

**ISSUED FOR  
CONSTRUCTION**

DOCKET No. 272

no.	date	revisions	by	chk
3	8/07/06	ISSUED FOR CONSTRUCTION REVISED	CTC	
2	7/03/06	ISSUED FOR CONSTRUCTION REVISED	CTC	
1	6/20/06	ISSUED FOR CONSTRUCTION	CTC	



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.**

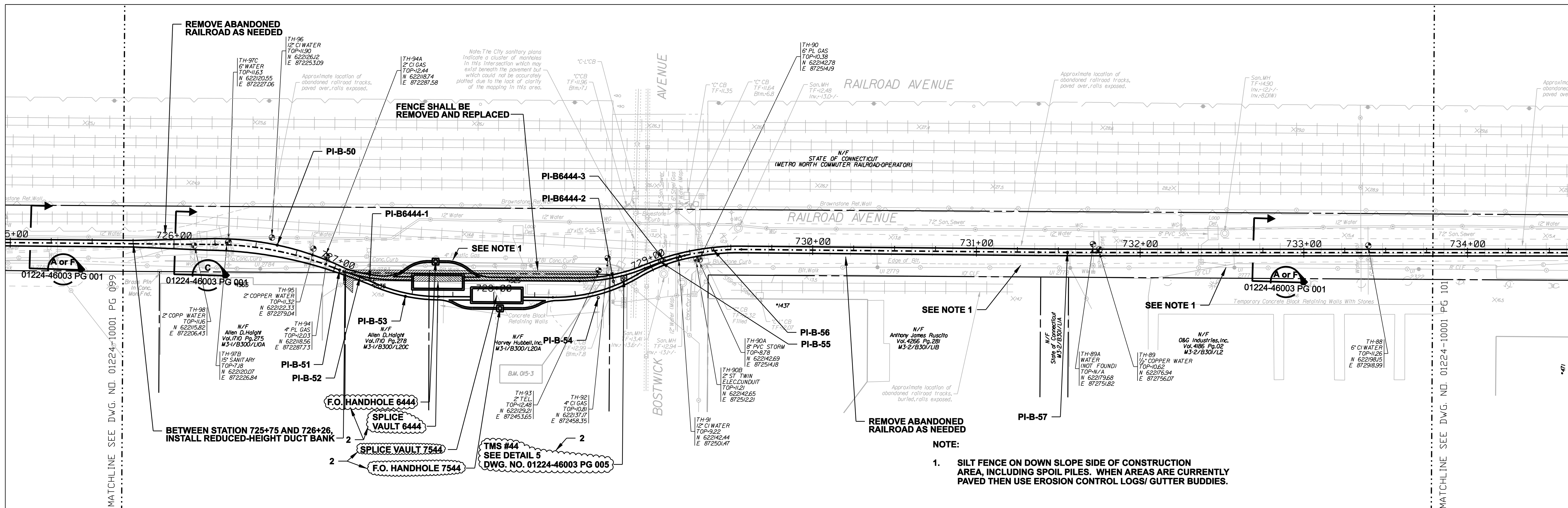
FOR THE CONNECTICUT LIGHT & POWER COMPANY

TITLE MIDDLETOWN-NORWALK 345KV TRANSMISSION PROJECT

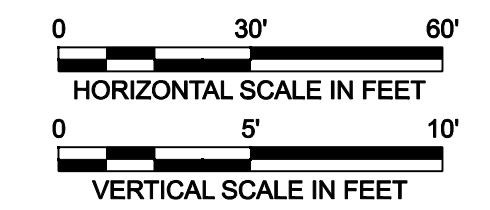
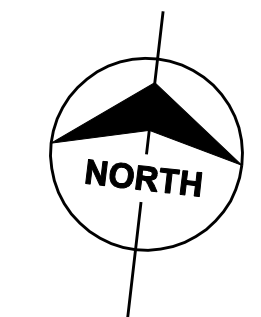
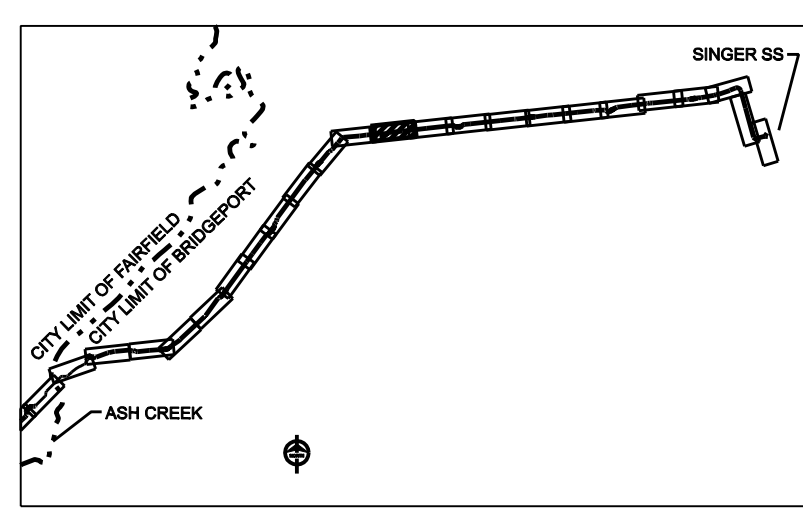
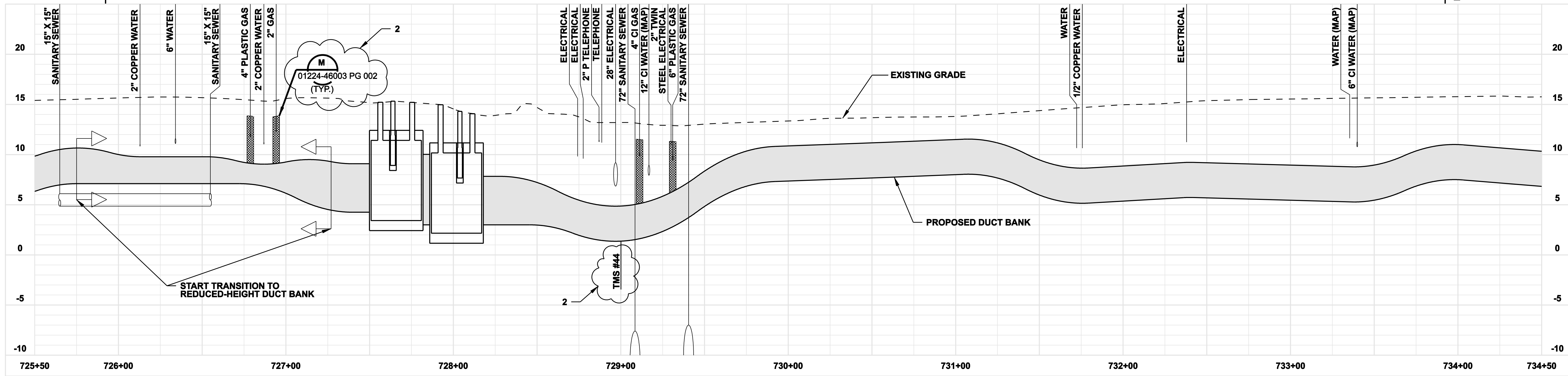
CITY OF BRIDGEPORT ROUTE  
PLAN AND PROFILE AT 717+50 TO 726+00

BY SEN-BMCD	CHKD	APP	APP
DATE 8-15-05	DATE	DATE	DATE
SCALE AS NOTED	D	DWG. NO. 01224-10001 PG 099	

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**NOTE:**  
 1. SILT FENCE ON DOWN SLOPE SIDE OF CONSTRUCTION AREA, INCLUDING SPOIL PILES. WHEN AREAS ARE CURRENTLY PAVED THEN USE EROSION CONTROL LOGS/ GUTTER BUDDIES.



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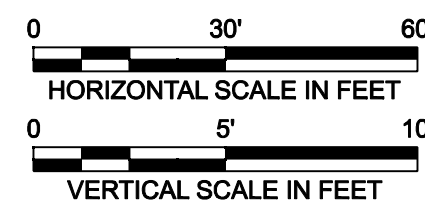
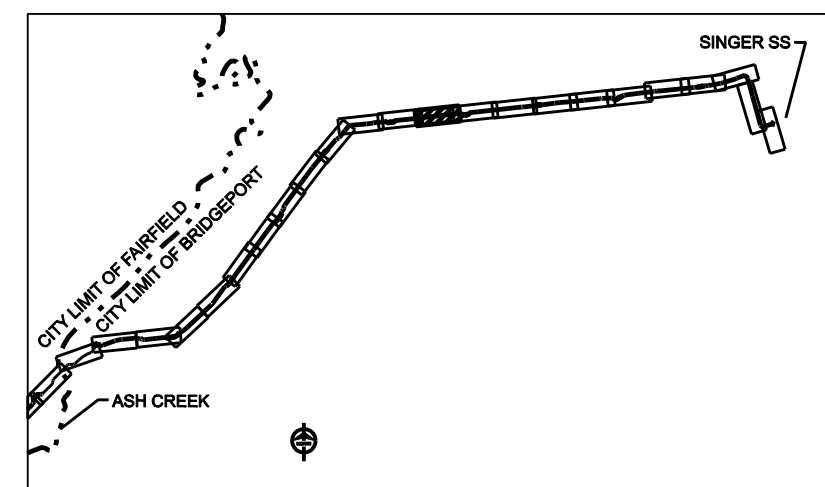
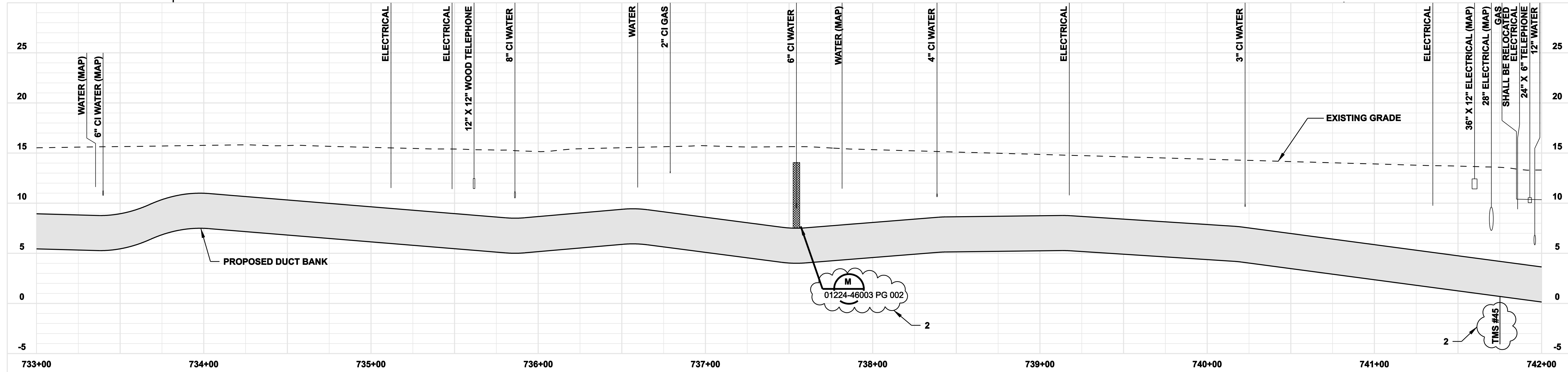
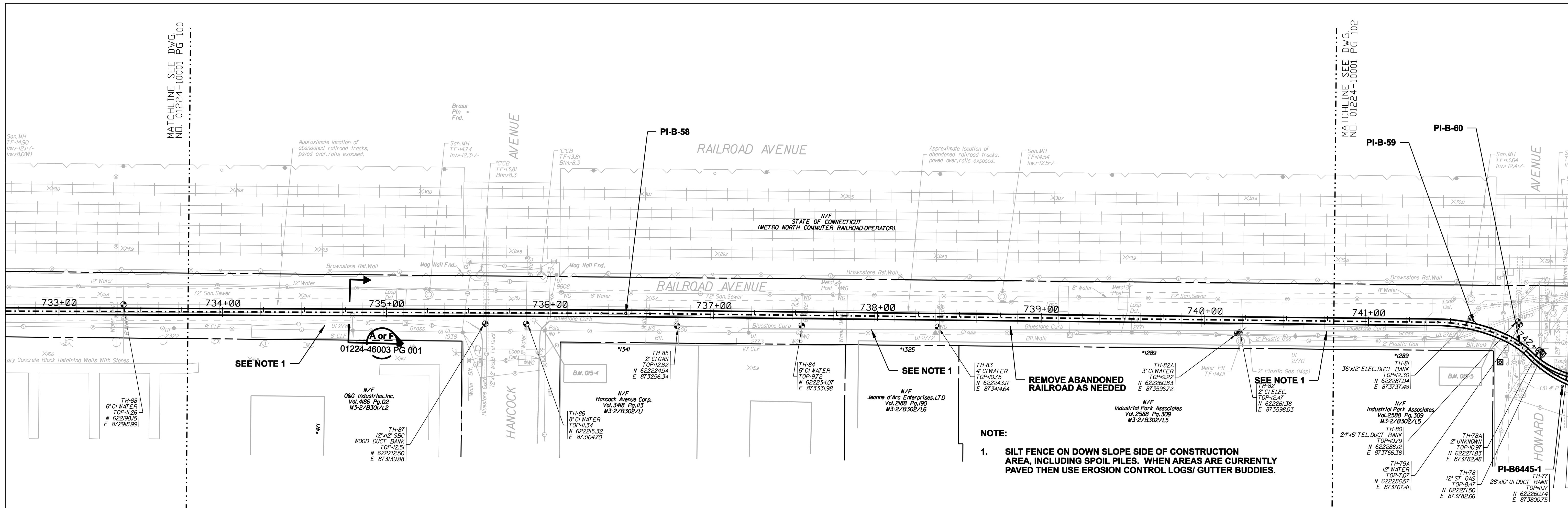
no.	date	revisions	by	chk
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NORTHEAST UTILITIES SERVICE CO.			
FOR THE CONNECTICUT LIGHT & POWER COMPANY			
TITLE MIDDLETOWN-NORWALK 345KV TRANSMISSION PROJECT			
CITY OF BRIDGEPORT ROUTE PLAN AND PROFILE AT 725+50 TO 734+50			
BY SEN-BMCD	CHKD	APP	APP
DATE 8-15-05	DATE	DATE	DATE
SCALE AS NOTED		DWG. NO.	01224-10001 PG 100

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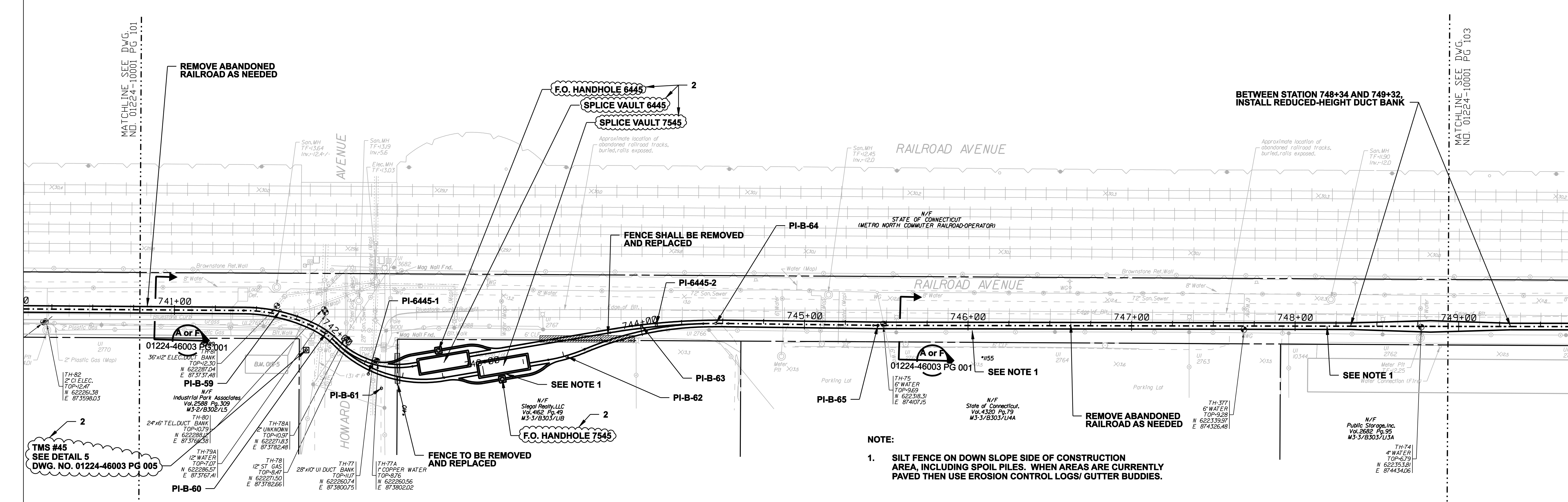
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NORTHEAST UTILITIES SERVICE CO.

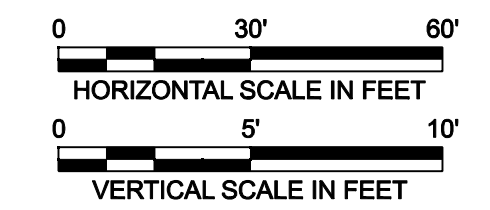
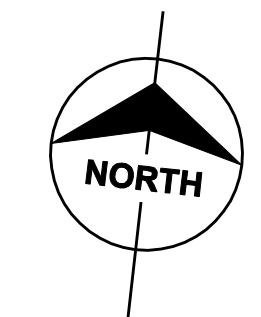
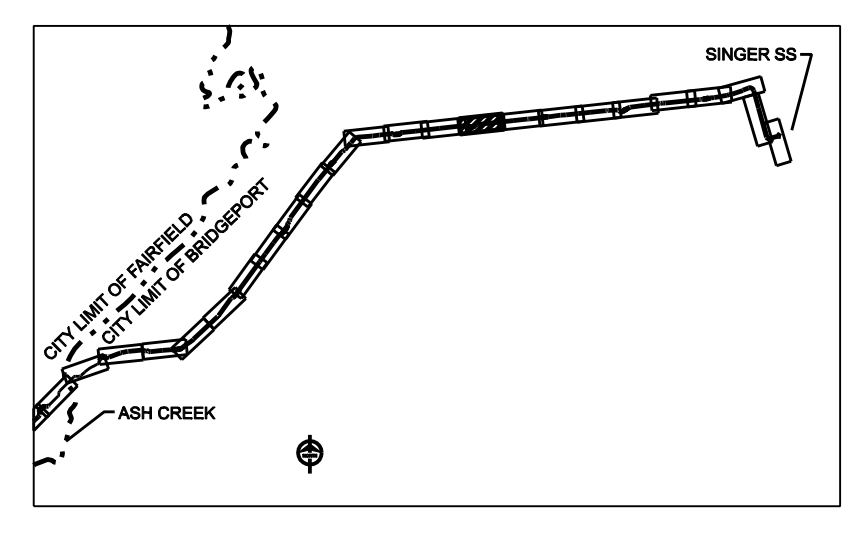
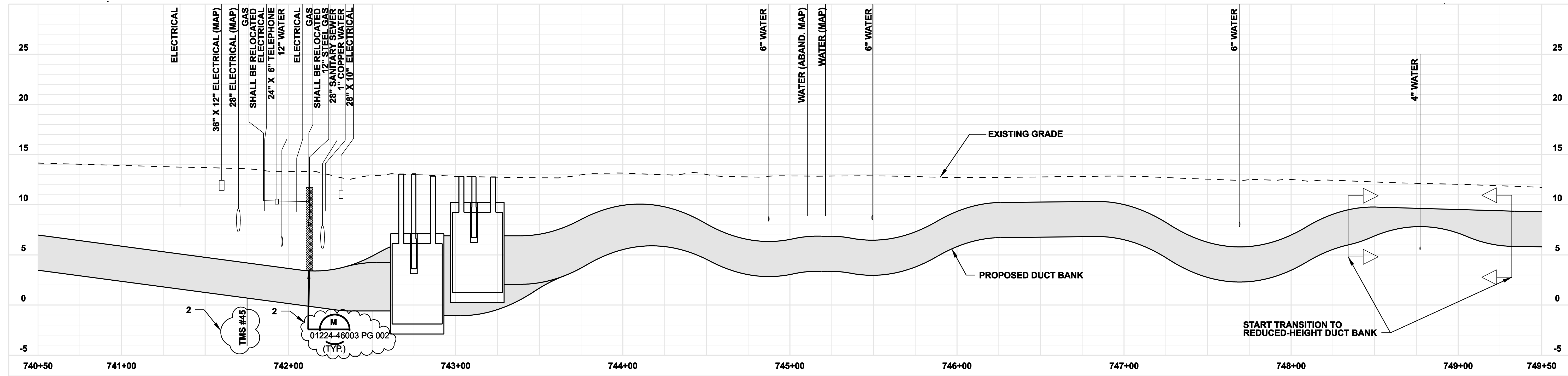
FOR THE CONNECTICUT LIGHT & POWER COMPANY  
TITLE MIDDLETOWN-NORWALK 345KV TRANSMISSION PROJECT  
CITY OF BRIDGEPORT ROUTE  
PLAN AND PROFILE AT 733+00 TO 742+00

BY	SEN-BMCD	CHKD	APP	APP
DATE	8-15-05	DATE	DATE	DATE
SCALE	AS NOTED	D	DWG. NO.	01224-10001 PG 101



BETWEEN STATION 748+34 AND 749+32,  
INSTALL REDUCED-HEIGHT DUCT BANK

- NOTE:**
1. SILT FENCE ON DOWN SLOPE SIDE OF CONSTRUCTION AREA, INCLUDING SPOIL PILES. WHEN AREAS ARE CURRENTLY PAVED THEN USE EROSION CONTROL LOGS/ GUTTER BUDDIES.



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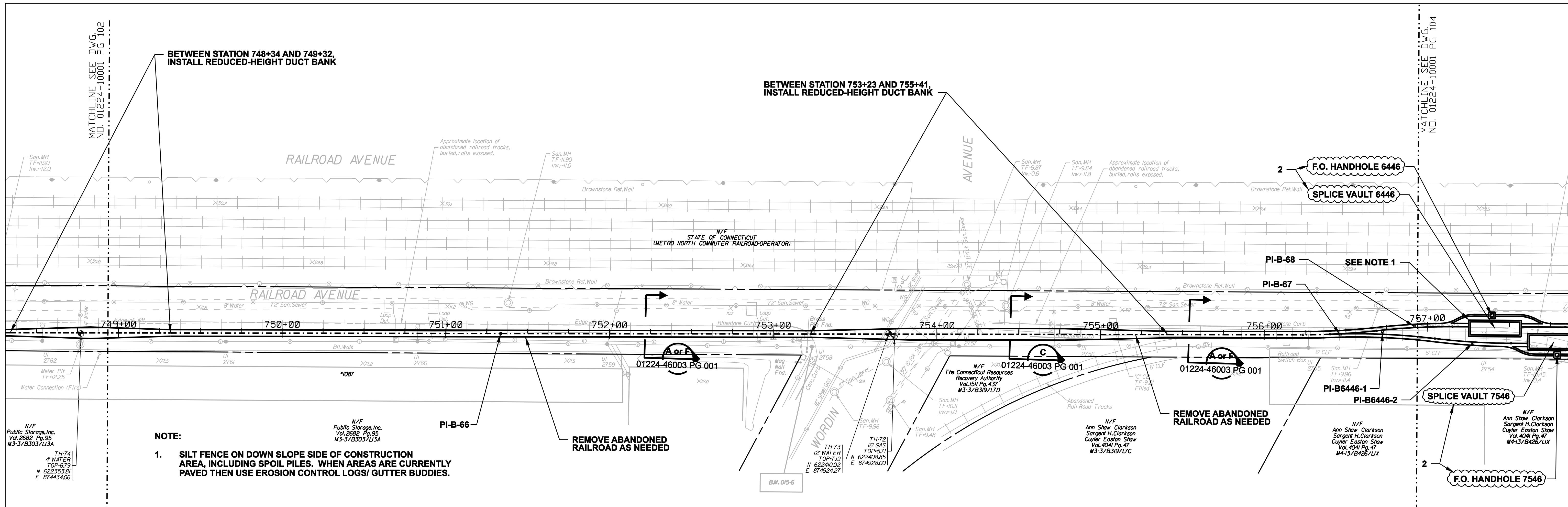


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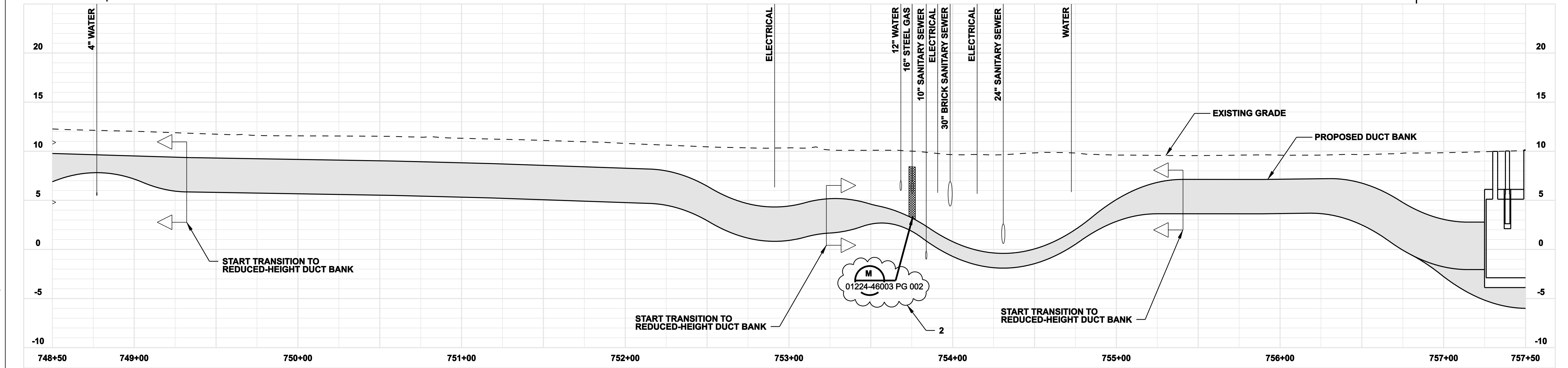
date	08/15/05	detailed	L. ROWSE
designed	C. COURTRIGHT	checked	S. NEWLAND

MF	NO.	DATE	REVISIONS	BY	CHK	APP	APP

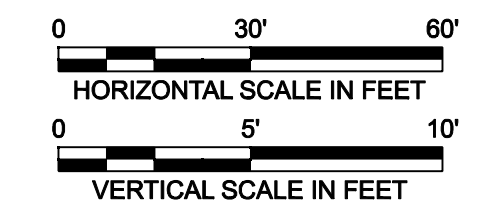
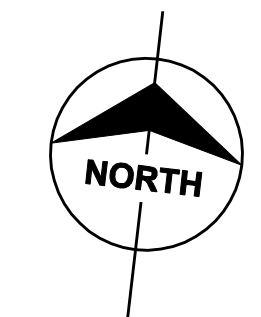
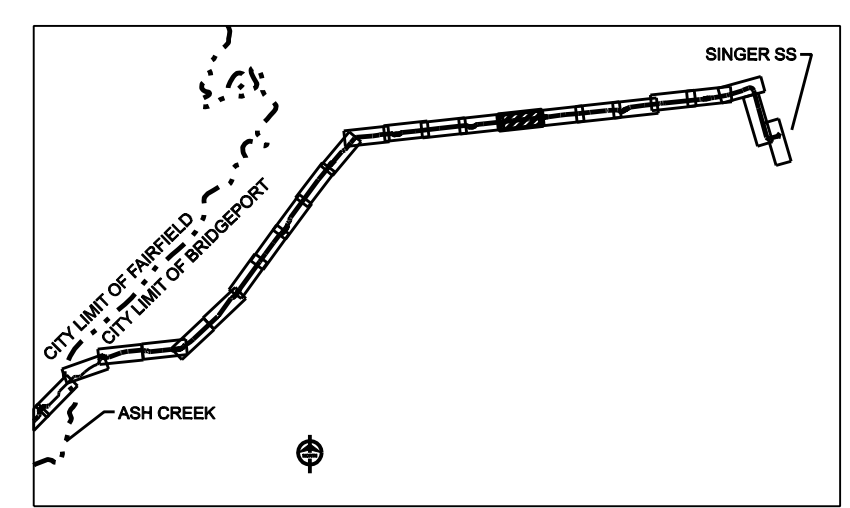
NORTHEAST UTILITIES SERVICE CO.			
FOR THE CONNECTICUT LIGHT & POWER COMPANY			
TITLE MIDDLETOWN-NORWALK 345KV TRANSMISSION PROJECT			
CITY OF BRIDGEPORT ROUTE PLAN AND PROFILE AT 740+50 TO 749+50			
BY	SEN-BMCD	CHKD	APP
DATE	8-15-05	DATE	DATE
SCALE	AS NOTED	DWG. NO.	01224-10001 PG 102



