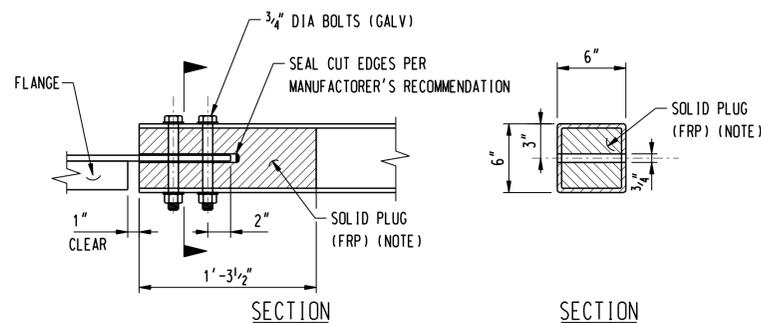
date	05/10/06	detailed	C. CHUANG
designed	A. GRZADZIEL	checked	D. QUINIT / B. KUTA
	C. CHAUNG		

MF	NO.	DATE	REVISIONS	BY	CHK	APP	APP

NORTHEAST UTILITIES SERVICE CO.			
FOR THE CONNECTICUT LIGHT & POWER COMPANY			
TITLE MIDDLETOWN-NORWALK 345KV TRANSMISSION PROJECT			
MILL RIVER (SOUTHPORT HARBOR)			
FIELDSPLICE, DIAPHRAGM AND CONNECTION DETAILS			
BY	CHKD	APP	APP
DATE	DATE	DATE	DATE
SCALE AS NOTED	D	DWG. NO.	01224-16303 PG 009



PLAN



SECTION

SECTION

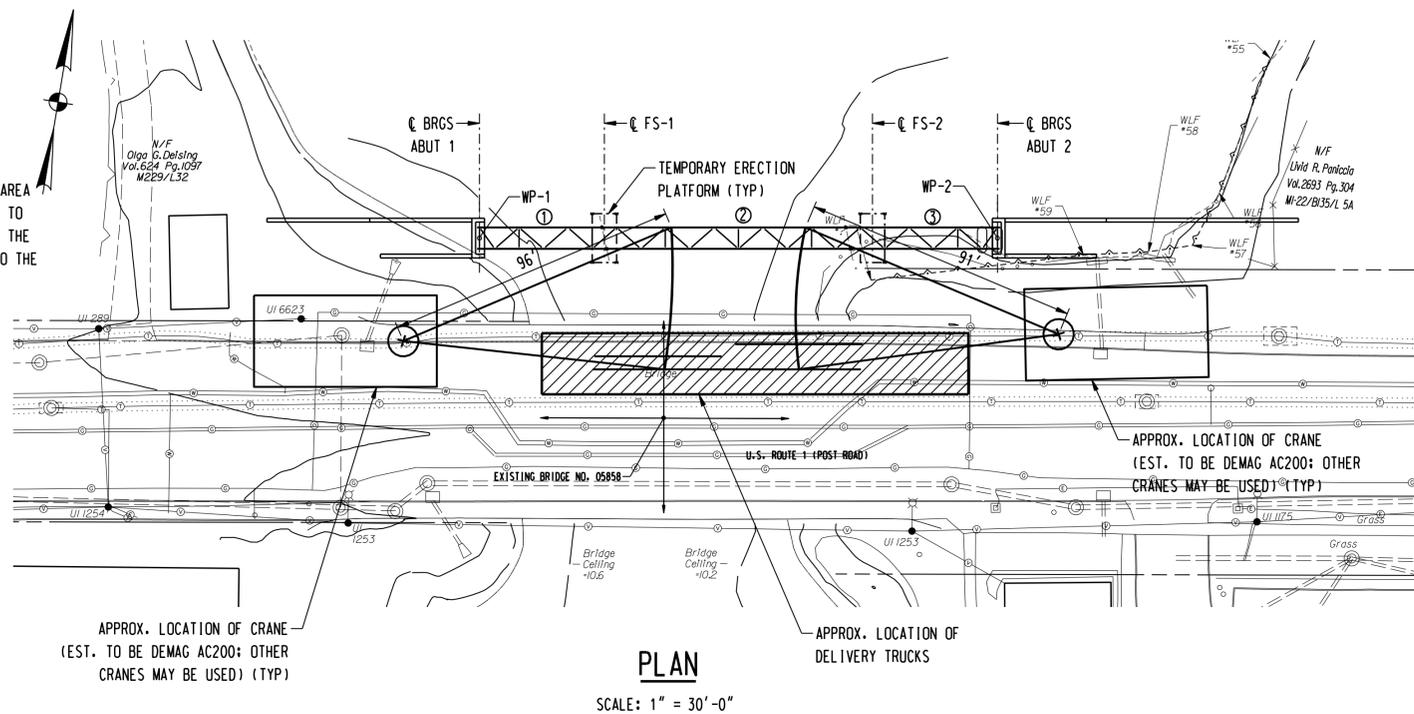
NOTE: SOLID PLUG SHALL BE ATTACHED TO TUBING WITH ADHESIVE PRIOR TO FABRICATING NOTCH. ADHESIVE SHALL BE PER FRP MANUFACTURER'S SPECIFICATION.

TUBE CONNECTION DETAIL

SCALE: 1 1/2" = 1'-0"

PLAN NOTES:

- CRANE(S) WILL NOT BE ALLOWED TO BE POSITIONED WITHIN THE FOOT PRINT OF THE EXISTING BRIDGE.
- FOR PLATFORM DETAILS, SEE DWG. No. 01224-16303 PG 012.
- CONTRACTOR SHALL BE COGNIZANT OF ALL UTILITIES IN THE AREA AND PERFORM ALL ERECTION OPERATIONS IN SUCH A MANNER AS TO AVOID DAMAGING EXISTING UTILITIES. ANY DAMAGE CAUSED BY THE CONTRACTOR'S OPERATIONS SHALL BE REPAIRED IN-KIND AND TO THE SATISFACTION OF THE GOVERNING UTILITY COMPANY AT THE CONTRACTOR'S EXPENSE.



PLAN

SCALE: 1" = 30'-0"

STRUCTURAL STEEL ERECTION NOTES:

THE FOLLOWING STRUCTURAL STEEL ERECTION SEQUENCE IS A SUGGESTED PROCEDURE. THE METHOD AND SEQUENCE OF ERECTION IS BASED ON MINIMIZING WETLAND IMPACT AND TRAFFIC IMPACT ON ROUTE 1. IT IS ASSUMED THAT CRANES WILL BE USED WORKING OFF OF ROUTE 1 DURING ALLOWABLE PERIODS AND LANE CLOSURES AS PROVIDED FOR IN THE SPECIAL PROVISIONS "PROSECUTION AND PROGRESS" AND "MAINTENANCE AND PROTECTION OF TRAFFIC". ANY PROPOSED CHANGES TO THE OVERALL ERECTION SCHEME BY THE CONTRACTOR SHALL BE REVIEWED BY BL COMPANIES FOR COMPLIANCE WITH WETLAND AND TRAFFIC IMPACT RESTRICTIONS.

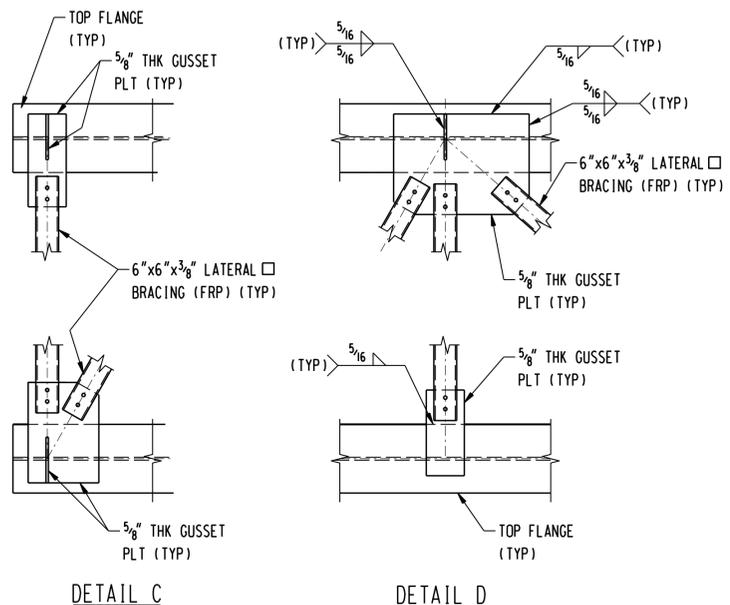
THE CONTRACTOR SHALL SUBMIT DETAILED WORKING DRAWINGS FOR THE STRUCTURAL STEEL ERECTION. THE STRUCTURAL STEEL ERECTION WORKING DRAWINGS SHALL BE PREPARED AND SEALED BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF CONNECTICUT. THE CONTRACTOR'S ERECTION PLANS SHALL INCLUDE, BUT NOT LIMITED TO, THE FOLLOWING DETAILS: TEMPORARY ERECTION PLATFORM, FALSEWORK, BRACING, GUYS, LIFTING DEVICES, LOCATION OF CRANES AND DELIVERY TRUCKS, CRANE CAPACITIES, PICK POINTS, AND WEIGHTS FOR EACH STRUCTURAL STEEL MEMBER. THE WORKING DRAWINGS SHALL BE COMPLETE IN DETAILS FOR ALL ANTICIPATED CONDITIONS DURING ERECTION. ADDITIONALLY, ERECTION PLANS SHALL SHOW MINIMUM BOLTING AND/OR DRIFT PIN REQUIREMENTS FOR INDIVIDUAL FIELD SPLICES, DIAPHRAGMS, AND LATERAL BRACINGS PRIOR TO RELEASING PICK POINTS OF GIRDER SEGMENTS FROM THE CRANE.

THE CONTRACTOR MAY ELECT TO PROVIDE AN ALTERNATIVE TEMPORARY ERECTION PLATFORM THAT IS COMPATIBLE WITH THE CONTRACTOR'S ERECTION SCHEME. THE CONTRACTOR SHALL DESIGN AND DETAIL THE ALTERNATIVE ERECTION PLATFORM AT NO EXTRA COST TO THE OWNER.

THE CONTRACTOR SHALL PROVIDE TEMPORARY GRADING AS NECESSARY TO SUPPORT EQUIPMENT USED FOR THE TRANSPORT AND ERECTION OF STRUCTURAL STEEL MEMBERS. NO ADDITIONAL PAYMENT SHALL BE MADE FOR TEMPORARY WORK REQUIRED FOR THE CONTRACTOR'S PROPOSED ERECTION PROCEDURE. COST OF TEMPORARY WORK, INCLUDING FURNISHING AND INSTALLING TEMPORARY ERECTION PLATFORM AND TEMPORARY GRADING, IF ANY, SHALL BE CONSIDERED INCIDENTAL TO THE ITEM "STRUCTURAL STEEL (SITE H)".

SUGGESTED ERECTION SEQUENCE:

- CONSTRUCT TEMPORARY ERECTION PLATFORM AT GIRDER FIELD SPLICE LOCATIONS SHOWN ON THE PLANS.
- ERECT GIRDER G-1 SEGMENT 3 AT ABUTMENT 2. BRACE AND STABILIZE AS NECESSARY PRIOR TO RELEASING PICK POINTS.
- ERECT GIRDER G-2 SEGMENT 3 AT ABUTMENT 2. INSTALL DIAPHRAGMS AND LATERAL BRACINGS AND BOLT HAND-TIGHT WITH TEMPORARY BOLTS AND/OR DRIFT PINS PRIOR TO RELEASING PICK POINTS.
- ERECT GIRDER G-1 SEGMENT 2. COMPLETE FIELD SPLICE FS-2. BRACE AND STABILIZE AS NECESSARY PRIOR TO RELEASING PICK POINTS.
- ERECT GIRDER G-2 SEGMENT 2. COMPLETE FIELD SPLICE FS-2. INSTALL DIAPHRAGMS AND LATERAL BRACINGS AND BOLT HAND-TIGHT PRIOR TO RELEASING PICK POINTS.
- ERECT GIRDER G-1 SEGMENT 1 AT ABUTMENT 1. COMPLETE FIELD SPLICE FS-1. BRACE AND STABILIZE AS NECESSARY PRIOR TO RELEASING PICK POINTS.
- ERECT GIRDER G-1 SEGMENT 1 AT ABUTMENT 1. COMPLETE FIELD SPLICE FS-1. INSTALL DIAPHRAGMS AND LATERAL BRACINGS AND BOLT HAND-TIGHT WITH TEMPORARY BOLTS AND/OR DRIFT PINS PRIOR TO RELEASING PICK POINTS.
- TORQUE ALL BOLTED CONNECTIONS AFTER ALL GIRDER SEGMENTS ARE ERECTED REPLACING TEMPORARY BOLTS AND/OR DRIFT PINS AS WORK PROCEEDS.
- REMOVE TEMPORARY ERECTION PLATFORMS.

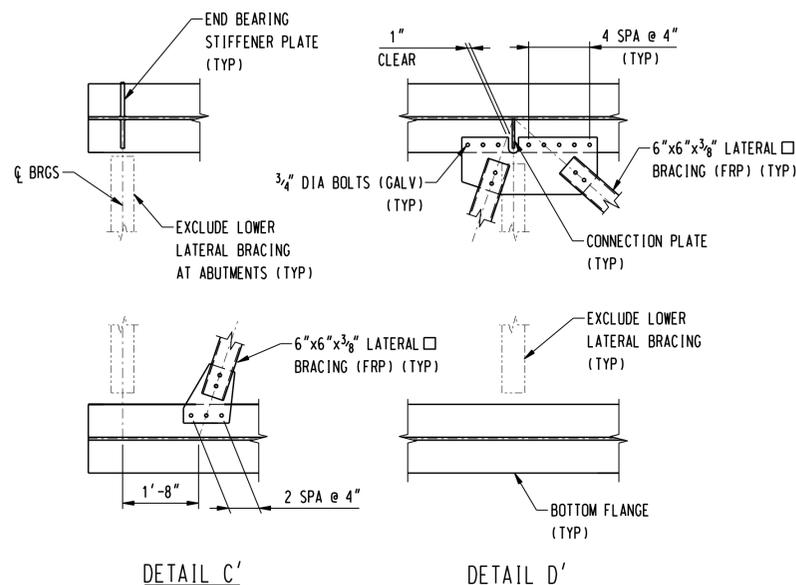


DETAIL C

DETAIL D

LATERAL BRACING - UPPER

SCALE: 1/2" = 1'-0"



DETAIL C'

DETAIL D'

LATERAL BRACING - LOWER

SCALE: 1/2" = 1'-0"

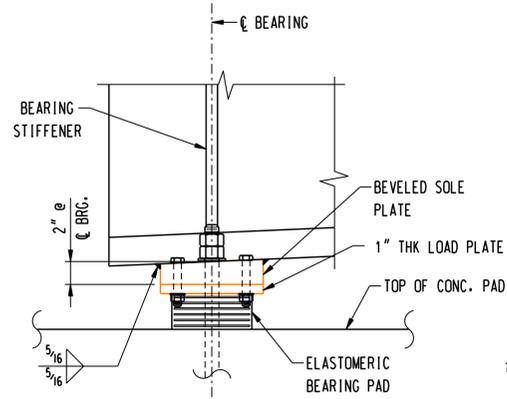
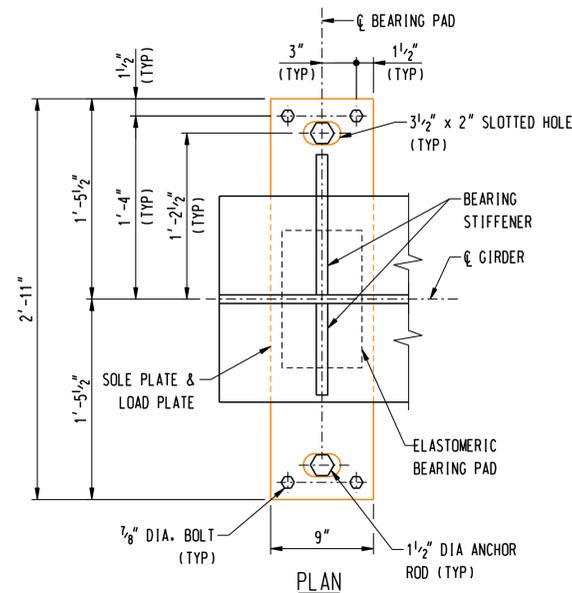
no.	date	revisions	by	chk
2	6/1/06	ISSUED 60% PRELIMINARY	D.Q.	B.K.
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date	05/10/06	detailed	C. CHUANG
designed	C. CHUANG	checked	D. QUINIT / B. KUTA

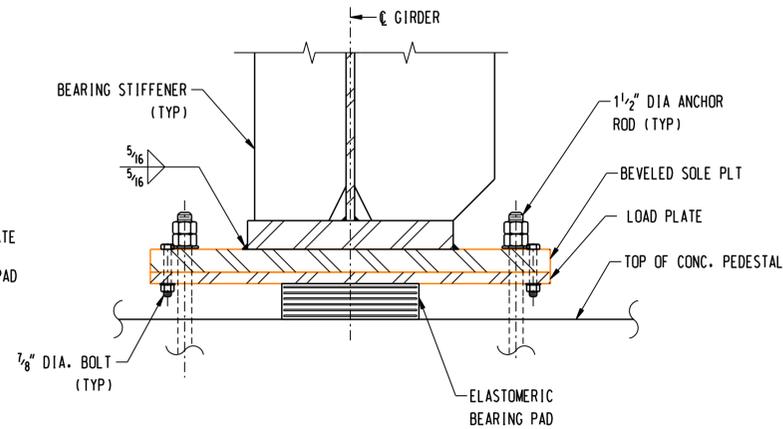
MF	NO.	DATE	REVISIONS	BY	CHK	APP	APP

NORTHEAST UTILITIES SERVICE CO.			
FOR THE CONNECTICUT LIGHT & POWER COMPANY			
TITLE MIDDLETOWN-NORWALK 345KV TRANSMISSION PROJECT			
MILL RIVER (SOUTHPORT HARBOR) STAGE CONSTRUCTION PLAN AND DETAILS			
BY	CHKD	APP	APP
DATE	DATE	DATE	DATE
SCALE AS NOTED	D	DWG. NO.	01224-16303 PG 010



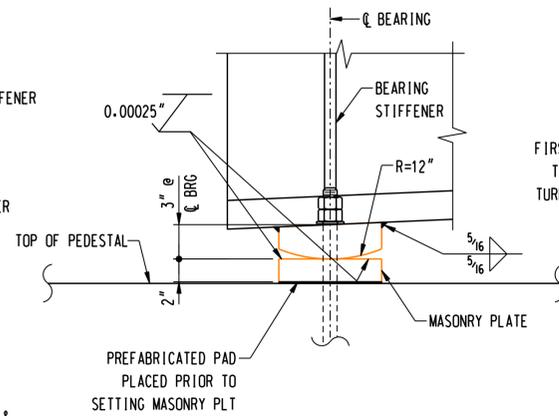
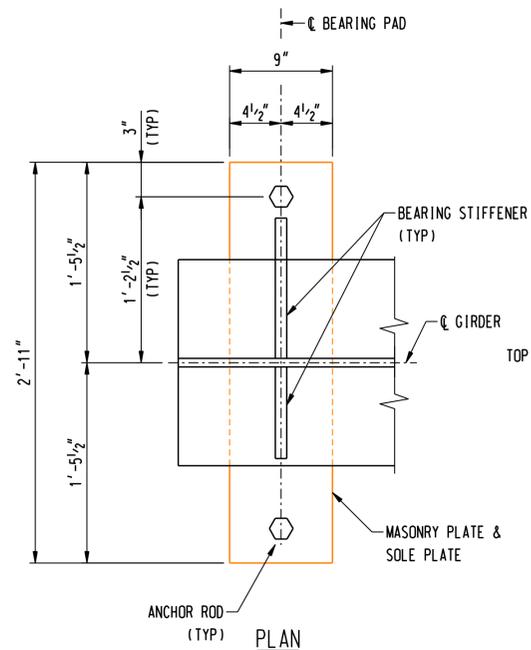


EXPANSION BEARING DETAIL
SCALE: 1 1/2" = 1'-0"

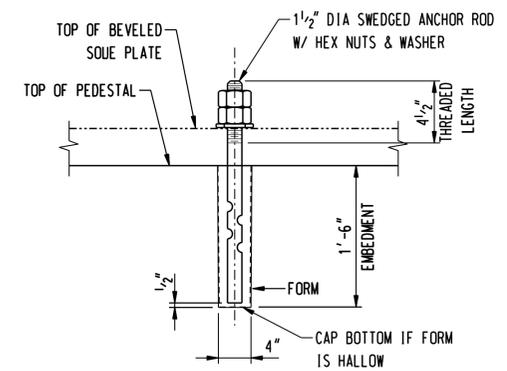
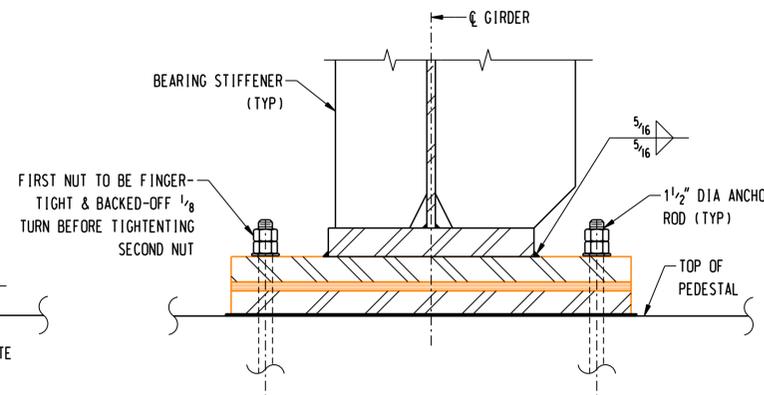


BEARING NOTES:

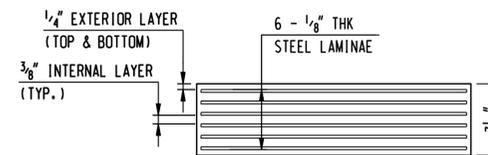
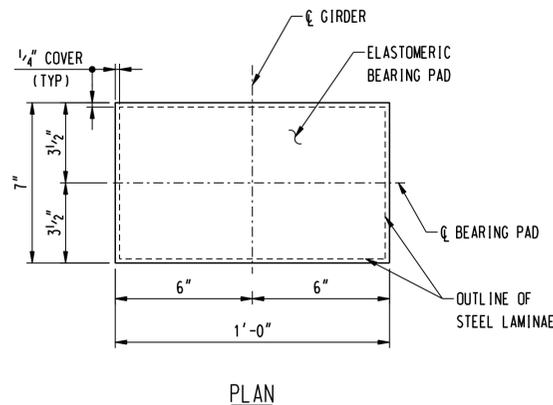
- ELASTOMER SHALL BE GRADE 3 VIRGIN NEOPRENE WITH SHORE 'A' DUROMETER HARDNESS = 60.
- STEEL LAMINAE USED IN THE ELASTOMERIC BEARING SHALL CONFORM TO AASHTO M270 GRADE 36.
- LOAD PLATE SHALL CONFORM TO AASHTO M270, GRADE 50, HOT-DIP GALVANIZED IN ACCORDANCE WITH ASTM A123 AND SHALL BE HOT-BONDED TO THE ELASTOMERIC BEARING PAD DURING VULCANIZATION.
- SOLE PLATE SHALL CONFORM TO AASHTO M270, GRADE 50, HOT-DIP GALVANIZED IN ACCORDANCE WITH ASTM A123.
- SOLE PLATES SHALL BE BEVELED TO MATCH THE SLOPE OF THE GIRDER SO THAT THE BOTTOM SURFACE OF THE PLATE IS LEVEL AFTER APPLICATION OF FULL DEAD LOAD.
- BOLTS SHALL MEET THE REQUIREMENTS OF ASTM A325, TYPE 1, EXCEPT AS NOTED OTHERWISE. ALL BOLTS, NUTS, AND WASHERS SHALL BE MECHANICALLY GALVANIZED IN ACCORDANCE WITH ASTM B695, CLASS 50.
- ELASTOMERIC BEARINGS SHALL BE INSTALLED AT AN AMBIENT TEMPERATURE BETWEEN 50° AND 80° F. CENTERLINE OF BEARING PAD AND SOLE PLATE SHALL BE INSTALLED AT THE CENTERLINE OF BEARINGS.
- IN NO CASE SHALL THE ELASTOMER OR VULCANIZED BOND BE SUBJECTED TO TEMPERATURE HIGHER THAN 400° F.
- BEARING DESIGN SERVICE LOADS: TL = 54 kips (SERV LIMIT I)
- ANCHOR RODS AND NUTS SHALL BE ASTM F1554, GRADE 55 (S1) (S4). ANCHOR RODS AND NUTS SHALL BE MECHANICALLY GALVANIZED IN ACCORDANCE WITH ASTM B695, CLASS 50.
- FOR BEARING AND ANCHOR ROD LAYOUT, SEE PEDESTAL DETAIL ON STR. DWG. NO. 01224-16303 PG 006.
- PEDESTAL ELEVATIONS SHOWN ON THE ABUTMENT DRAWINGS APPLY AT THE TOP OF THE CONCRETE PEDESTAL.



FIXED BEARING DETAIL
SCALE: 1 1/2" = 1'-0"



ANCHOR ROD DETAIL
N.T.S.



ELASTOMERIC BEARING PAD
SCALE: 3" = 1'-0"

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designed C. CHAUNG
detailed C. CHUANG
checked D. QUINIT / B. KUTA

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FOR THE CONNECTICUT LIGHT & POWER COMPANY

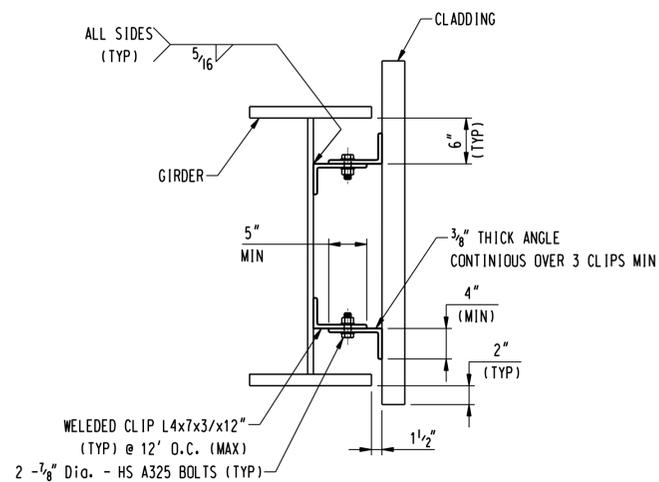
TITLE MIDDLETOWN-NORWALK 345KV TRANSMISSION PROJECT

MILL RIVER (SOUTHPORT HARBOR) BEARING DETAILS

DATE	CHKD	APP	APP

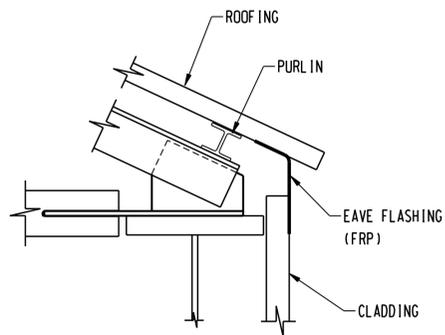
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DWG. NO. 01224-16303 PG 011

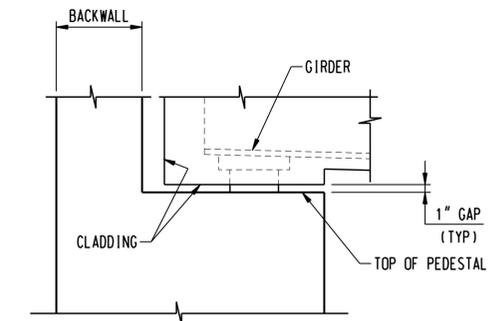


NOTE:
1. CLADDING MANUFACTURER MAY SUBMIT AN ALTERNATIVE CLADDING ATTACHMENT DETAILS TO BL COMPANIES FOR APPROVAL.

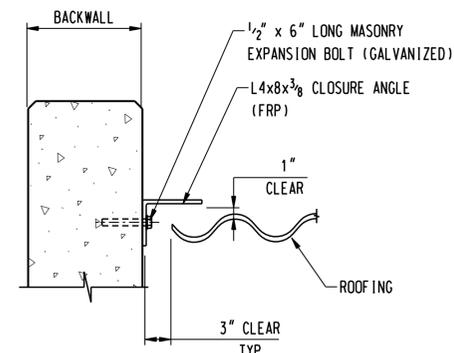
SECTION
WELDED CLIP DETAIL
N.T.S.



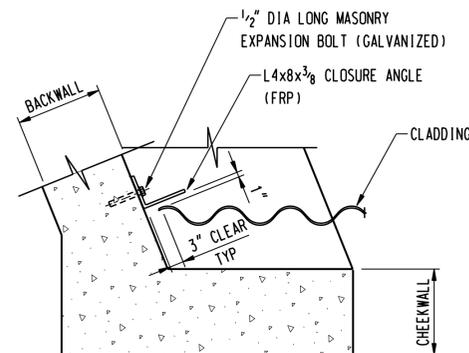
SECTION
EAVE DETAIL
N.T.S.



