

**BILL OF MATERIAL**  
(Per HMLT Foundation in Fluted Knee Wall)

Bar	No.	Size	Length	Shape
s (E)	20	#5	10'-7"	□
s <sub>1</sub> (E)	40	#5	4'-2"	□
s <sub>2</sub> (E)	40	#5	3'-11"	□
sp (E)	1	#5	34'-6"	
v(E)	12	#10	34'-6"	—
v <sub>1</sub> (E)	6	#8	12'-10"	L
v <sub>2</sub> (E)	12	#8	12'-3"	L
v <sub>3</sub> (E)	3	#7	11'-2"	□
v <sub>4</sub> (E)	6	#7	10'-8"	□

Reinforcement Bars, Epoxy Coated	POUND	3,650
Structure Excavation	CU YD	18
Concrete Structures	CU YD	8
Protective Coat	SQ YD	9
Rustication Finish	SQ FT	8

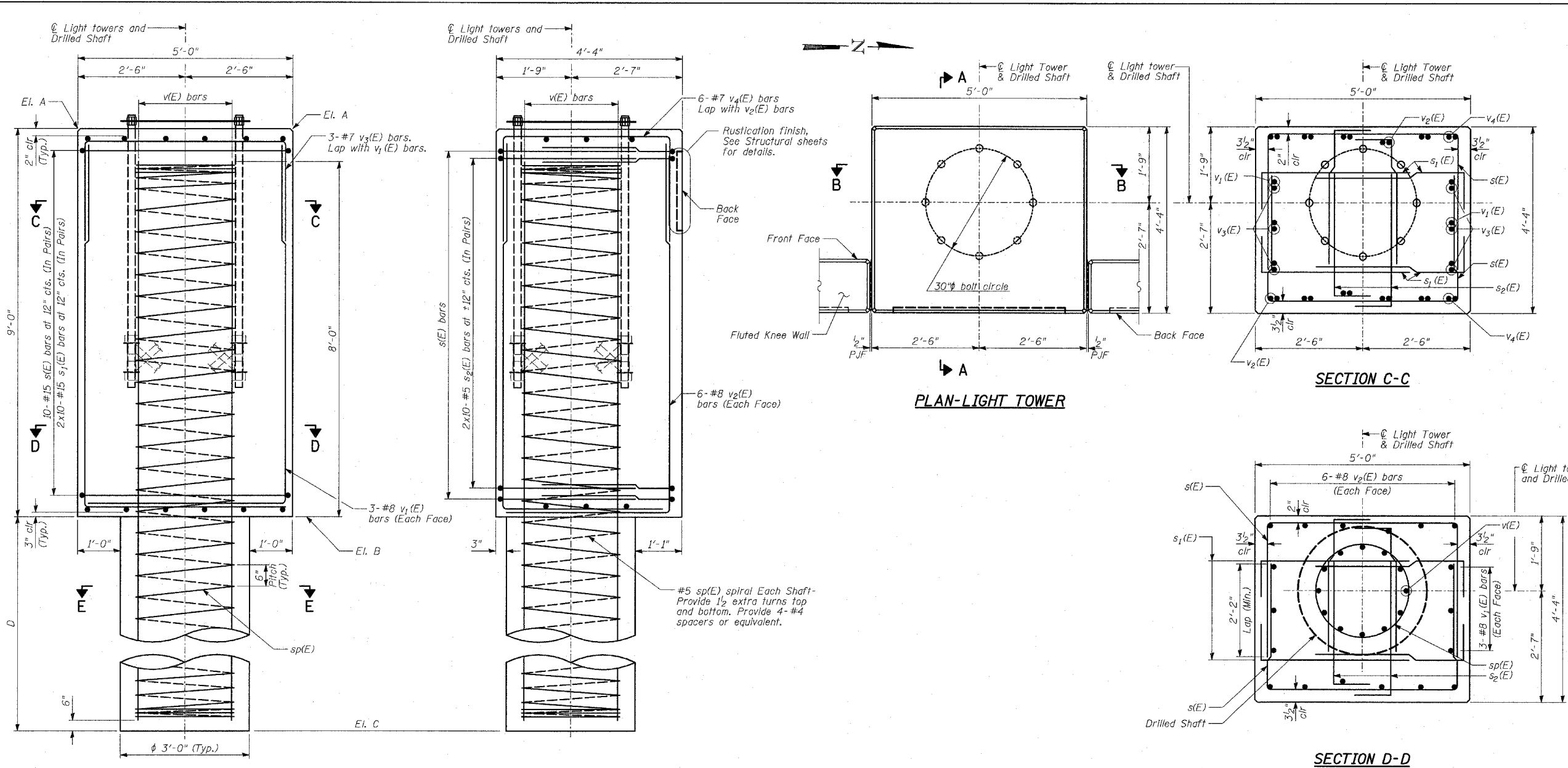
Reinforcement bars designated (E) shall be epoxy coated.

**NOTES:**

- The design loads are based on AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals-2001.
- Drilled shafts shall be installed according to IDOT special provisions for "Drilled Shafts".
- Protective Coat shall be applied to exposed surfaces of the new concrete wall and tower base.
- At all locations where reinforcement bar laps are not in direct contact, the Contractor shall provide sufficient spacing between the vertical bars, equal to the size of the largest concrete aggregate plus 1/2 inch.
- Conduit is not shown for clarity. For location of conduit, see Sheet 3 of 3.
- Cost of anchor rod assembly, conduit and wires for grounding are included with "Concrete Structures".
- Minimum lap for spirals = 2'-6"

**BILL OF MATERIAL**

Item	600P2	600P3	50GH1	5PEF4
Drilled Shaft in Soil 36"	24	23	27	27
Drilled Shaft in Rock 36"	3	4	--	--

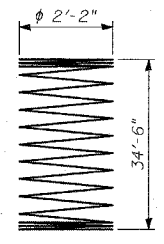


**TOTAL BILL OF MATERIAL**

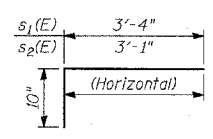
HMLT	EL. A	EL. B	EL. C	D
6 OOP2	12.17	3.17	-23.83	27.00
6 OOP3	11.74	2.74	-24.26	27.00
6 OGH1	10.44	1.44	-25.56	27.00
5 PEF4	12.21	3.21	-23.79	27.00

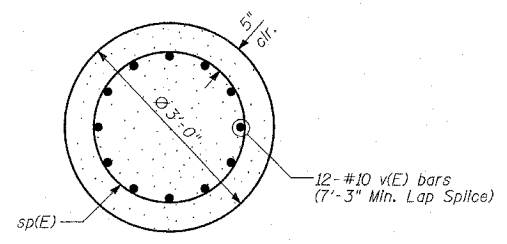
ITEM	UNIT	TOTAL
Structure Excavation	CU YD	86
Concrete Structures	CU YD	37
Protective Coat	SQ YD	43
Rustication Finish	SQ FT	38
Reinforcement Bars, Epoxy Coated	POUND	18,060
Drilled Shaft in Soil 36"	FOOT	128
Drilled Shaft in Rock 36"	FOOT	7



BAR sp(E)



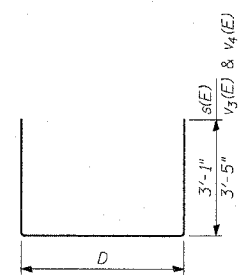
BARS s<sub>1</sub>(E) & s<sub>2</sub>(E)



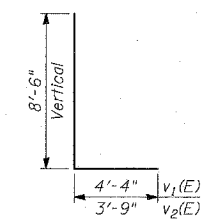
SECTION E-E

**MARK TABLE**

Bar	D
s (E)	4'-5"
v <sub>3</sub> (E)	4'-4"
v <sub>4</sub> (E)	3'-10"



BARS s(E), v<sub>3</sub>(E) & v<sub>4</sub>(E)



BARS v<sub>1</sub>(E) & v<sub>2</sub>(E)

**DESIGN SPECIFICATION**

AASHTO 2002 Standard Specifications for Highway Bridges

**DESIGN STRESSES**

**FIELD UNITS**

f'c = 3,500 psi  
fy = 60,000 psi (Reinforcement)

TYLIN INTERNATIONAL



Signed *Phillip D. Frey*  
Phillip D. Frey, S.E., 11, Lic. No. 081-004826  
Expires 11-30-2006.  
Date 3/18/05

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION  
F.A.I. 94 (DAN RYAN EXPRESSWAY)  
**HMLT FOUNDATION DETAILS  
AT FLUTED KNEE WALLS**  
S.N. 016-W  
SCALE: N.T.S.  
DATE: MARCH 18, 2005  
DESIGNED BY: TD, MAF  
DRAWN BY: MAF, DJR  
CHECKED BY: MI

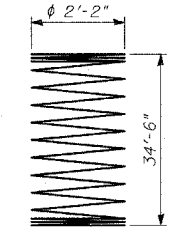
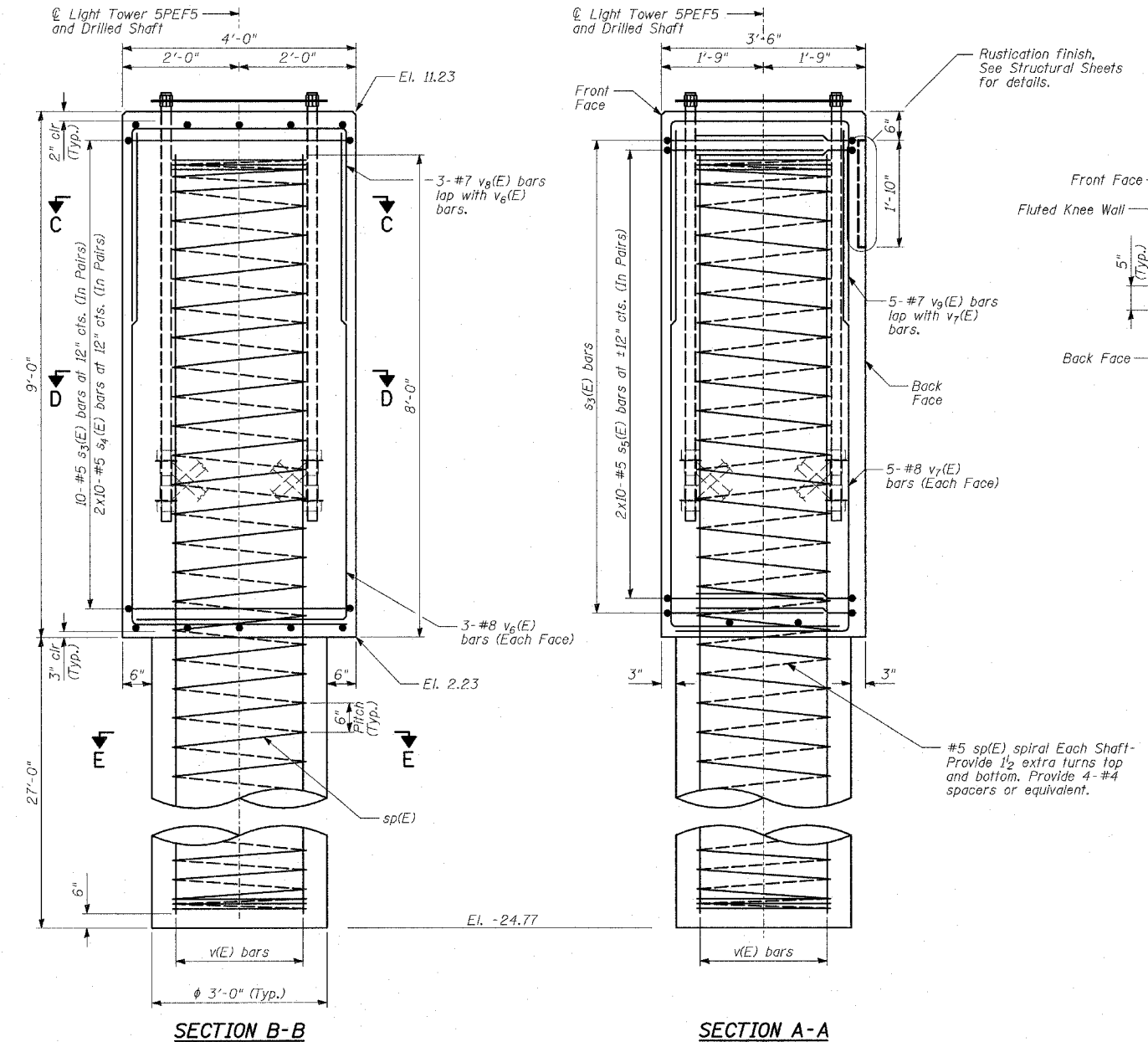
**BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
s <sub>3</sub> (E)	20	#5	8'-9"	□
s <sub>4</sub> (E)	40	#5	3'-8"	□
s <sub>5</sub> (E)	40	#5	3'-6"	□
sp(E)	1	#5	34'-6"	
v(E)	12	#10	34'-6"	—
v <sub>6</sub> (E)	6	#8	11'-10"	L
v <sub>7</sub> (E)	10	#8	11'-5"	L
v <sub>8</sub> (E)	3	#7	10'-2"	L
v <sub>9</sub> (E)	5	#7	9'-10"	L
Reinforcement Bars.		POUND	3,460	
Epoxy Coated				
Structure Excavation		SQ YD	14	
Concrete Structures		CU YD	5	
Protective Coat		SQ YD	7	
Rustication Finish		SQ FT	6	
Drilled Shaft in Soil 36"		FOOT	27	

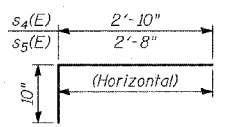
Reinforcement bars designated (E) shall be epoxy coated.

**NOTES:**

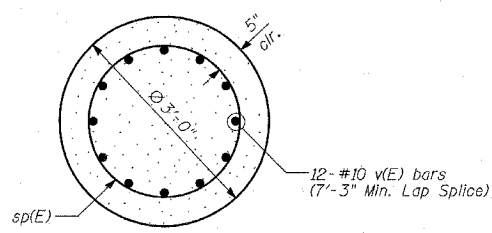
- The design loads are based on AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals-2001.
- Drilled shafts shall be installed according to IDOT special provisions for "Drilled Shafts".
- Protective Coat shall be applied to exposed surfaces of the new concrete wall and tower base.
- At all locations where reinforcement bar laps are not in direct contact, the Contractor shall provide sufficient spacing between the vertical bars, equal to the size of the largest concrete aggregate plus 1/2 inch.
- Conduit is not shown for clarity. For location of conduit, see Sheet 3 of 3.
- Cost of anchor rod assembly, conduit and wires for grounding are included with "Concrete Structures".
- Minimum lap for spirals = 2'-6"



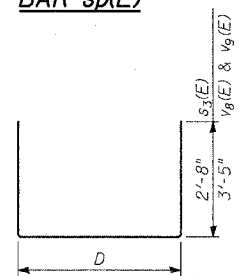
**BAR sp(E)**



**BARS s<sub>4</sub>(E) & s<sub>5</sub>(E)**



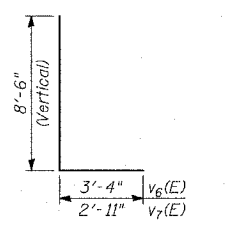
**SECTION E-E**



**BARS s<sub>3</sub>(E), v<sub>8</sub>(E) & v<sub>9</sub>(E)**

**MARK TABLE**

Bar	D
s <sub>3</sub> (E)	3'-5"
v <sub>8</sub> (E)	3'-4"
v <sub>9</sub> (E)	3'-0"



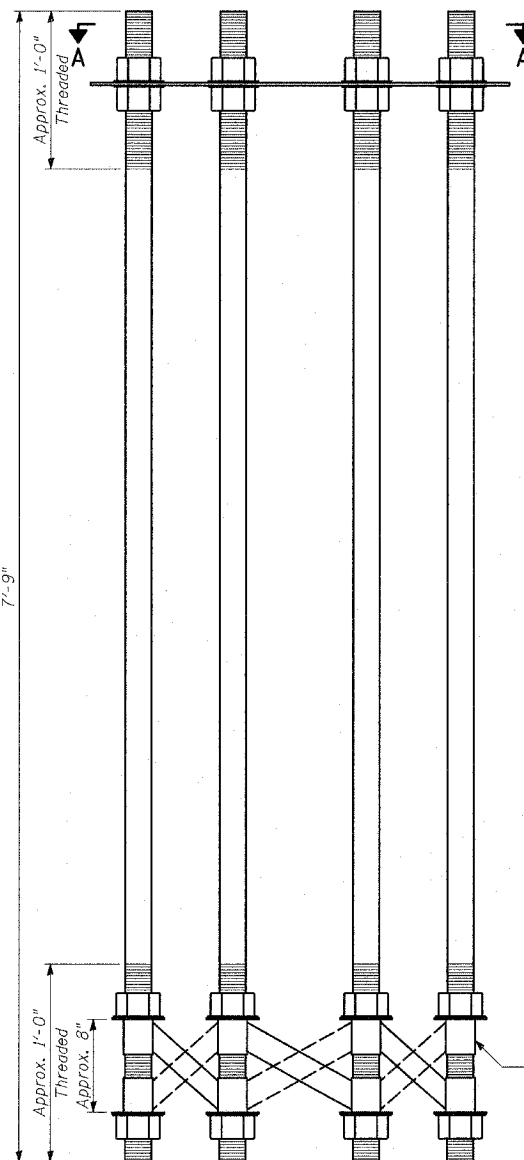
**BARS v<sub>6</sub>(E) & v<sub>7</sub>(E)**

REVISIONS	
NAME	DATE

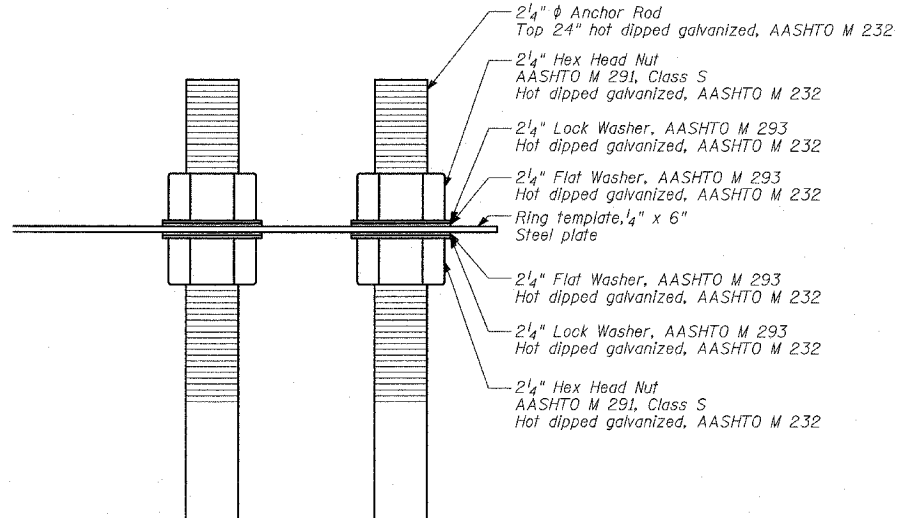
ILLINOIS DEPARTMENT OF TRANSPORTATION  
**F.A.I. 94 (DAN RYAN EXPRESSWAY)**  
**HMLT SPEF5 FOUNDATION DETAILS**

S.N. 016-W  
 SCALE: N.T.S.  
 DATE: MARCH 18, 2005

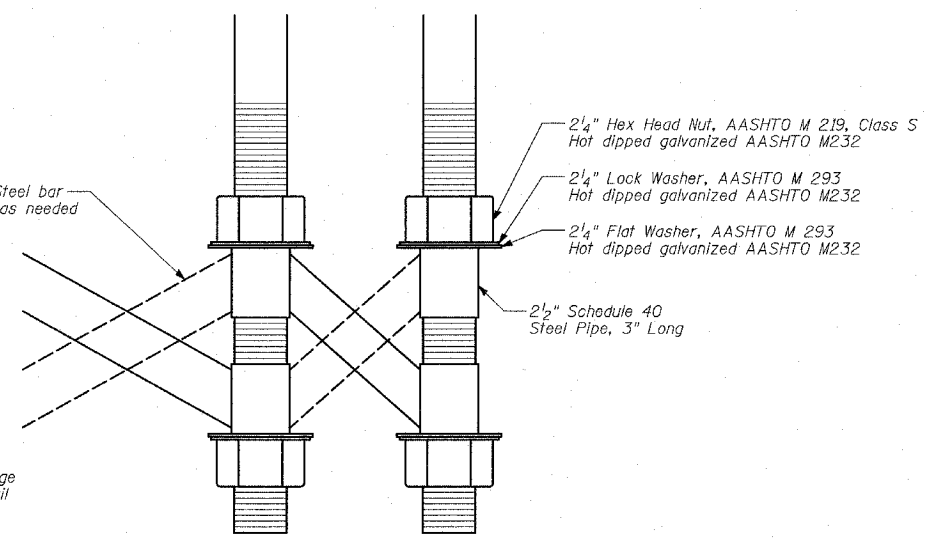
DESIGNED BY: TD, MAF  
 DRAWN BY: MAF, DJR  
 CHECKED BY: MI



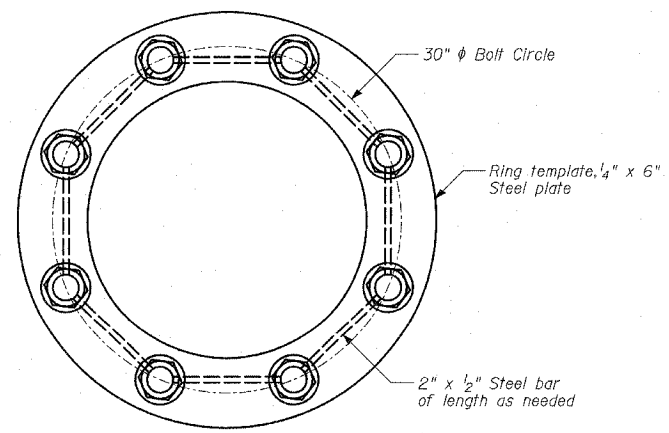
**ANCHOR BOLT CAGE**



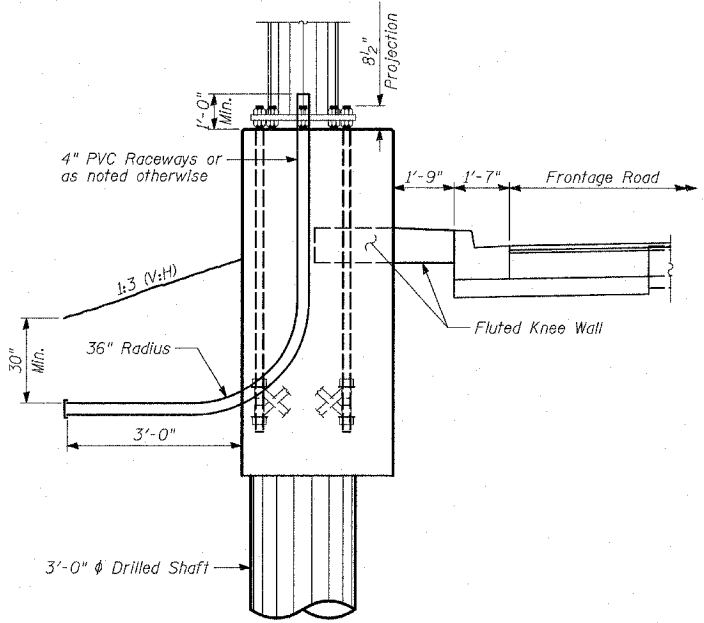
**BOLT CAGE TOP**



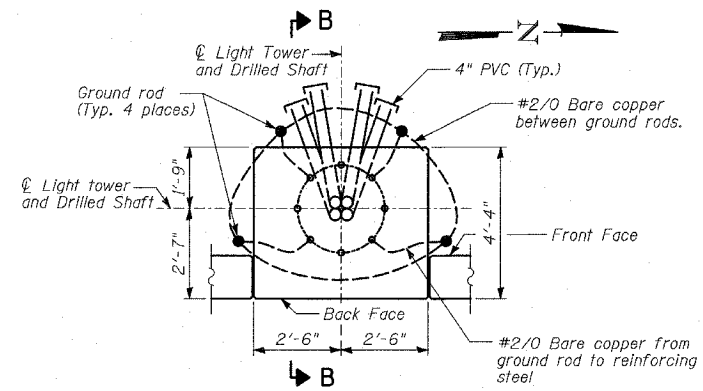
**BOLT CAGE BOTTOM**



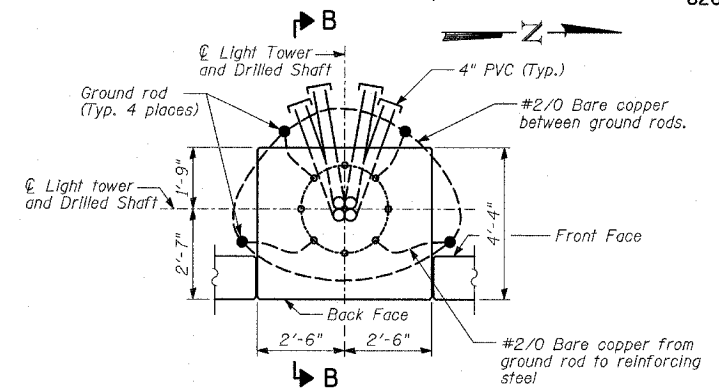
**SECTION A-A**



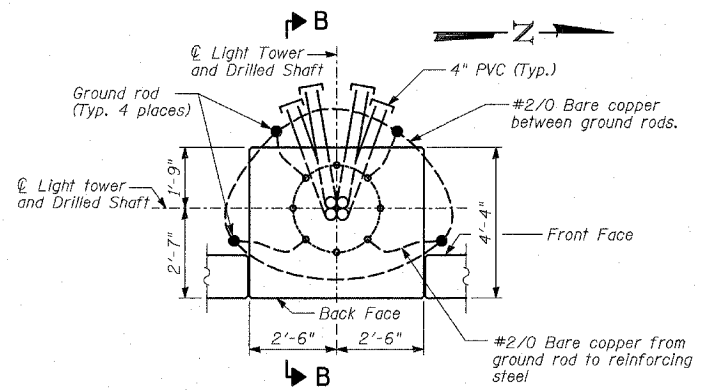
**SECTION B-B**



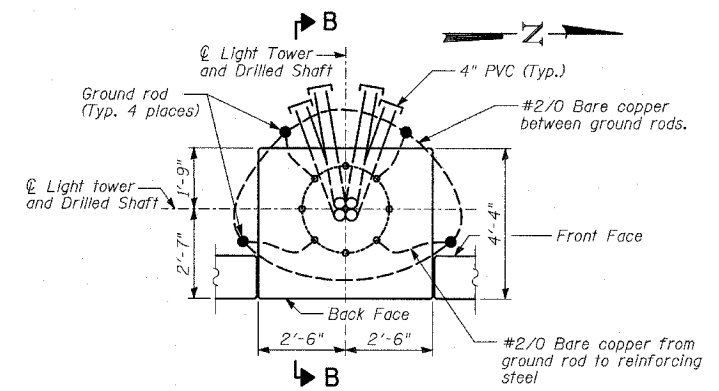
**PLAN - 600P2 CONDUIT PLACEMENT**



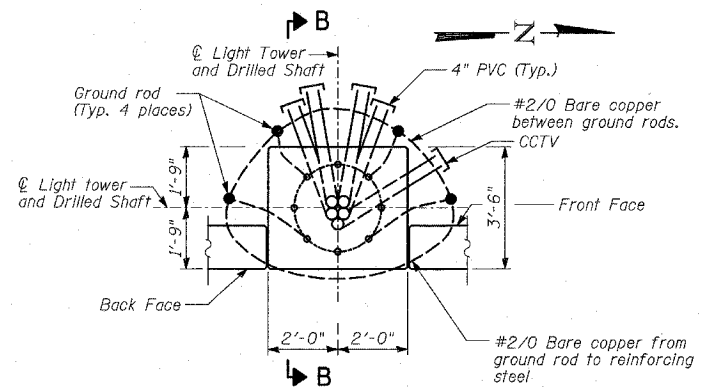
**PLAN - 600P3 CONDUIT PLACEMENT**



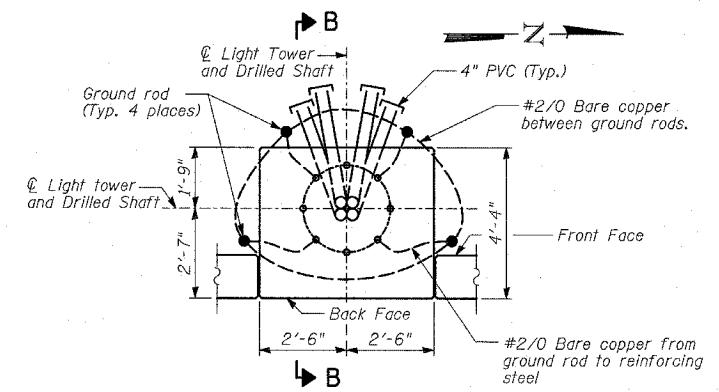
**PLAN - 60GH1 CONDUIT PLACEMENT**



**PLAN - 5PEF4 CONDUIT PLACEMENT**



**PLAN - 5PEF5 CONDUIT PLACEMENT**



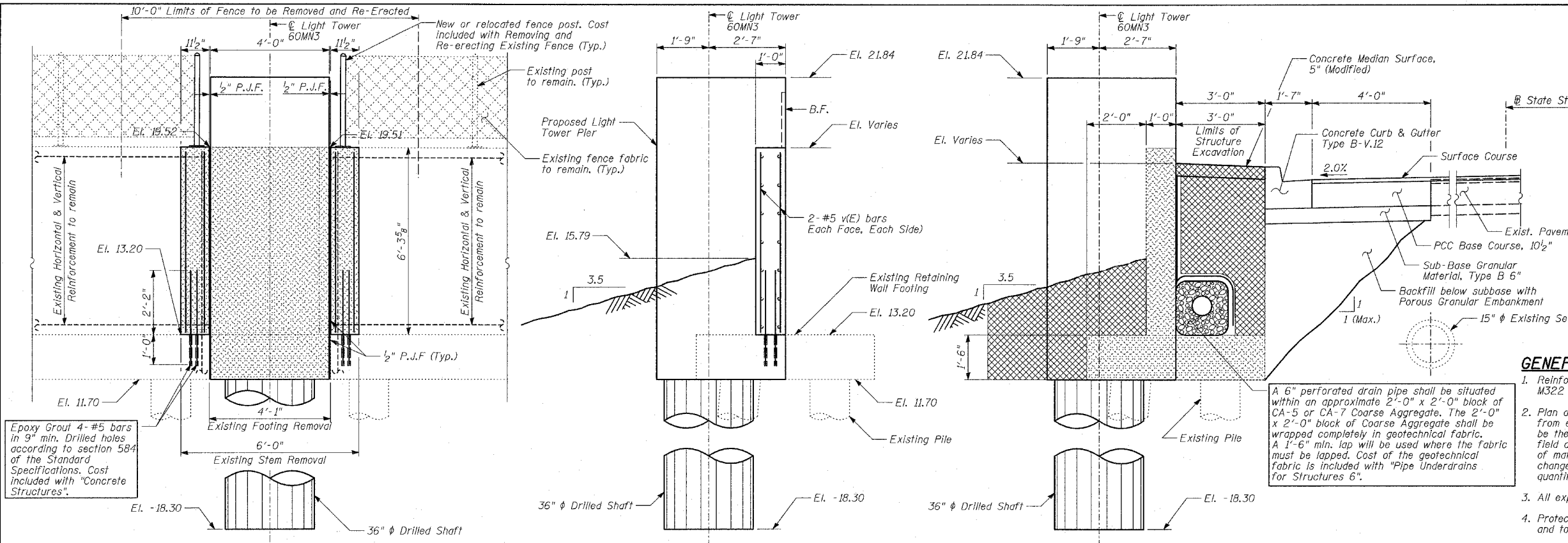
**PLAN - 6ROP2 CONDUIT PLACEMENT**

**NOTES:**

- Anchor rods shall be straight and shall be according to AASHTO M 314 or ASTM F1554, Grade 105 and galvanized according to Article 1006.09.
- Anchor rod information shall be submitted for approval and shall be fully coordinated with tower manufacturer's requirements.
- The Anchor Rods shall be vertical. No adjustment shall be allowed after the foundation is placed.
- The gap between the foundation and the base plate shall be enclosed with a stainless steel screen fastened with a stainless steel band.
- The Light Tower shall not be erected until after the concrete has been cured according to Article 1020.13.
- Two anchor rods opposite each other shall have the anchor rod threads peened after nuts are installed.

REVISIONS	
NAME	DATE

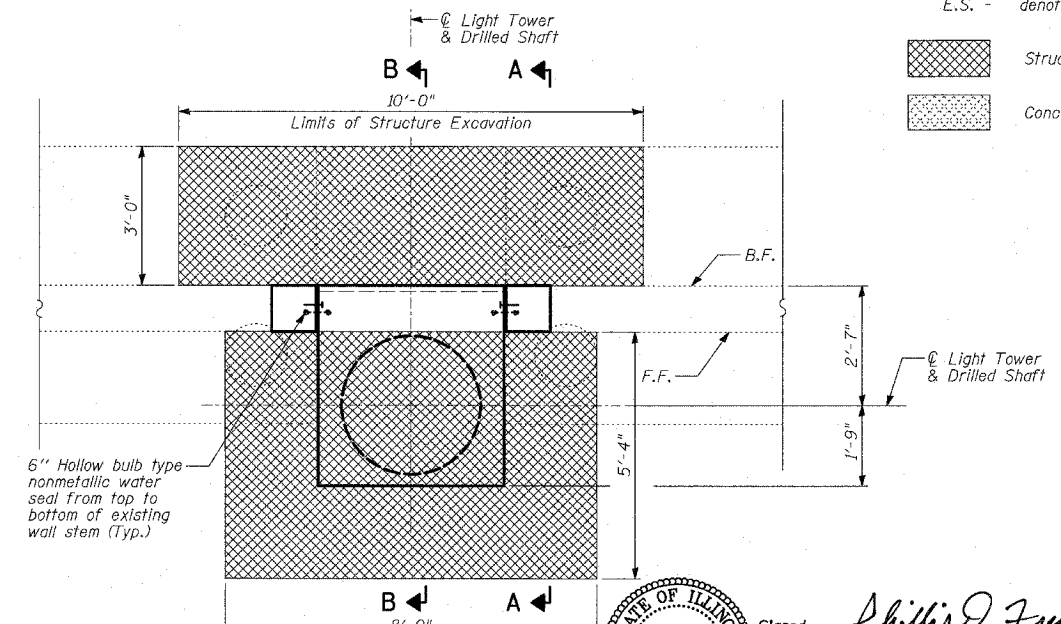
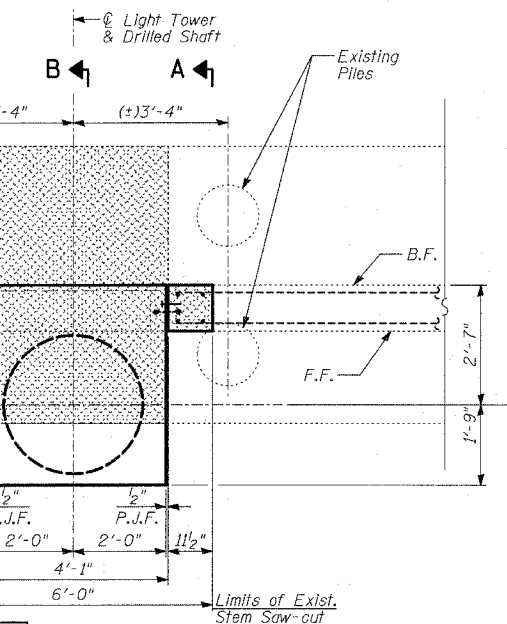
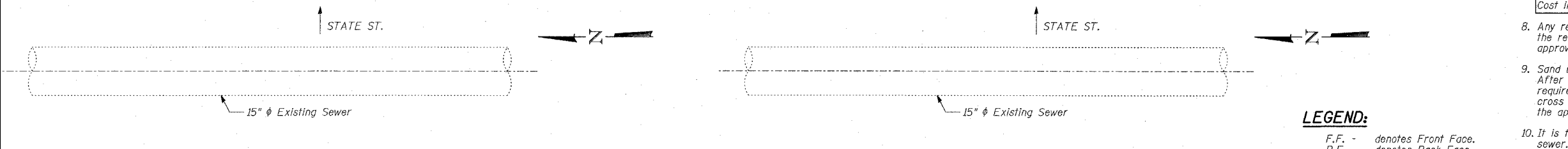




**ELEVATION**

**SECTION A-A**

**SECTION B-B**



**PLAN (Removal Limits)**  
Dan Ryan

**PLAN (Excavation Limits)**  
Dan Ryan

**TOTAL BILL OF MATERIAL**

ITEM	UNIT	TOTAL
Porous Granular Embankment	CU YD	13
Concrete Removal	CU YD	3
Structure Excavation	CU YD	13
Concrete Structures	CU YD	7
Protective Coat	SQ YD	15
Rustication Finish	SQ FT	6
Reinforcement Bars, Epoxy Coated	POUND	3,970
Pipe Underdrains for Structures 6"	FOOT	8
Drilled Shaft in Soil 36"	FOOT	30
Chain Link Fence to be Removed and Re-Erected	FOOT	10

- GENERAL NOTES:**
- Reinforcement bars shall conform to the requirements of AASHTO M31 or M322 Grade 60.
  - Plan dimensions and details relative to existing structure have been taken from existing plans and are subject to nominal construction variations. It shall be the Contractor's responsibility to verify such dimensions and details in the field and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in the scope of the work; however, the Contractor will be paid for the quantity actually finished at the unit price bid for the work.
  - All exposed concrete edges shall be chamfered 3/4" except as noted.
  - Protective Coat shall be applied to exposed surfaces of the new concrete wall and tower base.
  - All construction joints shall be bonded.
  - All elevations shown are based on the Chicago City Datum of 0.00, which is 579.19 Feet above mean tide New York. (NAVD 88)
  - Connect the Pipe Underdrains for Structures, 6" to the existing drainage system. Cost included with "Pipe Underdrain for Structures, 6".
  - Any reinforcement bars that are damaged during concrete removal operations at the removal and replaced portions of wall stem shall be repaired or replaced using approved bar splicer or anchorage system. Cost included with "Concrete Removal".
  - Sand blast clean existing reinforcing bars to be incorporated into new construction. After cleaning, bars shall be evaluated to determine if additional reinforcing bars are required. Damaged or cut bars, or bars that have lost 25% or more of their original cross sectional area shall be supplemented by new in-kind reinforcement bars, to the approval of the engineer. Cost included with "Concrete Removal".
  - It is the Contractor's responsibility to locate existing utilities, especially the existing sewer. Any repairs due to damage of the sewer shall be the Contractor's responsibility.
  - The design loads are based on AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals-2001.
  - Drilled shafts shall be installed according to IDOT special provisions for "Drilled Shafts".
  - At all locations where reinforcement bar laps are not in direct contact, the Contractor shall provide sufficient spacing between the vertical bars, equal to the size of the largest concrete aggregate plus 1/2 inch.
  - Cost of anchor rod assembly, conduit and wires for grounding are included with "Concrete Structures".

**LEGEND:**

- F.F. - denotes Front Face.
- B.F. - denotes Back Face.
- E.F. - denotes Each Face.
- E.S. - denotes Each Side.

Structure Excavation

Concrete Removal

**DESIGN SPECIFICATION**  
 AASHTO 2002 Standard Specifications for Highway Bridges

**DESIGN STRESSES**  
 FIELD UNITS  
 f'c = 3,500 psi  
 fy = 60,000 psi (Reinforcement)

**INDEX OF SHEETS:**

- EXISTING WALL REMOVAL AND RECONSTRUCTION FOR LIGHT TOWER 60MN3.
- LIGHT TOWER 60MN3 FOUNDATION DETAILS.
- LIGHT TOWER 60MN3 CONDUIT DETAILS.

**TYLIN INTERNATIONAL**

Sealed  
 PHILLIP D. FREY  
 081-004826  
 CHICAGO, ILLINOIS  
 REGISTERED PROFESSIONAL ENGINEER  
 State of Illinois  
 Expires 11-30-2006  
 Signed *Phillip D. Frey*  
 Phillip D. Frey, S.E., Il. Lic. No. 081-004826  
 Expires 11-30-2006  
 Date 3/18/05

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION  
**F.A.I. 94 (DAN RYAN EXPRESSWAY)**

**EXISTING WALL REMOVAL AND RECONSTRUCTION FOR LIGHT TOWER 60MN3**

SCALE:  
 DRAWN BY: DJR, MAF  
 DESIGNED BY: TD, MAF  
 DATE: MARCH 18, 2005  
 CHECKED BY: MI, TD

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94		COOK	860	406
STA. 2200+00.00 TO STA. 2362+00.00				
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT				
(1516.1, 1717 & 1818) R-B				
				62694

**BILL OF MATERIAL**

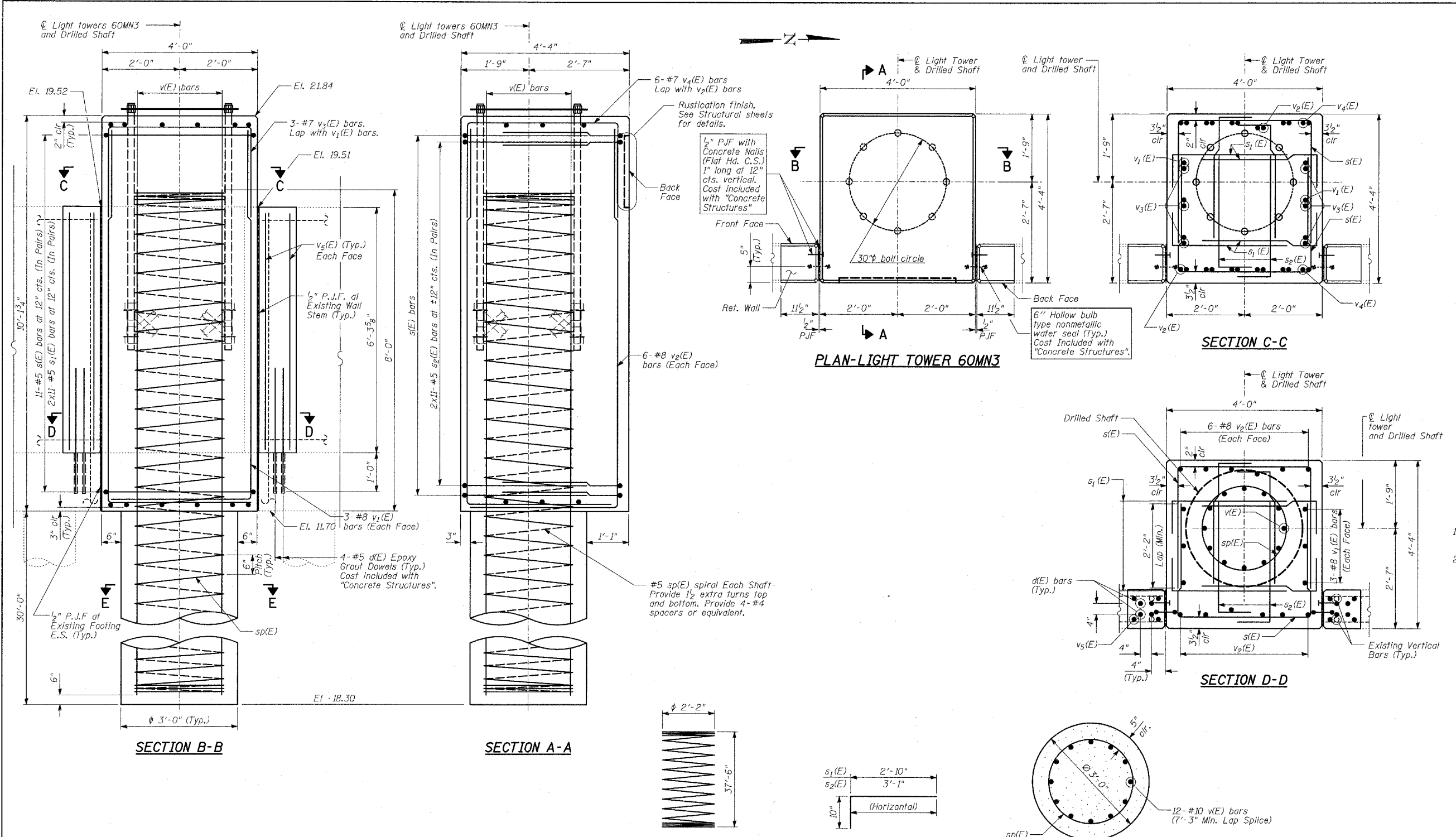
Bar	No.	Size	Length	Shape
d(E)	8	#5	3'-2"	—
s(E)	22	#5	9'-7"	□
s <sub>1</sub> (E)	44	#5	3'-8"	□
s <sub>2</sub> (E)	44	#5	3'-11"	□
sp(E)	1	#5	37'-6"	
v(E)	12	#10	37'-6"	—
v <sub>1</sub> (E)	6	#8	13'-0"	L
v <sub>2</sub> (E)	12	#8	13'-5"	L
v <sub>3</sub> (E)	3	#7	10'-2"	□
v <sub>4</sub> (E)	6	#7	10'-8"	□
v <sub>5</sub> (E)	8	#5	6'-0"	□

Item	Quantity	Unit
Reinforcement Bars, Epoxy Coated	3,970	POUND
Structure Excavation	7	CU YD
Concrete Structures	7	CU YD
Protective Coat	15	SQ YD
Rustication Finish	6	SQ FT
Drilled Shaft in Soil 36"	30	FOOT

Reinforcement bars designated (E) shall be epoxy coated.