**NOTE:**  
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SINCE 1898

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

MF	NO.	DATE	REVISIONS	BY	CHK	APP	APP

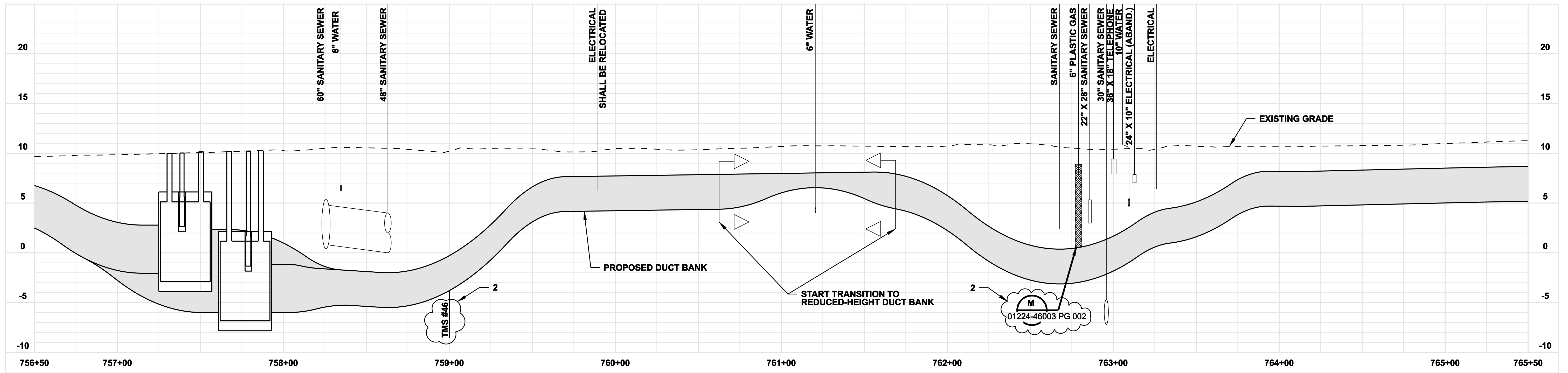
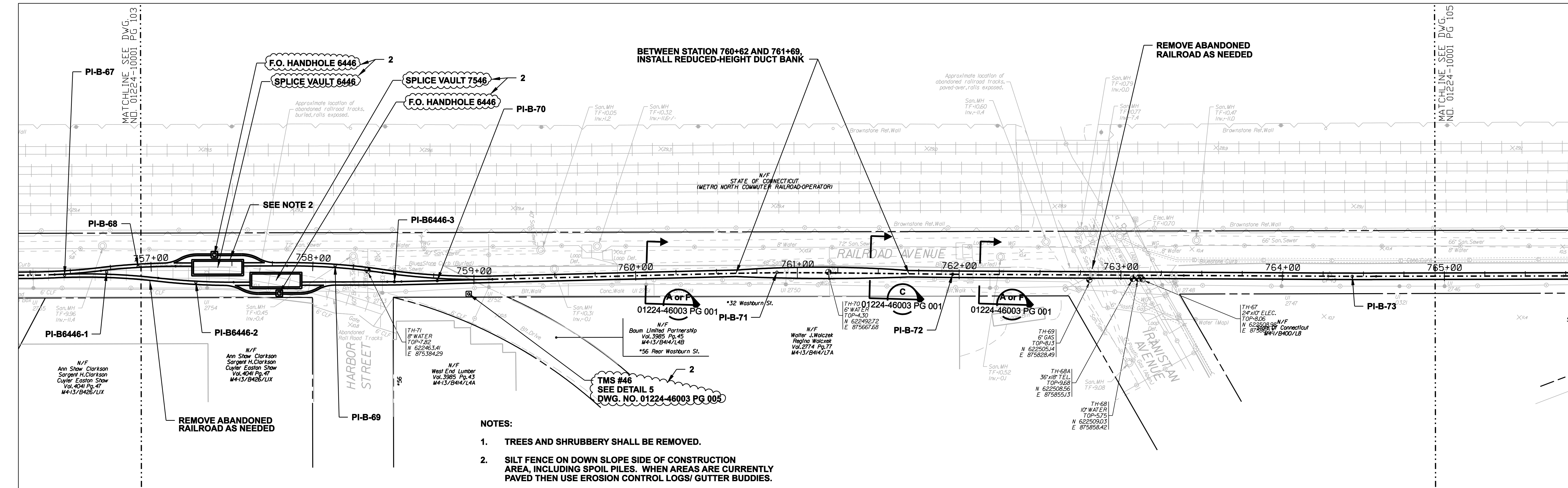
**NORTHEAST UTILITIES SERVICE CO.**

FOR THE CONNECTICUT LIGHT & POWER COMPANY

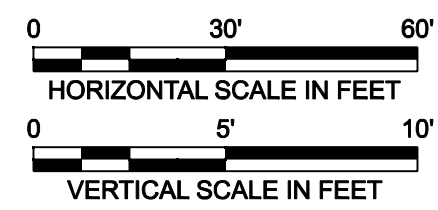
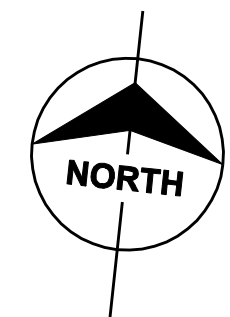
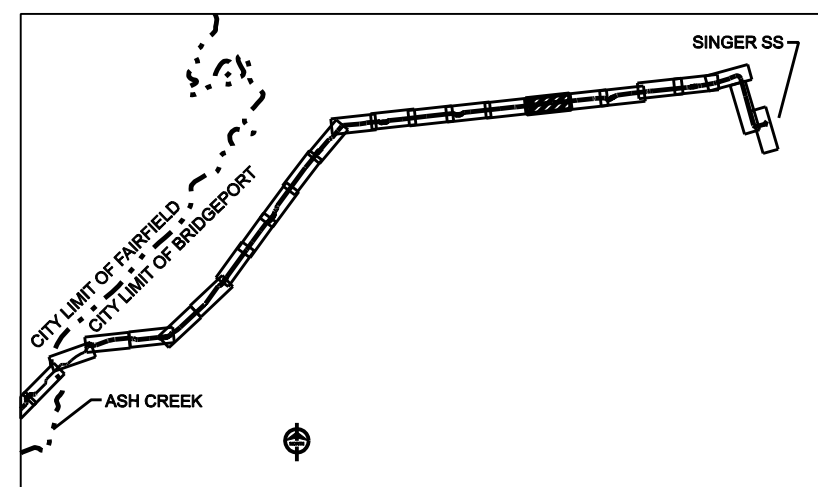
TITLE: MIDDLETOWN-NORWALK 345KV TRANSMISSION PROJECT

CITY OF BRIDGEPORT ROUTE  
 PLAN AND PROFILE AT 748+50 TO 757+50

BY SEN-BMCD	CHKD	APP	APP
DATE 8-15-05	DATE	DATE	DATE
SCALE AS NOTED	D	DWG. NO. 01224-10001 PG 103	



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detailed: L. ROWSE  
checked: S. NEWLAND

MF	NO.	DATE	REVISIONS	BY	CHK	APP	APP

**NORTHEAST UTILITIES SERVICE CO.**

FOR THE CONNECTICUT LIGHT & POWER COMPANY

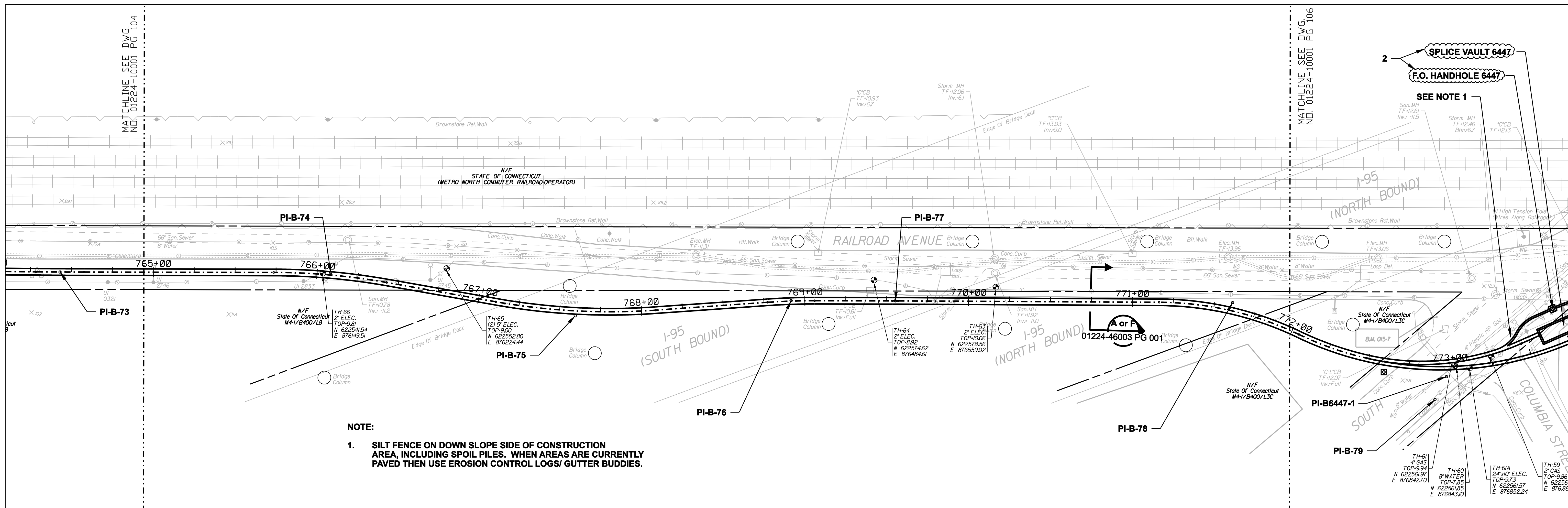
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CITY OF BRIDGEPORT ROUTE  
PLAN AND PROFILE AT 756+50 TO 765+50

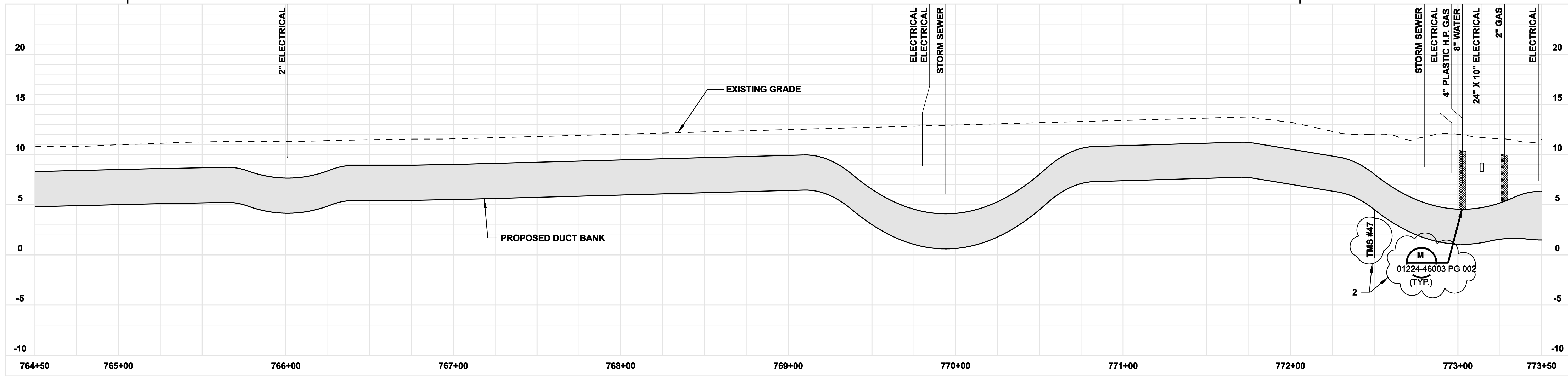
BY SEN-BMCD	CHKD	APP	APP
DATE 8-15-05	DATE	DATE	DATE
SCALE AS NOTED	D	DWG. NO. 01224-10001 PG 104	

MATCHLINE SEE DWG. NO. 01224-10001 PG 104

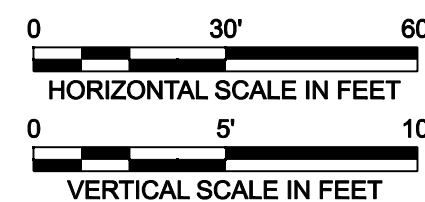
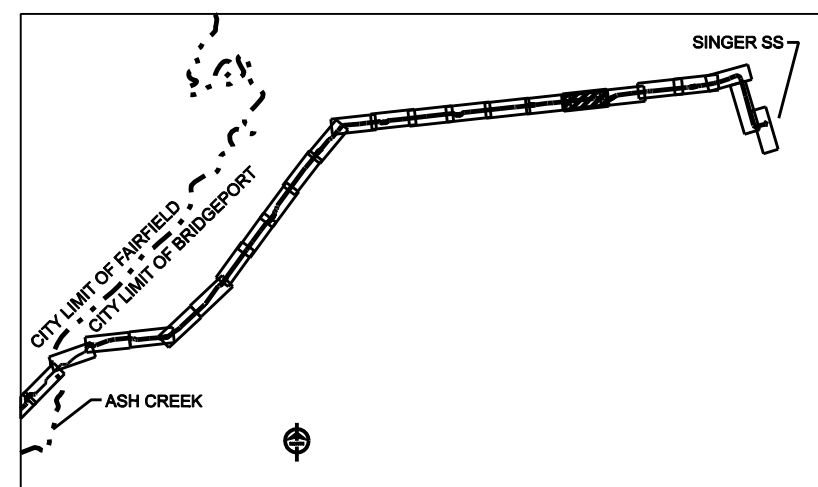
MATCHLINE SEE DWG. NO. 01224-10001 PG 106



**NOTE:**  
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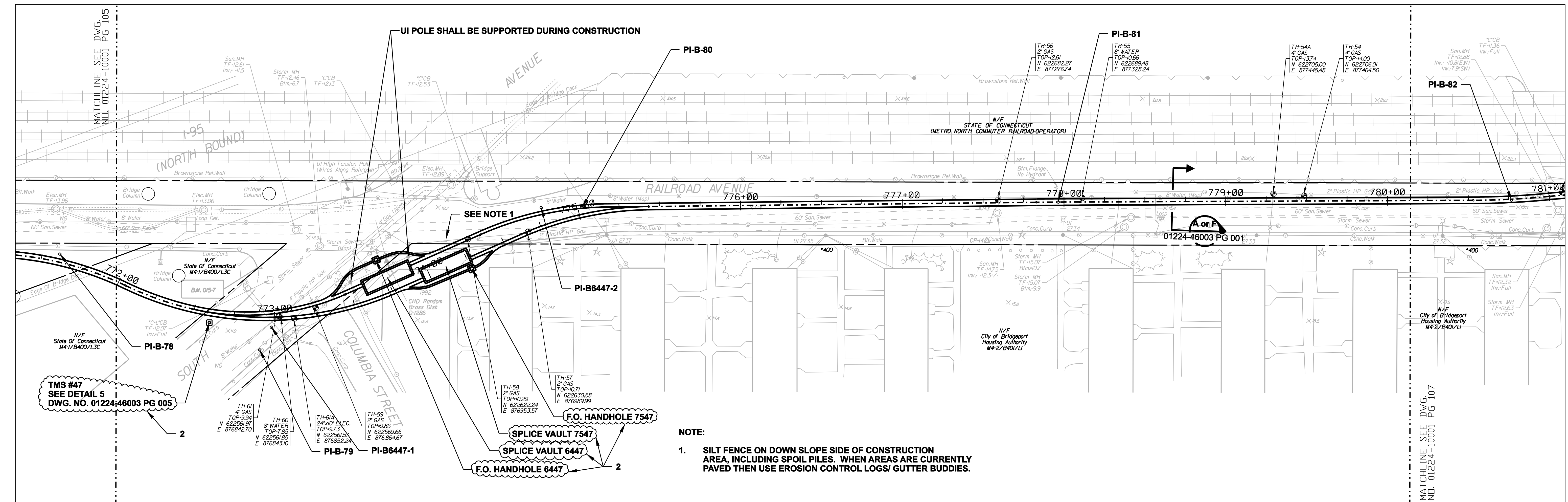
NORTHEAST UTILITIES SERVICE CO.

FOR THE CONNECTICUT LIGHT & POWER COMPANY

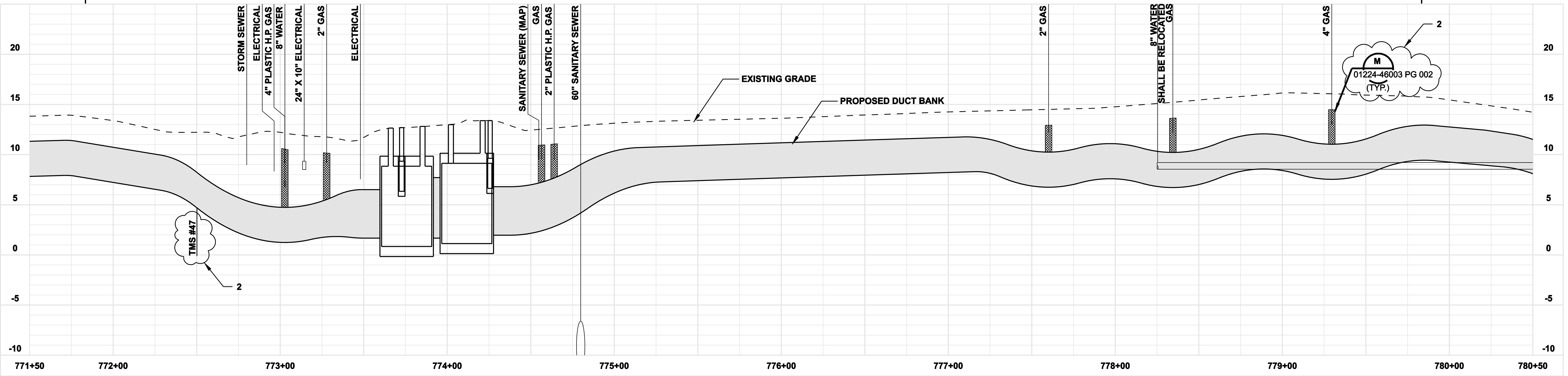
TITLE MIDDLETOWN-NORWALK 345KV TRANSMISSION PROJECT

CITY OF BRIDGEPORT ROUTE  
 PLAN AND PROFILE AT 764+50 TO 773+50

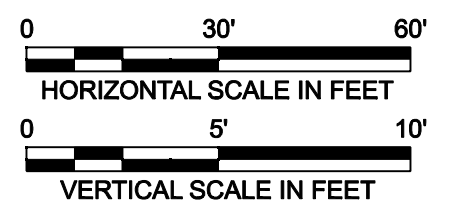
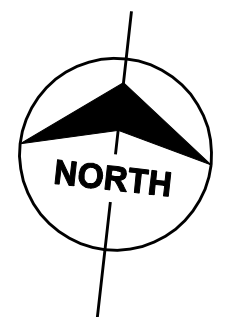
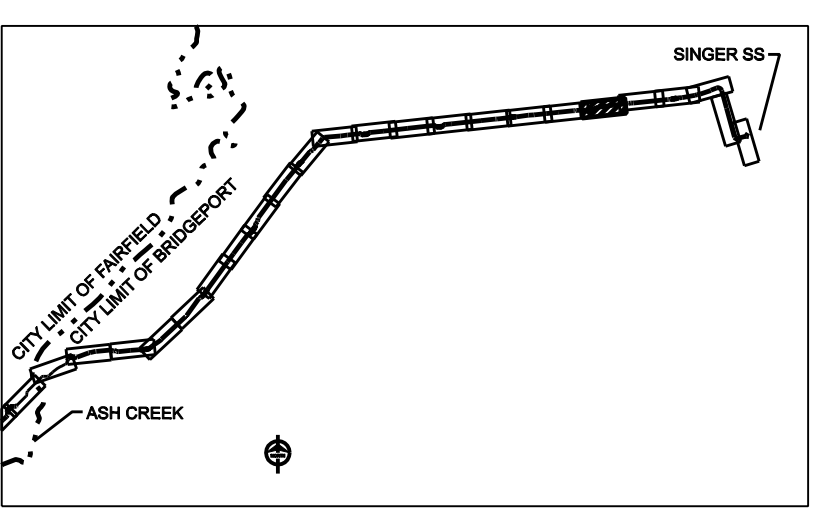
BY	SEN-BMCD	CHKD	APP	APP
DATE	8-15-05	DATE	DATE	DATE
SCALE	AS NOTED	D	DWG. NO.	01224-10001 PG 105



**NOTE:**  
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**NORTHEAST UTILITIES SERVICE CO.**

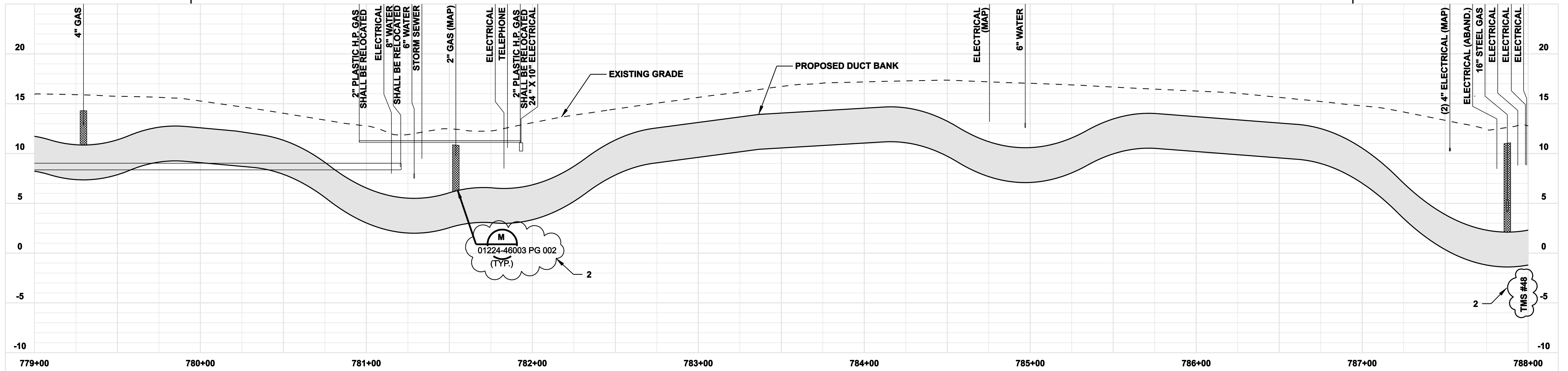
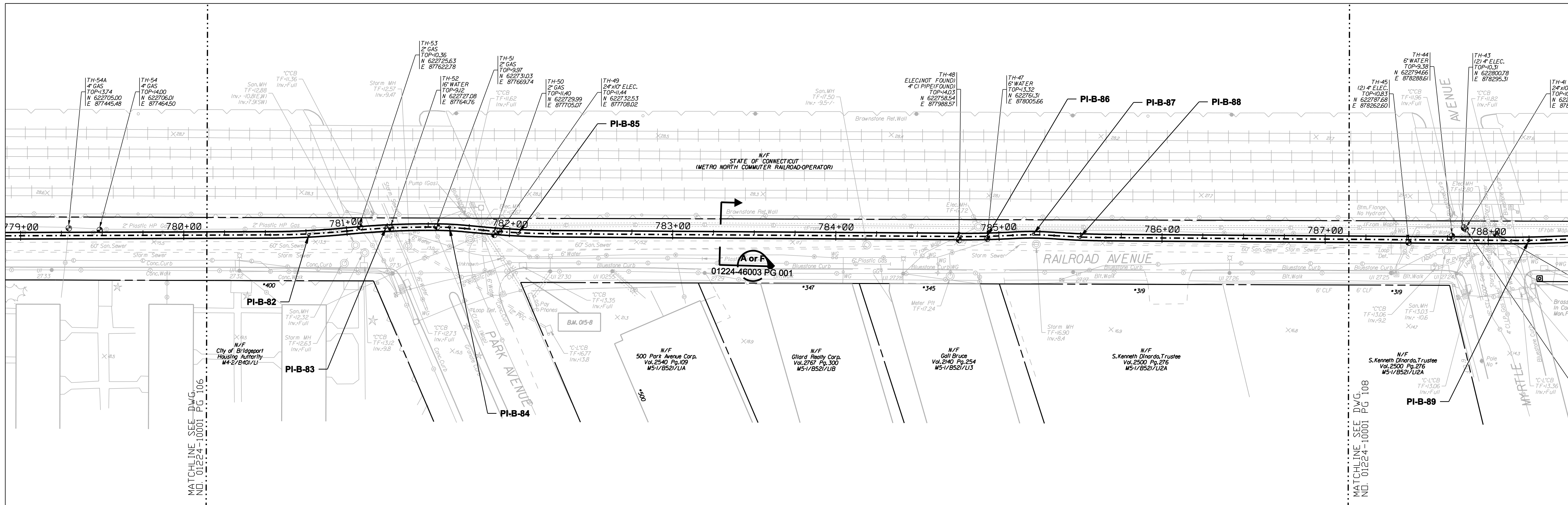
FOR THE CONNECTICUT LIGHT & POWER COMPANY

TITLE: MIDDLETOWN-NORWALK 345KV TRANSMISSION PROJECT

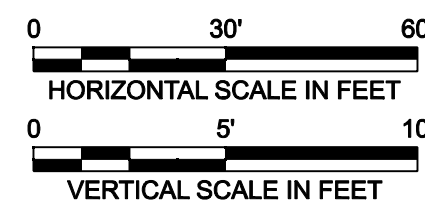
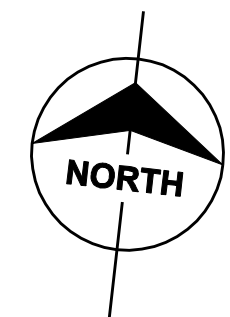
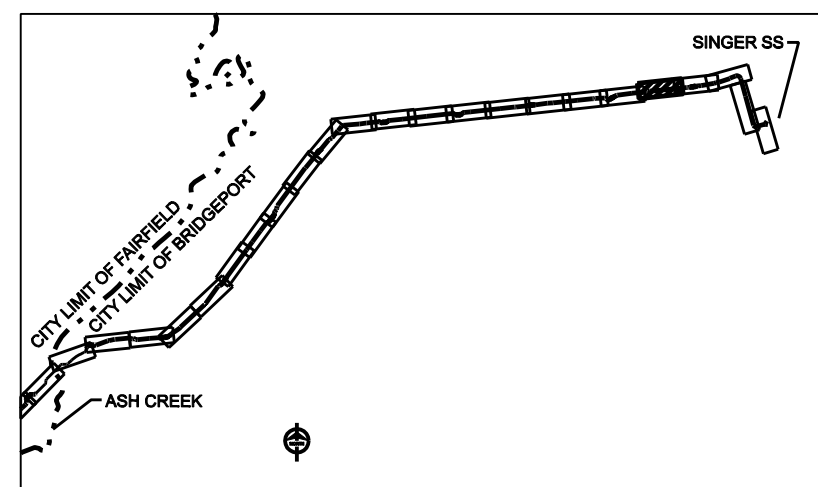
CITY OF BRIDGEPORT ROUTE  
 PLAN AND PROFILE AT 771+50 TO 780+50

BY SEN-BMCD	CHKD	APP	APP
DATE 8-15-05	DATE	DATE	DATE
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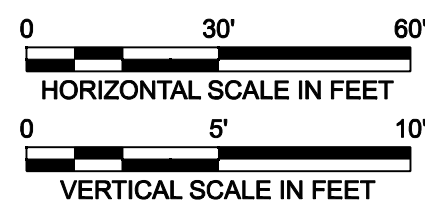
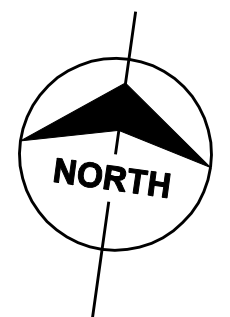
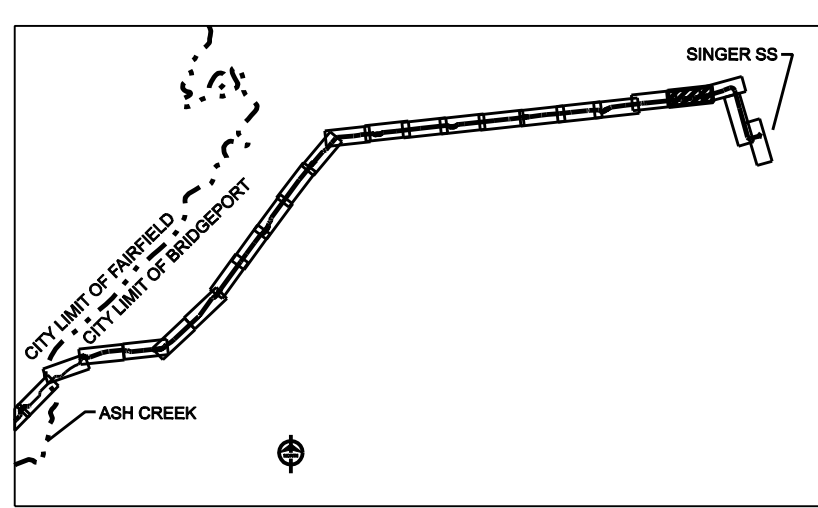
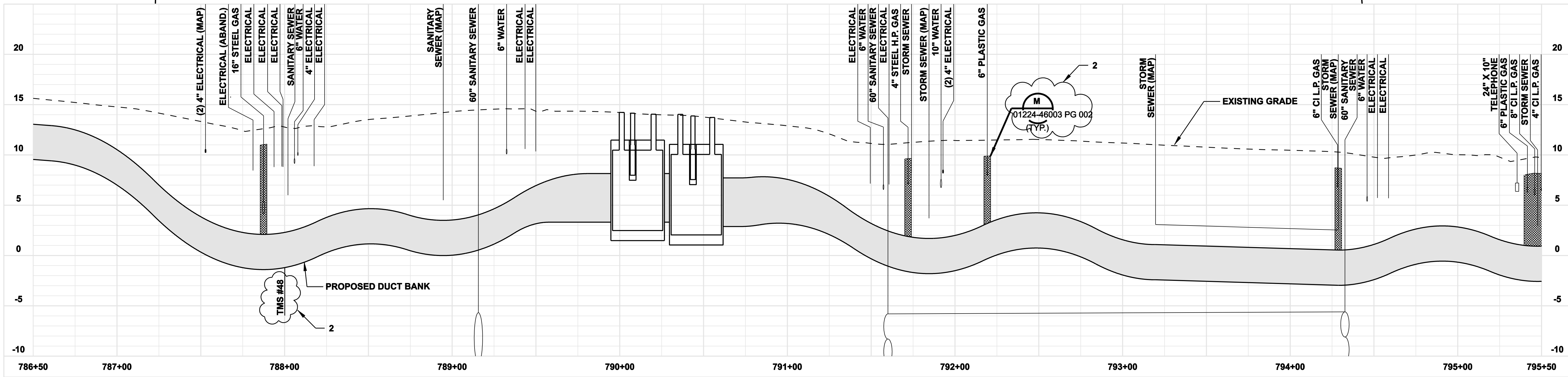
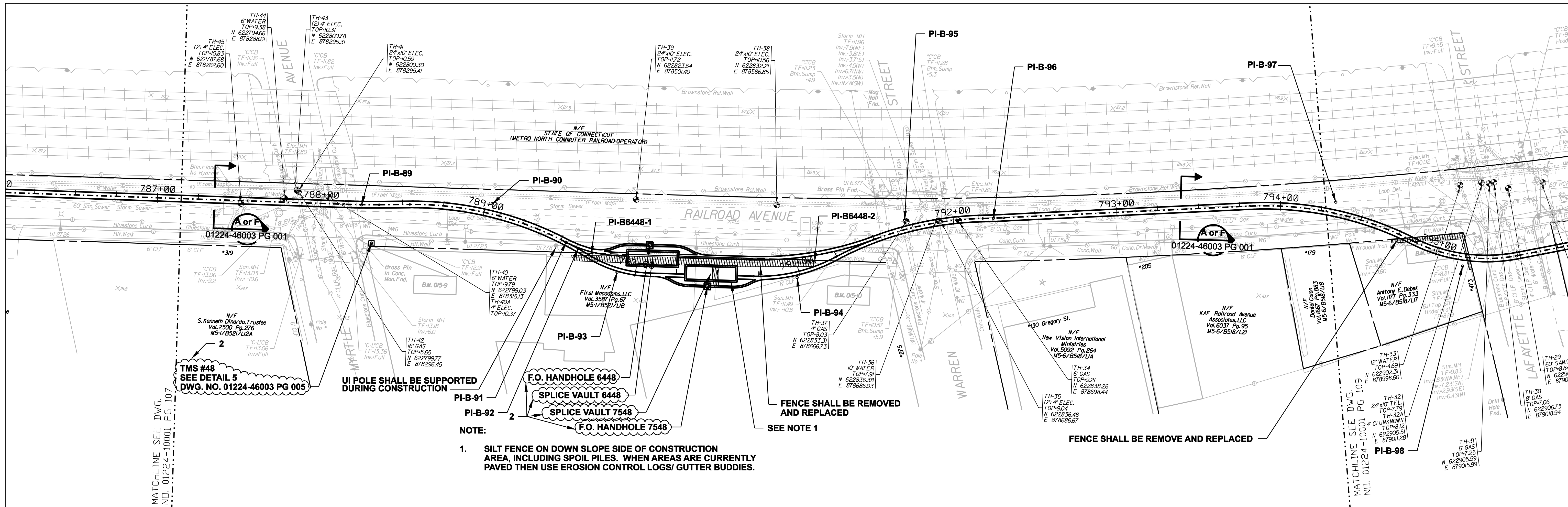
**NORTHEAST UTILITIES SERVICE CO.**