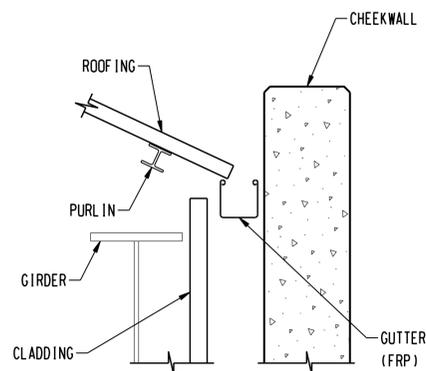
SECTION
BEARING PAD CLOSURE DETAIL
N.T.S.



SECTION
END CLOSURE DETAIL (ROOFING)
N.T.S.



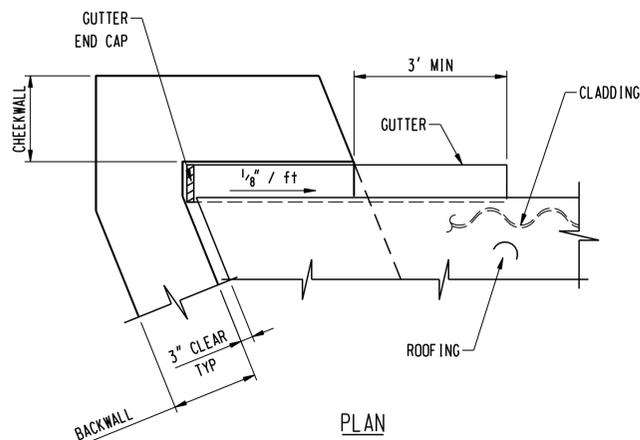
PLAN
END CLOSURE DETAIL (CLADDING)
N.T.S.



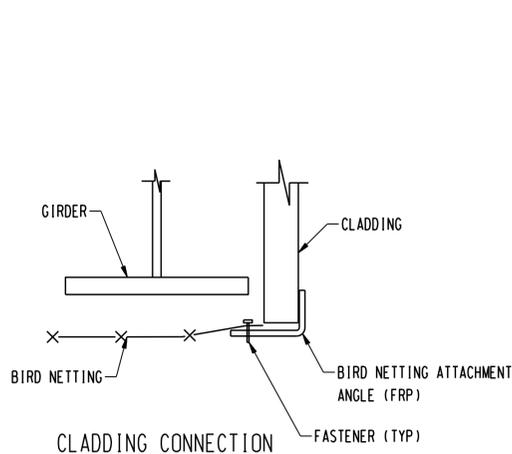
NOTE:
1. GUTTERS SHALL BE INSTALLED AT ALL FOUR CORNERS OF THE ROOF.

SECTION

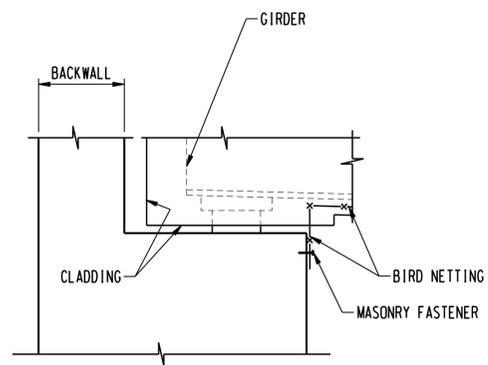
CORNER DETAIL
N.T.S.



PLAN



BIRD NETTING DETAIL
N.T.S.

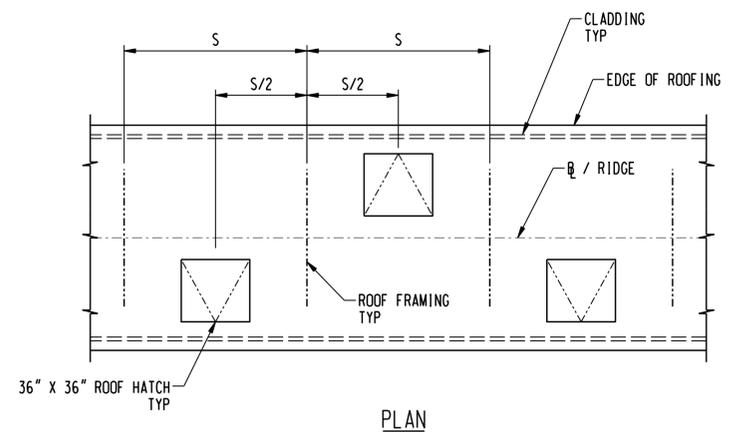


ABUTMENT CONNECTION

NOTES:

- ALL FIBERGLASS CLADDING, ROOFING AND MISCELLANEOUS FITTINGS AND ACCESSORIES SHALL BE OF THE TUFF SPAN SERIES BY ENDURO COMPOSITES, OR APPROVED EQUAL.
- THE CONTRACTOR SHALL PROVIDE THE OWNER AND THE ENGINEER WITH COLOR SAMPLES AND PROFILES OF THE CLADDING AND ROOFING MATERIALS FOR APPROVAL.
- ACCESS HATCH, FLASHING AND MISCELLANEOUS ACCESSORIES SHALL BE OF FIBERGLASS MATERIAL. BOLTS, FASTENERS AND MISCELLANEOUS HARDWARE SHALL EITHER BE GALVANIZED OR STAINLESS STEEL AND SHALL BE IN ACCORDANCE WITH THE ACCESS HATCH MANUFACTURER'S SPECIFICATIONS.
- FRAMING SYSTEM AND ATTACHMENT DETAILS FOR THE ACCESS HATCH SHALL BE DESIGNED AND DETAILED BY THE ROOFING MANUFACTURER. THE CONTRACTOR SHALL PREPARE WORKING DRAWINGS AND SUBMIT TO BL COMPANIES FOR REVIEW AND APPROVE. WORKING DRAWINGS SHALL BE SIGNED AND SEALED BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF CONNECTICUT.
- ROOFING AND CLADDING, INCLUDING FRAMING AND ATTACHMENTS, SHALL BE DESIGNED FOR WIND AND SNOW LOADS AS SPECIFIED IN THESE PLANS.
- ROOFING AND CLADDING SHALL BE DESIGNED TO ALLOW FOR THERMAL EXPANSION. TEMPERATURE RANGE TO BE USED FOR THERMAL EXPANSION SHALL BE FROM -10°F TO 170°F.

MANUFACTURER INFORMATION:
ENDURO COMPOSITES
A DIVISION OF ENDURO SYSTEMS INCORPORATED
1005 BLUE MOUND ROAD
FORT WORTH, TX 76131
TEL. (800) 667-8668
WWW.ENDUROCOMPOSITES.COM



ACCESS HATCH NOTES:

- CONTRACTOR SHALL SUBMIT CATALOG CUTS OF THE ACCESS HATCH SYSTEM AND DETAILS FOR REVIEW AND APPROVAL. ACCESS HATCH SHALL EITHER BE OR METAL OR OF FIBERGLASS MATERIAL, HAVING NON-REFLECTIVE SURFACE FINISH WITH COLOR CLOSELY MATCHING THE ROOFING MATERIAL.
- CONTRACTOR SHALL DESIGN FRAMING SYSTEM AROUND THE ACCESS HATCH. ACCESS HATCHES AND ITS FRAMING SYSTEM SHALL BE DESIGNED FOR A MINIMUM CONCENTRATED LIVE LOAD OF 500 LBS.
- CONTRACTOR SHALL DETAIL ACCESS HATCH TO BE ADAPTABLE TO THE ROOFING PROFILE. HATCH AND ROOFING INTERFACE SHALL BE DETAILED TO ENSURE A WATERTIGHT CONNECTION.
- ORIENTATION, LOCATION AND SPACING BETWEEN HATCHES SHALL BE AS SHOWN ON THESE DRAWINGS.
- ACCESS HATCH SHALL BE EASY TO OPEN AND SHALL HAVE A LOCKING DEVICE TO HOLD THE DOOR IN THE CLOSED AND OPEN POSITIONS.
- COST OF FURNISHING AND INSTALLING ACCESS HATCHES, INCLUDING THE HATCH FRAMING SYSTEM SHALL BE INCLUDED IN THE COST OF THE ITEM "ARCHITECTURAL CLADDING".

INSPECTION HATCH LAYOUT
N.T.S.

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date 05/10/06
designed M. BEAULIEU
detailed M. BEAULIEU
C. CHUANG
checked D. QUINIT / B. KUTA

MF	NO.	DATE	REVISIONS	BY	CHK	APP	APP

NORTHEAST UTILITIES SERVICE CO.

FOR THE CONNECTICUT LIGHT & POWER COMPANY

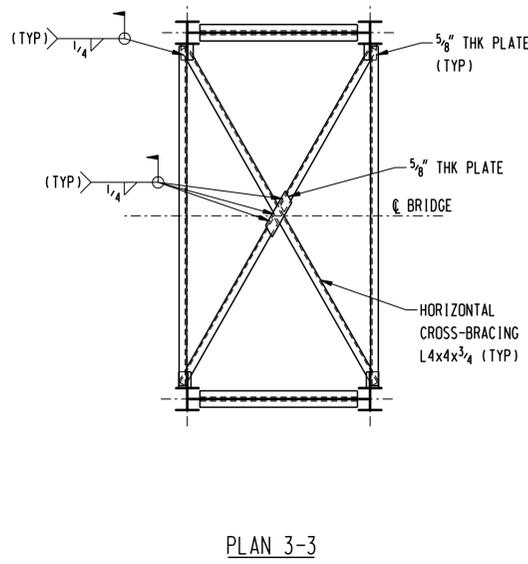
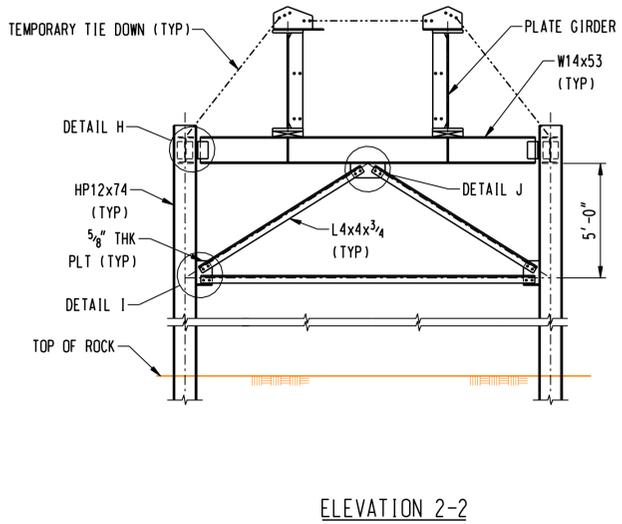
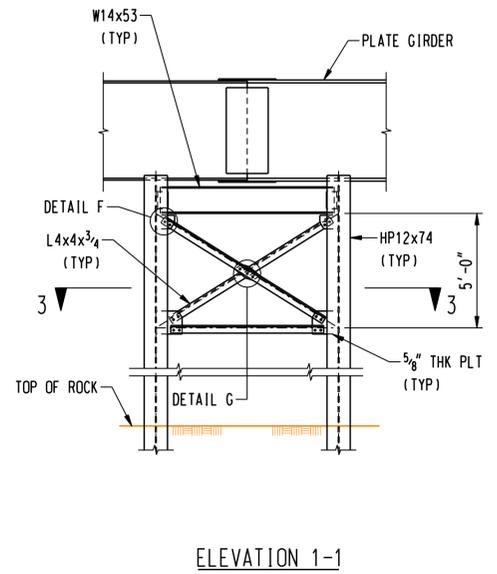
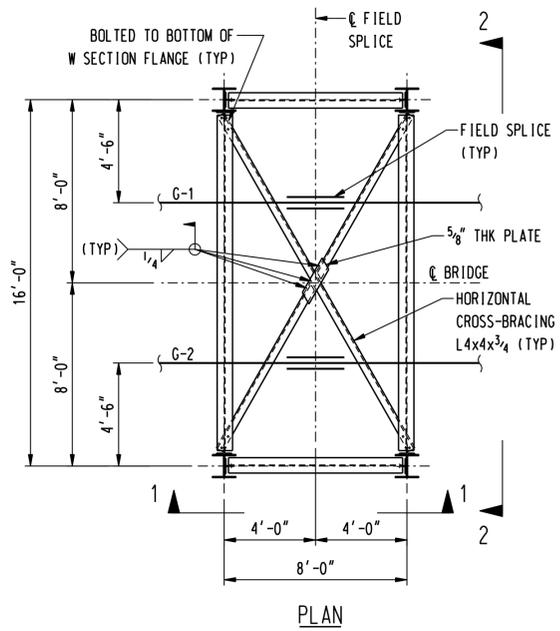
TITLE MIDDLETOWN-NORWALK 345KV TRANSMISSION PROJECT

MILL RIVER (SOUTHPORT HARBOR)
CLADDING DETAILS

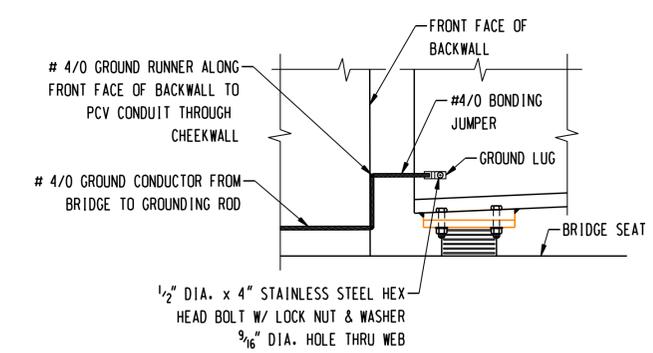
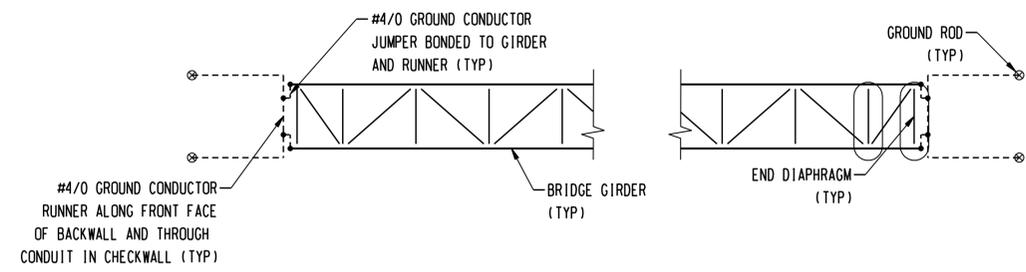
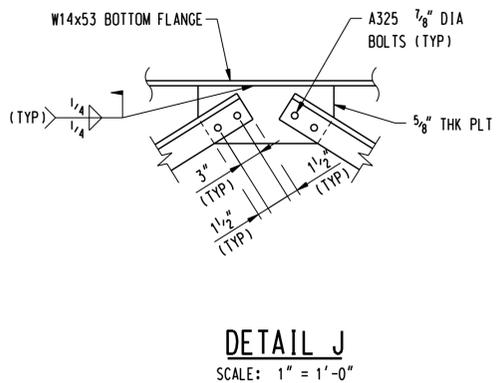
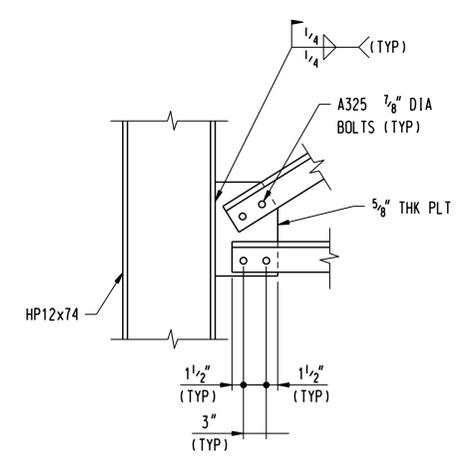
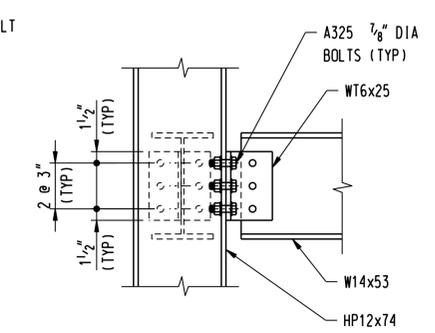
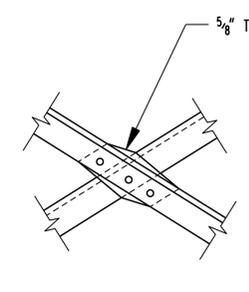
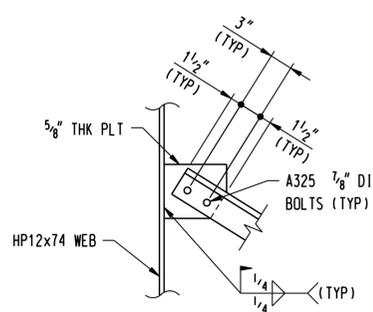
BY	CHKD	APP	APP

SCALE AS NOTED

DWG. NO. 01224-16303 PG 012



TEMPORARY ERECTION PLATFORM
1/4" = 1'-0"



no.	date	revisions	by	chk
2	6/1/06	ISSUED 60% PRELIMINARY	D.Q.	B.K.
1	5/10/06	ISSUED SECOND REVIEW	D.Q.	B.K.

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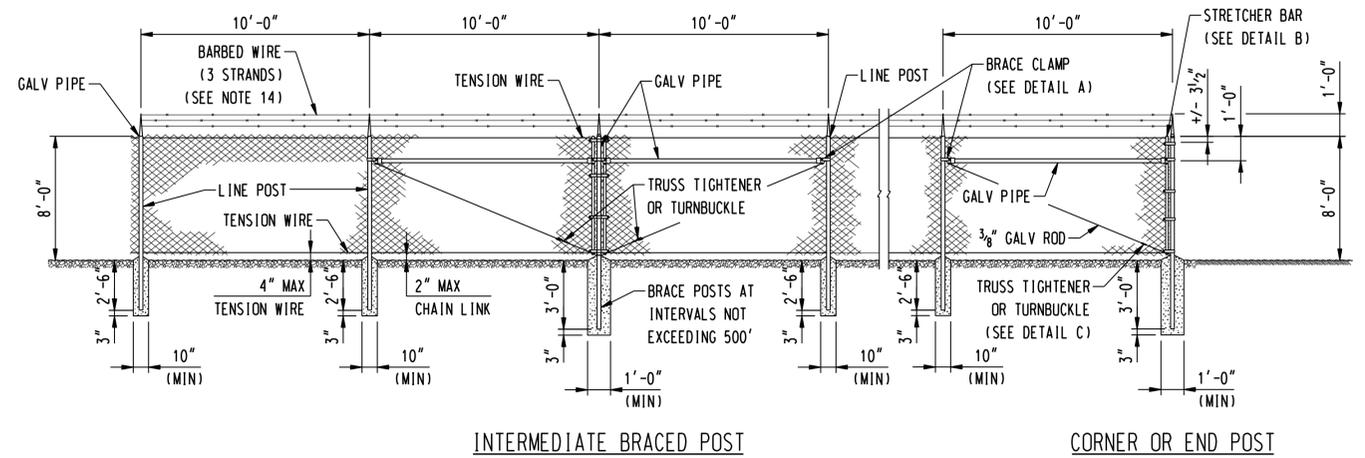
date: 05/10/06
designed: A. GRZADZIEL, C. CHAUNG
detailed: C. CHUANG
checked: D. QUINIT / B. KUTA

MF	NO.	DATE	REVISIONS	BY	CHK	APP	APP

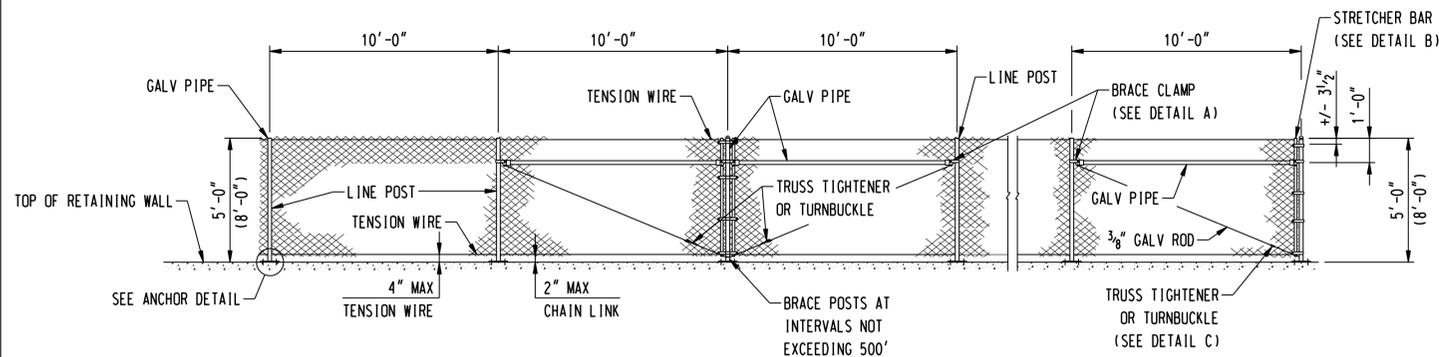
NORTHEAST UTILITIES SERVICE CO.
FOR THE CONNECTICUT LIGHT & POWER COMPANY
TITLE: MIDDLETOWN-NORWALK 345KV TRANSMISSION PROJECT
MILL RIVER (SOUTHPORT HARBOR)
ERECTION PLATFORM AND GROUNDING DETAIL

BY	DATE	CHKD	DATE	APP	DATE

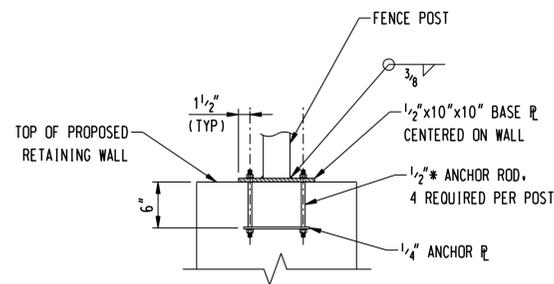
SCALE: AS NOTED
DWG. NO. 01224-16303 PG 013



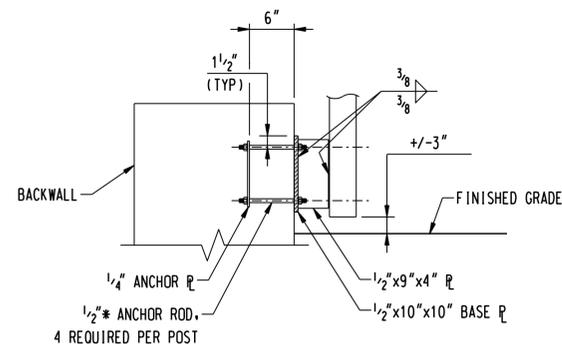
8' CHAIN LINK FENCE
N.T.S.



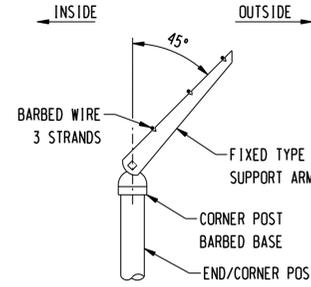
5' & 8' CHAIN LINK FENCE (STRUCTURE)
N.T.S.



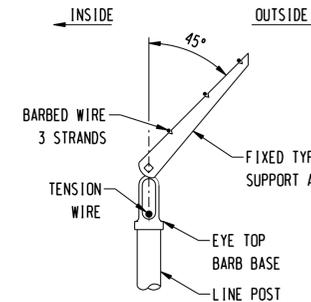
FENCE ANCHOR DETAIL I
SCALE: 1"=1'-0"



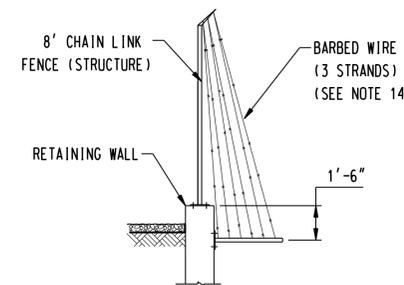
FENCE ANCHOR DETAIL II
SCALE: 1"=1'-0"



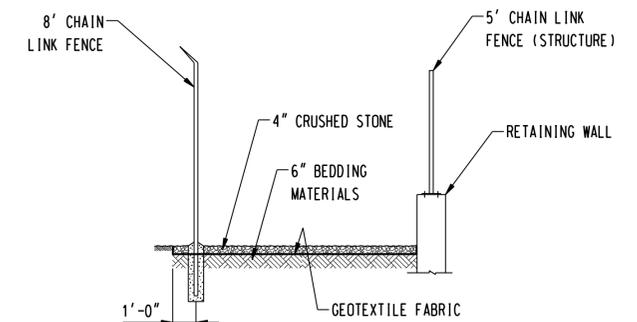
CORNER POST SUPPORT ARM
N.T.S.



LINE POST SUPPORT ARM
N.T.S.



PEDESTRIAN BARRIER
N.T.S.



SURFACE FINISHED
N.T.S.

FENCE NOTES:

- CHAIN-LINK FENCING SHALL CONSIST OF GALVANIZED CHAIN-LINK FABRIC ON STEEL POSTS.
- ALL POSTS SHALL BE SET IN CLASS A OR AA CONCRETE EXCEPT 5' CHAIN LINK FENCE ON RETAINING WALL.
- ALL POSTS TOPS SHALL BE FITTED WITH SUITABLE FINIALS.
- CORNER, TERMINAL OR PULL POST SHALL BE 2 3/8" DIA SCHEDULE 40 PER ASTM-F1083.
- LINE POST: 2 3/8" DIA SCHEDULE 40 PIPE PER ASTM-F1083.
- BRACES SHALL BE SPACED APPROXIMATELY 12" BELOW TOP OF TERMINAL POSTS AND SHALL EXTEND FROM END, GATE OR CORNER POSTS TO FIRST ADJACENT LINE POST.
- TOP RAIL & BRACE RAIL: 1 1/4" DIA SCHEDULE 40 PIPE PER ASTM-F1083.
- FABRIC: 11 GA. CORE WIRE SIZE 2" MESH, CONFORMING TO ASTM-A392 CLASS 1.
- TIE WIRE: MINIMUM 11 GA GALVANIZED STEEL.
- TENSION WIRE: 7 GA. GALVANIZED STEEL.
- ALL FITTINGS SHALL BE HOT-DIPPED GALVANIZED MALLEABLE, CAST IRON, OR PRESSED STEEL.
- FABRIC SHALL BE FASTENED TO LINE POSTS WITH FABRIC BANDS SPACED APPROXIMATELY 14" APART, AND TO TOP TENSION WIRE AND BOTTOM TENSION WIRE WITH HOG RINGS OR TIE WIRES SPACED APPROXIMATELY 24" APART.
- ALL WORK SHALL CONFORM WITH THE PROJECT SPECIFICATIONS.
- THREE STRANDS BARB WIRE APPLY TO 8'-0" HIGH CHAIN LINK FENCE. SEE GENERAL PLAN FOR CHAIN LINK FENCE LAYOUT.
- ALL 8' CHAIN LINK FENCE SHALL BE FITTED WITH BARBED WIRE.
- PROVIDE 4' WIDE ACCESS GATES WHEN SHOWN ON PLAN.

no.	date	revisions	by	chk
2	6/1/06	ISSUED 60% PRELIMINARY	D.Q.	B.K.
1	5/10/06	ISSUED SECOND REVIEW	D.Q.	B.K.