**NOTES:**

- Conduit is not shown for clarity. For location of conduit, see Sheet 3 of 3.
- Minimum lap for spirals = 2'-6"



**TYLIN INTERNATIONAL**

SHEET 2 OF 3

ILLINOIS DEPARTMENT OF TRANSPORTATION  
 F.A.I. 94 (DAN RYAN EXPRESSWAY)  
 LIGHT TOWER 60MN3 FOUNDATION DETAILS

REVISIONS	
NAME	DATE

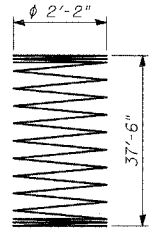
DESIGNED BY: TD, MAF  
 DRAWN BY: DJR, MAF  
 CHECKED BY: MI, TD  
 SCALE: N.T.S.  
 DATE: MARCH 18, 2005

**MARK TABLE**

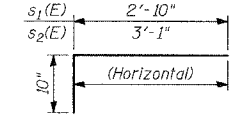
Bar	D
s(E)	3'-5"
v <sub>3</sub> (E)	3'-4"
v <sub>4</sub> (E)	3'-10"

**BARS s(E), v<sub>3</sub>(E) & v<sub>4</sub>(E)**

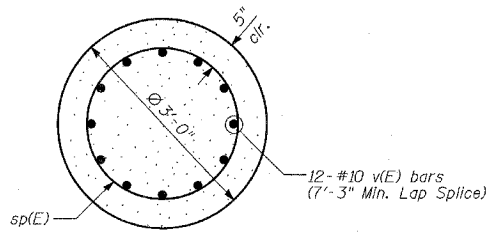
**BARS v<sub>1</sub>(E) & v<sub>2</sub>(E)**



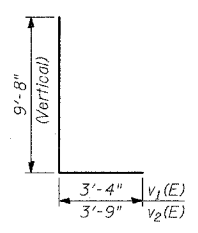
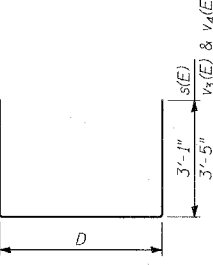
**BAR sp(E)**



**BARS s<sub>1</sub>(E) & s<sub>2</sub>(E)**



**SECTION E-E**



© Light towers 60MN3 and Drilled Shaft

© Light towers 60MN3 and Drilled Shaft

© Light Tower & Drilled Shaft

© Light tower and Drilled Shaft

© Light Tower & Drilled Shaft

© Light Tower & Drilled Shaft

© Light tower and Drilled Shaft

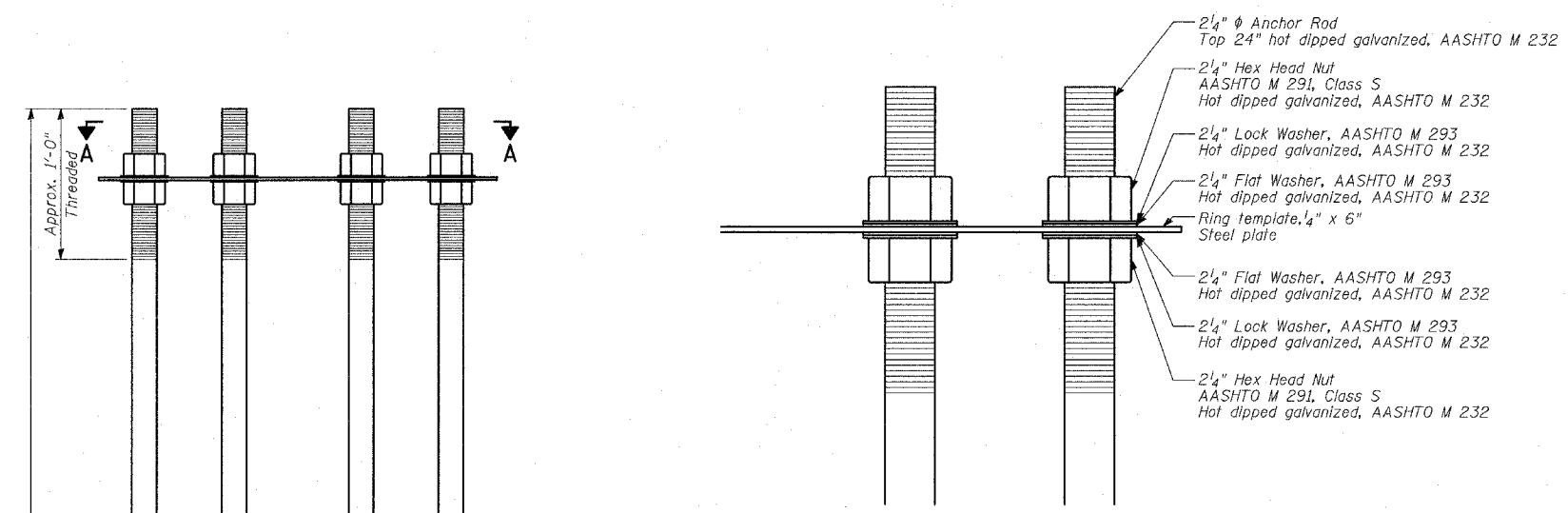
El. 18.30

$\frac{1}{2}$ " P.J.F. with Concrete Nails (Flat Hd. C.S.) 1" long at 12" cts. vertical. Cost Included with "Concrete Structures".

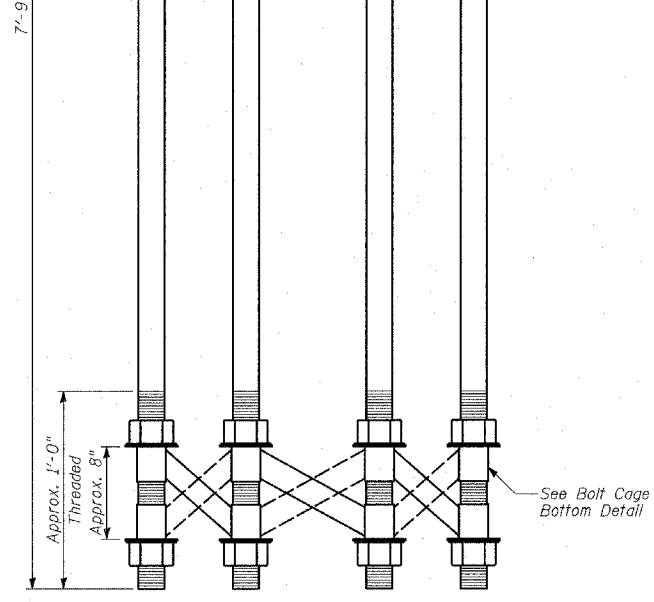
6" Hollow bulb type nonmetallic water seal (Typ.) Cost Included with "Concrete Structures".

4-#5 d(E) Epoxy Grout Dowels (Typ.) Cost Included with "Concrete Structures".

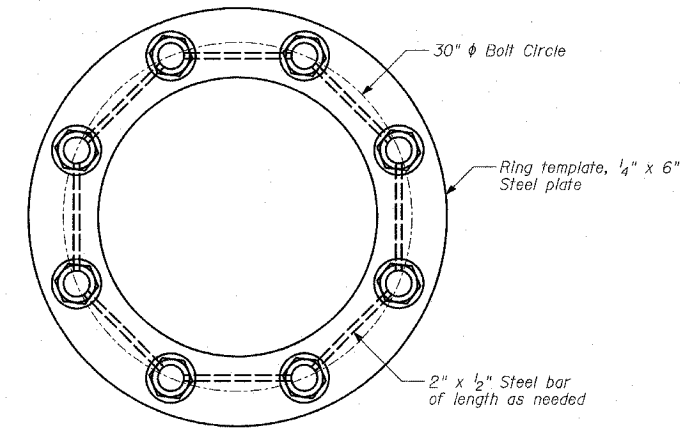
#5 sp(E) spiral Each Shaft Provide  $\frac{1}{2}$  extra turns top and bottom. Provide 4-#4 spacers or equivalent.



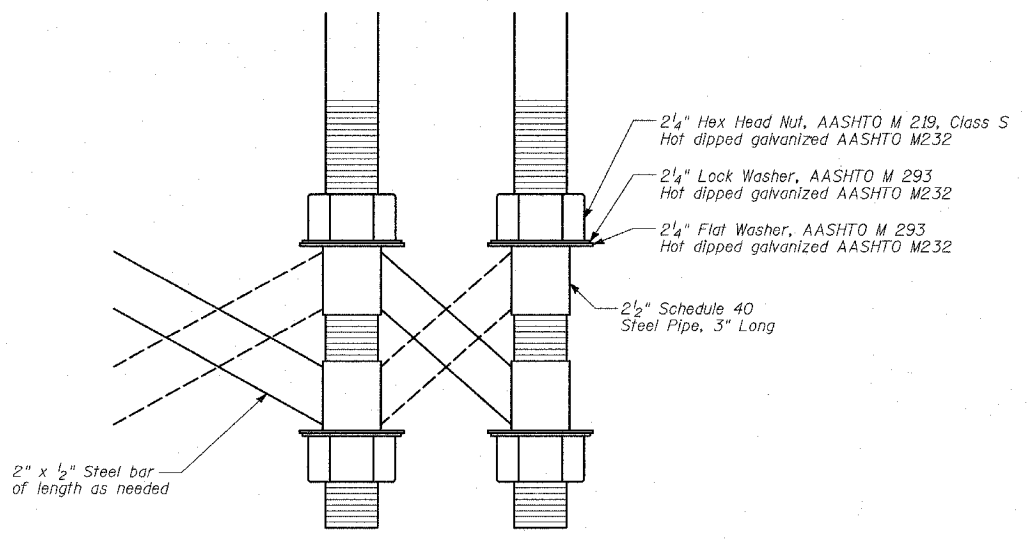
**BOLT CAGE TOP**



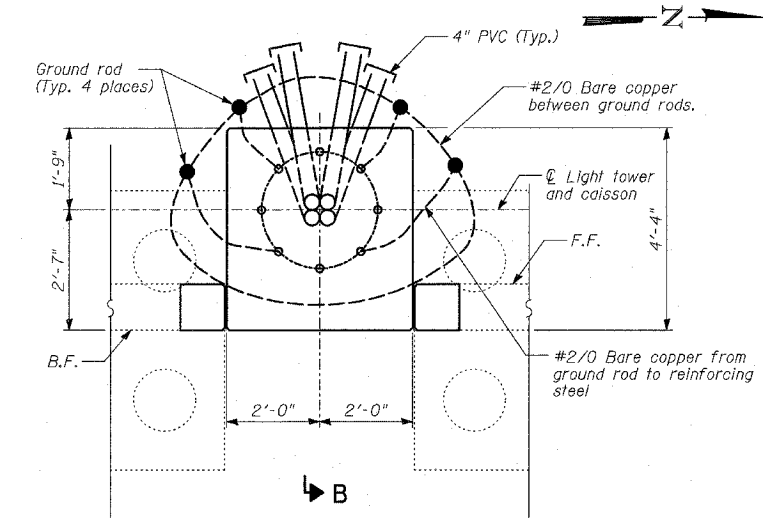
**ANCHOR BOLT CAGE**



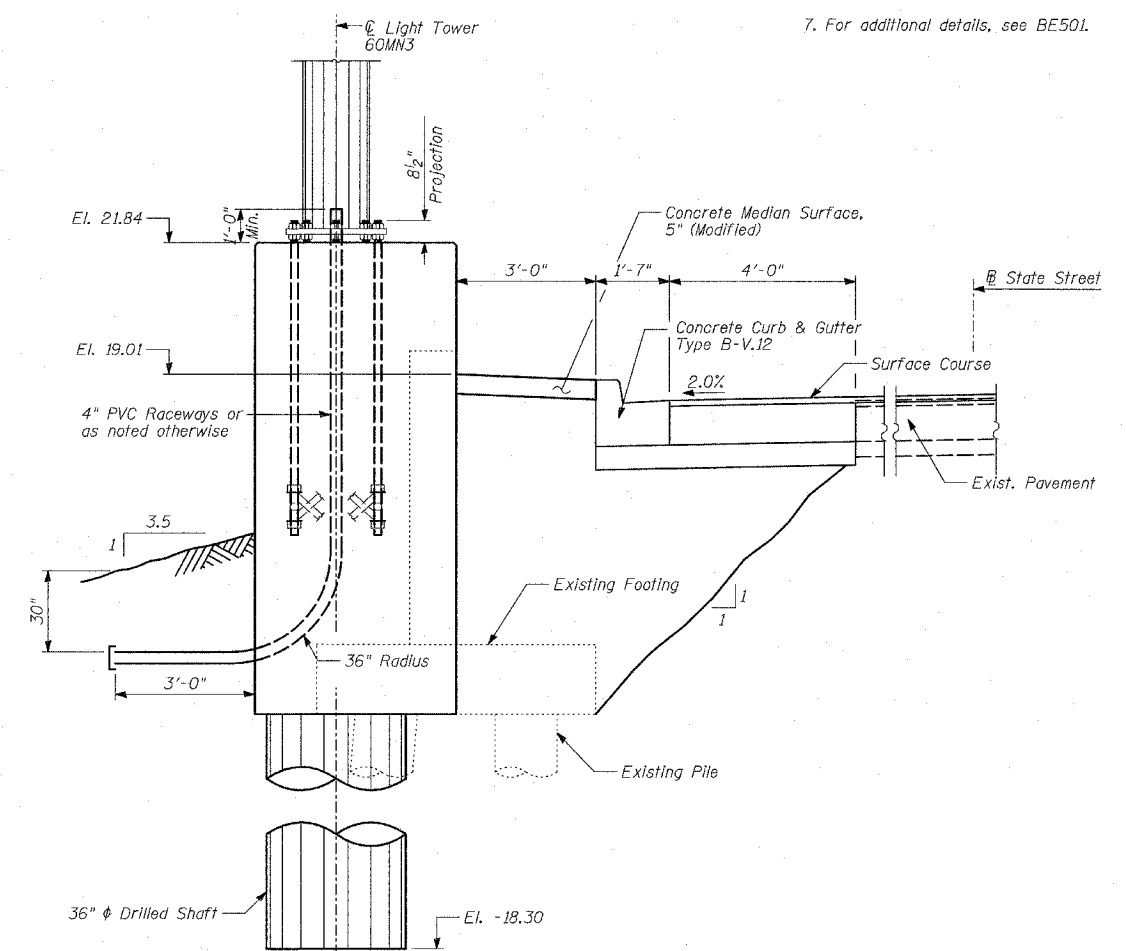
**SECTION A-A**



**BOLT CAGE BOTTOM**



**PLAN - 60MN3 CONDUIT PLACEMENT**



**SECTION B-B**

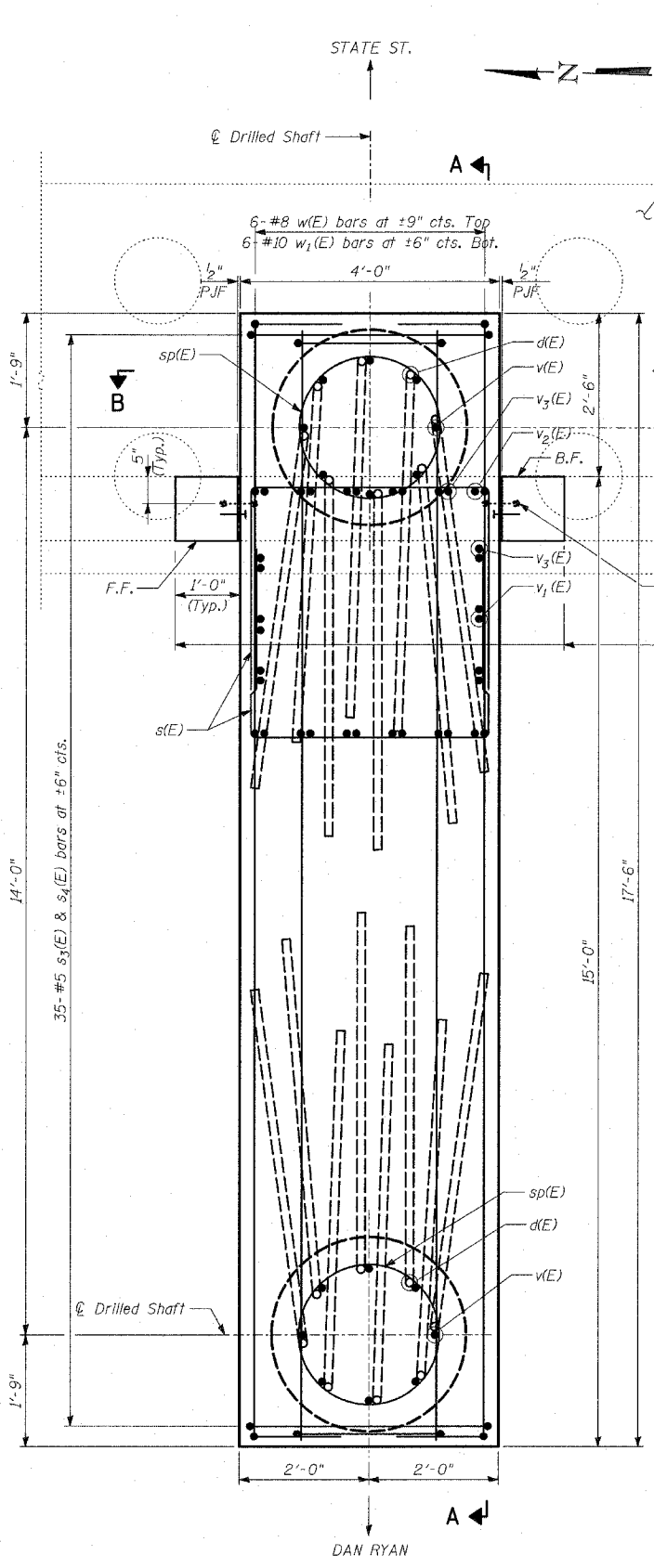
**NOTES:**

- Anchor rods shall be straight and shall be according to AASHTO M 314 or ASTM F1554, Grade 105 and galvanized according to article 1006.09.
- Anchor rod information shall be submitted for approval and shall be fully coordinated with tower manufacturer's requirements.
- The Anchor Rods shall be vertical. No adjustment shall be allowed after the foundation is placed.
- The gap between the foundation and the base plate shall be enclosed with a stainless steel screen fastened with a stainless steel band.
- The Light Tower shall not be erected until after the concrete has been cured according to Article 1020.13.
- Two anchor rods opposite each other shall have the anchor rod threads peened after nuts are installed.
- For additional details, see BE501.

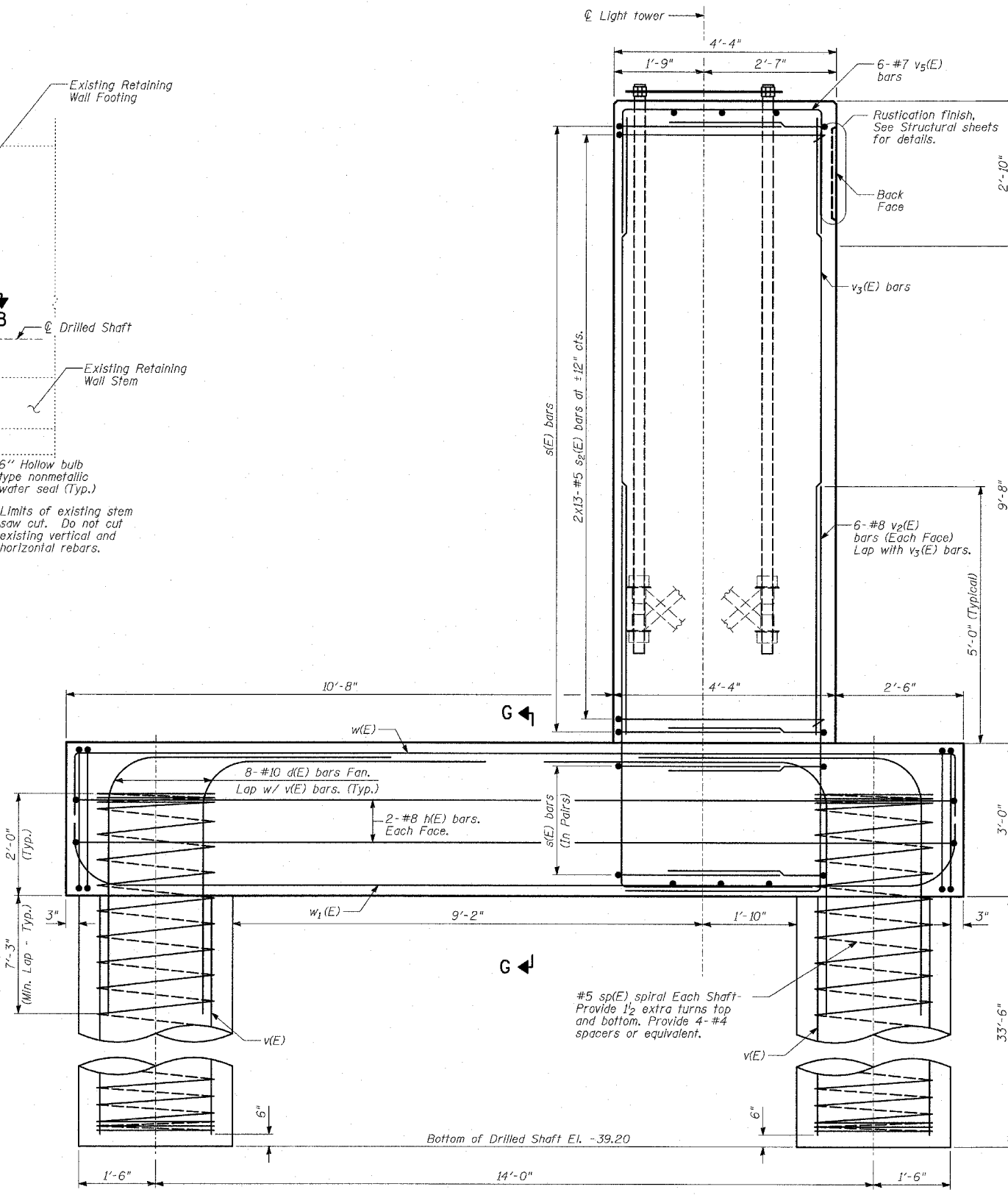
REVISIONS	
NAME	DATE



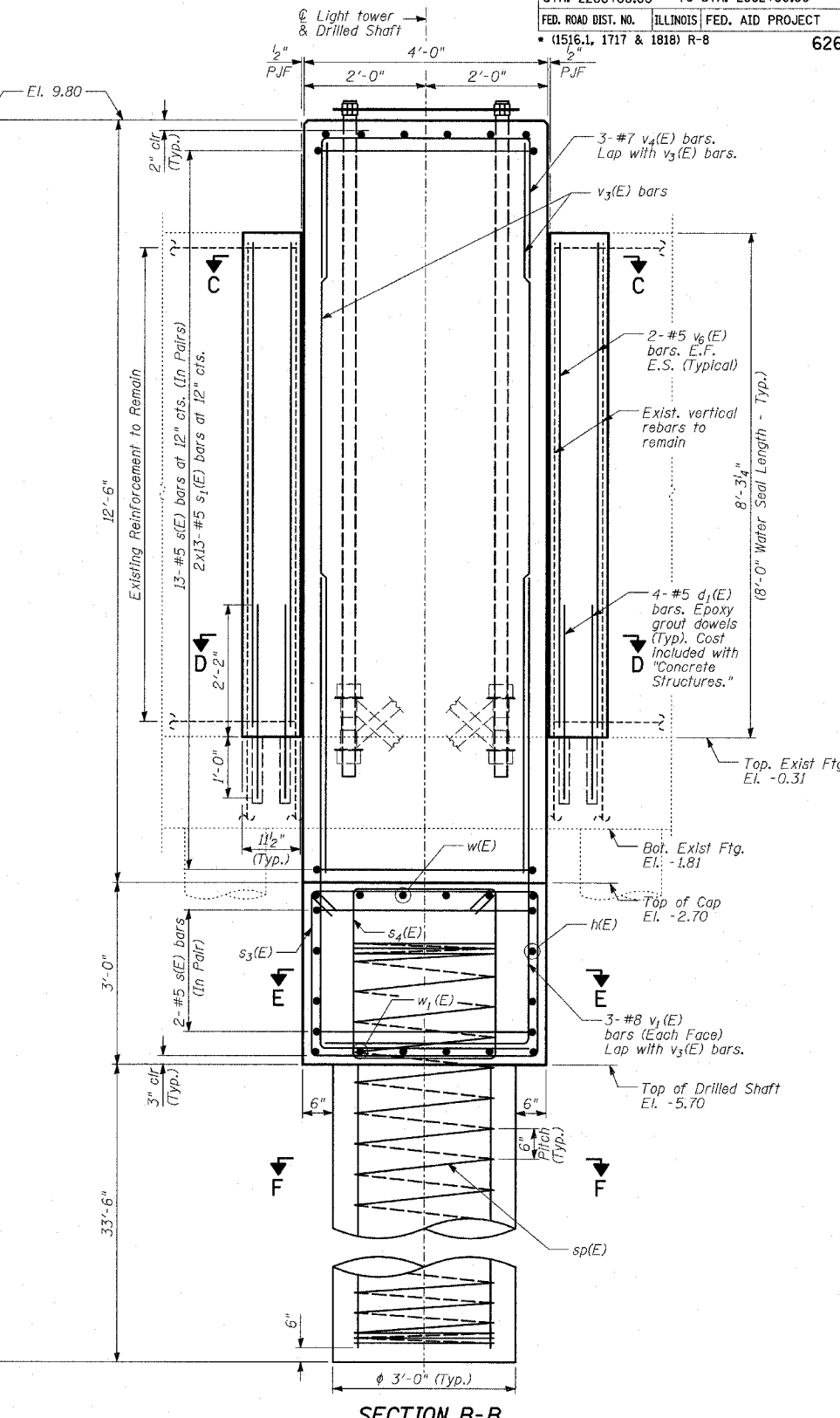




**SECTIONAL PLAN E-E**



**SECTION A-A**



**SECTION B-B**

**NOTES:**  
 1. Conduit is not shown for clarity. For location of conduit, see Sheet 4 of 4.  
 2. Minimum lap for spirals = 2'-6"

**LEGEND:**  
 F.F. - denotes Front Face.  
 B.F. - denotes Back Face.  
 E.F. - denotes Each Face.  
 E.S. - denotes Each Side.

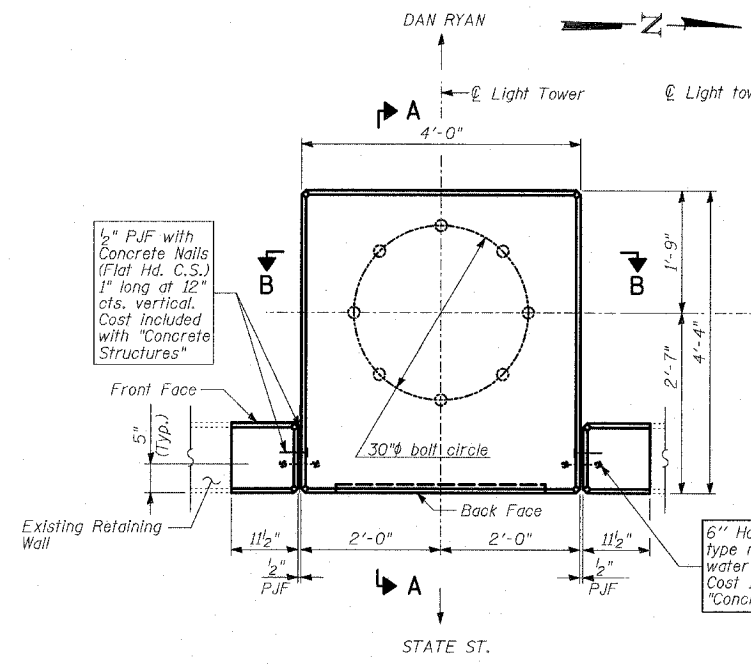
**TYLIN INTERNATIONAL**

REVISIONS	
NAME	DATE

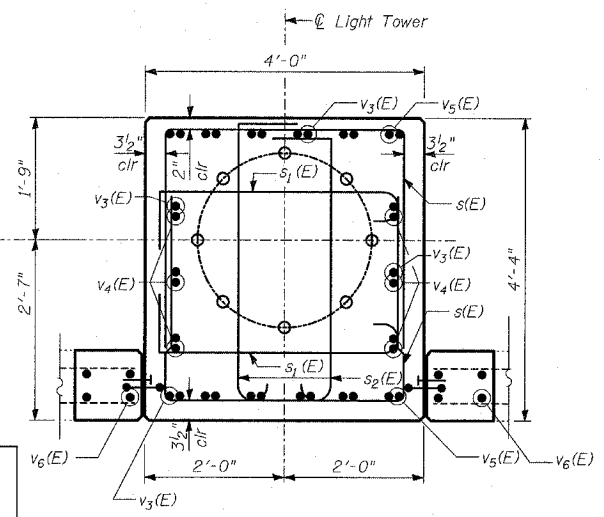
ILLINOIS DEPARTMENT OF TRANSPORTATION  
 F.A.I. 94 (DAN RYAN EXPRESSWAY)  
 LIGHT TOWER 60GH2 FOUNDATION DETAILS  
 (1 OF 2)

SCALE:  
 DATE: MARCH 18, 2005  
 DESIGNED BY: TD, DJR  
 DRAWN BY: DJE, MAF  
 CHECKED BY: MI, TD

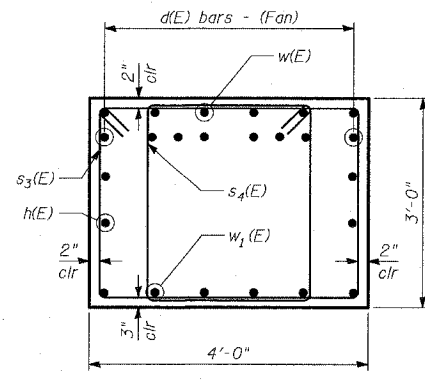
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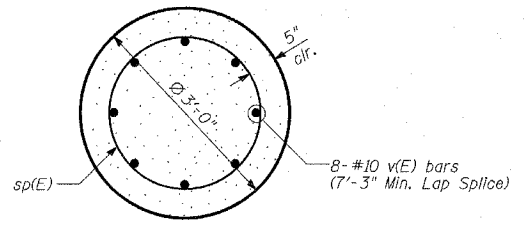
**PLAN-LIGHT TOWER**



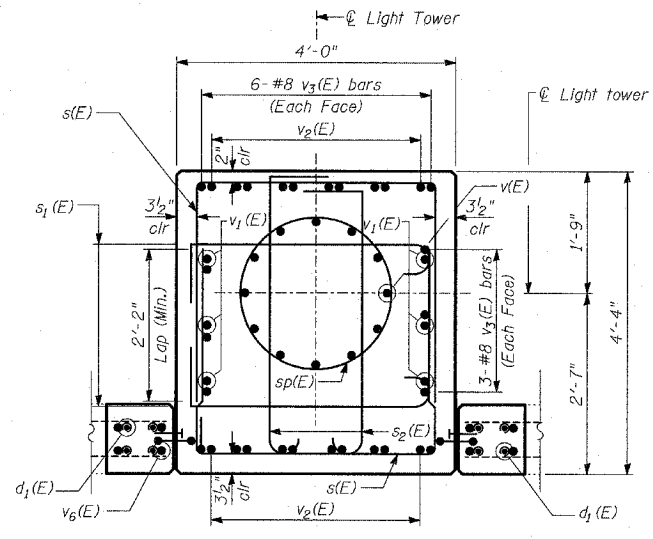
**SECTION C-C**



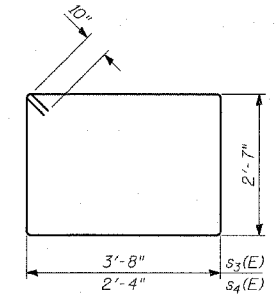
**SECTION G-G**



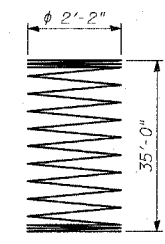
**SECTION F-F**



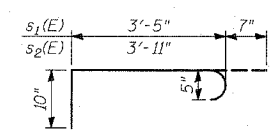
**SECTION D-D**



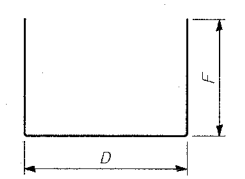
**BARS s3(E) & s4(E)**



**BAR sp(E)**



**BARS s1(E) & s2(E)**



**BARS h(E), s(E), v4(E), v5(E), w(E) & w1(E)**

**MARK TABLE**

Bar	D	F
h(E)	16'-11"	1'-4"
s(E)	3'-5"	3'-1"
v4(E)	3'-4"	3'-5"
v5(E)	3'-9"	3'-5"
w(E)	17'-1"	1'-4"
w1(E)	17'-0"	1'-4"

**MARK TABLE**

Bar	G	H
d(E)	9'-9"	5'-6"
v1(E)	7'-8"	3'-3"
v2(E)	7'-8"	3'-8"



**BARS d(E), v1(E) & v2(E)**

**BILL OF MATERIAL**  
(Per HMLT Foundation)

Bar	No.	Size	Length	Shape
d(E)	16	#10	15'-3"	┌
d1(E)	8	#5	3'-2"	—
h(E)	4	#8	19'-7"	└
s(E)	30	#5	9'-7"	┌
s1(E)	26	#5	4'-10"	└
s2(E)	26	#5	5'-4"	└
s3(E)	35	#5	14'-2"	└
s4(E)	35	#5	11'-6"	└
sp(E)	2	#5	35'-0"	
v(E)	16	#10	33'-0"	┌
v1(E)	6	#8	10'-11"	└
v2(E)	12	#8	11'-4"	└
v3(E)	18	#8	12'-3"	└
v4(E)	3	#7	10'-2"	└
v5(E)	6	#7	10'-7"	└
v6(E)	8	#5	8'-0"	└
w(E)	6	#8	19'-9"	└
w1(E)	6	#10	19'-8"	└
Reinforcement Bars, Epoxy Coated		POUND	8,320	
Structure Excavation		CU YD	30	
Concrete Structures		CU YD	17	
Protective Coat		SQ YD	15	
Rustication Finish		SQ FT	8	
Drilled Shaft in Soil 36"		FOOT	67	

Reinforcement bars designated (E) shall be epoxy coated.

**NOTES:**

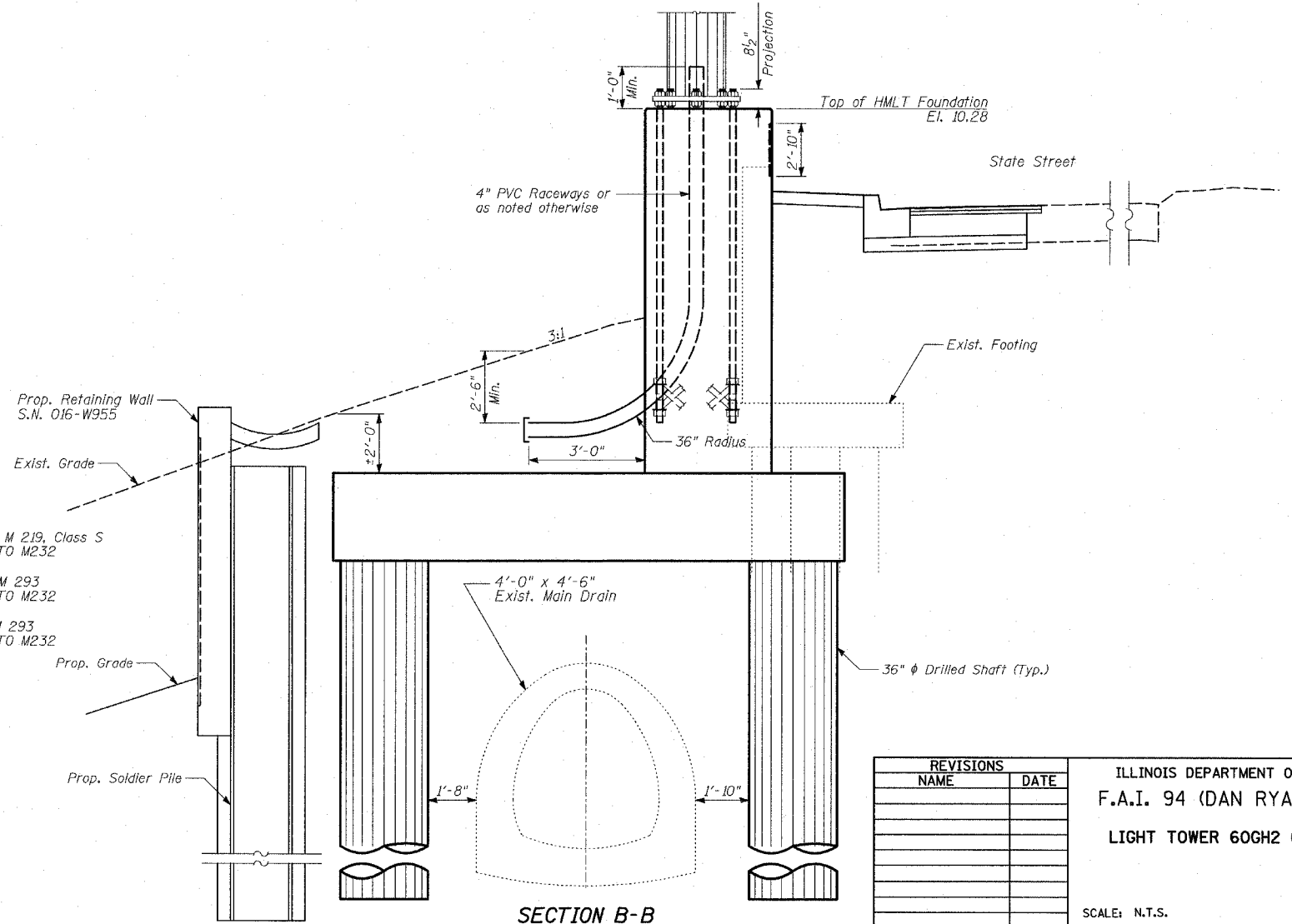
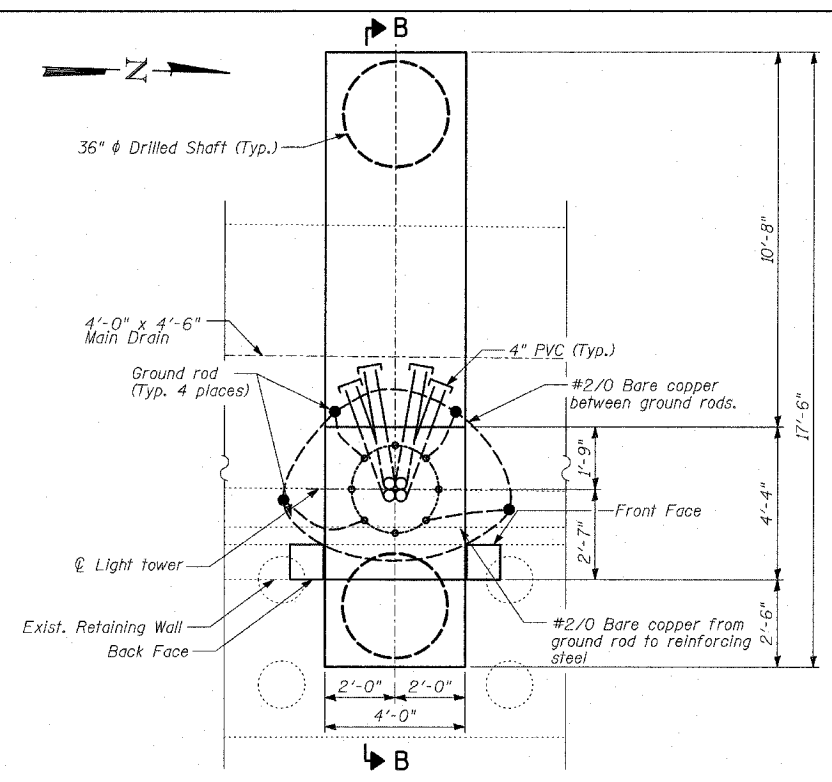
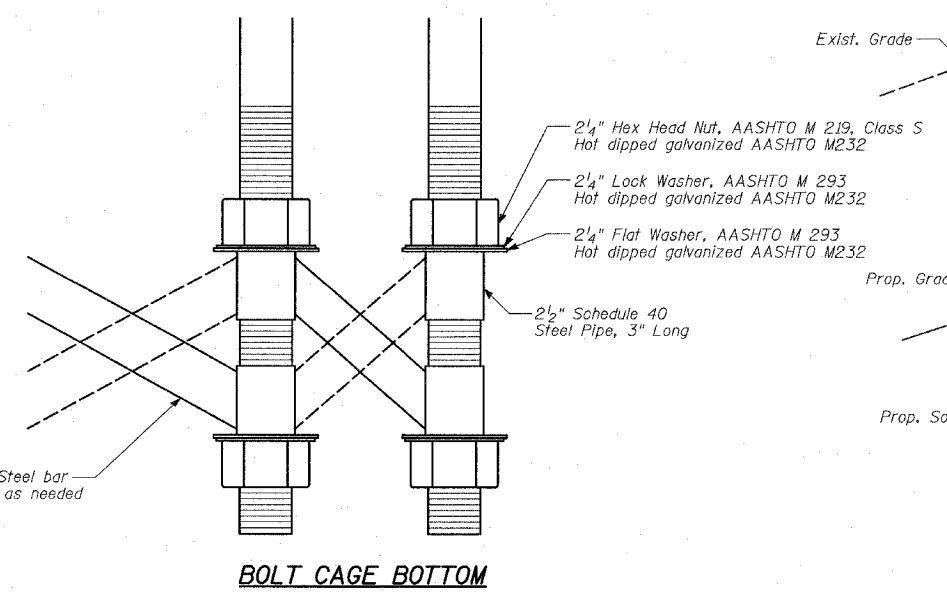
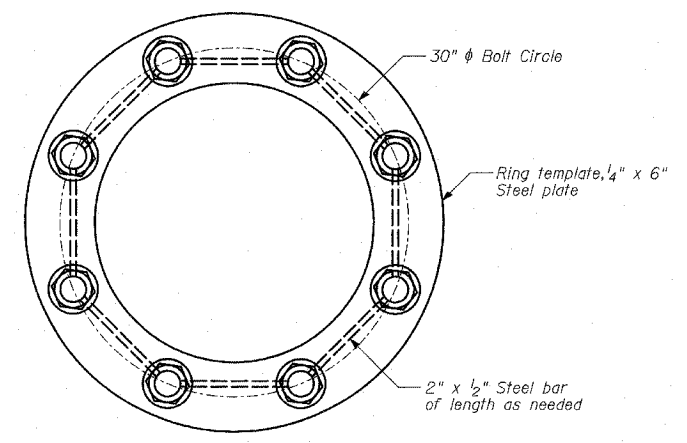
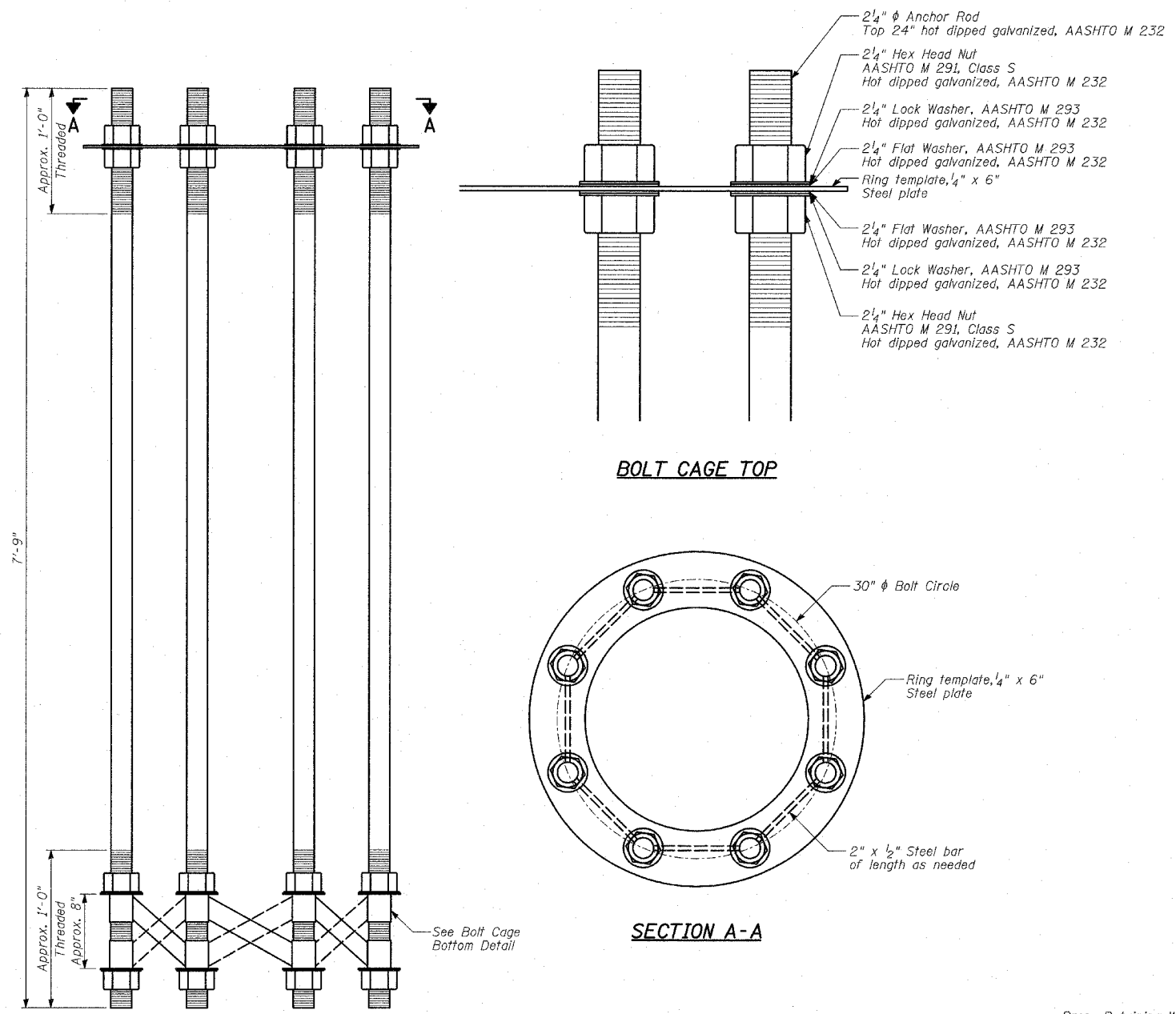
- Conduit is not shown for clarity. For location of conduit, see Sheet 4 of 4.
- Minimum lap for spirals = 2'-6"

REVISIONS	
NAME	DATE

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94		COOK	860	411
STA. 2200+00.00		TO STA. 2362+00.00		
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT	
(1516.1, 1717 & 1818) R-8		62694		

**NOTES:**

- Anchor rods shall be straight and shall be according to AASHTO M 314 or ASTM F1554, Grade 105 and galvanized according to Article 1006.09.
- Anchor rod information shall be submitted for approval and shall be fully coordinated with tower manufacturer's requirements.
- The Anchor Rods shall be vertical. No adjustment shall be allowed after the foundation is placed.
- The gap between the foundation and the base plate shall be enclosed with a stainless steel screen fastened with a stainless steel band.
- The Light Tower shall not be erected until after the concrete has been cured according to Article 1020.13.
- Two anchor rods opposite each other shall have the anchor rod threads peened after nuts are installed.
- For additional details see BE501.