FOR THE CONNECTICUT LIGHT & POWER COMPANY

TITLE  
MIDDLETOWN-NORWALK 345KV TRANSMISSION PROJECT

CITY OF BRIDGEPORT ROUTE  
PLAN AND PROFILE AT 779+00 TO 788+00

BY SEN-BMCD	CHKD	APP	APP
DATE 8-15-05	DATE	DATE	DATE
SCALE AS NOTED	D	DWG. NO.	01224-10001 PG 107



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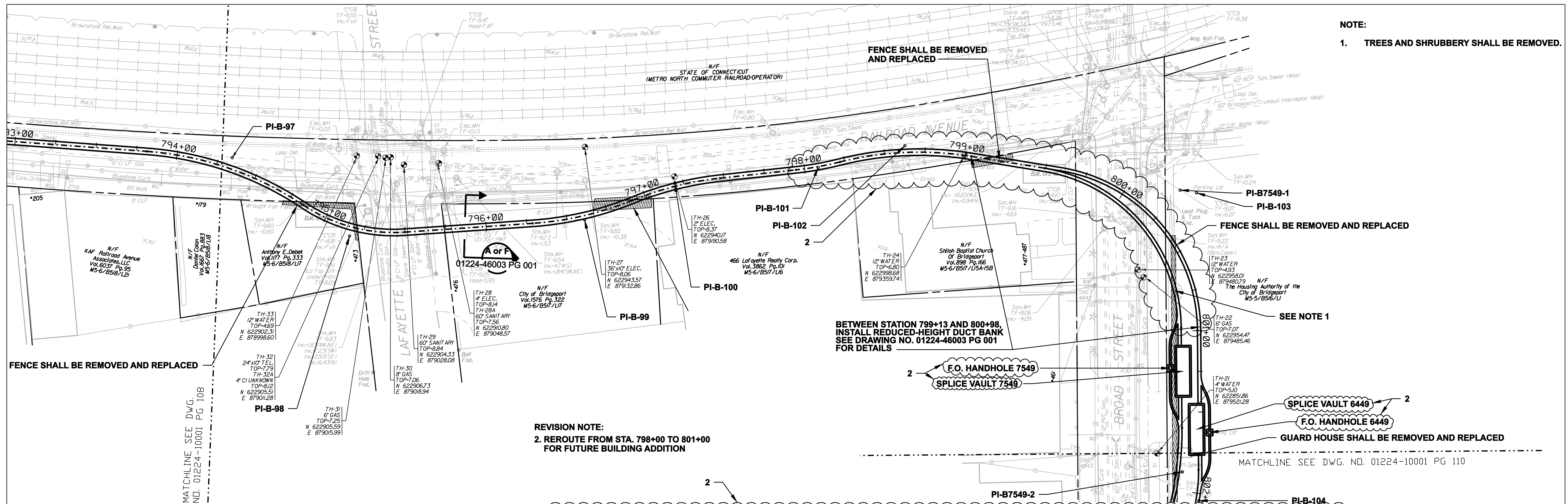
date 08/15/05  
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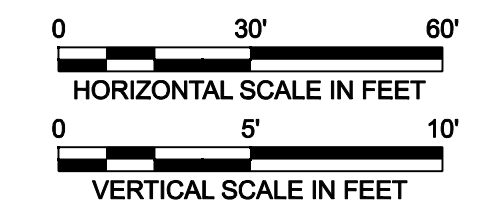
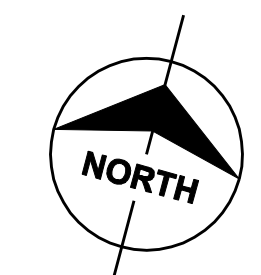
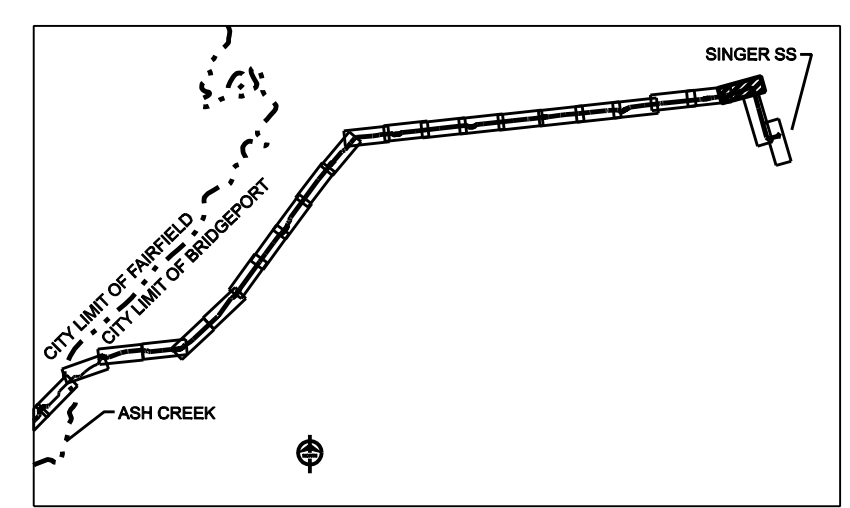
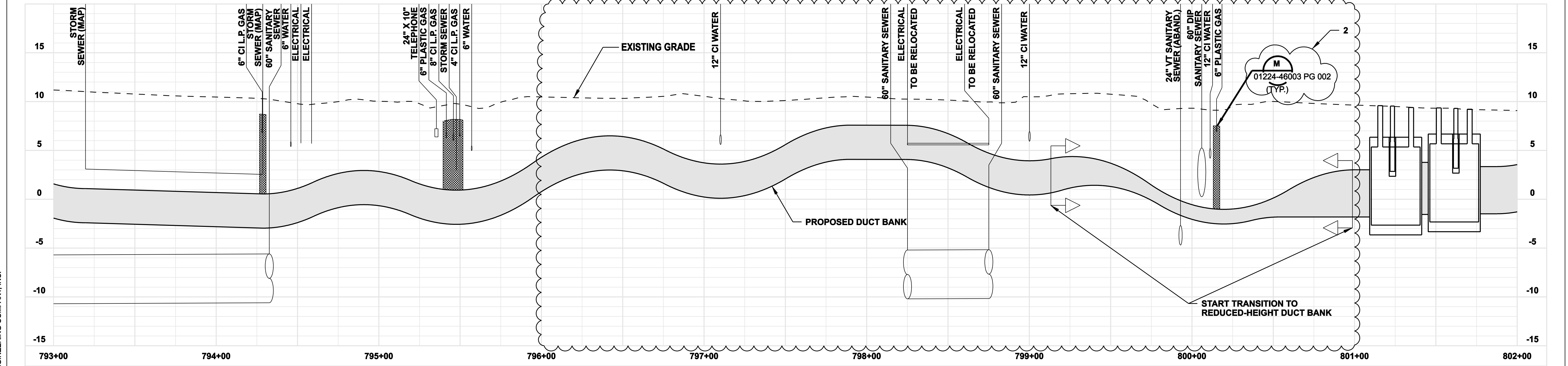
NORTHEAST UTILITIES SERVICE CO.				
FOR THE CONNECTICUT LIGHT & POWER COMPANY				
TITLE MIDDLETOWN-NORWALK 345KV TRANSMISSION PROJECT				
CITY OF BRIDGEPORT ROUTE PLAN AND PROFILE AT 786+50 TO 795+50				
BY	SEN-BMCD	CHKD	APP	APP
DATE	8-15-05	DATE		DATE
SCALE	AS NOTED	DWG. NO.	01224-10001 PG 108	
		D		

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**NOTE:**  
 1. TREES AND SHRUBBERY SHALL BE REMOVED.



**REVISION NOTE:**  
 2. REROUTE FROM STA. 798+00 TO 801+00 FOR FUTURE BUILDING ADDITION



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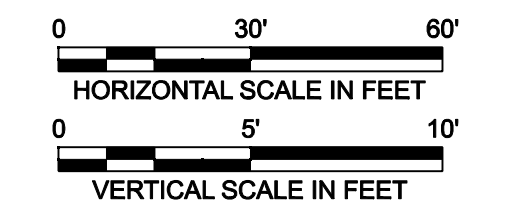
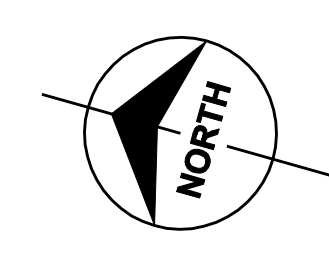
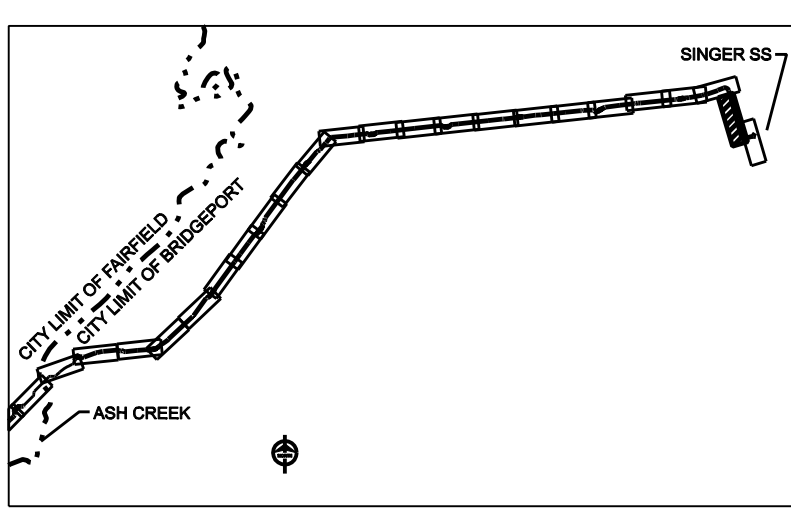
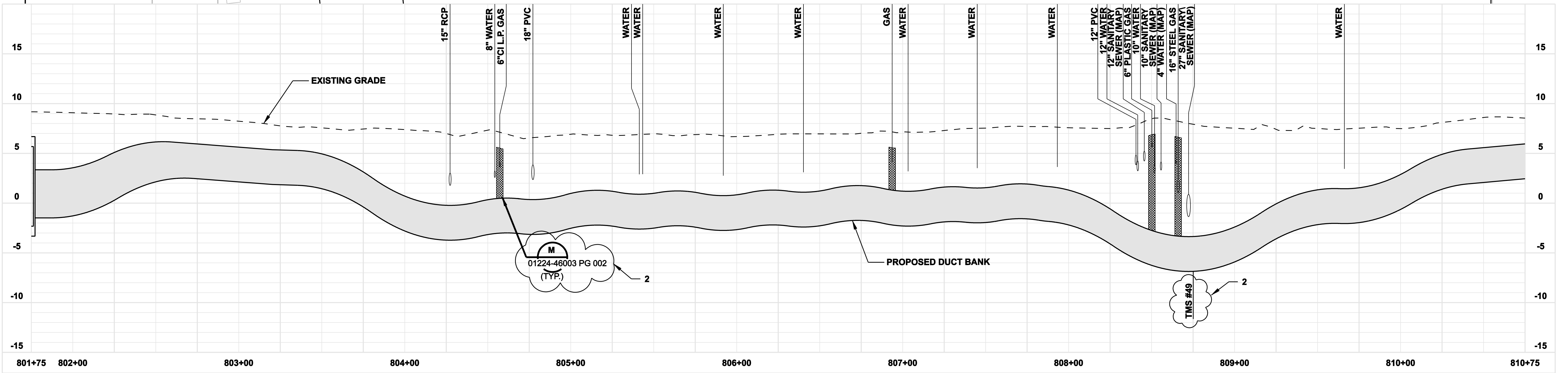
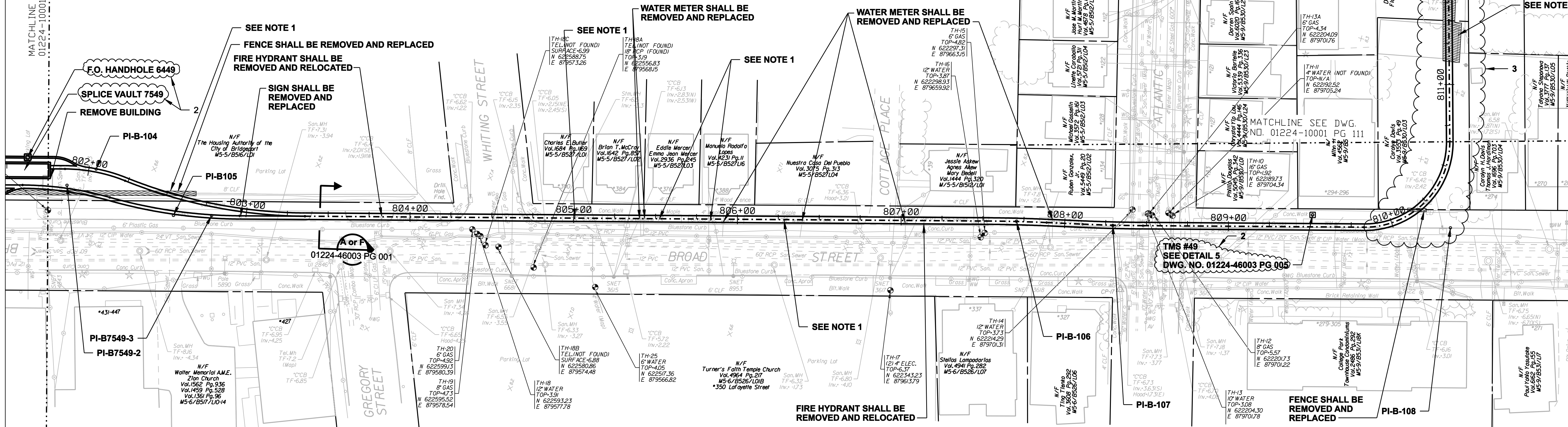
date	08/15/05	detailed	L. ROWSE
designed	C. COURTRIGHT	checked	S. NEWLAND

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FOR	THE CONNECTICUT LIGHT & POWER COMPANY		
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CITY OF BRIDGEPORT ROUTE PLAN AND PROFILE AT 793+00 TO 802+00			
BY SEN-BMCD	CHKD	APP	APP
DATE 8-15-05	DATE	DATE	DATE
SCALE AS NOTED	D	DWG. NO.	01224-10001 PG 109

MATCHLINE SEE DWG. NO. 01224-10001 PG 109

**NOTE:**  
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no.	date	revisions	by	chk
3	7/26/06	ISSUED FOR CONSTRUCTION REVISED	CTC	
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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.**

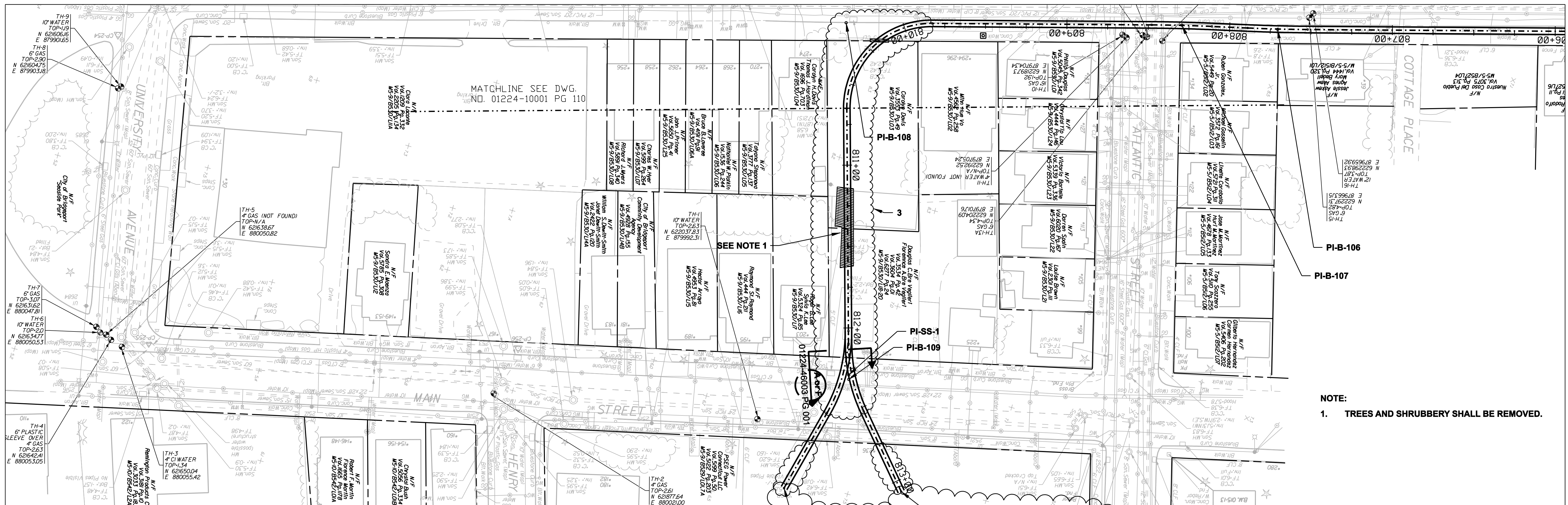
FOR THE CONNECTICUT LIGHT & POWER COMPANY

TITLE: MIDDLETOWN-NORWALK 345KV TRANSMISSION PROJECT

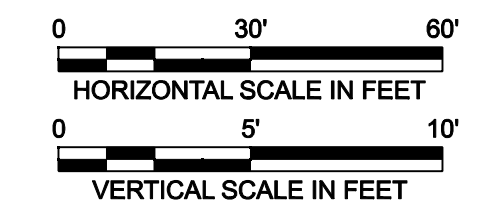
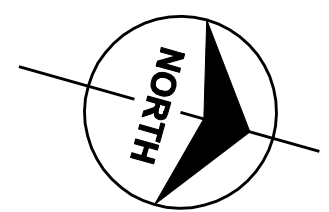
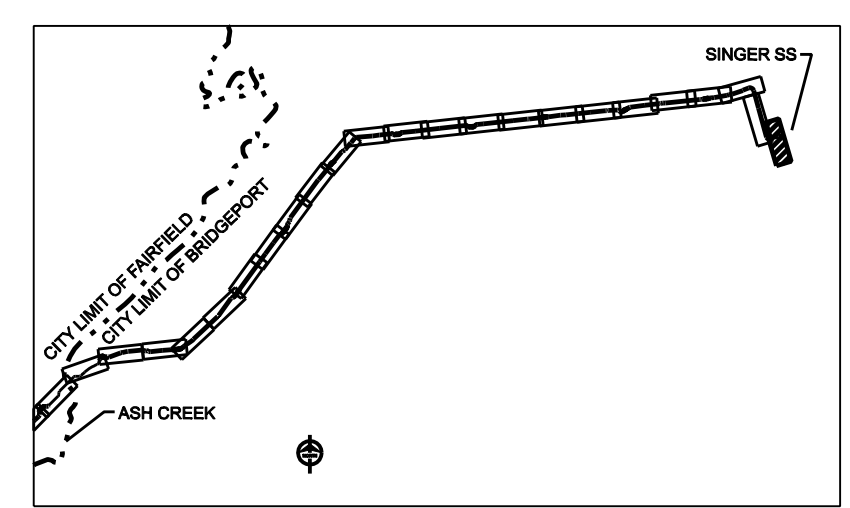
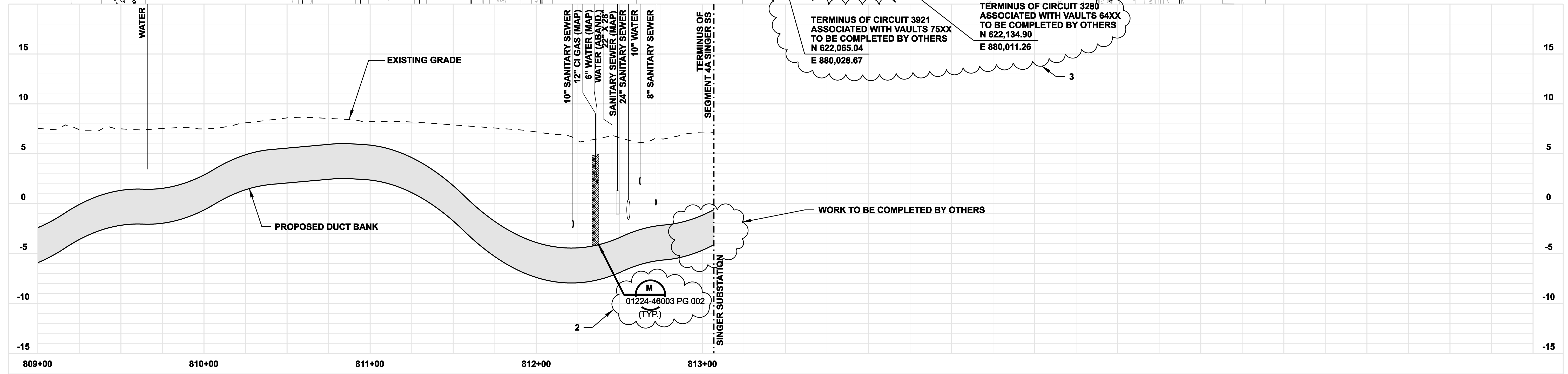
CITY OF BRIDGEPORT ROUTE  
PLAN AND PROFILE AT 801+75 TO 810+75

BY SEN-BMCD	CHKD	APP	APP
DATE 8-15-05	DATE	DATE	DATE
SCALE AS NOTED	DWG. NO.	01224-10001 PG 110	

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NOTE:  
1. TREES AND SHRUBBERY SHALL BE REMOVED.



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3	7/26/06	ISSUED FOR CONSTRUCTION REVISED	CTC	
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**Burns & McDonnell**  
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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 809+00 TO (SINGER SS)

BY SEN-BMCD	CHKD	APP	APP
DATE 8-15-05	DATE	DATE	DATE
SCALE AS NOTED	D	DWG. NO.	01224-10001 PG 111

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**NOTES:**

- TREES AND SHRUBBERY SHALL BE REMOVED.
- SILT FENCE ON DOWN SLOPE SIDE OF CONSTRUCTION AREA, INCLUDING SPOIL PILES. WHEN AREAS ARE CURRENTLY PAVED THEN USE EROSION CONTROL LOGS/ GUTTER BUDDIES.

BETWEEN STATION 678+00 AND 679+54, INSTALL REDUCED HEIGHT DUCT BANK

SPLICE VAULT 6441

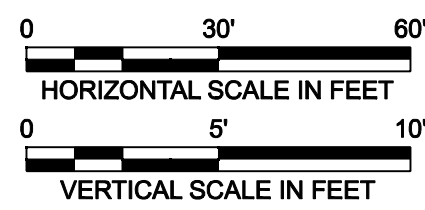
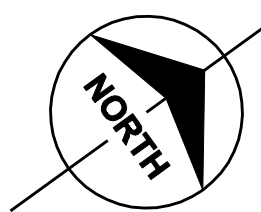
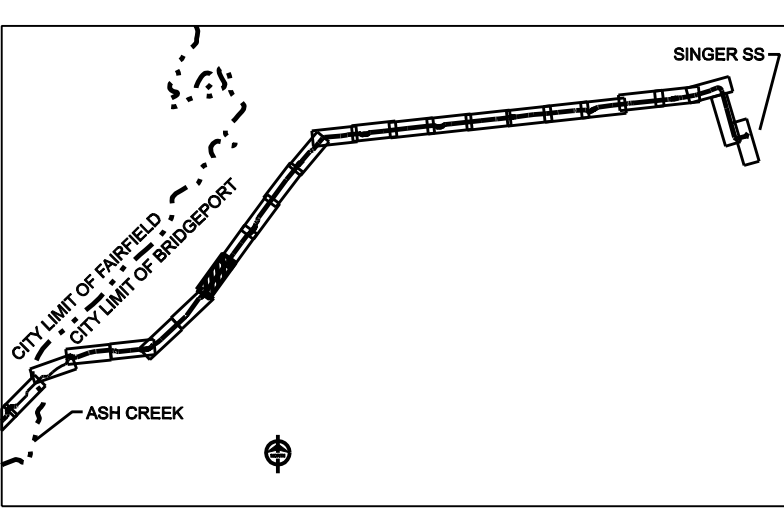
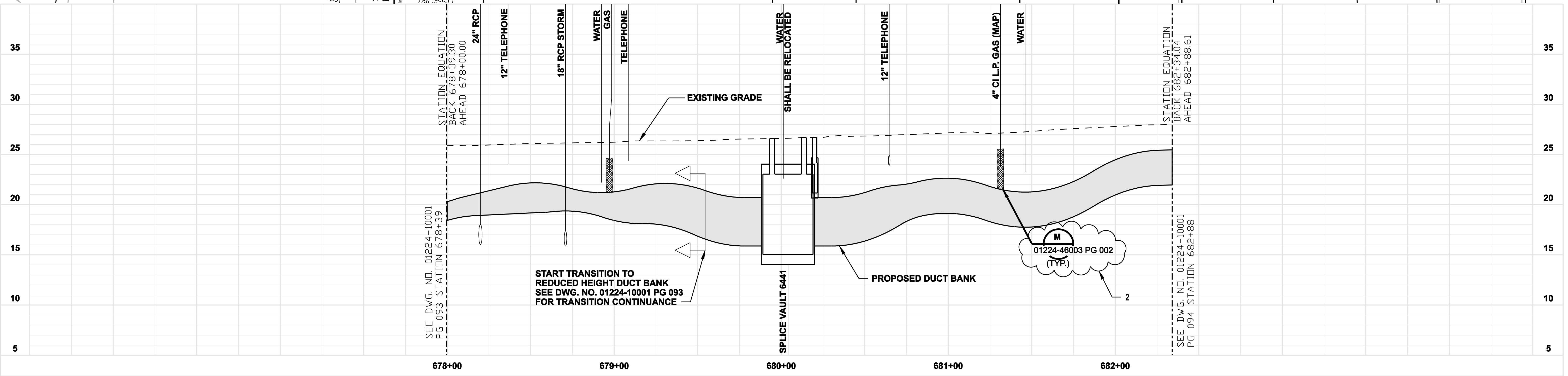
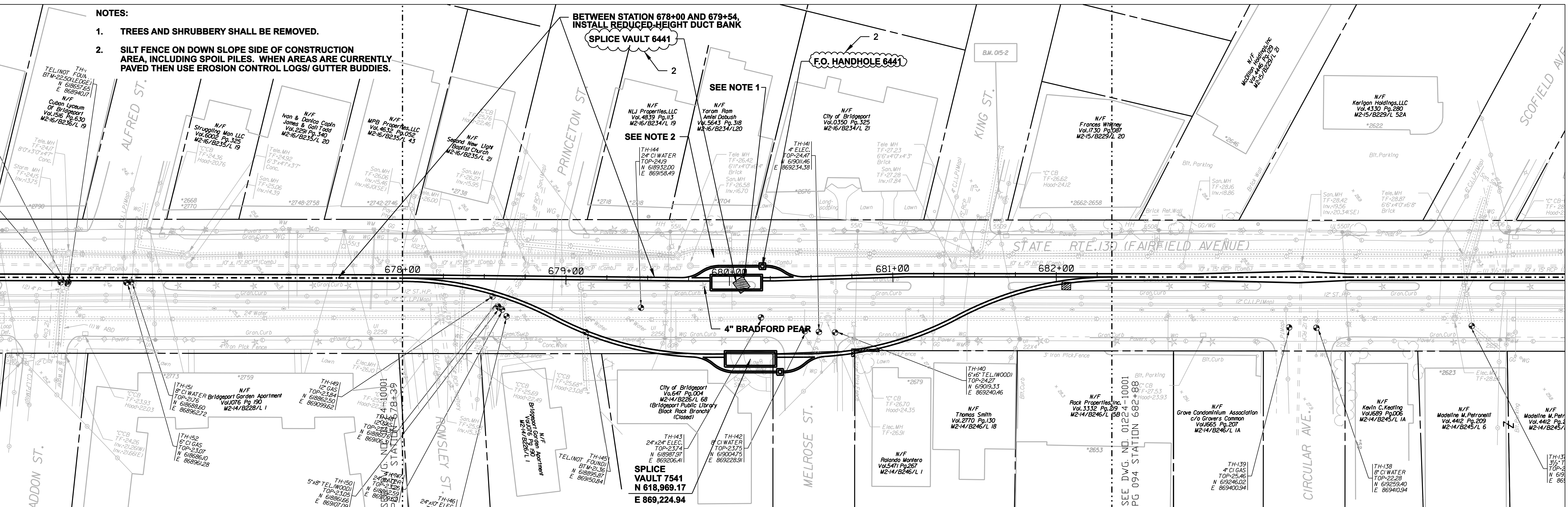
F.O. HANDHOLE 6441

SEE NOTE 1

SEE NOTE 2

SPLICE VAULT 7541  
N 618,969.17  
E 869,224.94

4" BRADFORD PEAR



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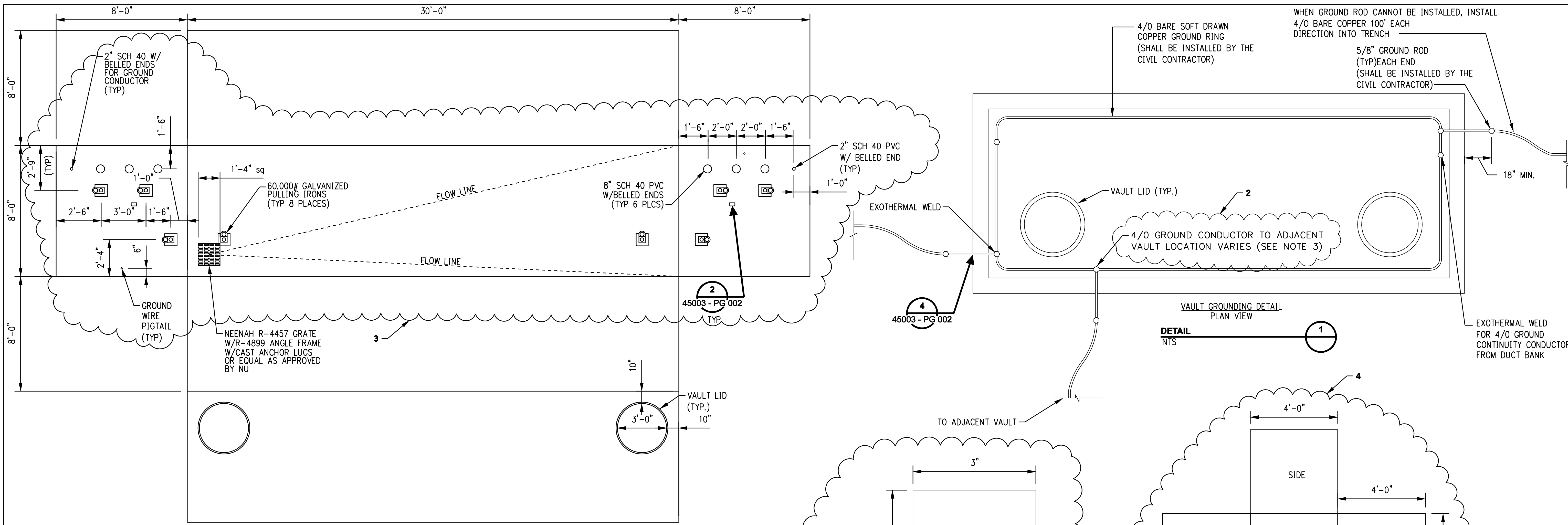
date 08/15/05  
designed C. COURTRIGHT  
detailed L. ROWSE  
checked S. NEWLAND

no.	date	revisions	by	chk
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1	6/20/06	ISSUED FOR CONSTRUCTION	CTC	