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date 05/10/06
 detailed C. CHUANG
 checked D. QUINIT / B. KUTA
 designed C. CHUANG

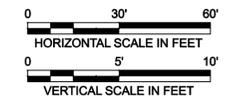
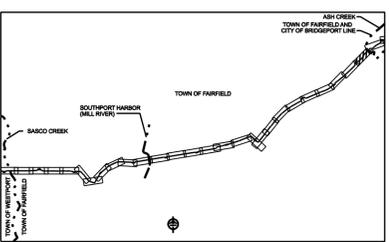
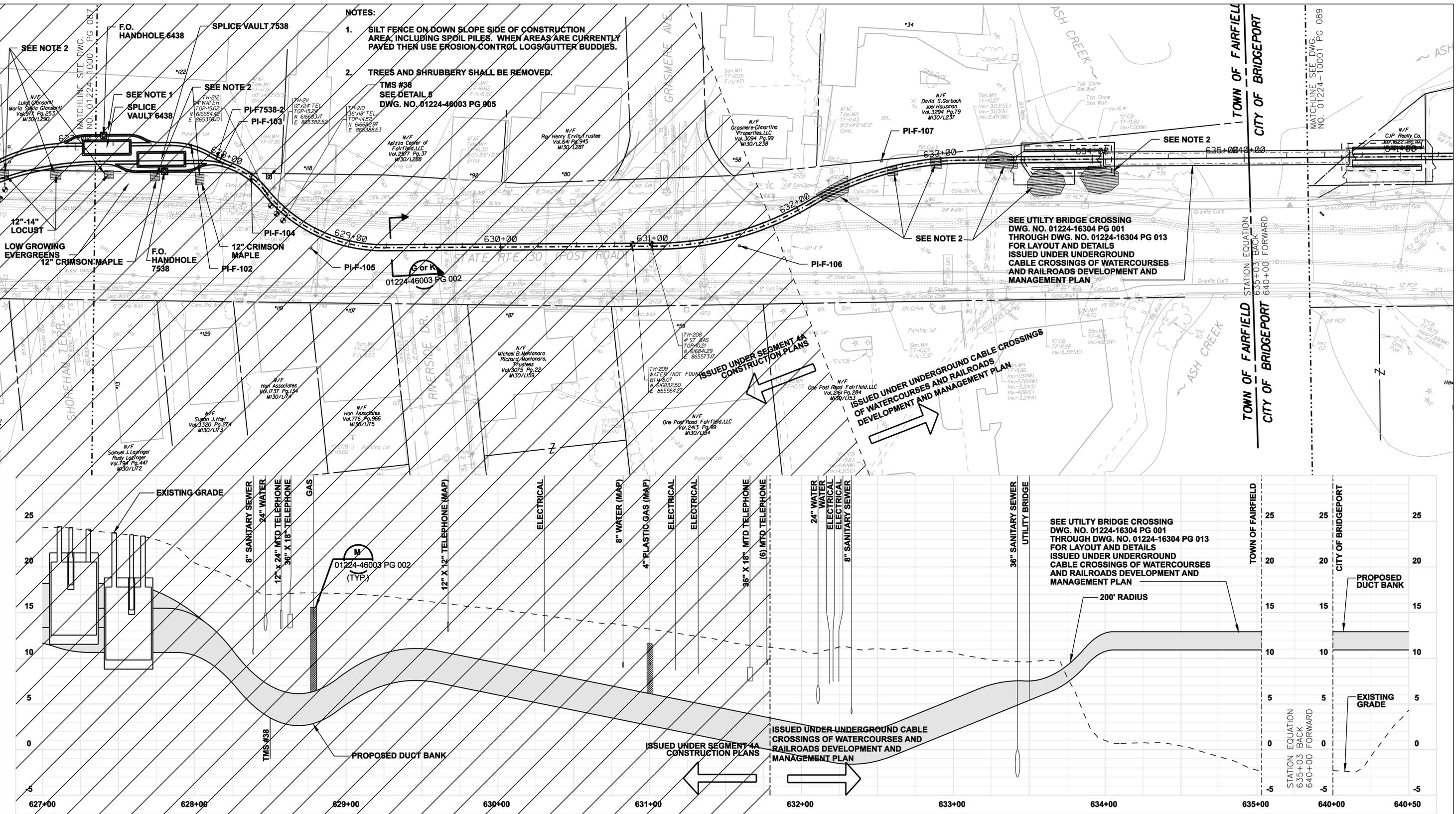
MF	NO.	DATE	REVISIONS	BY	CHK	APP	APP

NORTHEAST UTILITIES SERVICE CO.
 FOR THE CONNECTICUT LIGHT & POWER COMPANY
 TITLE MIDDLETOWN-NORWALK 345KV TRANSMISSION PROJECT
 MILL RIVER (SOUTHPORT HARBOR)
 CHAIN LINK FENCE DETAILS

DATE	CHKD	APP	APP

SCALE AS NOTED
 DWG. NO. 01224-16303 PG 014

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2	9/4/06	ISSUED CSC		CTC
1	6/1/06	ISSUED 60% PRELIMINARY		CTC

Burns & McDonnell
SINCE 1898

date: 08/15/05
designed: C. COURTRIGHT
detailed: L. ROWSE
checked: S. NEWLAND

MF	NO.	DATE	REVISIONS	BY	CHK	APP	APP

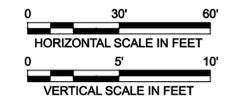
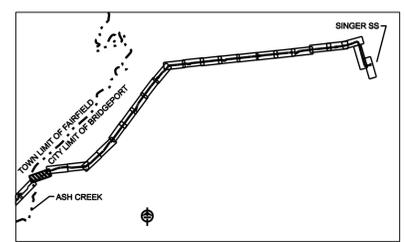
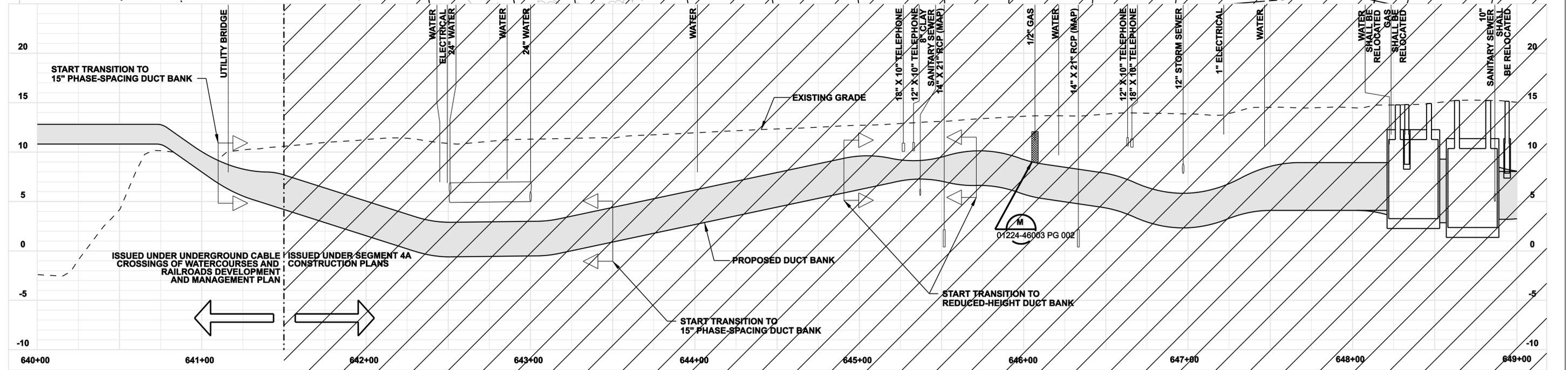
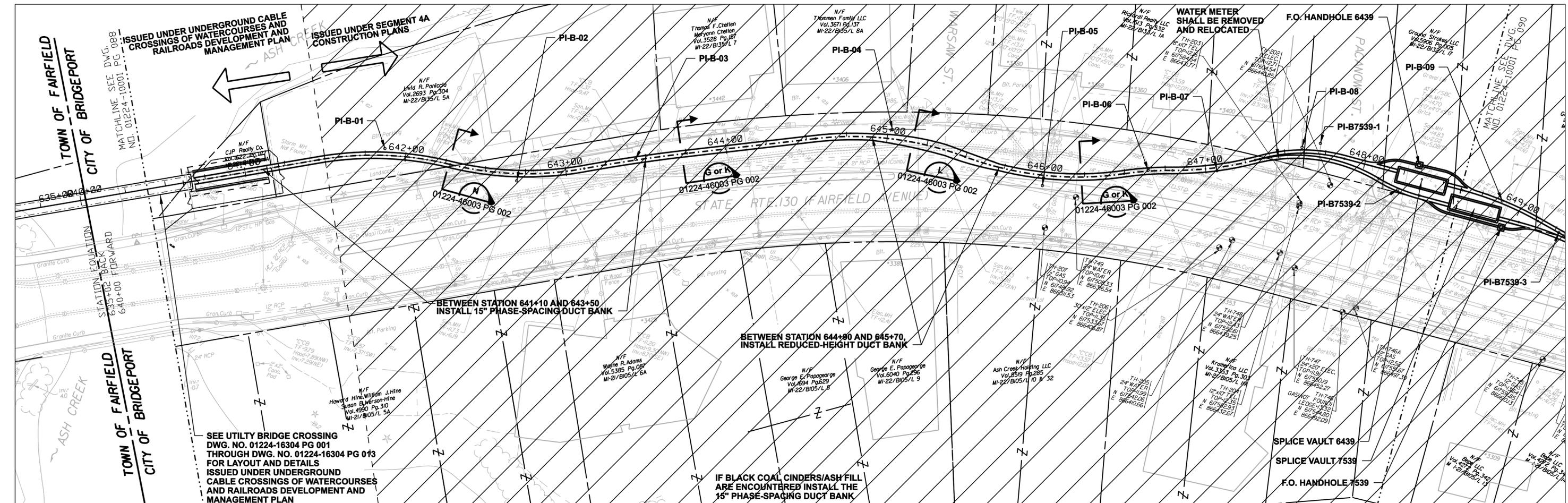
NORTHEAST UTILITIES SERVICE CO.

FOR THE CONNECTICUT LIGHT & POWER COMPANY

TITLE: MIDDLETOWN-NORWALK 345KV TRANSMISSION PROJECT

TOWN OF FAIRFIELD ROUTE
PLAN AND PROFILE Sta. 627+00 TO 640+50

BY SEN-BMCD	CHKD	APP	APP
DATE 8-15-05	DATE	DATE	DATE
SCALE AS NOTED	D	DWG. NO. 01224-10001 PG 088	



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Burns & McDonnell
SINCE 1898

date: 08/15/05
designed: C. COURTRIGHT
detailed: L. ROWSE
checked: S. NEWLAND

MF	NO.	DATE	REVISIONS	BY	CHK	APP	APP

NORTHEAST UTILITIES SERVICE CO.

FOR THE CONNECTICUT LIGHT & POWER COMPANY

TITLE: MIDDLETOWN-NORWALK 345KV TRANSMISSION PROJECT

CITY OF BRIDGEPORT ROUTE
PLAN AND PROFILE AT 640+00 TO 649+00

BY SEN-BMCD	CHKD	APP	APP
DATE	DATE	DATE	DATE
SCALE AS NOTED	D	DWG. NO.	01224-10001 PG 089

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Sample Information		Sample Description & Classification	Stratum Desc.	Remarks	Equipment Installed				
Depth	No.					Pen./ Rec. (in.)	Depth (Ft.)	Blows (6")	Field Test Data
1	S-1	24/10	1-3	5-4 3-5	4" Sidwalk Poorly graded SAND with SILT (SP-SM), 85% loose, brown, predominately fine to medium SAND, 15% non-plastic silt	CONCRETE	None		
2									
3									
4									
5	S-2	24/3	5-7	1-0 1-1	Sandy SILT (ML), very loose, brown, 70% inorganic silt, 30% brown, fine to medium sand	4" FILL			
6									
7									
8									
9	S-3	24/8	9-11	4-3 6-6	Silty SAND with GRAVEL (SM), loose, brown, 55% fine to coarse sand, 25% inorganic, non-plastic silt, 20% subangular fine gravel, wet				
10									
11									
12									
13	S-4	24/6	13-15	4-24 19-20	SILT with GRAVEL (ML), dense, olive-brown, 55% inorganic, non-plastic silt, 30% subangular fine to coarse gravel, 15% fine to coarse sand	12" SILT			
14									
15									
16	C-1	4/3.8	16-20	4	Hard, fresh silty, fractured, dark gray, fine to coarse SCHIST, closely to moderately close, subhorizontal rough to smooth, joint/fractures with convoluted very thin foliation RQD=85%	16" BEDROCK			
17									
18									
19									

REMARKS
1. Wet at 8.0 feet
2. Pieces of wood observed in Sample S-3
3. Borehole advanced using spin and wash method after sampling S-4, encountered wood between 10 and 12 feet while advancing 4" flush joint casing to 20 feet

Stratification lines represent approximate boundary between soil types, transitions may be gradual. Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.

AC-1 (PAGE 1 OF 3)

Sample Information		Sample Description & Classification	Stratum Desc.	Remarks	Equipment Installed				
Depth	No.					Pen./ Rec. (in.)	Depth (Ft.)	Blows (6")	Field Test Data
21									
22									
23	C-3	1.5/1.5	23-24.3	7	Hard, fresh, dark gray SCHIST, highly fractured RQD=0				
24	C-4	4.2/4.7	24.3-29	5	Hard, fresh, dark gray SCHIST, factor zone 24.9-25.4, silty sand filled fractures, convoluted very thin foliation RQD=85				
25									
26									
27									
28									
29	C-5	5/5	29-34	8	Hard, fresh, slightly fractured, dark gray SCHIST, closely to moderately fractured, convoluted very thin foliation RQD=96				
30									
31									
32									
33									
34	C-6	5/5	34-39	5	Hard, fresh, dark gray SCHIST, fine to coarse grained, convoluted very thin foliation RQD=100				
35									
36									
37									
38									
39	C-7	5/5	39-44	5	Hard, fresh, dark gray SCHIST, fracture zone 41-42.3, fine to coarse grained, subhorizontal rough to smooth fractures, convoluted very thin to thin foliation RQD=77%				
40									
41									
42									
43									

REMARKS
4. DRAFT

Stratification lines represent approximate boundary between soil types, transitions may be gradual. Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.

AC-1 (PAGE 2 OF 3)

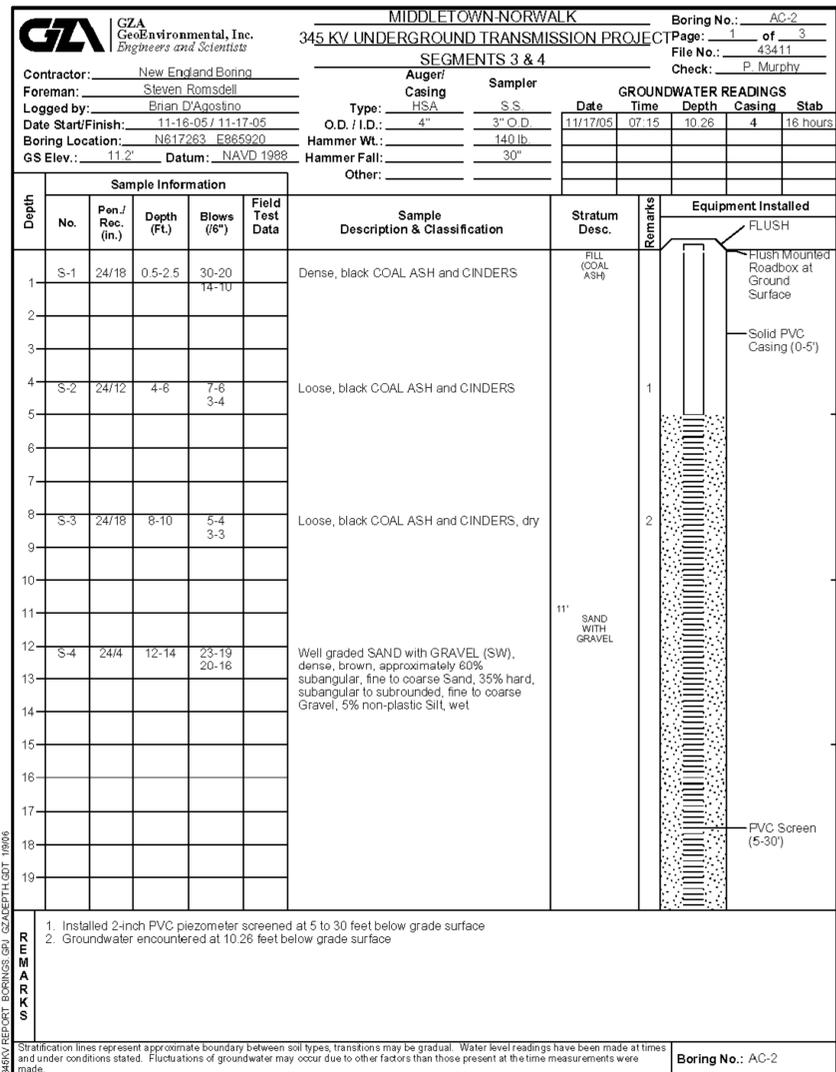
Sample Information		Sample Description & Classification	Stratum Desc.	Remarks	Equipment Installed				
Depth	No.					Pen./ Rec. (in.)	Depth (Ft.)	Blows (6")	Field Test Data
44	C-8	4/3.8	44-48	5 5	Hard, fresh, gray, slightly fractured SCHIST, fine to coarse grained, subhorizontal rough to smooth fractures, convoluted, thin to moderately thin foliation RQD=51%	BEDROCK			
45									
46									
47									
48	C-9	2/2	48-50	5	Hard, fresh, gray, slightly fractured SCHIST, fine to coarse grained, subhorizontal rough to smooth fractures, convoluted thin to moderately thin foliation RQD=76%				
49									
50									
51									
52									
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REMARKS
4. DRAFT

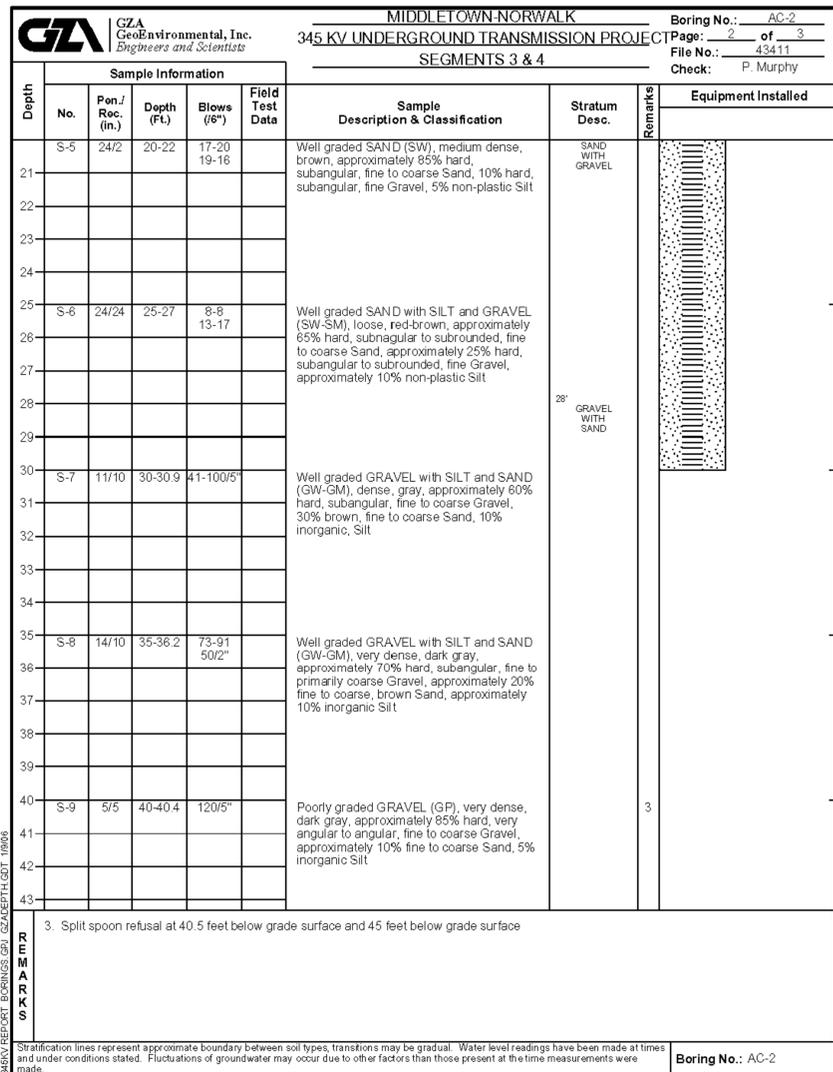
Stratification lines represent approximate boundary between soil types, transitions may be gradual. Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.

AC-1 (PAGE 3 OF 3)

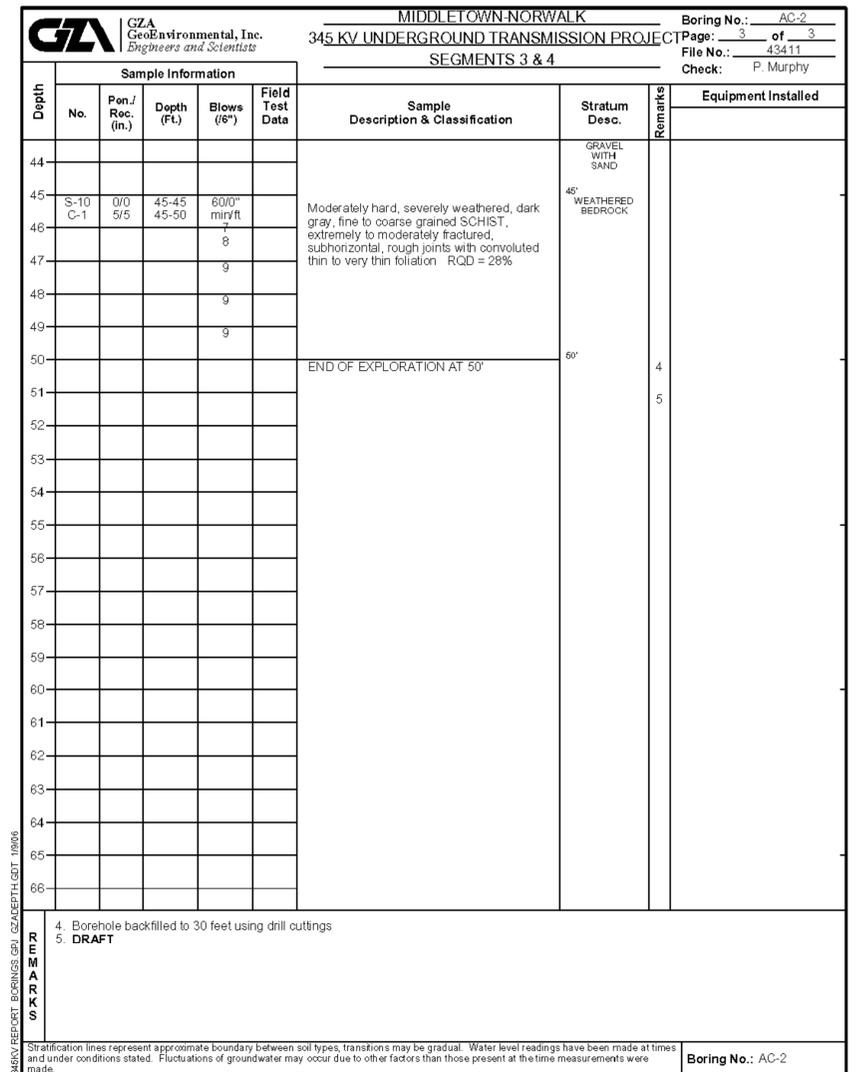
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		date 05/10/06 detailed designed C. CHUANG checked D. QUINIT / B. KUTA			
		no. date revisions by chk 2 6/1/06 ISSUED 60% PRELIMINARY D.Q. B.K. 1 5/10/06 ISSUED SECOND REVIEW D.Q. B.K.			
		C. CHAUNG			
				NORTEAST UTILITIES SERVICE CO. FOR THE CONNECTICUT LIGHT & POWER COMPANY TITLE MIDDLETOWN-NORWALK 345KV TRANSMISSION PROJECT ASH CREEK SOIL BORING LOG 1	
				BY DATE CHKD DATE APP DATE APP SCALE AS NOTED DWG. NO. 01124-16304 PG 002	
				MF NO. DATE REVISIONS BY CHK APP APP	



AC-2 (PAGE 1 OF 3)



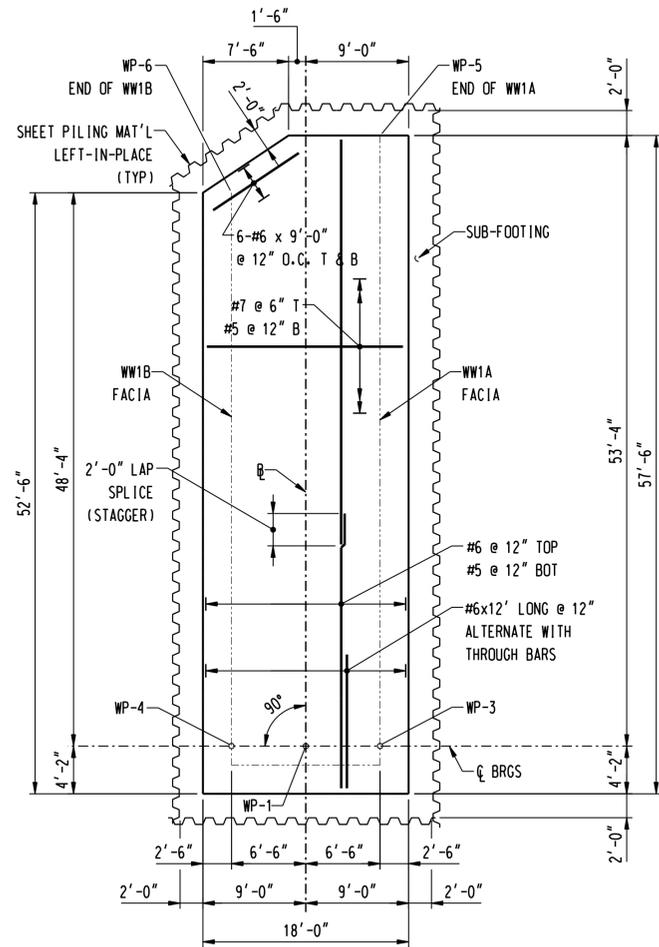
AC-2 (PAGE 2 OF 3)



AC-2 (PAGE 3 OF 3)

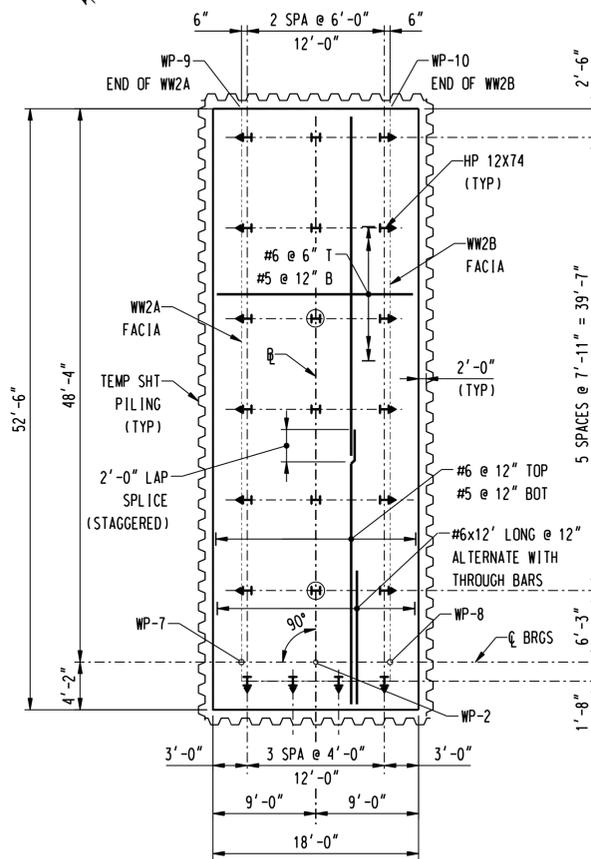
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				date 05/10/06 detailed designed C. CHUANG checked C. CHUANG C. CHUANG D. QUINIT / B. KUTA								
no.	date	revisions	by	chk	MF	NO.	DATE	REVISIONS	BY	CHK	APP	APP
2	6/1/06	ISSUED 60% PRELIMINARY	D.Q.	B.K.								
1	5/10/06	ISSUED SECOND REVIEW	D.Q.	B.K.								

NORTHEAST UTILITIES SERVICE CO.			
FOR THE CONNECTICUT LIGHT & POWER COMPANY			
TITLE MIDDLETOWN-NORWALK 345KV TRANSMISSION PROJECT			
ASH CREEK SOIL BORING LOG 2			
BY	CHKD	APP	APP
DATE	DATE	DATE	DATE
SCALE AS NOTED	D	DWG. NO.	01224-16304 PG 003



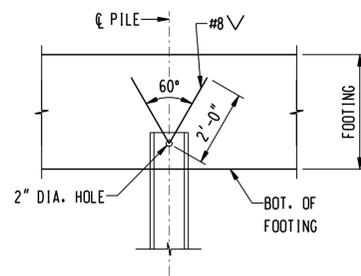
ABUTMENT 1

SCALE: 1/8" = 1'-0"



ABUTMENT 2

SCALE: 1/8" = 1'-0"



NOTE:
PILE ANCHORAGE IS FOR VERTICAL PILES ONLY.

PILE ANCHORAGE DETAIL

SCALE: 1/2" = 1'-0"

LEGEND:

- VERTICAL PILES
- BATTERED PILES
- TEST PILES

NOTES:

1. STEEL PILES SHALL BE HP12x74 CONFORMING TO THE REQUIREMENTS OF AASHTO M270.
2. PRIOR TO DRIVING PILES, THE CONTRACTOR SHALL SUBMIT TO BL COMPANIES, FOR REVIEW AND APPROVAL, THE PROPOSED METHOD AND SEQUENCE OF PILE DRIVING.
3. THE CONTRACTOR SHALL REMAIN COGNIZANT OF ALL UTILITIES IN THE AREA AND SHALL PERFORM ALL PILE DRIVING OPERATIONS IN SUCH A MANNER AS TO AVOID DAMAGING EXISTING UTILITIES. ANY DAMAGE CAUSED BY THE CONTRACTOR'S OPERATIONS SHALL BE REPAIRED IN-KIND TO THE SATISFACTION OF THE GOVERNING UTILITY COMPANY. THE COST TO REPAIR THESE DAMAGES SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
4. PILE LOCATIONS MAY BE ALTERED, IF NECESSARY, TO SUIT CONDITIONS ENCOUNTERED DURING CONSTRUCTION, WITH THE APPROVAL OF BL COMPANIES. THE DRIVING OF ADDITIONAL PILES RESULTING FROM SUCH MOVE(S) SHALL BE PERFORMED BY THE CONTRACTOR TO THE SAME STANDARDS AS THE REMAINING PILES AND AT NO ADDITIONAL COST TO THE OWNER.
5. ALL FOOTING AND PILE LAYOUT DIMENSIONS SHOWN APPLY AT THE BOTTOM OF THE FOOTING.
6. PILE SPACING SHOWN ARE ALONG THE CENTERLINE OF PILES.
7. ESTIMATED PILE LENGTHS ARE FOR BIDDING PURPOSES ONLY.