TYLIN INTERNATIONAL

REVISIONS	
NAME	DATE

SHEET 4 OF 4

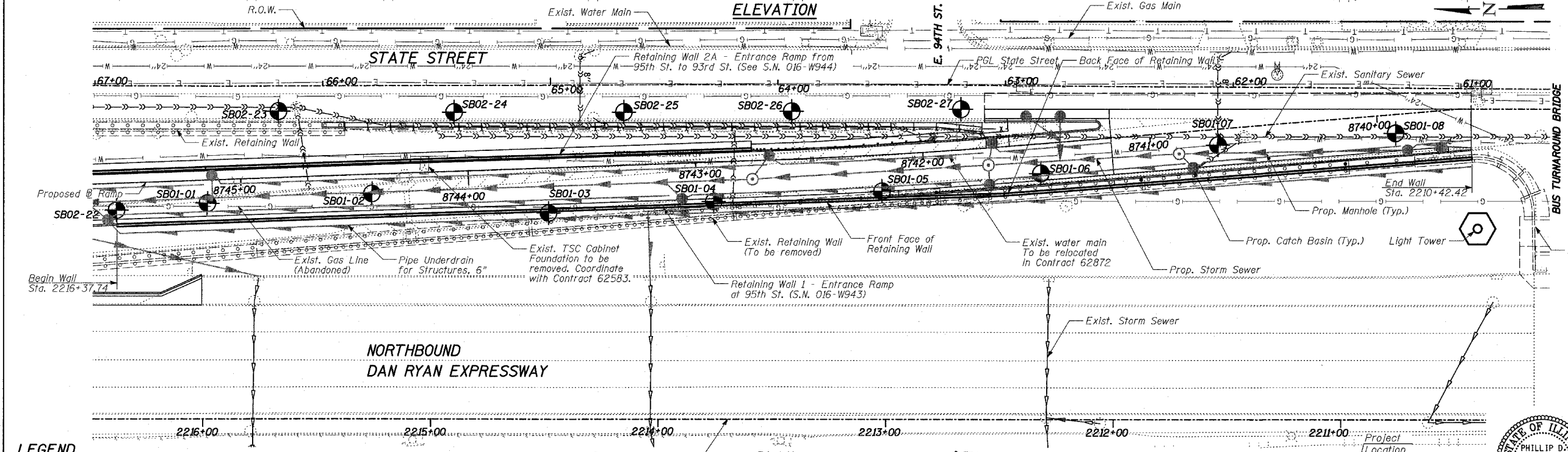
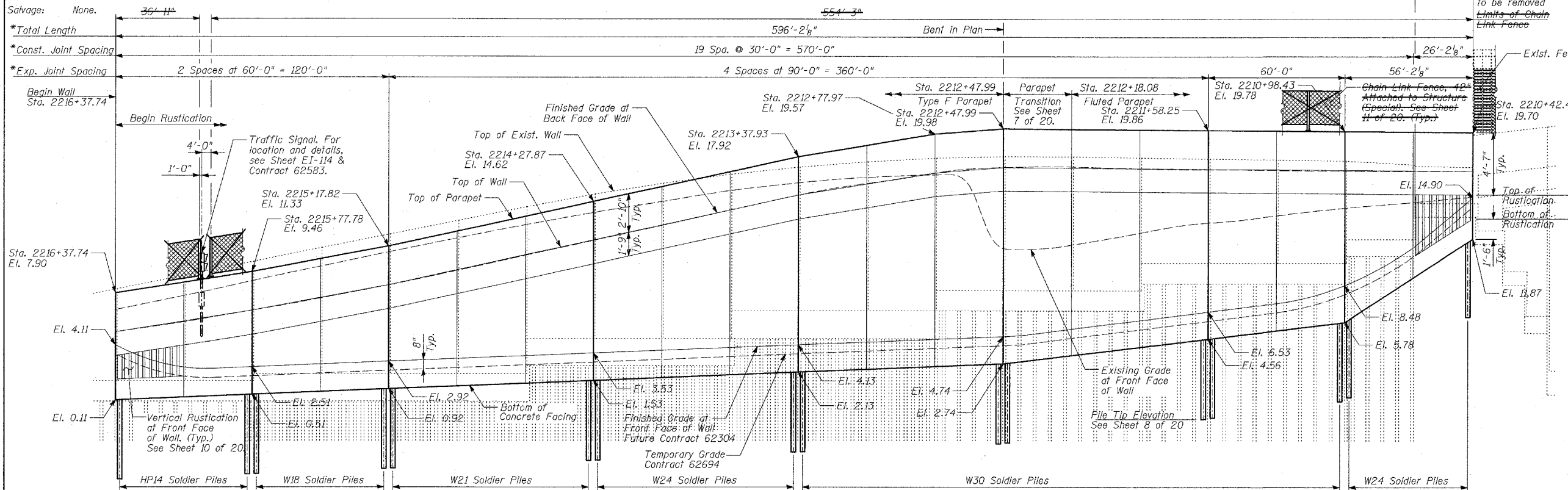
ILLINOIS DEPARTMENT OF TRANSPORTATION  
F.A.I. 94 (DAN RYAN EXPRESSWAY)  
LIGHT TOWER 60GH2 CONDUIT DETAILS

DESIGNED BY: TD, DJR  
DRAWN BY: DJR  
CHECKED BY: MI, TD

SCALE: N.T.S.  
DATE: MARCH 18, 2005

Benchmark: BM 3522 Set "+" on south southeast flange ball of hydrant ± halfway between north and south entrance to Citgo, east side of State St. and north of 95th St. El. 18.06

Existing Structure: Reinforced concrete cantilever retaining wall, supported on concrete pile footings, along the Northbound Dan Ryan entrance ramp at 91st Street. Built in 1960. Total length ±630'-8"

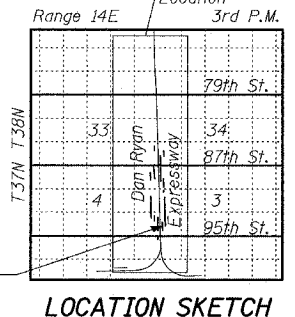
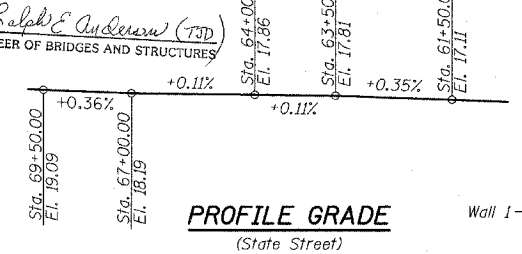
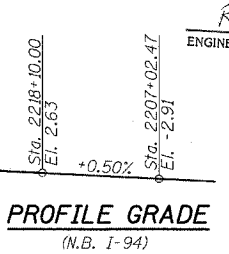
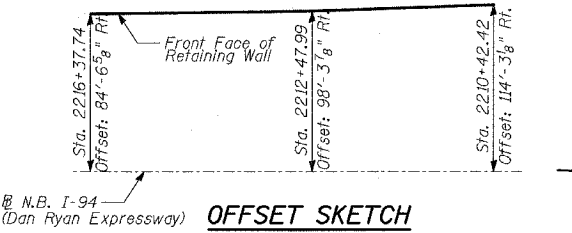


**LEGEND**

- Boring Location
- Measured along Front Face of Wall.

**DESIGN SPECIFICATION**  
 AASHTO 2002 Standard Specifications for Highway Bridges

**DESIGN STRESSES**  
**FIELD UNITS**  
 $f'_c = 3,500$  psi  
 $f_y = 60,000$  psi (Reinforcement)  
 $f_y = 36,000$  psi (M270 Grade 36) Soldier Piles

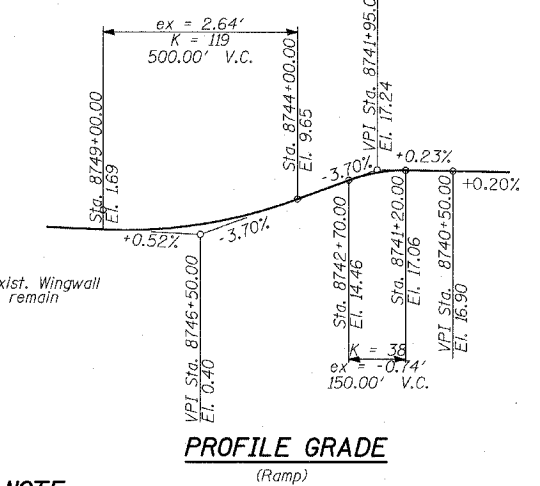


F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	*	COOK	860	412
STA. 2200+00.00 TO STA. 2362+00.00				
FED. ROAD DIST. NO. ILLINOIS		FED. AID PROJECT		
(1516.1, 1717 & 1818) R-8		62694		

**TOTAL BILL OF MATERIAL**

ITEM	UNIT	TOTAL
Removal of Existing Structures No. 1	EACH	1
Structure Excavation	CU YD	386
Concrete Structures	CU YD	336
Protective Coat	SQ YD	1,045
Rustication Finish	SQ FT	4,585
Stud Shear Connectors	EACH	1,266
Untreated Timber Lagging	SQ FT	5,411
Furnishing Soldier Piles (HP Section)	FOOT	194
Furnishing Soldier Piles (W Section)	FOOT	3,268
Reinforcement Bars, Epoxy Coated	POUND	40,310
Geocomposite Wall Drain	SQ YD	635
Pipe Underdrains for Structures, 6"	FOOT	597
Pile Extraction	EACH	3
Drilling and Setting Soldier Piles (in Soil)	CU FT	23,276
Chain Link Fence, 42" Attached to Structure (Special)	FOOT	592

- INDEX OF SHEETS**
- GENERAL PLAN
  - REMOVAL PLAN AND DETAILS
  - PLAN AND ELEVATION STA. 2216+37.74 TO STA. 2215+17.82
  - PLAN AND ELEVATION STA. 2215+17.82 TO STA. 2213+37.93
  - PLAN AND ELEVATION STA. 2213+37.93 TO STA. 2211+58.25
  - PLAN AND ELEVATION STA. 2211+58.25 TO STA. 2210+42.42
  - PARAPET TRANSITION
  - PILE LAYOUT, DETAILS & BILL OF MATERIAL
  - WALL CROSS SECTIONS & DETAILS
  - RUSTICATION DETAILS
  - CHAIN LINK FENCE, 42" ATTACHED TO STRUCTURE (SPECIAL)
  - BORING LOGS SB01-01 & SB01-02
  - BORING LOGS SB01-03 & SB01-04
  - BORING LOG SB01-05
  - BORING LOGS SB01-06 & SB01-07
  - BORING LOGS SB01-07 & SB01-08
  - BORING LOG SB02-22
  - EXISTING RETAINING WALL (1 OF 3)
  - EXISTING RETAINING WALL (2 OF 3)
  - EXISTING RETAINING WALL (3 OF 3)



**NOTE:**

- For General Notes, see Sheet 2 of 20.

**APPROVED FOR STRUCTURAL ADEQUACY ONLY**  
 PHILLIP D. FREY, J.E.  
 ENGINEER OF BRIDGES AND STRUCTURES  
 081-004826 CHICAGO, ILLINOIS  
 Expires 11-30-2006.

Signed: Phillip D. Frey  
 Date: 3/18/05

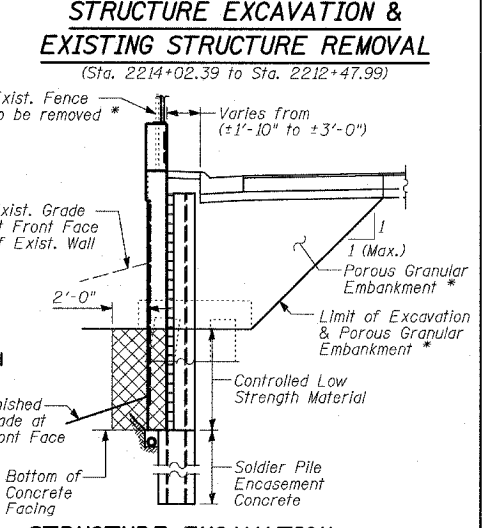
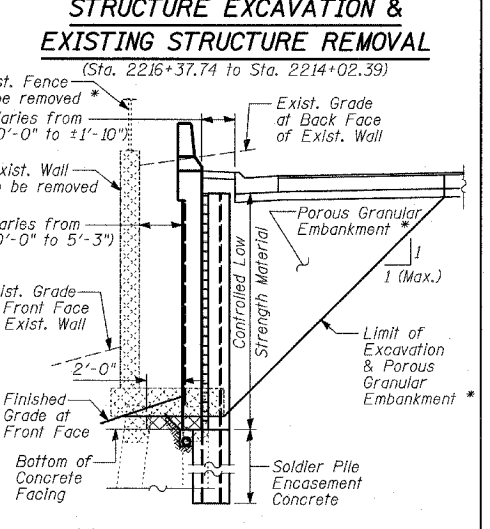
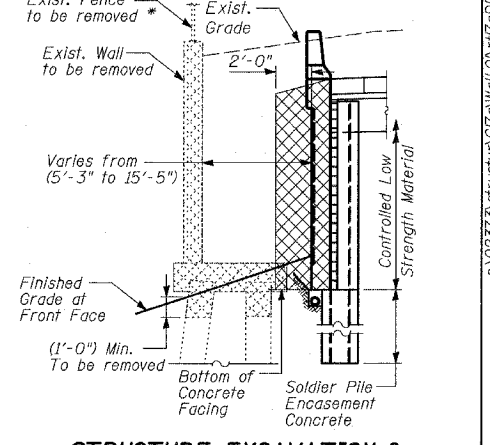
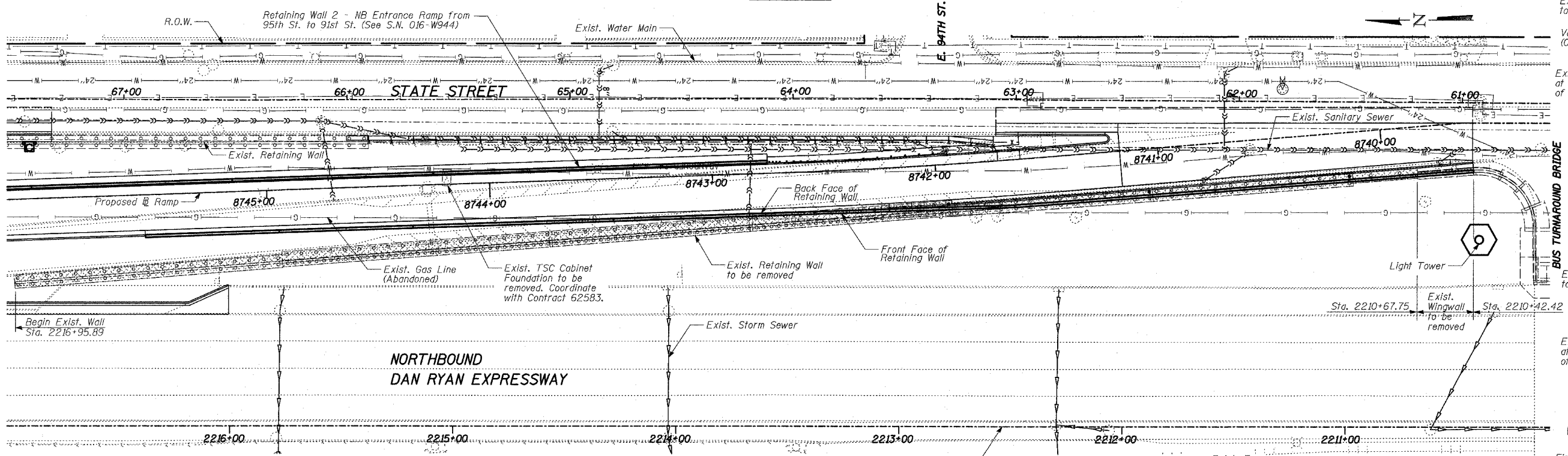
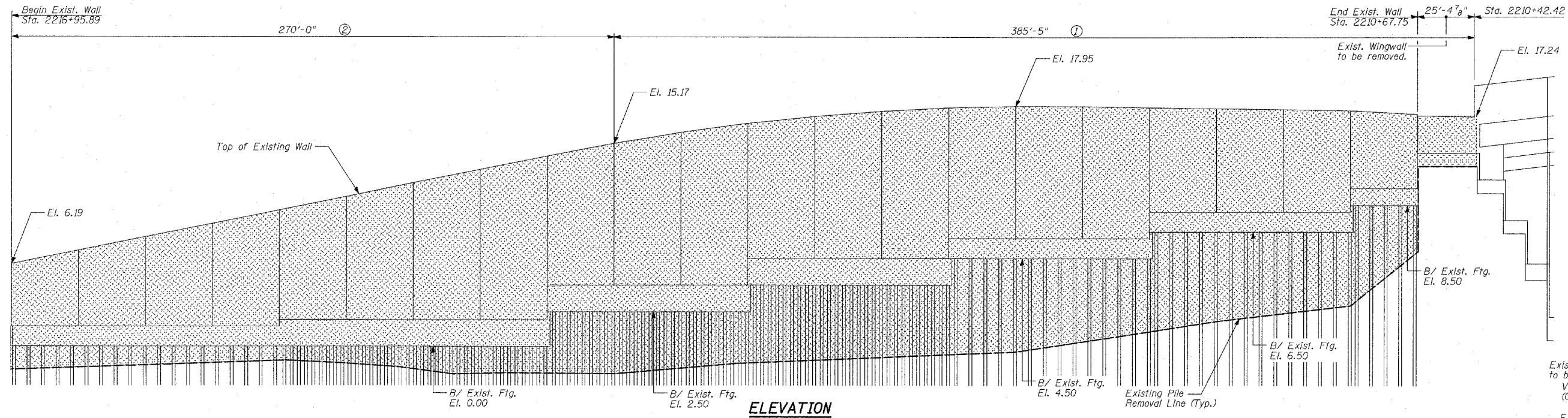
**REVISIONS**

NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION  
 F.A.I. 94 (DAN RYAN EXPRESSWAY)  
 RETAINING WALL ALONG STATE ST.  
 ENTRANCE RAMP AT 95TH ST.  
 WALL 1 - GENERAL PLAN  
 STA. 2216+37.74 TO STA. 2210+42.42  
 S.N. 016-W943  
 SCALE: N.T.S.  
 DATE: MARCH 18, 2005

DESIGNED BY: MI, MAF  
 DRAWN BY: MAF, TB  
 CHECKED BY: TD, MI

F.A.I. RTE. 94	SECTION	COUNTY COOK	TOTAL SHEETS 860	SHEET NO. 413
STA. 2200+00.00 TO STA. 2362+00.00		ILLINOIS FED. AID PROJECT		
FED. ROAD DIST. NO. (1516.1, 1717 & 1818) R-8		62694		



**LEGEND**

Removal of Existing Structure

Structure Excavation

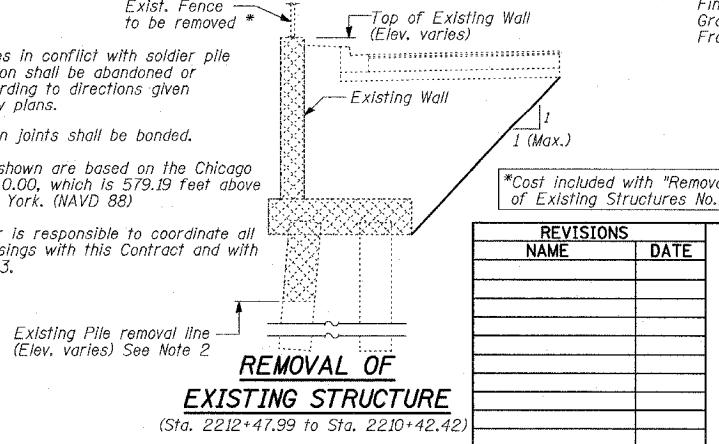
**BILL OF MATERIAL**

ITEM	UNIT	TOTAL
Removal of Existing Structures No. 1	EACH	1
Pile Extraction	EACH	3

- NOTES:**
- For location of piles to be extracted, see Sheets 5 & 6 of 20.
  - For parts of existing wall interfering with the new wall, remove the wall and cut-off existing piles 1 foot (maximum) below the bottom of proposed wall concrete facing.
  - All existing piles are 16" concrete piles.
  - During removal of the existing retaining wall and piles, soil disturbance shall be kept at a minimum, and coordinated and approved by the Engineer.
  - All backfilling material placed after wall removal shall be Porous Granular Embankment. Cost of Porous Granular Embankment shall be included with Removal of Existing Structures.

- GENERAL NOTES:**
- Reinforcement bars shall conform to the requirements of AASHTO M31 or M322 Grade 60.
  - Plan dimensions and details relative to the existing structure have been taken from existing plans and are subject to nominal construction variations. It shall be the Contractor's responsibility to verify such dimensions and details in the field and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in the scope of the work. However, the Contractor will be paid for the quantity actually finished at the unit price bid for the work.
  - The Contractor is responsible for the design and performance of the lagging using no less than 3" nominal rough-sawn thickness and the minimum tabulated unit stress in bending ( $F_b$ ), used in the design of the timber lagging shall be 1000 psi.
  - The soldier piles shall be cleaned and given one shop coat of Inorganic Zinc-Rich primer.
  - All exposed concrete edges shall be chamfered 3/4" except as noted.
  - Protective Coat shall be applied to exposed surfaces of the concrete facing.
  - The wall shall be backfilled (where applicable) prior to placing the concrete facing.

- Existing utilities in conflict with soldier pile wall construction shall be abandoned or relocated according to directions given on the roadway plans.
- All construction joints shall be banded.
- All elevations shown are based on the Chicago City Datum of 0.00, which is 579.19 feet above mean tide New York. (NAVD 88)
- The Contractor is responsible to coordinate all electrical crossings with this Contract and with Contract 62583.



**REVISIONS**

NAME	DATE

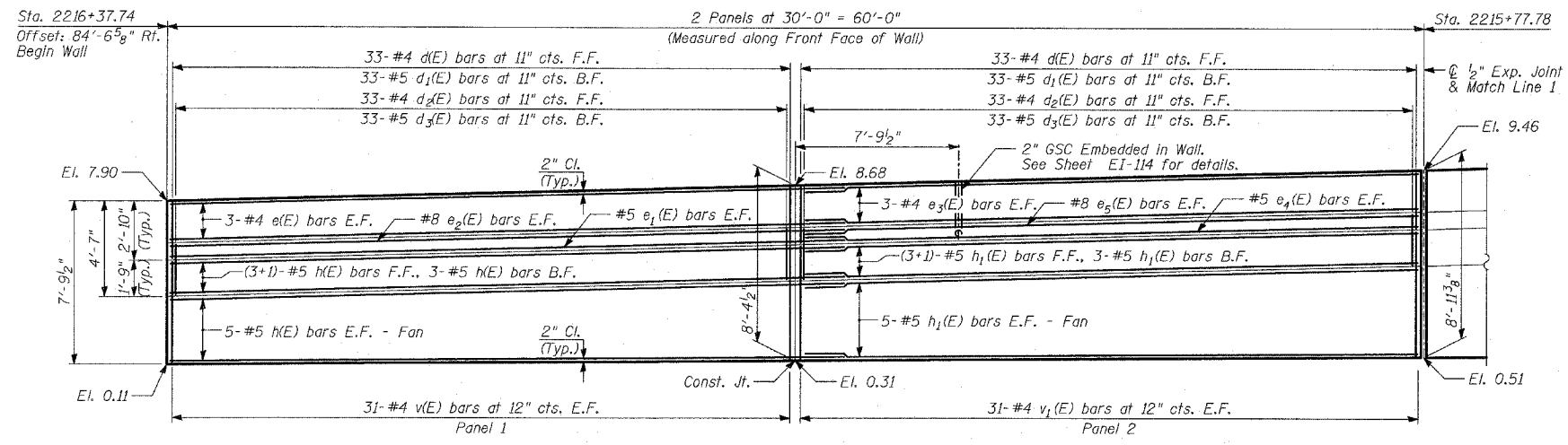
ILLINOIS DEPARTMENT OF TRANSPORTATION  
**F.A.I. 94 (DAN RYAN EXPRESSWAY)**  
**RETAINING WALL ALONG STATE ST.**  
**ENTRANCE RAMP AT 95TH ST.**  
**WALL 1 - REMOVAL PLAN AND DETAILS**  
**STA. 2216+95.89 TO STA. 2210+42.42**  
 S.N. 016-W943  
 SCALE: N.T.S.  
 DATE: MARCH 18, 2005

DESIGNED BY: MI, DJR  
 DRAWN BY: DJR  
 CHECKED BY: TD, MI

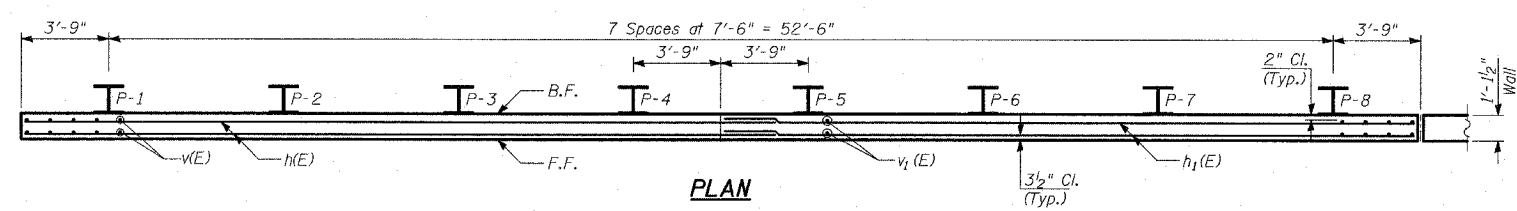
SHEET 2 OF 20

**TYLIN INTERNATIONAL**

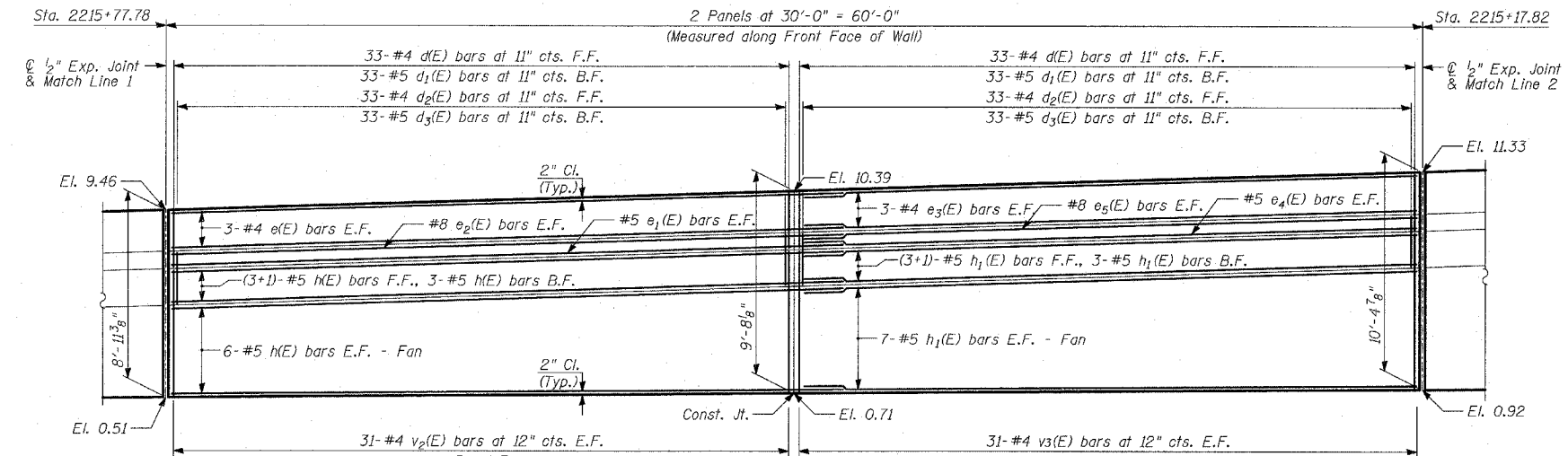
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94		COOK	860	414
STA. 2200+00.00 TO STA. 2362+00.00				
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT	
		(1516.1, 1717 & 1818) R-8		62694



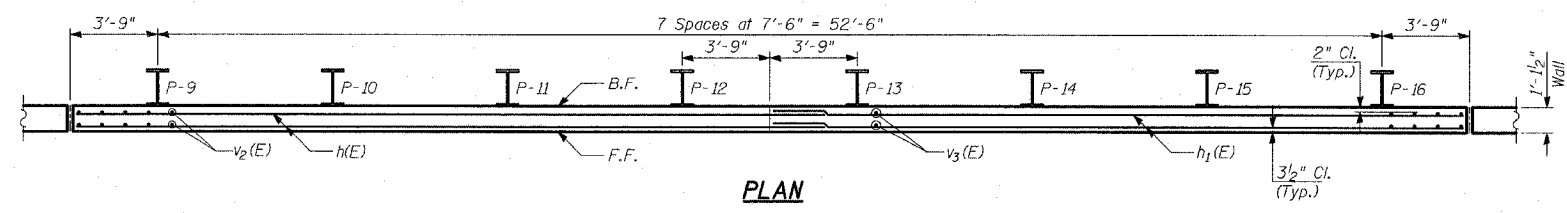
**ELEVATION**



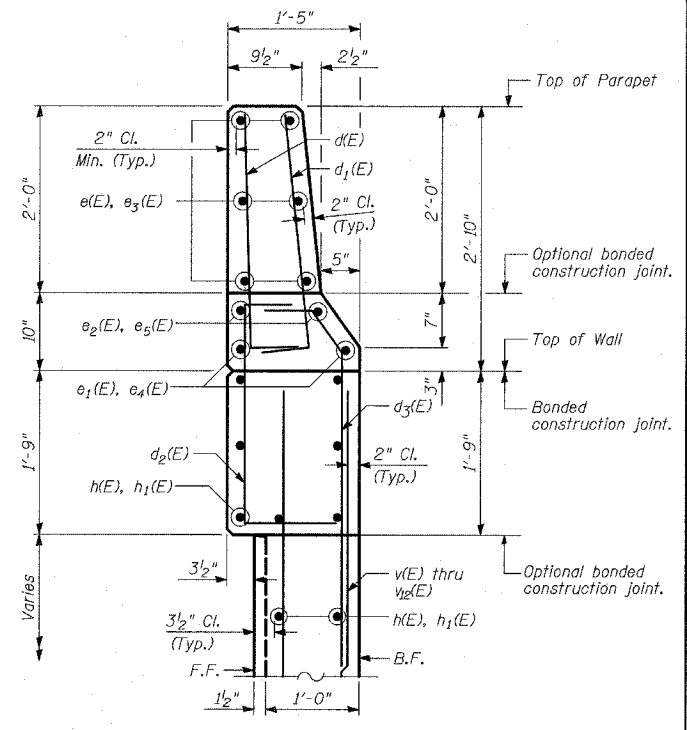
**PLAN**



**ELEVATION**



**PLAN**

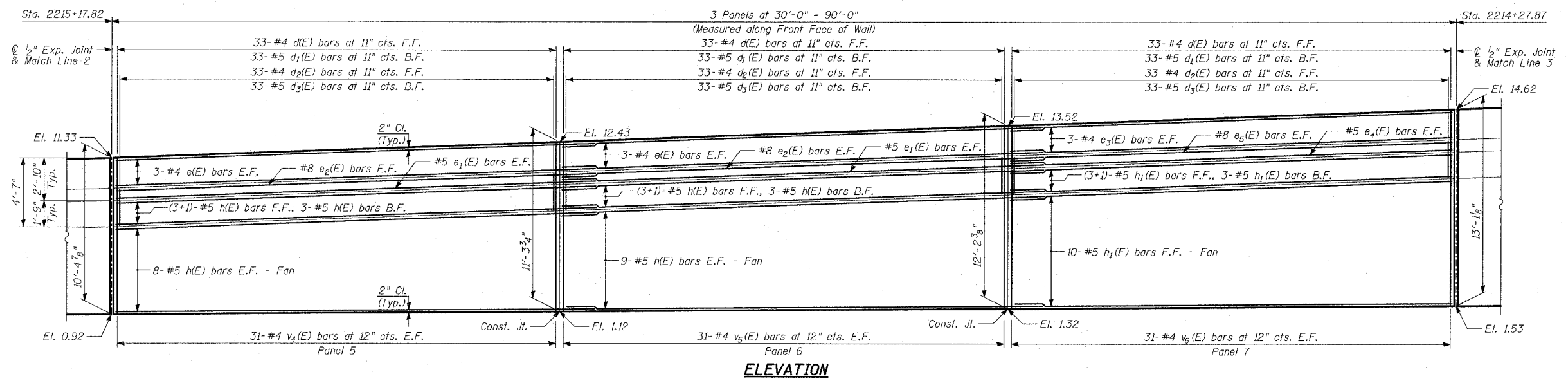


**TYPE F BARRIER DETAIL**  
(Sta. 2215+37.74 to Sta. 2212+47.99)

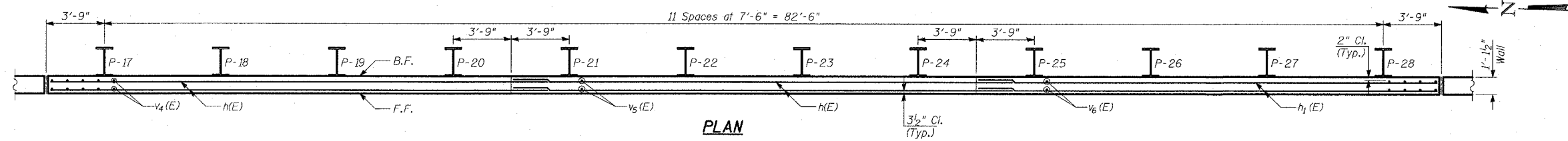
- NOTES:**
1. B.F. - denotes Back Face.
  2. E.F. - denotes Each Face.
  3. F.F. - denotes Front Face.
  4. Work this Sheet with Sheets 8 thru 11 of 20.
  5. Pile spacing measured along front face of wall.
  6. For Lap Splices, see Sheet 8 of 20.

REVISIONS		ILLINOIS DEPARTMENT OF TRANSPORTATION F.A.I. 94 (DAN RYAN EXPRESSWAY) RETAINING WALL ALONG STATE ST. ENTRANCE RAMP AT 95TH ST. WALL 1 - PLAN AND ELEVATION STA. 2216+37.74 TO STA. 2215+17.82 S.N. 016-W943 SCALE: N.T.S. DATE: MARCH 18, 2005	DESIGNED BY: MI, MAF DRAWN BY: MAF, TB CHECKED BY: TD, MI
NAME	DATE		

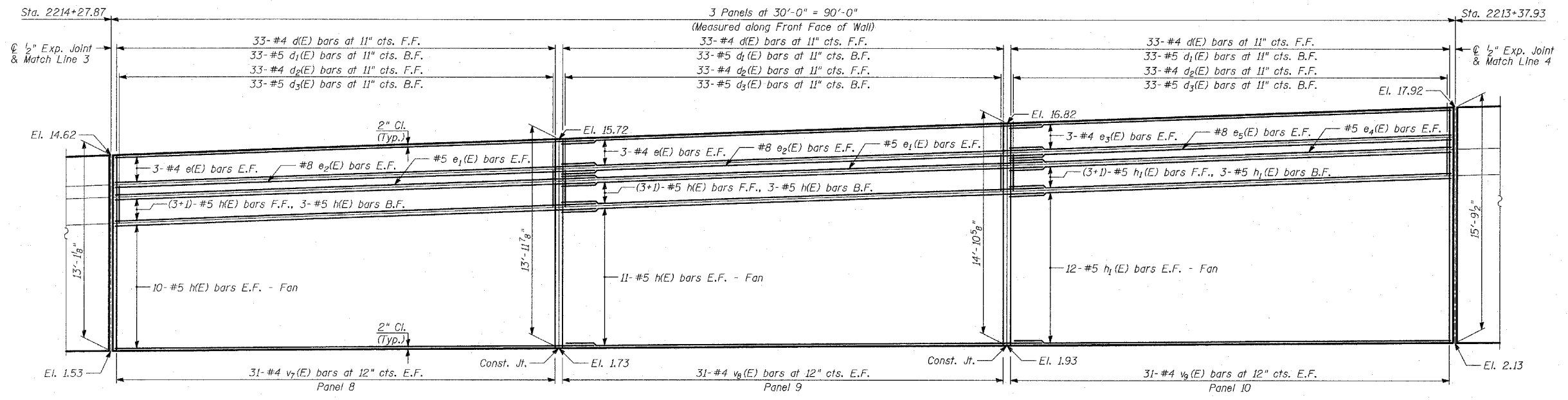
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94		COOK	860	415
STA. 2200+00.00 TO STA. 2362+00.00				
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT	
(1516.1, 1717 & 1818) R-8		62694		



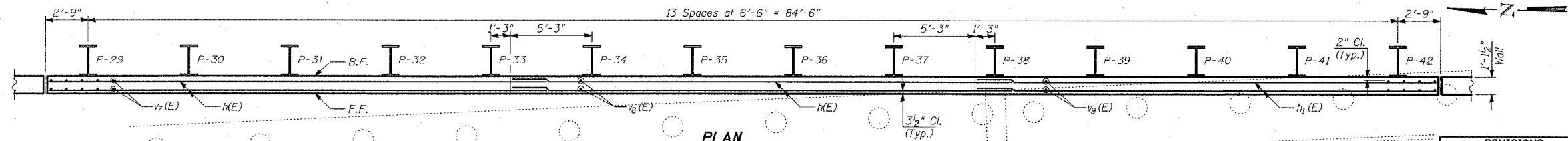
**ELEVATION**



**PLAN**



**ELEVATION**



**PLAN**

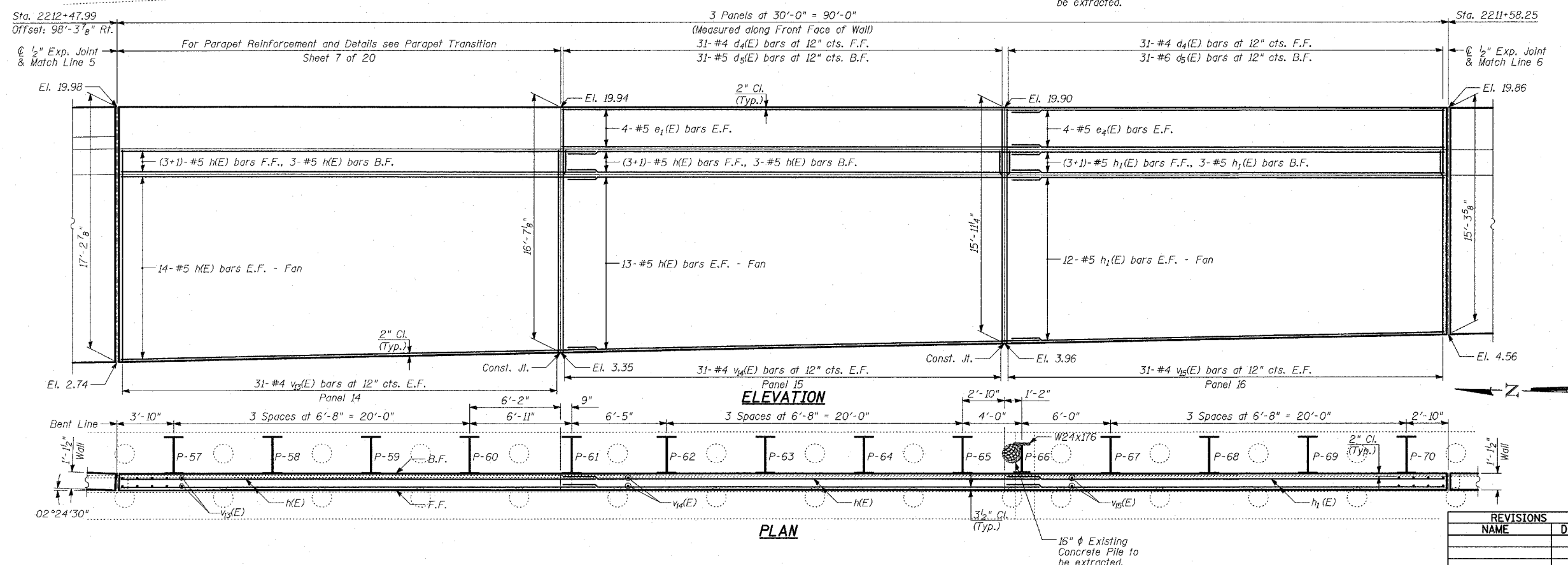
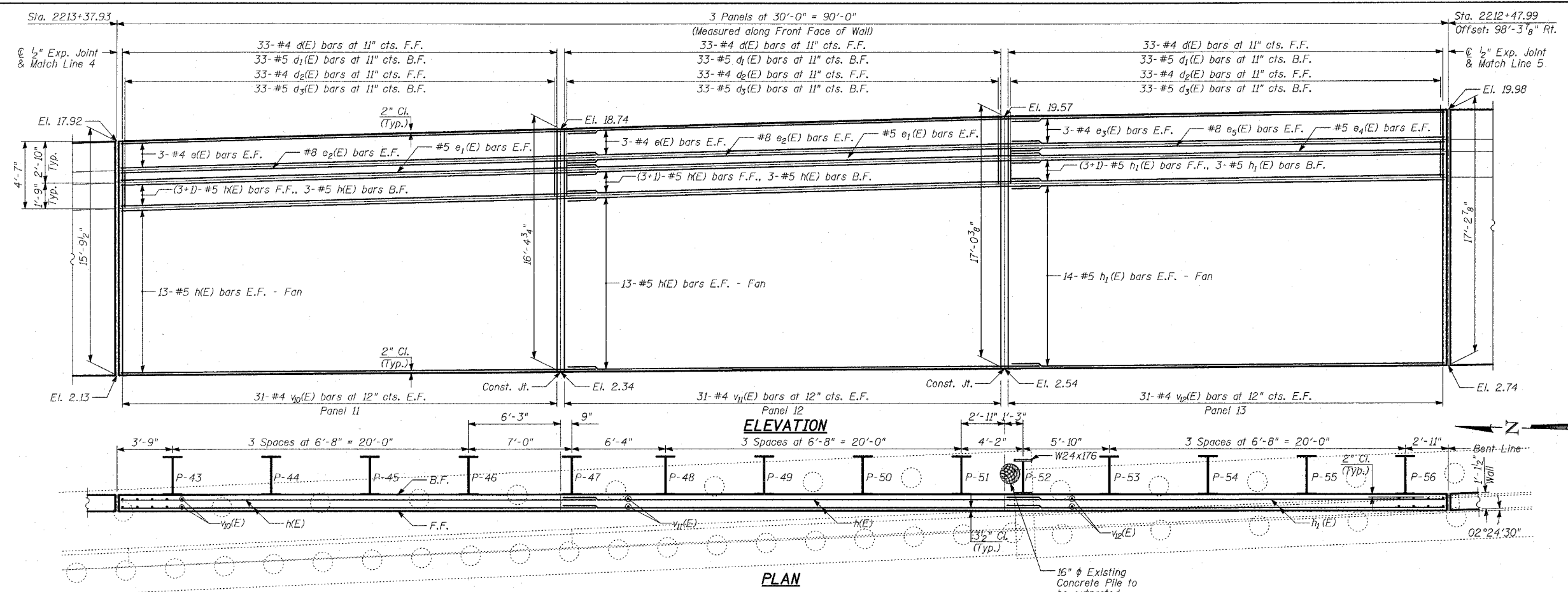
- NOTES:**
1. B.F. - denotes Back Face.
  2. E.F. - denotes Each Face.
  3. F.F. - denotes Front Face.
  4. Work this Sheet with Sheets 8 thru 11 of 20.
  5. Pile spacing measured along front face of wall.
  6. Place new piles to miss existing piles.
  7. Existing wall footing and pile layout is shown only for conflicting areas between existing and proposed piles.
  8. For Lap Splices, see Sheet 8 of 20.