MF	NO.	DATE	REVISIONS	BY	CHK	APP	APP

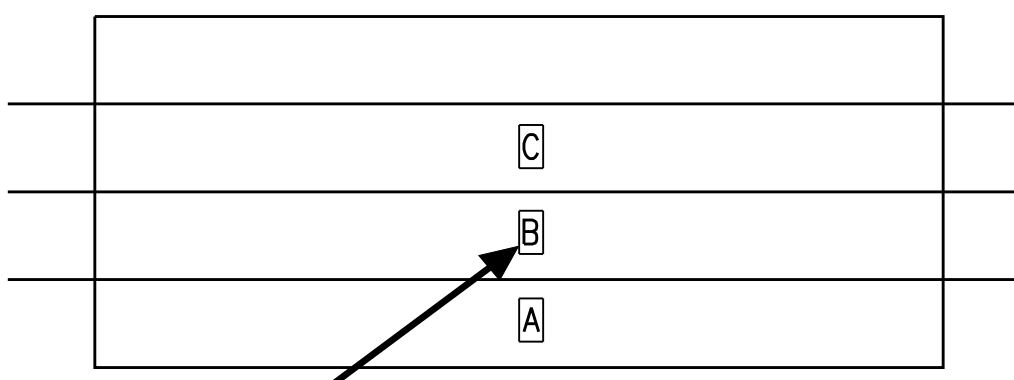
NORTHEAST UTILITIES SERVICE CO.			
FOR THE CONNECTICUT LIGHT & POWER COMPANY			
TITLE MIDDLETOWN-NORWALK 345KV TRANSMISSION PROJECT			
CITY OF BRIDGEPORT ROUTE PLAN AND PROFILE AT 678+00 TO 682+34			
BY SEN-BMCD	CHKD	APP	APP
DATE 8-15-05	DATE	DATE	DATE
SCALE AS NOTED	D	DWG. NO. 01224-10001 PG 112	

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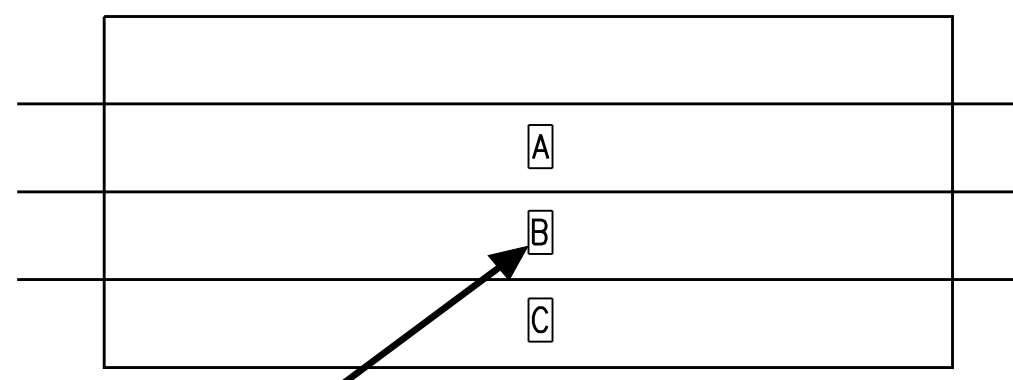


TYPICAL SPLICE VAULT DEVELOPMENT PLAN

DETAIL NTS 5

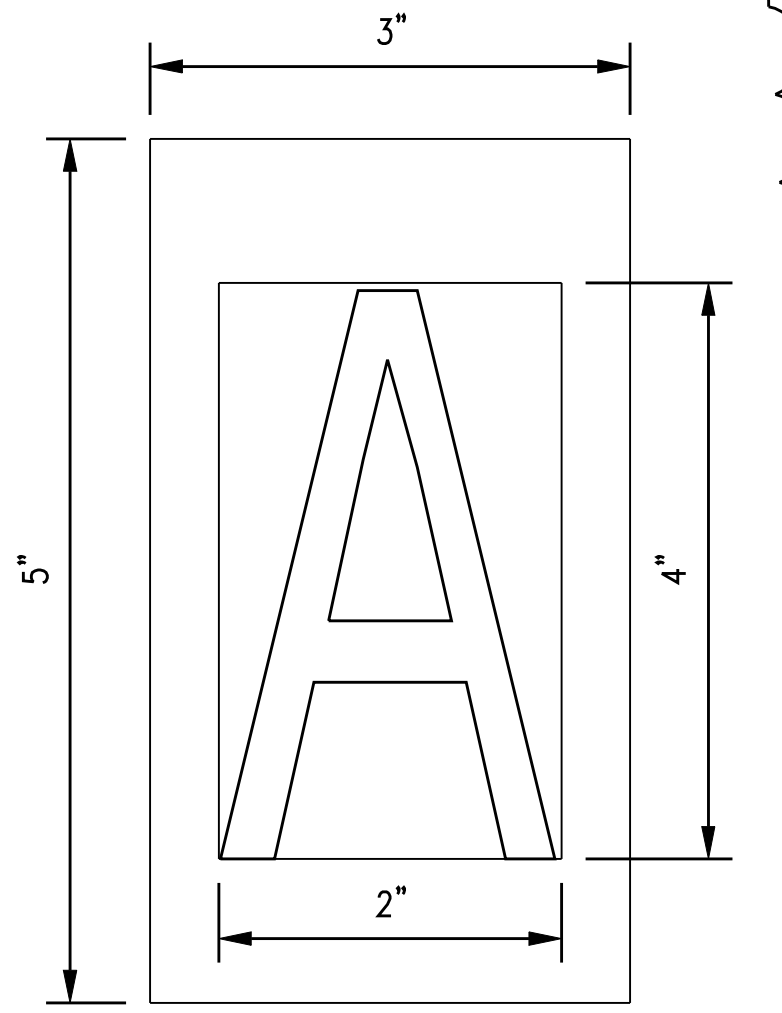


2 SPLICE VAULT PHASING  
VAULTS 6400, 6401, 6402...6449



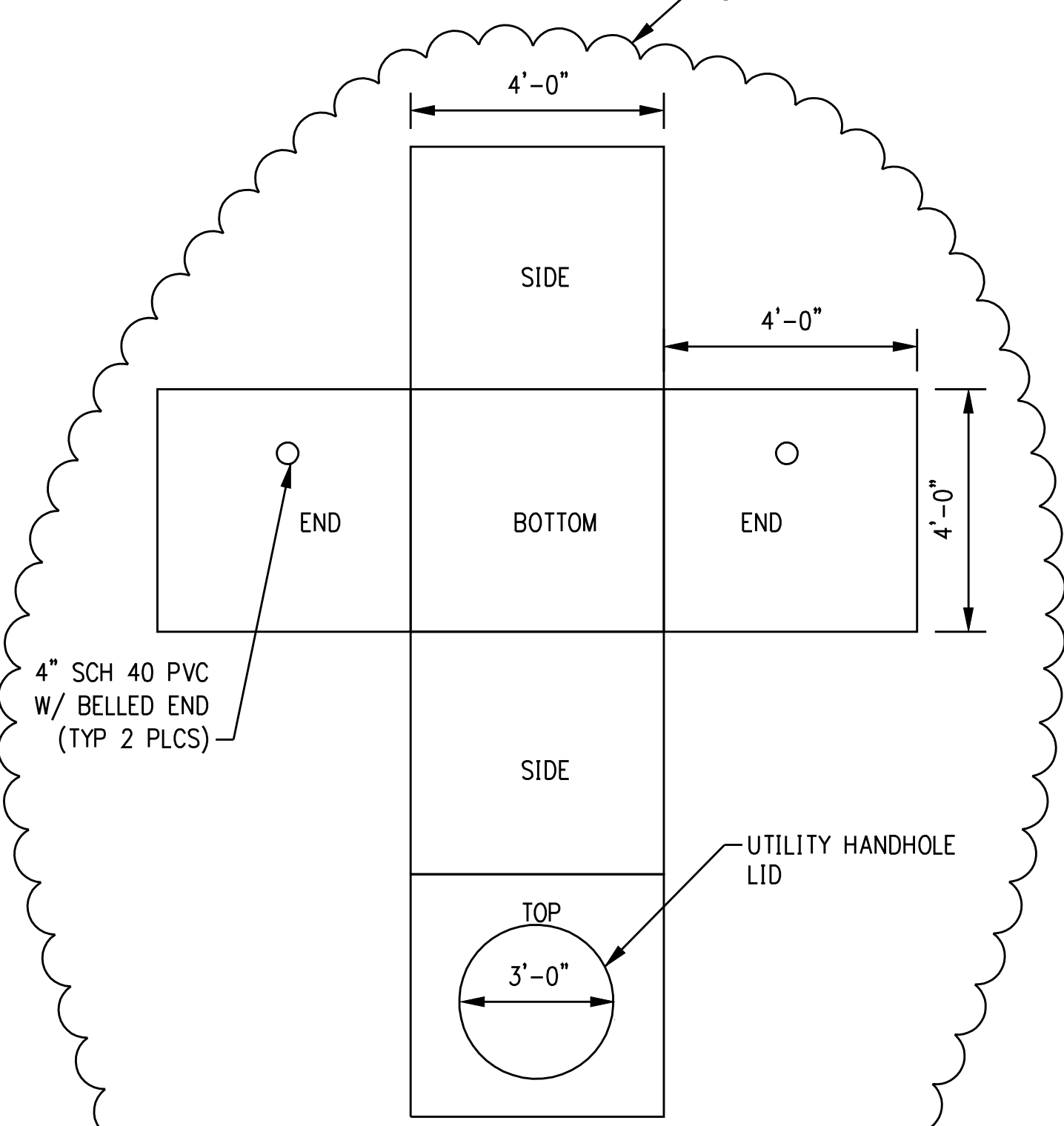
2 SPLICE VAULT PHASING  
VAULTS 7500, 7501, 7502...7549

DETAIL NTS 6



NOTES:  
1. CHARACTER SHALL BE 4" HIGH BOLD TYPE.  
2. CHARACTER SHALL BE CENTERED ON SIGN.  
3. BACKGROUND: WHITE  
LETTERING: BLACK  
CHARACTERS: A, B & C AS SHOWN

DETAIL NTS 2



TYPICAL FIBER OPTIC HANDHOLE

DETAIL NTS 3

- NOTES:
- GROUND PIGTAILS TO EXTEND A MINIMUM OF 18 INCHES FROM BOTH SIDES OF VAULT WALL PENETRATION.
  - ALL EXTERNAL AREAS OF VAULT SHALL BE SEALED USING SONNEDORN HYDROCID 700 OR APPROVED NU EQUIVALENT.
  - EACH VAULT SHALL HAVE AN ADDITIONAL 2" SCHEDULE 40 PVC WITH BELLED ENDS CAST IN PLACE TO CONNECT INTERNAL VAULT GROUNDING AND COMPLETE CONNECTION WITH EXOTHERMAL WELD.

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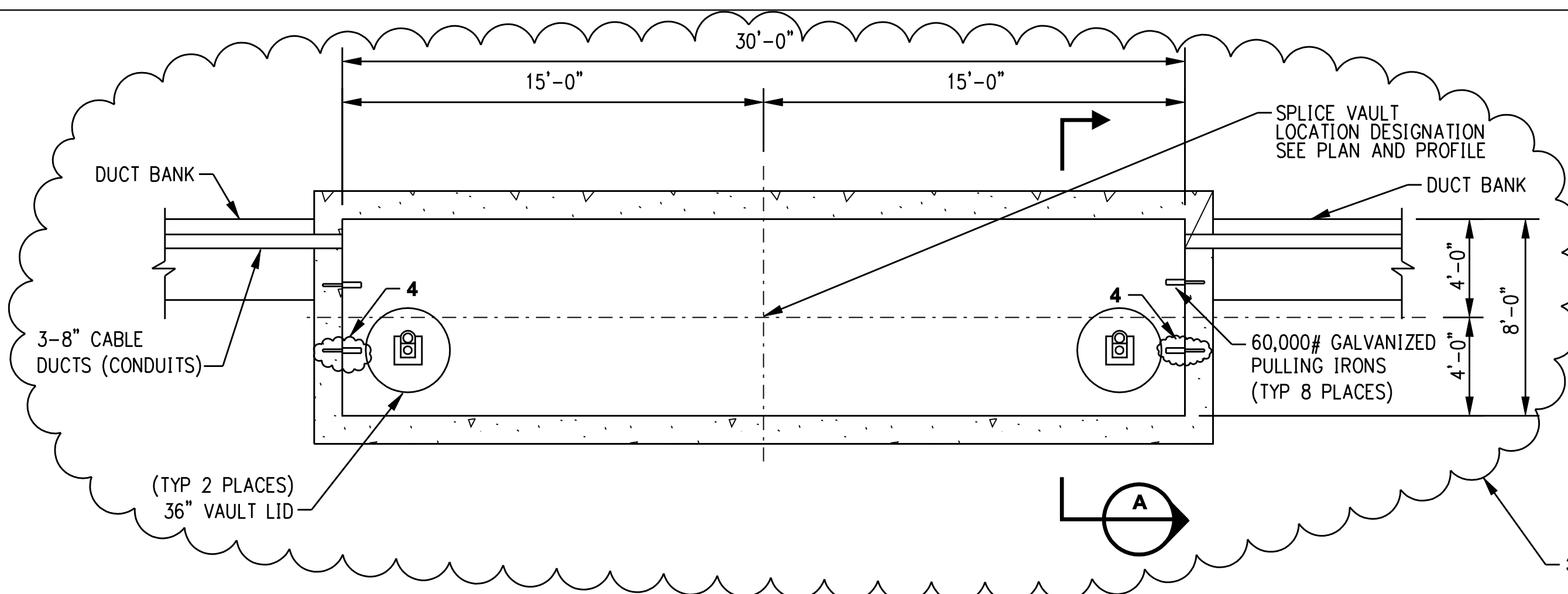


no.	date	revisions	by	chk
4	8/07/06	ISSUED FOR CONSTRUCTION REVISED	CTC	
3	7/26/06	ISSUED FOR CONSTRUCTION REVISED	CTC	
2	7/03/06	ISSUED FOR CONSTRUCTION REVISED	CTC	
1	6/20/06	ISSUED FOR CONSTRUCTION	CTC	

date 8/15/05  
designed C. COURTRIGHT  
detailed L. ROWSE  
checked S. NEWLAND

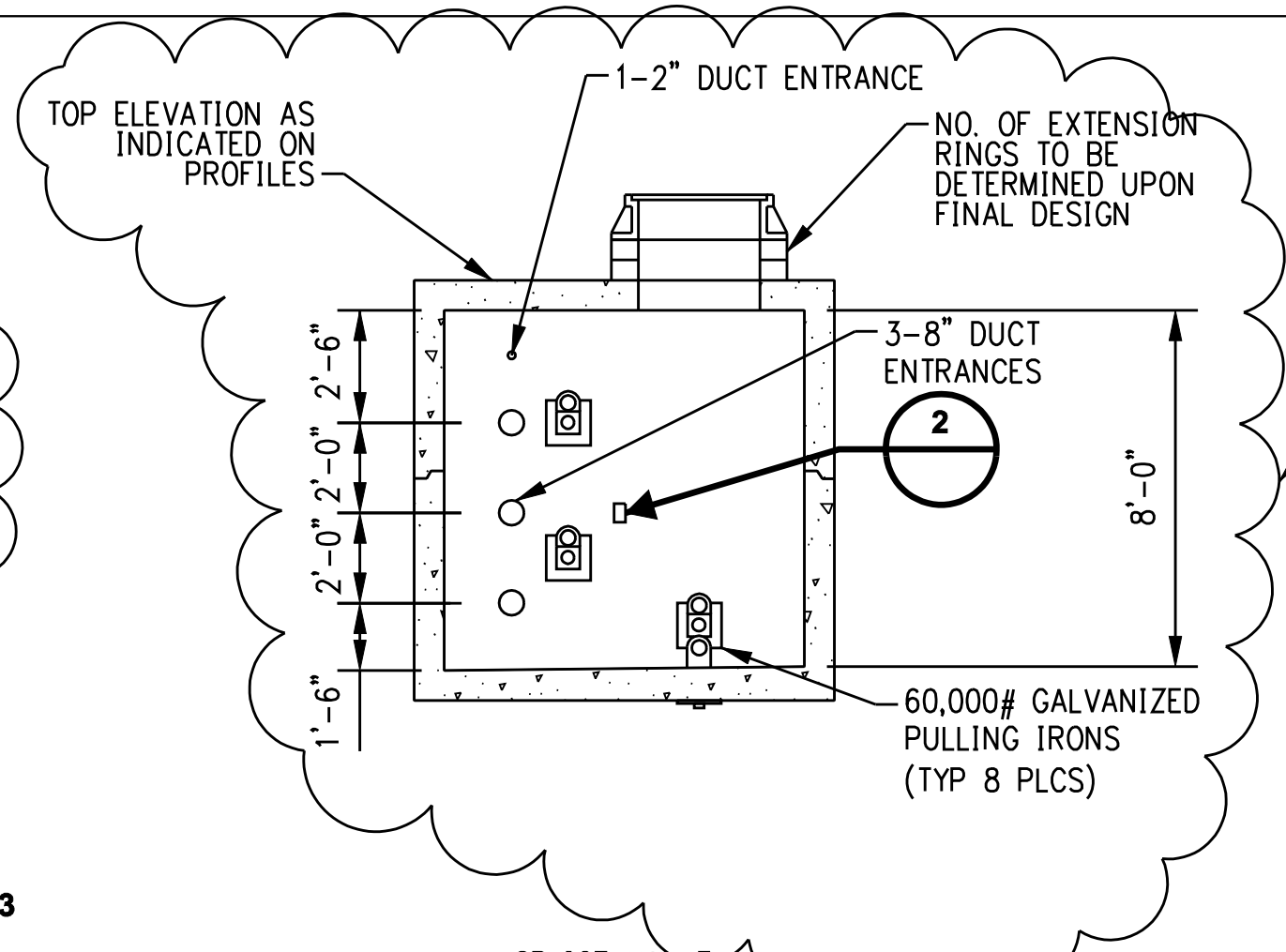
MF	NO.	DATE	REVISIONS	BY	CHK	APP	APP

NORTHEAST UTILITIES SERVICE CO.			
FOR THE CONNECTICUT LIGHT & POWER COMPANY			
TITLE MIDDLETOWN-NORWALK 345KV TRANSMISSION PROJECT			
VAULT, GROUNDING AND HANDHOLE DETAILS			
BY SEN-BMCD	CHKD	APP	APP
DATE 8-15-05	DATE	DATE	DATE
SCALE AS NOTED	D	DWG. NO.	01224-45003 PG 001

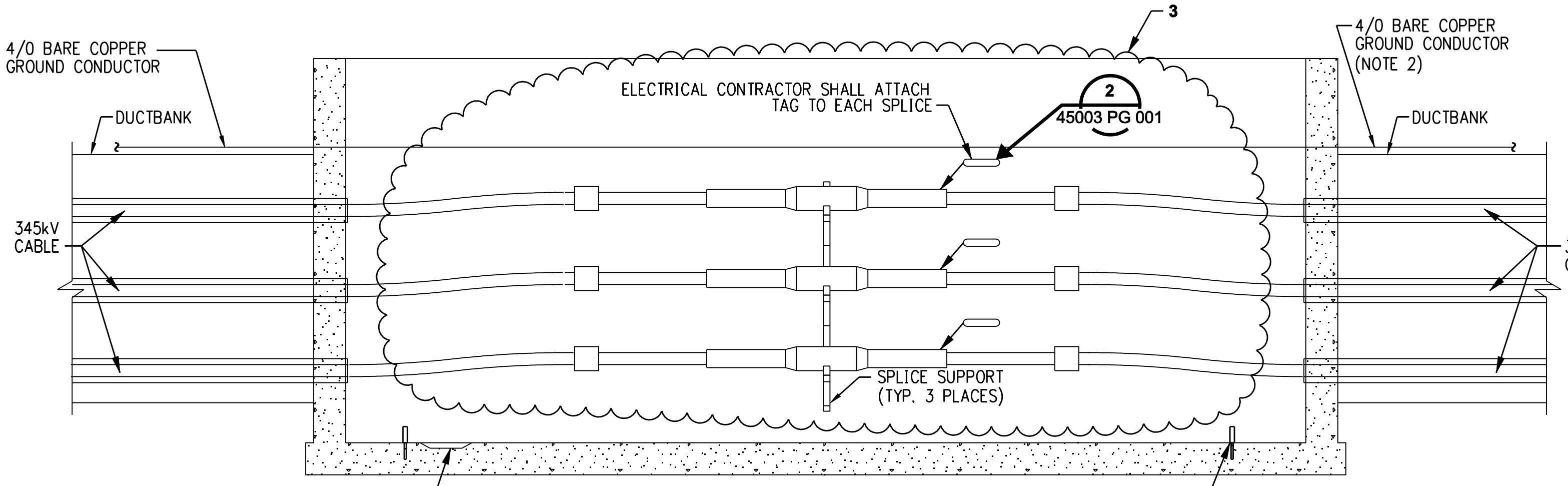


INTERIOR PLAN ELECTRICAL SPLICE VAULT

DETAIL 1  
NTS

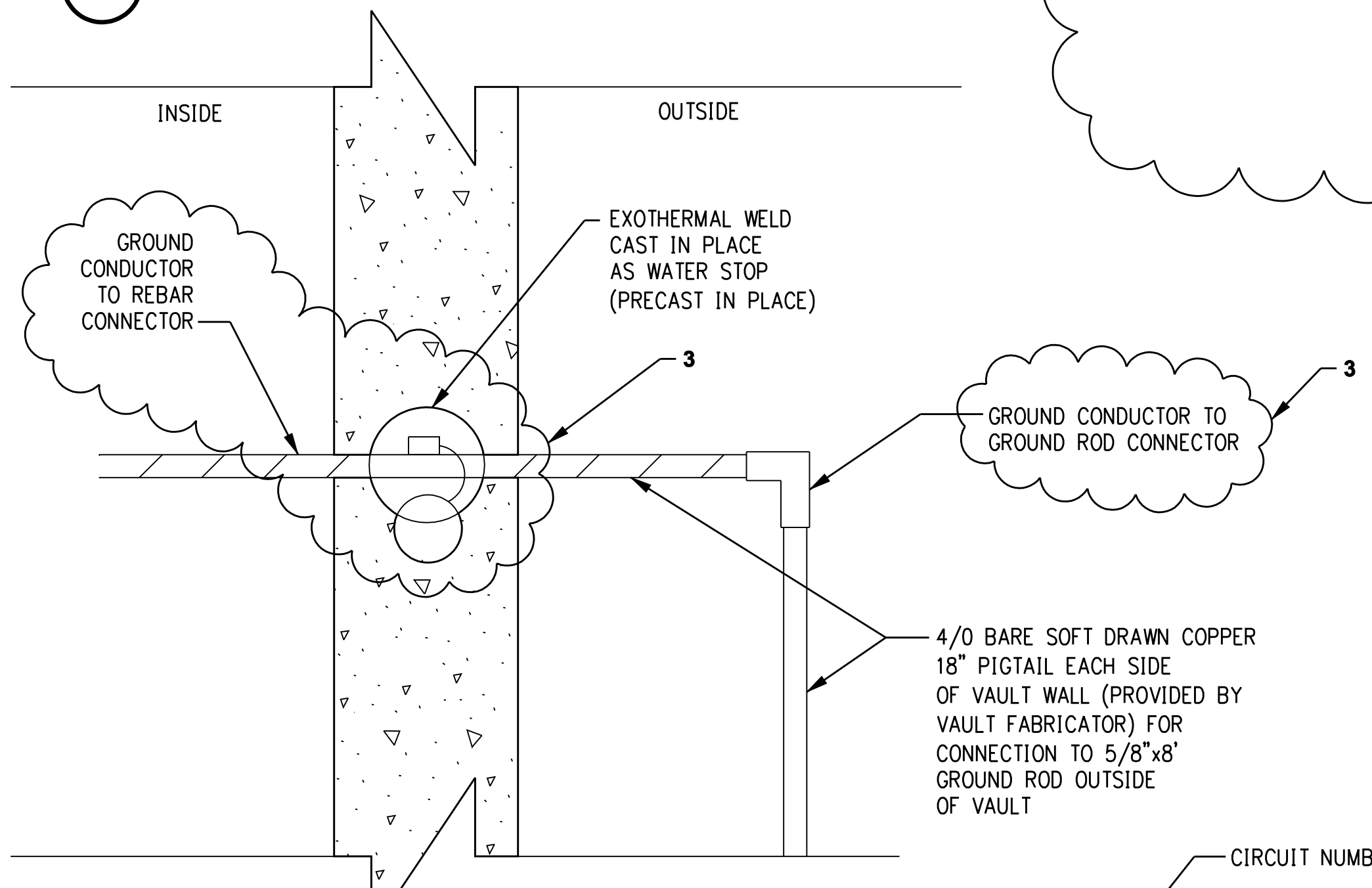


SPLICE VAULT  
SECTION A  
NTS



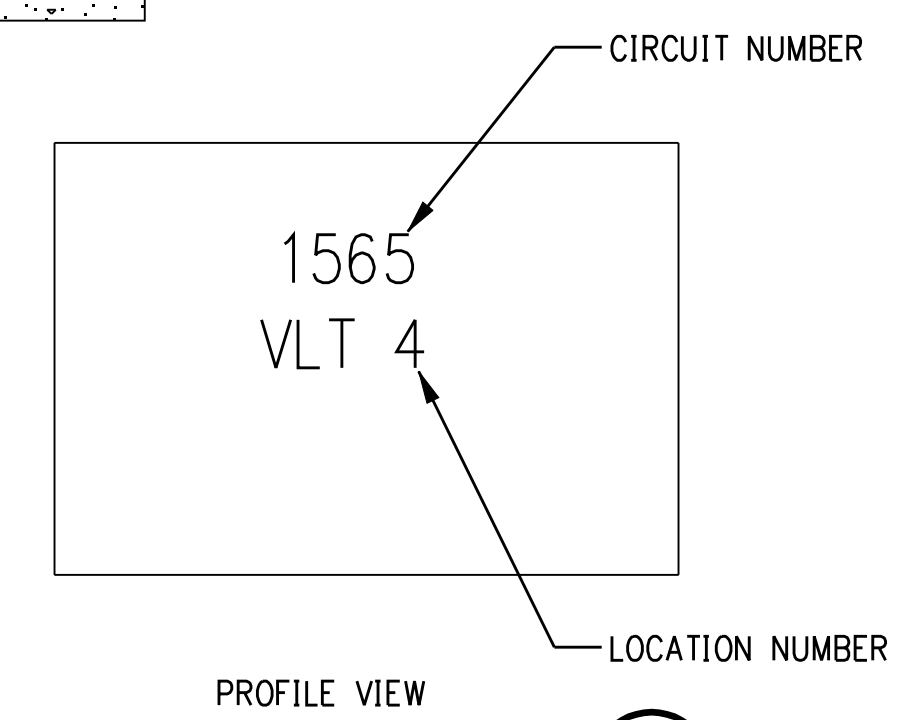
ELEVATION

DETAIL 3  
NTS



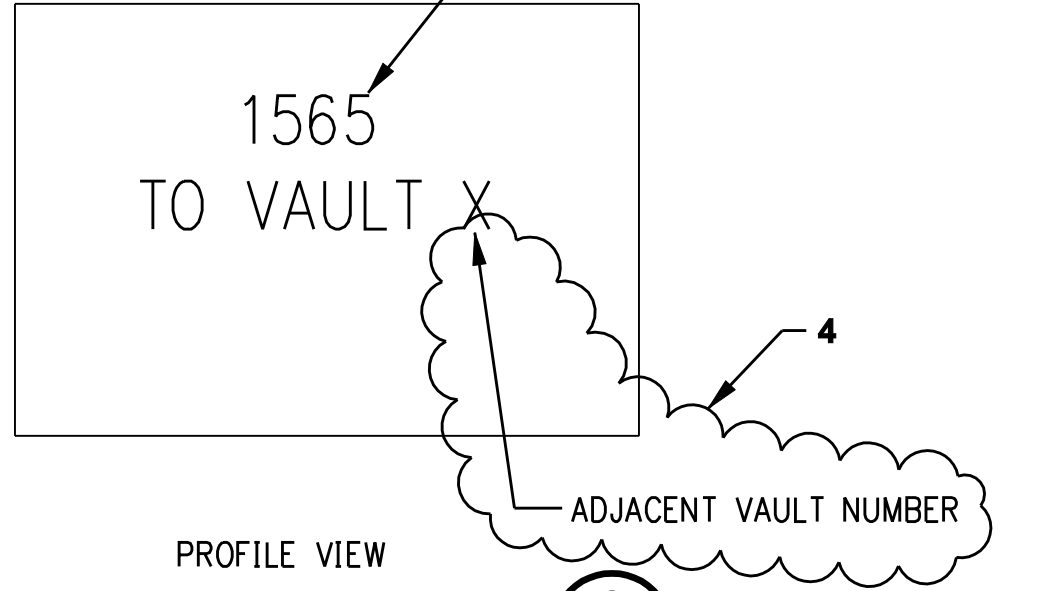
GROUND WIRE DETAIL  
PROFILE VIEW

DETAIL 4  
NTS



DETAIL 5  
NTS

CIVIL CONTRACTOR SHALL ATTACH TAG 1'-6" BELOW FINISHED GRADE ON THE INSIDE OF THE EXTENSION RINGS AND ON THE VAULT WALL OPPOSITE THE RACKING



DETAIL 2  
NTS

CIVIL CONTRACTOR SHALL ATTACH TAG TO EACH ENDWALL DESIGNATING NEXT ADJACENT VAULT IN CIRCUIT

- NOTES:
- PASS GROUND CONDUCTOR THROUGH VAULT WALL AND SUPPORT ALONG VAULT WALL.
  - BOND GROUNDS FROM EARTHING TO VAULT/ DUCTBANK GROUND.