ESTIMATED PILE LENGTHS:

ABUTMENT 2 = 35'-0"

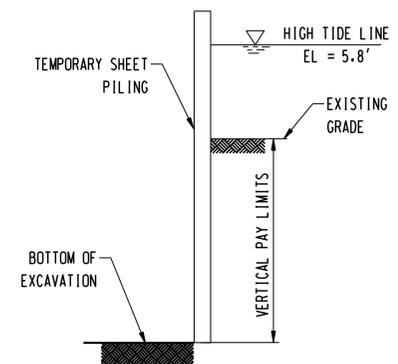
8. TEST PILES INDICATED ON THE PLANS SHALL BE USED TO VERIFY ORDER LENGTHS AND DRIVING ASSUMPTIONS. PILE DRIVING ANALYZER (PDA) TEST SHALL BE PERFORMED ON THE TEST PILES TO DETERMINE PILE LENGTHS AND PILE CAPACITIES. COST OF PILE LOADING TEST SHALL BE INCLUDED IN THE COST OF THE ITEM "TEST PILE".
9. ROCK EXCAVATIONS SHALL BE FREED FROM ALL LOOSE MATERIALS, CLEANED AND CUT TO A FIRM SURFACE, LEVEL OR STEPPED AS SHOWN ON THE PLANS OR AS DIRECTED BY THE GEO TECHNICAL ENGINEER

10. MAXIMUM DESIGN PILE LOADS:

ABUTMENT 2 (WINGWALLS) = 217 kip (STRENGTH LIMIT I)
(ABUTMENTS) = 143 kip (STRENGTH LIMIT I)

11. MAXIMUM DESIGN BEARING PRESSURE:

ABUTMENT 1 = 8.3 ksf (STRENGTH LIMIT I)



SHEET PILING PAY LIMIT DETAIL

N.T.S.

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no.	date	revisions	by	chk
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date 05/10/06 detailed M.BEAULIEU
designed M.BEAULIEU checked D.QUINIT / B.KUTA
A.GRZADZIEL

MF	NO.	DATE	REVISIONS	BY	CHK	APP	APP

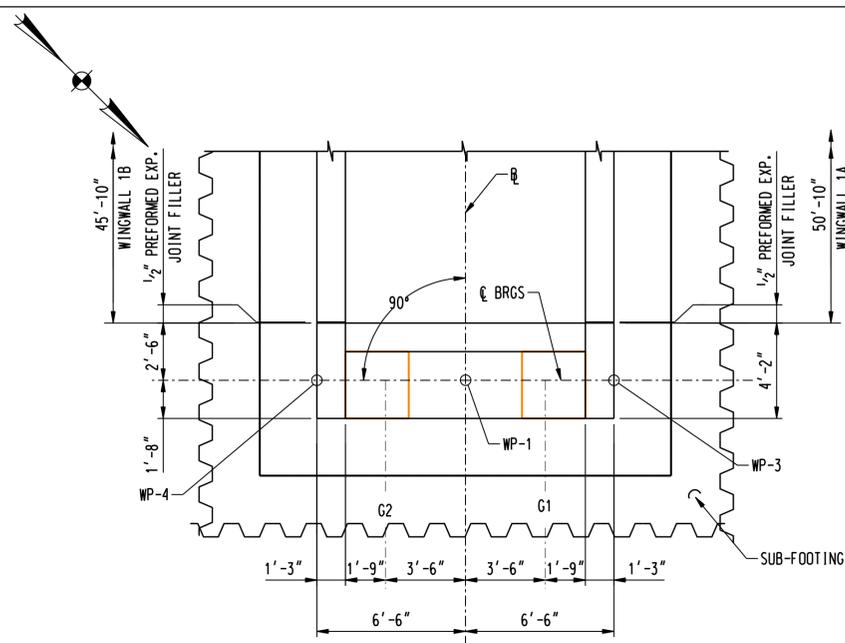
NORTHEAST UTILITIES SERVICE CO.

FOR THE CONNECTICUT LIGHT & POWER COMPANY

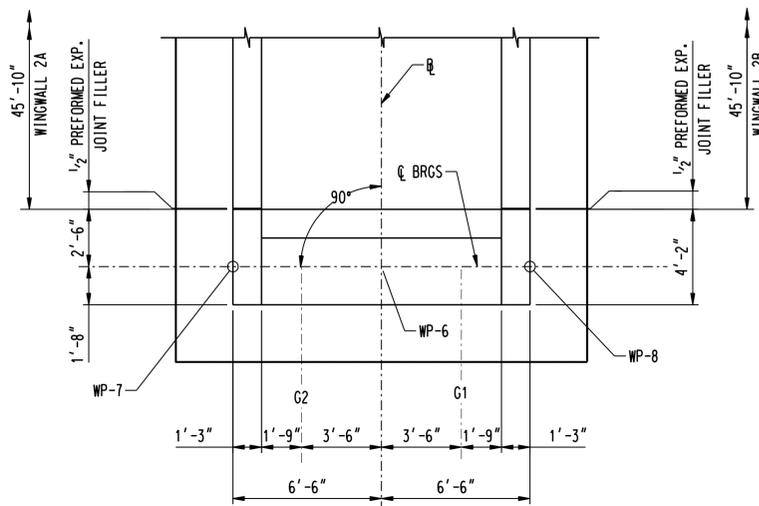
TITLE MIDDLETOWN-NORWALK 345KV TRANSMISSION PROJECT

ASH CREEK
ABUTMENT 1 & 2 FOOTING PLAN

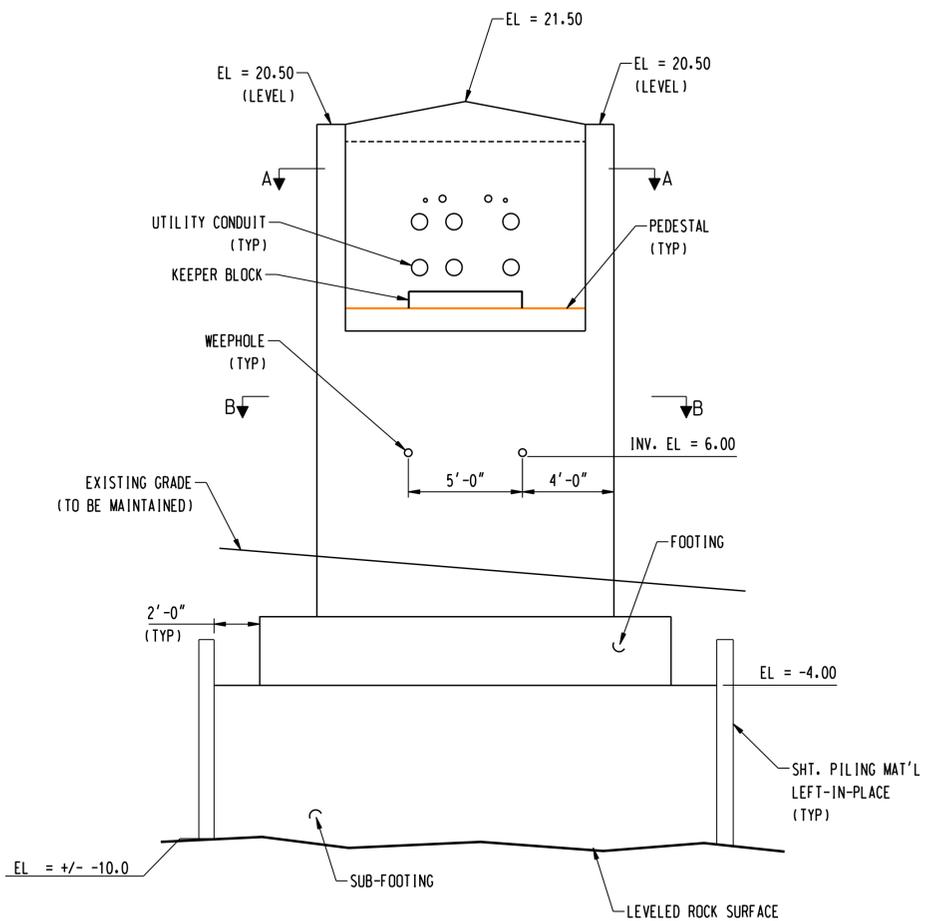
BY	CHKD	APP	APP
DATE	DATE	DATE	DATE
SCALE AS NOTED	D		DWG. NO. 01224-16303 PG 004



PLAN

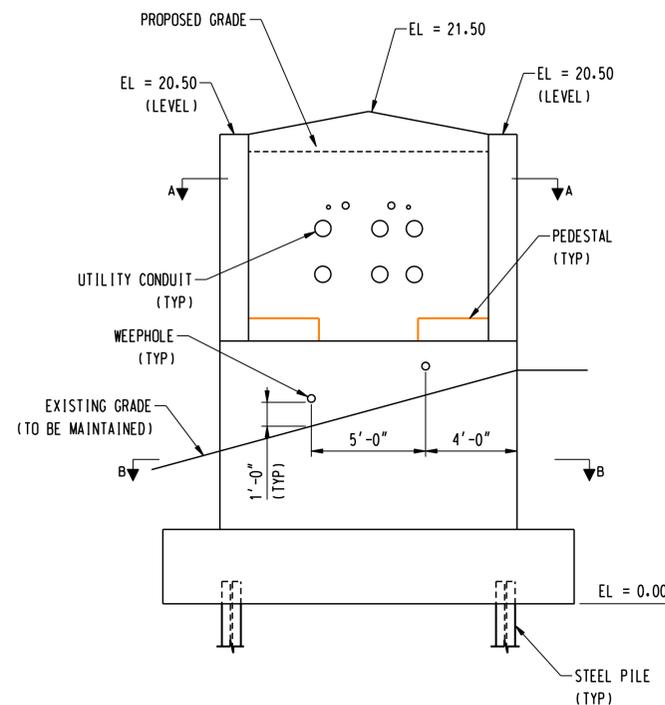


PLAN



ELEVATION

ABUTMENT 1
SCALE: 1/4" = 1'-0"



ELEVATION

ABUTMENT 2
SCALE: 1/4" = 1'-0"

NOTES:

- FOR SECTION A-A AND B-B, SEE DWG. No. 01224-16304 PG 006.
- FOR WINGWALL LAYOUTS, SEE DWG. No. 01224-16304 PG 004
- FOR WINGWALL ELEVATION VIEWS, SEE DWG. No. 01224-16304 PG 007.
- FIBERGLASS REINFORCEMENT SHALL BE USED WITHIN THE DESIGNATED LIMITS OF NON-METALLIC AREA.
- FOR DESIGNATED LIMITS OF NON-METALLIC AREA, SEE "BACKWALL REINFORCEMENT DETAIL" ON DRW. No. 01224-16304 PG 006.
- FOR FOOTING AND PILE LAYOUTS, SEE DWG. No. 01224-16304 PG 004.
- FOR WORKING POINT COORDINATES, SEE DWG. No. 01224-16304 PG 001.
- KEEPER BLOCKS SHALL BE POURED AFTER THE GIRDERS HAVE BEEN ERECTED AND SET TO THEIR FINAL POSITIONS.
- SHEET PILING MATERIAL LEFT-IN-PLACE SHALL BE CUT 2'-0" BELOW GRADE.
- FOR GROUNDING DETAIL, SEE DWG. No. 01224-16304 PG 013.
- FOR PIPE SLEEVE DETAIL, SEE DWG. No. 01224-16304 PG 006.

BRIDGE SEAT & PEDESTAL ELEVATIONS		
	ABUTMENT 1	ABUTMENT 2
BRIDGE SEAT	12.100	12.000
G1 PEDESTAL	12.417	12.240
G2 PEDESTAL	12.417	12.240

DOCKET No. 272

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date 05/10/06 detailed M. BEAULIEU
 designed M. BEAULIEU A. GRZADZIEL checked D. QUINIT / B. KUTA

MF	NO.	DATE	REVISIONS	BY	CHK	APP	APP

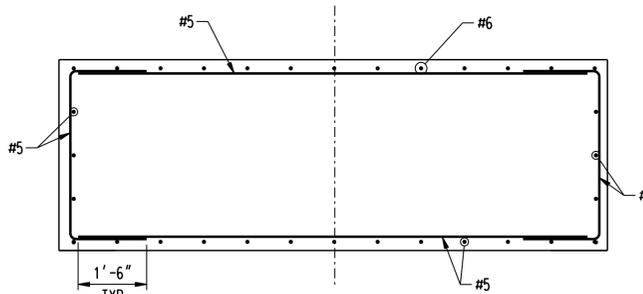
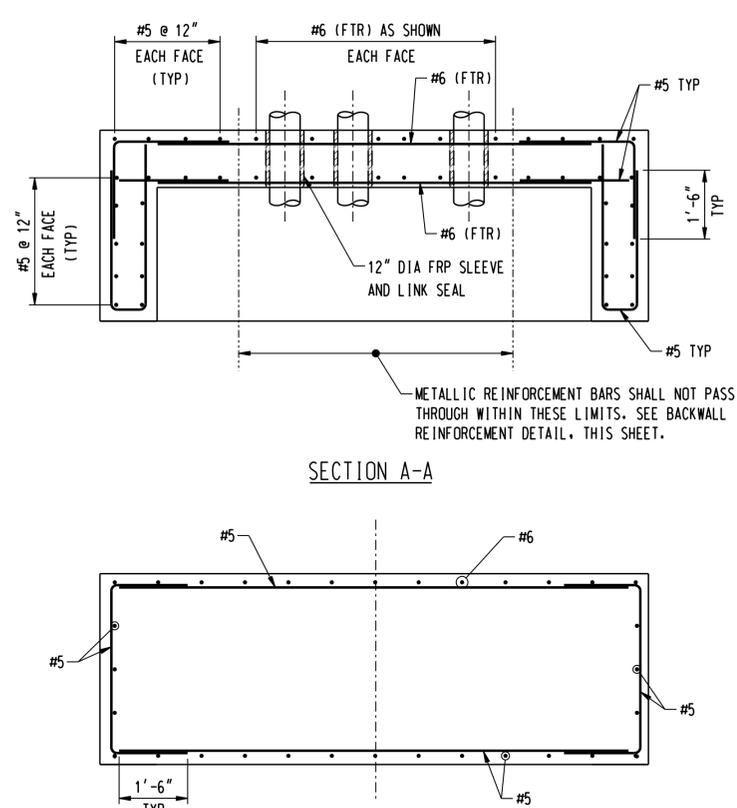
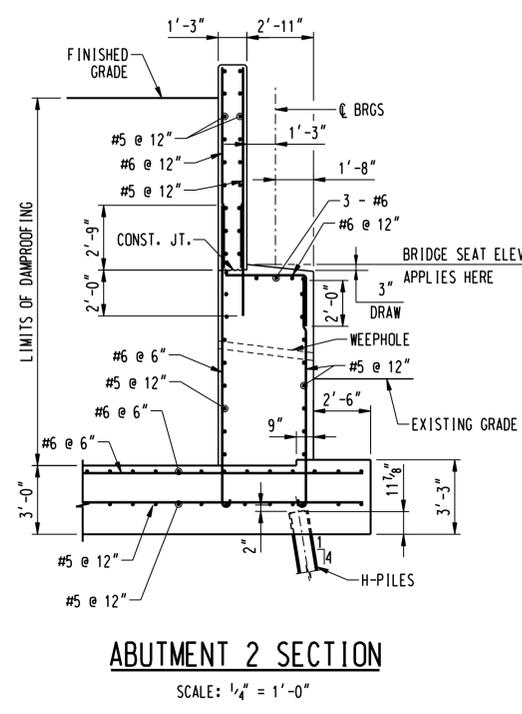
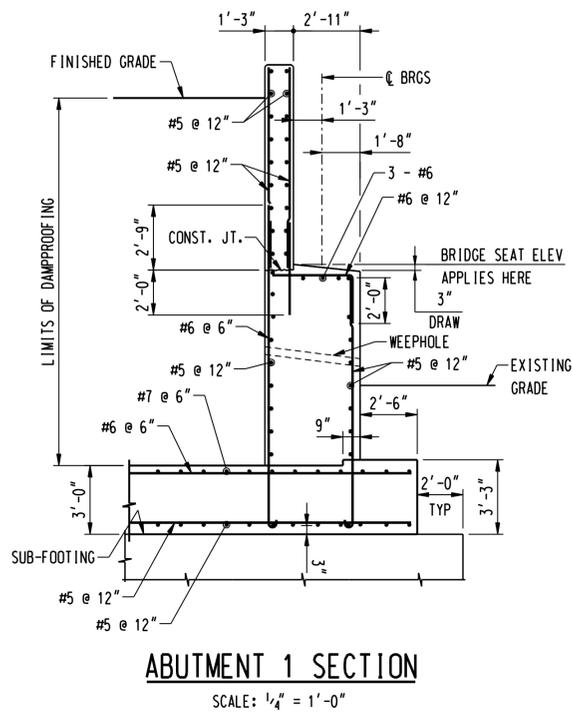
NORTHEAST UTILITIES SERVICE CO.

FOR THE CONNECTICUT LIGHT & POWER COMPANY

TITLE MIDDLETOWN-NORWALK 345KV TRANSMISSION PROJECT

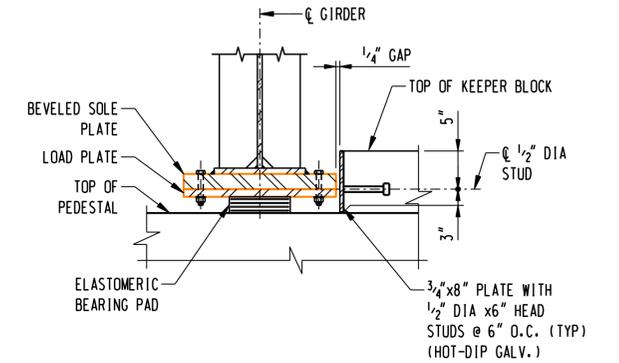
ASH CREEK
ABUTMENT 1 PLAN AND ELEVATION

BY	CHKD	APP	APP
DATE	DATE	DATE	DATE
SCALE AS NOTED	D	DWG. NO. 01224-16304 PG 005	

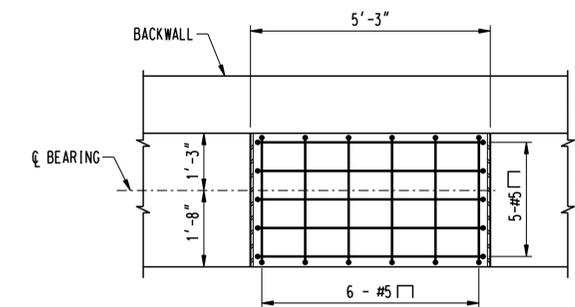


SECTION B-B
TYPICAL REINFORCEMENT LAYOUT
SCALE: 1/2" = 1'-0"

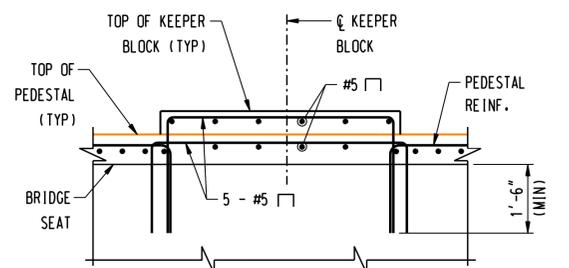
- NOTES:**
- KEEPER BLOCKS SHALL BE POURED AFTER THE GIRDERS HAVE BEEN ERECTED AND SET TO THEIR FINAL POSITION.
 - FOR ABUTMENT ELEVATIONS, SEE DWG. NO. 01224-16304 PG 005.
 - FOR WINGWALL ELEVATIONS, SEE DWG. NO. 01224-16304 PG 007.
 - FIBERGLASS THREADED RODS (FTR) SHALL BE USED WITHIN THE LIMITS OF THE NON-METALLIC AREA. SEE BACKWALL REINFORCEMENT DETAIL, THIS SHEET.
 - COST OF FTR SLEEVE AND LINK SEAL SHALL BE INCLUDED IN THE ITEM "CLASS 'A' CONCRETE".



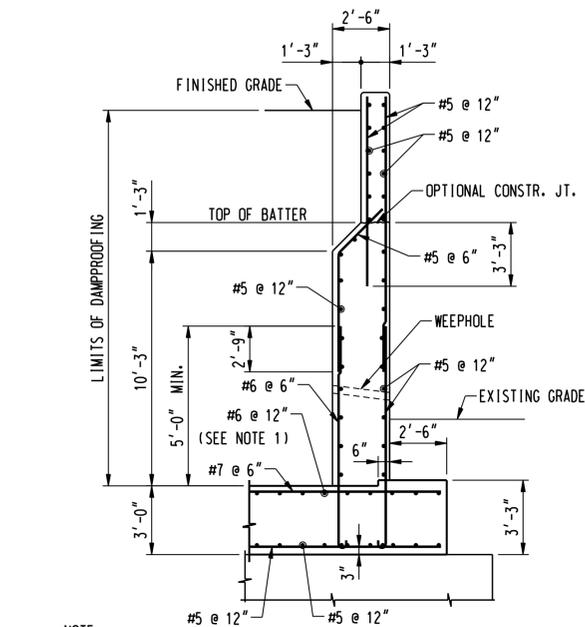
KEEPER BLOCK ELEVATION
SCALE: 1" = 1'-0"



PLAN



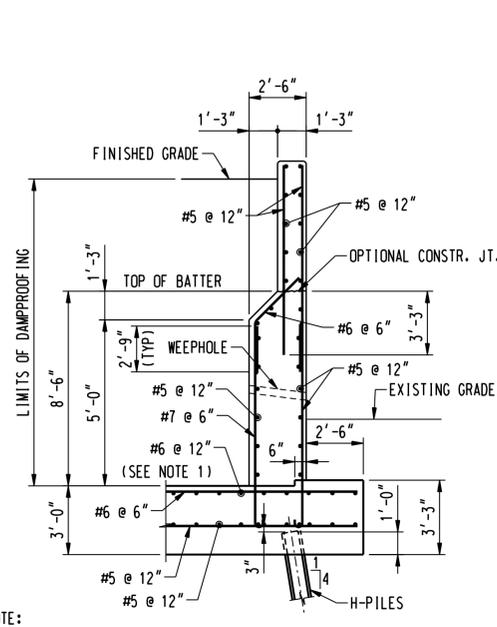
SECTION
KEEPER BLOCK DETAIL
SCALE: 1/2" = 1'-0"



NOTE:
1. FOR ADDITIONAL FOOTING REBAR, SEE FOOTING PLAN.

SECTION
TYPICAL WINGWALL (ABUT. 1)

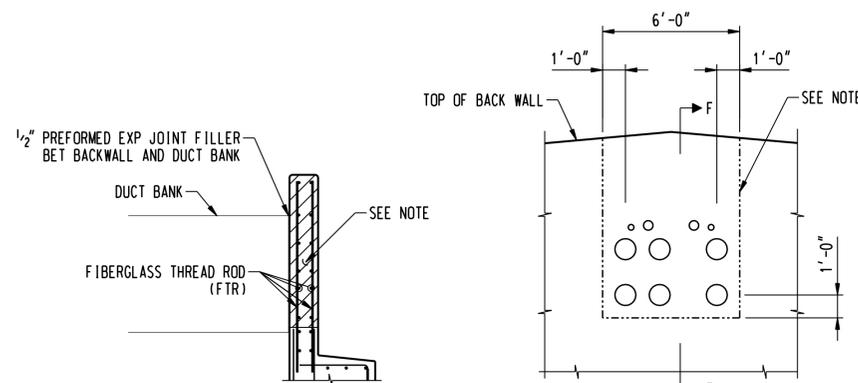
SCALE: 1/4" = 1'-0"



NOTE:
1. FOR ADDITIONAL FOOTING REBAR, SEE FOOTING PLAN.

SECTION
TYPICAL WINGWALL (ABUT. 2)

SCALE: 1/4" = 1'-0"

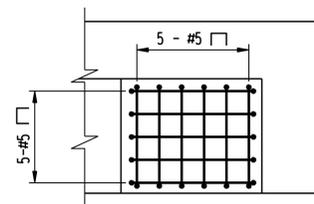


SECTION F-F

NOTE:
METALLIC REINFORCEMENT BARS SHALL NOT PASS THROUGH THE AREA SHOWN ON THE PLANS. FIBERGLASS THREADED RODS (FTR) SHALL BE SUBSTITUTED AS SHOWN.