SHEET 4 OF 20

**TYLIN INTERNATIONAL**

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION  
**F.A.I. 94 (DAN RYAN EXPRESSWAY)**  
**RETAINING WALL ALONG STATE ST.**  
**ENTRANCE RAMP AT 95TH ST.**  
**WALL 1 - PLAN AND ELEVATION**  
**STA. 2215+17.82 TO STA. 2213+37.93**  
 S.N. 016-W943      DESIGNED BY: MI, MAF  
 SCALE: N.T.S.      DRAWN BY: MAF, TB  
 DATE: MARCH 18, 2005      CHECKED BY: TD, MI



**LEGEND**

Existing Pile to be extracted

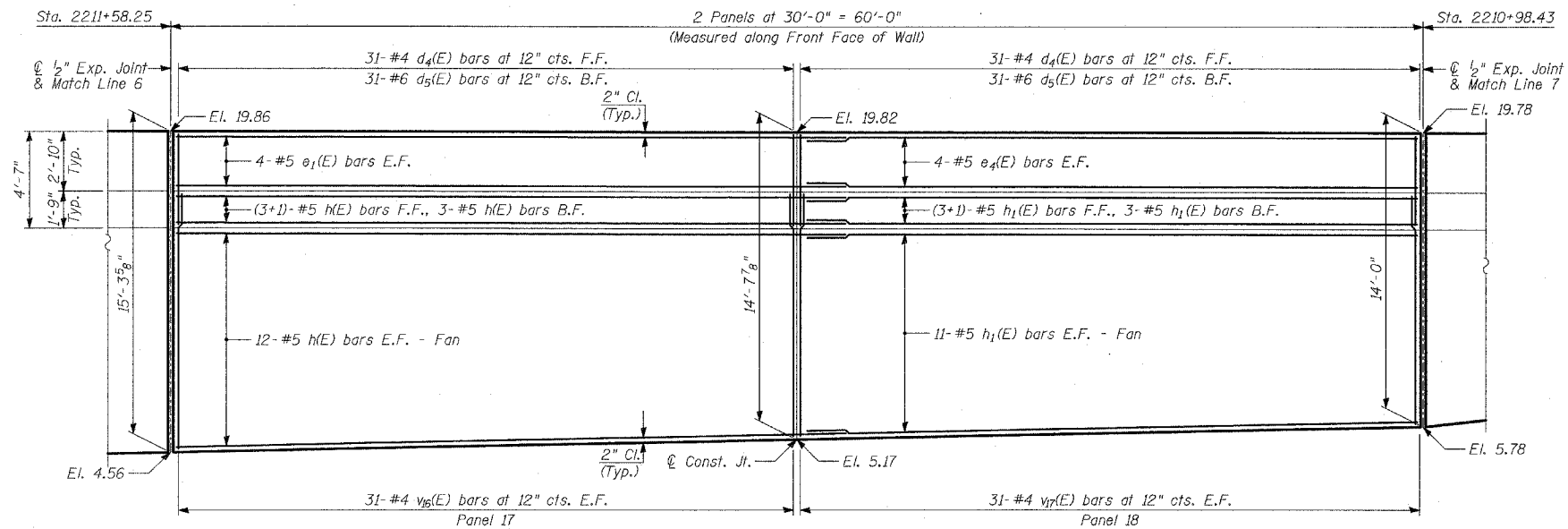
**NOTES:**

- B.F. - denotes Back Face.
- E.F. - denotes Each Face.
- F.F. - denotes Front Face.
- Work this Sheet with Sheets 7 thru 11 of 20.
- Pile spacing measured along front face of wall.
- Place new piles to miss existing piles.
- Existing wall footing and pile layout is shown only for conflicting areas between existing and proposed piles.
- For Lap Splices, see Sheet 8 of 20.

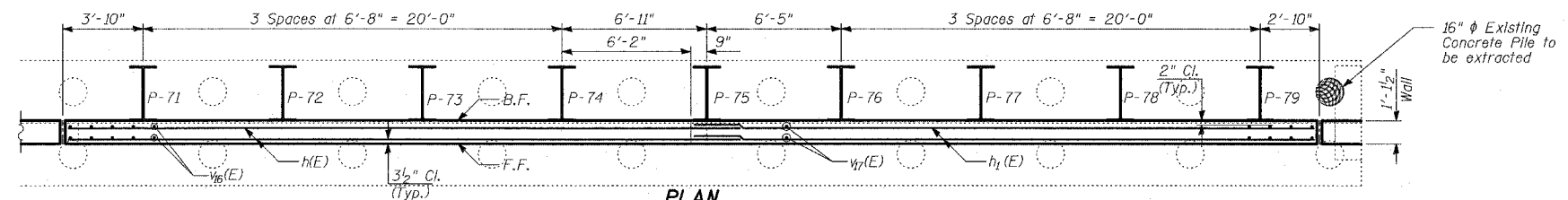
REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION  
**F.A.I. 94 (DAN RYAN EXPRESSWAY)**  
**RETAINING WALL ALONG STATE ST.**  
**ENTRANCE RAMP AT 95TH ST.**  
**WALL 1 - PLAN AND ELEVATION**  
**STA. 2213+37.93 TO STA. 2211+58.25**  
 S.N. 016-W943 DESIGNED BY: MI, MAF  
 SCALE: N.T.S. DRAWN BY: MAF, TB  
 DATE: MARCH 18, 2005 CHECKED BY: TD, MI

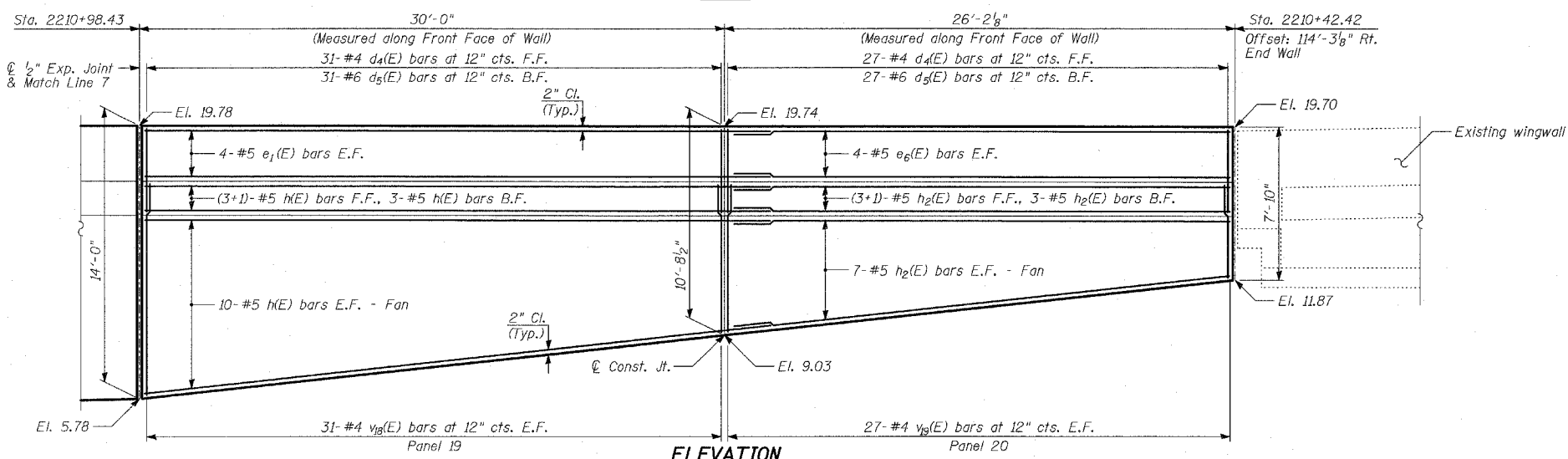




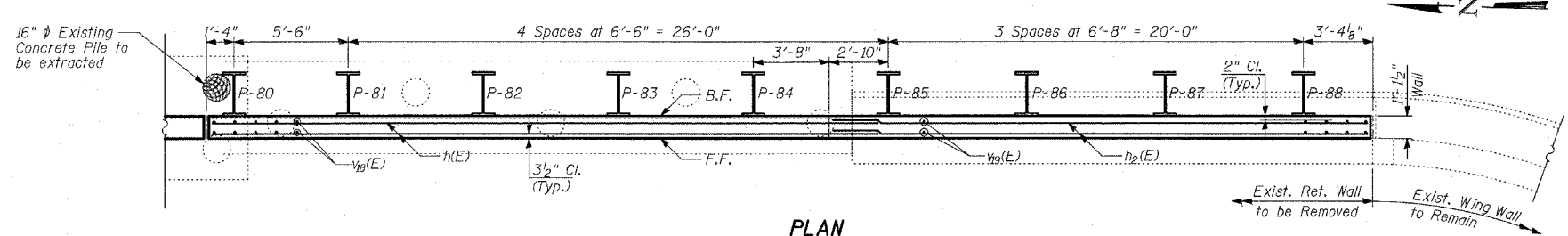
**ELEVATION**



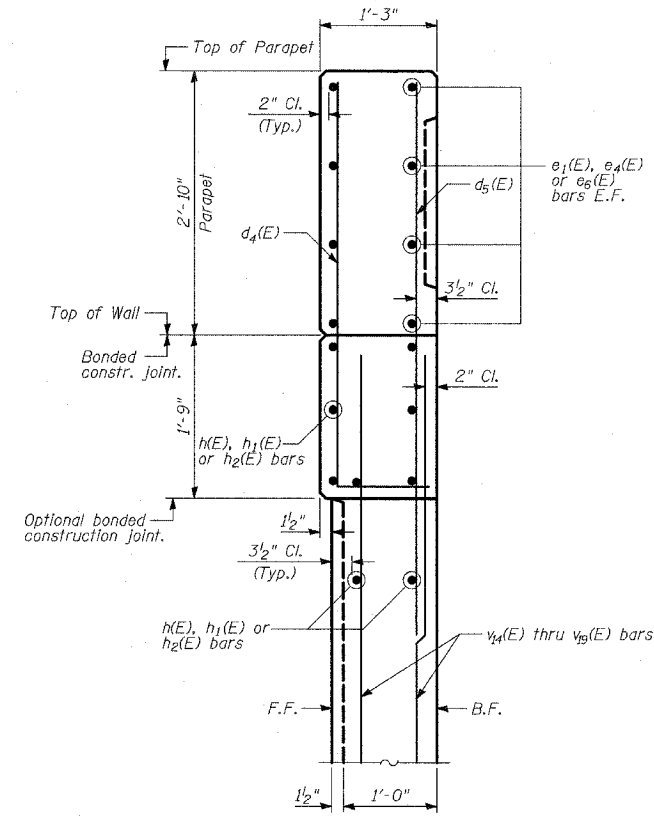
**PLAN**



**ELEVATION**



**PLAN**



**FLUTED PARAPET DETAIL**  
(Sta. 2212+18.08 to Sta. Sta. 2210+42.42)

**LEGEND**

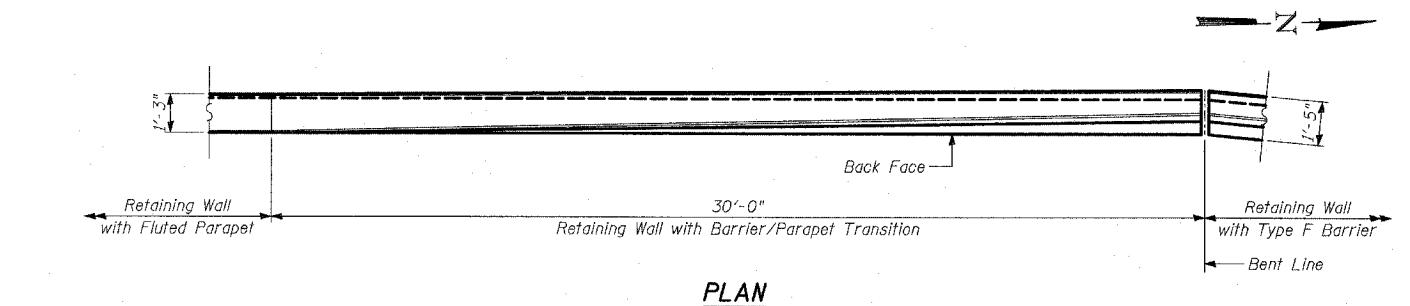
Existing Pile to be extracted

**NOTES:**

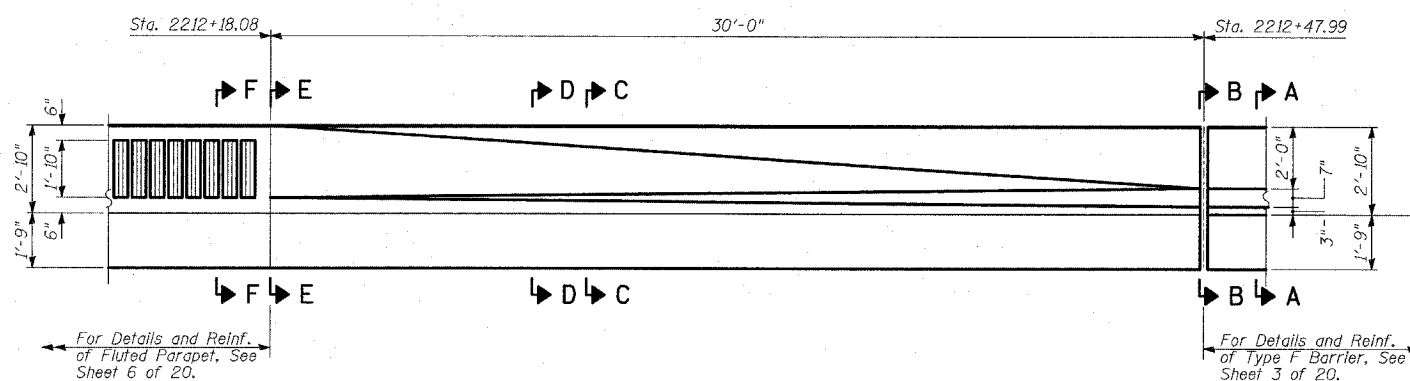
1. B.F. - denotes Back Face.
2. E.F. - denotes Each Face.
3. F.F. - denotes Front Face.
4. Work this Sheet with Sheets 8 thru 11 of 20.
5. Pile spacing measured along front face of wall.
6. Place new piles to miss existing piles.
7. Existing wall footing and pile layout is shown only for conflicting areas between existing and proposed piles.
8. For Lap Splices, see Sheet 8 of 20.

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION  
**F.A.I. 94 (DAN RYAN EXPRESSWAY)**  
**RETAINING WALL ALONG STATE ST.**  
**ENTRANCE RAMP AT 95TH ST.**  
**WALL 1 - PLAN AND ELEVATION**  
**STA. 2211+58.25 TO STA. 2210+42.42**  
 S.N. 016-W943 DESIGNED BY: MI, MAF  
 SCALE: N.T.S. DRAWN BY: MAF, TB  
 DATE: MARCH 18, 2005 CHECKED BY: TD, MI

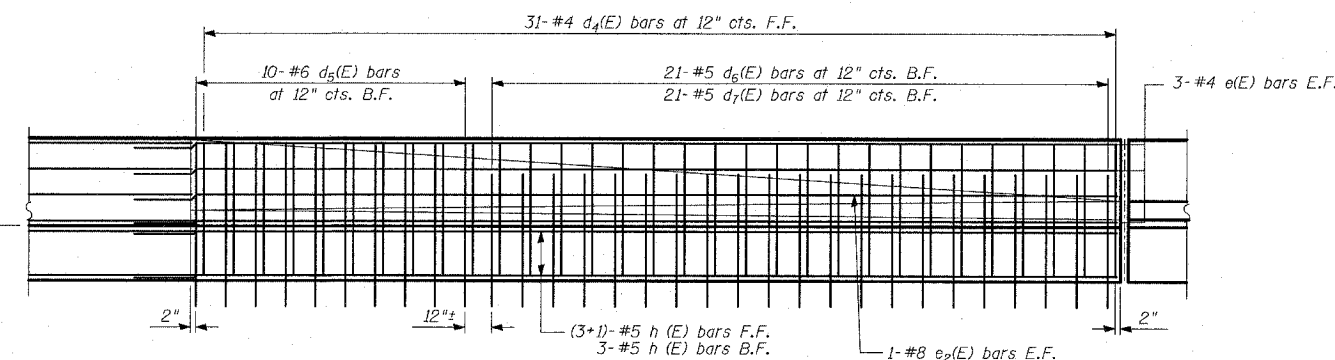


**PLAN**



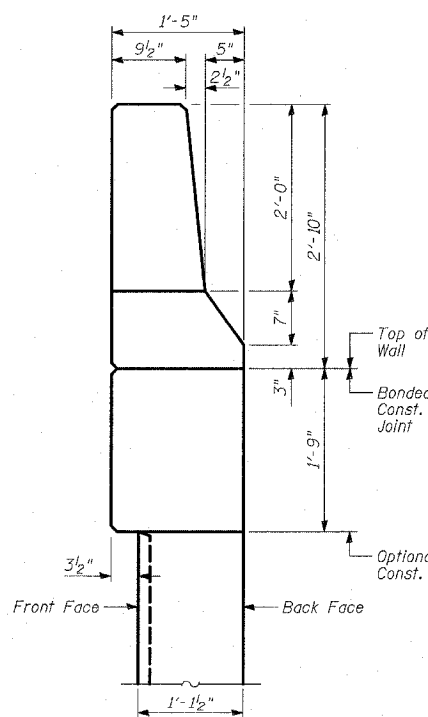
**BACK FACE ELEVATION - TRANSITION - MODIFIED TYPE F BARRIER TO FLUTED PARAPET - CONCRETE DIMENSIONS**

(From Sta. 2212+47.99 to Sta. 2212+18.08)

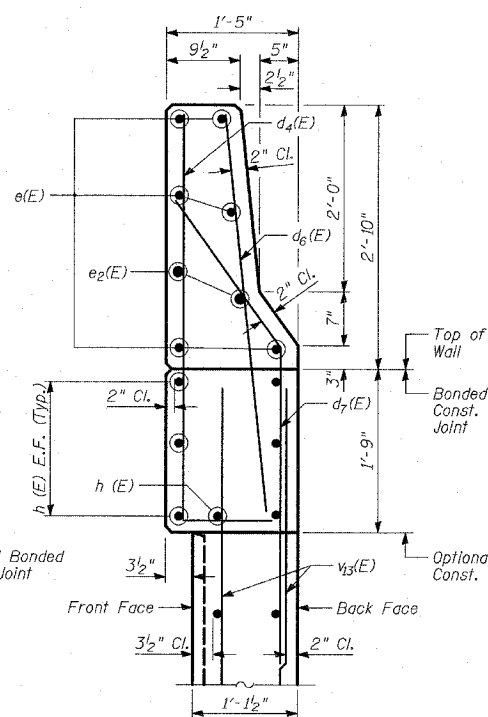


**BACK FACE ELEVATION - TRANSITION - MODIFIED TYPE F BARRIER TO FLUTED PARAPET - REINFORCEMENT**

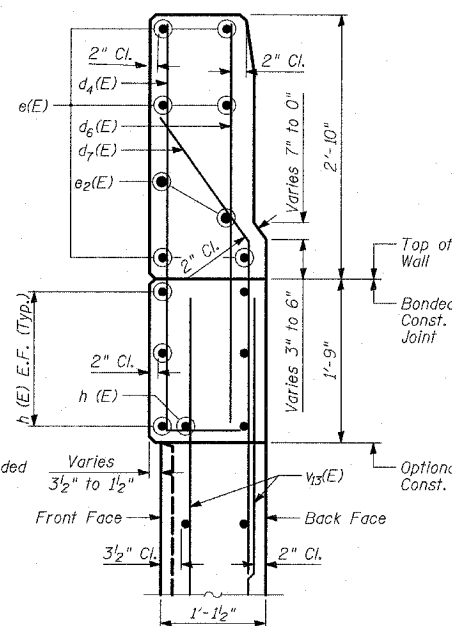
(From Sta. 2212+47.99 to Sta. 2212+18.08)



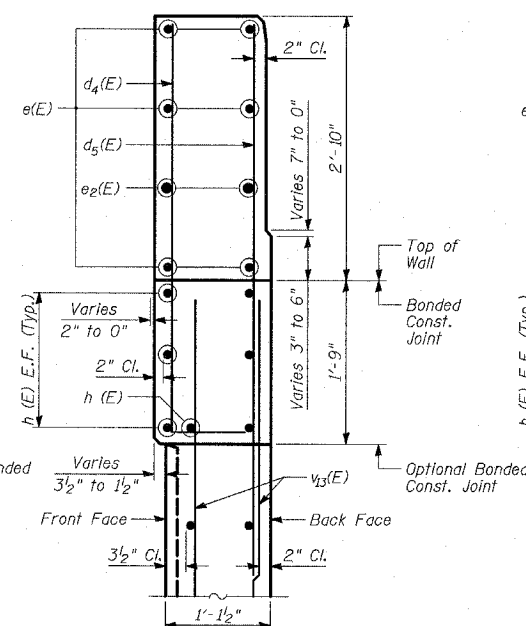
**SECTION A-A**



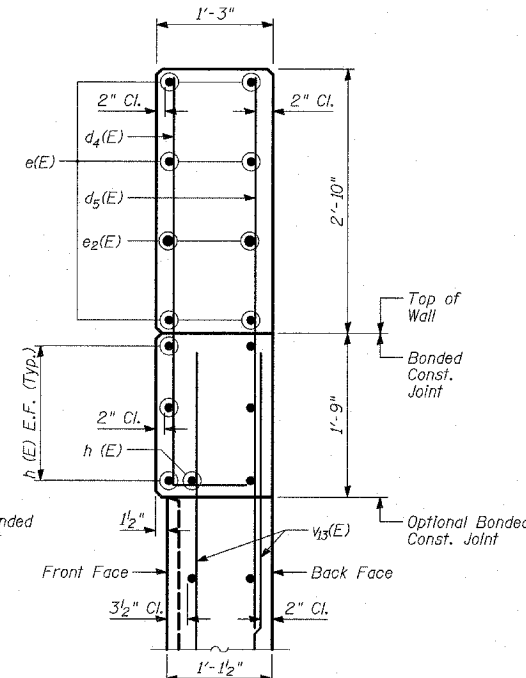
**SECTION B-B**



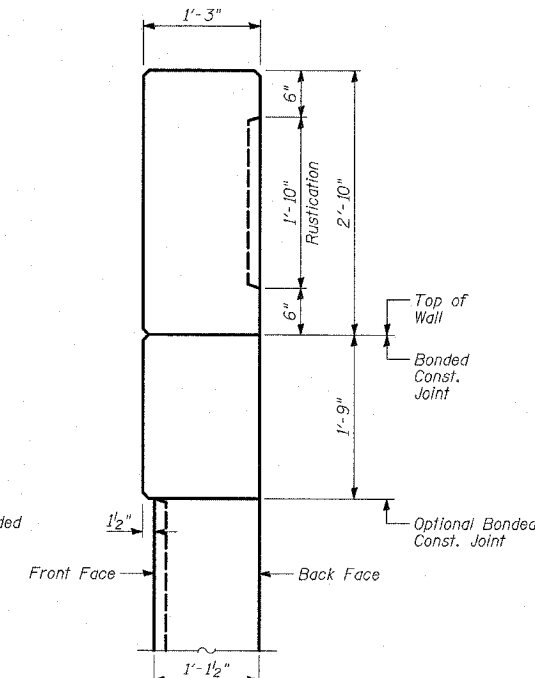
**SECTION C-C**



**SECTION D-D**



**SECTION E-E**



**SECTION F-F**

**NOTES:**

1. B.F. - denotes Back Face.
2. E.F. - denotes Each Face.
3. F.F. - denotes Front Face.
4. Work this sheet with Sheets 1, 3, 5 and 6 of 20.
5. For Lap Splices, see Sheet 8 of 20.

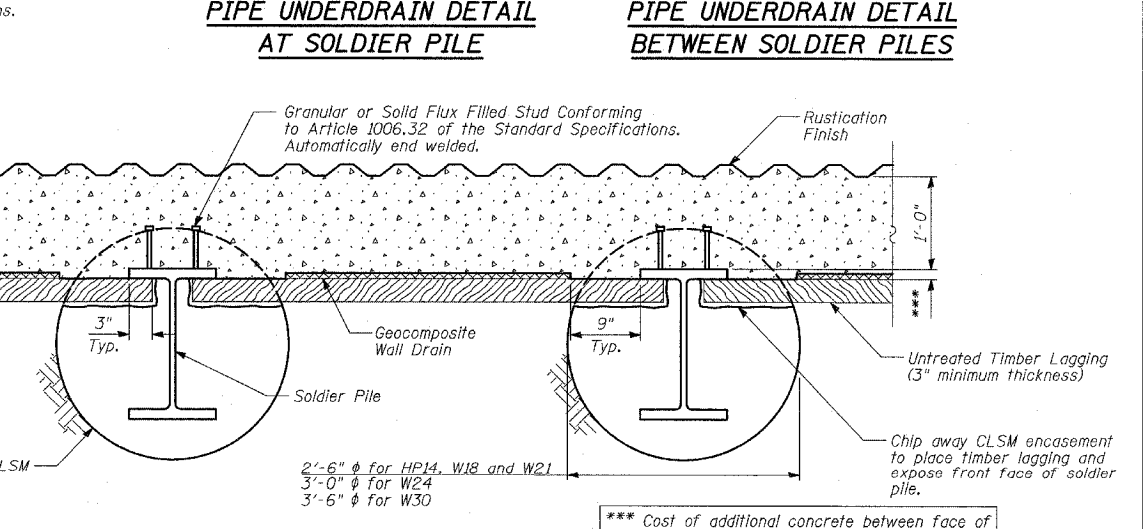
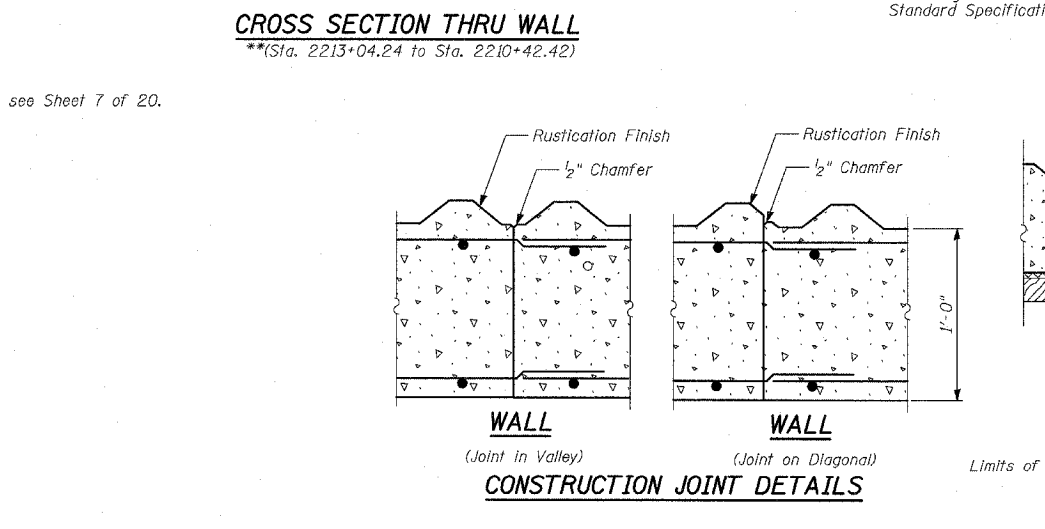
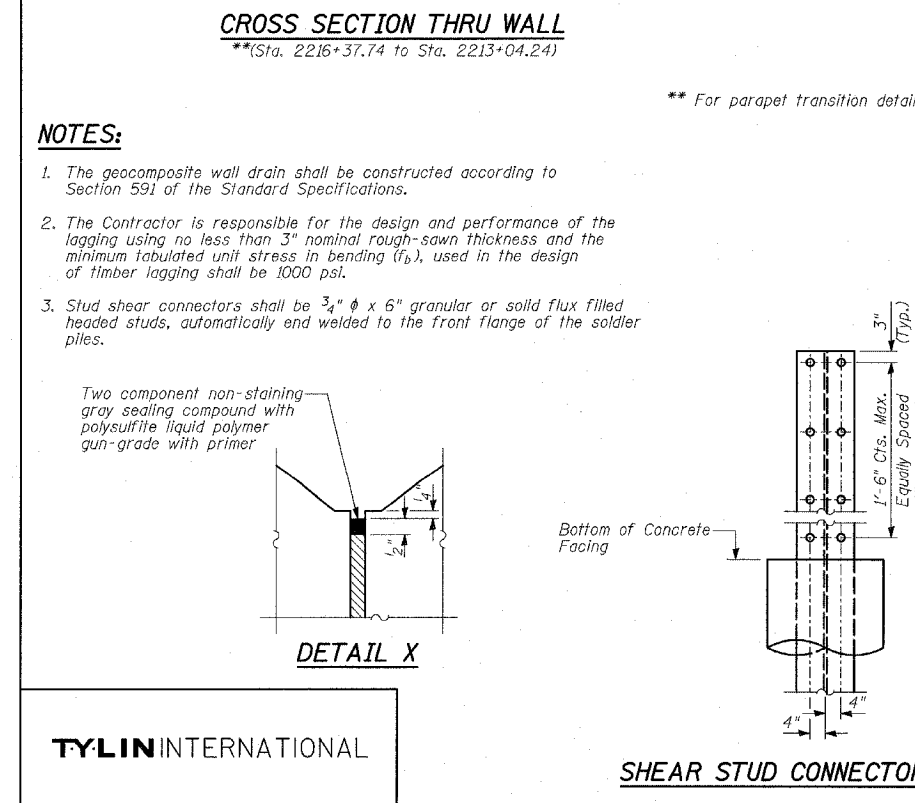
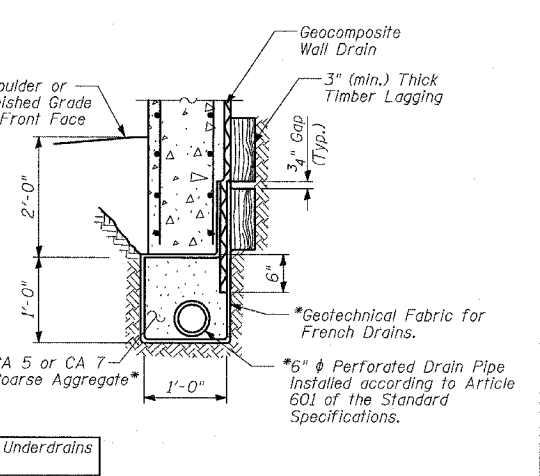
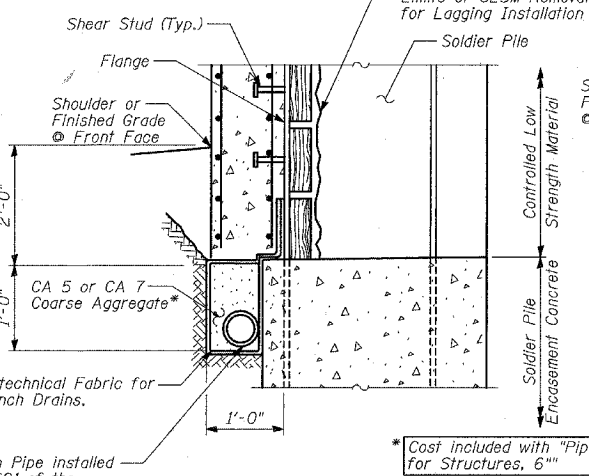
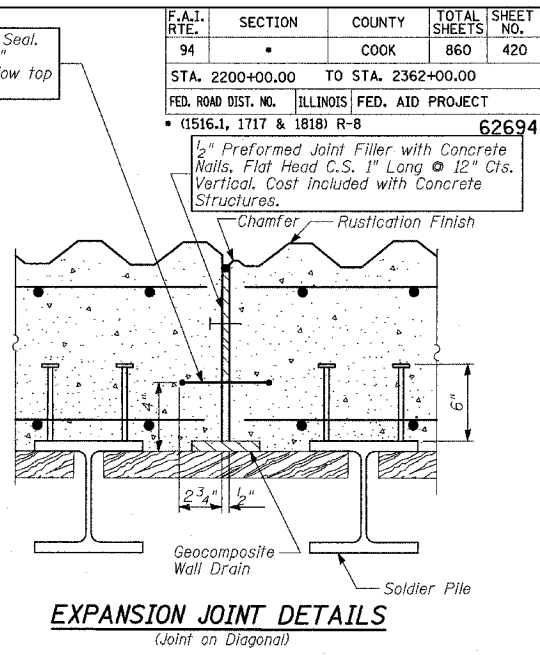
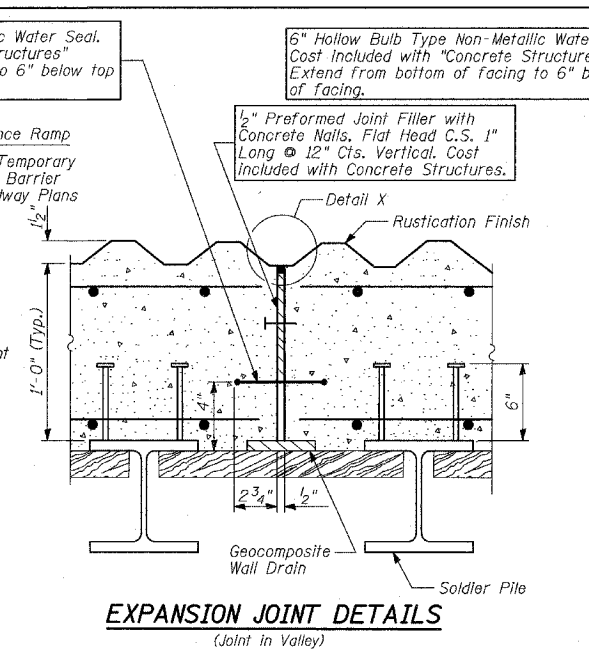
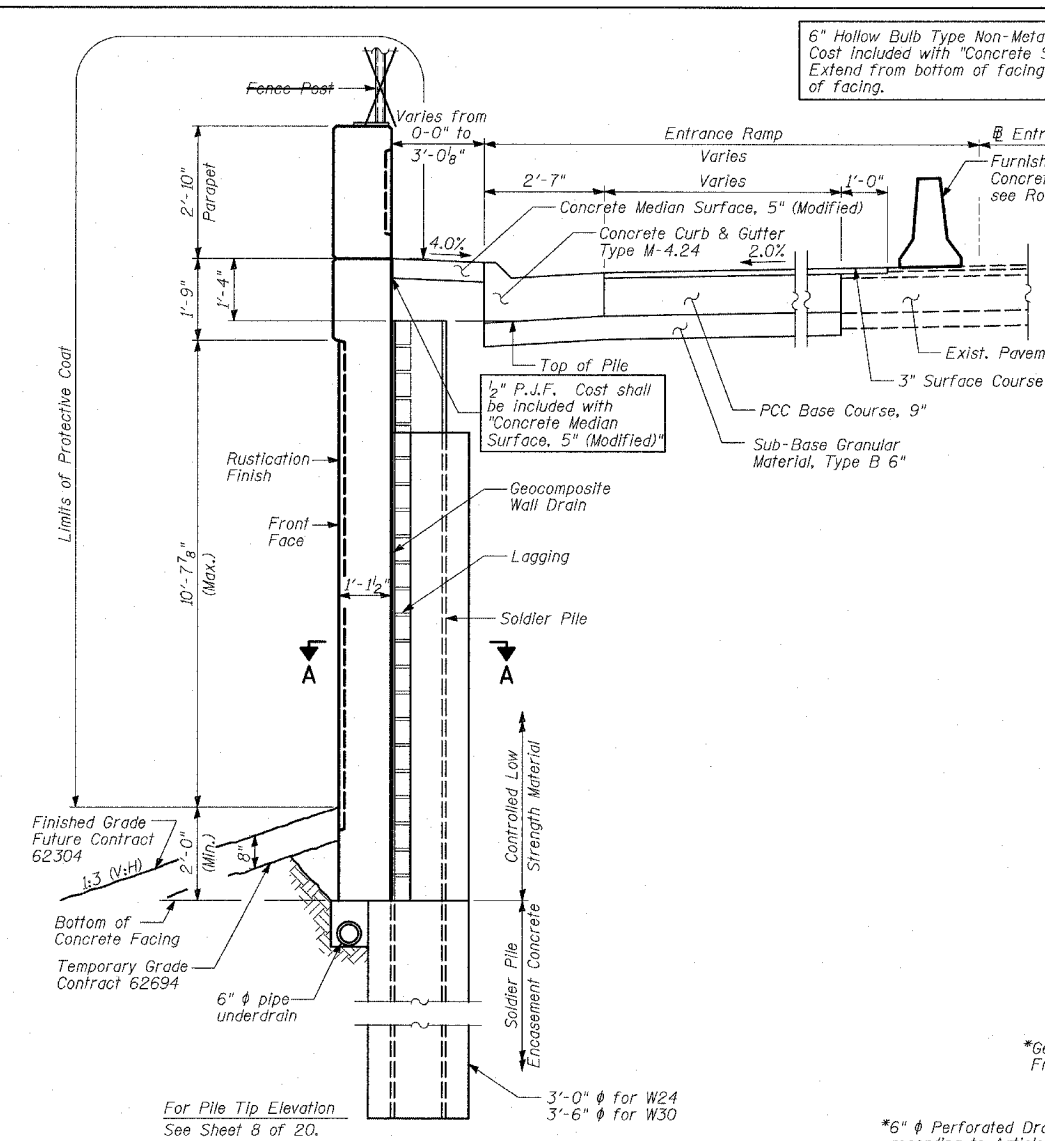
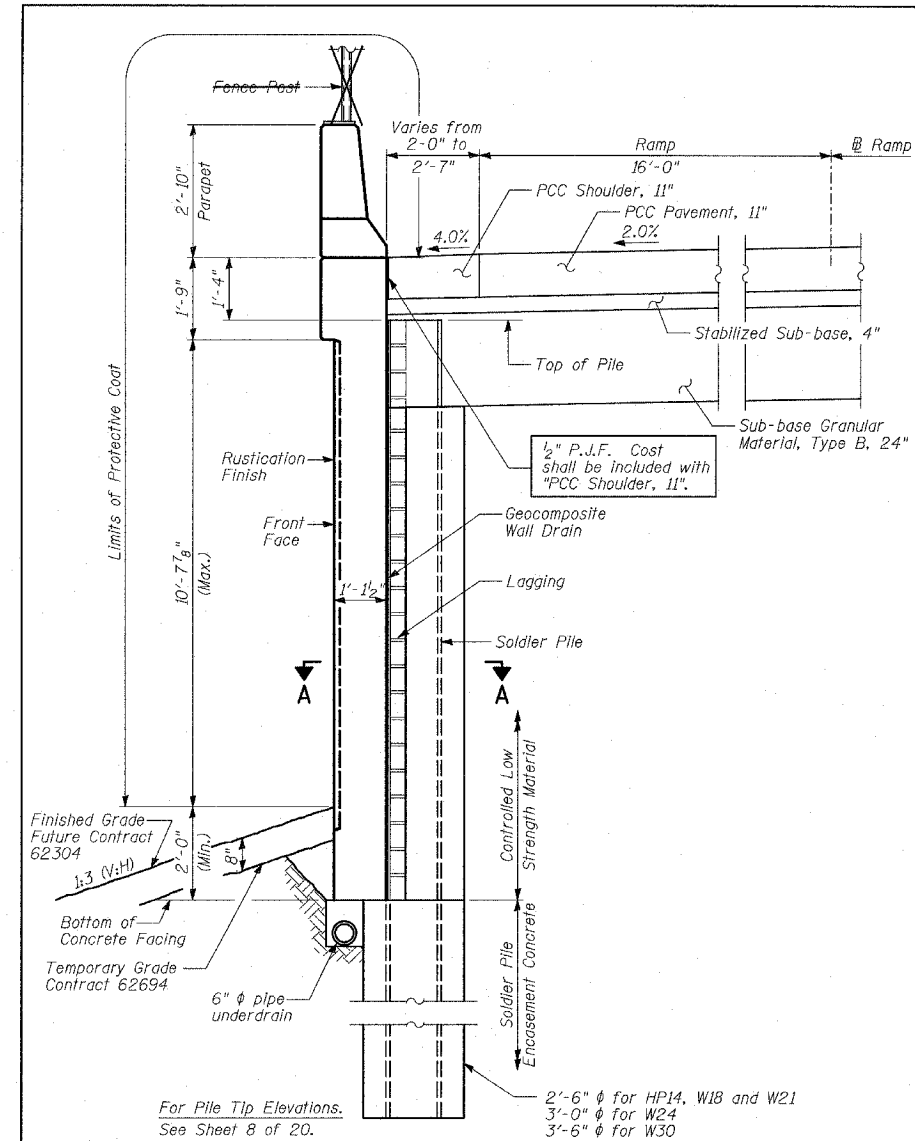
**TYLIN INTERNATIONAL**

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION  
 F.A.I. 94 (DAN RYAN EXPRESSWAY)  
 RETAINING WALL ALONG STATE ST.  
 ENTRANCE RAMP AT 95TH ST.  
 WALL 1

**PARAPET TRANSITION**  
 S.N. 016-W943 DESIGNED BY: MI, MAF  
 SCALE: N.T.S. DRAWN BY: MAF, TB  
 DATE: MARCH 18, 2005 CHECKED BY: TD, MI





- NOTES:**
- The geocomposite wall drain shall be constructed according to Section 591 of the Standard Specifications.
  - The Contractor is responsible for the design and performance of the lagging using no less than 3" nominal rough-sawn thickness and the minimum tabulated unit stress in bending (F<sub>b</sub>), used in the design of timber lagging shall be 1000 psi.
  - Stud shear connectors shall be 3/4" φ x 6" granular or solid flux filled headed studs, automatically end welded to the front flange of the soldier piles.

**BILL OF MATERIAL**

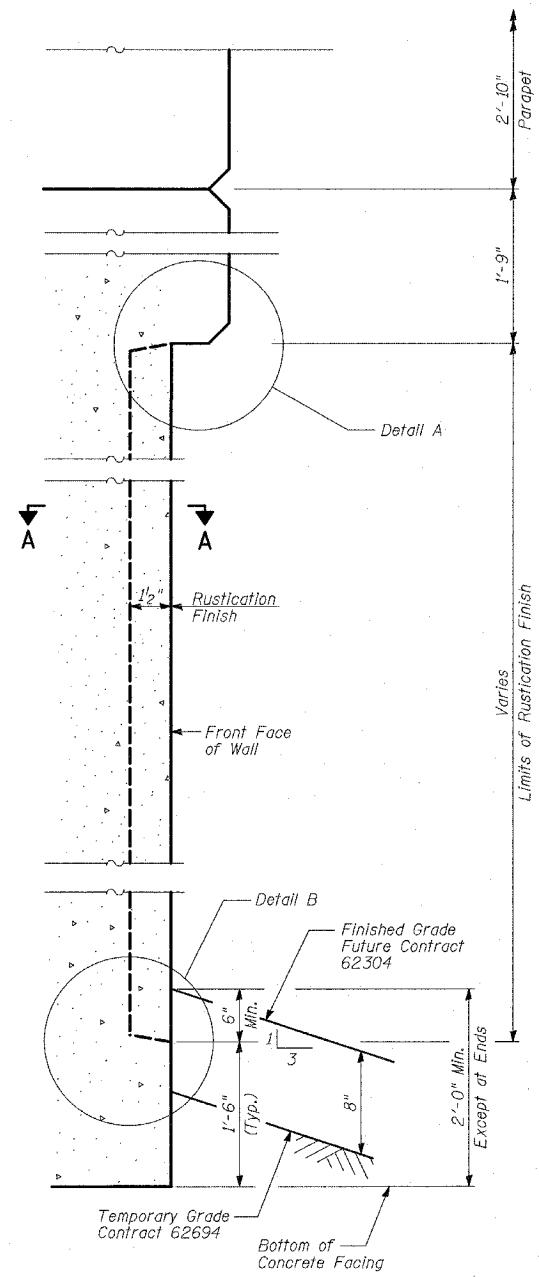
ITEM	UNIT	TOTAL
Structure Excavation	CU YD	386
Stud Shear Connectors	EACH	1,266
Untreated Timber Lagging	SQ FT	5,411
Geocomposite Wall Drain	SQ YD	635
Pipe Underdrains for Structures, 6"	FOOT	597

**REVISIONS**

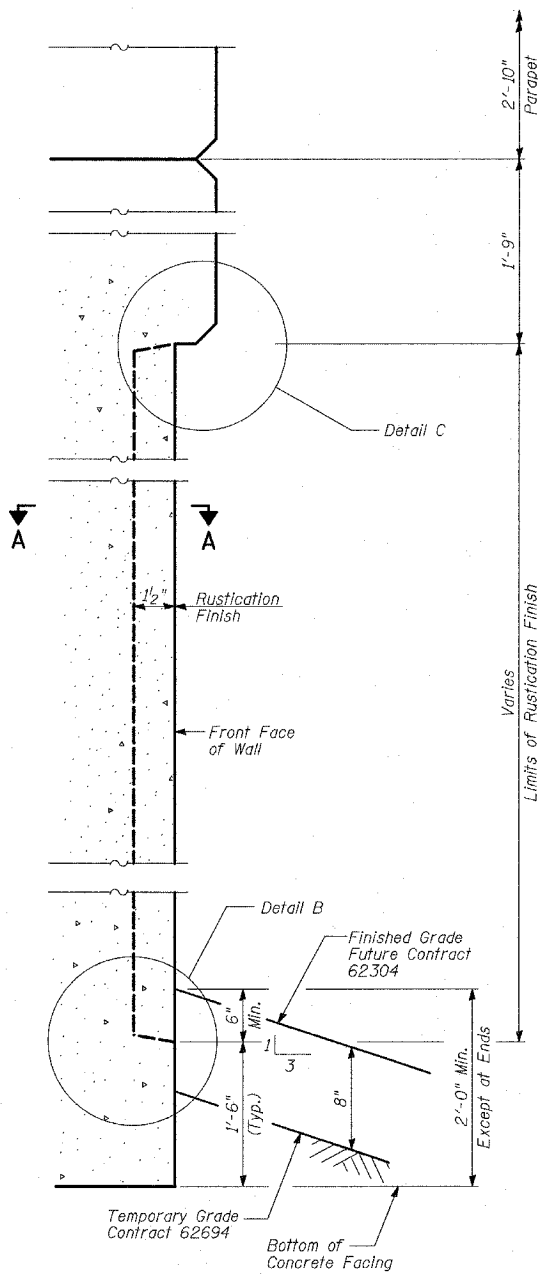
NAME	DATE
REVISED	04/15/05

ILLINOIS DEPARTMENT OF TRANSPORTATION  
F.A.I. 94 (DAN RYAN EXPRESSWAY)  
RETAINING WALL ALONG STATE ST.  
ENTRANCE RAMP AT 95TH ST.  
WALL 1  
WALL CROSS SECTIONS & DETAILS  
S.N. 016-W943 DESIGNED BY: MI, MAF  
SCALE: N.T.S. DRAWN BY: MAF, TB  
DATE: MARCH 18, 2005 CHECKED BY: TD, MI

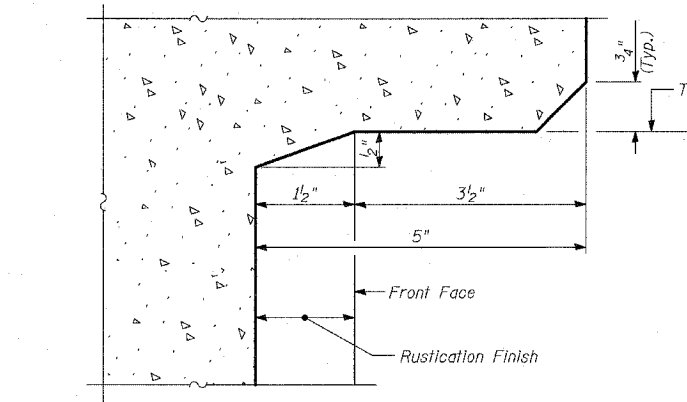
\*\*\* Cost of additional concrete between face of untreated timber lagging and face of pile included with "Concrete Structures".