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CONSTRUCTION



date 8/15/05 detailed L. ROWSE  
designed C. COURTRIGHT checked S. NEWLAND

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4	8/07/06	ISSUED FOR CONSTRUCTION REVISED	CTC	
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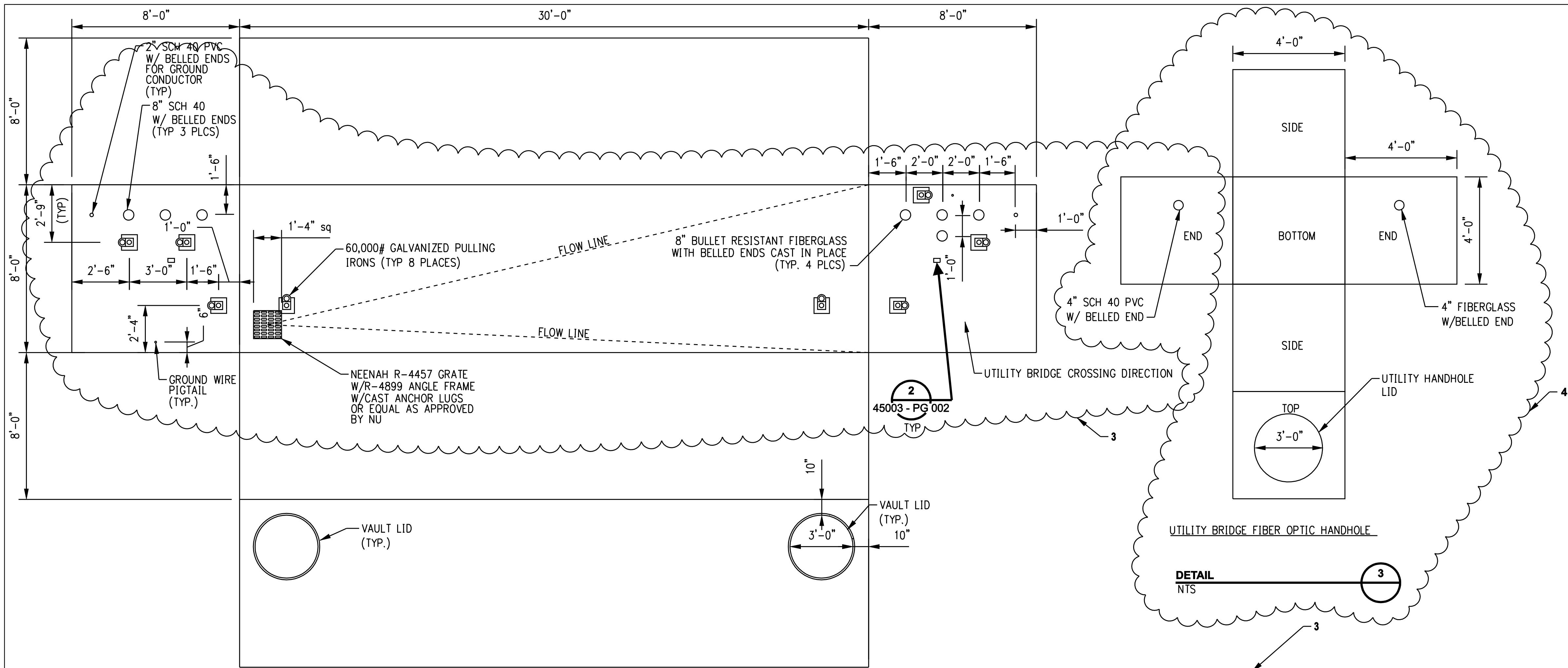
MF	NO.	DATE	REVISIONS	BY	CHK	APP	APP

NORTHEAST UTILITIES SERVICE CO.

FOR THE CONNECTICUT LIGHT & POWER COMPANY  
TITLE MIDDLETOWN-NORWALK 345KV TRANSMISSION PROJECT  
VAULT AND GROUNDING DETAILS

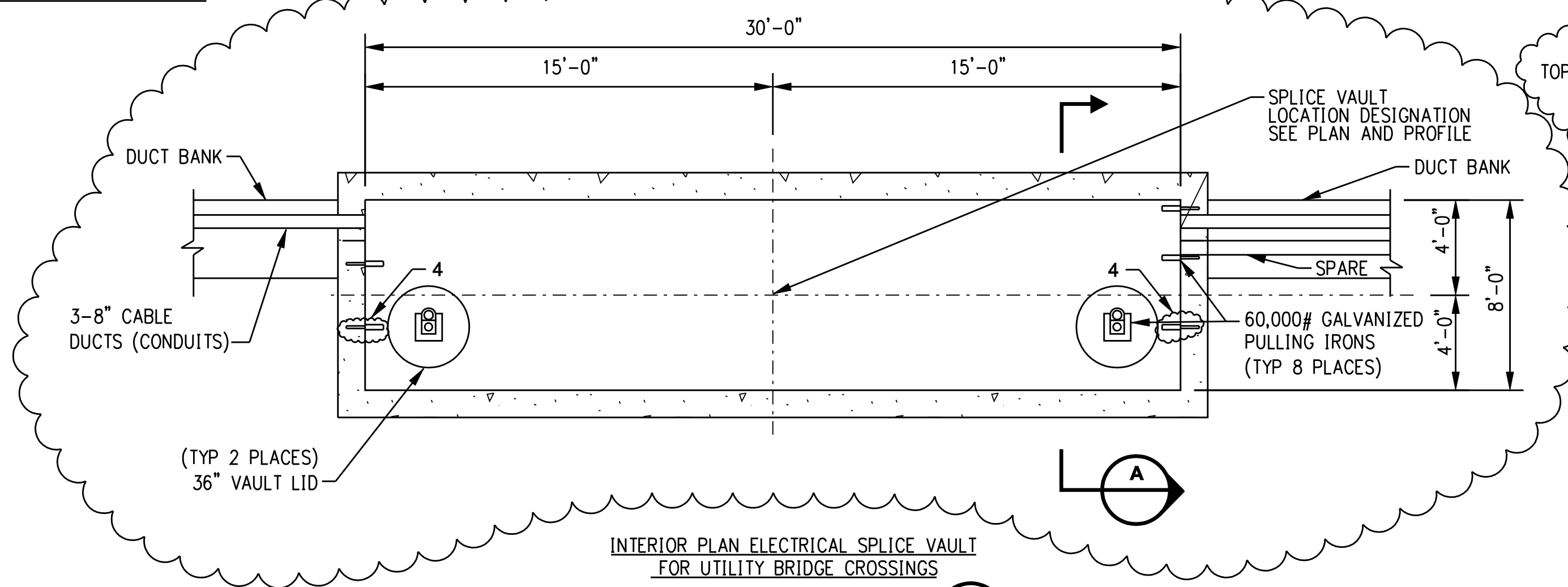
BY	SEN-BMCD	CHKD	APP	APP
DATE	8-15-05	DATE	DATE	DATE
SCALE	AS NOTED	DWG. NO.	01224-45003 PG 002	





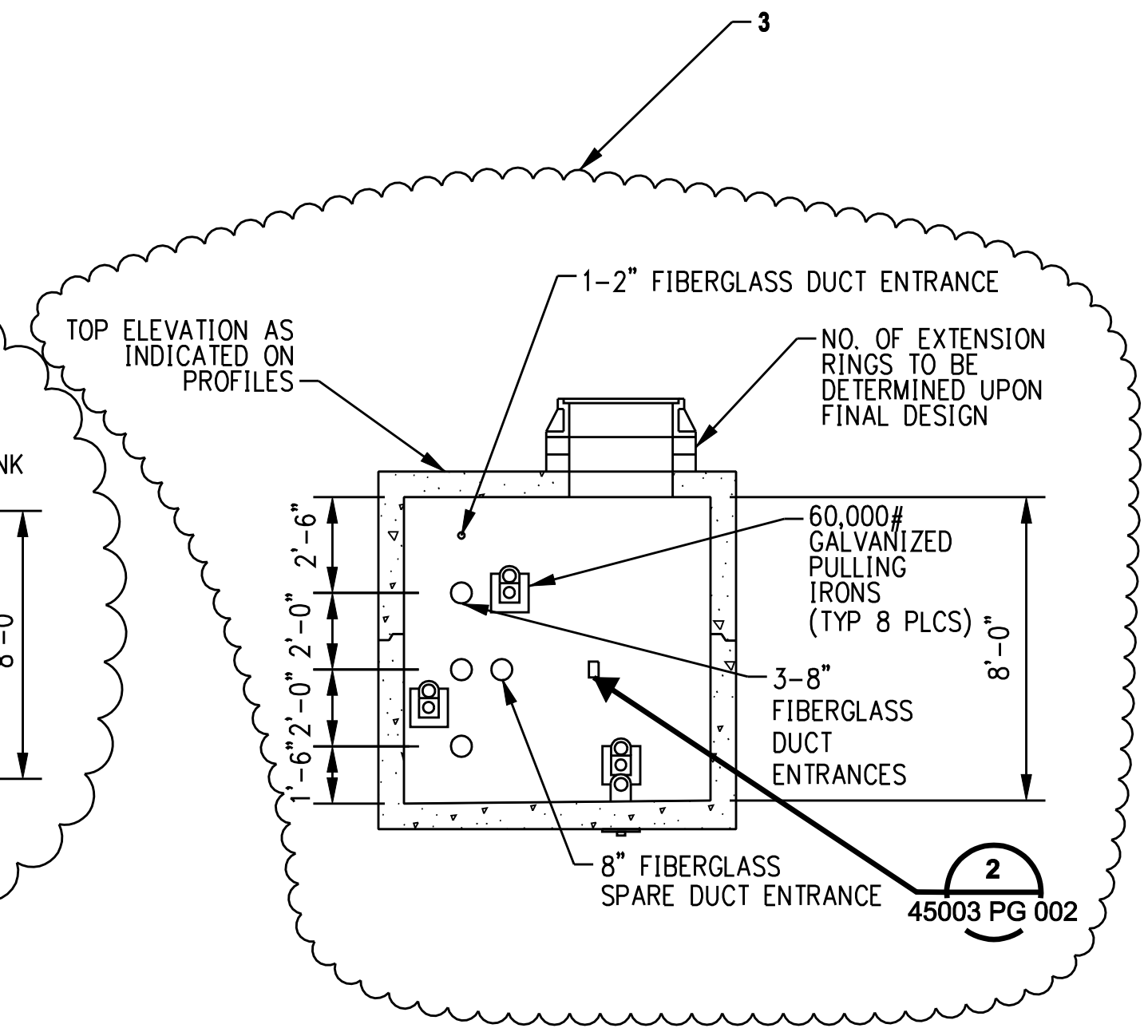
SPlice VAULT DEVELOPMENT PLAN FOR VAULTS ADJACENT TO UTILITY BRIDGE CROSSINGS

DETAIL  
NTS



INTERIOR PLAN ELECTRICAL SPLICE VAULT FOR UTILITY BRIDGE CROSSINGS

DETAIL  
NTS



UTILITY BRIDGE SPLICE VAULT

SECTION  
NTS

- NOTES:
- REBAR WITHIN SPLICE CHAMBER WALLS SHALL NOT FORM A LOOP AROUND ANY 8" CONDUIT OPENING.
  - ALL UNUSED CONDUITS SHALL BE PLUGGED AND SEALED USING WATERTIGHT DUCT PLUGS AS MANUFACTURED BY JACKMOON USA, INC. OR ACCEPTABLE EQUAL.
  - VAULT ENDS HAVING FIBERGLASS SPARE DUCTS ARE ORIENTED TOWARD UTILITY BRIDGES.
  - FIBER OPTIC HANDHOLES HAVING FIBERGLASS BELLED ENDS SHALL BE ORIENTED TOWARD THE UTILITY BRIDGE.

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CONSTRUCTION



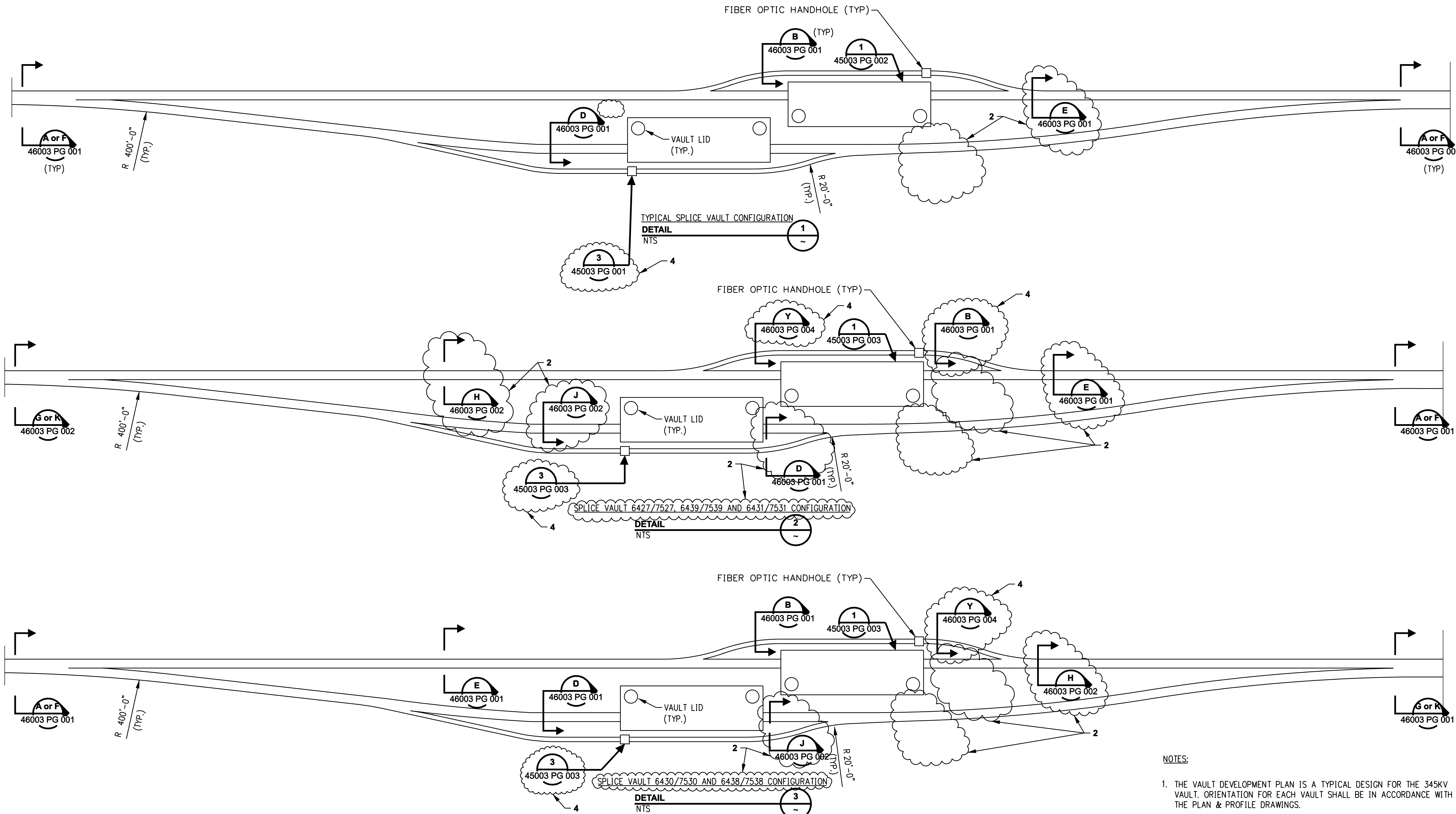
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2	7/03/06	ISSUED FOR CONSTRUCTION REVISED	CTC	
1	6/20/06	ISSUED FOR CONSTRUCTION	CTC	

date 05/05/06  
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			
UTILITY BRIDGE SPLICE VAULT DETAILS			
BY SEN-BMCD	CHKD	APP	APP
DATE 5-5-06	DATE	DATE	DATE
SCALE AS NOTED	D	DWG. NO.	01224-45003 PG 003

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**NOTES:**  
 1. THE VAULT DEVELOPMENT PLAN IS A TYPICAL DESIGN FOR THE 345KV VAULT. ORIENTATION FOR EACH VAULT SHALL BE IN ACCORDANCE WITH THE PLAN & PROFILE DRAWINGS.

no.	date	revisions	by	chk
4	8/07/06	ISSUED FOR CONSTRUCTION REVISED	CTC	
3	7/26/06	ISSUED FOR CONSTRUCTION REVISED	CTC	
2	7/03/06	ISSUED FOR CONSTRUCTION REVISED	CTC	
1	6/20/06	ISSUED FOR CONSTRUCTION	CTC	

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SINCE 1898

date 06/15/06 detailed L. ROWSE  
 designed C. COURTRIGHT checked S. NEWLAND

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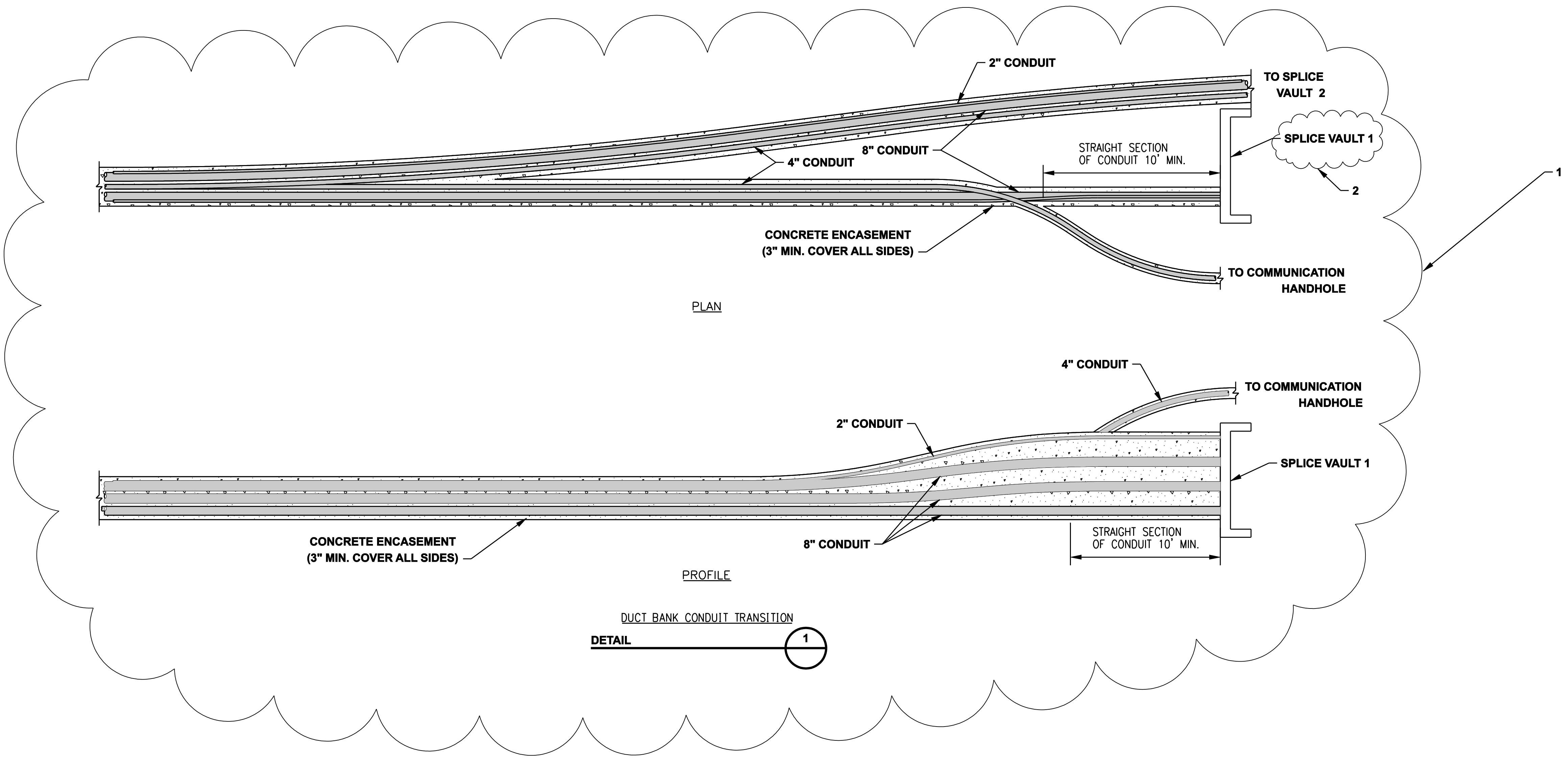
FOR THE CONNECTICUT LIGHT & POWER COMPANY

TITLE MIDDLETOWN-NORWALK 345KV TRANSMISSION PROJECT  
 TYPICAL/CROSSING SPLICE VAULT DETAILS SEGMENT 4A

BY SEN-BMCD	CHKD	APP	APP
DATE 6-15-06	DATE	DATE	DATE
SCALE AS NOTED	D	DWG. NO. 01224-45003 PG 006	

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DUCT BANK CONDUIT TRANSITION  
**DETAIL** 1

DOCKET No. 272

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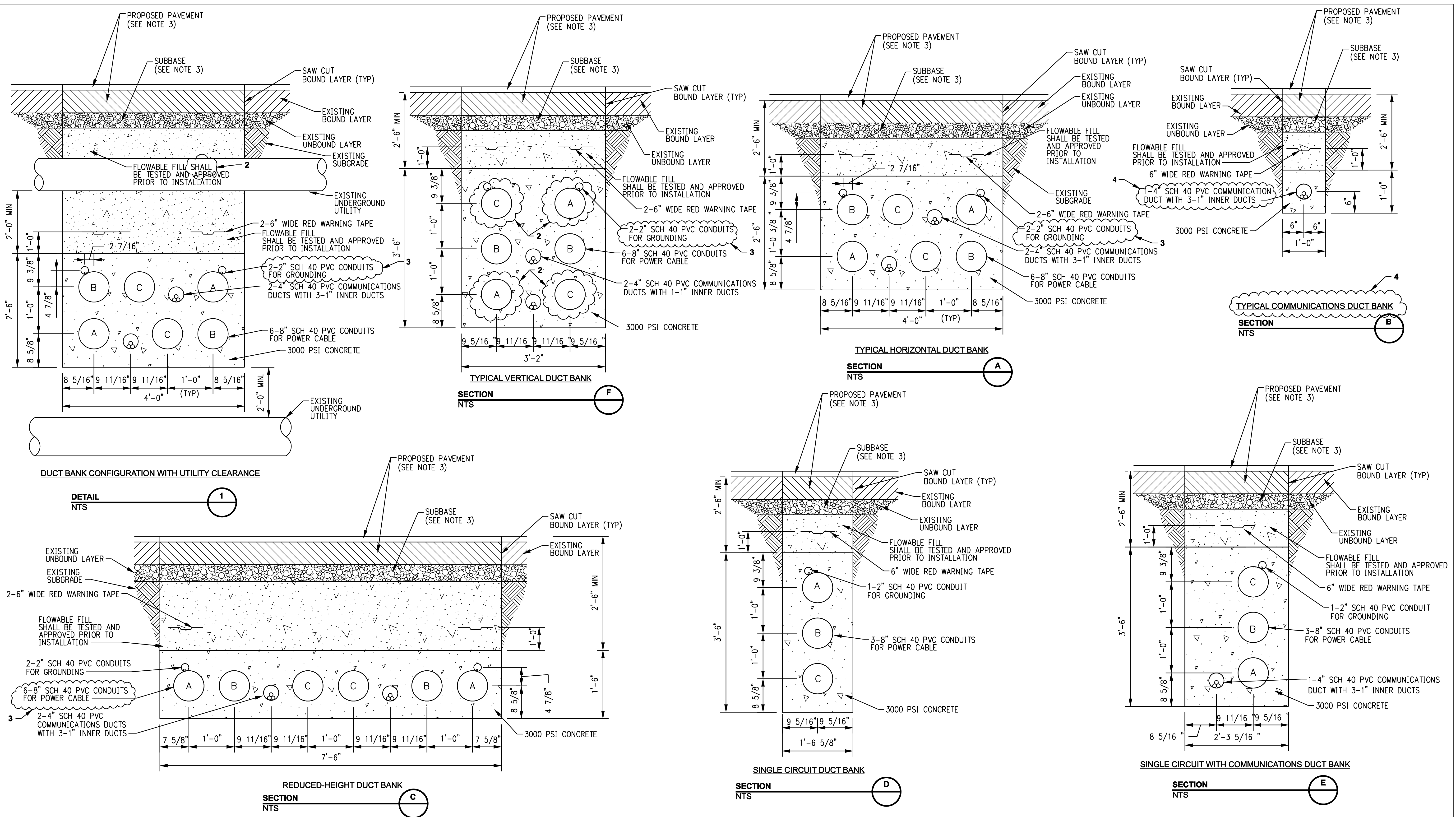
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date 07/05/06 detailed L. ROWSE  
 designed C. COURTRIGHT checked S. NEWLAND

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NORTHEAST UTILITIES SERVICE CO.			
FOR THE CONNECTICUT LIGHT & POWER COMPANY			
TITLE MIDDLETOWN-NORWALK 345KV TRANSMISSION PROJECT			
CONDUIT TRANSITIONS			
BY SEN-BMCD	CHKD	APP	APP
DATE 7-05-06	DATE	DATE	DATE
SCALE AS NOTED	D		DWG. NO. 01224-45003 PG 010



GENERAL NOTES:  
 1. STANDARD TRENCH WITH PERMANENT PAVEMENT RESTORATION IN STATE HIGHWAY SHOWN. PAVEMENT RESTORATION REQUIREMENTS SHALL VARY DEPENDENT ON SPECIFIC EXISTING PAVEMENT CROSS SECTIONS AND MATERIALS.  
 2. OMITTED  
 3. REFERENCE RESTORATION DRAWINGS FOR PROPOSED PAVEMENT SECTIONS.

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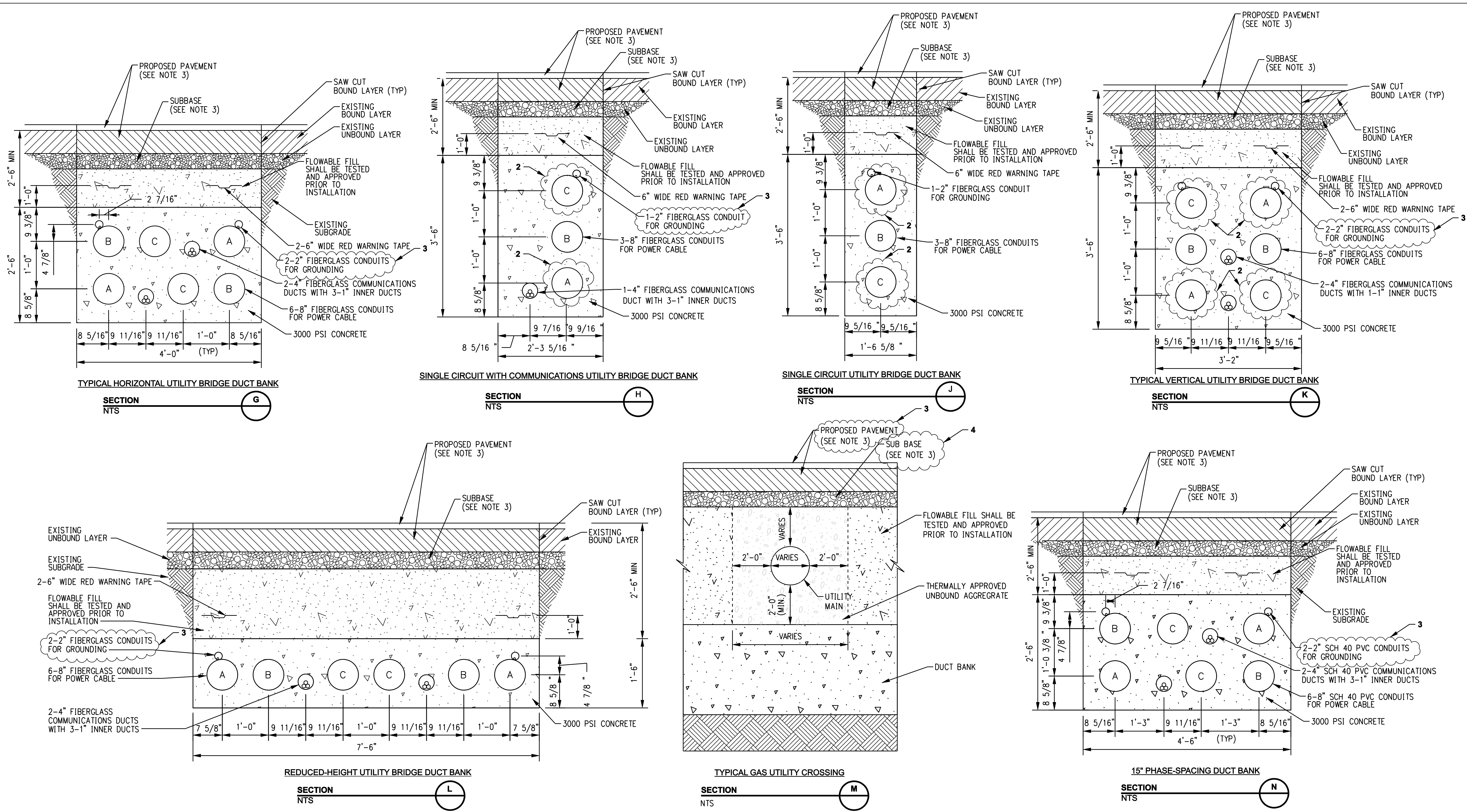
date 8/15/05 detailed BL COMPANIES  
 designed BL COMPANIES checked S. NEWLAND

no.	date	revisions	by	chk
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1	6/20/06	ISSUED FOR CONSTRUCTION	CTC	

MF	NO.	DATE	REVISIONS	BY	CHK	APP	APP

NORTHEAST UTILITIES SERVICE CO.			
FOR THE CONNECTICUT LIGHT & POWER COMPANY			
TITLE MIDDLETOWN-NORWALK 345KV TRANSMISSION PROJECT			
TYPICAL DUCT BANK DETAILS			
BY SEN-BMCD	CHKD	APP	APP
DATE 8-15-05	DATE	DATE	DATE
SCALE AS NOTED	DWG. NO.		
	D		01224-46003 PG 001

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- GENERAL NOTES:
- STANDARD TRENCH WITH PERMANENT PAVEMENT RESTORATION IN STATE HIGHWAY SHOWN. PAVEMENT RESTORATION REQUIREMENTS SHALL VARY DEPENDENT ON SPECIFIC EXISTING PAVEMENT CROSS SECTIONS AND MATERIALS.
  - ALL FIBERGLASS CONDUITS SHALL BE OF BULLET-RESISTANT GRADE OR APPROVED OTHER.
  - REFERENCE RESTORATION DRAWINGS FOR PROPOSED PAVEMENT SECTIONS.