BACKWALL REINFORCEMENT DETAIL

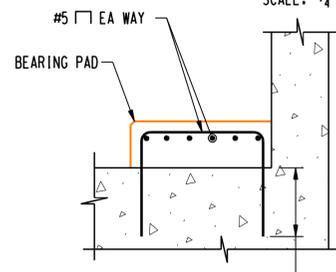
SCALE: 1/4" = 1'-0"



PLAN

PEDESTAL

SCALE: 1/2" = 1'-0"



SECTION

(TYP)

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2	6/1/06	ISSUED 60% PRELIMINARY	D.Q.	B.K.
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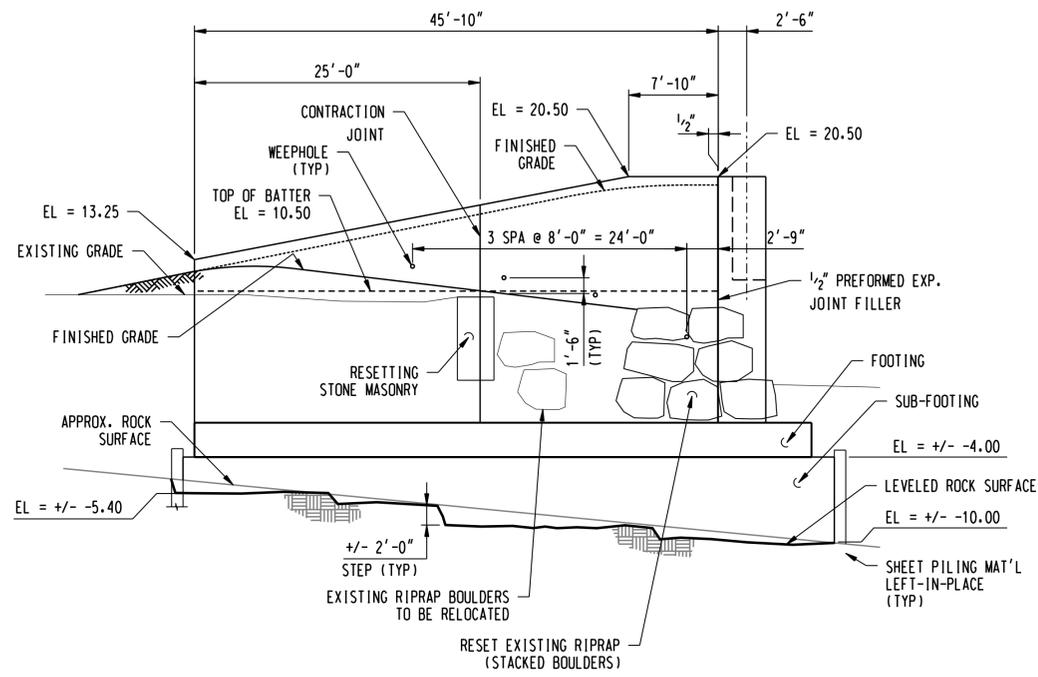
date	05/10/06	detailed	M. BEAULIEU C. CHUANG
designed	M. BEAULIEU	checked	D. QUINIT / B. KUTA

MF	NO.	DATE	REVISIONS	BY	CHK	APP	APP

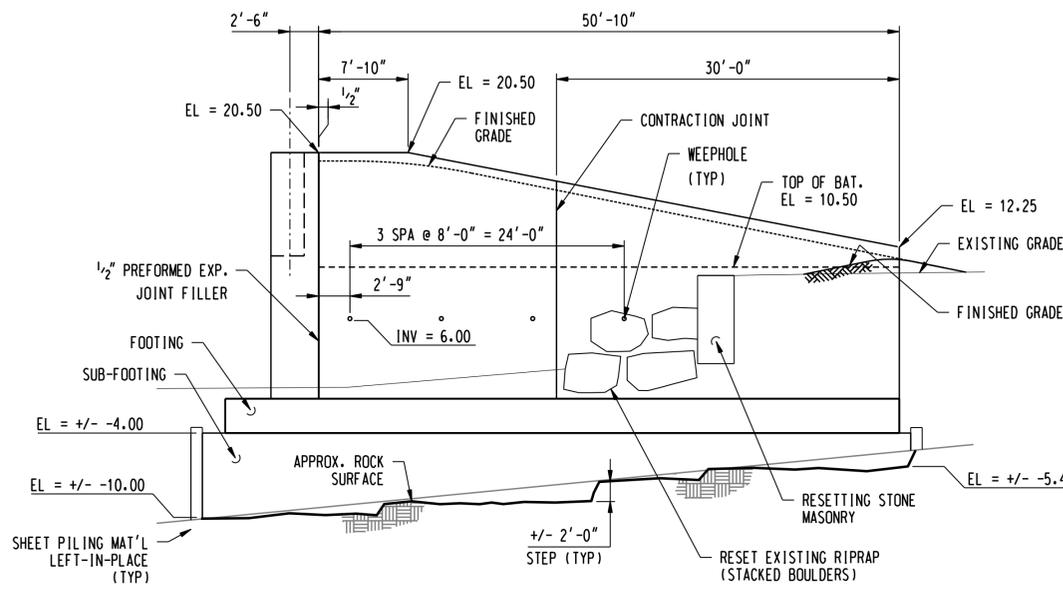
NORTHEAST UTILITIES SERVICE CO.			
FOR THE CONNECTICUT LIGHT & POWER COMPANY			
TITLE MIDDLETOWN-NORWALK 345KV TRANSMISSION PROJECT			
ASH CREEK ABUTMENT AND WINGWALL SECTIONS			
BY	CHKD	APP	APP
DATE	DATE	DATE	DATE
SCALE AS NOTED	D	DWG. NO.	01224-16304 PG 006



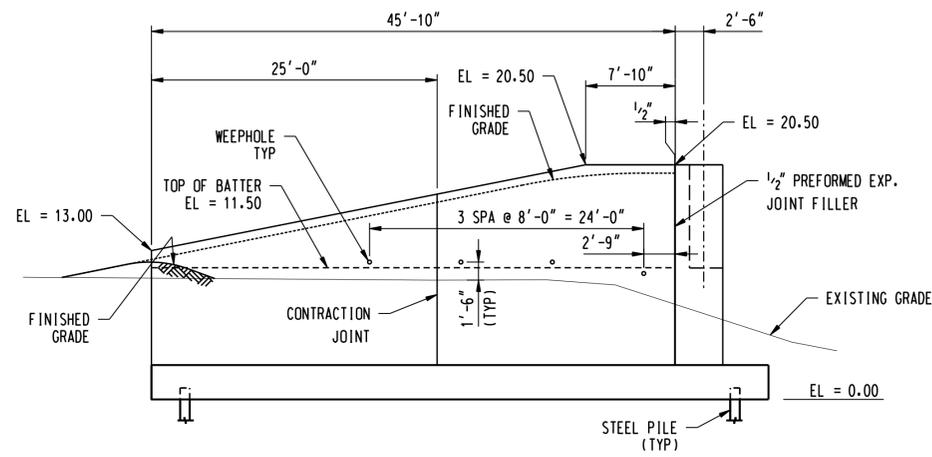
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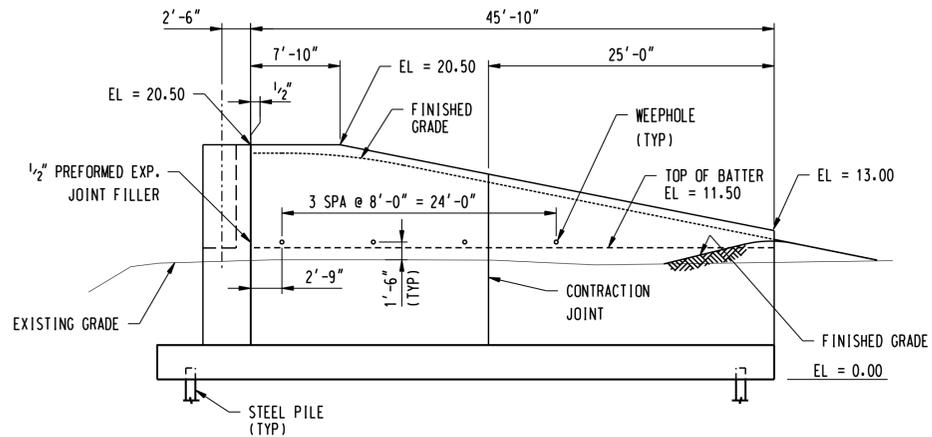
WINGWALL 1B
SCALE: 1/8" = 1'-0"



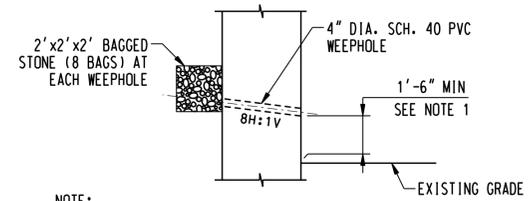
WINGWALL 1A
SCALE: 1/8" = 1'-0"



WINGWALL 2A
SCALE: 1/8" = 1'-0"



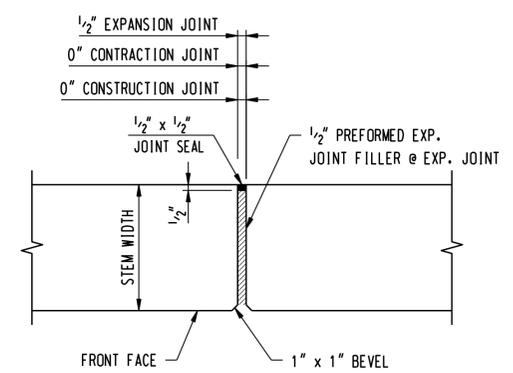
WINGWALL 2B
SCALE: 1/8" = 1'-0"



NOTE:
1: WEEPHOLE INVERT ELEVATIONS SHOWN ARE SET ABOVE THE DAILY HIGH TIDE ELEVATION.

2: SEE ELEVATION VIEWS FOR LOCATIONS.

TYPICAL WEEPHOLE DETAIL
SCALE: 1/4" = 1'-0"



NOTE:
NO REINFORCING BARS SHALL PASS THROUGH EXPANSION OR CONTRACTION JOINTS. REINFORCING BARS SHALL PASS THROUGH CONSTRUCTION JOINTS.

STEM JOINT DETAIL
N.T.S.

- NOTES:
- FOR TYPICAL WINGWALL SECTION, SEE DWG. NO. 01224-16304 PG 006.
 - FOR FOOTING AND PILE LAYOUT, SEE DWG. NO. 01224-16304 PG 004.
 - FOR WINGWALL LAYOUT, SEE DWG. NO. 01224-16304 PG 004.
 - THE CONTRACTOR SHALL NOTIFY BL COMPANIES AFTER THE ROCK EXCAVATION IS COMPLETED. NO CONCRETE SHALL BE PLACED UNTIL BL COMPANIES HAVE INSPECTED AND APPROVED THE DEPTH OF EXCAVATION AND THE CHARACTER OF THE ROCK FOUNDATION MATERIAL.
 - THE ELEVATION OF BOTTOM OF FOOTINGS, AS SHOWN ON THE PLANS, SHALL BE CONSIDERED AS APPROXIMATE. BL COMPANIES, UPON INSPECTION OF STRUCTURE EXCAVATION, MAY ORDER, IN WRITING, CHANGES IN DIMENSIONS AND/OR ELEVATIONS OF FOOTINGS AS MAY BE NECESSARY TO SECURE A SATISFACTORY FOUNDATION.
 - UNDERWATER CONCRETE PLACEMENT SHALL BE DONE BY MEANS OF A TREMIE. MEANS AND METHOD OF DEPOSITING CONCRETE UNDER WATER SHALL BE IN ACCORDANCE WITH AASHTO STANDARD SPECIFICATION FOR HIGHWAY BRIDGES AND WITH ConnDOT STANDARD SPECIFICATIONS FORM 816.
 - SHEET PILING MATERIAL LEFT-IN-PLACE SHALL BE CUT 2'-0" MIN. BELOW GRADE.

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date 05/10/06
 detailed M. BEAULIEU
 C. CHUANG
 designed M. BEAULIEU
 checked D. QUINIT / B. KUTA

MF	NO.	DATE	REVISIONS	BY	CHK	APP	APP

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FOR THE CONNECTICUT LIGHT & POWER COMPANY

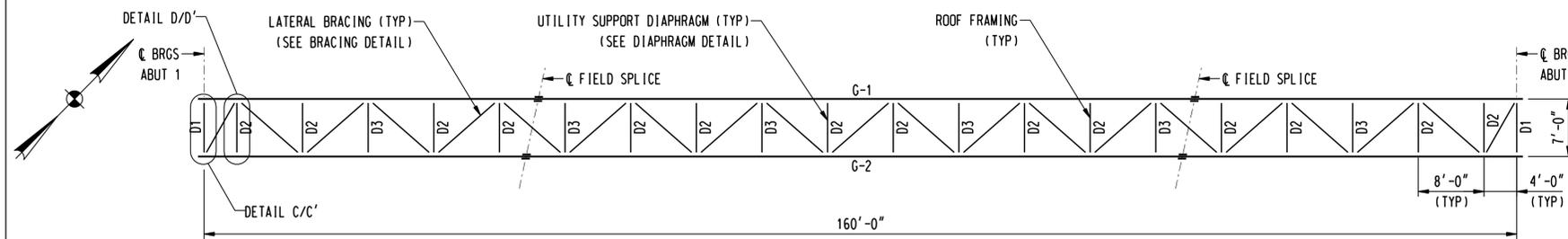
TITLE MIDDLETOWN-NORWALK 345KV TRANSMISSION PROJECT

ASH CREEK WINGWALL ELEVATIONS

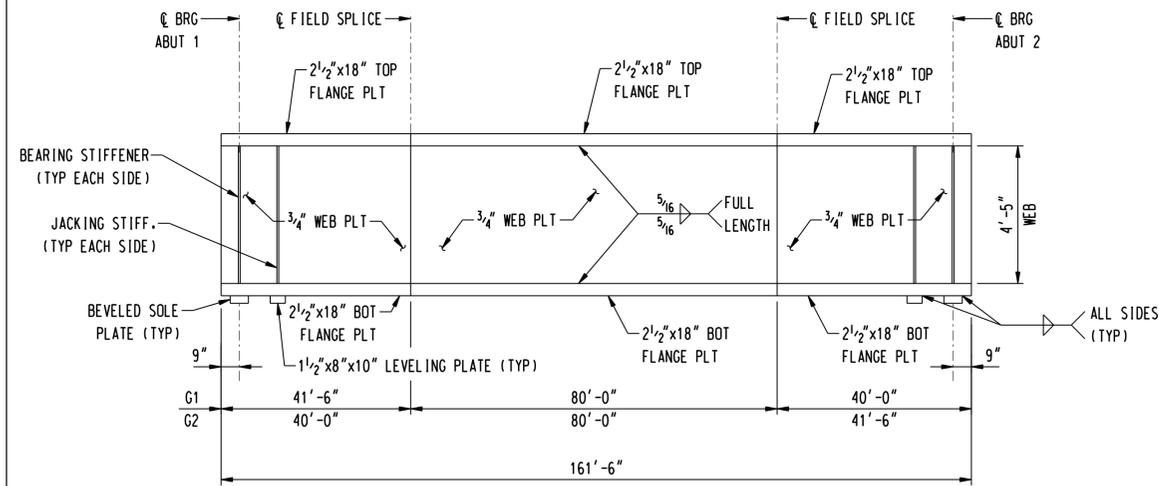
BY	CHKD	APP	APP

SCALE AS NOTED

DWG. NO. 01224-16304 PG 007

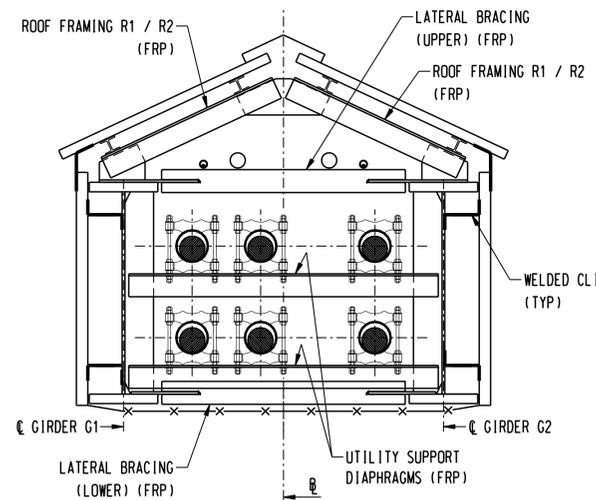


FRAMING PLAN
SCALE: 1" = 10'-0"

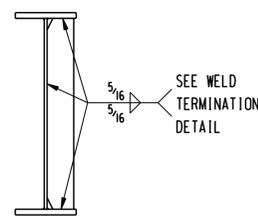


BEAM ELEVATION (G-2 SHOWN)
N.T.S.

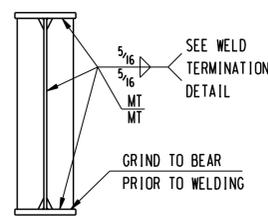
DEAD LOAD DEFLECTIONS AND CAMBER TABLE							
GIRDER	DEAD LOAD DEFLECTION AT MIDSPAN (in)			CAMBER AT MIDSPAN (in)			
	STR STL DEAD LOAD	MISC DEAD LOAD	OTHER DEAD LOADS	TOTAL DEAD LOAD	VERT CURVE ORDINATE	EXTRA CAMBER	TOTAL CAMBER
G1 - G2	3.350	0.550	0.650	4.560	0.000	1.600	6.160



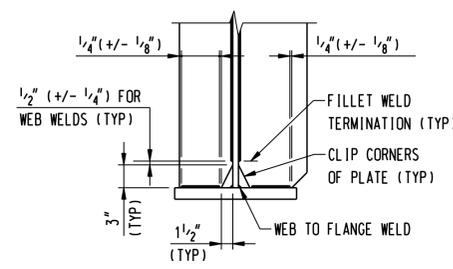
SECTION
SCALE: 1/2" = 1'-0"



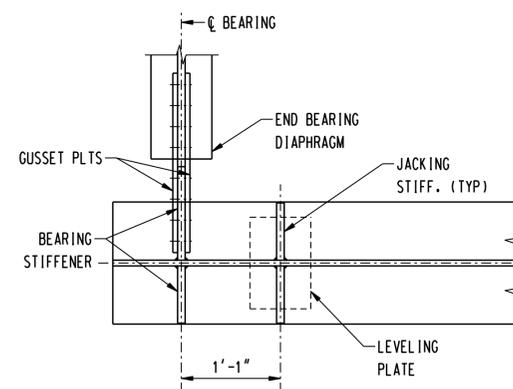
CONNECTION PLATE
N.T.S.



BEARING & JACKING STIFFENER
N.T.S.



WELD TERMINATION DETAIL
N.T.S.



BEARING STIFFENER LAYOUT
N.T.S.

STRUCTURAL STEEL NOTES:

- STRUCTURAL STEEL (LOW ALLOY) SHALL CONFORM TO AASHTO M270, GRADE 50 T2.
- ALL FABRICATED STRUCTURAL STEEL SHALL BE HOT-DIP GALVANIZED IN ACCORDANCE WITH ASTM A123.
- ALL BOLTS SHALL MEET THE REQUIREMENTS OF ASTM A325, TYPE 1, EXCEPT AS NOTED OTHERWISE. ALL BOLTS, NUTS, AND WASHERS SHALL BE MECHANICALLY GALVANIZED IN ACCORDANCE WITH ASTM B695, CLASS 50.
- WELDING DETAILS, PROCEDURES, AND TESTING METHODS SHALL CONFORM TO THE ANSI/AASHTO/AWS D1.5:2002 - BRIDGE WELDING CODE, UNLESS OTHERWISE NOTED ON THE PLANS.
- BOLTED FIELD SPLICES, OTHER THAN THOSE INDICATED ON THE PLANS, WILL NOT BE ALLOWED EXCEPT WITH THE WRITTEN PERMISSION OF THE ENGINEER PRIOR TO THE SUBMISSION OF SHOP PLANS. IF ALLOWED, THESE SPLICES SHALL BE DESIGNED BY THE CONTRACTOR AND APPROVED BY THE ENGINEER. THE COST OF THESE SPLICES, INCLUDING THE COST OF DESIGN, SHALL BE AT NO EXTRA EXPENSE TO THE OWNER. WELDED FIELD SPLICES WILL NOT BE ALLOWED.
- ALL WEB TO FLANGE, WEB TO BEARING STIFFENER, AND BEARING STIFFENER TO FLANGE FILLET WELDS SHALL BE INSPECTED BY THE MAGNETIC PARTICLE METHOD.
- MULTIPLE PASS WELDS, INSPECTED BY THE MAGNETIC PARTICLE METHOD, SHALL HAVE EACH PASS OR LAYER INSPECTED AND ACCEPTED BEFORE PROCEEDING TO THE NEXT PASS OR PAYER, AS DETERMINED BY THE ENGINEER.
- SHOP WEB SPLICES SHALL BE LOCATED WITHIN THE MIDDLE THIRD OF THE SPAN.
- SHOP FLANGE SPLICES SHALL BE LOCATED A MINIMUM OF SIX INCHES FROM WEB SPLICES.
- FLANGE AND WEB SPLICES SHALL BE LOCATED A MINIMUM OF SIX INCHES FROM STIFFENERS AND CONNECTION PLATES.
- BEARING STIFFENERS AND ENDS OF GIRDERS SHALL BE VERTICAL AFTER APPLICATION OF FULL DEAD LOADS.
- THE STRUCTURAL STEEL FABRICATORS SHALL BE CERTIFIED UNDER THE AISC QUALITY CONTROL PROGRAM AS "CATEGORY MBR - MAJOR STEEL BRIDGES".
- THE CONTRACTOR SHALL TAKE PROPER PRECAUTIONS TO ENSURE THE STABILITY OF ALL STRUCTURAL ELEMENTS UNTIL THE TOTAL STRUCTURE IS IN BEING.

NOTES:

- ALL DIMENSIONS ARE HORIZONTAL AND MEASURED ALONG THE CENTERLINE OF THE WEB.
- BEARING STIFFENERS SHALL BE PROVIDED ON BOTH SIDES OF THE WEB.
- END BEARING DIAPHRAGMS SHALL BE PARALLEL TO THE CENTERLINE OF BEARINGS OF THE STRUCTURE.
- INTERMEDIATE CONNECTION PLATES SHALL BE PERPENDICULAR TO THE GIRDERS.
- FOR BEARING DETAILS, SEE DWG. NO. 01224-16304 PG 011.
- FOR DIMENSIONS OF BEVELED SOLE PLATES, SEE DWG. NO. 01224-16304 PG 011.
- FOR DETAILS C, D, C', & D', SEE DWG. NO. 01224-16304 PG 010.
- FOR LATERAL BRACING DETAILS, SEE DWG. NO. 01224-16304 PG 010.
- FOR DIAPHRAGM & UTILITY SUPPORT DETAILS, SEE DWG. NO. 01224-16304 PG 009.

FIBERGLASS STRUCTURAL SHAPE NOTES:

- ALL FIBERGLASS REINFORCED POLYMER (FRP) STRUCTURAL SHAPE PRODUCTS SHALL CONFORM TO THE MANUFACTURER'S SPECIFICATIONS. STRUCTURAL SHAPES AND PLATES SHALL BE MADE FROM VINYL ESTER RESIN WITH FIRE RETARDANT ADDITIVES TO MEET A FLAME RATING OF LESS THAN 25 PER ASTM E-84 TEST METHOD AND MEET THE SELF-EXTINGUISHING REQUIREMENTS OF ASTM D-635.
- ALL FIBERGLASS STRUCTURAL SHAPES AND PLATES SHALL BE OF THE EXTREN SERIES 625 FIBERGLASS STRUCTURAL SHAPES BY STRONGWELL, OR APPROVED EQUAL.

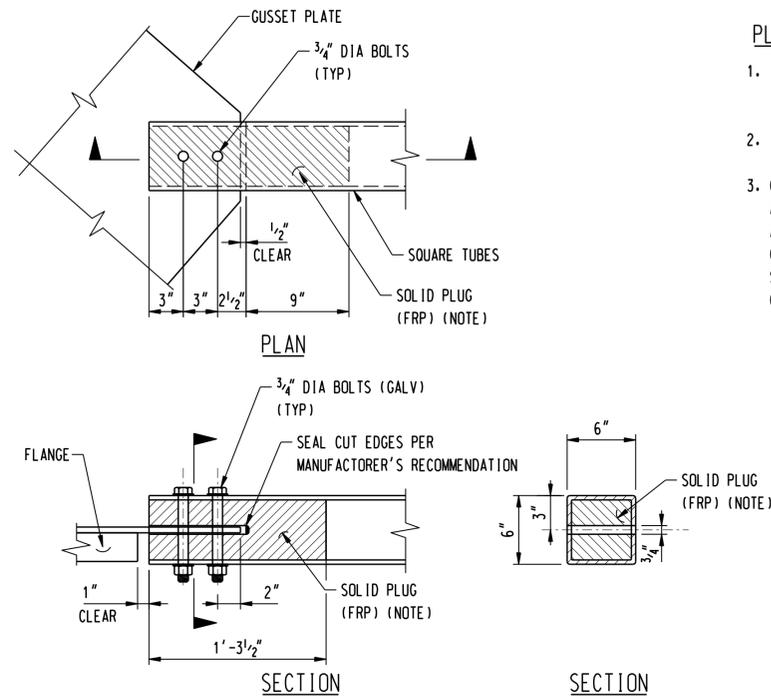
MANUFACTURER INFORMATION:
STRONGWELL - BRISTOL DIVISION
400 COMMONWEALTH AVE.
P.O. BOX 580
BRISTOL, VA 24203
TEL. (276) 645-8000

- ALL FRP STRUCTURAL SHAPE PRODUCTS SHALL CONTAIN A ONE-MIL MINIMUM COATING OF U.V. INHIBITOR.
- COLOR OF FRP STRUCTURAL SHAPE PRODUCTS SHALL BE GRAY, OR OF COLOR WITH LOW VISIBILITY, OR AS APPROVED BY THE ENGINEER.
- THE CONTRACTOR SHALL PROTECT FABRICATED FRP UNITS TO PREVENT DAMAGE DURING HANDLING, SHIPPING, AND ON-SITE STORAGE PRIOR TO INSTALLATION. MATERIALS, WHICH ARE, IN THE OPINION OF THE ENGINEER, DAMAGED AS TO BE UNFIT FOR USE, SHALL BE REMOVED FROM THE PROJECT SITE AND PROMPTLY REPLACED BY THE CONTRACTOR AT NO EXTRA COST TO THE OWNER.

CAMBER NOTES:

- STRUCTURAL STEEL DEAD LOAD DEFLECTION INCLUDES WEIGHTS OF GIRDERS, FIBERGLASS DIAPHRAGMS, AND ROOF FRAMING.
- MISCELLANEOUS DEAD LOAD DEFLECTION INCLUDES WEIGHTS OF ALUMINUM CLADDING AND ROOFING MATERIALS.
- OTHER DEAD LOAD DEFLECTION INCLUDES THE WEIGHT OF UTILITIES.
- TOTAL CAMBER APPLIES TO THE TOP OF WEB AT MID-SPAN AND IS MEASURED FROM THE CAMBER REFERENCE LINE.
- THE CAMBER REFERENCE LINE IS THE STRAIGHT LINE CONNECTING THE TOP OF WEB AT THE CENTERLINE OF BEARINGS FROM ONE ABUTMENT TO THE OTHER.

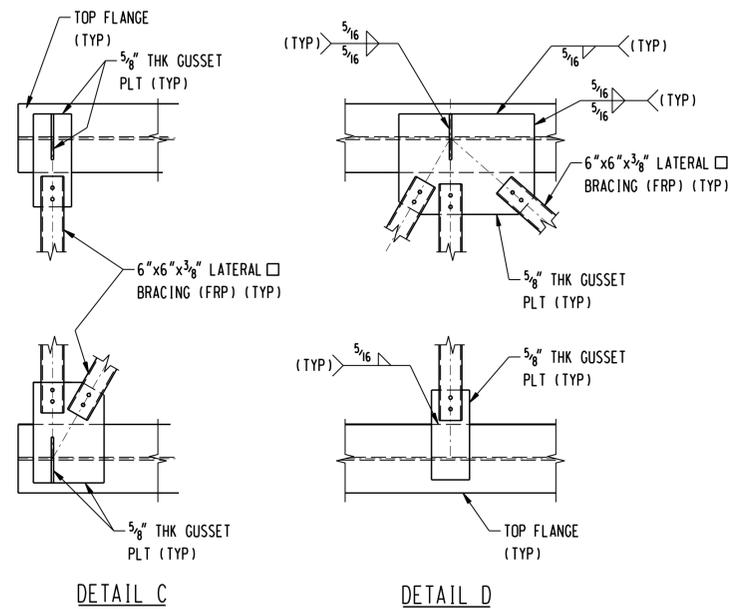
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				NORTHEAST UTILITIES SERVICE CO. FOR THE CONNECTICUT LIGHT & POWER COMPANY TITLE MIDDLETOWN-NORWALK 345KV TRANSMISSION PROJECT ASH CREEK FRAMING PLAN & STRUCTURAL NOTES							
date		05/10/06		detailed		C. CHUANG					
designed		A. GRZADZIEL C. CHAUNG		checked		D. QUINIT / B. KUTA					
no.	date	revisions	by	chk	MF	NO.	DATE	REVISIONS	BY	CHK	APP
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SCALE AS NOTED											
										D	
										DWG. NO. 01224-16304 PG 008	



NOTE: SOLID PLUG SHALL BE ATTACHED TO TUBING WITH ADHESIVE PRIOR TO FABRICATING NOTCH. ADHESIVE SHALL BE PER FRP MANUFACTURER'S SPECIFICATION.

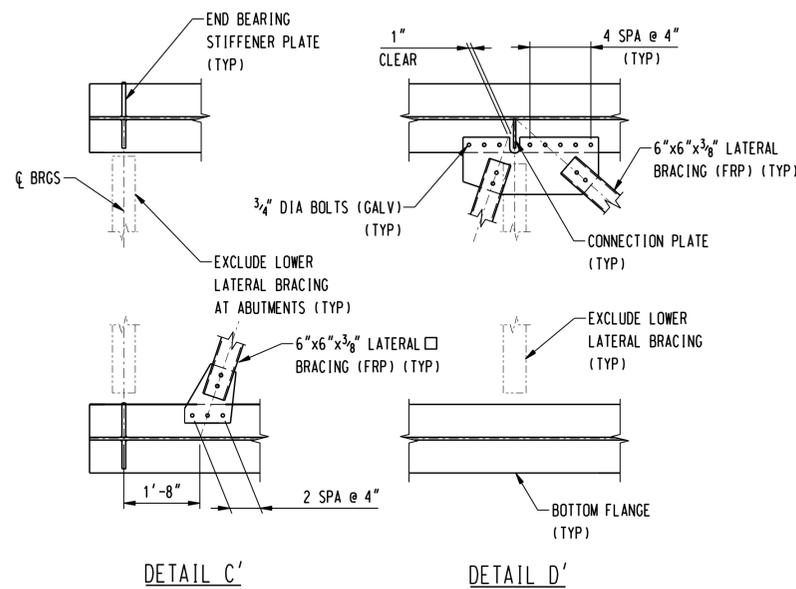
TUBE CONNECTION DETAIL

SCALE: 1 1/2" = 1'-0"



LATERAL BRACING - UPPER

SCALE: 1/2" = 1'-0"

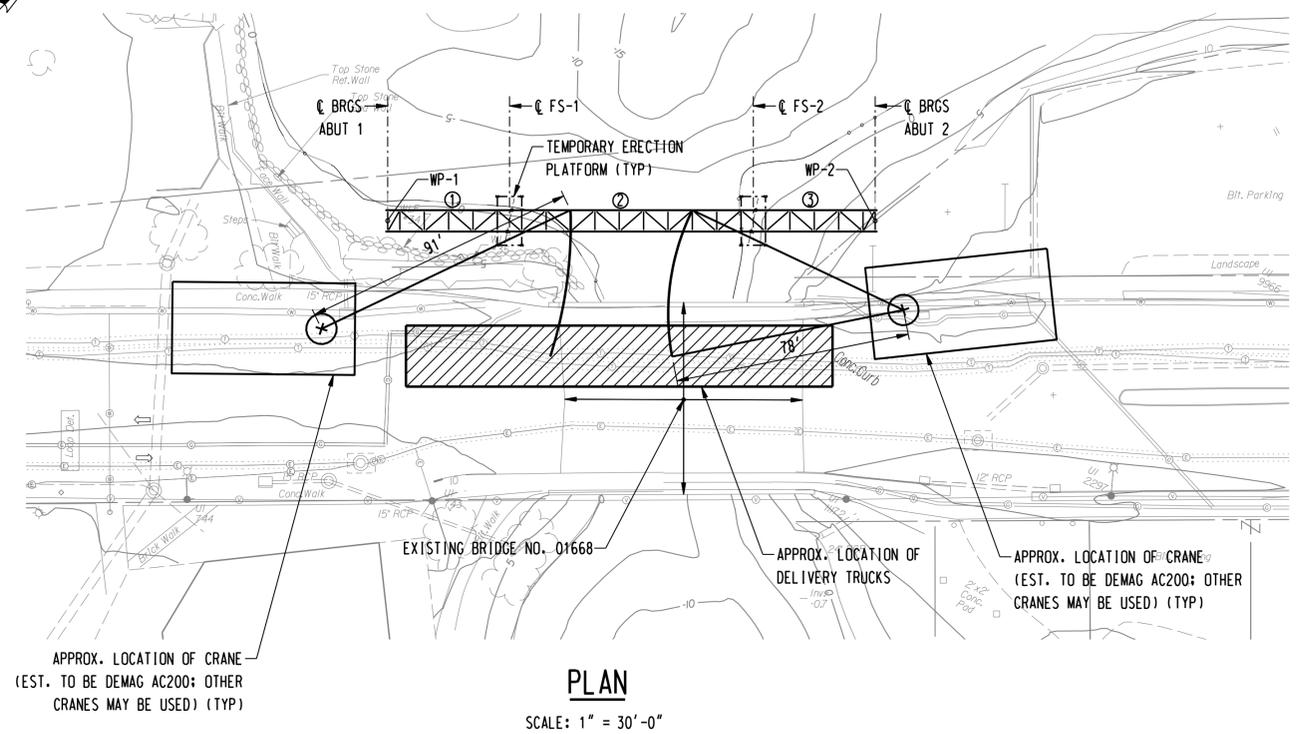
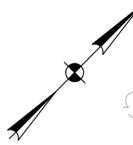


LATERAL BRACING - LOWER

SCALE: 1/2" = 1'-0"

PLAN NOTES:

1. CRANE(S) WILL NOT BE POSITIONED WITHIN THE FOOT PRINT OF THE EXISTING BRIDGE.
2. FOR PLATFORM DETAILS, SEE DWG. No. 01224-16304 PG 012.
3. CONSTRUCTOR SHALL BE COGNIZANT OF ALL UTILITIES IN THE AREA AND PERFORM ALL ERECTION OPERATIONS IN SUCH A MANNER AS TO AVOID DAMAGING EXISTING UTILITIES. ANY DAMAGE CAUSED BY THE CONTRACTOR'S OPERATIONS SHALL BE REPAIRED IN-KIND AND TO THE SATISFACTION OF THE GOVERNING UTILITY COMPANY AT THE CONTRACTOR'S EXPENSE.