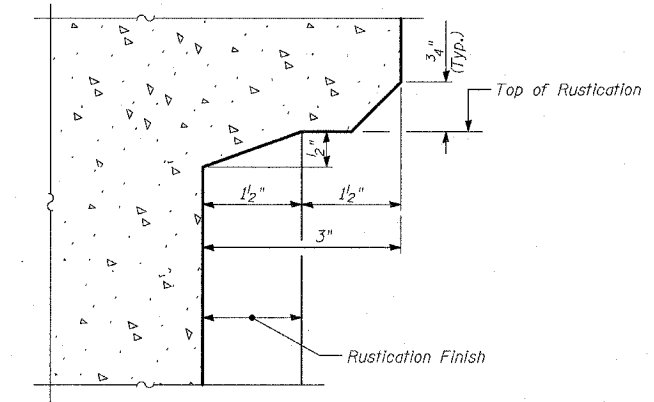
**WALL DETAIL AT TYPE F PARAPET**



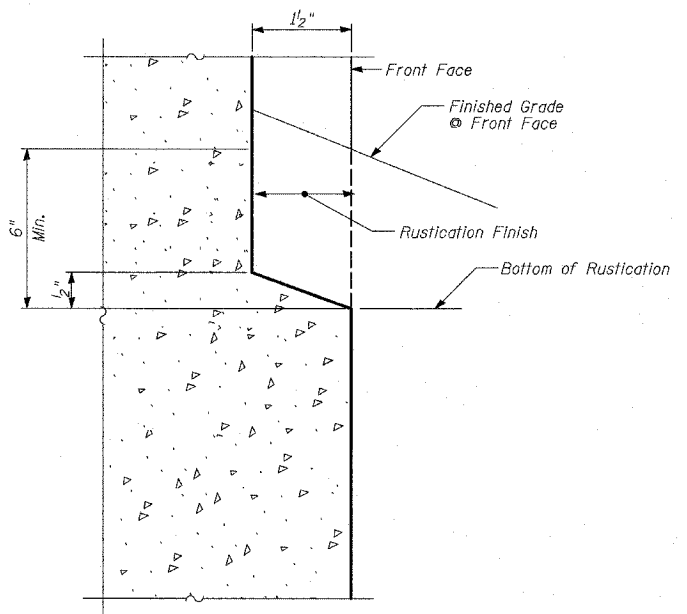
**WALL DETAIL AT FLUTED PARAPET**



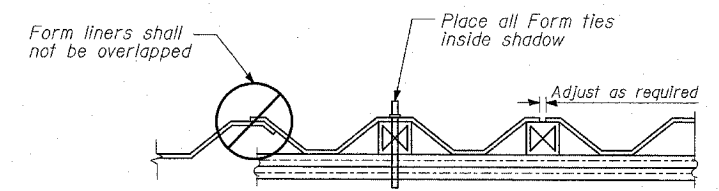
**DETAIL A**



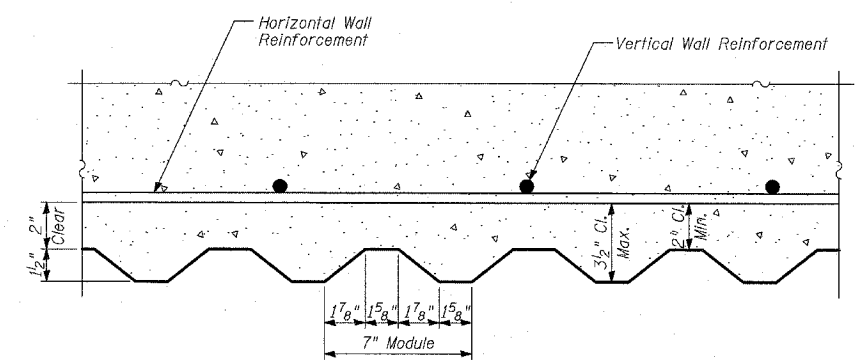
**DETAIL C**



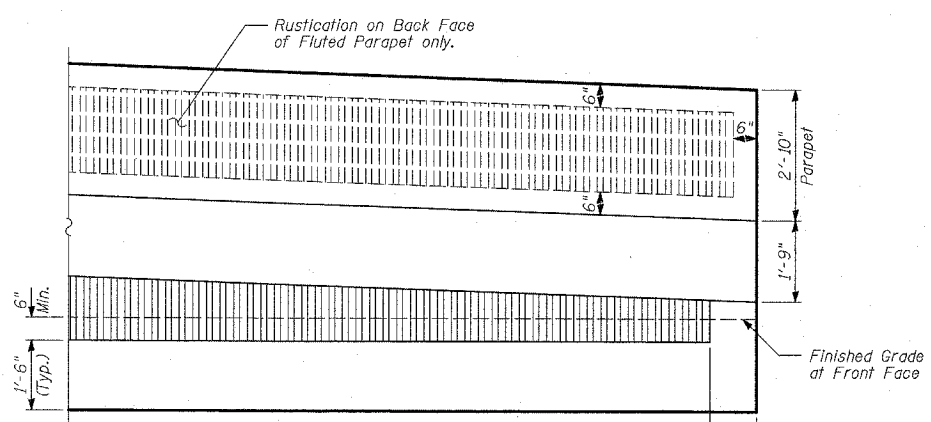
**DETAIL B**



**SUGGESTED FORMWORK DETAIL**



**SECTION A-A**



**RUSTICATION DETAIL**  
(At End Pane, with Embankment)

**BILL OF MATERIAL**

ITEM	UNIT	TOTAL
Rustication Finish	SQ FT	4,585

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION  
**F.A.I. 94 (DAN RYAN EXPRESSWAY)**  
**RETAINING WALL ALONG STATE ST.**  
**ENTRANCE RAMP AT 95TH ST.**  
**WALL 1**  
**RUSTICATION DETAILS**  
 S.N. 016-W943 DESIGNED BY: MI, MAF  
 SCALE: N.T.S. DRAWN BY: MAF, TB  
 DATE: MARCH 18, 2005 CHECKED BY: TD, MI

**NOTES:**

1. See Sheet 9 of 20 for expansion and construction joint details.



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**BORING LOG SB 01-01** Page 1 of 1

WEI Job No.: 414-07-01  
 Client: T. Y. LIN International  
 Project: Dan Ryan Improvements; IDOT No. D-91-421-01  
 Location: From 95th Street to South of 69th Street

Datum: CCD  
 Elevation: 8.15 ft  
 North: 1842967.57 ft  
 East: 1177886.51 ft  
 Station: 2215+98.1  
 Offset: 94.868' RT

Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type	Sample No.	SPT Values (blows/6 in)	Qu (tsf)	Moisture Content (%)	Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type	Sample No.	N Values (blows/6 in)	Qu (tsf)	Moisture Content (%)
7.8	3-inch thick, ASPHALT --PAVEMENT--	7.8						7.8		7.8					
6.9	12-inch thick, CONCRETE --PAVEMENT--	6.9						6.9		6.9					
6.1	9-inch thick, CRUSHED STONE --BASE COURSE--	6.1						6.1		6.1					
4.8	Very stiff, gray SILTY CLAY	4.8						4.8		4.8					
	Soft to medium stiff, gray CLAY														
		5		1	19 10 8	2.25 P	14			5		1	10 17 24	5.17 B	13
				2	4 3 5	0.74 B	18			30		12	13 21 26	4.92 B	13
				3	2 2 3	0.25 B	23								
	Stiff to hard, gray CLAY			4	2 7 16	1.25 P	20					13	35 43 44	4.50 P	13
		10		5	7 16 25	5.41 B	17								
	Dense, gray SILT			6	7 15 18	NP	23					14	50.25	4.50 P	15
	Very stiff to hard, gray SILTY CLAY, with gravel			7	6 9 12	2.87 B	14								
				8	6 15 11	4.02 B	14								
		20		9	9 11 17	5.82 B	15								
				10	8 11 14	5.41 B	13								
		25													

GENERAL NOTES				WATER LEVEL DATA			
Begin Drilling	01-28-2004	Complete Drilling	02-02-2004	While Drilling	▽	DRY	
Drilling Contractor	DLZ Drilling	Drill Rig	Mobile B-59 TMR	At Completion of Drilling	▽	DRY	
Driller	J&J	Logger	S. Janowski	Time After Drilling	NA		
Checked by	N. Davis	Drilling Method	3.25" ID. HSA; Boring backfilled with bentonite upon completion	Depth to Water	▽	NA	
The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.							

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**BORING LOG SB 01-02** Page 1 of 1

WEI Job No.: 414-07-01  
 Client: T. Y. LIN International  
 Project: Dan Ryan Improvements; IDOT No. D-91-421-01  
 Location: From 95th Street to South of 69th Street

Datum: CCD  
 Elevation: 10.69 ft  
 North: 1842895.47 ft  
 East: 1177894.80 ft  
 Station: 2215+25.8  
 Offset: 99.093' RT

Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type	Sample No.	SPT Values (blows/6 in)	Qu (tsf)	Moisture Content (%)	Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type	Sample No.	N Values (blows/6 in)	Qu (tsf)	Moisture Content (%)
10.4	3-inch thick, ASPHALT --PAVEMENT--	10.4						10.4		10.4					
9.6	10-inch thick, CONCRETE --PAVEMENT--	9.6						9.6		9.6					
8.4	3-inch thick, CRUSHED STONE --BASE COURSE--	8.4						8.4		8.4					
6.7	Hard, gray CLAY, with gravel	6.7						6.7		6.7					
	Medium stiff to stiff, gray CLAY														
		5		1	17 12 13	4.50 P	19			5		11	13 15 21	6.97 B	12
				2	7 7 8					30		12	14 25 35	8.94 S	12
	Very dense, gray SILTY LOAM, with gravel			3	2 3 5	0.57 B	22								
		20.3		4	3 4 7	0.82 B	21					13	50.25	NP	21
				5	1 4 8	1.64 B	18								
	Hard, gray SILTY CLAY LOAM, with gravel			6	7 12 21	4.26 S	19					14	28 50.25	4.50 P	11
		26.8		7	7 15 15	NP	20								
	Medium dense, gray medium SAND			8	9 14 24	3.28 B	15								
	Dense, gray SILTY LOAM			9	10 14 18	3.44 B	17								
	Dense, gray medium SAND			10	12 17 27	7.13 B	12								
	Very stiff to hard, gray SILTY CLAY, with gravel														
		4.8													
		5.6													
		6.5													
		7.3													
		20													
		45													
		50													

GENERAL NOTES				WATER LEVEL DATA			
Begin Drilling	01-26-2004	Complete Drilling	01-26-2004	While Drilling	▽	DRY	
Drilling Contractor	DLZ Drilling	Drill Rig	Mobile B-59 TMR	At Completion of Drilling	▽	DRY	
Driller	J&J	Logger	N. Davis	Time After Drilling	NA		
Checked by	S. Janowski	Drilling Method	3.25" ID. HSA; Boring backfilled with bentonite upon completion	Depth to Water	▽	NA	
The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.							

**TYLIN INTERNATIONAL**

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION  
 F.A.I. 94 (DAN RYAN EXPRESSWAY)  
 RETAINING WALL ALONG STATE ST.  
 ENTRANCE RAMP AT 95TH ST.  
 WALL 1  
 BORING LOGS SB01-01 & SB01-02  
 S.N. 016-W943 DESIGNED BY: DJR  
 SCALE: N.T.S. DRAWN BY: DJR  
 DATE: MARCH 18, 2005 CHECKED BY: TD

**Wang Engineering, INC.**  
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**BORING LOG SB 01-03** Page 1 of 1

WEI Job No.: 414-07-01  
 Client: T. Y. LIN International  
 Project: Dan Ryan Improvements; IDOT No. D-91-421-01  
 Location: From 95th Street to South of 69th Street

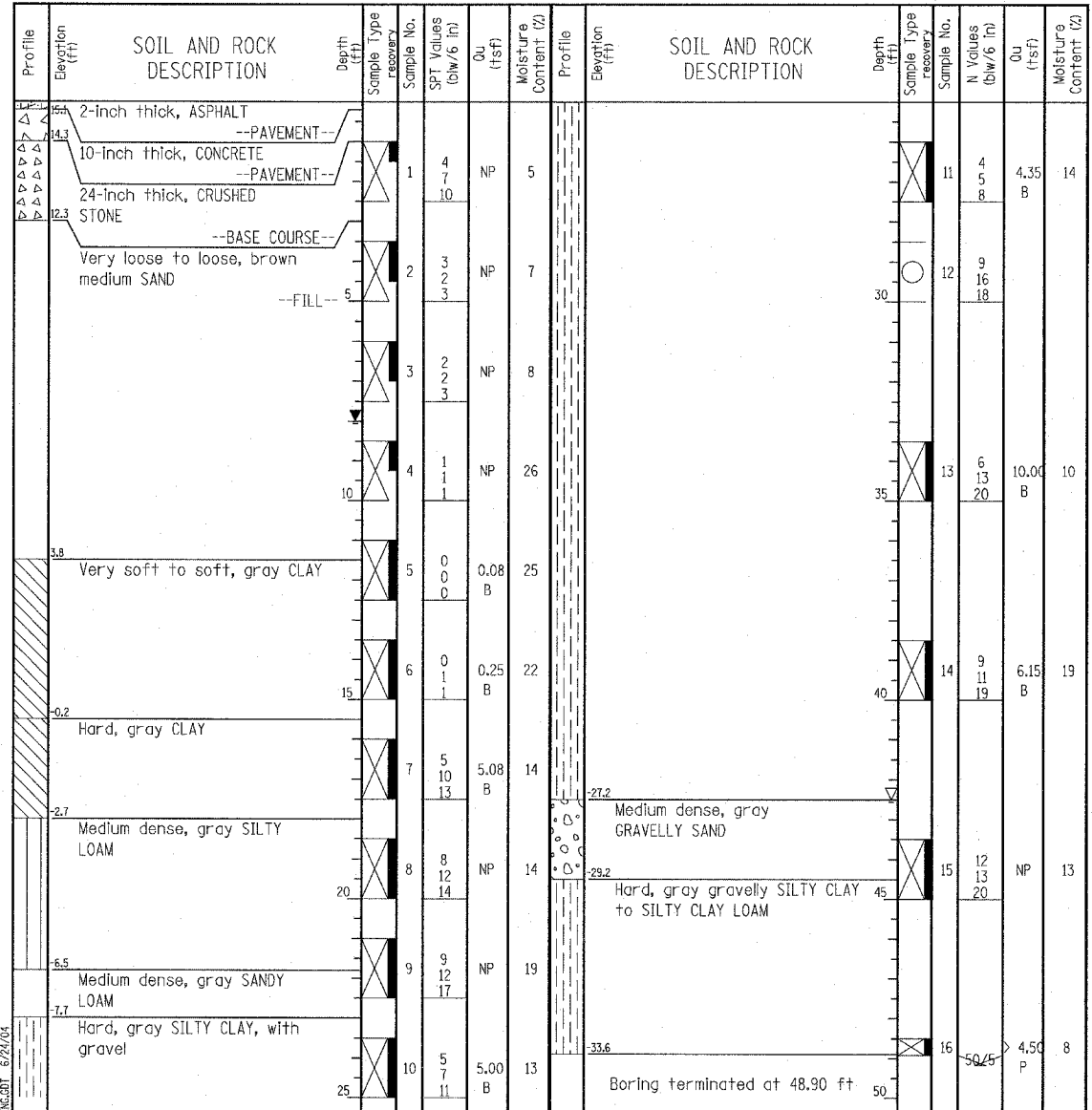
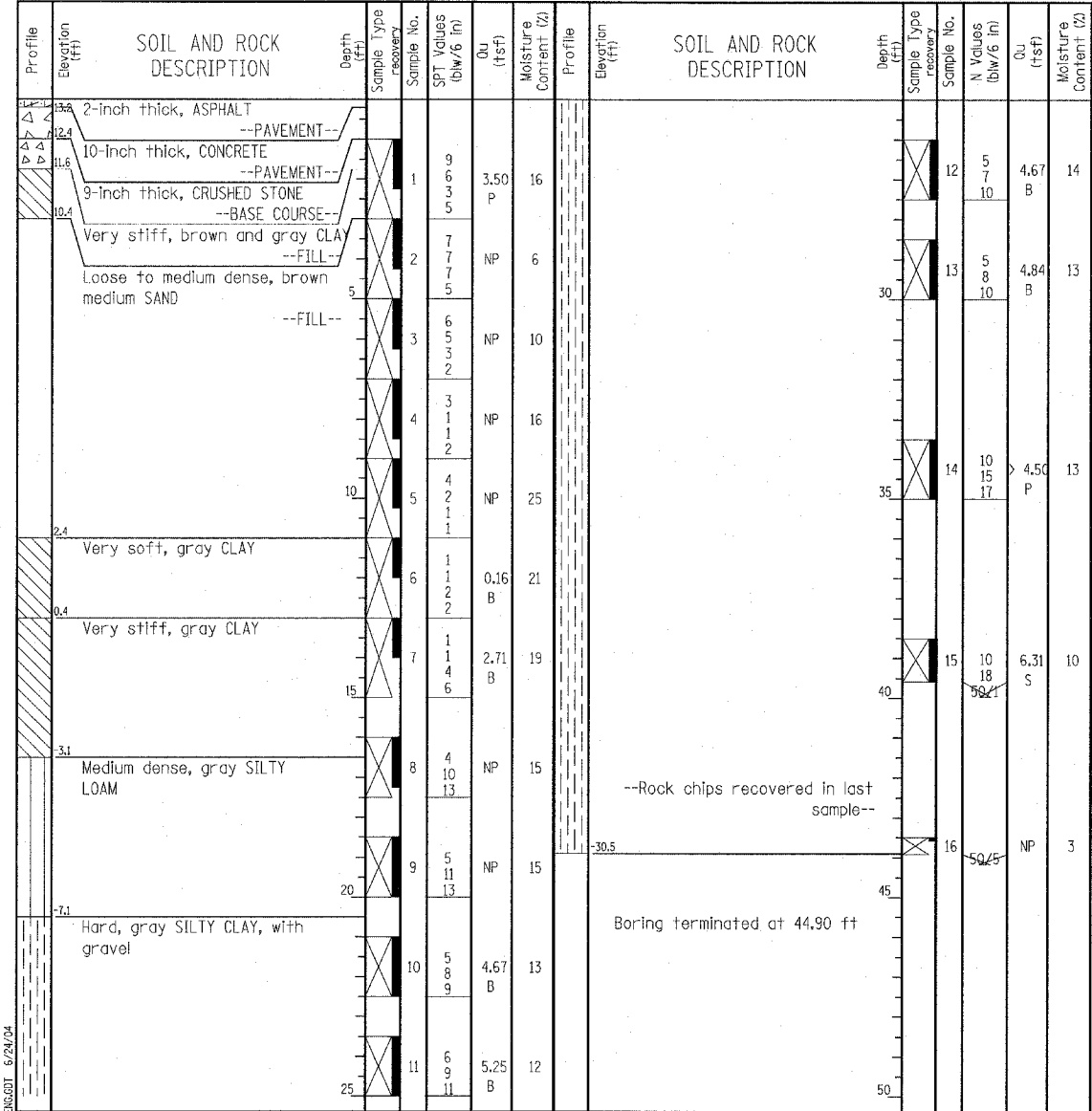
Datum: CCD  
 Elevation: 13.35 ft  
 North: 1842817.66 ft  
 East: 1177888.52 ft  
 Station: 2214+48.2  
 Offset: 90.587' RT

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**BORING LOG SB 01-04** Page 1 of 1

WEI Job No.: 414-07-01  
 Client: T. Y. LIN International  
 Project: Dan Ryan Improvements; IDOT No. D-91-421-01  
 Location: From 95th Street to South of 69th Street

Datum: CCD  
 Elevation: 15.29 ft  
 North: 1842745.19 ft  
 East: 1177895.70 ft  
 Station: 2213+75.6  
 Offset: 95.697' RT



GENERAL NOTES				WATER LEVEL DATA			
Begin Drilling	01-22-2004	Complete Drilling	01-22-2004	While Drilling	▽	DRY	
Drilling Contractor	Patrick Drilling	Drill Rig	CME 75 TMR	At Completion of Drilling	▽	DRY	
Driller	J&B	Logger	H. Suhail	Time After Drilling	NA		
Checked by	N. Davis	Drilling Method	3.25" ID HSA; Boring backfilled with bentonite upon completion	Depth to Water	▽	NA	

GENERAL NOTES				WATER LEVEL DATA			
Begin Drilling	01-21-2004	Complete Drilling	01-21-2004	While Drilling	▽	42.50 ft	
Drilling Contractor	Patrick Drilling	Drill Rig	CME 75 TMR	At Completion of Drilling	▽	8.00 ft	
Driller	J&B	Logger	H. Suhail	Time After Drilling	NA		
Checked by	N. Davis	Drilling Method	3.25" ID HSA; Boring backfilled with bentonite upon completion	Depth to Water	▽	NA	

**TYLIN INTERNATIONAL**

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION  
**F.A.I. 94 (DAN RYAN EXPRESSWAY)**  
 RETAINING WALL ALONG STATE ST.  
 ENTRANCE RAMP AT 95TH ST.  
 WALL 1  
**BORING LOGS SB01-03 & SB01-04**  
 S.N. 016-W943  
 SCALE: N.T.S.  
 DATE: MARCH 18, 2005

DESIGNED BY: DJR  
 DRAWN BY: DJR  
 CHECKED BY: TD



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**BORING LOG SB 01-05** Page 1 of 2

WEI Job No.: 414-07-01  
 Datum: CCD  
 Elevation: 16.54 ft  
 North: 1842671.40 ft  
 East: 1177902.43 ft  
 Station: 2213+01.6  
 Offset: 100.307' RT

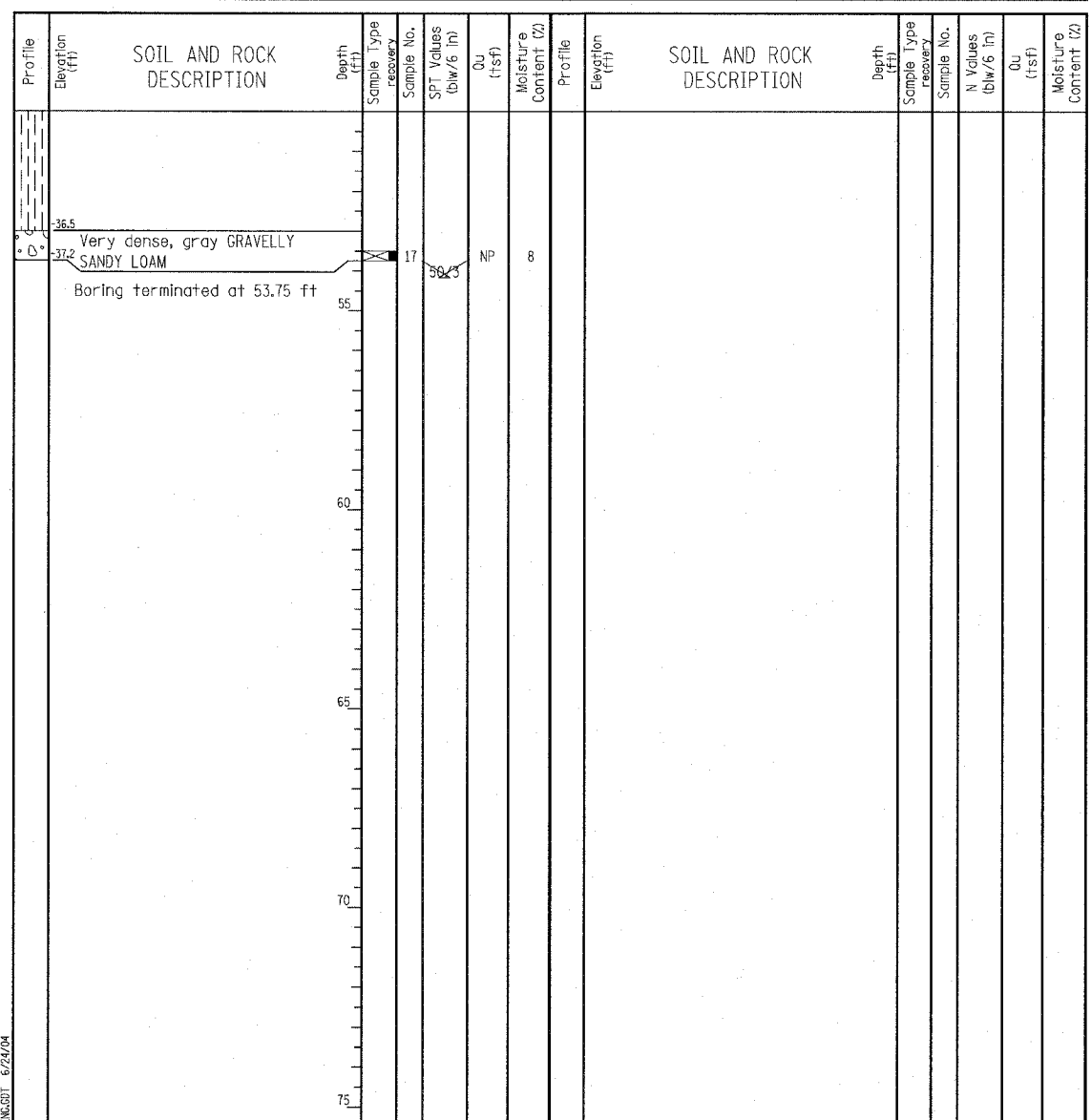
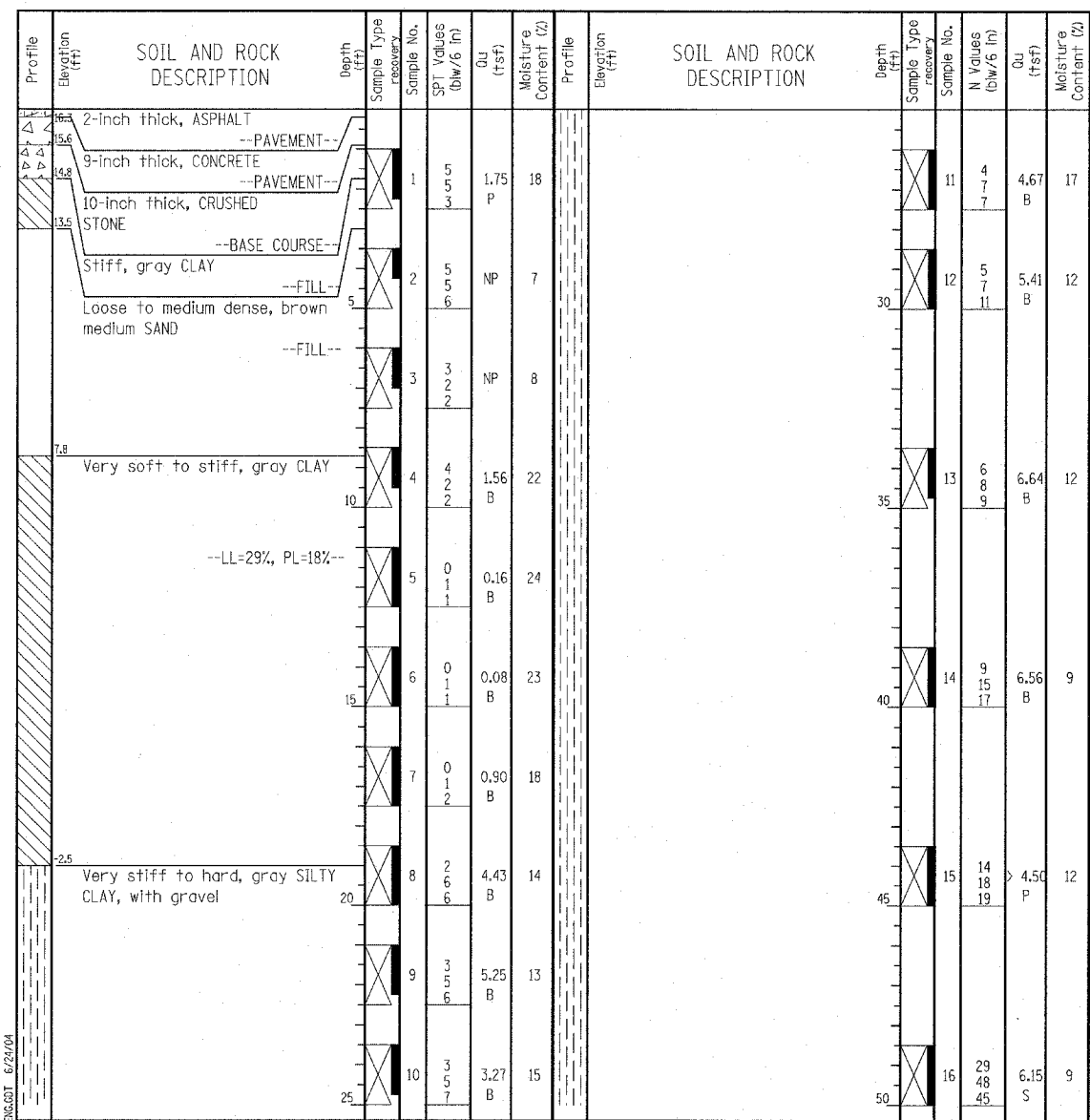
Client: T. Y. LIN International  
 Project: Dan Ryan Improvements; IDOT No. D-91-421-01  
 Location: From 95th Street to South of 69th Street

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**BORING LOG SB 01-05** Page 2 of 2

WEI Job No.: 414-07-01  
 Datum: CCD  
 Elevation: 16.54 ft  
 North: 1842671.40 ft  
 East: 1177902.43 ft  
 Station: 2213+01.6  
 Offset: 100.307' RT

Client: T. Y. LIN International  
 Project: Dan Ryan Improvements; IDOT No. D-91-421-01  
 Location: From 95th Street to South of 69th Street



GENERAL NOTES				WATER LEVEL DATA			
Begin Drilling	01-21-2004	Complete Drilling	01-21-2004	While Drilling	▽	DRY	
Drilling Contractor	Patrick Drilling	Drill Rig	CME 75 TMR	At Completion of Drilling	▽	DRY	
Driller	J&B	Logger	H. Suhail	Time After Drilling	NA		
Drilling Method	3.25" ID HSA; Boring backfilled with bentonite upon completion			Depth to Water	▽	NA	

GENERAL NOTES				WATER LEVEL DATA			
Begin Drilling	01-21-2004	Complete Drilling	01-21-2004	While Drilling	▽	DRY	
Drilling Contractor	Patrick Drilling	Drill Rig	CME 75 TMR	At Completion of Drilling	▽	DRY	
Driller	J&B	Logger	H. Suhail	Time After Drilling	NA		
Drilling Method	3.25" ID HSA; Boring backfilled with bentonite upon completion			Depth to Water	▽	NA	

**TYLIN INTERNATIONAL**

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION  
 F.A.I. 94 (DAN RYAN EXPRESSWAY)  
 RETAINING WALL ALONG STATE ST.  
 ENTRANCE RAMP AT 95TH ST.  
 WALL 1  
**BORING LOG SB01-05**  
 S.N. 016-W943  
 SCALE: N.T.S.  
 DATE: MARCH 18, 2005

DESIGNED BY: DJR  
 DRAWN BY: DJR  
 CHECKED BY: TD

**Wang Engineering, Inc.**  
 Consulting Geotechnical and Environmental Engineers  
 wangeng3@wangeng.com  
 1145 Main Street  
 Lombard, IL 60148  
 Telephone: 630 953-9928  
 Fax: 630 953-9938

**BORING LOG SB 01-06**  
 WEI Job No.: 414-07-01

Datum: CCD  
 Elevation: 16.71 ft  
 North: 1842601.89 ft  
 East: 1177912.33 ft  
 Station: 2212+31.9  
 Offset: 108.22' RT

Client: T. Y. LIN International  
 Project: Dan Ryan Improvements; IDOT No. D-91-421-01  
 Location: From 95th Street to South of 69th Street

Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample No.	SPT Values (blows/6 in)	Qu (tsf)	Moisture Content (%)	Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample No.	N Values (blows/6 in)	Qu (tsf)	Moisture Content (%)
16.5	2-inch thick, ASPHALT						8.8	Hard, gray SILTY CLAY, with gravel		11	6 9 13	7.05 B	13
15.8	9-inch thick, CONCRETE												
15.2	7-inch thick, CRUSHED STONE												
	Loose, brown medium SAND												
		5	2	9 4 3	NP	9	13.1	Medium dense, gray SANDY LOAM	30	12	5 8 16	NP	16
		10	4	3 2 1	0.25 P	34	14.3	Hard, gray SILTY CLAY, with gravel		13	7 12 17	8.28 S	13
10.5	Very soft to soft, gray CLAY												
		15	6	0 0 2			23.3	Boring terminated at 40.00 ft	40	14	10 16 29	9.02 B	11
		20	8	1 1 2	0.49 B	20							
		23	8	2 6 11	4.50 P	12							
	Hard, gray SILTY CLAY												
		25	10	8 13 17	4.50 P	11							
	Medium dense, gray SANDY LOAM												
		50	10	8 11 14	NP	16							

GENERAL NOTES				WATER LEVEL DATA			
Begin Drilling	01-21-2004	Complete Drilling	01-21-2004	While Drilling	▽	DRY	
Drilling Contractor	Patrick Drilling	Drill Rig	CME 75 TMR	At Completion of Drilling	▽	DRY	
Driller	J&B	Logger	H. Suhail	Time After Drilling	NA		
Drilling Method	3.25" ID. HSA; Boring backfilled with bentonite upon completion			Depth to Water	▽	NA	
The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.							

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 Fax: 630 953-9938

**BORING LOG SB 01-07**  
 WEI Job No.: 414-07-01

Datum: CCD  
 Elevation: 16.81 ft  
 North: 1842524.51 ft  
 East: 1177927.02 ft  
 Station: 2211+54.1  
 Offset: 120.686' RT

Client: T. Y. LIN International  
 Project: Dan Ryan Improvements; IDOT No. D-91-421-01  
 Location: From 95th Street to South of 69th Street

Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample No.	SPT Values (blows/6 in)	Qu (tsf)	Moisture Content (%)	Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample No.	N Values (blows/6 in)	Qu (tsf)	Moisture Content (%)
16.5	2-inch thick, ASPHALT												
15.0	20-inch thick, CRUSHED STONE												
	Loose, brown medium GRAVELLY SAND												
		5	2	2 3 3	NP	12							
		10	4	1 1 2									
		15	6	0 0 0	0.16 B	36							
	Very soft, gray CLAY												
		20	5	0 0 1	0.08 B	23							
		25	6	0 0 0	0.25 P	11	22.7	Very dense, gray SILTY LOAM, with gravel	40	14	10 17 50/5	NP	11
		30	7	0 0 0	0.25 P	24	24.7	Hard, gray gravelly SILTY CLAY to SILTY CLAY LOAM					
		35	13	4 7 10									
		40	13	4 7 10									
		45	15	17 22 27	> 4.50 P	10							
	Hard, gray SILTY CLAY												
		50	16	30 41 40	> 4.50 P	8							
	Medium dense, gray SANDY LOAM												
		50	16	7 10 10	5.41 S	11							

GENERAL NOTES				WATER LEVEL DATA			
Begin Drilling	01-16-2004	Complete Drilling	01-16-2004	While Drilling	▽	DRY	
Drilling Contractor	Patrick Drilling	Drill Rig	CME 75 TMR	At Completion of Drilling	▽	DRY	
Driller	J&B	Logger	H. Suhail	Time After Drilling	NA		
Drilling Method	3.25" ID. HSA; Boring backfilled with bentonite upon completion			Depth to Water	▽	NA	
The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.							



REVISIONS	
NAME	DATE

**ILLINOIS DEPARTMENT OF TRANSPORTATION**  
**F.A.I. 94 (DAN RYAN EXPRESSWAY)**  
**RETAINING WALL ALONG STATE ST.**  
**ENTRANCE RAMP AT 95TH ST.**  
**WALL 1**  
**BORING LOGS SB01-06 & SB01-07**  
 S.N. 016-W943      DESIGNED BY: DJR  
 SCALE: N.T.S.      DRAWN BY: DJR  
 DATE: MARCH 18, 2005      CHECKED BY: TD

**Wang Engineering, INC.**  
 Consulting Geotechnical and Environmental Engineers  
 wangeng3@wangeng.com  
 1145 Main Street  
 Lombard, IL 60148  
 Telephone: 630 953-9928  
 Fax: 630 953-9938

**BORING LOG SB 01-07** Page 2 of 2

WEI Job No.: 414-07-01  
 Datum: CCD  
 Elevation: 16.81 ft  
 North: 1842524.51 ft  
 East: 1177927.02 ft  
 Station: 2211+54.1  
 Offset: 120.686' RT

Client: T. Y. LIN International  
 Project: Dan Ryan Improvements; IDOT No. D-91-421-01  
 Location: From 95th Street to South of 69th Street

Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type recovery	Sample No.	SPT Values (blw/6 in)	OU (tsf)	Moisture Content (%)	Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type recovery	Sample No.	N Values (blw/6 in)	OU (tsf)	Moisture Content (%)
37.4				17	38	4.50	8								
	Boring terminated at 54.25 ft	55													

<b>GENERAL NOTES</b>				<b>WATER LEVEL DATA</b>			
Begin Drilling	01-16-2004	Complete Drilling	01-16-2004	While Drilling	▽	DRY	
Drilling Contractor	Patrick Drilling	Drill Rig	CME 75 TMR	At Completion of Drilling	▽	DRY	
Driller	J&B	Logger	H. Suhail	Time After Drilling	NA		
Checked by	N. Davis	Drilling Method	3.25" ID. HSA; Boring backfilled with bentonite upon completion	Depth to Water	▽	NA	
The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.							

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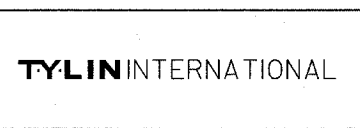
**BORING LOG SB 01-08** Page 1 of 1

WEI Job No.: 414-07-01  
 Datum: CCD  
 Elevation: 16.66 ft  
 North: 1842446.60 ft  
 East: 1177934.42 ft  
 Station: 2210+76.0  
 Offset: 125.849' RT

Client: T. Y. LIN International  
 Project: Dan Ryan Improvements; IDOT No. D-91-421-01  
 Location: From 95th Street to South of 69th Street

Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type recovery	Sample No.	SPT Values (blw/6 in)	OU (tsf)	Moisture Content (%)	Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type recovery	Sample No.	N Values (blw/6 in)	OU (tsf)	Moisture Content (%)
15.3	2-inch thick, ASPHALT --PAVEMENT--														
15.1	7-inch thick, CONCRETE --PAVEMENT--			1	8 8 5	NP	9					11	4	4.59	13
13.7	10-inch thick, CRUSHED STONE --BASE COURSE--			2	3 3 3	0.50	13					12	5 6 8	3.03	16
	Loose, brown medium SAND --FILL--			3	1 2 3	0.50	25								
	Medium stiff, gray CLAY --FILL--			4	0 0 0	0.16	29					13	5 5 12	5.90	12
8.7	Very soft to medium stiff, gray CLAY			5	0 0 2	0.25	23								
				6	1 1 2	0.33	21					14	11 14 30	4.50	13
				7	0 1 2	0.74	20								
2.7	Stiff to hard, gray SILTY CLAY, with gravel			8	0 1 4	1.48	18					15	20 25 31	3.12	10
				9	4 6 8	4.51	13								
				10	3 4 6	3.20	15								
	Boring terminated at 45.00 ft	45													

<b>GENERAL NOTES</b>				<b>WATER LEVEL DATA</b>			
Begin Drilling	01-16-2004	Complete Drilling	01-16-2004	While Drilling	▽	28.00 ft	
Drilling Contractor	Patrick Drilling	Drill Rig	CME 75 TMR	At Completion of Drilling	▽	28.00 ft	
Driller	J&B	Logger	H. Suhail	Time After Drilling	NA		
Checked by	N. Davis	Drilling Method	3.25" ID. HSA; Boring backfilled with bentonite upon completion	Depth to Water	▽	NA	
The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.							




REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION  
**F.A.I. 94 (DAN RYAN EXPRESSWAY)**  
**RETAINING WALL ALONG STATE ST.**  
**ENTRANCE RAMP AT 95TH ST.**  
**WALL 1**  
**BORING LOGS SB01-07 & SB01-08**  
 S.N. 016-W943  
 SCALE: N.T.S.  
 DATE: MARCH 18, 2005

DESIGNED BY: DJR  
 DRAWN BY: DJR  
 CHECKED BY: TD

03/25/2005 10:46:43 AM



Wang Engineering, Inc.  
Consulting Geotechnical and Environmental Engineers  
wangeng@wangeng.com  
1145 Main Street  
Lombard, IL 60148  
Telephone: 630 953-9928  
Fax: 630 953-9938

### BORING LOG SB 02-22

WEI Job No.: 414-07-01

Client: T. Y. LIN International

Project: Dan Ryan Improvements; IDOT No. D-91-421-01

Location: From 95th Street to South of 69th Street

Datum: CCD  
Elevation: 6.81 ft  
North: 1843007.39 ft  
East: 1177884.29 ft  
Station: 2216+38.0  
Offset: 91.798' RT

Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample No.	SPT Values (blows/6 in)	Qu (tsf)	Moisture Content (%)	Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample No.	N Values (blows/6 in)	Qu (tsf)	Moisture Content (%)
6.5	3-inch thick, ASPHALT --PAVEMENT--	0											
4.5	12-inch thick, CONCRETE --PAVEMENT--	0											
	Soft to very stiff, gray CLAY, with gravel	0	1	9 6 6	3.50 P	17				11	29 27 53	6.89 B	13
		5	2	4 3 3	0.33 B	23			30	12	15 27 38	4.50 P	12
		5	3	2 2 3	0.33 B	23							
		10	4	10 20 24	4.50 P	10			35	13	20 32 49	6.97 S	11
2.2	Very stiff to hard, gray SILTY CLAY, with gravel and interbeds of silt and sand	10	5	11 21 23	6.72 B	11							
		15	6	7 14 16	4.50 P	12							
		15	7	9 15 26	4.18 B	14							
		20	8	5 10 15	3.20 B	15							
		20	9	12 14 17	2.95 B	15							
		25	10	8 14 17	4.50 P	13							
							-32.0	Boring terminated at 38.80 ft	40	14	50 44		12

GENERAL NOTES				WATER LEVEL DATA	
Begin Drilling	02-04-2004	Complete Drilling	02-04-2004	While Drilling	▽ 18.00 ft
Drilling Contractor	DLZ Drilling	Drill Rig	Mobile B-59 TMR	At Completion of Drilling	▽ DRY
Driller	J&M	Logger	N. Davis	Time After Drilling	NA
Drilling Method	3.25" ID, HSA; Boring backfilled with bentonite upon completion			Depth to Water	▽ NA
The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.					