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CONSTRUCTION

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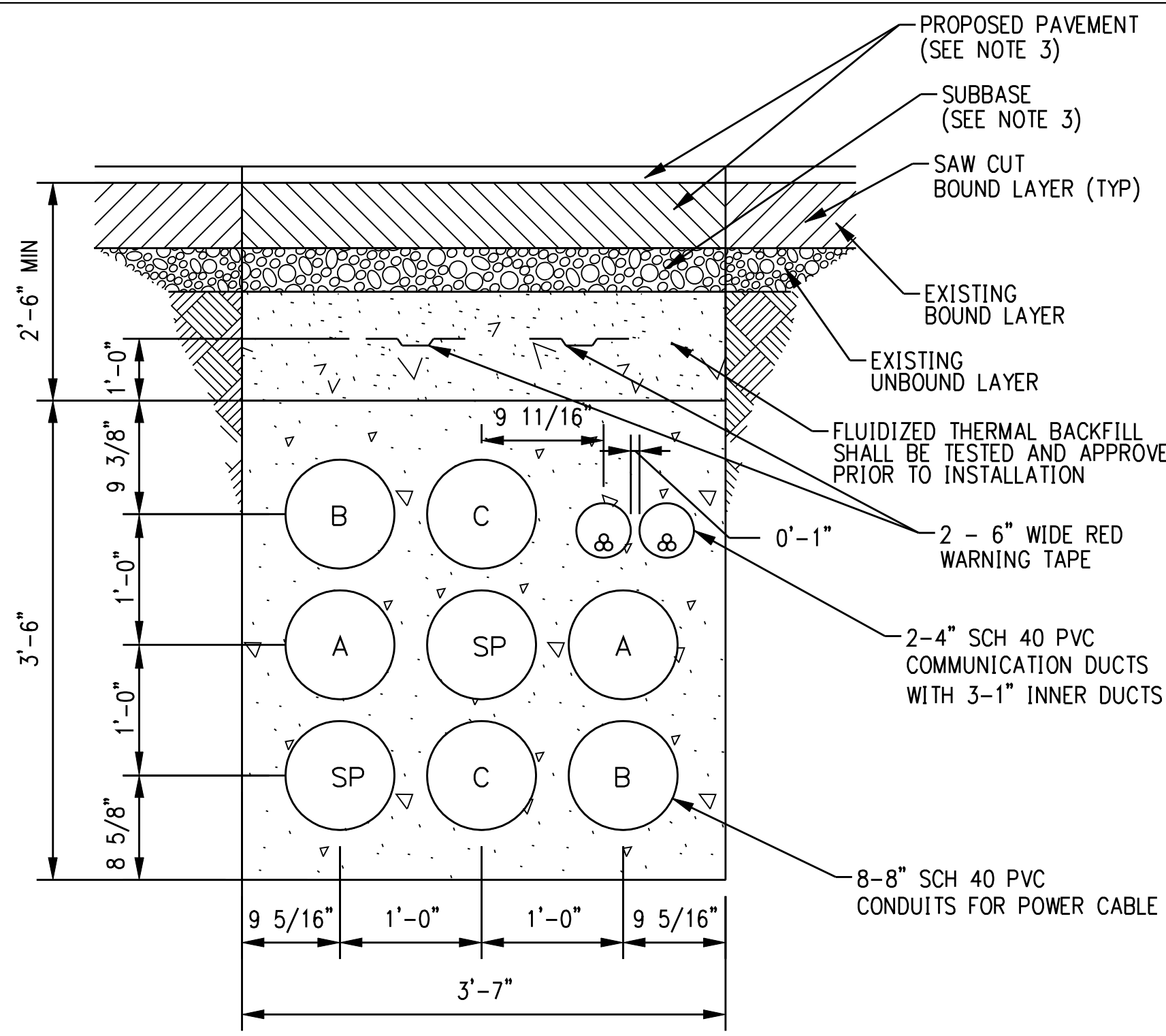


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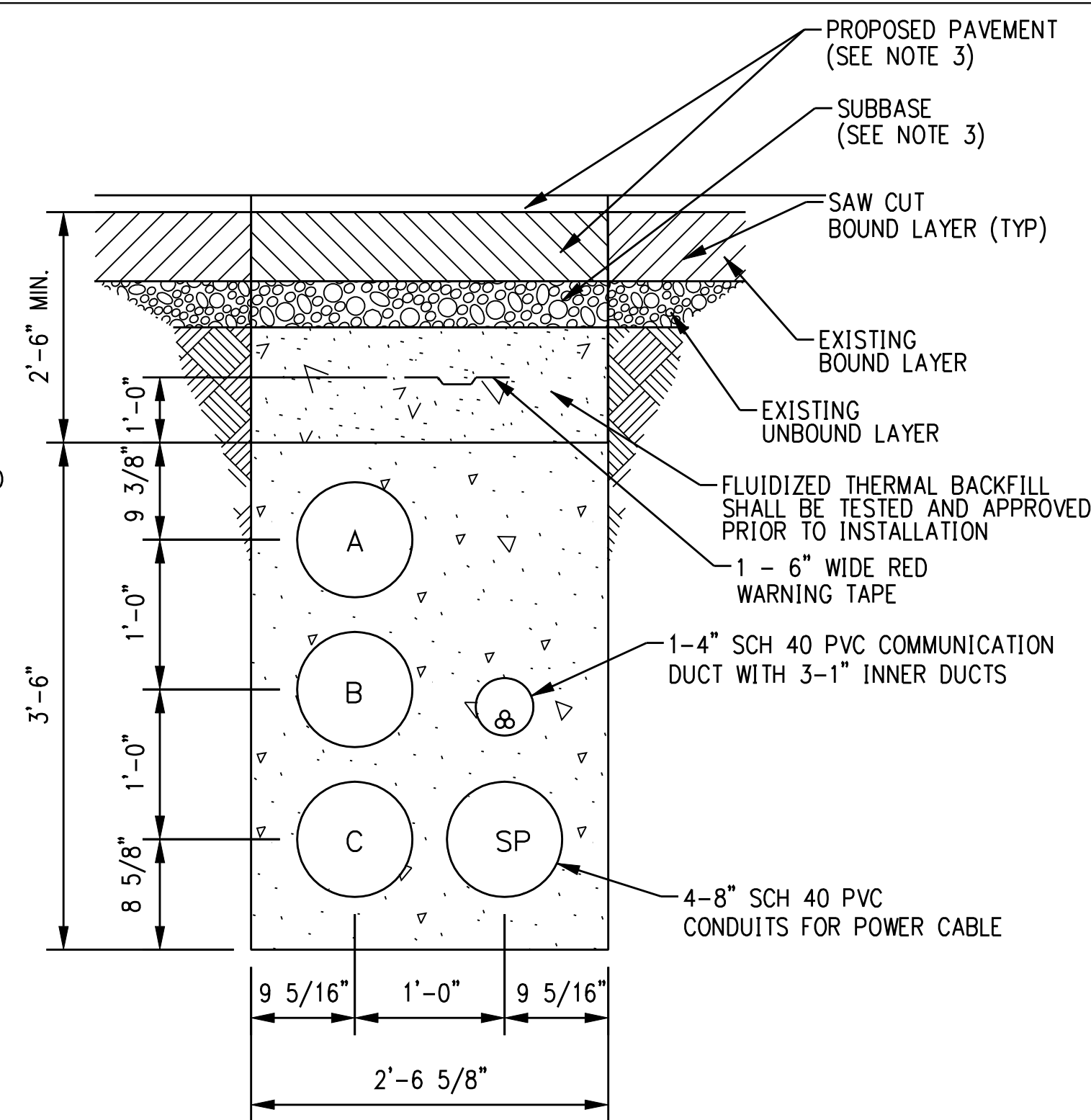
date 11/09/05  
designed C. COURTRIGHT  
detailed L. ROWSE  
checked S. NEWLAND

NORTHEAST UTILITIES SERVICE CO.			
FOR THE CONNECTICUT LIGHT & POWER COMPANY			
TITLE MIDDLETOWN-NORWALK 345KV TRANSMISSION PROJECT UTILITY BRIDGE DUCT BANK DETAILS AND UTILITY CROSSING DETAIL			
BY SEN-BMCD	CHKD	APP	APP
DATE 11-09-05	DATE	DATE	DATE
SCALE AS NOTED	D		DWG. NO. 01224-46003 PG 002

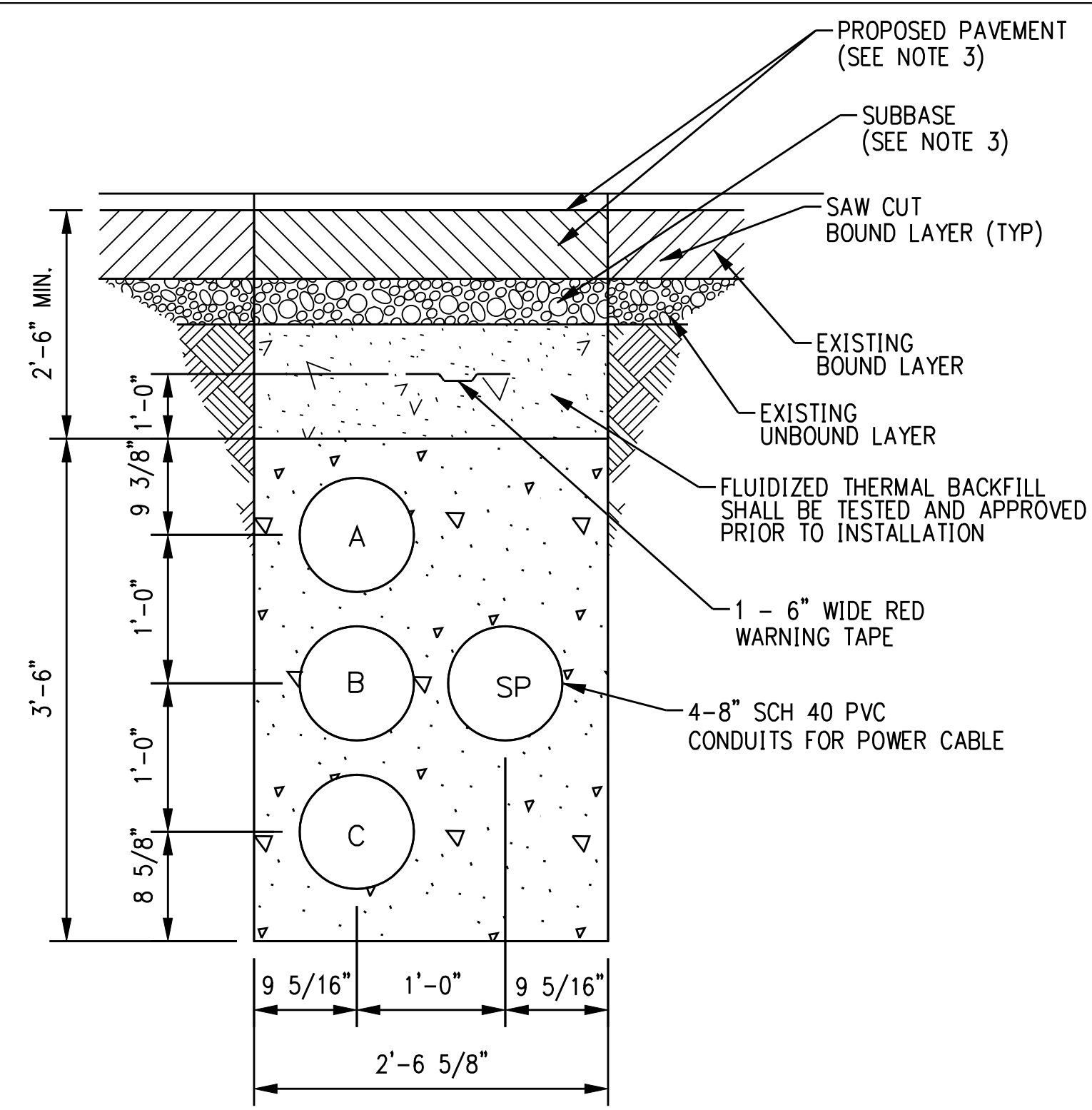
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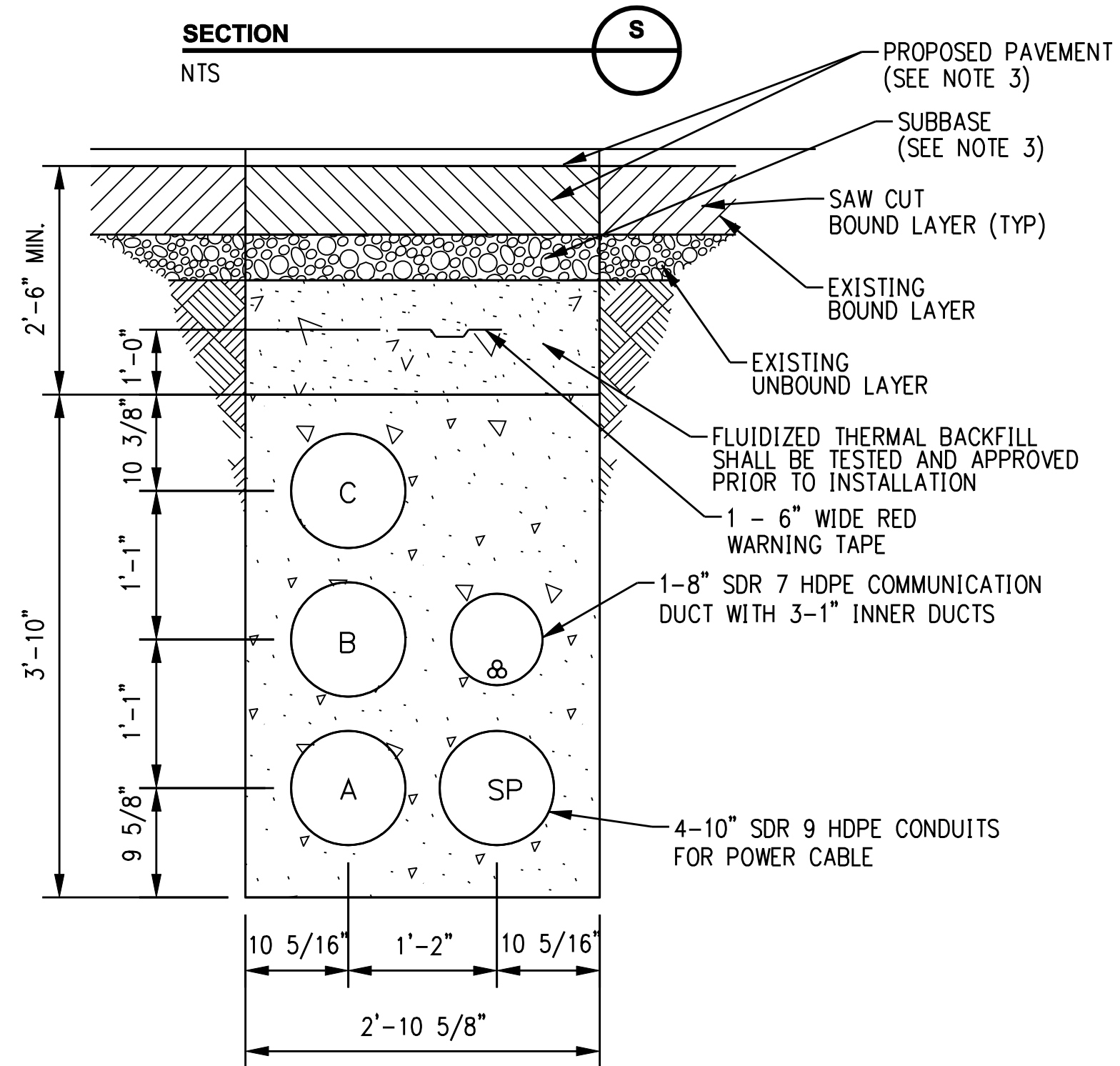
TYPICAL JACK AND BORE DUCT BANK



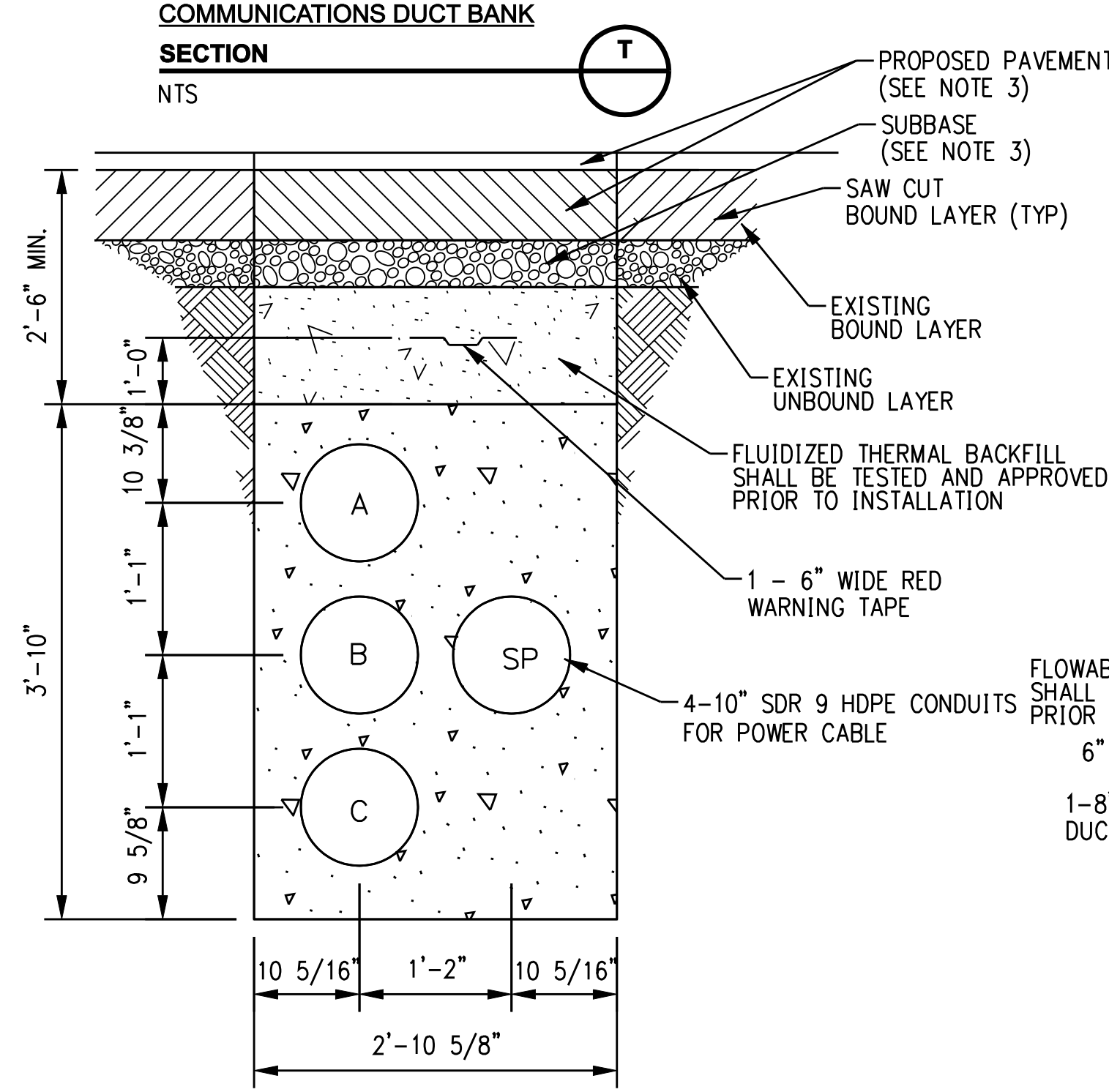
JACK AND BORE SINGLE CIRCUIT WITH COMMUNICATIONS DUCT BANK



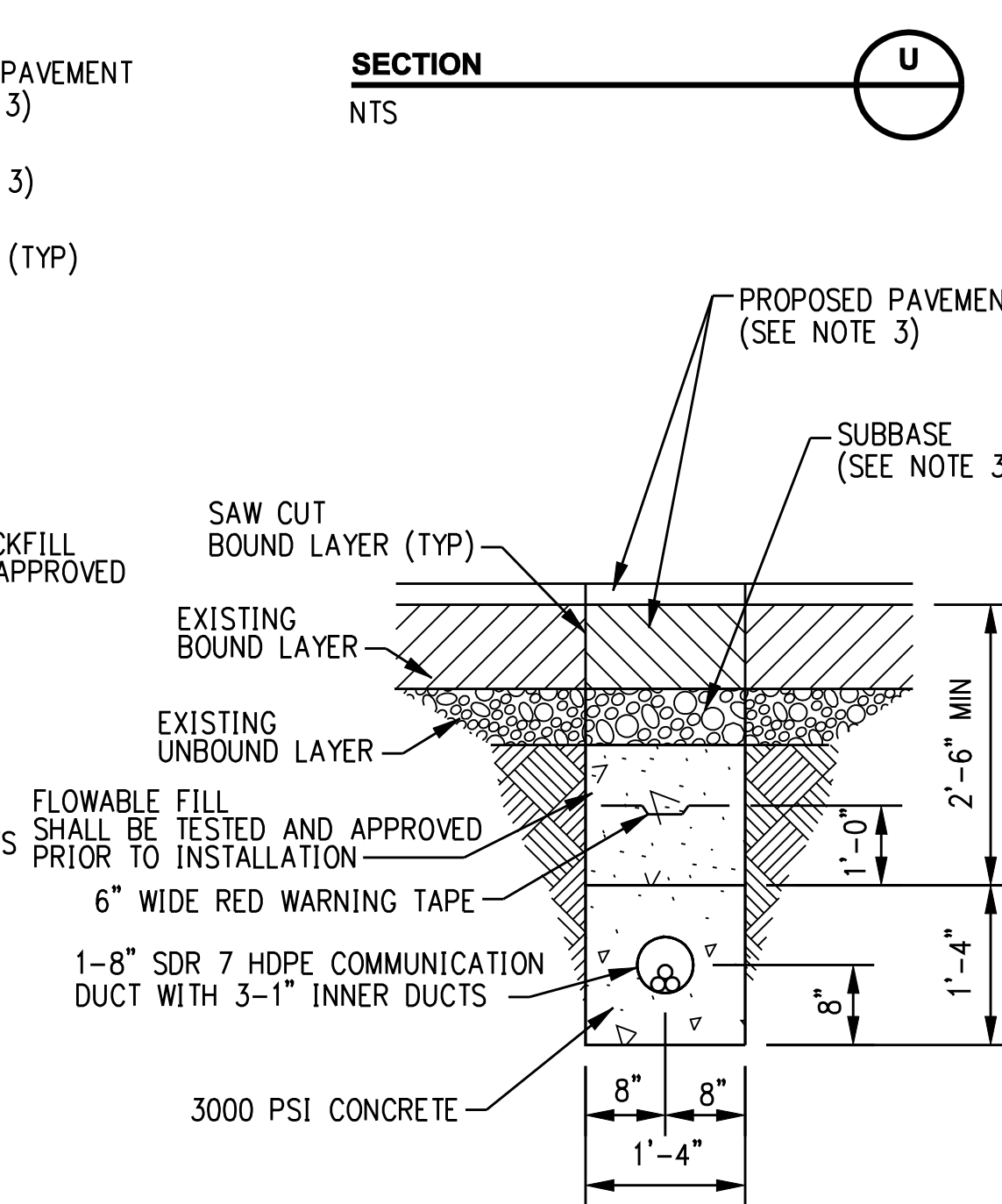
JACK AND BORE SINGLE CIRCUIT DUCT BANK



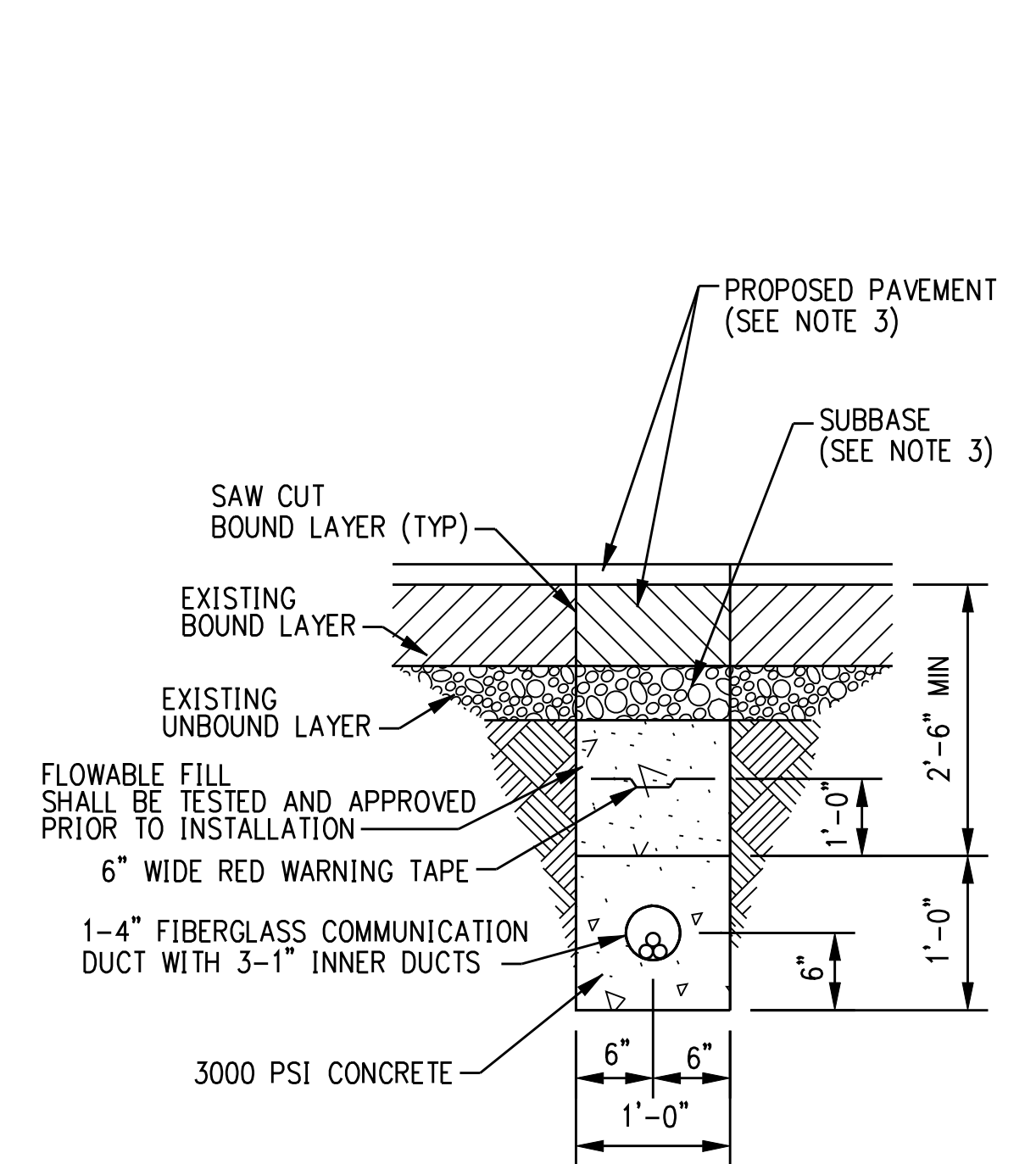
HORIZONTAL DIRECTIONAL DRILL SINGLE CIRCUIT WITH COMMUNICATIONS DUCT BANK



HORIZONTAL DIRECTIONAL DRILL SINGLE CIRCUIT DUCT BANK



HORIZONTAL DIRECTIONAL DRILL COMMUNICATIONS DUCT BANK



UTILITY BRIDGE COMMUNICATIONS DUCT BANK

- GENERAL NOTES:
- STANDARD TRENCH WITH PERMANENT PAVEMENT RESTORATION IN STATE HIGHWAY SHOWN. PAVEMENT RESTORATION REQUIREMENTS SHALL VARY DEPENDENT ON SPECIFIC EXISTING PAVEMENT CROSS SECTIONS AND MATERIALS.
  - OMITTED
  - REFERENCE RESTORATION DRAWINGS FOR PROPOSED PAVEMENT SECTIONS.