STRUCTURAL STEEL ERECTION NOTES:

THE FOLLOWING STRUCTURAL STEEL ERECTION SEQUENCE IS A SUGGESTED PROCEDURE. THE METHOD AND SEQUENCE OF ERECTION IS BASED ON MINIMIZING WETLAND IMPACT AND TRAFFIC IMPACT ON ROUTE 130. IT IS ASSUMED THAT CRANES WILL BE USED WORKING OFF OF ROUTE 130 DURING ALLOWABLE PERIODS AND LANE CLOSURES AS PROVIDED FOR IN THE SPECIAL PROVISIONS "PROSECUTION AND PROGRESS" AND "MAINTENANCE AND PROTECTION OF TRAFFIC". ANY PROPOSED CHANGES TO THE OVERALL ERECTION SCHEME BY THE CONTRACTOR SHALL BE REVIEWED BY BL COMPANIES FOR COMPLIANCE WITH WETLAND AND TRAFFIC IMPACT RESTRICTIONS.

THE CONTRACTOR SHALL SUBMIT DETAILED WORKING DRAWINGS FOR THE STRUCTURAL STEEL ERECTION. THE STRUCTURAL STEEL ERECTION WORKING DRAWINGS SHALL BE PREPARED AND SEALED BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF CONNECTICUT. THE CONTRACTOR'S ERECTION PLANS SHALL INCLUDE, BUT NOT LIMITED TO, THE FOLLOWING DETAILS: TEMPORARY ERECTION PLATFORM, FALSEWORK, BRACING, GUYS, LIFTING DEVICES, LOCATION OF CRANES AND DELIVERY TRUCKS, CRANE CAPACITIES, PICK POINTS, AND WEIGHTS FOR EACH STRUCTURAL STEEL MEMBER. THE WORKING DRAWINGS SHALL BE COMPLETE IN DETAILS FOR ALL ANTICIPATED CONDITIONS DURING ERECTION. ADDITIONALLY, ERECTION PLANS SHALL SHOW MINIMUM BOLTING AND/OR DRIFT PIN REQUIREMENTS FOR INDIVIDUAL FIELD SPLICES, DIAPHRAGMS, AND LATERAL BRACINGS PRIOR TO RELEASING PICK POINTS OF GIRDER SEGMENTS FROM THE CRANE.

THE CONTRACTOR MAY ELECT TO PROVIDE AN ALTERNATIVE TEMPORARY ERECTION PLATFORM THAT IS COMPATIBLE WITH THE CONTRACTOR'S ERECTION SCHEME. THE CONTRACTOR SHALL DESIGN AND DETAIL THE ALTERNATIVE ERECTION PLATFORM AT NO EXTRA COST TO THE OWNER.

THE CONTRACTOR SHALL PROVIDE TEMPORARY GRADING AS NECESSARY TO SUPPORT EQUIPMENT USED FOR THE TRANSPORT AND ERECTION OF STRUCTURAL STEEL MEMBERS. NO ADDITIONAL PAYMENT SHALL BE MADE FOR TEMPORARY WORK REQUIRED FOR THE CONTRACTOR'S PROPOSED ERECTION PROCEDURE. COST OF TEMPORARY WORK, INCLUDING FURNISHING AND INSTALLING TEMPORARY ERECTION PLATFORM AND TEMPORARY GRADING, IF ANY, SHALL BE CONSIDERED INCIDENTAL TO THE ITEM "STRUCTURAL STEEL (SITE J)".

SUGGESTED ERECTION SEQUENCE:

1. CONSTRUCT TEMPORARY ERECTION PLATFORM AT GIRDER FIELD SPLICE LOCATIONS SHOWN ON THE PLANS.
2. ERECT GIRDER G-1 SEGMENT 3 AT ABUTMENT 2. BRACE AND STABILIZE AS NECESSARY PRIOR TO RELEASING PICK POINTS.
3. ERECT GIRDER G-2 SEGMENT 3 AT ABUTMENT 2. INSTALL DIAPHRAGMS AND LATERAL BRACINGS AND BOLT HAND-TIGHT WITH TEMPORARY BOLTS AND/OR DRIFT PINS PRIOR TO RELEASING PICK POINTS.
4. ERECT GIRDER G-1 SEGMENT 2. COMPLETE FIELD SPLICE FS-2. BRACE AND STABILIZE AS NECESSARY PRIOR TO RELEASING PICK POINTS.
5. ERECT GIRDER G-2 SEGMENT 2. COMPLETE FIELD SPLICE FS-2. INSTALL DIAPHRAGMS AND LATERAL BRACINGS AND BOLT HAND-TIGHT PRIOR TO RELEASING PICK POINTS.
6. ERECT GIRER G-1 SEGMENT 1 AT ABUTMENT 1. COMPLETE FIELD SPLICE FS-1. BRACE AND STABILIZE AS NECESSARY PRIOR TO RELEASING PICK POINTS.
7. ERECT GIRDER G-1 SEGMENT 1 AT ABUTMENT 1. COMPLETE FIELD SPLICE FS-1. INSTALL DIAPHRAGMS AND LATERAL BRACINGS AND BOLT HAND-TIGHT WITH TEMPORARY BOLTS AND/OR DRIFT PINS PRIOR TO RELEASING PICK POINTS.
8. TORQUE ALL BOLTED CONNECTIONS AFTER ALL GIRDER SEGMENTS ARE ERECTED REPLACING TEMPORARY BOLTS AND/OR DRIFT PINS AS WORK PROCEEDS.
9. REMOVE TEMPORARY ERECTION PLATFORMS.

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 detailed M. BEAULIEU
 C. CHUANG
 designed M. BEAULIEU
 checked D. QUINIT / B. KUTA

MF	NO.	DATE	REVISIONS	BY	CHK	APP	APP

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FOR THE CONNECTICUT LIGHT & POWER COMPANY

TITLE MIDDLETOWN-NORWALK 345KV TRANSMISSION PROJECT

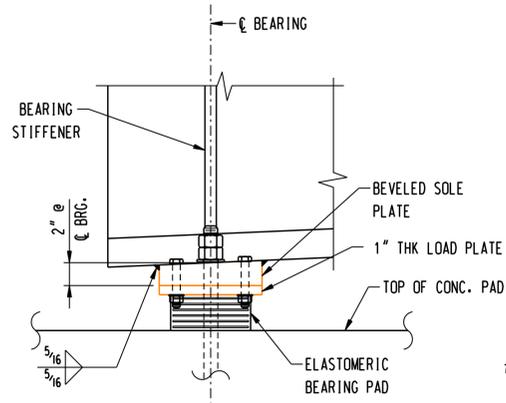
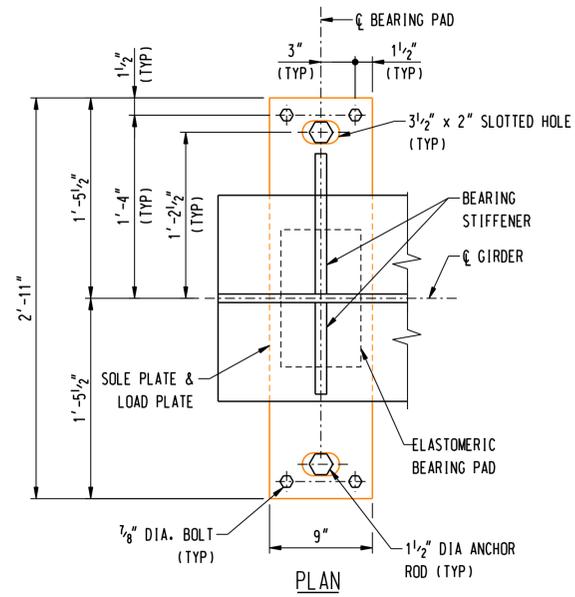
ASH CREEK CONSTRUCTION PLAN AND DETAILS

BY	CHKD	APP	APP

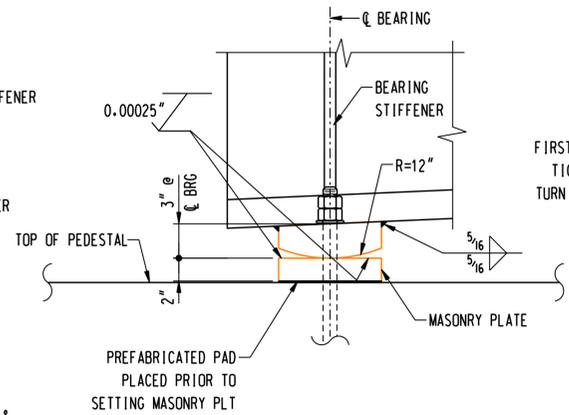
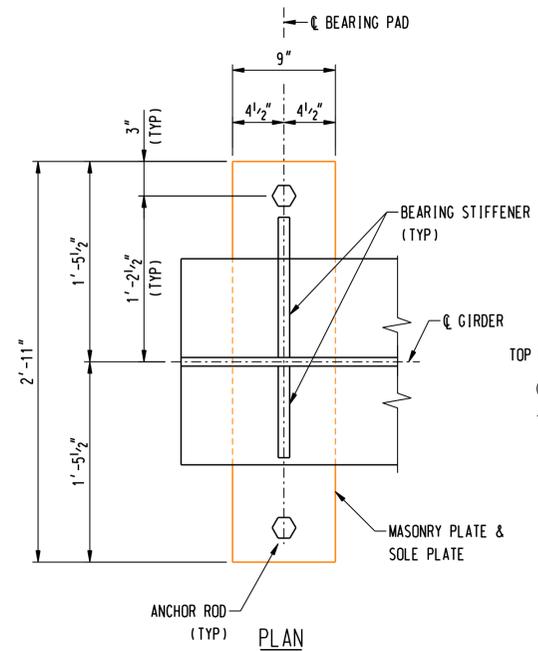
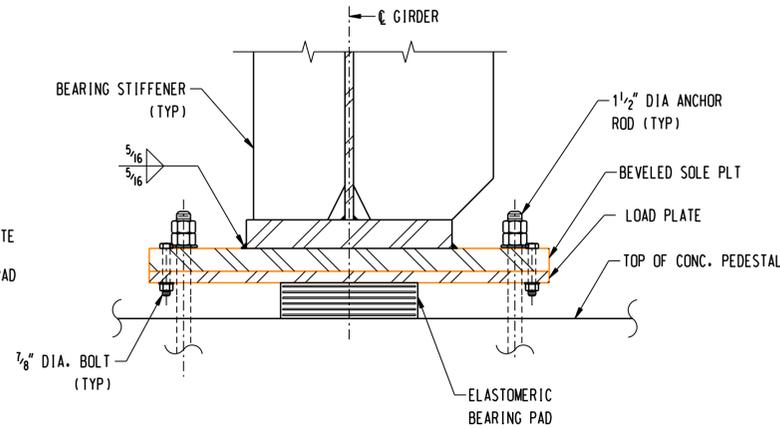
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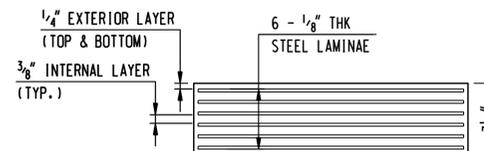
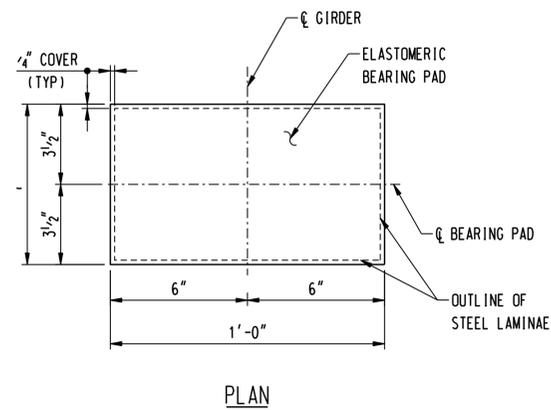
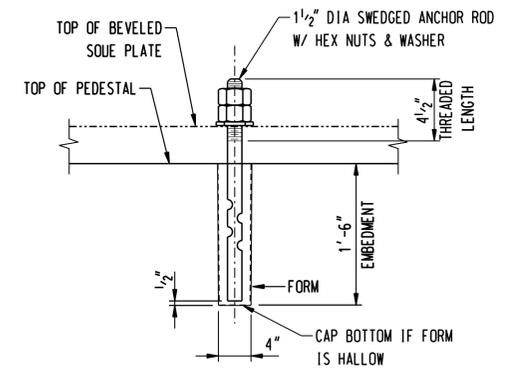
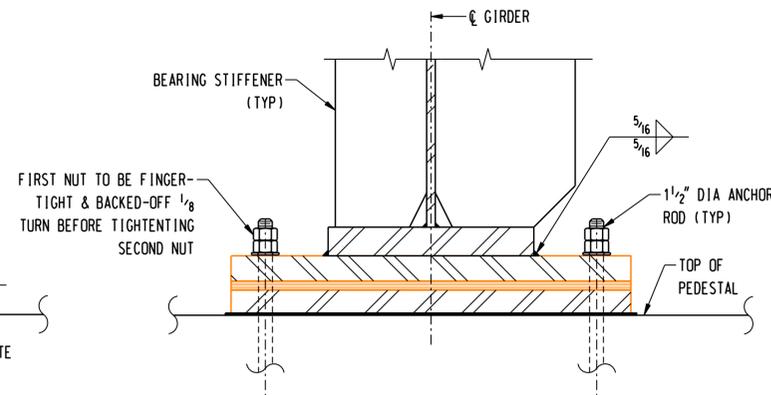
DWG. NO. 01224-16304 PG 010



EXPANSION BEARING DETAIL
SCALE: 1 1/2" = 1'-0"



FIXED BEARING DETAIL
SCALE: 1 1/2" = 1'-0"



ELASTOMERIC BEARING PAD
SCALE: 3" = 1'-0"

BEARING NOTES:

- ELASTOMER SHALL BE GRADE 3 VIRGIN NEOPRENE WITH SHORE 'A' DUROMETER HARDNESS = 60.
- STEEL LAMINAE USED IN THE ELASTOMERIC BEARING SHALL CONFORM TO AASHTO M270 GRADE 36.
- LOAD PLATE SHALL CONFORM TO AASHTO M270, GRADE 50, HOT-DIP GALVANIZED IN ACCORDANCE WITH ASTM A123 AND SHALL BE HOT-BONDED TO THE ELASTOMERIC BEARING PAD DURING VULCANIZATION.
- SOLE PLATE SHALL CONFORM TO AASHTO M270, GRADE 50, HOT-DIP GALVANIZED IN ACCORDANCE WITH ASTM A123.
- SOLE PLATES SHALL BE BEVELED TO MATCH THE SLOPE OF THE GIRDER SO THAT THE BOTTOM SURFACE OF THE PLATE IS LEVEL AFTER APPLICATION OF FULL DEAD LOAD.
- BOLTS SHALL MEET THE REQUIREMENTS OF ASTM A325, TYPE 1, EXCEPT AS NOTED OTHERWISE. ALL BOLTS, NUTS, AND WASHERS SHALL BE MECHANICALLY GALVANIZED IN ACCORDANCE WITH ASTM B695, CLASS 50.
- ELASTOMERIC BEARINGS SHALL BE INSTALLED AT AN AMBIENT TEMPERATURE BETWEEN 50° AND 80° F. CENTERLINE OF BEARING PAD AND SOLE PLATE SHALL BE INSTALLED AT THE CENTERLINE OF BEARINGS.
- IN NO CASE SHALL THE ELASTOMER OR VULCANIZED BOND BE SUBJECTED TO TEMPERATURE HIGHER THAN 400° F.
- BEARING DESIGN SERVICE LOADS: TL = 54 kips (SERV LIMIT I)
- ANCHOR RODS AND NUTS SHALL BE ASTM F1554, GRADE 55 (S1) (S4). ANCHOR RODS AND NUTS SHALL BE MECHANICALLY GALVANIZED IN ACCORDANCE WITH ASTM B695, CLASS 50.
- FOR BEARING AND ANCHOR ROD LAYOUT, SEE PEDESTAL DETAIL ON STR. DWG. NO. 01224-16304 PG 006.
- PEDESTAL ELEVATIONS SHOWN ON THE ABUTMENT DRAWINGS APPLY AT THE TOP OF THE CONCRETE PEDESTAL.

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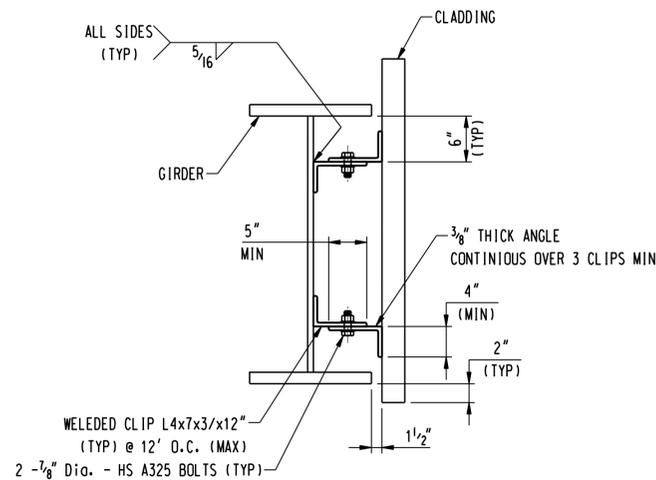
date	05/10/06	detailed	C. CHUANG
designed	C. CHUANG	checked	D. QUINIT / B. KUTA

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TITLE MIDDLETOWN-NORWALK 345KV TRANSMISSION PROJECT			
ASH CREEK BEARING DETAILS			
BY	CHKD	APP	APP
DATE	DATE	DATE	DATE
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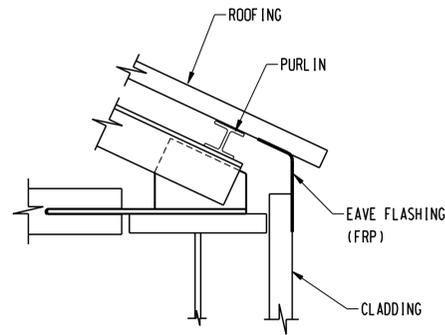


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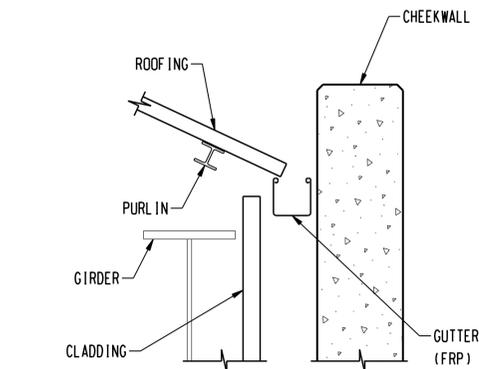


- NOTE:
1. CLADDING MANUFACTURER MAY SUBMIT AN ALTERNATIVE CLADDING ATTACHMENT DETAILS TO BL COMPANIES FOR APPROVAL.

SECTION
WELDED CLIP DETAIL
N.T.S.

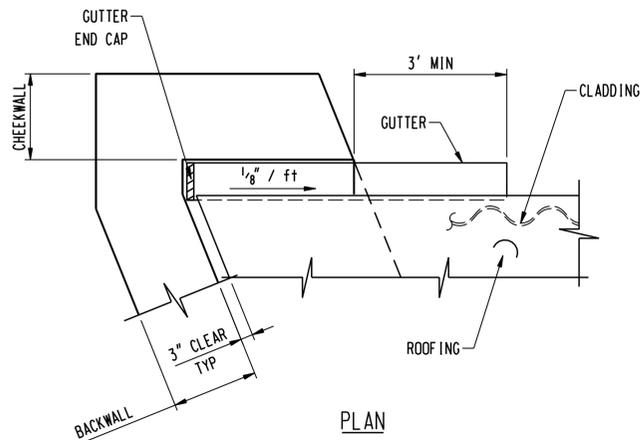


SECTION
BEARING PAD CLOSURE DETAIL

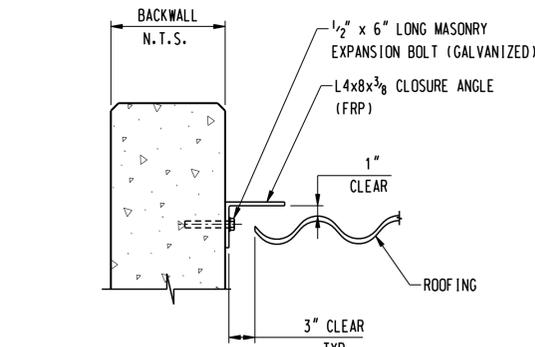


- NOTE:
1. GUTTERS SHALL BE INSTALLED AT ALL FOUR CORNERS OF THE ROOF.

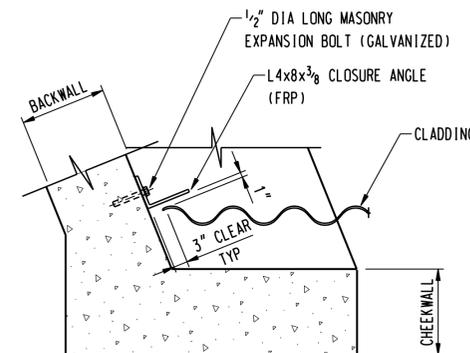
SECTION
CORNER DETAIL
N.T.S.



SECTION
EAVE DETAIL
N.T.S.



SECTION
END CLOSURE DETAIL (ROOFING)
N.T.S.

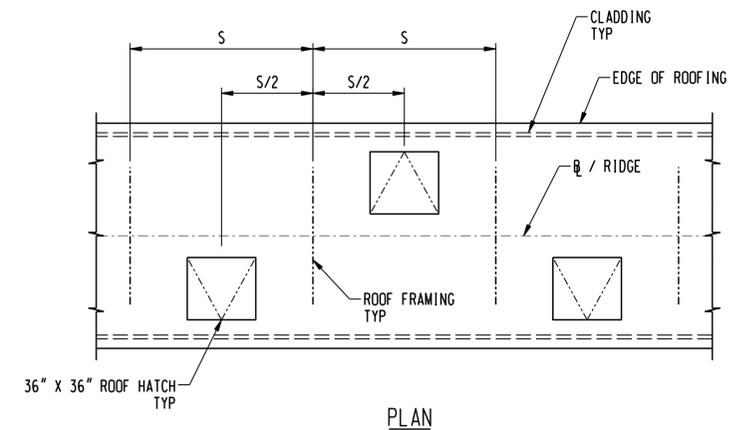


SECTION
END CLOSURE DETAIL (CLADDING)

NOTES:

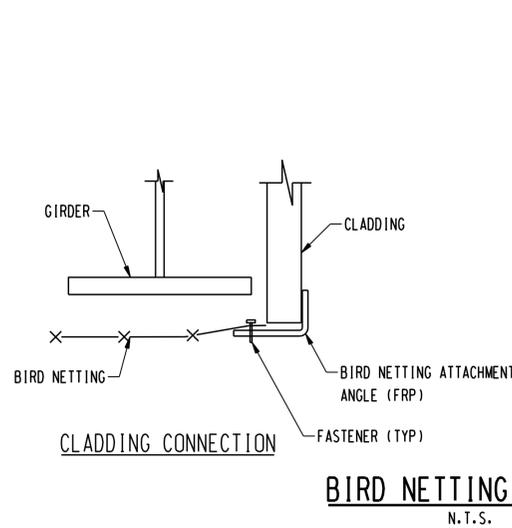
1. ALL FIBERGLASS CLADDING, ROOFING AND MISCELLANEOUS FITTINGS AND ACCESSORIES SHALL BE OF THE TUFF SPAN SERIES BY ENDURO COMPOSITES, OR APPROVED EQUAL.
2. THE CONTRACTOR SHALL PROVIDE THE OWNER AND THE ENGINEER WITH COLOR SAMPLES AND PROFILES OF THE CLADDING AND ROOFING MATERIALS FOR APPROVAL.
3. ACCESS HATCH, FLASHING AND MISCELLANEOUS ACCESSORIES SHALL BE OF FIBERGLASS MATERIAL. BOLTS, FASTENERS AND MISCELLANEOUS HARDWARE SHALL EITHER BE GALVANIZED OR STAINLESS STEEL AND SHALL BE IN ACCORDANCE WITH THE ACCESS HATCH MANUFACTURER'S SPECIFICATIONS.
4. FRAMING SYSTEM AND ATTACHMENT DETAILS FOR THE ACCESS HATCH SHALL BE DESIGNED AND DETAILED BY THE ROOFING MANUFACTURER. THE CONTRACTOR SHALL PREPARE WORKING DRAWINGS AND SUBMIT TO BL COMPANIES FOR REVIEW AND APPROVE. WORKING DRAWINGS SHALL BE SIGNED AND SEALED BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF CONNECTICUT.
5. ROOFING AND CLADDING, INCLUDING FRAMING AND ATTACHMENTS, SHALL BE DESIGNED FOR WIND AND SNOW LOADS AS SPECIFIED IN THESE PLANS.
6. ROOFING AND CLADDING SHALL BE DESIGNED TO ALLOW FOR THERMAL EXPANSION. TEMPERATURE RANGE TO BE USED FOR THERMAL EXPANSION SHALL BE FROM -10°F TO 170°F.

MANUFACTURER INFORMATION: ENDURO COMPOSITES
A DIVISION OF ENDURO SYSTEMS INCORPORATED
1005 BLUE MOUND ROAD
FORT WORTH, TX 76131
TEL. (800) 667-8668
WWW.ENDUROCOMPOSITES.COM

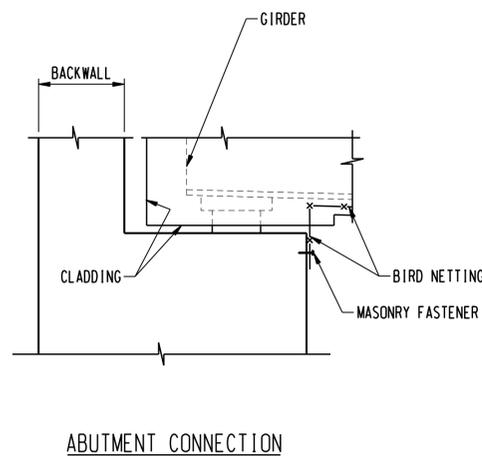


- ACCESS HATCH NOTES:**
1. CONTRACTOR SHALL SUBMIT CATALOG CUTS OF THE ACCESS HATCH SYSTEM AND DETAILS FOR REVIEW AND APPROVAL. ACCESS HATCH SHALL EITHER BE OR METAL OR OF FIBERGLASS MATERIAL, HAVING NON-REFLECTIVE SURFACE FINISH WITH COLOR CLOSELY MATCHING THE ROOFING MATERIAL.
 2. CONTRACTOR SHALL DESIGN FRAMING SYSTEM AROUND THE ACCESS HATCH. ACCESS HATCHES AND ITS FRAMING SYSTEM SHALL BE DESIGNED FOR A MINIMUM CONCENTRATED LIVE LOAD OF 500 LBS.
 3. CONTRACTOR SHALL DETAIL ACCESS HATCH TO BE ADOPTABLE TO THE ROOFING PROFILE. HATCH AND ROOFING INTERFACE SHALL BE DETAILED TO ENSURE A WATERTIGHT CONNECTION.
 4. ORIENTATION, LOCATION AND SPACING BETWEEN HATCHES SHALL BE AS SHOWN ON THESE DRAWINGS.
 5. ACCESS HATCH SHALL BE EASY TO OPEN AND SHALL HAVE A LOCKING DEVICE TO HOLD THE DOOR IN THE CLOSED AND OPEN POSITIONS.
 6. COST OF FURNISHING AND INSTALLING ACCESS HATCHES, INCLUDING THE HATCH FRAMING SYSTEM SHALL BE INCLUDED IN THE COST OF THE ITEM "ARCHITECTURAL CLADDING".