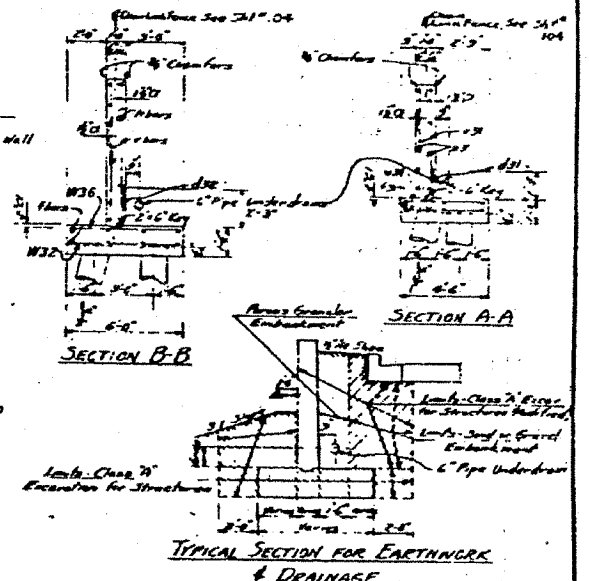
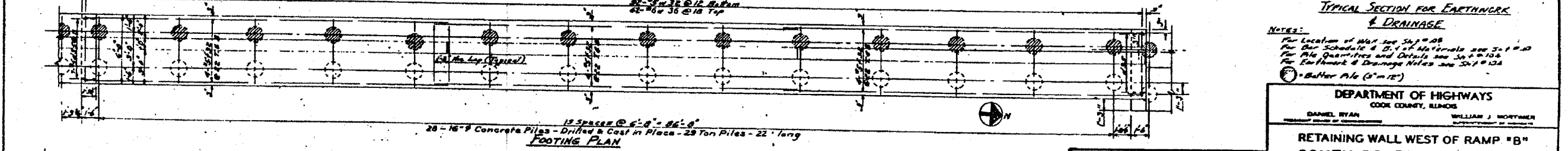
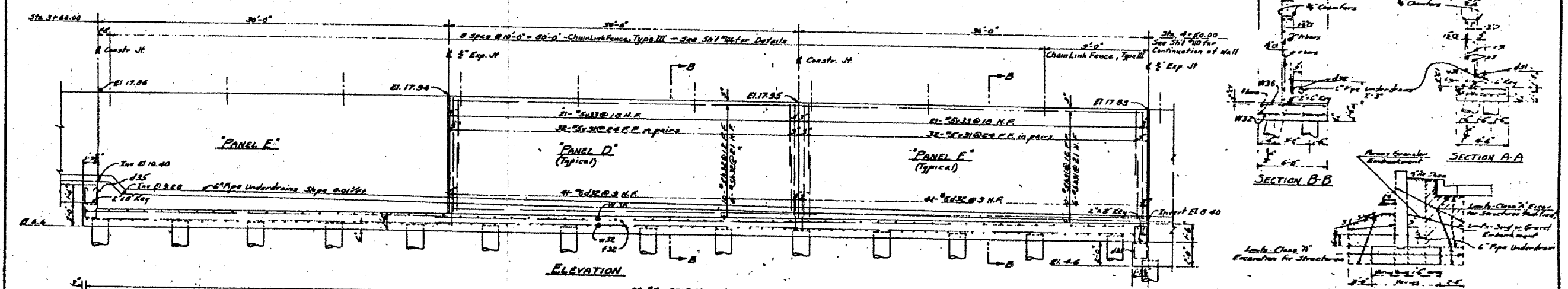
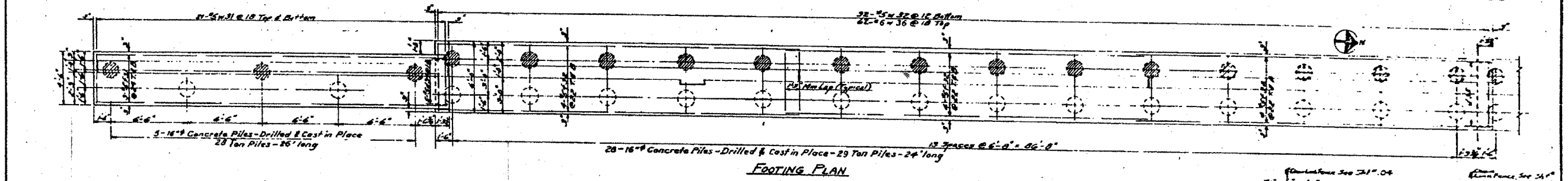
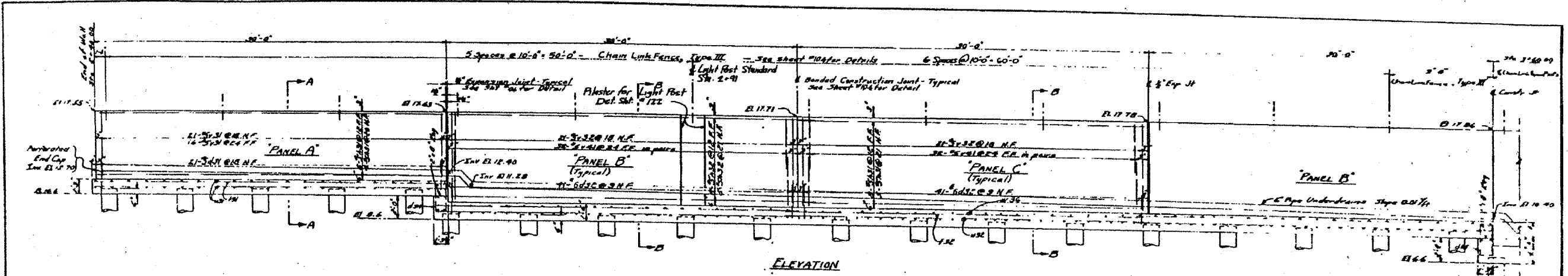
**TYLIN INTERNATIONAL**

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION  
F.A.I. 94 (DAN RYAN EXPRESSWAY)  
RETAINING WALL ALONG STATE ST.  
ENTRANCE RAMP AT 95TH ST.  
WALL 1  
BORING LOG SB02-22

S.N. 016-W943      DESIGNED BY: DJR  
SCALE: N.T.S.      DRAWN BY: DJR  
DATE: MARCH 18, 2005      CHECKED BY: TD

A:\02373\Structural\Drawings\SB02-22\SB02-22.dwg 03/25/2005 10:46:44 AM



**NOTES:**  
 For Location of Wall see S&P 08  
 For Bar Schedule & B.I. of Materials see S&P 09  
 For Pipe Quantities and Details see S&P 10 & 11  
 For Earthquake & Drainage Notes see S&P 12 & 13  
 (1) - Buffer Pile (12' x 12')

<b>DEPARTMENT OF HIGHWAYS</b>	
COOK COUNTY, ILLINOIS	
DANIEL RYAN	WILLIAM J. HORTNER
<b>RETAINING WALL WEST OF RAMP "B"</b>	
<b>SOUTH ROUTE EXPRESSWAY</b>	
COMPUTED E.L.K.	FROM I-04-B (51)
ISSUED DATE	DATE 11/25/04
CHECKED E.L.K.	BY: [Signature]
APPROVED [Signature]	CH
4	66-5-27 109 172 3214-5

REVISIONS		
DATE	BY	DESCRIPTION
10-13-04	ELK	Final Pile Boring & Chain Link Fence

REVISIONS	
NAME	DATE

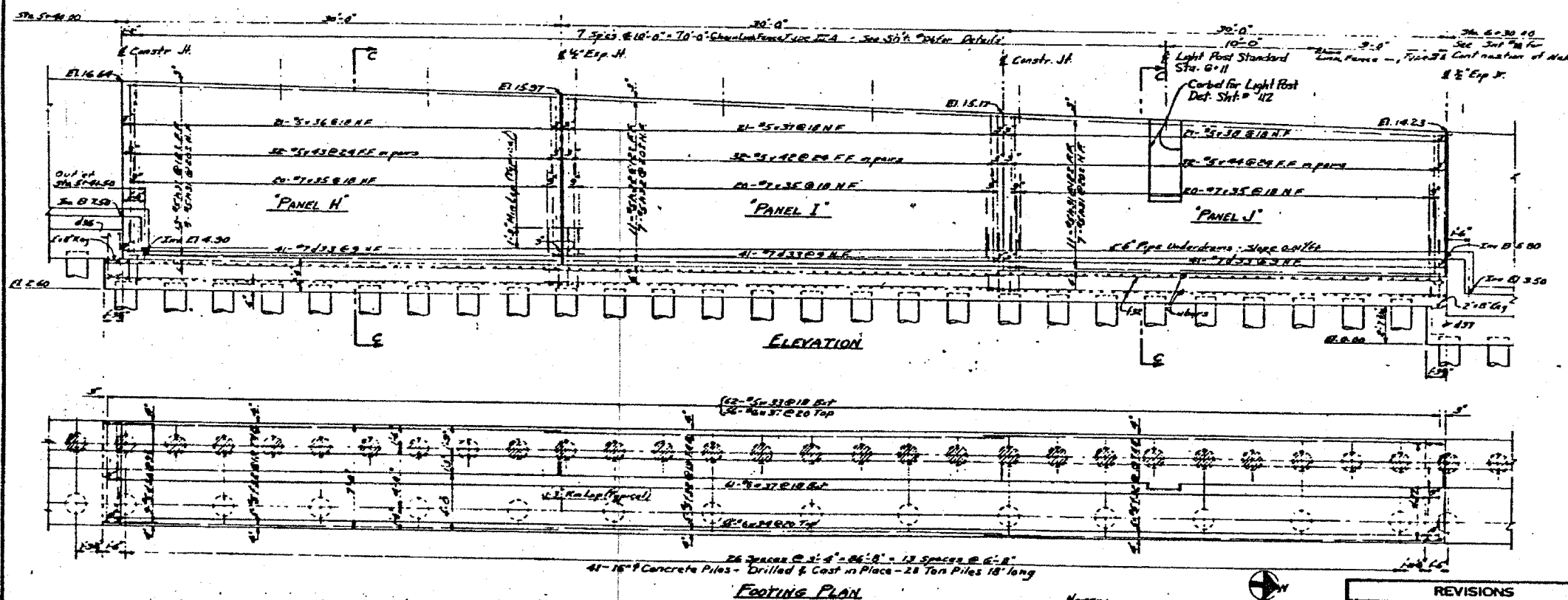
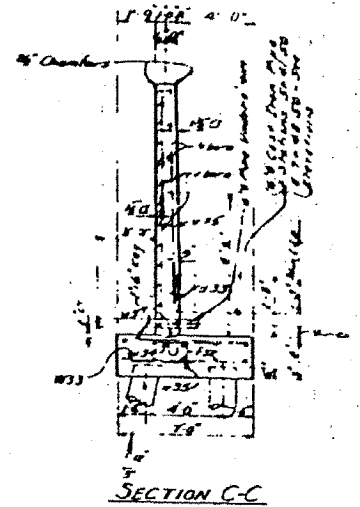
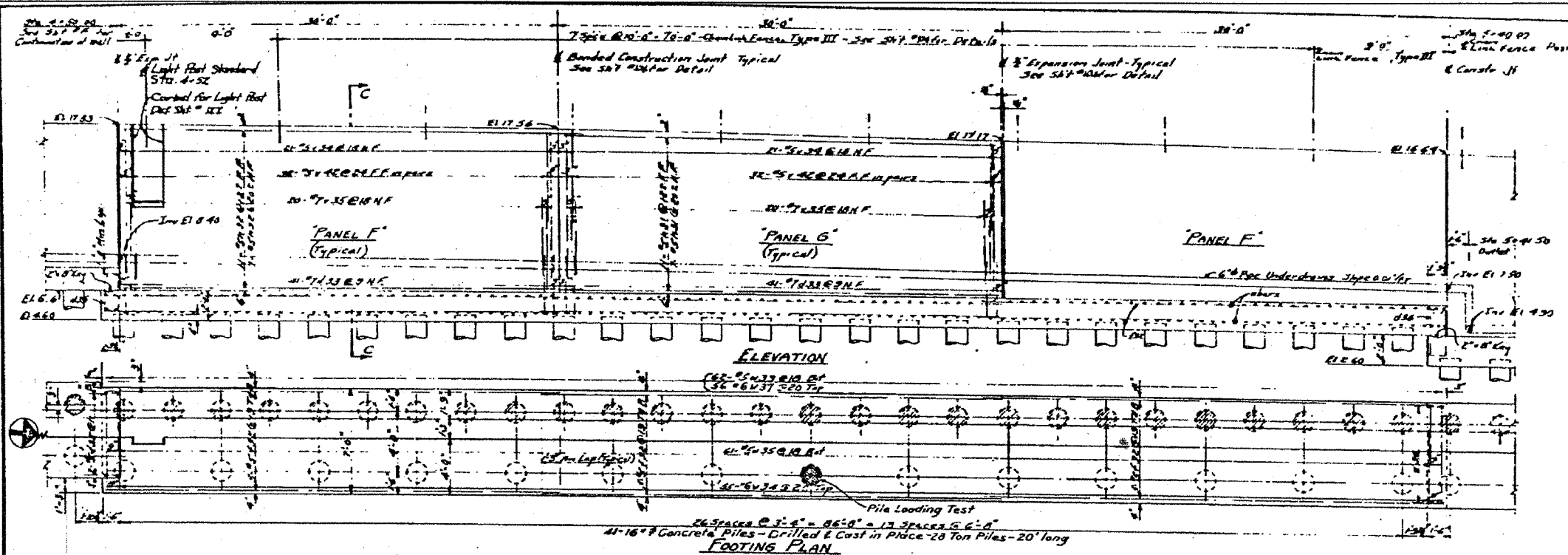
ILLINOIS DEPARTMENT OF TRANSPORTATION  
 F.A.I. 94 (DAN RYAN EXPRESSWAY)  
 RETAINING WALL ALONG STATE ST.  
 ENTRANCE RAMP AT 95TH ST.  
 EXISTING RETAINING WALL  
 (1 OF 3)

S.N. 016-W943  
 SCALE: N.T.S.  
 DATE: MARCH 18, 2005

DESIGNED BY: DJR  
 DRAWN BY: DJR  
 CHECKED BY: TD

**TYLIN INTERNATIONAL**

Do not work from this sheet.  
 The information shown is for  
 reference purposes only.  
 No Pay Items are shown.



**BILL OF MATERIAL**

TYPE 1	TYPE 33	QTY	UNIT	DESCRIPTION
1	1	100	sq ft	Formwork
2	2	100	sq ft	Formwork
3	3	100	sq ft	Formwork
4	4	100	sq ft	Formwork
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98	98	100	sq ft	Formwork
99	99	100	sq ft	Formwork
100	100	100	sq ft	Formwork

**DEPARTMENT OF HIGHWAYS**  
COOK COUNTY, ILLINOIS

DANIEL RYAN  
WILLIAM J. HORTNER

**RETAINING WALL WEST OF RAMP "B"  
SOUTH ROUTE EXPRESSWAY**

PROJECT I-04-B(31)  
YEAR 1/4/91  
APPROVED 1/1/91

DESIGNED: E.L.R.  
DRAWN: C.B.T.  
CHECKED: E.L.R.

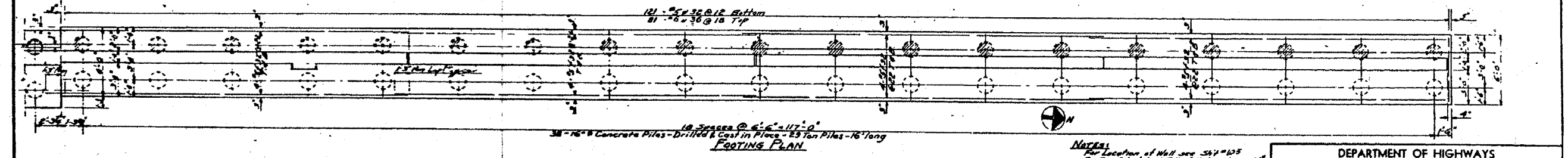
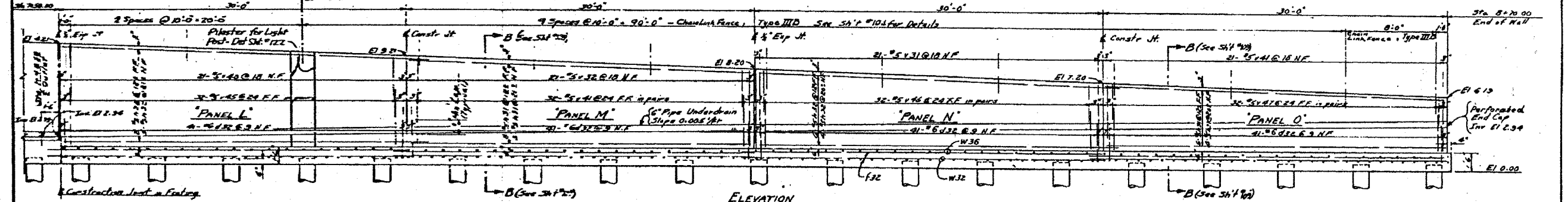
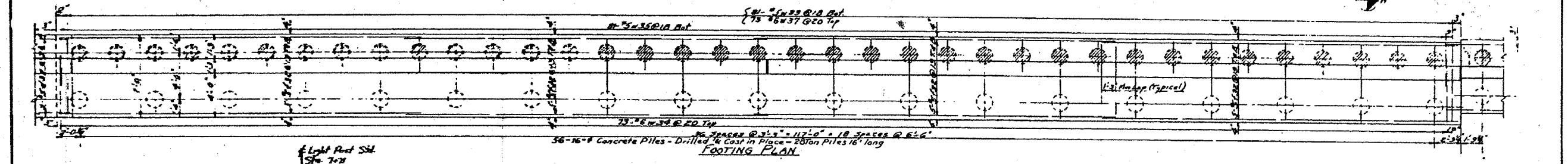
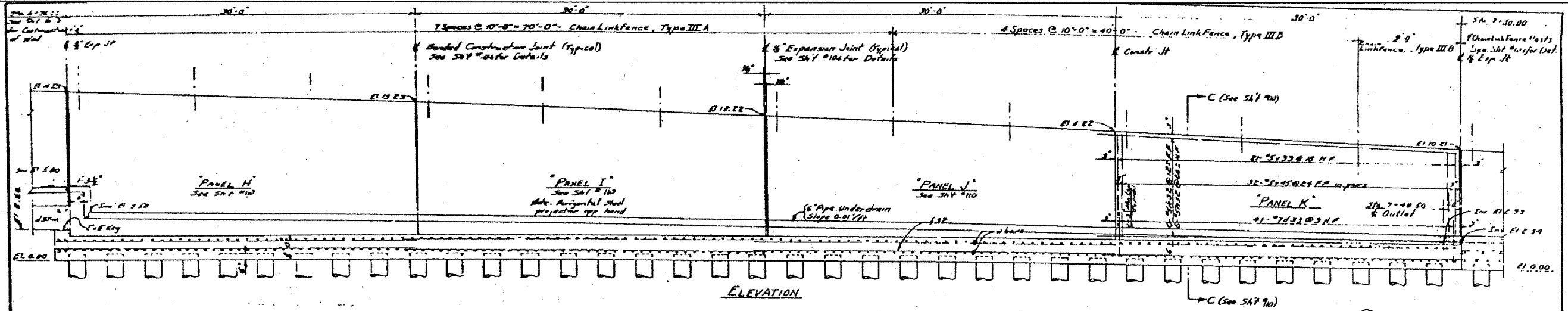
APPROVED: [Signature]  
DATE: 6-15-91

**REVISIONS**

NO.	DATE	DESCRIPTION
1		
2		
3		
4		

TYLIN INTERNATIONAL

Do not work from this sheet. The information shown is for reference purposes only. No Pay Items are shown.



**NOTES**  
 For Location of Wall see S&T 105  
 For Bar Schedule & B.M. of Material see S&T 110  
 For Qty Quantities & Details see S&T 110  
 For Typical Section for Earthwork & Drainage see S&T 105  
 For Earthwork & Drainage Notes see S&T 105  
 - Better File 6' x 12"

<b>DEPARTMENT OF HIGHWAYS</b> COOK COUNTY, ILLINOIS	
DANIEL RYAN PRESIDENT BOARD OF COMMISSIONERS	WILLIAM J. MORTIMER SUPERINTENDENT OF HIGHWAYS
<b>RETAINING WALL WEST OF RAMP "B" SOUTH ROUTE EXPRESSWAY</b>	
COMPUTED E.L.K.	PROJECT I-04-B(51)
DRAWN C.E.C.	SCALE 1/4" = 1'-0"
CHECKED E.L.K.	APPROVED <i>[Signature]</i>
APPROVED <i>[Signature]</i>	C.H. 4 006-1516 I III 132 3K-187-3

REVISIONS		
DATE	BY	DESCRIPTION
10-8-59	E.L.K.	Revised for Bar Schedule & Chain Link Fence

REVISIONS	
NAME	DATE

SHEET 20 OF 20

ILLINOIS DEPARTMENT OF TRANSPORTATION  
 F.A.I. 94 (DAN RYAN EXPRESSWAY)  
 RETAINING WALL ALONG STATE ST.  
 ENTRANCE RAMP AT 95TH ST.  
 EXISTING RETAINING WALL  
 (3 OF 3)

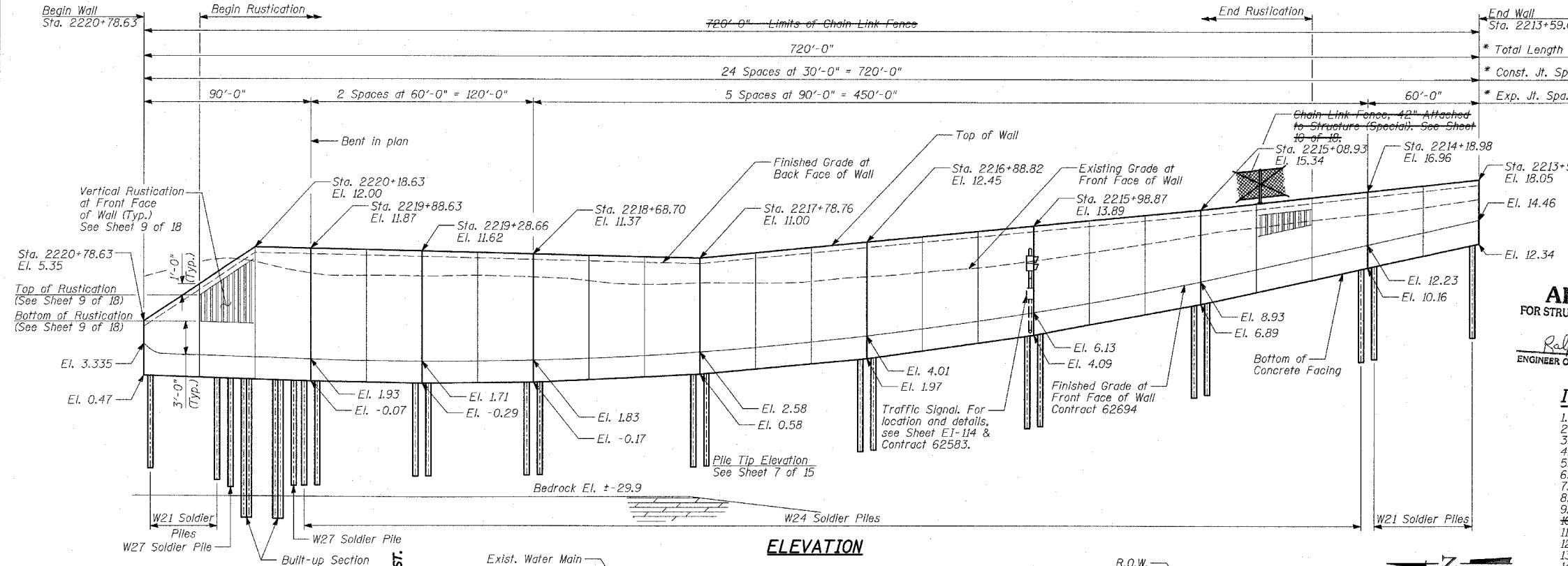
S.N. 016-W943      DESIGNED BY: DJR  
 SCALE: N.T.S.      DRAWN BY: DJR  
 DATE: MARCH 18, 2005      CHECKED BY: TD

**TYLIN INTERNATIONAL**

Do not work from this sheet. The information shown is for reference purposes only. No Pay Items are shown.

Benchmarks: BM 3522 Set "+" on south southeast flange bolt of hydrant ± halfway between north and south entrance to Citgo. east side of State St. and north of 95th St. El. 18.06  
 Existing Structure: None

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	*	COOK	860	432
STA. 2200+00.00 TO STA. 2362+00.00				
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		
* (1516.1, 1717 & 1818) R-8			62694	



**APPROVED**  
 FOR STRUCTURAL ADEQUACY ONLY  
 Ralph E. Anderson (P.E.)  
 ENGINEER OF BRIDGES AND STRUCTURES

**TOTAL BILL OF MATERIAL**

ITEM	UNIT	TOTAL
Slope Wall Removal	SQ YD	56
Structure Excavation	CU YD	635
Concrete Structures	CU YD	292
Protective Coat	SQ YD	749
Rustication Finish	SQ FT	2,618
Furnishing and Erecting Structural Steel	POUND	4,570
Stud Shear Connectors	EACH	1,322
Untreated Timber Lagging	SQ FT	5,564
Furnishing Soldier Piles (Built-up Section)	FOOT	92
Furnishing Soldier Piles (W Section)	FOOT	3,983
Reinforcement Bars, Epoxy Coated	POUND	29,450
Slope Wall 4 Inch	SQ YD	4
Geocomposite Wall Drain	SQ YD	659
Pipe Underdrains for Structures, 6"	FOOT	720
Drilling and Setting Soldier Piles (in Rock)	CU FT	116
Drilling and Setting Soldier Piles (in Soil)	CU FT	27,643
Chain Link Fence, 42" Attached to Structure (Special)	FOOT	720

**INDEX OF SHEETS**

- GENERAL PLAN
- PLAN AND ELEVATION STA. 2220+78.63 TO STA. 2219+28.66
- PLAN AND ELEVATION STA. 2219+28.66 TO STA. 2217+78.76
- PLAN AND ELEVATION STA. 2217+78.76 TO STA. 2215+98.87
- PLAN AND ELEVATION STA. 2215+98.87 TO STA. 2214+18.98
- PLAN AND ELEVATION STA. 2214+18.98 TO STA. 2213+59.02
- PILE LAYOUT, DETAILS & BILL OF MATERIAL
- WALL CROSS SECTIONS & DETAILS
- RUSTICATION DETAILS
- CHAIN LINK FENCE, 42" ATTACHED TO STRUCTURE (SPECIAL)
- BORING LOGS SB02-16 & SB02-17
- BORING LOGS SB02-18 & SB02-19
- BORING LOGS SB02-20 & SB02-21
- BORING LOGS SB02-21 & SB02-22
- BORING LOGS SB02-23 & SB02-24
- BORING LOGS SB02-25 & SB02-26
- BORING LOGS SB01-01 & SB01-02
- BORING LOGS SB01-03 & SB01-04

**DESIGN STRESSES**

- FIELD UNITS**
- $f'_c = 3,500$  psi
  - $f_y = 60,000$  psi (Reinforcement)
  - $f_y = 36,000$  psi (M270 Grade 36) Soldier Piles

**DESIGN SPECIFICATION**

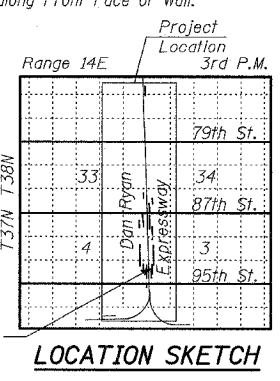
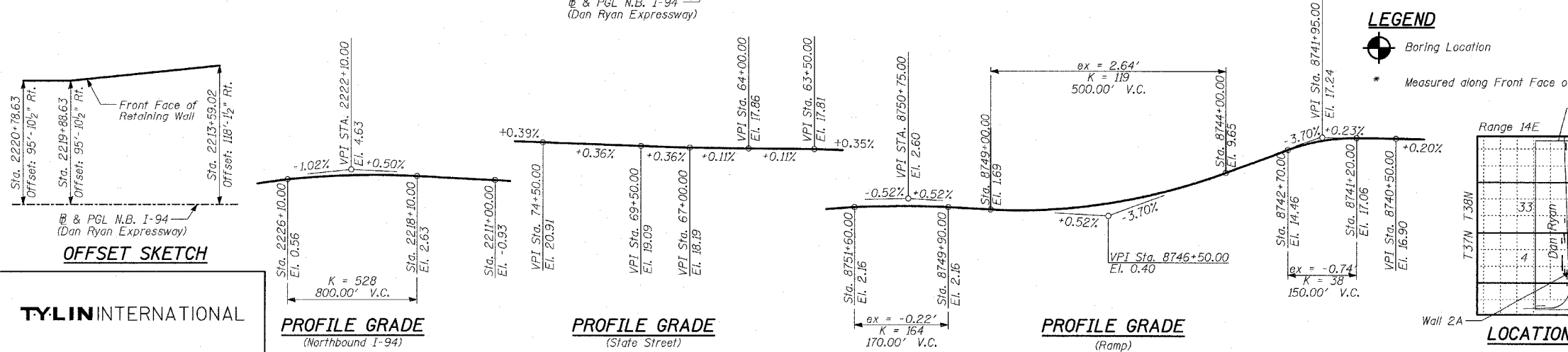
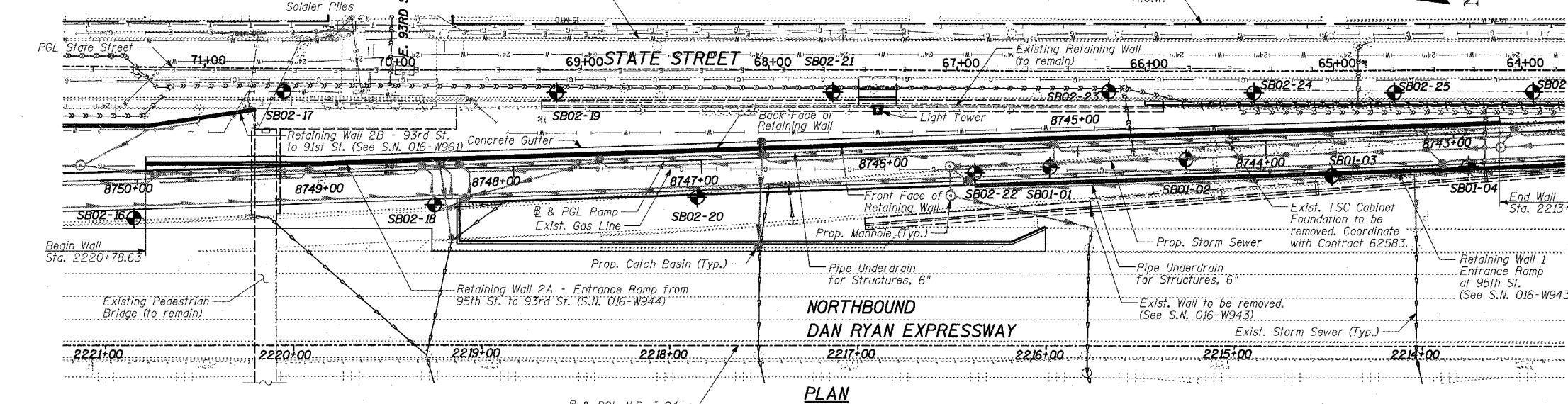
AASHTO 2002 Standard Specifications for Highway Bridges

**GENERAL NOTES:**

- Reinforcement bars shall conform to the requirements of AASHTO M31 or M322 Grade 60.
- Plan dimensions and details relative to existing structure have been taken from existing plans and are subject to nominal construction variations. It shall be the Contractor's responsibility to verify such dimensions and details in the field and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in the scope of the work. However, the Contractor will be paid for the quantity actually finished at the unit price bid for the work.
- The Contractor is responsible for the design and performance of the lagging using no less than 3" nominal rough-sawn thickness and the minimum tabulated unit stress in bending ( $f_b$ ), used in the design of timber lagging shall be 1000 psi.
- The soldier piles shall be cleaned and given one shop coat of Inorganic Zinc-Rich primer.
- The HSS structural steel lagging shall be cleaned and given one shop coat of Inorganic Zinc-Rich primer. Coat included with "Furnishing and Erecting Structural Steel."
- All exposed concrete edges shall be chamfered  $\frac{3}{4}$ " except as noted.
- Protective coat shall be applied to exposed surfaces of the concrete facing.
- Existing utilities in conflict with soldier pile wall construction shall be abandoned or relocated according to directions given on the roadway plans.
- All construction joints shall be bonded.
- All elevations shown are based on the Chicago City Datum of 0.00, which is 579.19 feet above mean tide New York. (NAVD 88)
- The wall shall be backfilled (where applicable) prior to placing the concrete facing.
- The Contractor is responsible to coordinate all electrical crossings with this Contract and with Contract 62583.

**LEGEND**

- Boring Location
- Measured along Front Face of Wall.



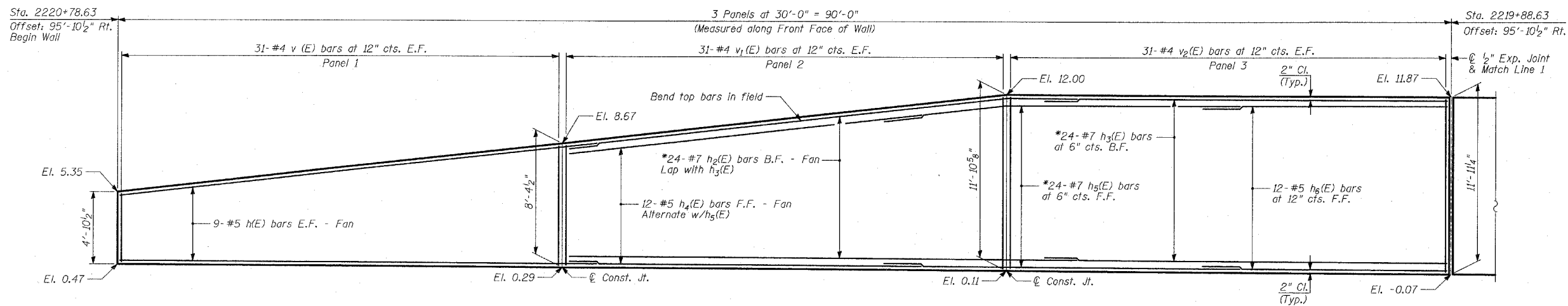
Signed: *Phillip D. Frey*  
 Phillip D. Frey, P.E., Ill. Lic. No. 081-004826  
 Expires 11-30-2006  
 Date: 3/12/05

ILLINOIS DEPARTMENT OF TRANSPORTATION  
**F.A.I. 94 (DAN RYAN EXPRESSWAY)**  
**RETAINING WALL ALONG STATE ST.**  
**ENTRANCE RAMP FROM 95TH ST. TO 93RD ST.**  
**WALL 2A - GENERAL PLAN**  
**STA. 2220+78.63 TO STA. 2213+59.02**  
 S.N. 016-W944 DESIGNED BY: MI, DJR  
 SCALE: N.T.S. DRAWN BY: DJR, MAF  
 DATE: MARCH 18, 2005 CHECKED BY: TD, MI

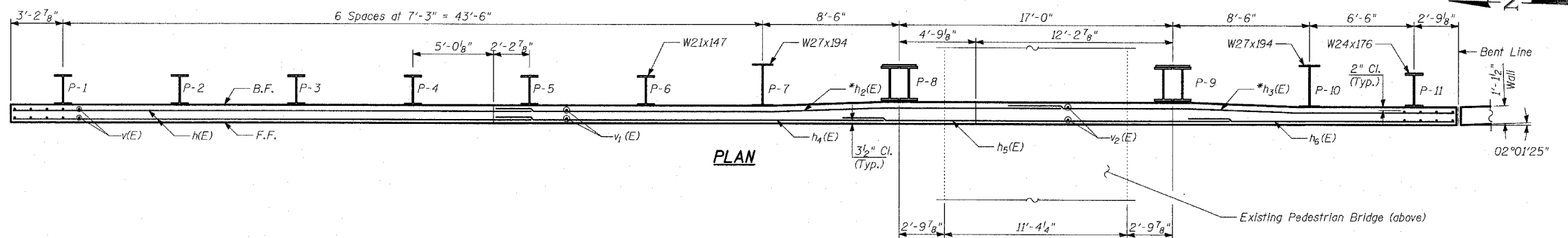
TYLIN INTERNATIONAL



F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94		COOK	860	433
STA. 2200+00.00		TO STA. 2362+00.00		
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		
(1516.1, 1717 & 1818) R-8		62694		



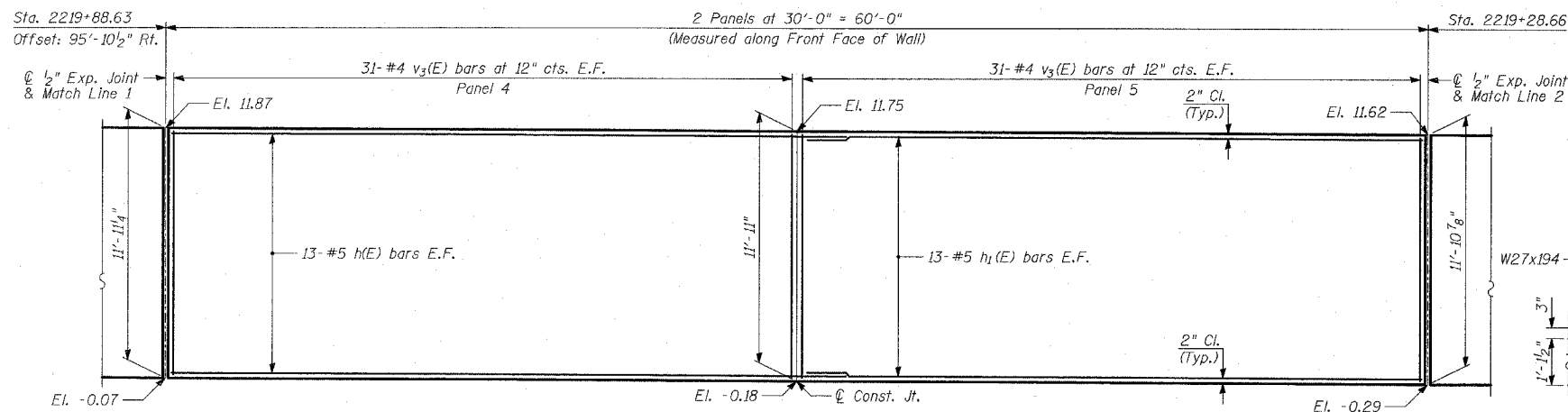
**ELEVATION**



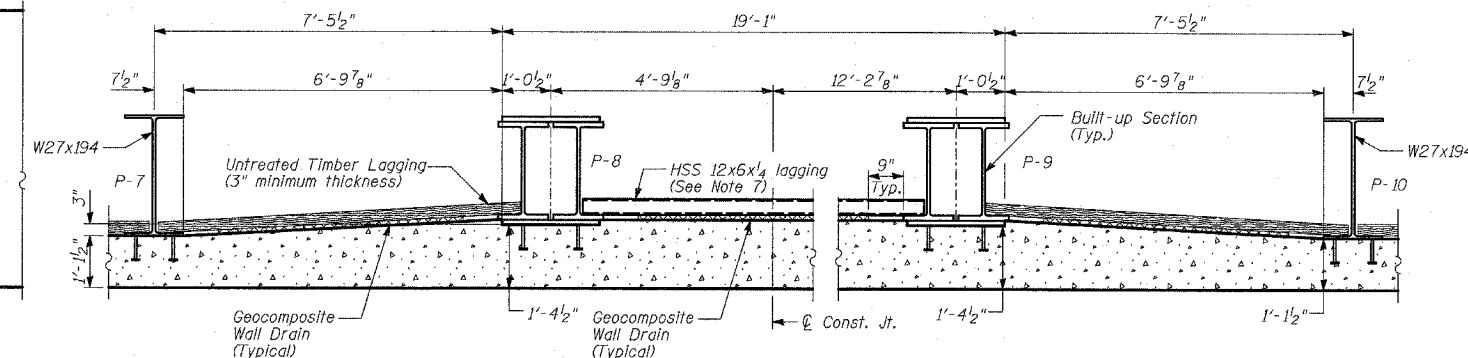
**PLAN**

**NOTE:**

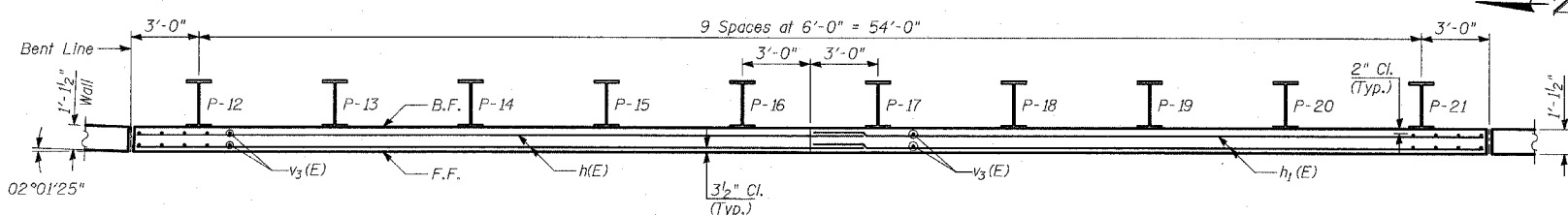
\* Bend bars to fit in field as required.



**ELEVATION**



**BUILT-UP SECTION**



**PLAN**

**NOTES:**

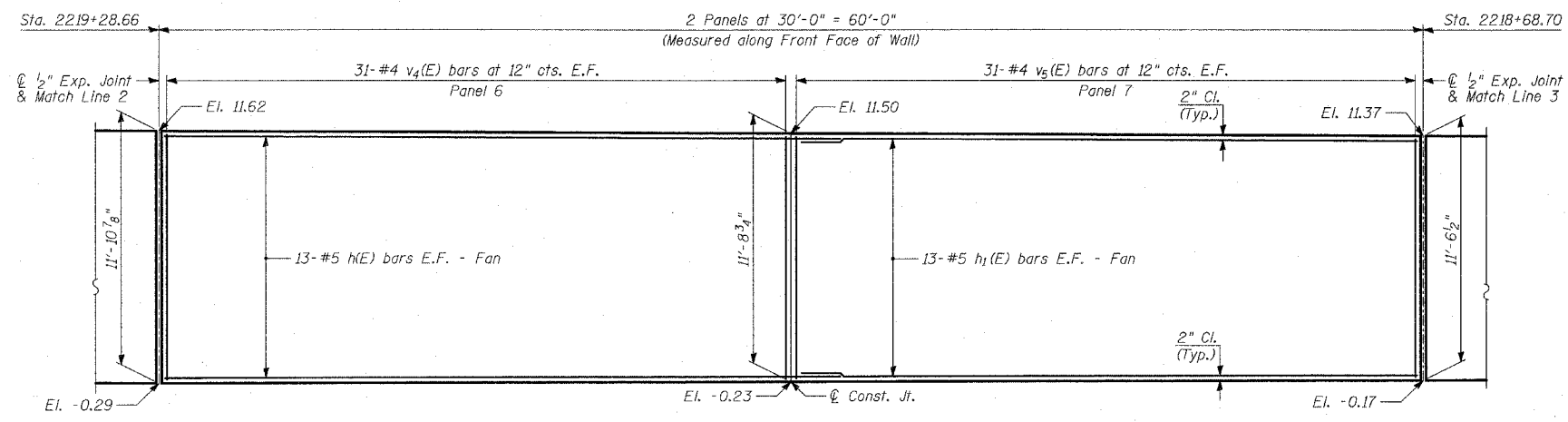
1. B.F. - denotes Back Face.
2. E.F. - denotes Each Face.
3. F.F. - denotes Front Face.
4. Work this Sheet with Sheets 7 thru 10 of 18.
5. Pile spacing measured along front face of wall.
6. For Lap Splices, see Sheet 7 of 18.
7. HSS 12x6x1/4 to serve as lagging between piles P-8 & P-9. Cost of the steel lagging as well as work necessary to place the lagging shall be included with "Furnishing and Erecting Structural Steel".