DOCKET No. 272

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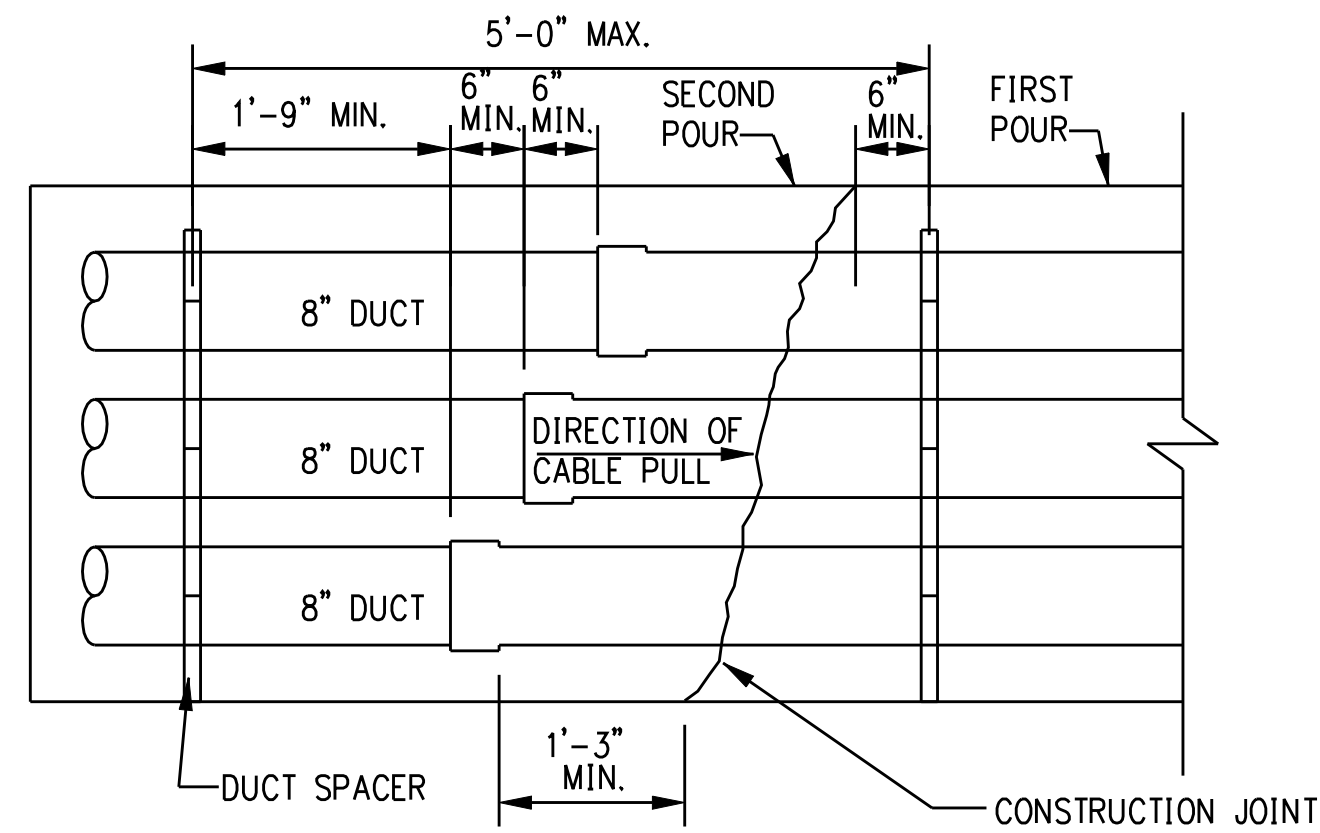
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 designed C. COURTRIGHT  
 checked S. NEWLAND

MF	NO.	DATE	REVISIONS	BY	CHK	APP	APP

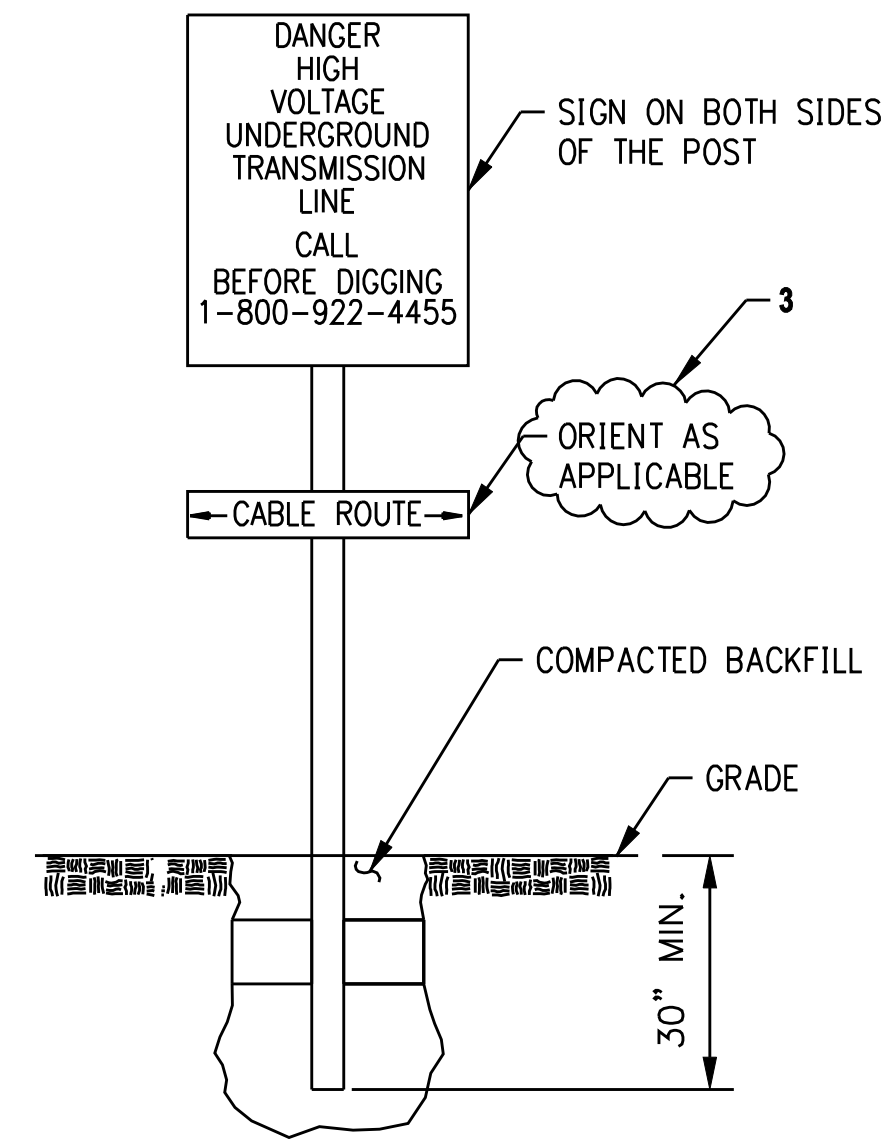
NORTHEAST UTILITIES SERVICE CO.			
FOR THE CONNECTICUT LIGHT & POWER COMPANY			
TITLE MIDDLETOWN-NORWALK 345KV TRANSMISSION PROJECT JACK AND BORE, HORIZONTAL DIRECTIONAL DRILL AND UTILITY BRIDGE DUCT BANK DETAILS			
BY SEN-BMCD	CHKD	APP	APP
DATE 11-09-05	DATE	DATE	DATE
SCALE AS NOTED	D	DWG. NO. 01224-46003	PG 004

Cable Pulling Direction and Tension			
Middletown-Norwalk 345-kV Transmission Line Project Segment 4a Fairfield / Bridgeport, CT			
Cable Pulling Direction		Calculated Tension (lb.)	Calculated Maximum Side Wall Pressure (lb/ft.)
From Vault	To Vault		
28	27	14,400	70
28	29	17,700	160
30	29	17,200	90
31	30	16,500	80
31	32	13,000	60
32	33	14,900	70
33	34	15,200	90
34	35	15,000	70
36	35	12,300	60
37	36	16,400	80
38	37	13,900	70
39	38	16,100	80
40	39	17,900	90
41	40	17,900	90
42	41	16,400	80
42	43	18,700	90
44	43	17,500	80
45	44	15,600	160
45	46	14,400	60
46	47	16,000	80
48	47	14,400	70
49	48	12,700	120
49	Singer S/S	15,000	210

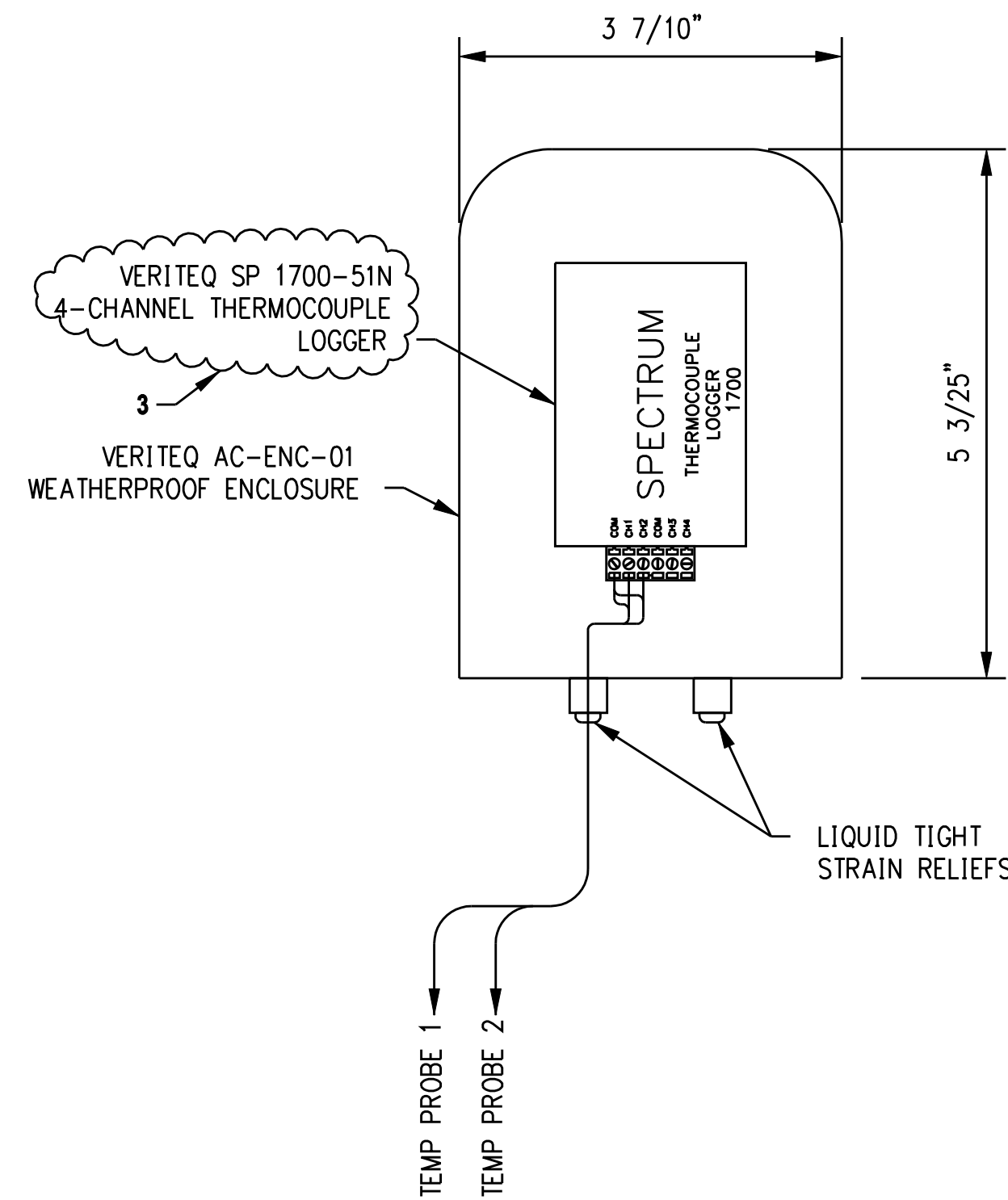
NOTE:  
SEE DETAIL 1 FOR DUCT ORIENTATION ASSOCIATED WITH CABLE PULLING DIRECTION.



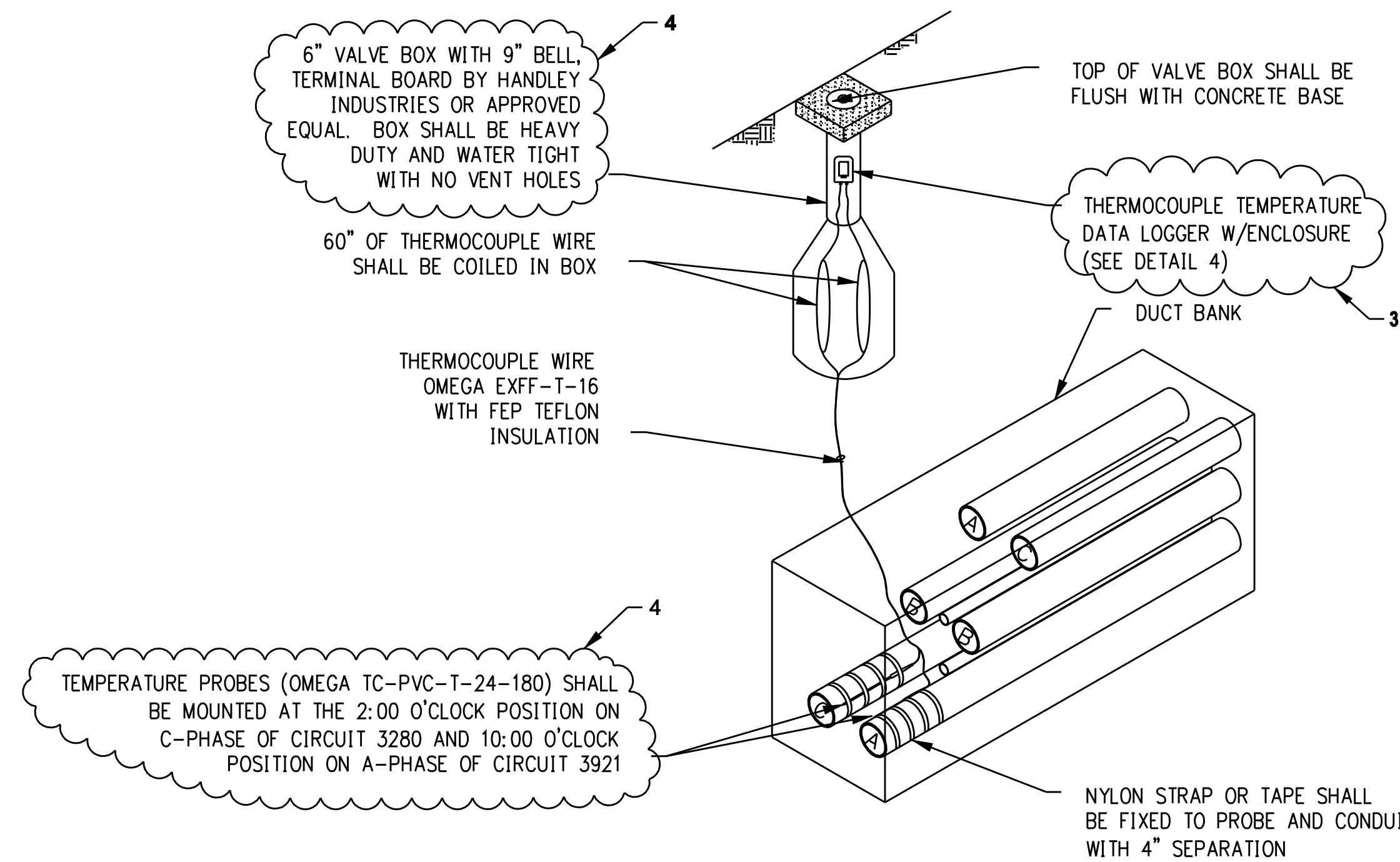
CONSTRUCTION JOINT DETAIL  
DETAIL 1  
NTS



TYPICAL WARNING SIGN  
DETAIL 2  
NTS



THERMOCOUPLE TEMPERATURE DATA LOGGER  
DETAIL 4  
NTS



TEMPERATURE MONITORING INSTALLATION  
DETAIL 5  
NTS

TEMPERATURE MONITORING STATION TABLE	
TMS #	CENTER OF TMS
TMS #27	N 611,630.1505 E 850,675.0285
TMS #28	N 611,523.9665 E 852,249.2726
TMS #29	N 611,583.0540 E 853,495.4609
TMS #30	N 611,961.0901 E 854,579.5611
TMS #31	N 612,197.7550 E 855,944.2670
TMS #32	N 612,477.8326 E 858,052.0574
TMS #33	N 612,486.1150 E 859,527.9207
TMS #34	N 612,736.5599 E 860,521.2335
TMS #35	N 613,987.3226 E 861,496.9199
TMS #36	N 615,029.7810 E 862,966.1310
TMS #37	N 615,497.6819 E 864,154.3341
TMS #38	N 616,697.2940 E 865,361.7531
TMS #39	N 617,723.1277 E 866,757.8564
TMS #40	N 618,024.5818 E 868,328.9554
TMS #41	N 618,509.0794 E 868,835.1411
TMS #42	N 620,077.4475 E 870,023.2459
TMS #43	N 621,723.9584 E 871,246.6564
TMS #44	N 622,126.1488 E 872,469.5201
TMS #45	N 622,262.2011 E 873,758.2749
TMS #46	N 622,455.5780 E 875,448.0147
TMS #47	N 622,553.2226 E 876,800.4095
TMS #48	N 622,774.7563 E 878,344.9066
TMS #49	N 622,107.4520 E 879,728.0028

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no.	date	revisions	by	chk
4	8/07/06	ISSUED FOR CONSTRUCTION REVISED	CTC	
3	7/26/06	ISSUED FOR CONSTRUCTION REVISED	CTC	
2	7/3/06	ISSUED FOR CONSTRUCTION REVISED	CTC	
1	6/20/06	ISSUED FOR CONSTRUCTION	CTC	

**Burns & McDonnell**  
SINCE 1898

date 11/09/05 detailed L. ROWSE  
designed C. COURTRIGHT checked S. NEWLAND

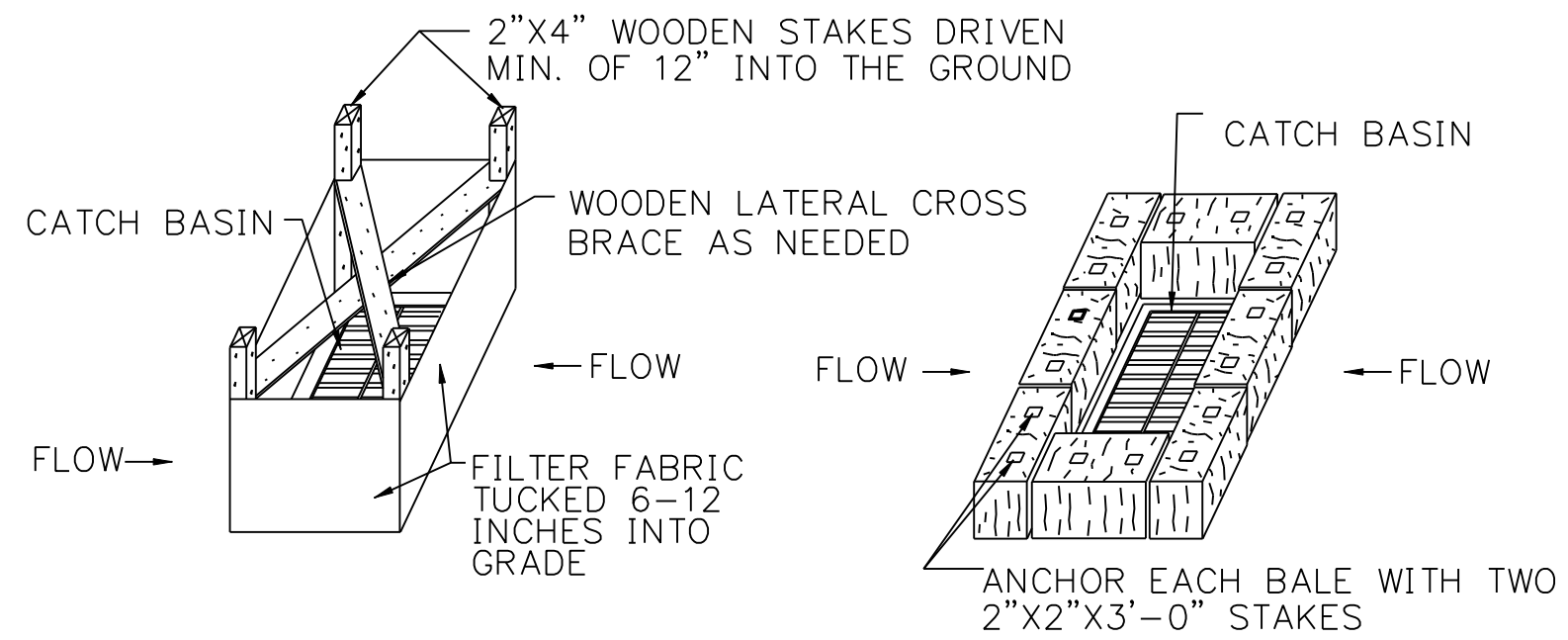
MF	NO.	DATE	REVISIONS	BY	CHK	APP	APP

NORTHEAST UTILITIES SERVICE CO.

FOR THE CONNECTICUT LIGHT & POWER COMPANY

TITLE MIDDLETOWN-NORWALK 345KV TRANSMISSION PROJECT  
CABLE AND TEMPERATURE MONITORING DETAILS

BY SEN-BMCD	CHKD	APP	APP
DATE 11-09-05	DATE	DATE	DATE
SCALE AS NOTED	D	DWG. NO. 01224-46003	PG 005



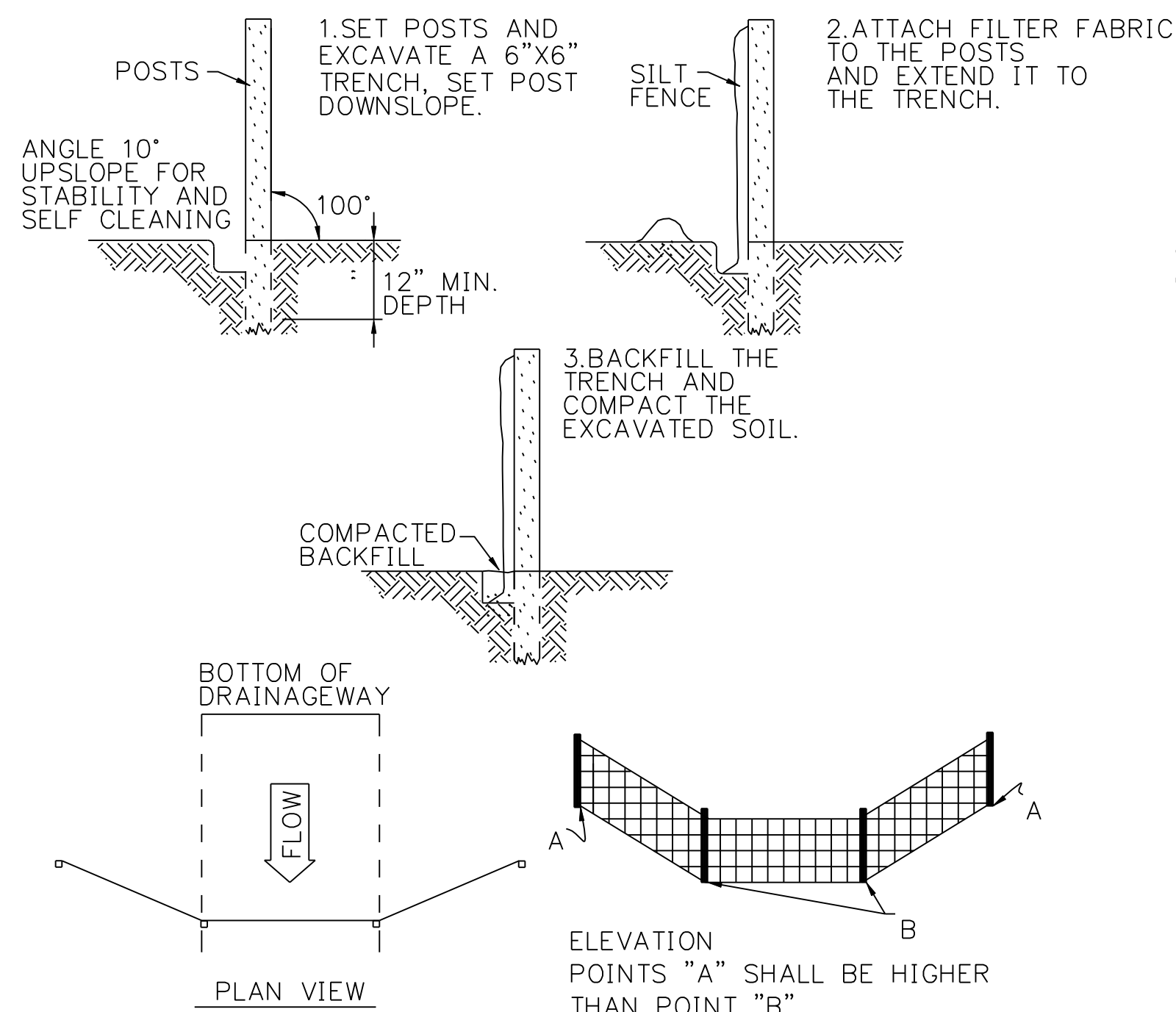
SILT FENCE INSTALLATION AT CATCH BASINS AT LOW POINTS

HAY BALE FILTER INSTALLATION AT CATCH BASIN AT LOW POINTS

STORMWATER INLETS WHICH DO NOT DISCHARGE TO SEDIMENT TRAPS OR BASINS, SHALL BE PROTECTED UNTIL THE TRIBUTARY AREAS ARE STABILIZED. SEDIMENT SHALL BE REMOVED FROM INLET PROTECTION AFTER EACH STORM EVENT.

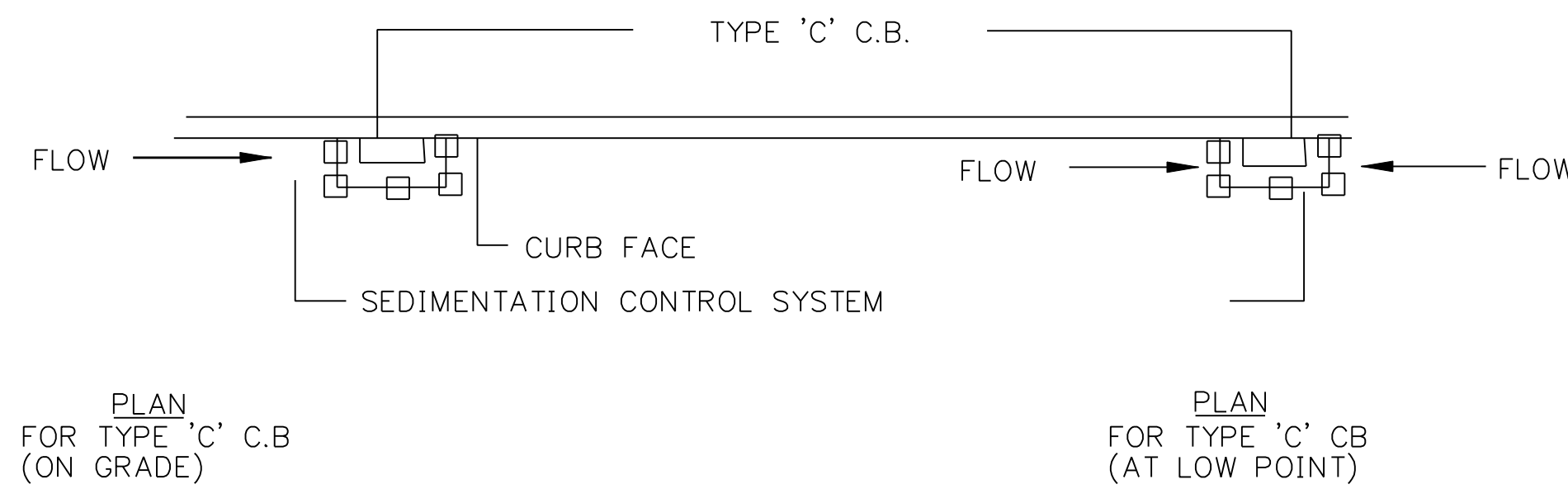
**CATCH BASIN EROSION CONTROL**

DETAIL NTS 1



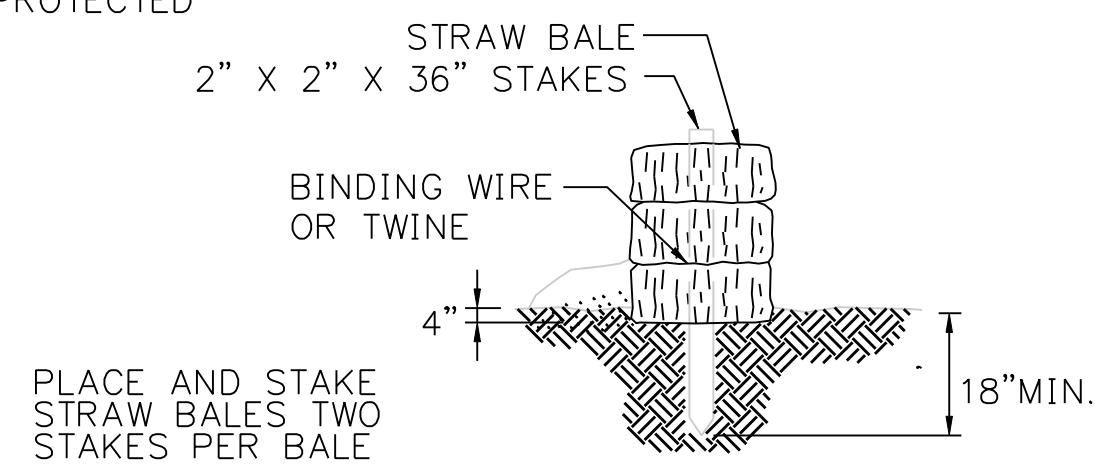
**GEOTEXTILE SILT FENCE BARRIER W/OUT HAYBALES**

DETAIL NTS 6



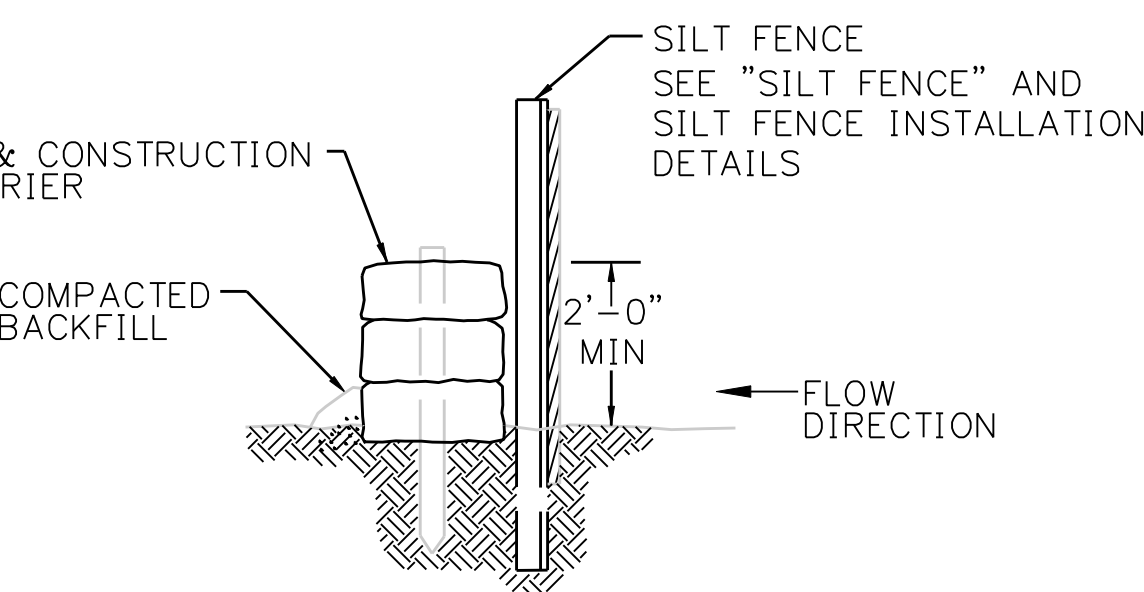
NOTE: SEDIMENTATION CONTROL SYSTEMS SHALL BE LOCATED AT ALL EXISTING OR PROPOSED BASINS WHICH ACCEPT FLOW FROM THE CONSTRUCTION AREA UNTIL TURF ESTABLISHMENT OR AS DIRECTED BY THE ENGINEER.

DETAIL NTS 2



STRAW BALE BARRIERS SHALL NOT BE USED FOR MORE THAN 3 MONTHS. SEDIMENT SHALL BE REMOVED WHEN ACCUMULATIONS REACH 1/3 THE ABOVE GROUND HEIGHT OF THE BARRIER.