INSPECTION HATCH LAYOUT
N.T.S.



SECTION
BIRD NETTING DETAIL
N.T.S.



SECTION
ABUTMENT CONNECTION

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C. CHUANG
checked D. QUINIT / B. KUTA

MF	NO.	DATE	REVISIONS	BY	CHK	APP	APP

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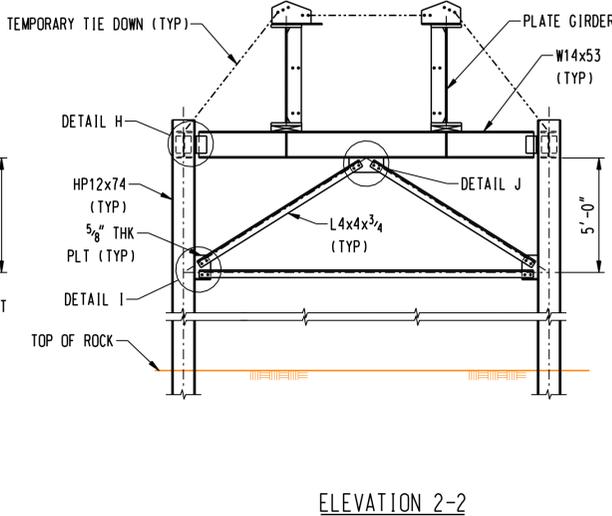
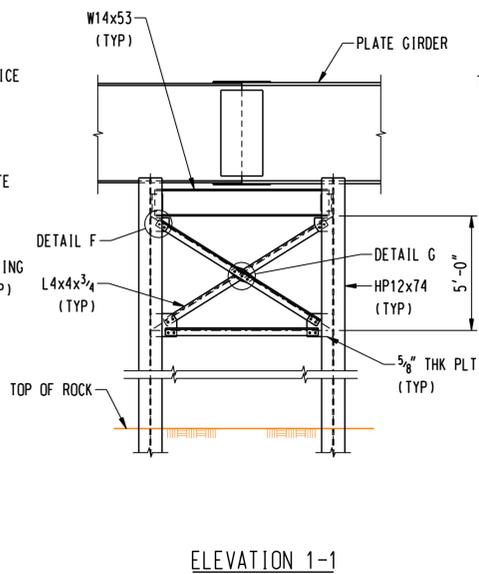
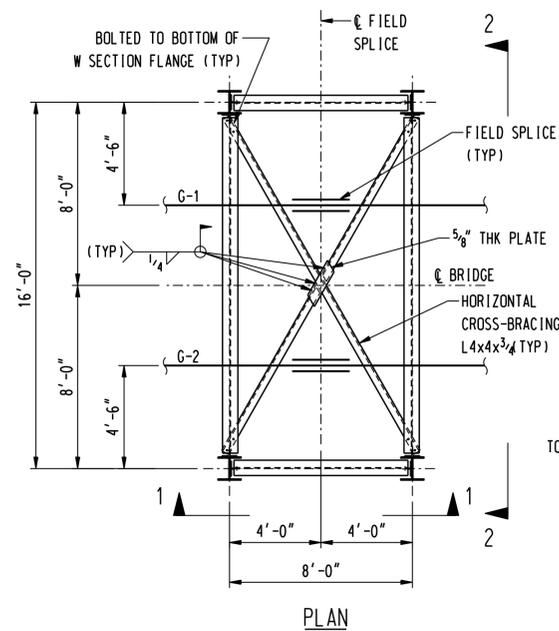
TITLE MIDDLETOWN-NORWALK 345KV TRANSMISSION PROJECT

ASH CREEK
CLADDING DETAILS

BY	CHKD	APP	APP

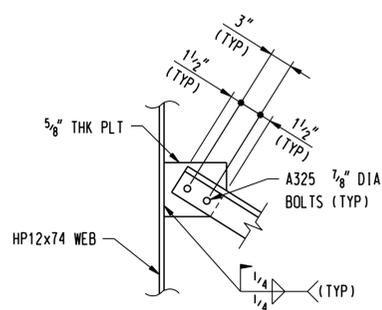
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DWG. NO. 01224-16304 PG 012

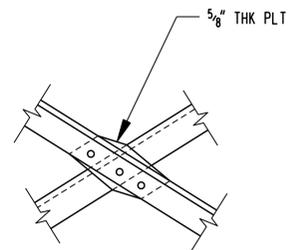


TEMPORARY ERECTION PLATFORM

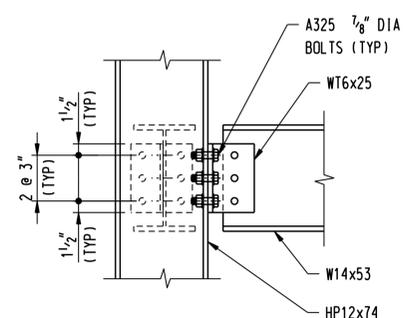
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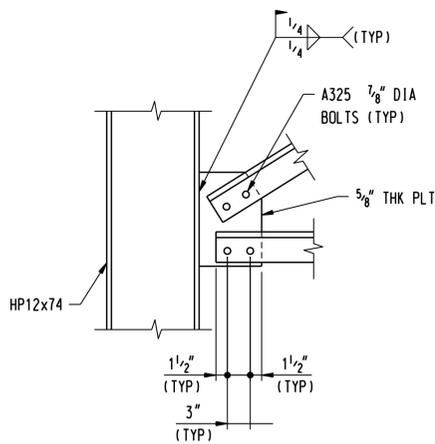
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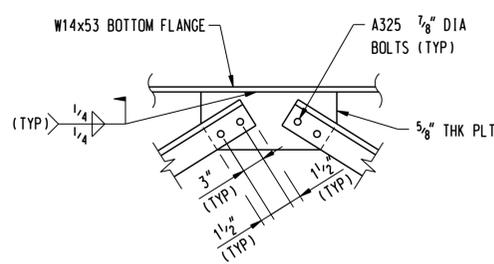
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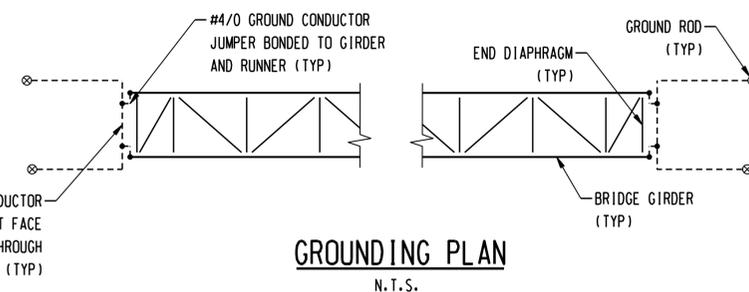
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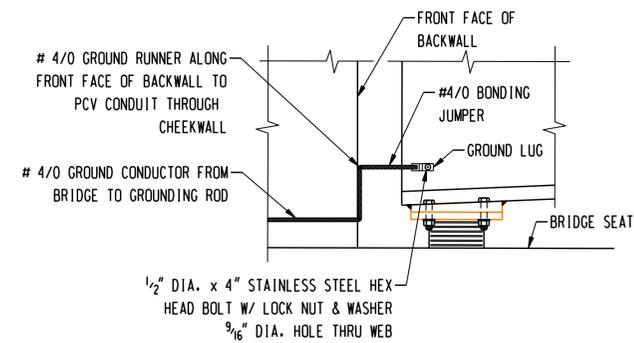
SCALE: 1" = 1'-0"



SCALE: 1" = 1'-0"



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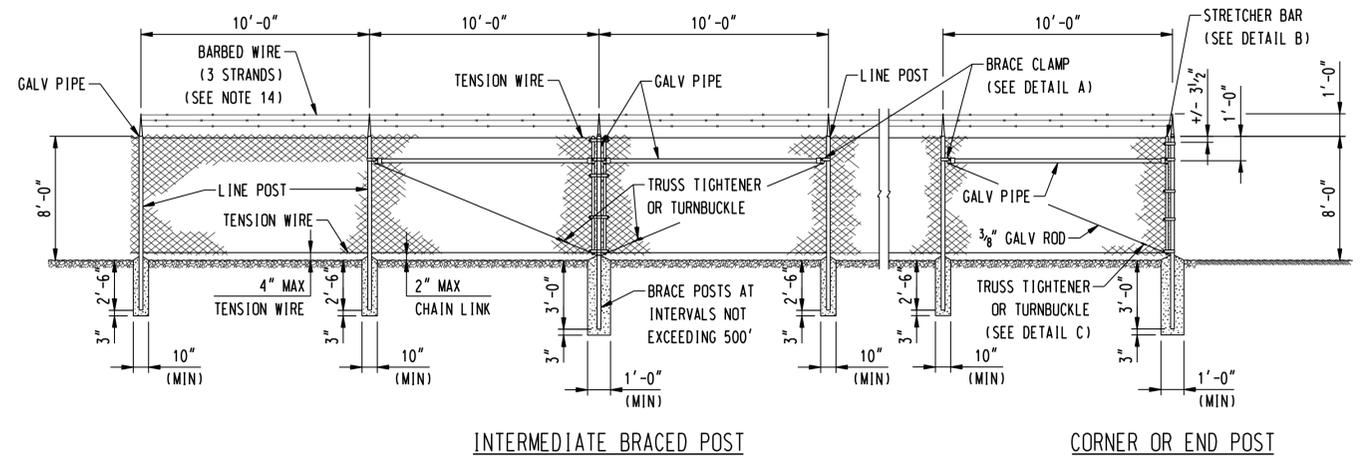
TITLE MIDDLETOWN-NORWALK 345KV TRANSMISSION PROJECT

ASH CREEK
ERECTION PLATFORM AND GROUNDING DETAIL

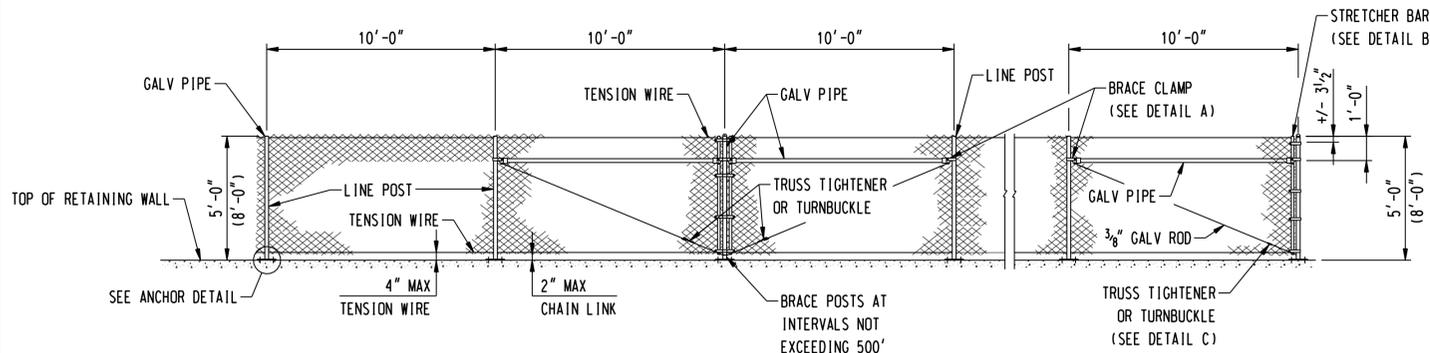
BY	CHKD	APP	APP
DATE	DATE	DATE	DATE

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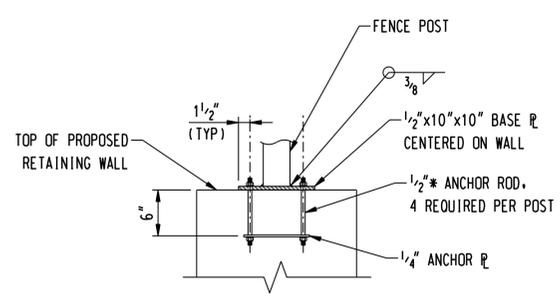
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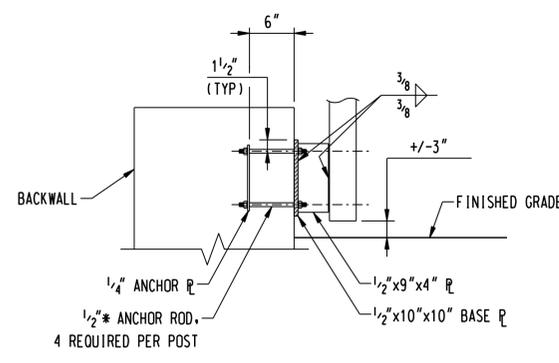
8' CHAIN LINK FENCE
N.T.S.



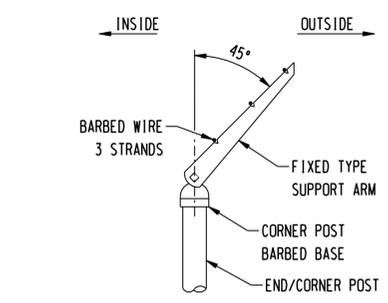
5' & 8' CHAIN LINK FENCE (STRUCTURE)
N.T.S.



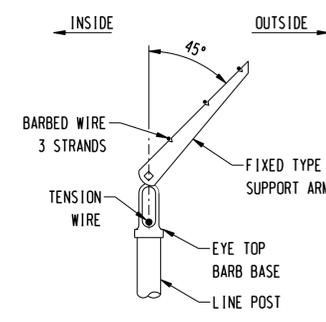
FENCE ANCHOR DETAIL I
SCALE: 1"=1'-0"



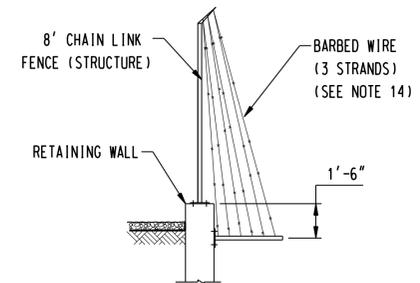
FENCE ANCHOR DETAIL II
SCALE: 1"=1'-0"



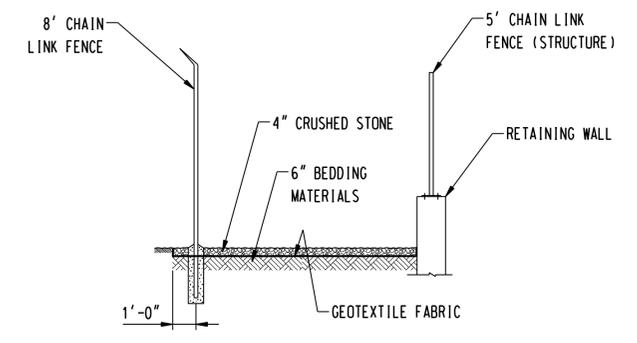
CORNER POST SUPPORT ARM
N.T.S.



LINE POST SUPPORT ARM
N.T.S.



PEDESTRIAN BARRIER
N.T.S.



SURFACE FINISHED
N.T.S.

FENCE NOTES:

- CHAIN-LINK FENCING SHALL CONSIST OF GALVANIZED CHAIN-LINK FABRIC ON STEEL POSTS.
- ALL POSTS SHALL BE SET IN CLASS A OR AA CONCRETE EXCEPT 5' CHAIN LINK FENCE ON RETAINING WALL.
- ALL POSTS TOPS SHALL BE FITTED WITH SUITABLE FINIALS.
- CORNER, TERMINAL OR PULL POST SHALL BE 2 3/8" DIA SCHEDULE 40 PER ASTM-F1083.
- LINE POST: 2 3/8" DIA SCHEDULE 40 PIPE PER ASTM-F1083.
- BRACES SHALL BE SPACED APPROXIMATELY 12" BELOW TOP OF TERMINAL POSTS AND SHALL EXTEND FROM END, GATE OR CORNER POSTS TO FIRST ADJACENT LINE POST.
- TOP RAIL & BRACE RAIL: 1 1/4" DIA SCHEDULE 40 PIPE PER ASTM-F1083.
- FABRIC: 11 GA. CORE WIRE SIZE 2" MESH, CONFORMING TO ASTM-A392 CLASS 1.
- TIE WIRE: MINIMUM 11 GA GALVANIZED STEEL.
- TENSION WIRE: 7 GA. GALVANIZED STEEL.
- ALL FITTINGS SHALL BE HOT-DIPPED GALVANIZED MALLEABLE, CAST IRON, OR PRESSED STEEL.
- FABRIC SHALL BE FASTENED TO LINE POSTS WITH FABRIC BANDS SPACED APPROXIMATELY 14" APART, AND TO TOP TENSION WIRE AND BOTTOM TENSION WIRE WITH HOG RINGS OR TIE WIRES SPACED APPROXIMATELY 24" APART.
- ALL WORK SHALL CONFORM WITH THE PROJECT SPECIFICATIONS.
- THREE STRANDS BARB WIRE APPLY TO 8'-0" HIGH CHAIN LINK FENCE. SEE GENERAL PLAN FOR CHAIN LINK FENCE LAYOUT.
- ALL 8' CHAIN LINK FENCE SHALL BE FITTED WITH BARBED WIRE.
- PROVIDE 4' WIDE ACCESS GATES WHEN SHOWN ON PLAN.

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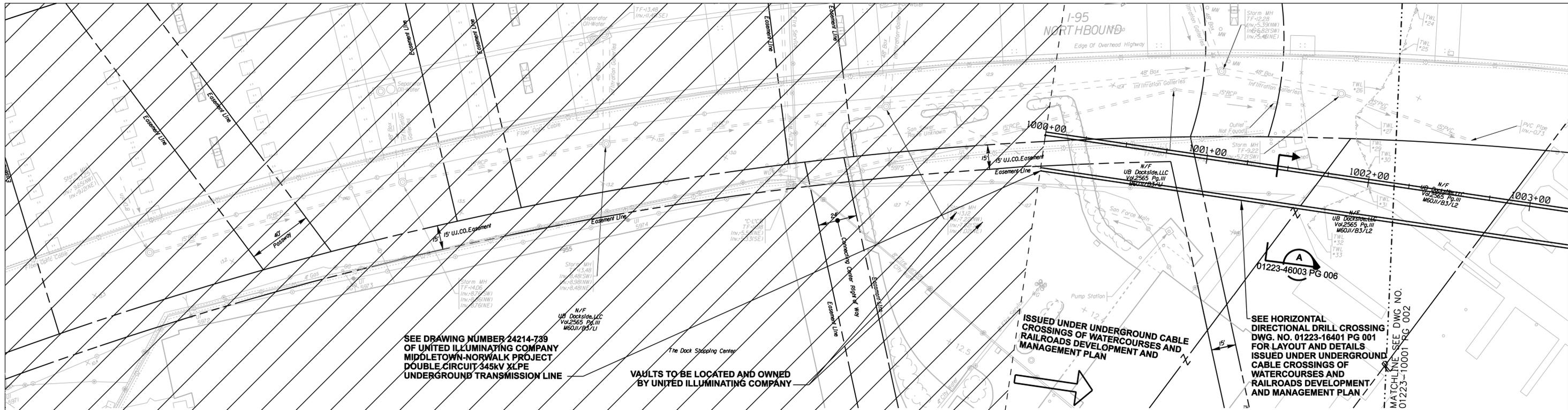
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checked: D. QUINIT / B. KUTA

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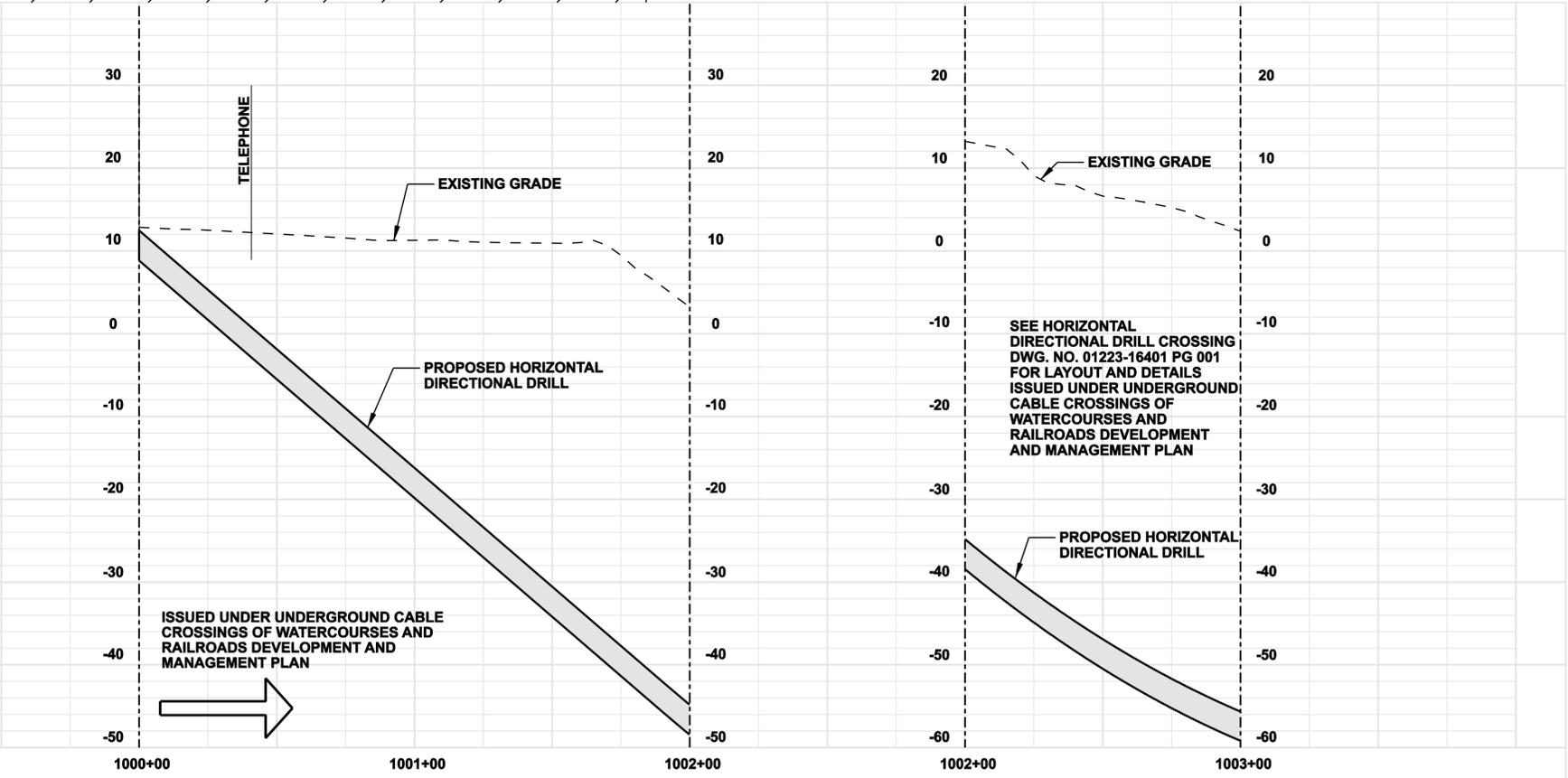
NORTHEAST UTILITIES SERVICE CO.
FOR THE CONNECTICUT LIGHT & POWER COMPANY
TITLE: MIDDLETOWN-NORWALK 345KV TRANSMISSION PROJECT
ASH CREEK CHAIN LINK FENCE DETAILS

DATE	CHKD	APP	APP

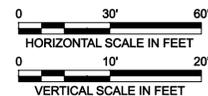
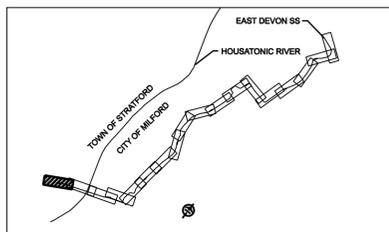
SCALE: AS NOTED
DWG. NO.: 01224-16304 PG 014



SEE DRAWING NUMBER 24214-739
OF UNITED ILLUMINATING COMPANY
MIDDLETOWN-NORWALK PROJECT
DOUBLE CIRCUIT 345KV XLPE
UNDERGROUND TRANSMISSION LINE



SEE HORIZONTAL
DIRECTIONAL DRILL CROSSING
DWG. NO. 01223-16401 PG 001
FOR LAYOUT AND DETAILS
ISSUED UNDER UNDERGROUND
CABLE CROSSINGS OF
WATERCOURSES AND
RAILROADS DEVELOPMENT
AND MANAGEMENT PLAN



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date	10/11/05	detailed	L. ROWSE
designed	C. COURTRIGHT	checked	S. NEWLAND

MF	NO.	DATE	REVISIONS	BY	CHK	APP	APP

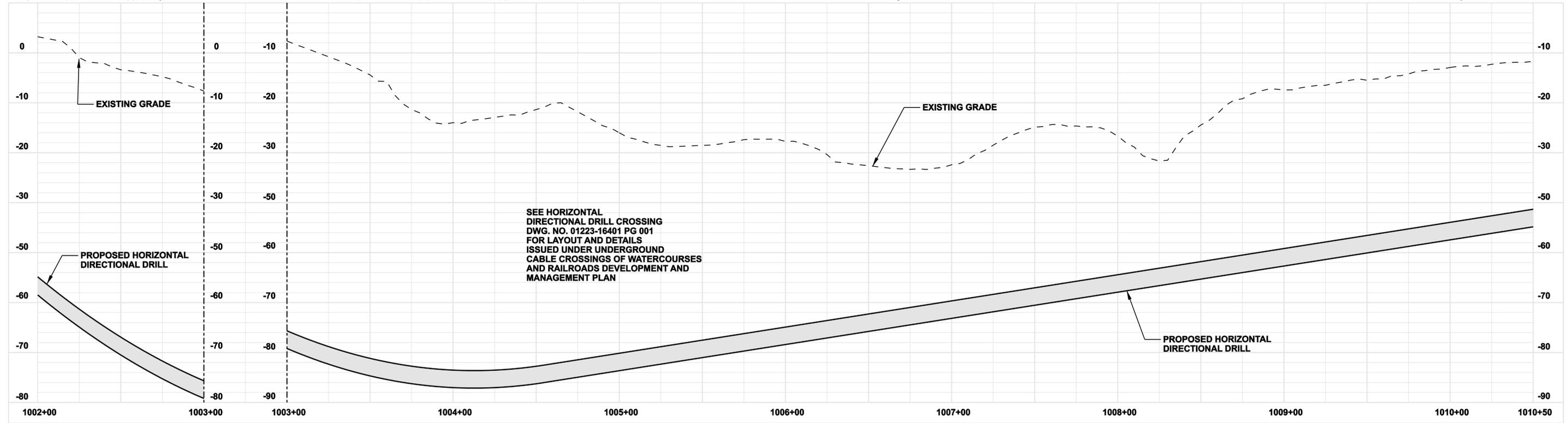
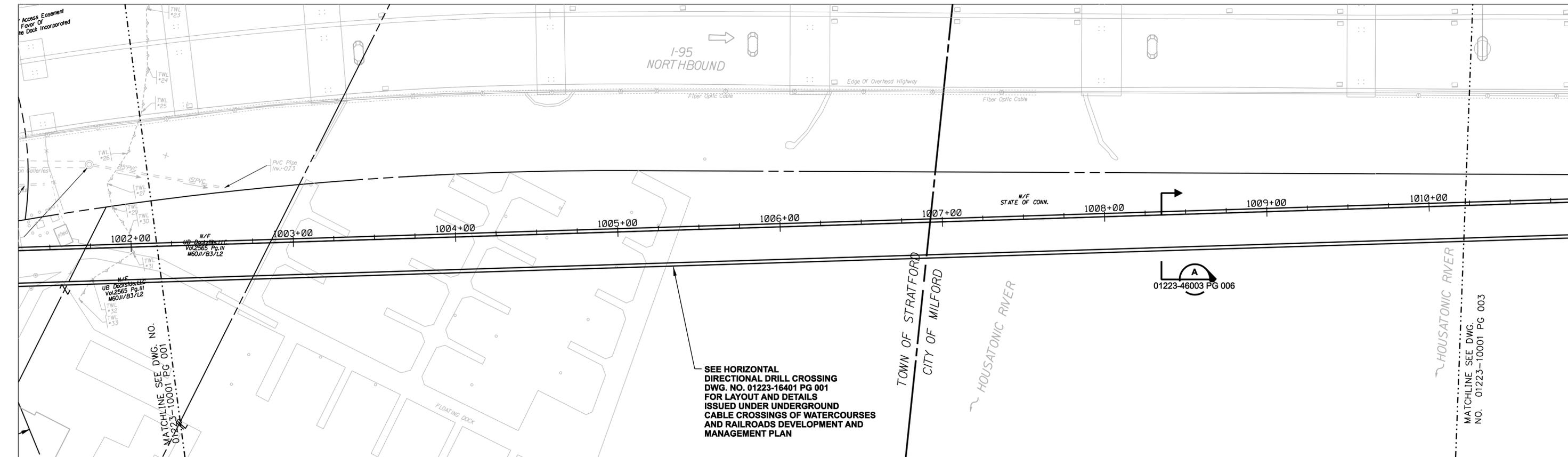
NORTHEAST UTILITIES SERVICE CO.