**TYLIN INTERNATIONAL**

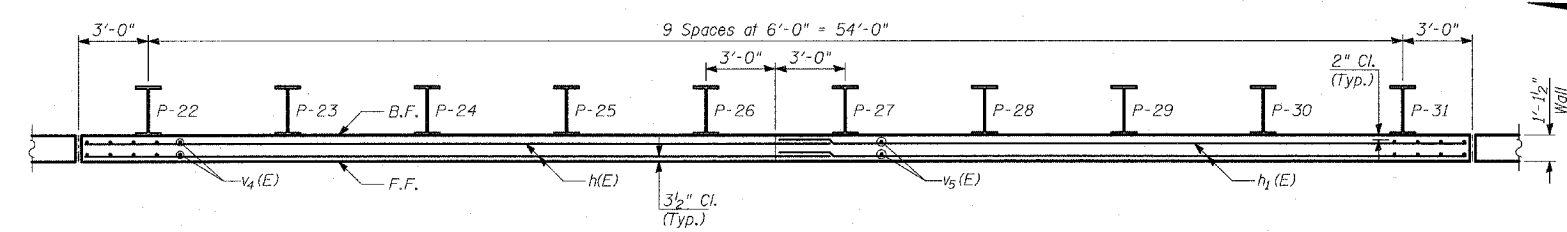
REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION  
**F.A.I. 94 (DAN RYAN EXPRESSWAY)**  
**RETAINING WALL ALONG STATE ST.**  
**ENTRANCE RAMP FROM 95TH ST. TO 93RD ST.**  
**WALL 2A - PLAN AND ELEVATION**  
**STA. 2220+78.63 TO STA. 2219+28.66**  
 S.N. 016-W944  
 SCALE: N.T.S.  
 DATE: MARCH 18, 2005

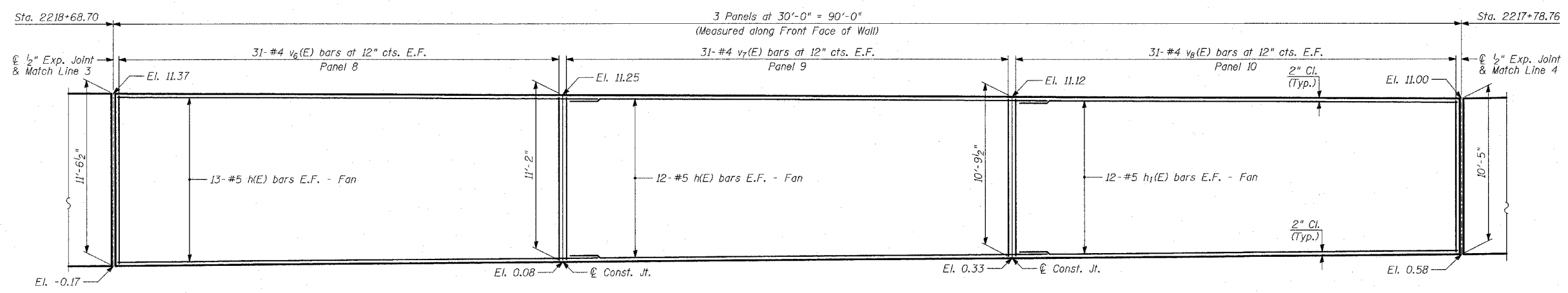
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 DRAWN BY: DJR, MAF  
 CHECKED BY: TD, MI



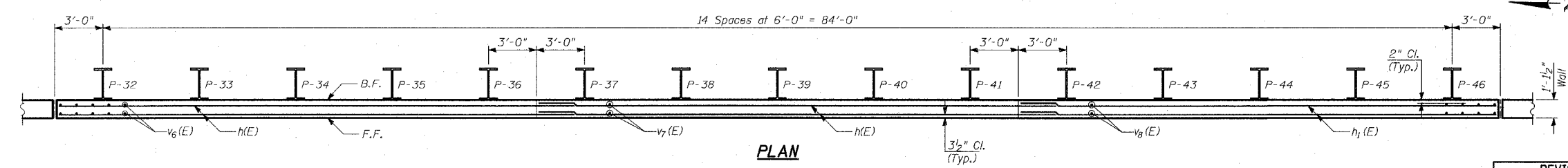
**ELEVATION**



**PLAN**



**ELEVATION**



**PLAN**

- NOTES:**
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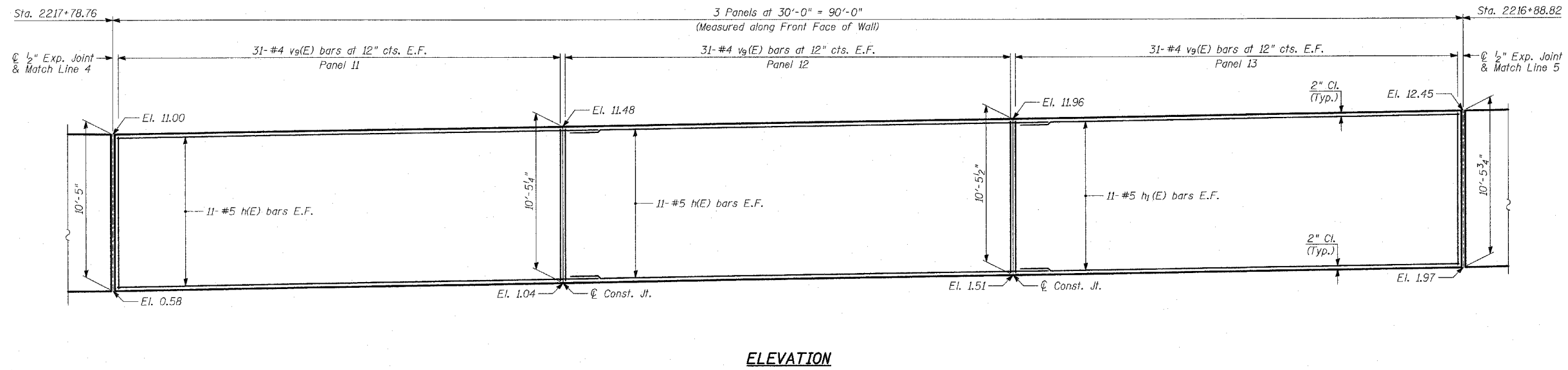
**TYLIN INTERNATIONAL**

REVISIONS	
NAME	DATE

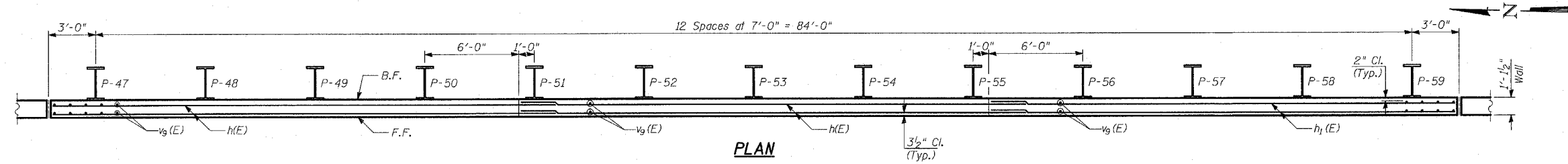
ILLINOIS DEPARTMENT OF TRANSPORTATION  
 F.A.I. 94 (DAN RYAN EXPRESSWAY)  
 RETAINING WALL ALONG STATE ST.  
 ENTRANCE RAMP FROM 95TH ST. TO 93RD ST.  
 WALL 2A - PLAN AND ELEVATION  
 STA. 2219+28.66 TO STA. 2217+78.76  
 S.N. 016-W944  
 SCALE: N.T.S.  
 DATE: MARCH 18, 2005

DESIGNED BY: MI, DJR  
 DRAWN BY: DJR, MAF  
 CHECKED BY: TD, MI

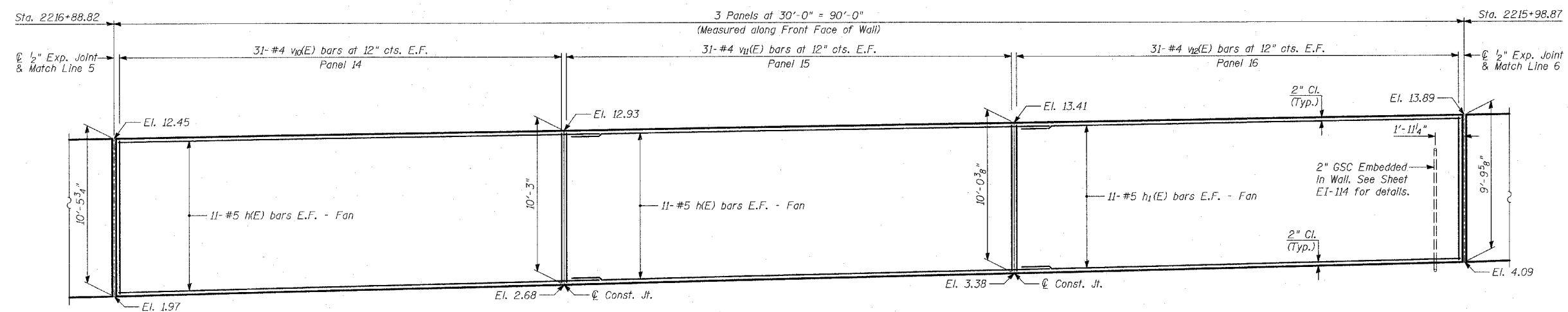
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94		COOK	860	435
STA. 2200+00.00 TO STA. 2362+00.00		ILLINOIS FED. AID PROJECT		
FED. ROAD DIST. NO.		62694		
(1516.1, 1717 & 1818) R-8				



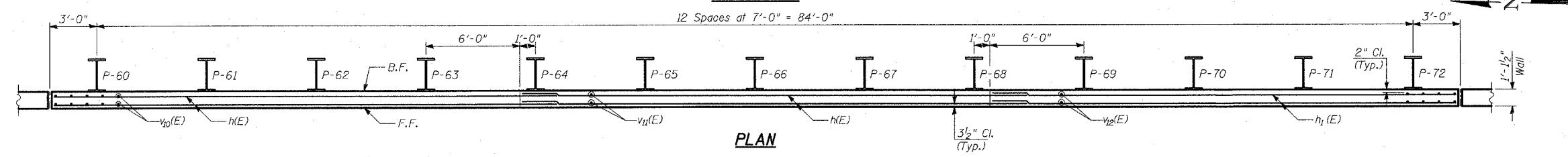
**ELEVATION**



**PLAN**



**ELEVATION**



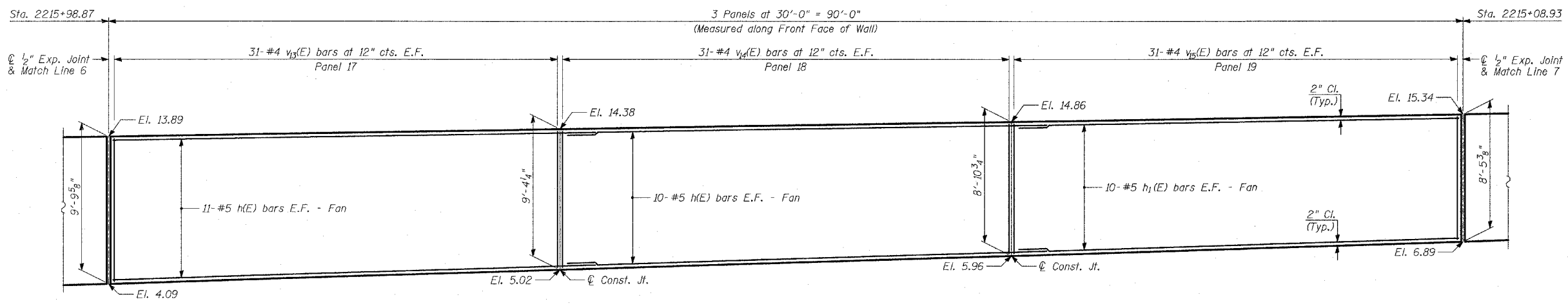
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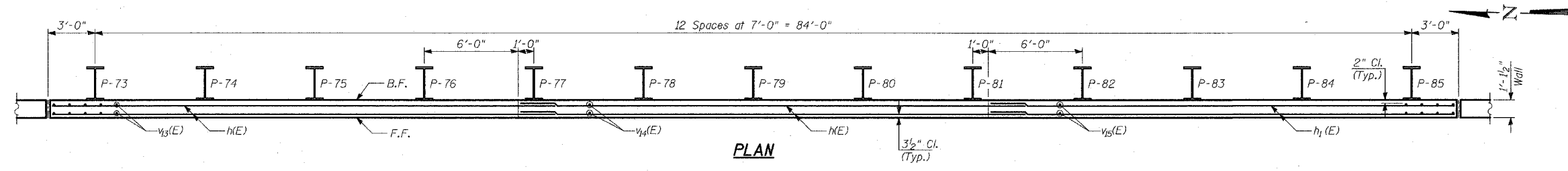
**TYLIN INTERNATIONAL**

REVISIONS	
NAME	DATE

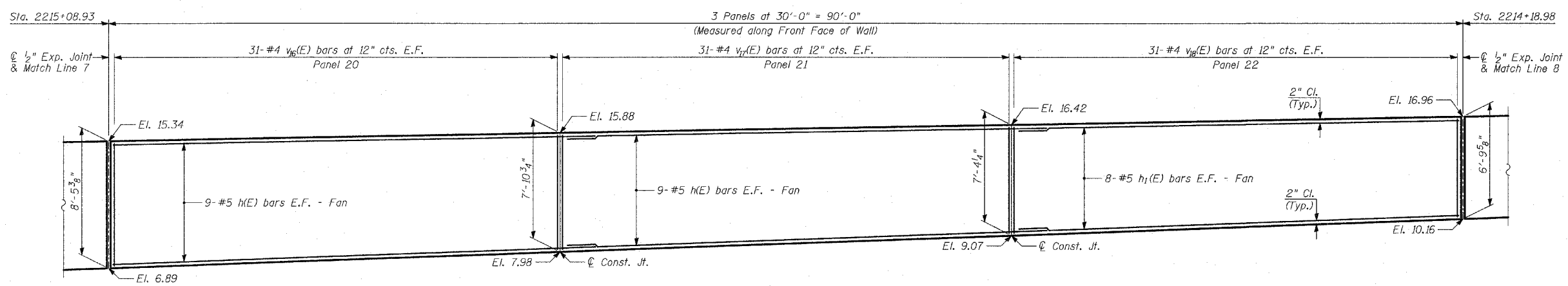
ILLINOIS DEPARTMENT OF TRANSPORTATION  
**F.A.I. 94 (DAN RYAN EXPRESSWAY)**  
**RETAINING WALL ALONG STATE ST.**  
**ENTRANCE RAMP FROM 95TH ST. TO 93RD ST.**  
**WALL 2A - PLAN AND ELEVATION**  
**STA. 2217+78.76 TO STA. 2215+98.87**  
 S.N. 016-W944 DESIGNED BY: MI, DJR  
 SCALE: N.T.S. DRAWN BY: DJR, MAF  
 DATE: MARCH 18, 2005 CHECKED BY: TD, MI



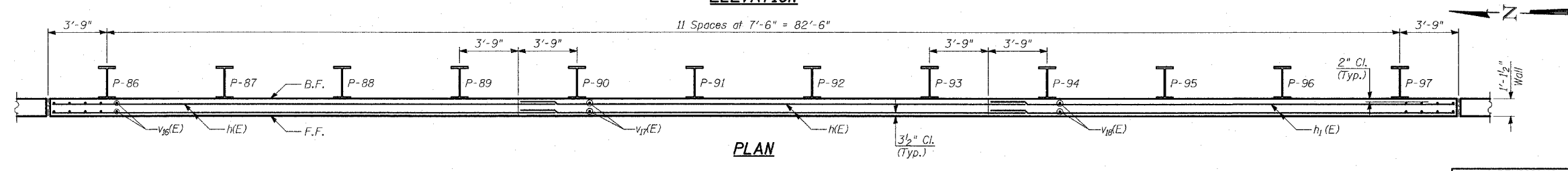
**ELEVATION**



**PLAN**



**ELEVATION**



**PLAN**

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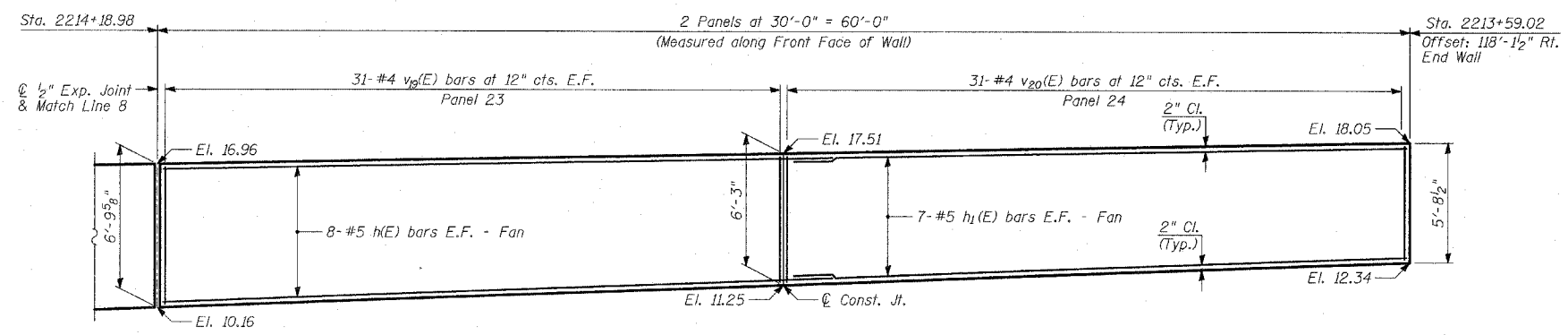
**TYLIN INTERNATIONAL**

REVISIONS	
NAME	DATE

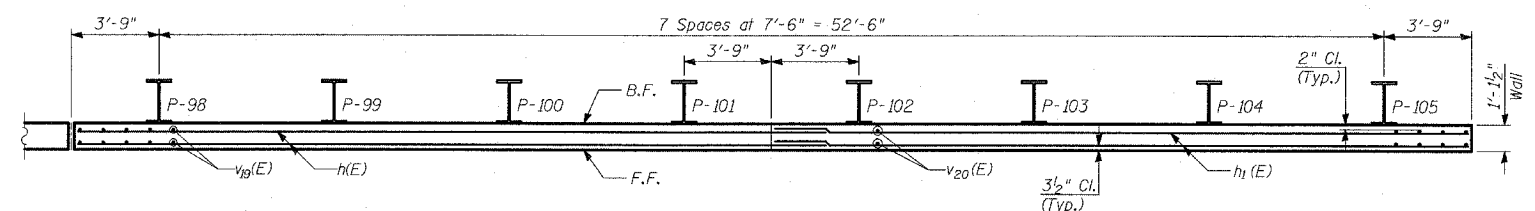
ILLINOIS DEPARTMENT OF TRANSPORTATION  
 F.A.I. 94 (DAN RYAN EXPRESSWAY)  
 RETAINING WALL ALONG STATE ST.  
 ENTRANCE RAMP FROM 95TH ST. TO 93RD ST.  
 WALL 2A - PLAN AND ELEVATION  
 STA. 2215+98.87 TO STA. 2214+18.98  
 S.N. 016-W944  
 SCALE: N.T.S.  
 DATE: MARCH 18, 2005

DESIGNED BY: MI, DJR  
 DRAWN BY: DJR, MAF  
 CHECKED BY: TD, MI

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	•	COOK	860	437
STA. 2200+00.00		TO STA. 2362+00.00		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		
• (1516.1, 1717 & 1818) R-8				62694



**ELEVATION**



**PLAN**

**NOTES:**

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2. E.F. - denotes Each Face.
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4. Work this Sheet with Sheets 7 thru 10 of 18.
5. Pile spacing measured along front face of wall.
6. For Lap Splices, see Sheet 7 of 18.

**TYLIN**INTERNATIONAL

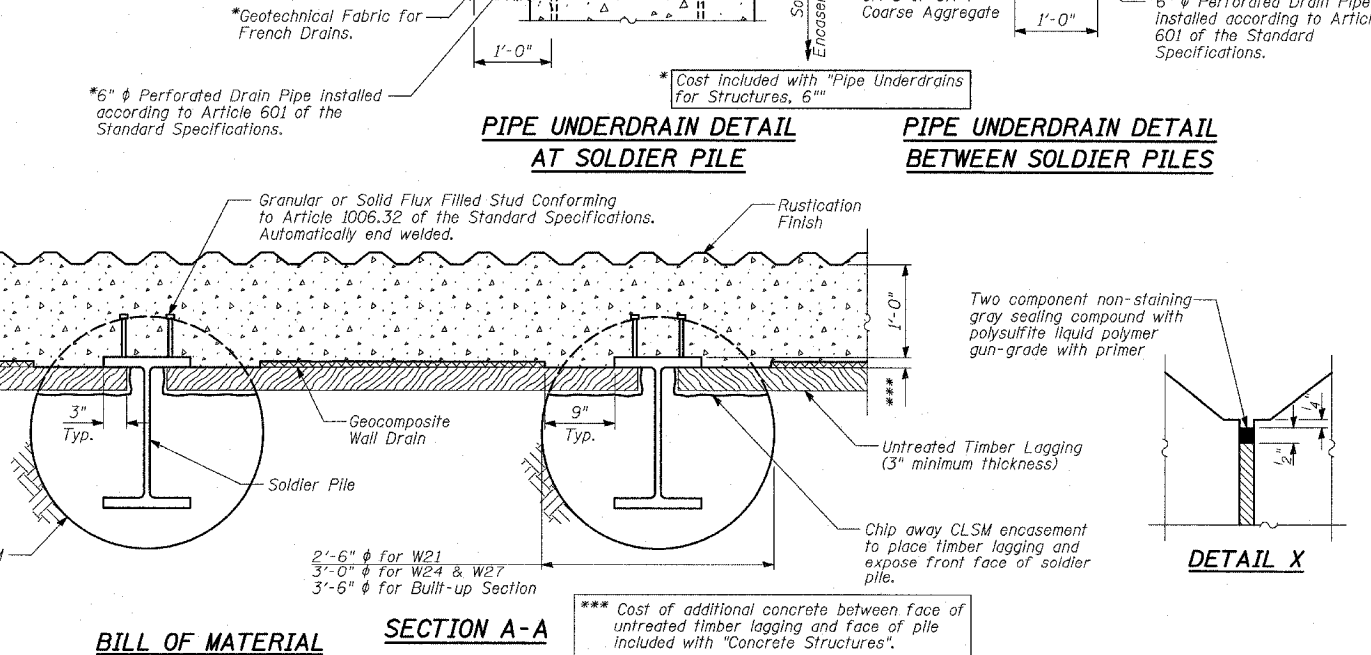
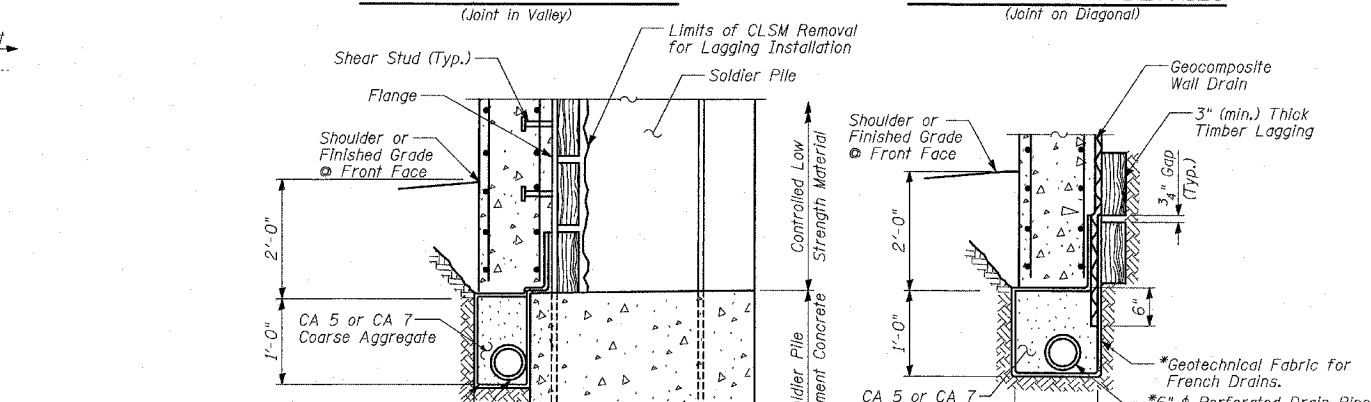
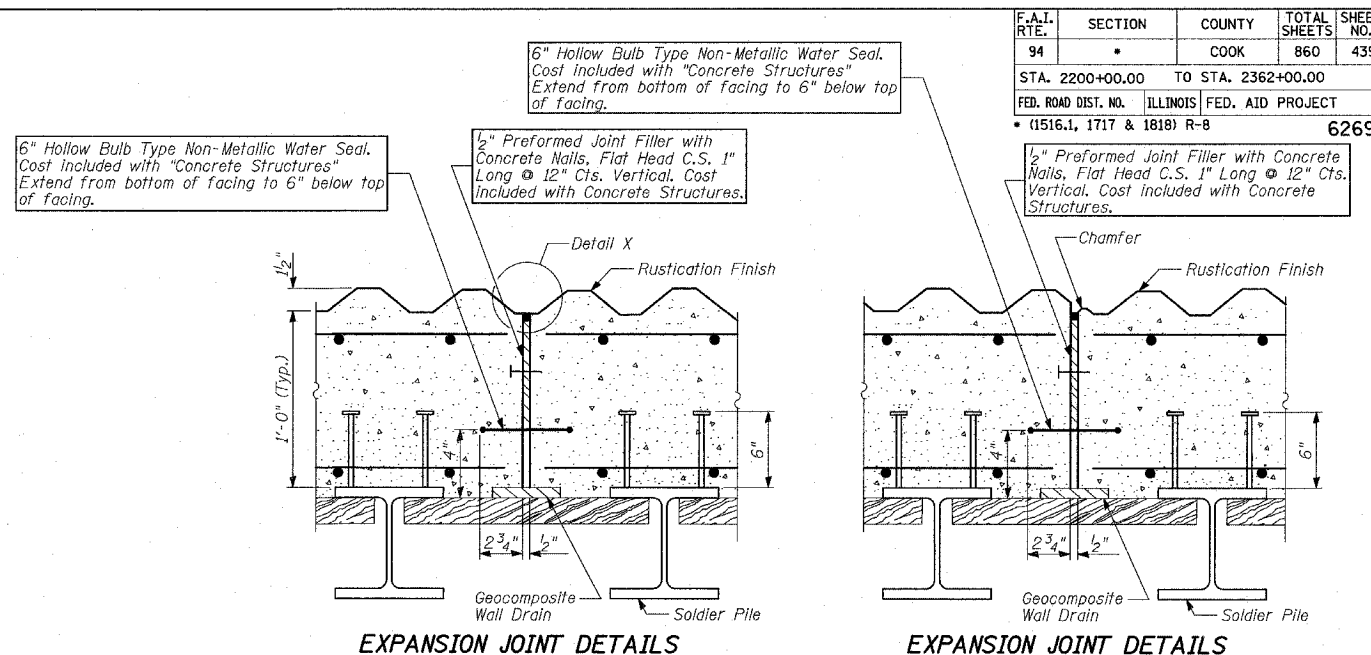
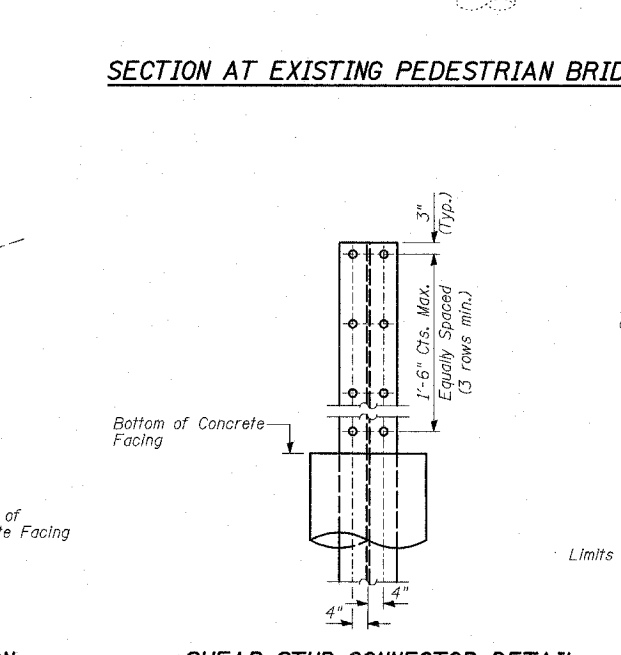
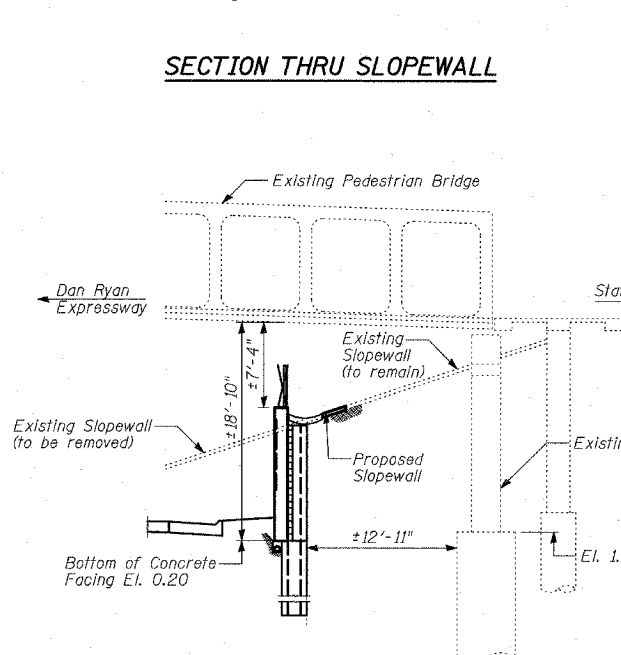
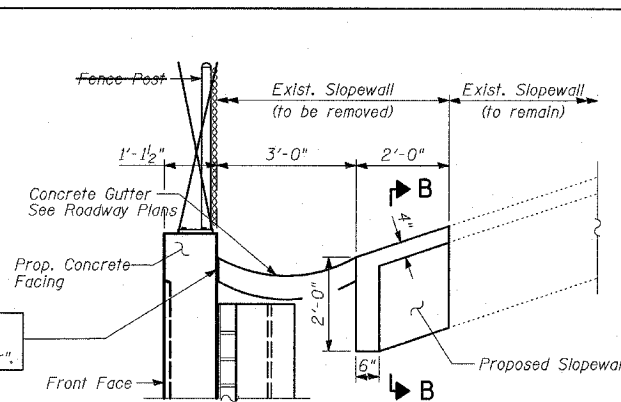
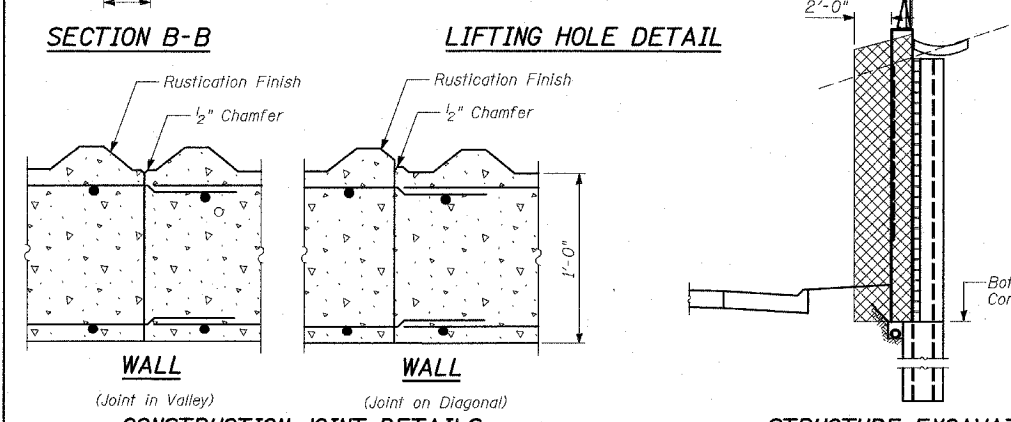
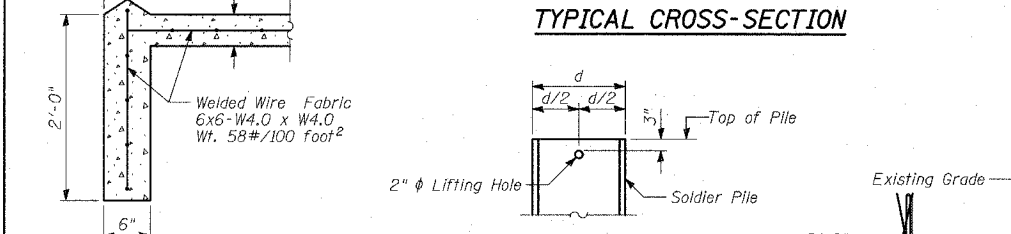
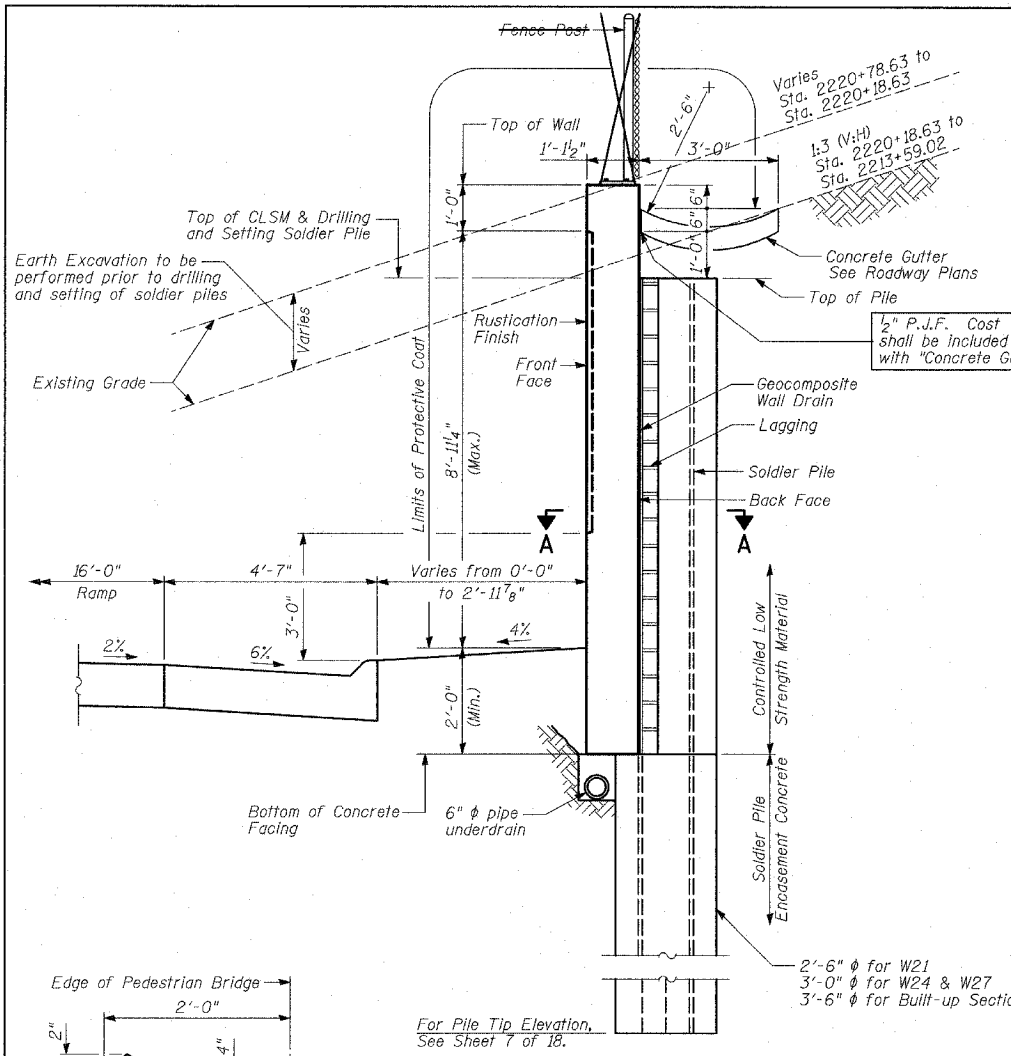
REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION  
**F.A.I. 94 (DAN RYAN EXPRESSWAY)**  
**RETAINING WALL ALONG STATE ST.**  
**ENTRANCE RAMP FROM 95TH ST. TO 93RD ST.**  
**WALL 2A - PLAN AND ELEVATION**  
**STA. 2214+18.98 TO STA. 2213+59.02**  
 S.N. 016-W944 DESIGNED BY: MI, DJR  
 SCALE: N.T.S. DRAWN BY: DJR, MAF  
 DATE: MARCH 18, 2005 CHECKED BY: TD, MI

03/21/2005 02:27:07 PM



F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	-	COOK	860	439
STA. 2200+00.00 TO STA. 2362+00.00				
FED. ROAD DIST. NO. ILLINOIS		FED. AID PROJECT		
(1516.1, 1717 & 1818) R-8				62694



**TYLIN INTERNATIONAL**

- NOTES:**
- The geocomposite wall drain shall be constructed according to Section 591 of the Standard Specifications.
  - The Contractor is responsible for the design and performance of the lagging using no less than 3" nominal rough-sawn thickness and the minimum tabulated unit stress in bending ( $f_b$ ), used in the design of timber lagging shall be 1000 psi.
  - Stud shear connectors shall be 3/4" x 6" granular or solid flux filled headed studs, automatically end welded to the front flange of the soldier piles.
  - For HSS12x6x1/4 lagging, see Sheet 2 of 18.

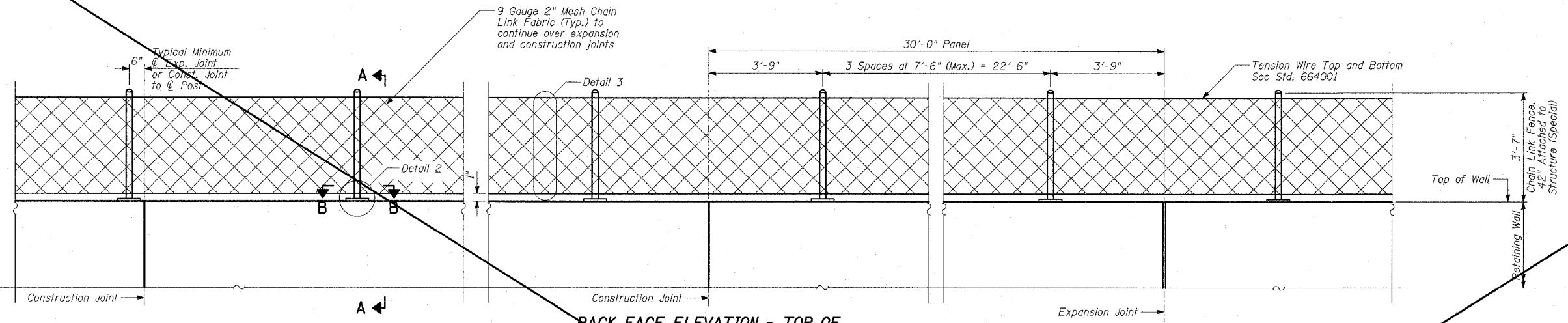
**REVISIONS**

NAME	DATE
REVISION	04/15/05

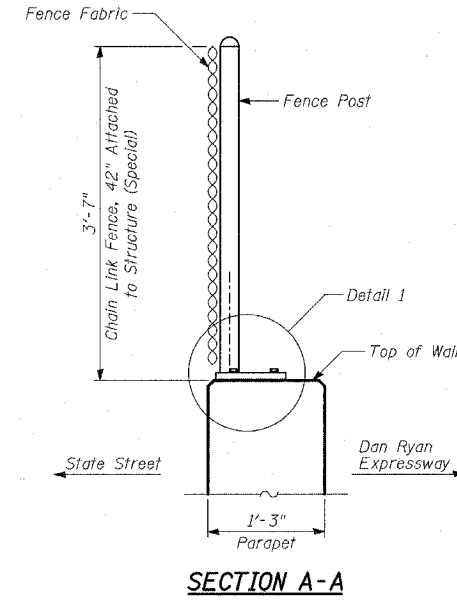
**ILLINOIS DEPARTMENT OF TRANSPORTATION**  
**F.A.I. 94 (DAN RYAN EXPRESSWAY)**  
**RETAINING WALL ALONG STATE ST.**  
**ENTRANCE RAMP FROM 95TH ST. TO 93RD ST.**  
**WALL 2A**  
 S.N. 016-W944 DESIGNED BY: MI, DJR  
 SCALE: N.T.S. DRAWN BY: DJR, MAF  
 DATE: MARCH 18, 2005 CHECKED BY: TD, MI



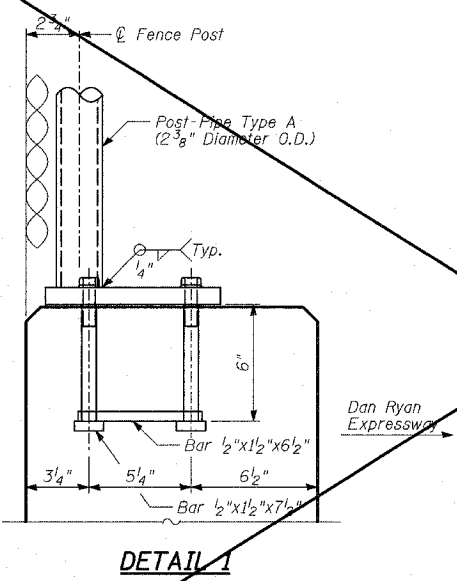




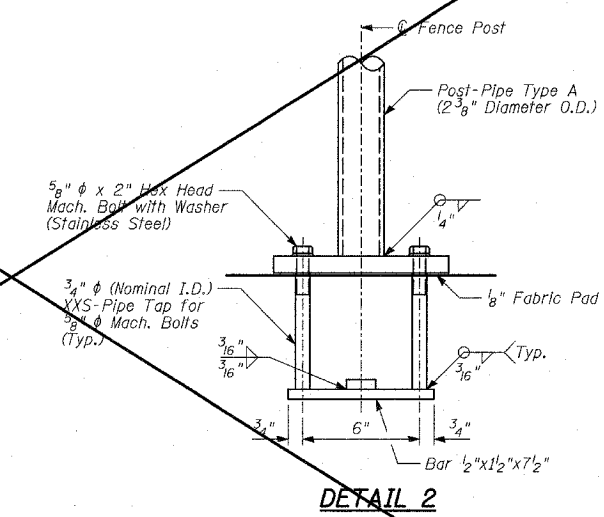
**BACK FACE ELEVATION - TOP OF  
RETAINING WALL CHAIN LINK FENCE**



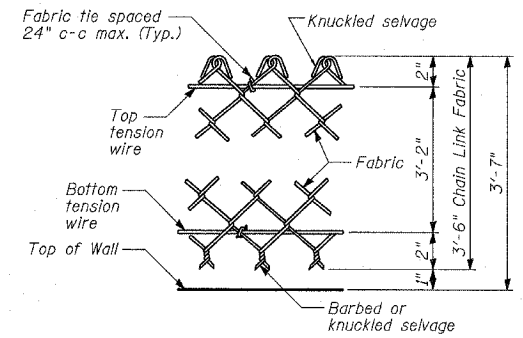
**SECTION A-A**



**DETAIL 1**



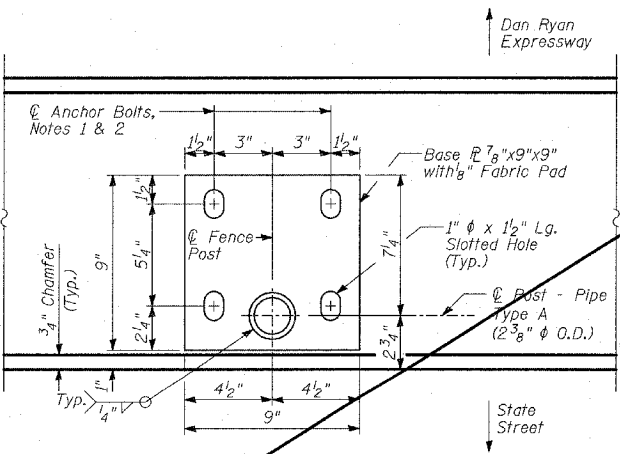
**DETAIL 2**



**DETAIL 3**

**BILL OF MATERIAL**

ITEM	UNIT	TOTAL
Chain Link Fence, 42" Attached to Structure (Special)	FOOT	720



**SECTION B-B  
BASE PLATE PLAN**

**TYLIN INTERNATIONAL**

**NOTES:**

- In lieu of the cast-in-place anchor bolt assembly shown, the Contractor has the option of drilling and epoxy grouting 5/8" diameter anchor rods with 1/4" diameter washers. The Contractor shall use the capsule or the adhesive cartridge type anchor rods that have been previously tested and given prior approval by the Department. The Contractor shall install these anchor rods in pre-drilled holes according to the manufacturer's recommendations and procedures. The capsule or adhesive cartridge shall be sealed with pre-measured amounts of adhesive chemical. Anchor rod threading to be peened after nuts are installed.
- For additional chain link details, see Standard 664001.

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION  
**F.A.I. 94 (DAN RYAN EXPRESSWAY)**  
**RETAINING WALL ALONG STATE ST.**  
**ENTRANCE RAMP FROM 95TH ST. TO 93RD ST.**  
**WALL 2A - CHAIN LINK FENCE, 42" ATTACHED TO STRUCTURE (SPECIAL)**

S.N. 016-W944  
 SCALE: N.T.S.  
 DATE: MARCH 18, 2005

DESIGNED BY: MI, MAF  
 DRAWN BY: MAF, BJR  
 CHECKED BY: TD, MI

**Wang Engineering, INC.**  
 Consulting Geotechnical and Environmental Engineers  
 wangeng3@wangeng.com  
 1145 Main Street  
 Lombard, IL 60148  
 Telephone: 630 953-9928  
 Fax: 630 953-9938

**BORING LOG SB 02-16** Page 1 of 1

WEI Job No.: 414-07-01  
 Datum: CCD  
 Elevation: 3.60 ft  
 North: 1843453.44 ft  
 East: 1177847.20 ft  
 Station: 2220+84.9  
 Offset: 67.486' RT

Client: T. Y. LIN International  
 Project: Dan Ryan Improvements; IDOT No. D-91-421-01  
 Location: From 95th Street to South of 69th Street

Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type	Sample No.	SPT Values (blows/6 in)	Qu (tsf)	Moisture Content (%)	Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type	Sample No.	N Values (blows/6 in)	Qu (tsf)	Moisture Content (%)
3.1	6-inch thick, black LOAM --TOPSOIL-- Very stiff, gray CLAY, with gravel	0	X	1	2 4 5	3.61 B		29.9	Very dense, gray SILTY LOAM, with gravel	0	X	11	29 46 50/3	NP	11
0.4	Medium stiff, gray CLAY	5	X	2	2 2 3	0.57 B		30		5	X	12	42 28 50/4	NP	
1.9	Very stiff to hard, gray SILTY CLAY, with gravel	10	X	3	6 5 9	4.26 B		29.9	--BEDROCK--RUN 33.5'-41' 97% REC 59% ROD	10	X	13		NP	
		15	X	4	7 9 13	4.76 B				15	X				
		20	X	5	6 9 13	4.84 B				20	X				
		25	X	6	9 15 17	4.76 B				25	X				
		30	X	7	9 12 19	3.44 B				30	X				
		35	X	8	6 9 15	6.07 B				35	X				
		40	X	9	8 11 26	3.85 B				40	X				
		45	X	10	18 27 33	4.50 P				45	X				
		50								50					

GENERAL NOTES				WATER LEVEL DATA			
Begin Drilling	01-28-2004	Complete Drilling	02-04-2004	While Drilling	∇	DRY	
Drilling Contractor	Patrick Drilling	Drill Rig	CME 75 TMR	At Completion of Drilling	∇	DRY	
Driller	T&D	Logger	Y. Shu	Time After Drilling	NA		
Drilling Method	3.25" ID HSA; Boring backfilled with bentonite upon completion			Depth to Water	∇	NA	
The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.							