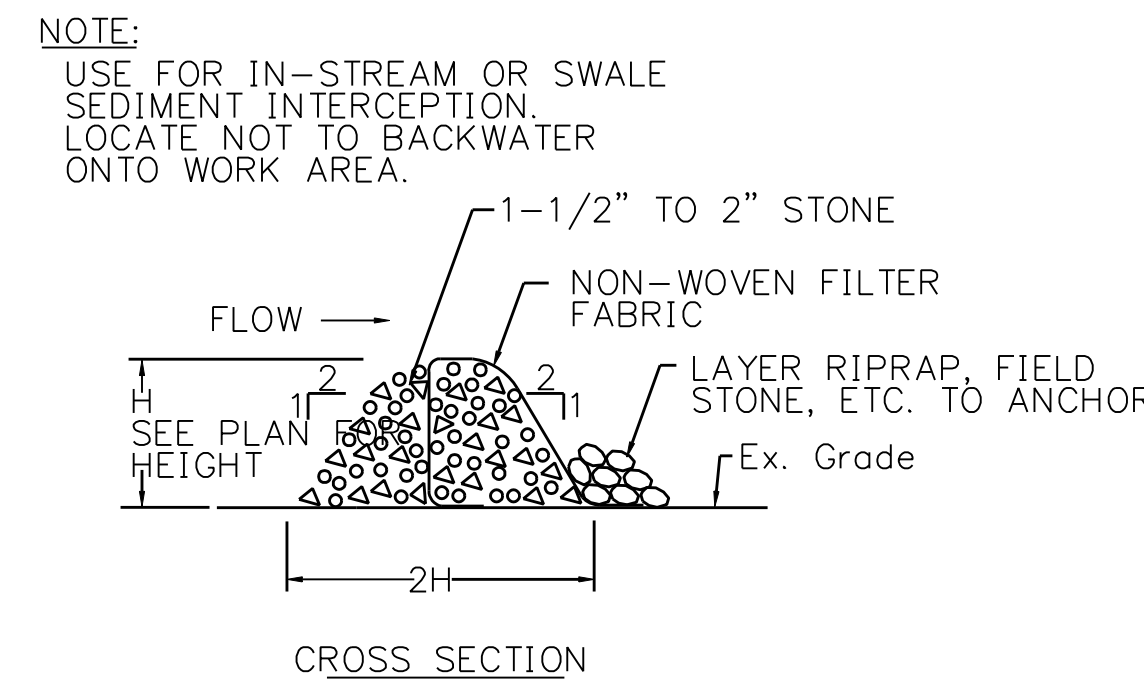
DETAIL NTS 4



**GEOTEXTILE SILT FENCE BARRIER W/ HAYBALES**

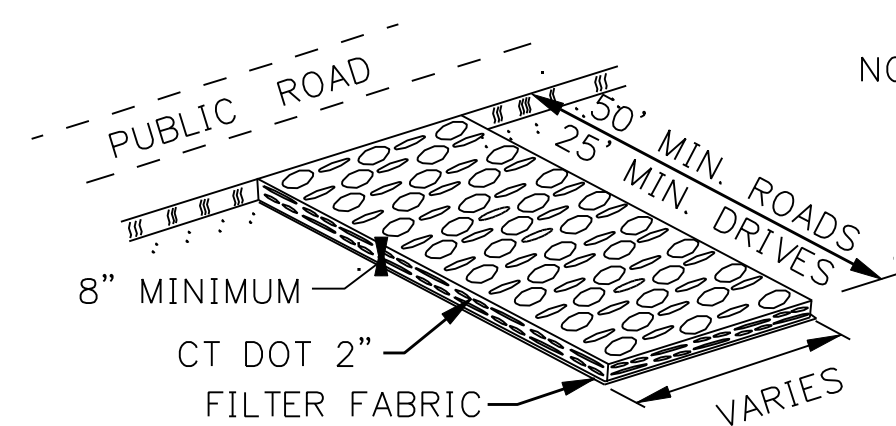
DETAIL NTS 7

BACKFILL AND COMPACT THE EXCAVATED SOIL AS SHOWN ON THE UPHILL SIDE OF THE BARRIER TO PREVENT PIPING.



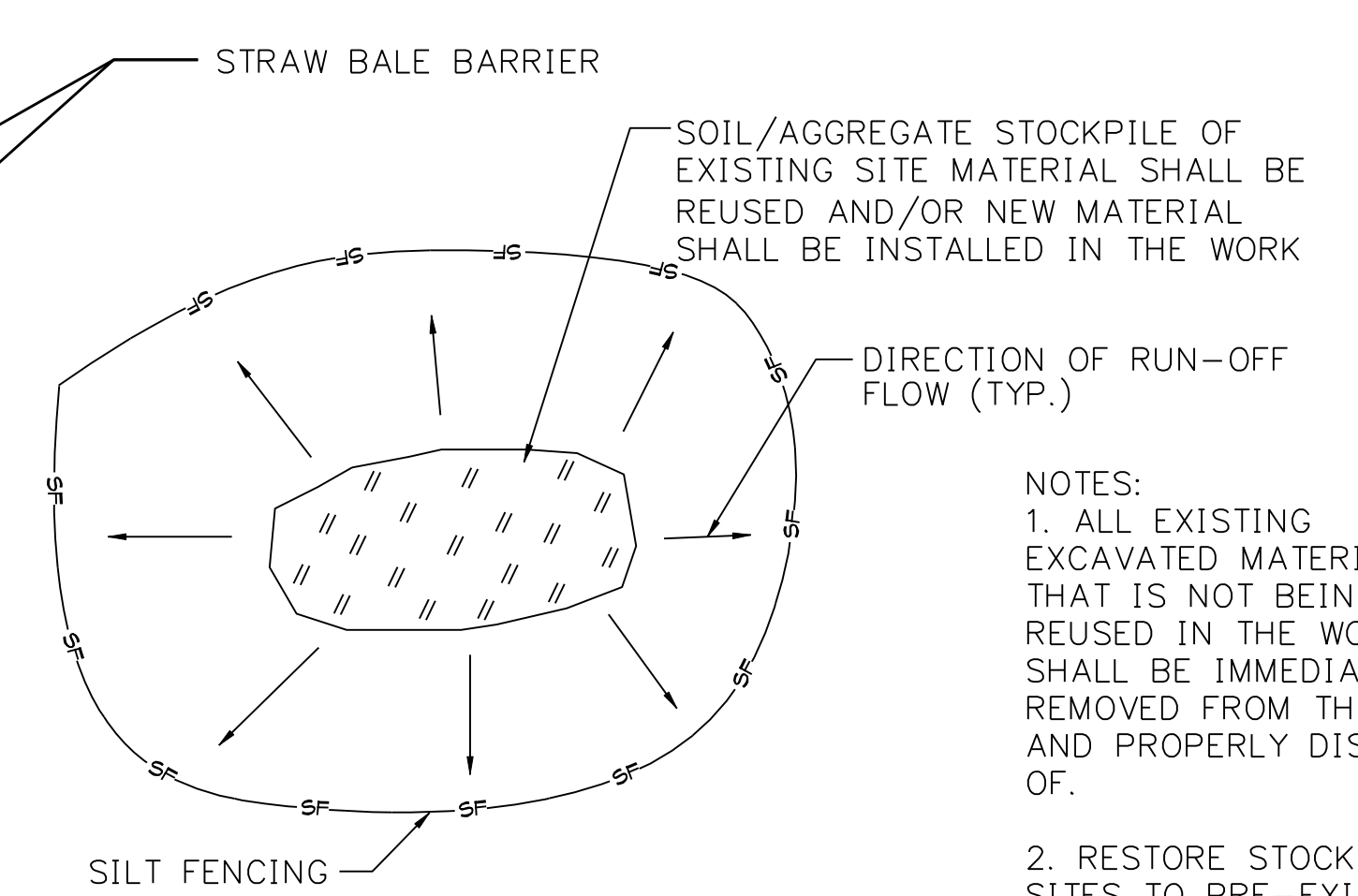
**STONE FILTER BERM W/ FILTER FABRIC**

DETAIL NTS 5



**CONSTRUCTION ENTRANCE**

DETAIL NTS 8



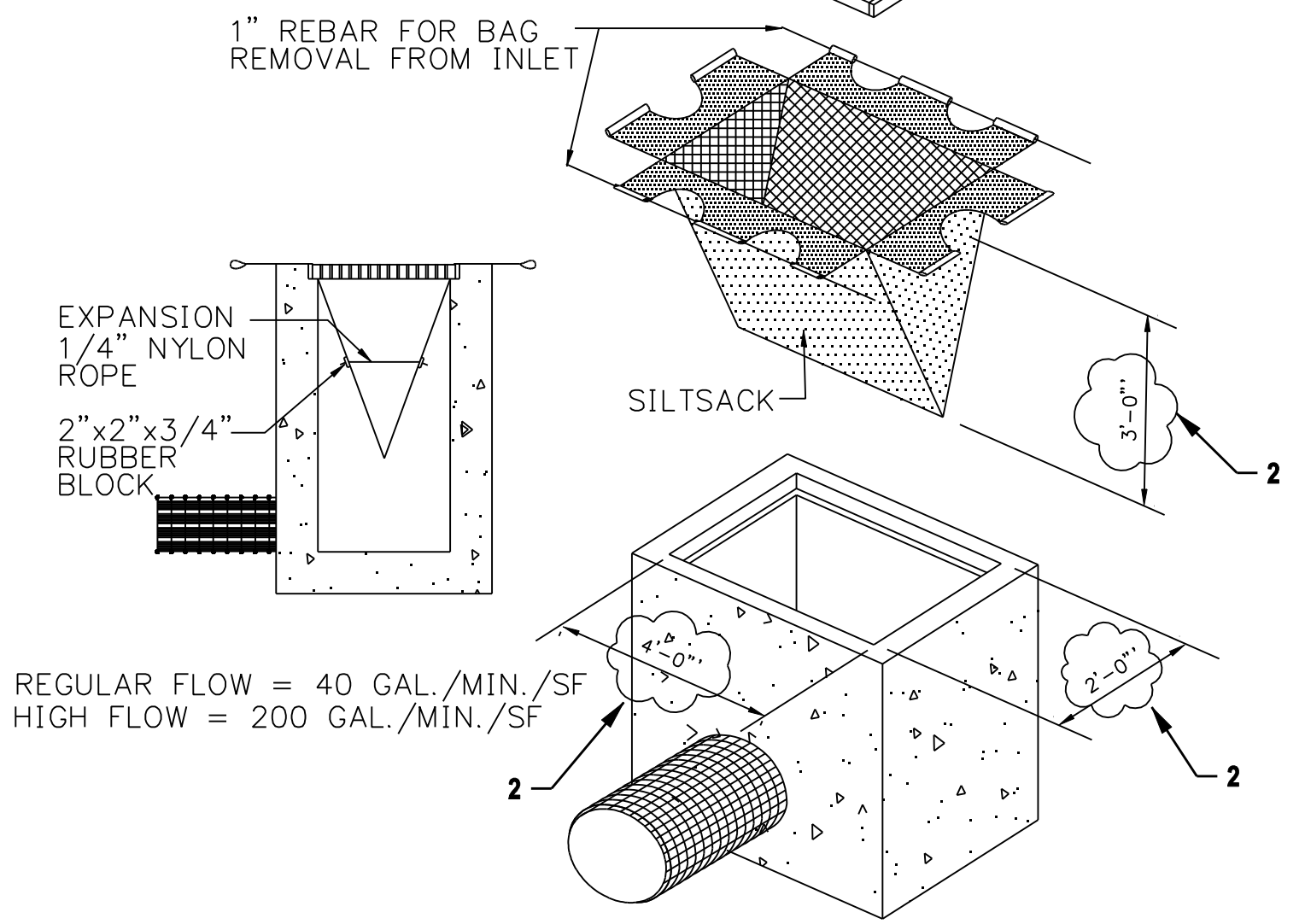
**MATERIALS STOCKPILE**

DETAIL NTS 3

NOTES: 1. ALL EXISTING EXCAVATED MATERIAL THAT IS NOT BEING REUSED IN THE WORK SHALL BE IMMEDIATELY REMOVED FROM THE SITE AND PROPERLY DISPOSED OF.

2. RESTORE STOCKPILE SITES TO PRE-EXISTING PROJECT CONDITION AND RESEED AS REQUIRED.

3. STOCKPILE HEIGHTS SHALL NOT EXCEED 35'. STOCKPILE SLOPES SHALL BE 2:1 OR FLATTER.



**SILTSACK**

DETAIL NTS 9

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date 8/15/05 detailed BL COMPANIES  
designed BL COMPANIES checked S. NEWLAND

no.	date	revisions	by	chk
2	7/03/06	ISSUED FOR CONSTRUCTION REVISED	CTC	
1	6/20/06	ISSUED FOR CONSTRUCTION	CTC	

MF	NO.	DATE	REVISIONS	BY	CHK	APP	APP

NORTHEAST UTILITIES SERVICE CO.

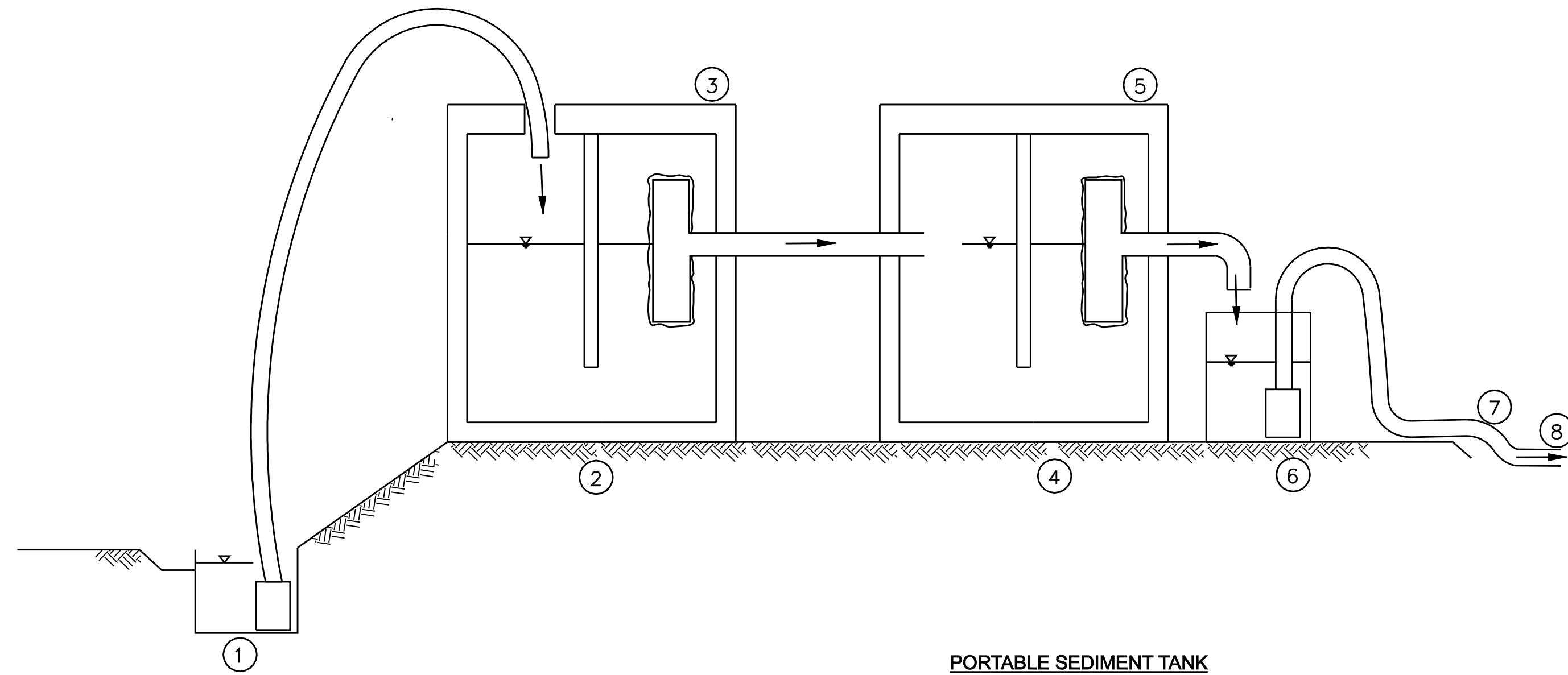
FOR THE CONNECTICUT LIGHT & POWER COMPANY

TITLE MIDDLETOWN-NORWALK 345KV TRANSMISSION PROJECT

EROSION CONTROL DETAILS

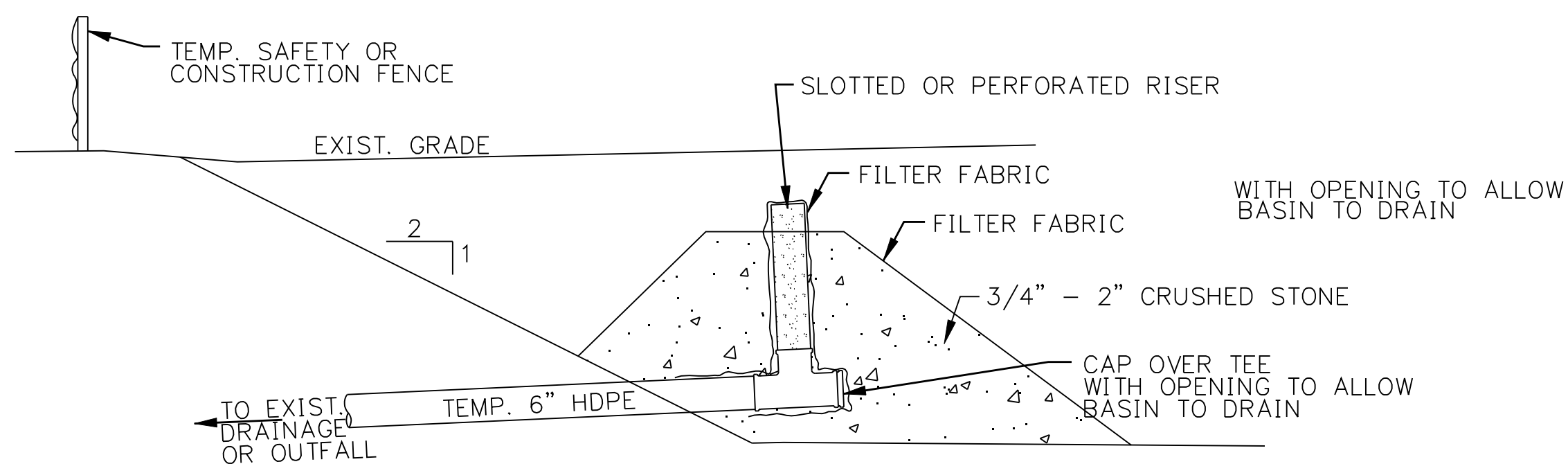
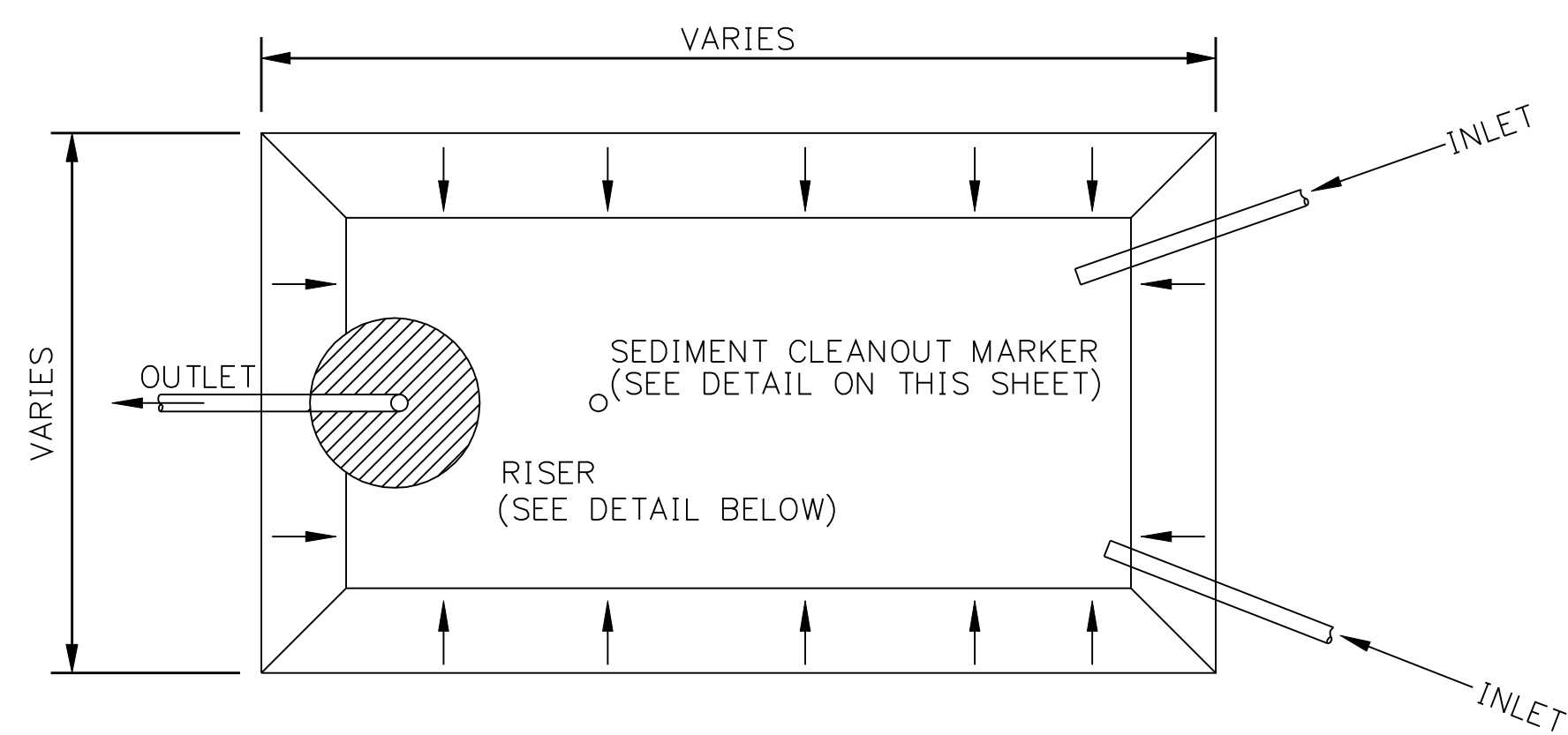
BY	SEN-BMCD	CHKD	APP	APP
DATE	8-15-05	DATE	DATE	DATE
SCALE	AS NOTED	DWG. NO.	01224-15003 PG 001	



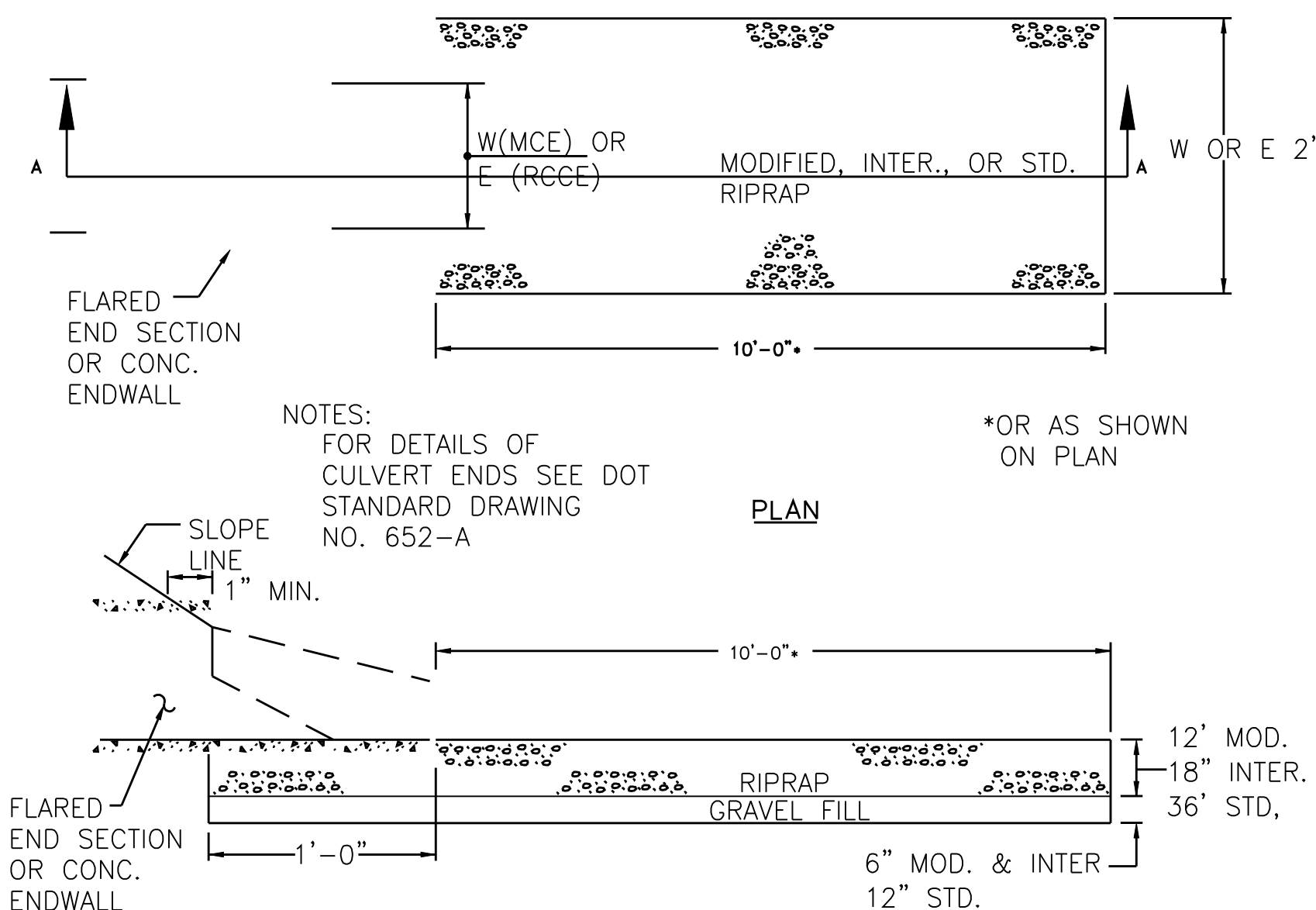


- NOTES
- ①. 20 GPM TRASH PUMP DEWATERS FOUNDATION EXCAVATION
  - ②. MUDDY WATER DISCHARGES TO 1,250 GAL SEPTIC TANK (OR DET. OUTLET STRUCTURE)
  - ③. 4" TEE OUTLET WRAPPED W/ FILTER FABRIC
  - ④. 1,250 GAL CLEAR WELL
  - ⑤. 2ND 4" TEE OUTLET WRAPPED W/ FILTER FABRIC
  - ⑥. 2ND PUMP IN 55 GAL DRUM (OR GRAVITY HOSE) DRAINS SYSTEM
  - ⑦. TEMP. OUTLET TO CATCH BASIN IN STREET
  - ⑧. 2-1,250 GAL. TANKS = 2,500 GAL. CAPACITY TOTAL

**PORTABLE SEDIMENT TANK**  
**DETAIL** \_\_\_\_\_ **1**  
**NTS**

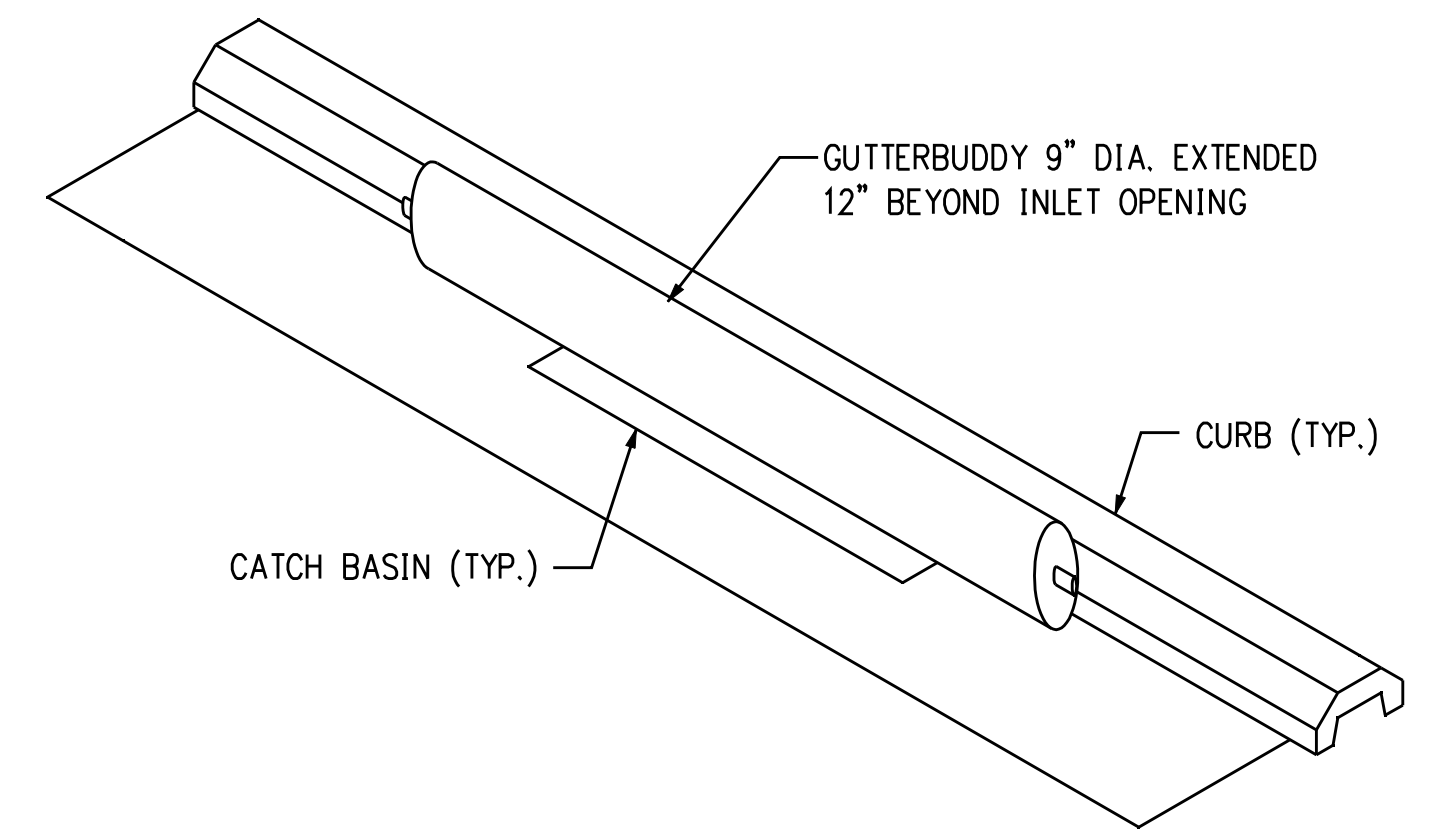


**TEMPORARY SEDIMENT TRAP**  
**DETAIL** \_\_\_\_\_ **2**  
**NTS**



RIPRAP TYPE	"T" (INCHES)
INTERMEDIATE	18
MODIFIED	12
STANDARD	36

**LEVEL SPREADER**  
**DETAIL** \_\_\_\_\_ **3**  
**NTS**



**GUTTERBUDDY STORM DRAIN**  
**DETAIL** \_\_\_\_\_ **4**  
**NTS**

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date 8/15/05  
 detailed BL COMPANIES  
 designed BL COMPANIES  
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**NORTHEAST UTILITIES SERVICE CO.**  
 FOR THE CONNECTICUT LIGHT & POWER COMPANY  
 TITLE MIDDLETOWN-NORWALK 345KV TRANSMISSION PROJECT  
 EROSION CONTROL DETAILS

BY	SEN-BMCD	CHKD	APP	APP
DATE	8-15-05	DATE	DATE	DATE

SCALE AS NOTED  
 D  
 DWG. NO. 01224-15003 PG 002