FOR THE CONNECTICUT LIGHT & POWER COMPANY

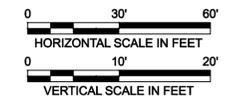
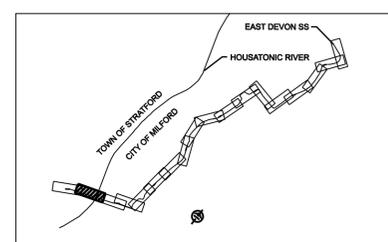
TITLE
MIDDLETOWN-NORWALK 345KV TRANSMISSION PROJECT

TOWN OF STRATFORD
PLAN AND PROFILE Sta. 1000+00 to 1003+00

BY SEN-BMCD	CHKD	APP	APP
DATE 10-11-05	DATE	DATE	DATE
SCALE AS NOTED	D	DWG. NO.	01223-10001 PG 001



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date 10/11/05

designed C. COURTRIGHT

detailed L. ROWSE

checked S. NEWLAND

MF	NO.	DATE	REVISIONS	BY	CHK	APP	APP

NORTHEAST UTILITIES SERVICE CO.

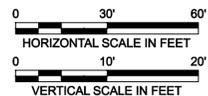
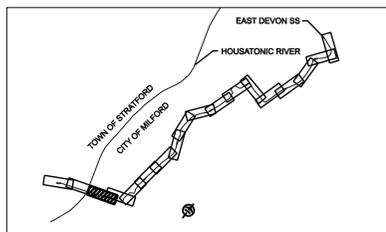
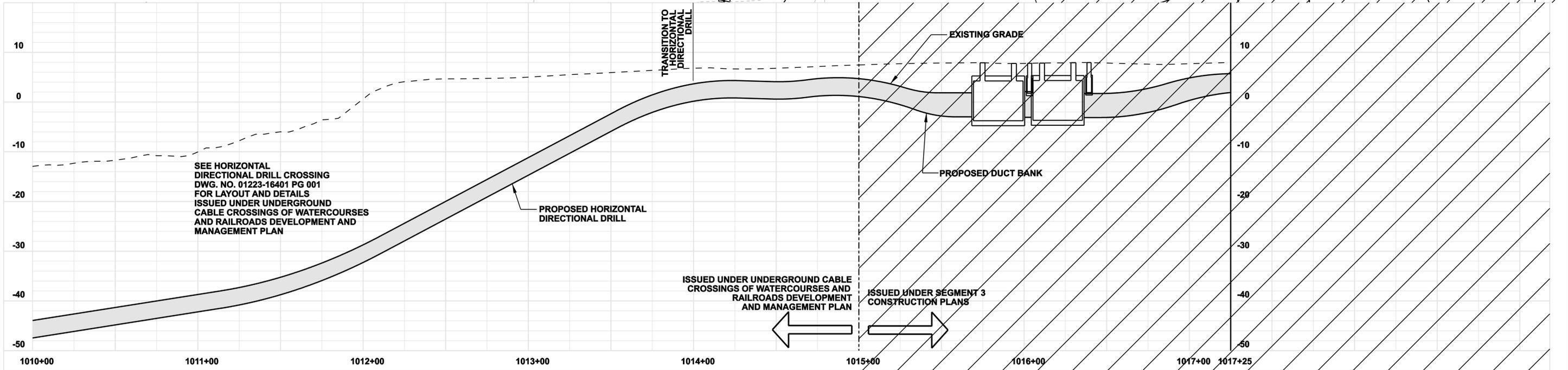
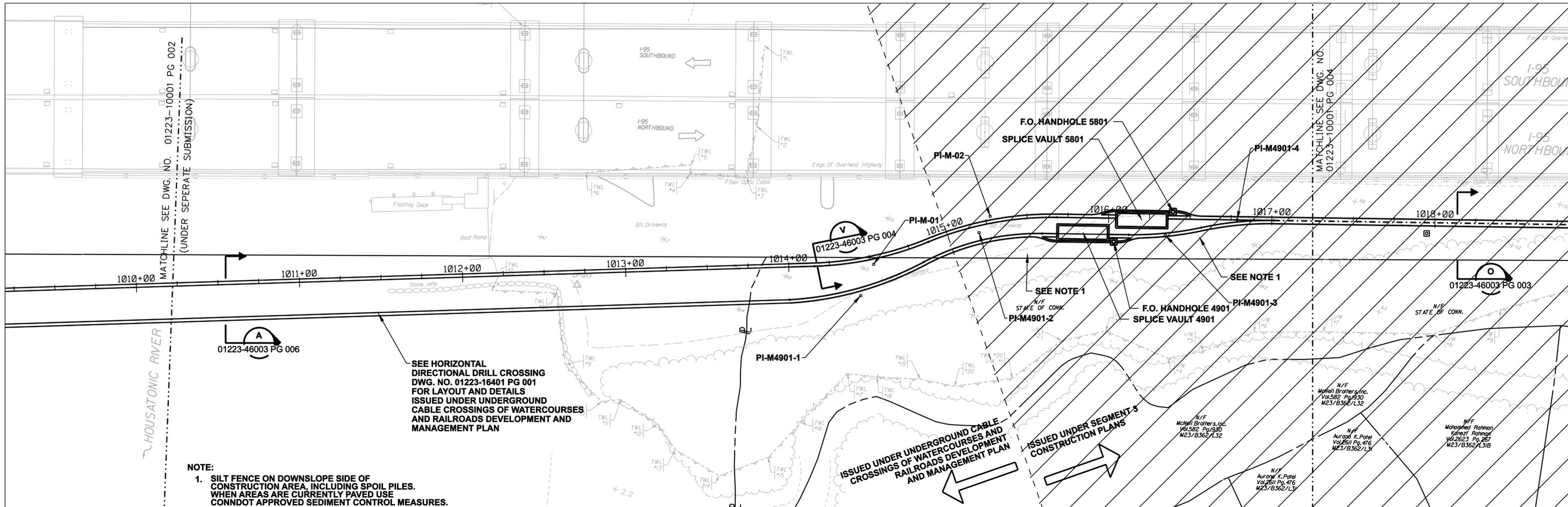
FOR THE CONNECTICUT LIGHT & POWER COMPANY

TITLE MIDDLETOWN-NORWALK 345KV TRANSMISSION PROJECT

TOWN OF STRATFORD/CITY OF MILFORD
PLAN AND PROFILE Sta. 1002+00 to 1010+50

BY SEN-BMCD	CHKD	APP	APP
DATE 10-11-05	DATE	DATE	DATE
SCALE AS NOTED	D	DWG. NO. 01223-10001 PG 002	

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1	6/1/06	ISSUED 60% PRELIMINARY		CTC

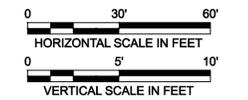
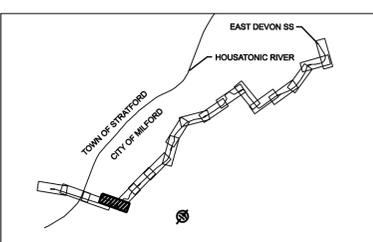
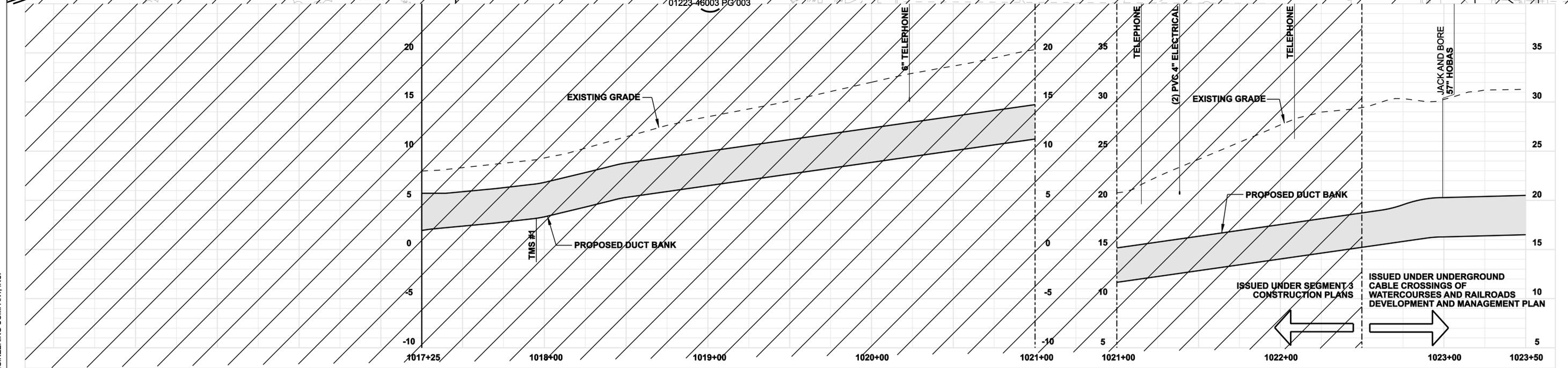
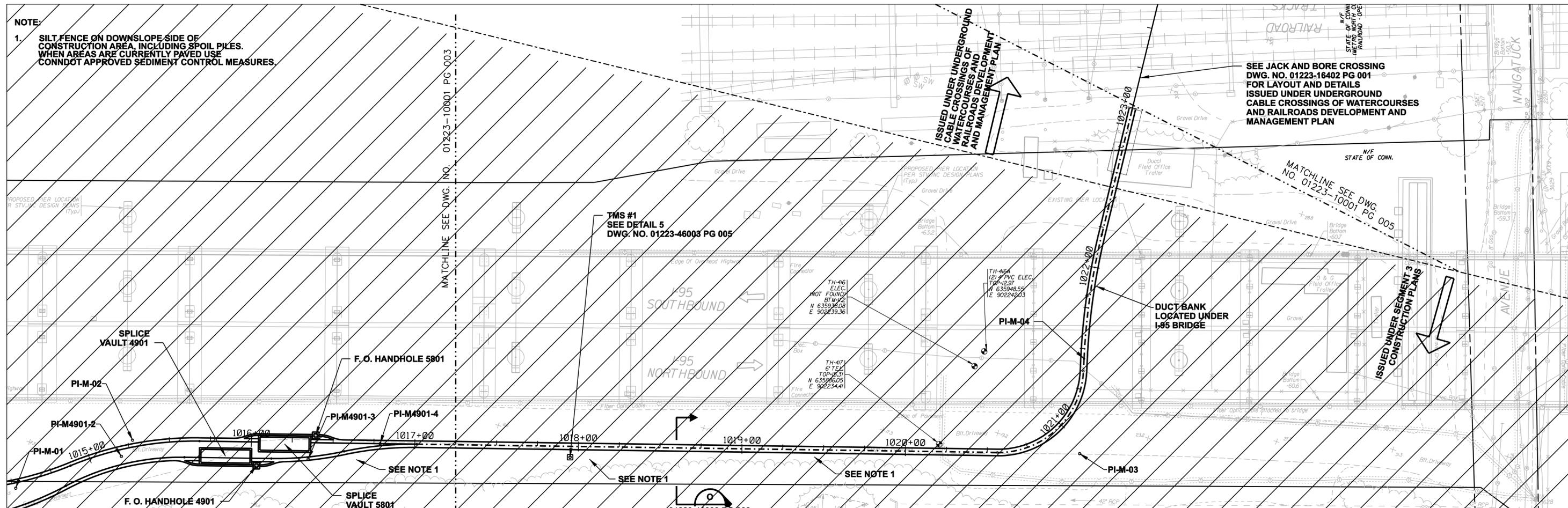


date 10/11/05
 detailed L. ROWSE
 designed C. COURTRIGHT
 checked S. NEWLAND

MF NO.	DATE	REVISIONS	BY	CHK	APP	APP

NORTHEAST UTILITIES SERVICE CO.			
FOR THE CONNECTICUT LIGHT & POWER COMPANY			
TITLE MIDDLETOWN-NORWALK 345KV TRANSMISSION PROJECT			
CITY OF MILFORD PLAN AND PROFILE Sta. 1010+00 to 1017+25			
BY SEN-BMCD	CHKD	APP	APP
DATE 10-11-05	DATE	DATE	DATE
SCALE AS NOTED	D		DWG. NO. 01223-10001 PG 003

NOTE:
 1. SILT FENCE ON DOWNSLOPE SIDE OF CONSTRUCTION AREA, INCLUDING SPOIL PILES. WHEN AREAS ARE CURRENTLY PAVED USE CONNDOT APPROVED SEDIMENT CONTROL MEASURES.



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DOCKET No. 272

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1	6/1/06	ISSUED 60% PRELIMINARY		CTC

Burns & McDonnell
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date 10/11/05
 detailed L. ROWSE
 designed C. COURTRIGHT
 checked S. NEWLAND

MF NO.	DATE	REVISIONS	BY	CHK	APP	APP

NORTHEAST UTILITIES SERVICE CO.

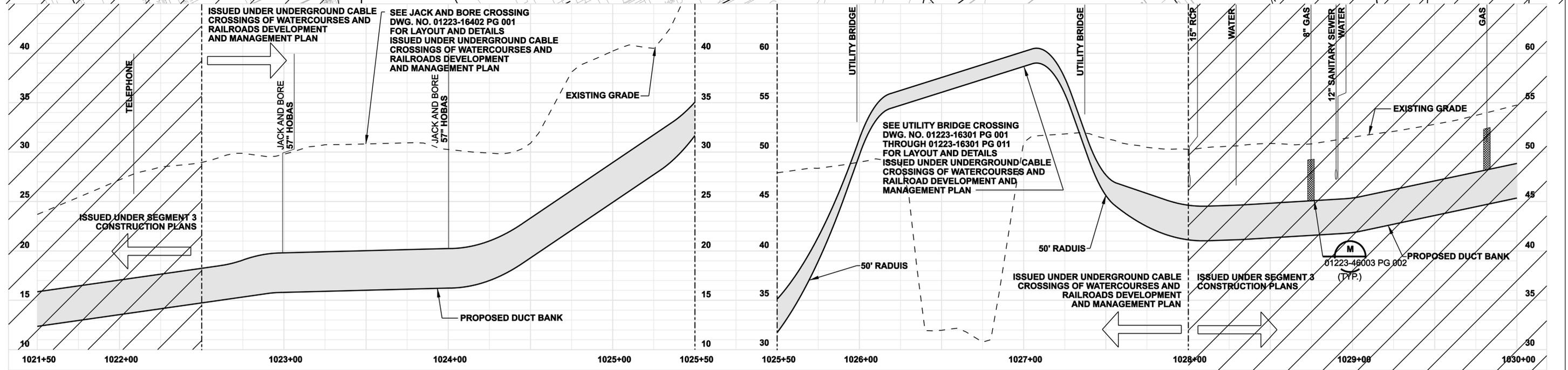
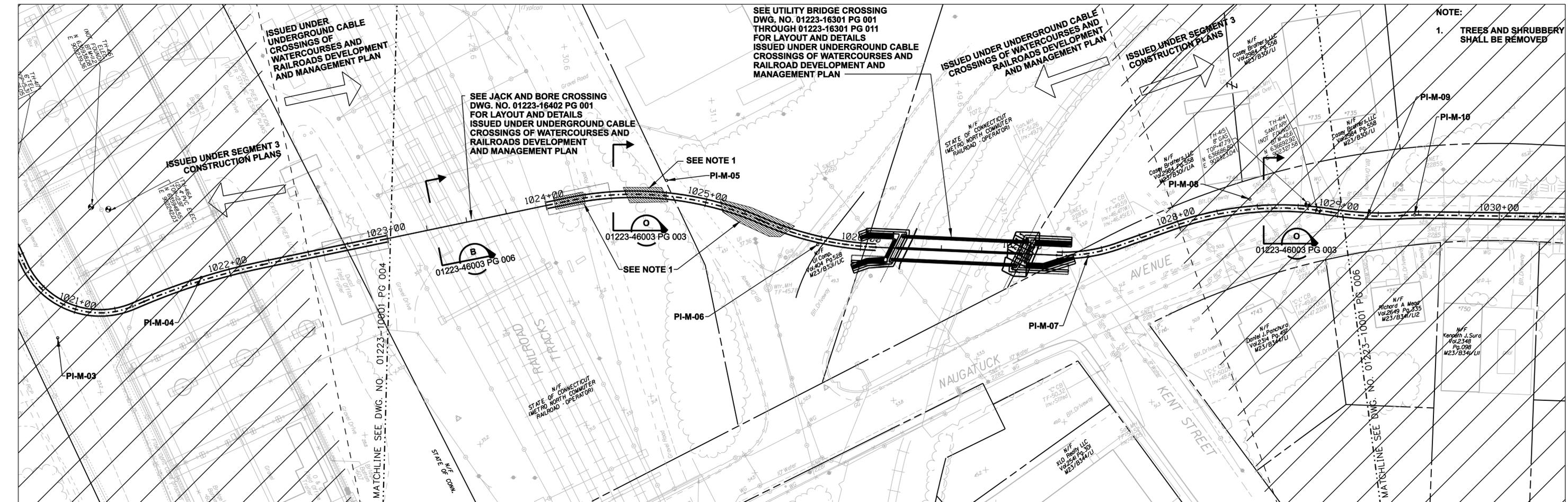
FOR THE CONNECTICUT LIGHT & POWER COMPANY

TITLE MIDDLETOWN-NORWALK 345KV TRANSMISSION PROJECT

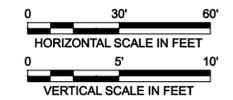
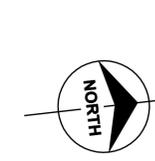
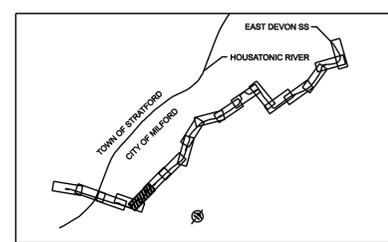
CITY OF MILFORD
 PLAN AND PROFILE Sta. 1017+25 to 1023+50

BY SEN-BMCD	CHKD	APP	APP
DATE 10-11-05	DATE	DATE	DATE
SCALE AS NOTED	D	DWG. NO. 01223-10001 PG 004	

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1	6/1/06	ISSUED 60% PRELIMINARY		CTC

Burns & McDonnell
SINCE 1898

date: 10/11/05
designed: C. COURTRIGHT
detailed: L. ROWSE
checked: S. NEWLAND

MF NO.	DATE	REVISIONS	BY	CHK	APP	APP

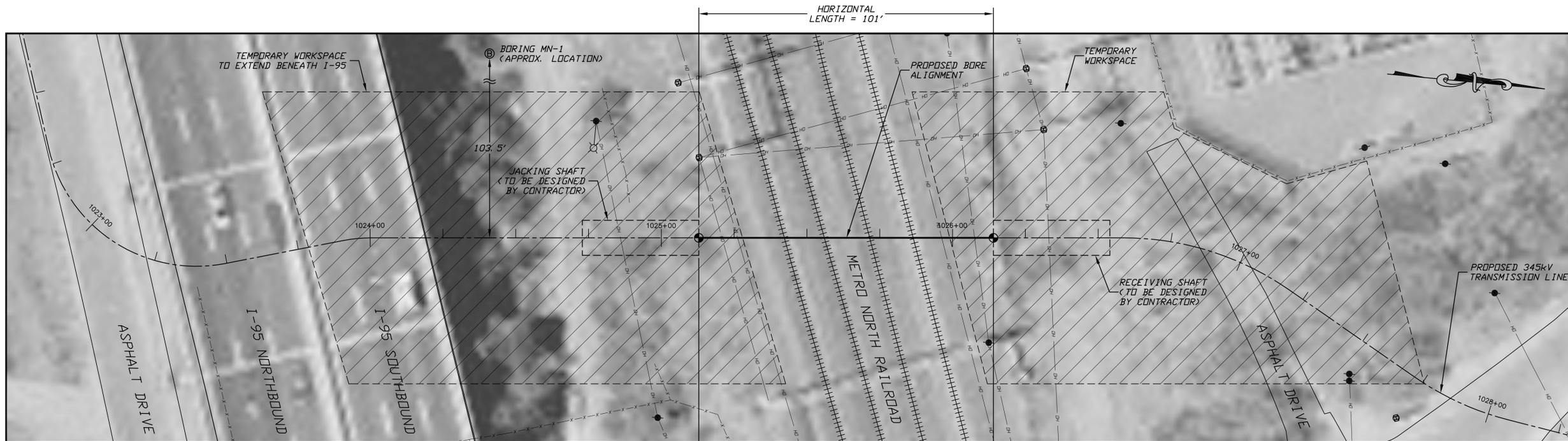
NORTHEAST UTILITIES SERVICE CO.

FOR THE CONNECTICUT LIGHT & POWER COMPANY

TITLE: MIDDLETOWN-NORWALK 345KV TRANSMISSION PROJECT

CITY OF MILFORD
PLAN AND PROFILE Sta. 1021+50 to 1030+00

BY SEN-BMCD	CHKD	APP	APP
DATE 10-11-05	DATE	DATE	DATE
SCALE AS NOTED	D	DWG. NO. 01223-10001 PG 005	



- PROTECTION OF UNDERGROUND FACILITIES**
- CONTRACTOR SHALL UNDERTAKE THE FOLLOWING STEPS PRIOR TO COMMENCING BORING OPERATIONS:
- CONTACT THE UTILITY LOCATION/NOTIFICATION SERVICE FOR THE CONSTRUCTION AREA.
 - POSITIVELY LOCATE AND STAKE ALL EXISTING UNDERGROUND FACILITIES WITHIN 25 FEET OF THE BORE ALIGNMENT. LOCATIONS AND DEPTHS SHALL BE VERIFIED BY POT-HOLING OR EXCAVATION.
 - UNDERGROUND FACILITIES LOCATED WITHIN 5 FEET OF THE DESIGNED BORE PATH SHALL BE EXPOSED.
 - MODIFY BORING PRACTICES AS NECESSARY TO PREVENT DAMAGE TO EXISTING FACILITIES.

- GENERAL NOTES**
- TOPOGRAPHIC SURVEY DATA PROVIDED BY BL COMPANIES, MERIDEN, CONNECTICUT.
 - NORTHINGS AND EASTINGS ARE IN U.S. SURVEY FEET REFERENCED TO CONNECTICUT STATE PLANE COORDINATES, NAD 83.
 - ELEVATIONS ARE IN FEET REFERENCED TO NAVD 88.
 - STATIONING IS IN FEET BY HORIZONTAL MEASUREMENT.
 - HORIZONTAL BORE ENTRY AND EXIT COORDINATES REFER TO TOP OF PIPE.

LINE AND GRADE TOLERANCES

THE CASING SHALL BE INSTALLED TO THE LINE AND GRADE INDICATED ON THIS DRAWING WITHIN THE FOLLOWING TOLERANCES:

ALIGNMENT. PLUS OR MINUS 3 FEET.

ELEVATION. PLUS 0 FEET, MINUS 3 FEET.

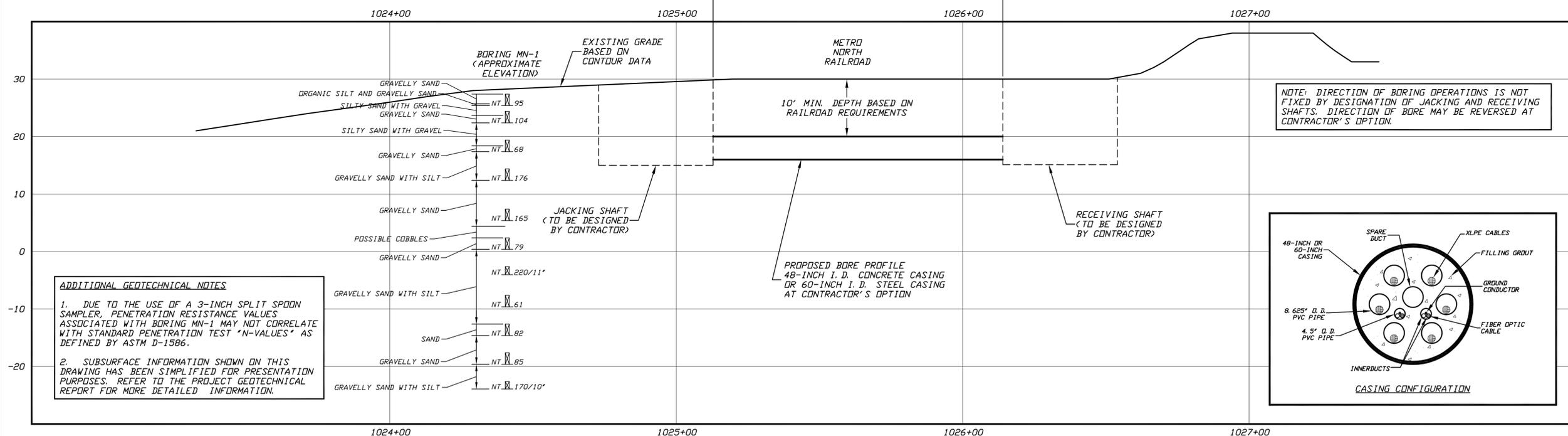
HOWEVER, IN ALL CASES RIGHT-OF-WAY RESTRICTIONS AND CONCERN FOR ADJACENT FACILITIES SHALL TAKE PRECEDENCE OVER THE TOLERANCES LISTED.

PLAN
SCALE: 1" = 20'

- GEOTECHNICAL NOTES**
- GEOTECHNICAL DATA TAKEN FROM DRAFT BORING LOGS PRODUCED BY GZA, GEOTECHNICAL, INC., NORWALK, MASSACHUSETTS. REFER TO THE PROJECT GEOTECHNICAL REPORT FOR MORE DETAILED SUBSURFACE INFORMATION.
 - THE LETTER "N" TO THE LEFT OF A SPLIT SPOON SAMPLE INDICATES THAT NO GRAVEL WAS OBSERVED IN THE SAMPLE. THE LETTERS "NT" INDICATE THAT GRAVEL WAS OBSERVED BUT NO GRADATION TESTS WERE PERFORMED.
 - THE GEOTECHNICAL DATA IS ONLY DESCRIPTIVE OF THE LOCATIONS ACTUALLY SAMPLED. EXTENSION OF THIS DATA OUTSIDE OF THE ORIGINAL BORINGS MAY BE DONE TO CHARACTERIZE THE SOIL CONDITIONS. HOWEVER, COMPANY DOES NOT GUARANTEE THESE CHARACTERIZATIONS TO BE ACCURATE. CONTRACTOR MUST USE HIS OWN EXPERIENCE AND JUDGEMENT IN INTERPRETING THIS DATA.

BORE ENTRY
STA. 1025+12.88
ELEV. 20.00 (T. D. P.)
N 636117.89, E 902279.67

BORE EXIT
STA. 1026+14.04
ELEV. 20.00 (T. D. P.)
N 636218.62, E 902270.39



ADDITIONAL GEOTECHNICAL NOTES

- DUE TO THE USE OF A 3-INCH SPLIT SPOON SAMPLER, PENETRATION RESISTANCE VALUES ASSOCIATED WITH BORING MN-1 MAY NOT CORRELATE WITH STANDARD PENETRATION TEST "N-VALUES" AS DEFINED BY ASTM D-1586.
- SUBSURFACE INFORMATION SHOWN ON THIS DRAWING HAS BEEN SIMPLIFIED FOR PRESENTATION PURPOSES. REFER TO THE PROJECT GEOTECHNICAL REPORT FOR MORE DETAILED INFORMATION.

PROFILE
SCALE: 1" = 20' HORIZONTAL
1" = 10' VERTICAL

0 20' 40'
HORIZONTAL SCALE IN FEET

0 10' 20'
VERTICAL SCALE IN FEET

**60% COMPLETION
PRELIMINARY**

John D. Hair, P.E.
Consulting Engineer



date 03-23-06 detailed
designed JDH&A (JSP) checked 03-23-06

no.	date	revisions	by	chk

MF	NO.	DATE	REVISIONS	BY	CHK	APP	APP

NORTHEAST UTILITIES SERVICE CO.			
FOR THE CONNECTICUT LIGHT & POWER COMPANY			
TITLE MIDDLETOWN-NORWALK 345KV TRANSMISSION PROJECT PLAN AND PROFILE CROSSING OF THE METRO NORTH RAILROAD BY HORIZONTAL BORING MILFORD, CONNECTICUT			
BY	CHKD	APP	APP
DATE	DATE	DATE	DATE
SCALE AS NOTED	DWG. NO.		01223-16402 PG 001