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**BORING LOG SB 02-17** Page 1 of 1

WEI Job No.: 414-07-01  
 Datum: CCD  
 Elevation: 19.18 ft  
 North: 1843375.82 ft  
 East: 1177916.87 ft  
 Station: 2220+05.3  
 Offset: 134.907' RT

Client: T. Y. LIN International  
 Project: Dan Ryan Improvements; IDOT No. D-91-421-01  
 Location: From 95th Street to South of 69th Street

Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type	Sample No.	SPT Values (blows/6 in)	Qu (tsf)	Moisture Content (%)	Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type	Sample No.	N Values (blows/6 in)	Qu (tsf)	Moisture Content (%)
19.9	2-inch thick, ASPHALT --PAVEMENT--	0	X	1	5 4 6	NP		6.3	Very stiff to hard, gray SILTY CLAY, with gravel	0	X	11	5 7 11	4.51 B	12
18.2	10-inch thick, CONCRETE --PAVEMENT--	1	X	1	5 4 6	NP		16		1	X				
17.7	6-inch thick, CRUSHED STONE --BASE COURSE--	2	X	2	3 4 6	NP		15		2	X	12	4 6 9	3.61 B	13
	Medium dense, brown medium SAND --FILL--	5	X	3	3 4 6	NP		30		5	X	13	6 8 10	4.67 B	14
13.7	Medium stiff, brown and gray CLAY	10	X	4	1 2 2	0.66 B		25		10	X	14	24 28 30	8.36 B	13
	Very soft to soft, gray CLAY	15	X	5	0 0 1	0.16 B		24		15	X	15	12 13 47	5.66 B	12
		20	X	6	1 1 2	0.16 B		21		20	X	16			
		25	X	7	0 1 2	0.25 B		21		25	X	17			
		30	X	8	0 1 3	0.57 B		21		30	X	18			
1.2	Medium stiff, gray CLAY	35	X	9	3 3 5	2.71 B		15		35	X	19			
1.0	Medium dense, gray SAND	40	X	10	6 11 14	NP		12		40	X	20			
1.5	Very stiff, gray CLAY	45	X							45	X				
		50								50					

GENERAL NOTES				WATER LEVEL DATA			
Begin Drilling	01-09-2004	Complete Drilling	01-09-2004	While Drilling	∇	20.50 ft	
Drilling Contractor	Patrick Drilling	Drill Rig	CME 75 TMR	At Completion of Drilling	∇	13.00 ft	
Driller	T&B	Logger	H. Suhail	Time After Drilling	NA		
Drilling Method	3.25" ID HSA; Boring backfilled with bentonite upon completion			Depth to Water	∇	NA	
The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.							



REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION  
 F.A.I. 94 (DAN RYAN EXPRESSWAY)  
 RETAINING WALL ALONG STATE ST.  
 ENTRANCE RAMP FROM 95TH ST. TO 93RD ST.  
 WALL 2A  
 BORING LOGS SB02-16 & SB02-17  
 S.N. 016-W944  
 SCALE: N.T.S.  
 DATE: MARCH 18, 2005

DESIGNED BY: DJR  
 DRAWN BY: DJR  
 CHECKED BY: TD

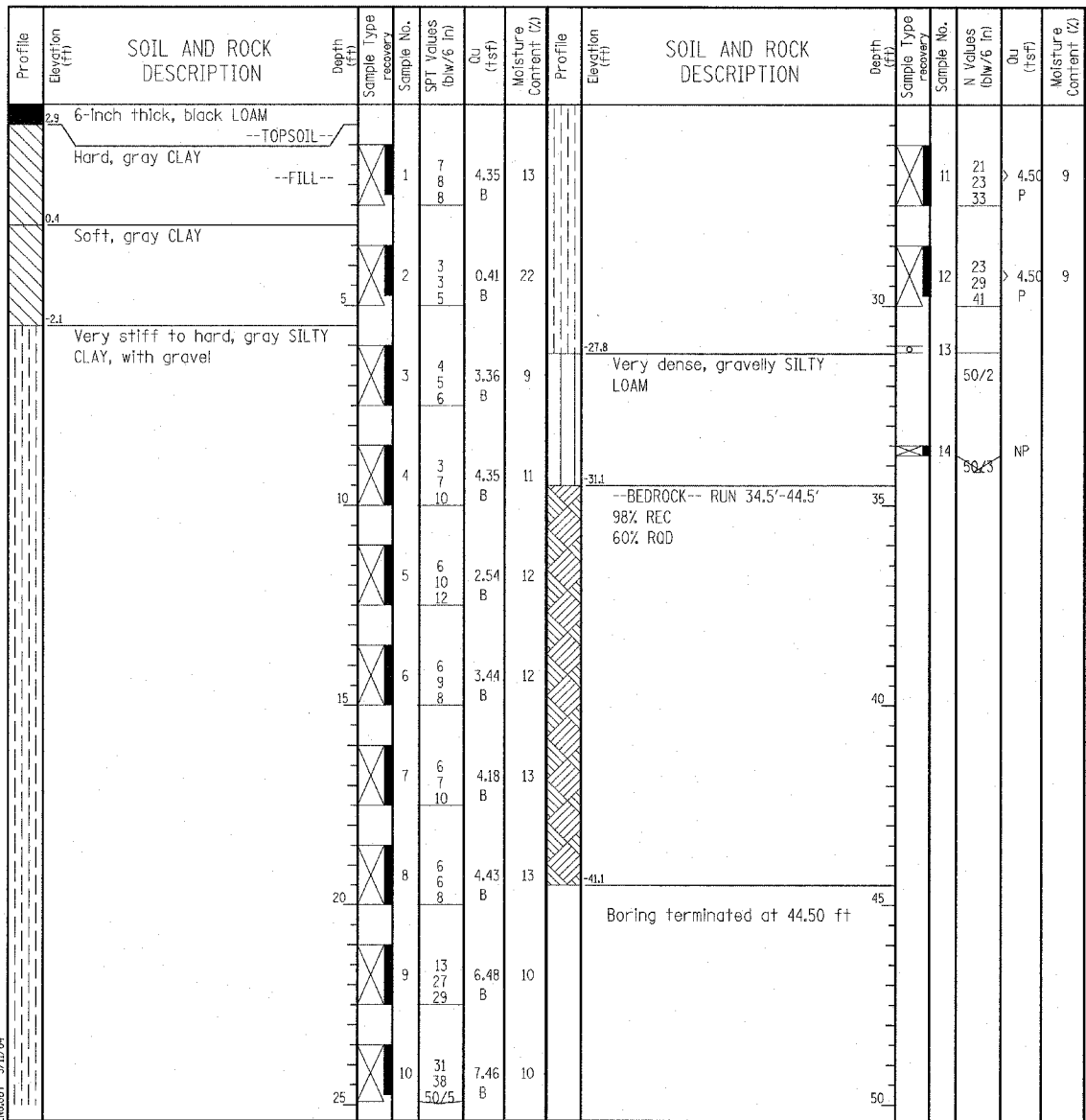
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**BORING LOG SB 02-18**

Page 1 of 1

WEI Job No.: 414-07-01  
 Client: T. Y. LIN International  
 Project: Dan Ryan Improvements; IDOT No. D-91-421-01  
 Location: From 95th Street to South of 69th Street

Datum: CCD  
 Elevation: 3.39 ft  
 North: 1843293.95 ft  
 East: 1177858.89 ft  
 Station: 2219+25.2  
 Offset: 74.61' RT



GENERAL NOTES				WATER LEVEL DATA		
Begin Drilling	01-28-2004	Complete Drilling	01-28-2004	While Drilling	DRY	
Drilling Contractor	Patrick Drilling	Drill Rig	CME 75 TMR	At Completion of Drilling	DRY	
Driller	T&D	Logger	B. Fugiel	Time After Drilling	NA	
Drilling Method	3.25" ID. HSA; Boring backfilled with bentonite upon completion				Depth to Water	NA
The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.						

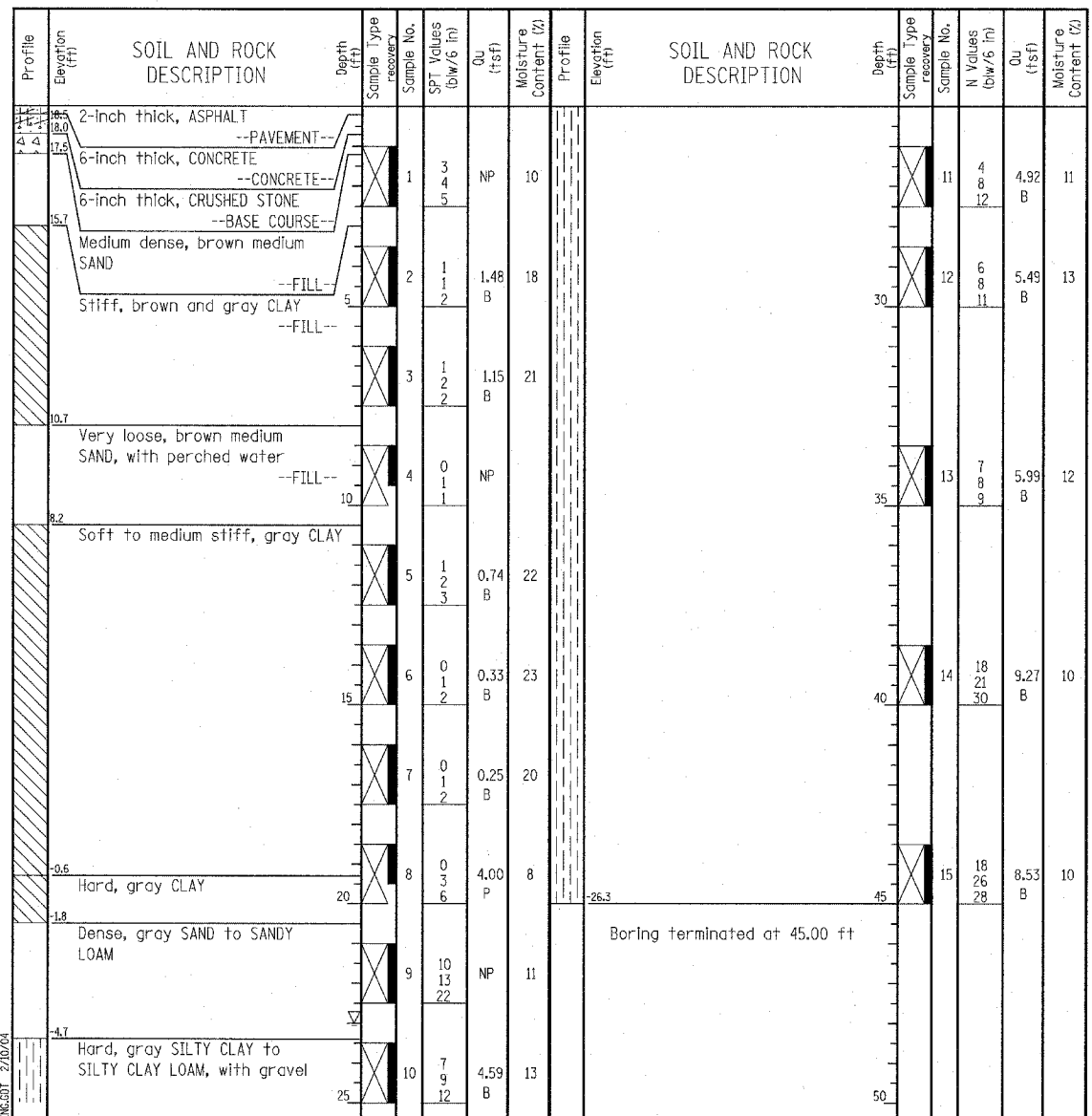
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**BORING LOG SB 02-19**

Page 1 of 1

WEI Job No.: 414-07-01  
 Client: T. Y. LIN International  
 Project: Dan Ryan Improvements; IDOT No. D-91-421-01  
 Location: From 95th Street to South of 69th Street

Datum: CCD  
 Elevation: 18.71 ft  
 North: 1843230.98 ft  
 East: 1177920.57 ft  
 Station: 2218+60.5  
 Offset: 134.461' RT



GENERAL NOTES				WATER LEVEL DATA		
Begin Drilling	01-09-2004	Complete Drilling	01-09-2004	While Drilling	23.00 ft	
Drilling Contractor	Patrick Drilling	Drill Rig	CME 75 TMR	At Completion of Drilling	DRY	
Driller	T&B	Logger	H. Suhail	Time After Drilling	NA	
Drilling Method	3.25" ID. HSA; Boring backfilled with bentonite upon completion				Depth to Water	NA
The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.						



REVISIONS	
NAME	DATE

SHEET 12 OF 18

ILLINOIS DEPARTMENT OF TRANSPORTATION  
**F.A.I. 94 (DAN RYAN EXPRESSWAY)**  
**RETAINING WALL ALONG STATE ST.**  
**ENTRANCE RAMP FROM 95TH ST. TO 93RD ST.**  
**WALL 2A**  
**BORING LOGS SB02-18 & SB02-19**  
 S.N. 016-W944  
 SCALE: N.T.S.  
 DATE: MARCH 18, 2005

DESIGNED BY: DJR  
 DRAWN BY: DJR  
 CHECKED BY: TD

03/25/2005 11:07:55 AM

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**BORING LOG SB 02-20** Page 1 of 1

WEI Job No.: 414-07-01  
 Client: T. Y. LIN International  
 Project: Dan Ryan Improvements; IDOT No. D-91-421-01  
 Location: From 95th Street to South of 69th Street

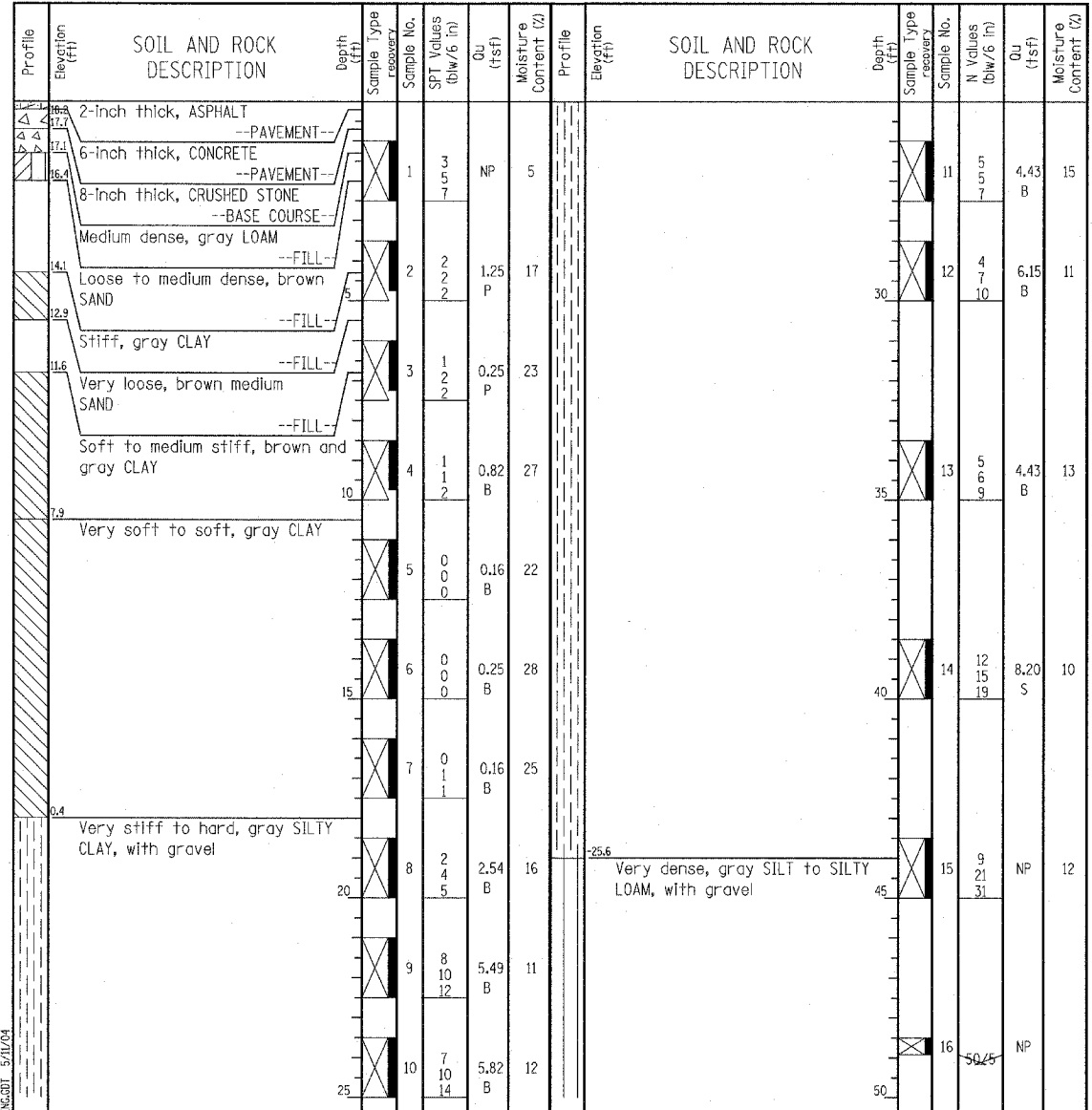
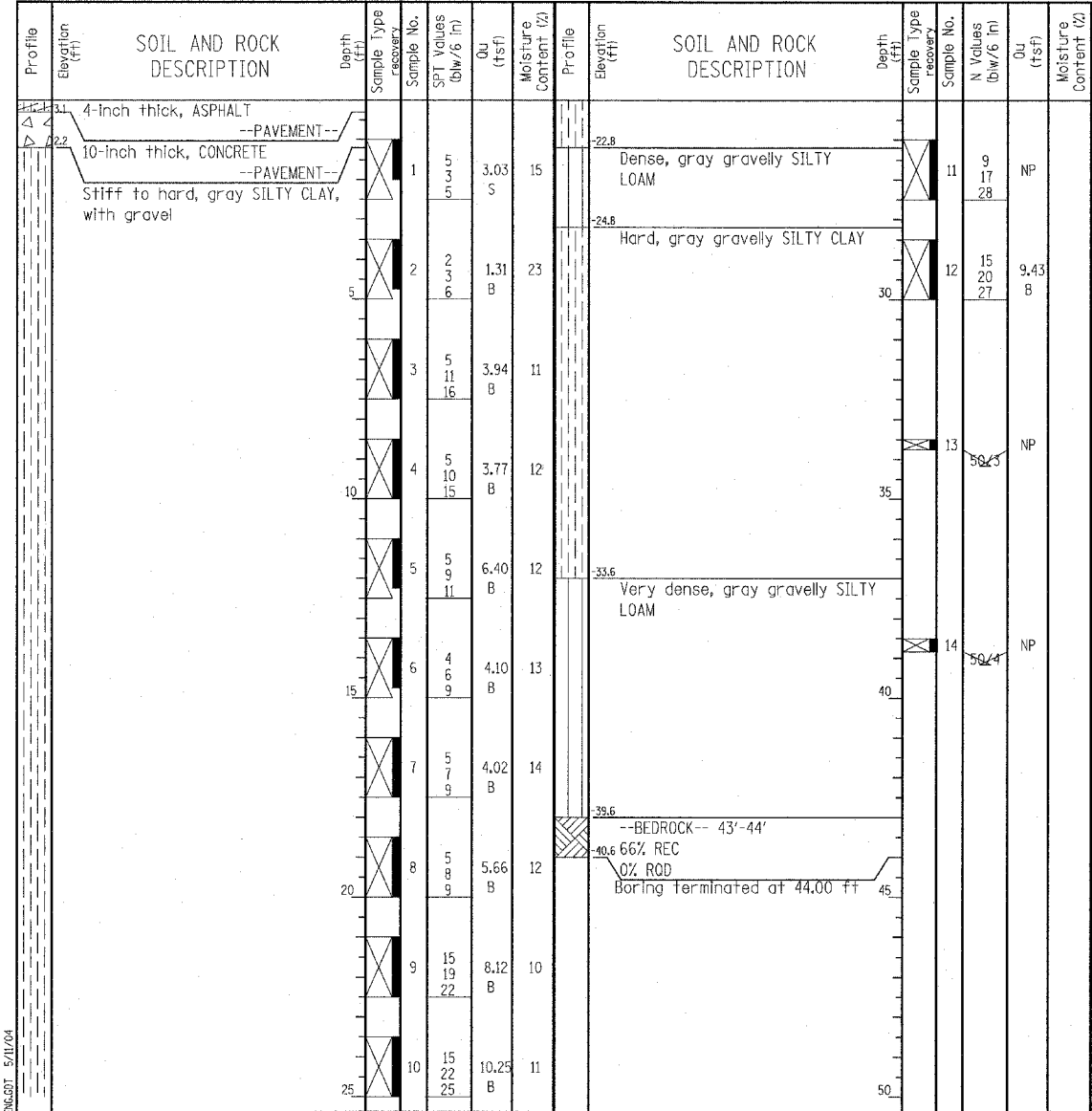
Datum: CCD  
 Elevation: 3.37 ft  
 North: 1843154.37 ft  
 East: 1177867.11 ft  
 Station: 2217485.4  
 Offset: 78.826' RT

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**BORING LOG SB 02-21** Page 1 of 2

WEI Job No.: 414-07-01  
 Client: T. Y. LIN International  
 Project: Dan Ryan Improvements; IDOT No. D-91-421-01  
 Location: From 95th Street to South of 69th Street

Datum: CCD  
 Elevation: 18.37 ft  
 North: 1843084.02 ft  
 East: 1177925.01 ft  
 Station: 2217413.4  
 Offset: 134.692' RT



GENERAL NOTES				WATER LEVEL DATA			
Begin Drilling	01-28-2004	Complete Drilling	01-28-2004	While Drilling	∇	DRY	
Drilling Contractor	Patrick Drilling	Drill Rig	CME 75 TMR	At Completion of Drilling	∇	DRY	
Driller	T&D	Logger	B. Fugiel	Time After Drilling	NA		
Drilling Method	3.25" ID HSA; Boring backfilled with bentonite upon completion			Depth to Water	∇	NA	
The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.							

GENERAL NOTES				WATER LEVEL DATA			
Begin Drilling	01-08-2004	Complete Drilling	01-08-2004	While Drilling	∇	DRY	
Drilling Contractor	Patrick Drilling	Drill Rig	CME 75 TMR	At Completion of Drilling	∇	DRY	
Driller	T&B	Logger	H. Suhail	Time After Drilling	NA		
Drilling Method	3.25" ID HSA; Boring backfilled with bentonite upon completion			Depth to Water	∇	NA	
The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.							

**TYLIN INTERNATIONAL**

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION  
 F.A.I. 94 (DAN RYAN EXPRESSWAY)  
 RETAINING WALL ALONG STATE ST.  
 ENTRANCE RAMP FROM 95TH ST. TO 93RD ST.  
 WALL 2A  
 BORING LOGS SB02-20 & SB02-21  
 S.N. 016-W944 DESIGNED BY: DJR  
 SCALE: N.T.S. DRAWN BY: DJR  
 DATE: MARCH 18, 2005 CHECKED BY: TD

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**BORING LOG SB 02-21** Page 2 of 2

WEI Job No.: 414-07-01  
 Client: T. Y. LIN International  
 Project: Dan Ryan Improvements; IDOT No. D-91-421-01  
 Location: From 95th Street to South of 69th Street

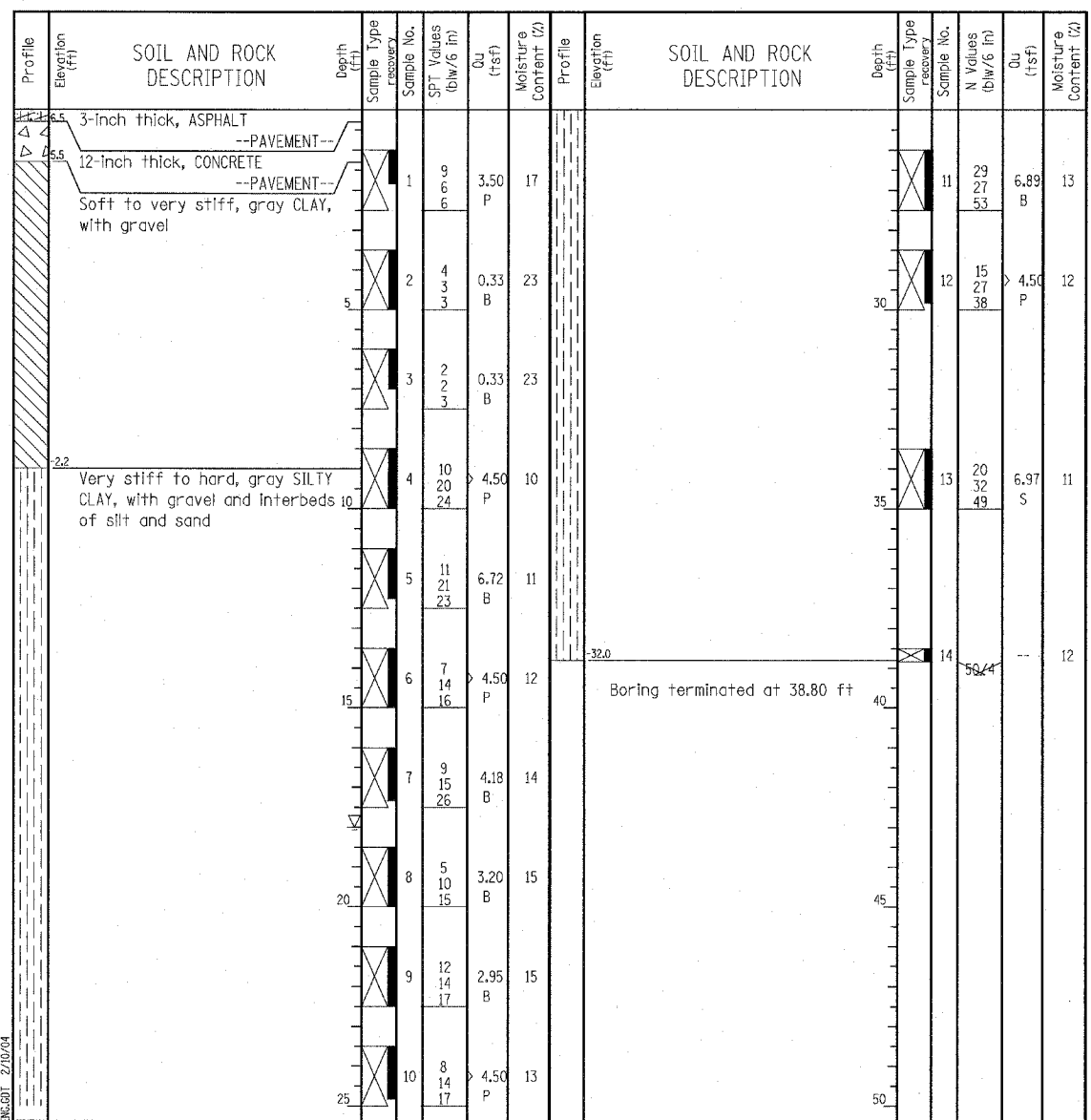
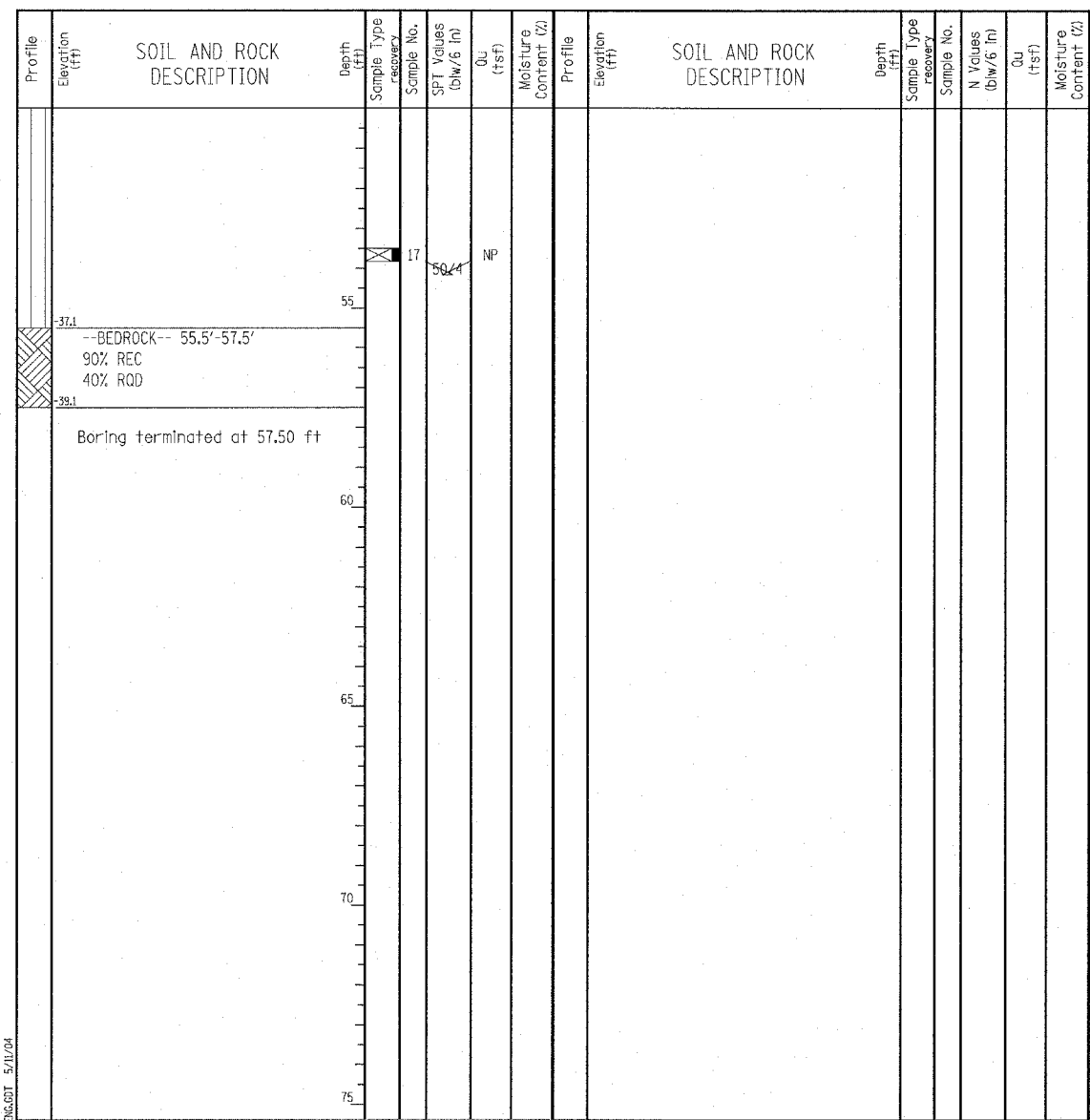
Datum: CCD  
 Elevation: 18.37 ft  
 North: 1843084.02 ft  
 East: 1177925.01 ft  
 Station: 2217+13.4  
 Offset: 134.692' RT

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**BORING LOG SB 02-22** Page 1 of 1

WEI Job No.: 414-07-01  
 Client: T. Y. LIN International  
 Project: Dan Ryan Improvements; IDOT No. D-91-421-01  
 Location: From 95th Street to South of 69th Street

Datum: CCD  
 Elevation: 6.81 ft  
 North: 1843007.39 ft  
 East: 1177884.29 ft  
 Station: 2216+38.0  
 Offset: 91.798' RT



GENERAL NOTES				WATER LEVEL DATA			
Begin Drilling	01-08-2004	Complete Drilling	01-08-2004	While Drilling	▽	DRY	
Drilling Contractor	Patrick Drilling	Drill Rig	CME 75 TMR	At Completion of Drilling	▽	DRY	
Driller	T&B	Logger	H. Suhail	Time After Drilling	NA		
Checked by	N. Davis	Depth to Water	▽	NA			
Drilling Method: 3.25" ID HSA; Boring backfilled with bentonite upon completion				The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.			

GENERAL NOTES				WATER LEVEL DATA			
Begin Drilling	02-04-2004	Complete Drilling	02-04-2004	While Drilling	▽	18.00 ft	
Drilling Contractor	DLZ Drilling	Drill Rig	Mobile B-59 TMR	At Completion of Drilling	▽	DRY	
Driller	J&M	Logger	N. Davis	Time After Drilling	NA		
Checked by	S. Janowski	Depth to Water	▽	NA			
Drilling Method: 3.25" ID HSA; Boring backfilled with bentonite upon completion				The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.			

**TYLIN INTERNATIONAL**

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION  
 F.A.I. 94 (DAN RYAN EXPRESSWAY)  
 RETAINING WALL ALONG STATE ST.  
 ENTRANCE RAMP FROM 95TH ST. TO 93RD ST.  
 WALL 2A  
 BORING LOGS SB02-21 & SB02-22  
 S.N. 016-W944  
 SCALE: N.T.S.  
 DATE: MARCH 18, 2005

DESIGNED BY: DJR  
 DRAWN BY: DJR  
 CHECKED BY: TD

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**BORING LOG SB 02-23** Page 1 of 1

WEI Job No.: 414-07-01  
 Datum: CCD  
 Elevation: 17.83 ft  
 North: 1842937.54 ft  
 East: 1177929.69 ft  
 Station: 2215+66.9  
 Offset: 135.180' RT

Client: T. Y. LIN International  
 Project: Dan Ryan Improvements; IDOT No. D-91-421-01  
 Location: From 95th Street to South of 69th Street

Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample No.	SPT Values (blows/6 in)	Qu (tsf)	Moisture Content (%)	Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample No.	N Values (blows/6 in)	Qu (tsf)	Moisture Content (%)
17.4	2-inch thick, ASPHALT --PAVEMENT--	0					17.4		0				
16.6	6-inch thick, CONCRETE --PAVEMENT--	1	4	5	NP	10	16.6	Very stiff to hard, gray SILTY CLAY, with gravel	1	11	4	4.59	21
16.0	7-inch thick, CRUSHED STONE --BASE COURSE--	2	1	1			16.0		2	12	4	4.35	13
14.1	Medium dense, brown medium SAND --FILL--	3	1	2	0.50	20	14.1		3	13	5	3.77	14
10.1	Medium stiff to very stiff, brown and gray CLAY --FILL--	4	0	0	0.41	23	10.1		4	14	15	NP	12
9.8	Soft, gray CLAY	5	1	1	0.49	22	9.8		5	15	39	NP	12
19.2	Very dense, gray SILTY LOAM, with gravel	6	0	0	0.33	23	19.2		6	15	17	NP	12
19.2		7	0	1	0.33	19	27.2	Boring terminated at 45.00 ft	7	15	34	NP	12
0.2	Very stiff, gray CLAY	8	3	5	3.28	12			8	15	32	NP	12
3.7	Medium dense, gray SILT	9	4	7	NP	20			9	4	7	NP	20
6.2	Medium dense, gray SAND to SANDY LOAM	10	4	6	NP	26			10	4	6	NP	26

GENERAL NOTES				WATER LEVEL DATA			
Begin Drilling	01-08-2004	Complete Drilling	01-08-2004	While Drilling	▽	25.50	ft
Drilling Contractor	Patrick Drilling	Drill Rig	CME 75 TMR	At Completion of Drilling	▽	DRY	
Driller	T&B	Logger	H. Suhail	Time After Drilling	NA		
Checked by	N. Davis	Drilling Method	3.25" ID. HSA; Boring backfilled with bentonite upon completion	Depth to Water	▽	NA	
The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.							

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**BORING LOG SB 02-24** Page 1 of 1

WEI Job No.: 414-07-01  
 Datum: CCD  
 Elevation: 17.86 ft  
 North: 1842860.44 ft  
 East: 1177931.48 ft  
 Station: 2214+89.8  
 Offset: 134.761' RT

Client: T. Y. LIN International  
 Project: Dan Ryan Improvements; IDOT No. D-91-421-01  
 Location: From 95th Street to South of 69th Street

Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample No.	SPT Values (blows/6 in)	Qu (tsf)	Moisture Content (%)	Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample No.	N Values (blows/6 in)	Qu (tsf)	Moisture Content (%)
17.4	2-inch thick, ASPHALT --PAVEMENT--	0					17.4		0				
16.4	10-inch thick, CONCRETE --PAVEMENT--	1	4	4	1.75	26	16.4		1	11	5	5.33	11
16.0	6-inch thick, CRUSHED STONE --BASE COURSE--	2	5	3	2.00	25	16.0		2	12	3	4.02	15
12.4	Loose, brown and gray SANDY LOAM --FILL--	3	3	2	NP	22	12.4		3	13	3	2.95	14
9.9	Very soft to soft, brown and gray CLAY	4	2	2	0.49	23	9.9		4	13	5	7	14
23.6	Dense, gray SILTY LOAM	5	1	1	0.16	23	23.6		5	14	13	8.77	11
27.1	Boring terminated at 45.00 ft	6	1	1	0.08	20	27.1		6	14	21	24	NP
27.1		7	0	1	0.25	21			7	15	23	26	NP
1.1	Very stiff, gray CLAY	8	1	4	3.20	17	1.1		8	15	23	26	NP
4.1	Medium dense, gray SILTY LOAM	9	4	6	NP	15			9	4	6	NP	15
5.1	Very stiff to hard, gray SILTY CLAY	10	3	5	4.84	15			10	3	5	4.84	15

GENERAL NOTES				WATER LEVEL DATA			
Begin Drilling	01-23-2004	Complete Drilling	01-23-2004	While Drilling	▽	DRY	
Drilling Contractor	Patrick Drilling	Drill Rig	CME 75 TMR	At Completion of Drilling	▽	DRY	
Driller	J&B	Logger	H. Suhail	Time After Drilling	NA		
Checked by	N. Davis	Drilling Method	3.25" ID. HSA; Boring backfilled with bentonite upon completion	Depth to Water	▽	NA	
The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.							



REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION  
 F.A.I. 94 (DAN RYAN EXPRESSWAY)  
 RETAINING WALL ALONG STATE ST.  
 ENTRANCE RAMP FROM 95TH ST. TO 93RD ST.  
 WALL 2A  
 BORING LOGS SB02-23 & SB02-24  
 S.N. 016-W944  
 SCALE: N.T.S.  
 DATE: MARCH 18, 2005

DESIGNED BY: DJR  
 DRAWN BY: DJR  
 CHECKED BY: TD

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**BORING LOG SB 02-25** Page 1 of 1

WEI Job No.: 414-07-01  
 Client: T. Y. LIN International  
 Project: Dan Ryan Improvements; IDOT No. D-91-421-01  
 Location: From 95th Street to South of 69th Street

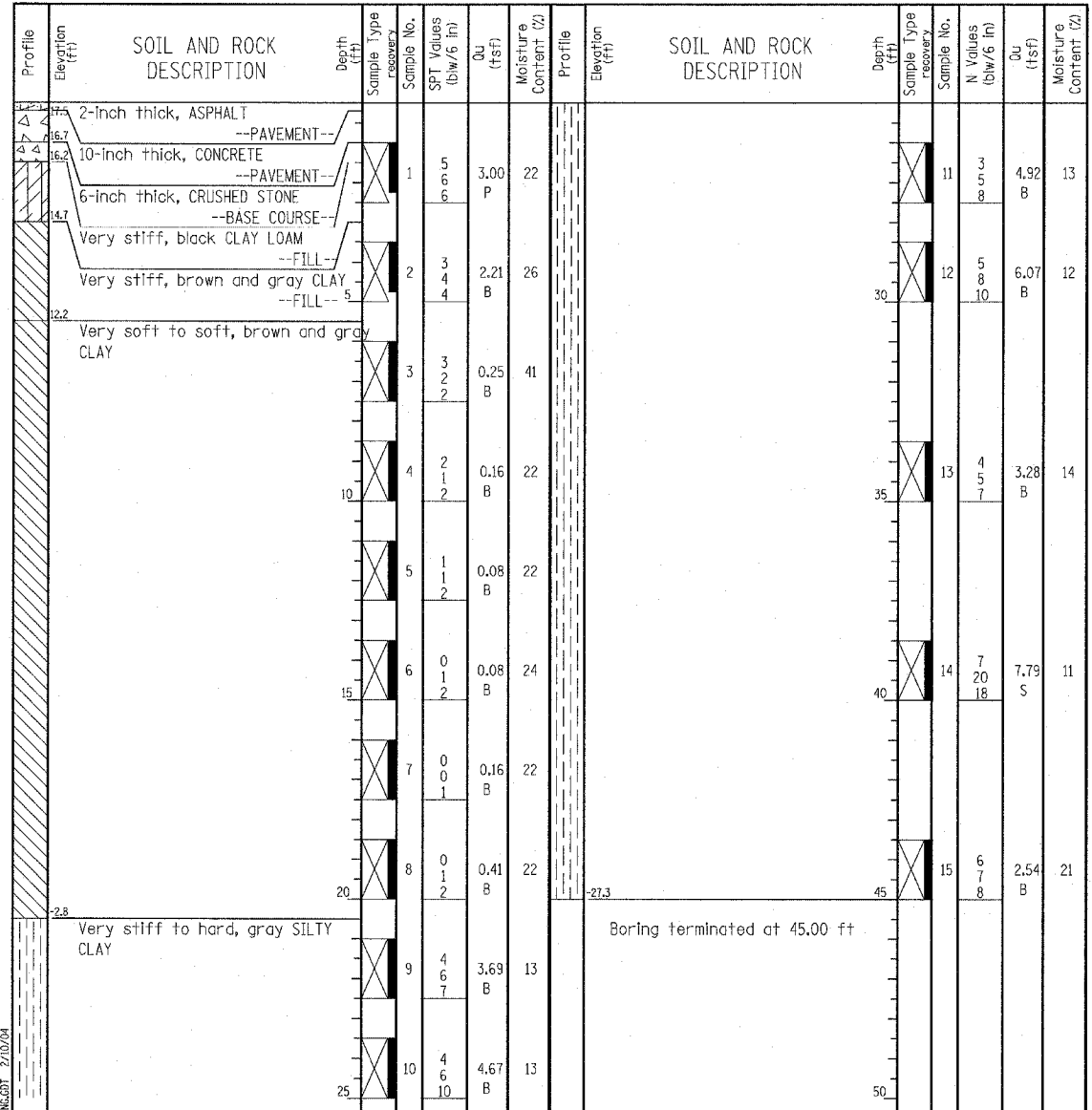
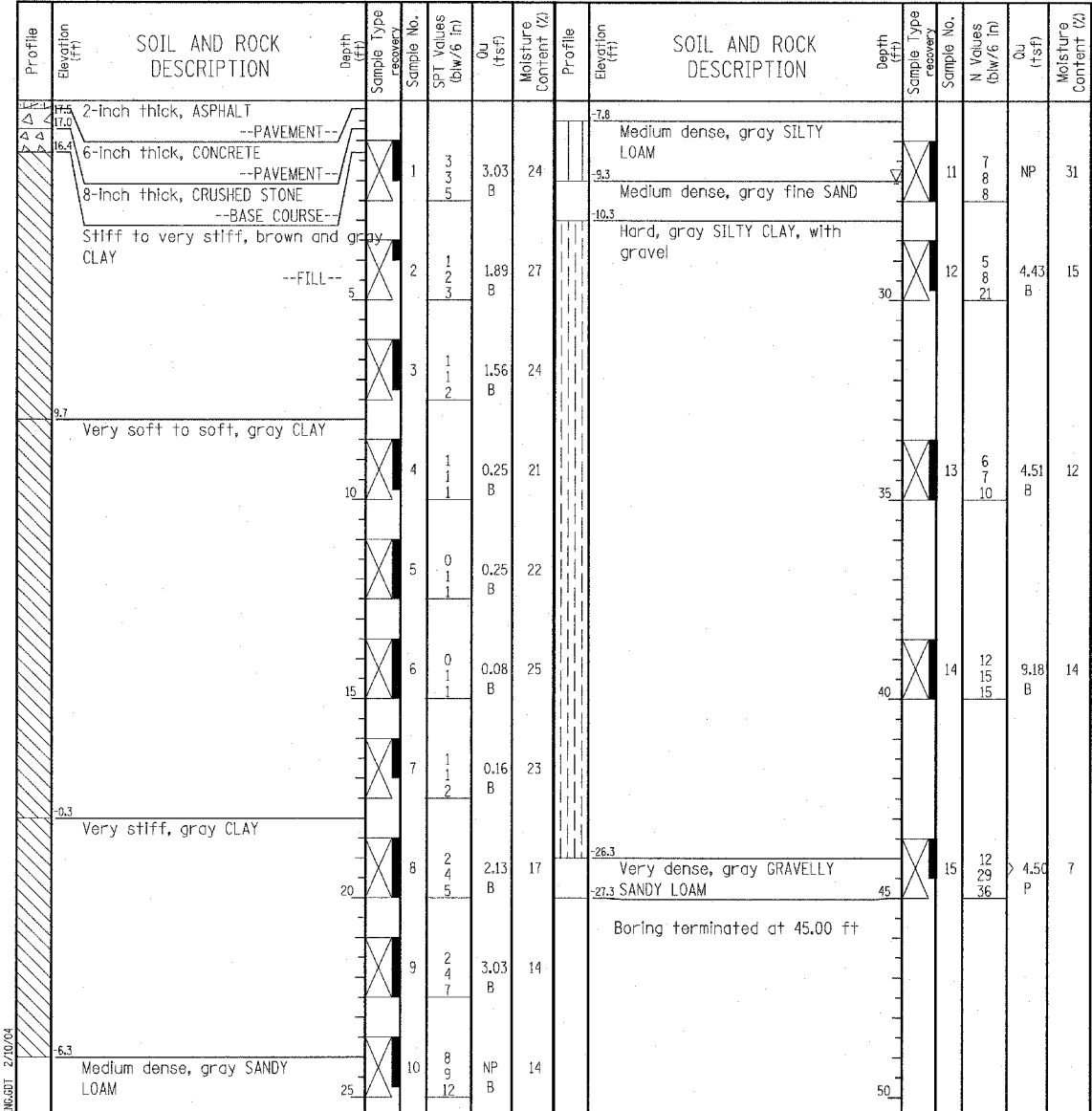
Datum: CCD  
 Elevation: 17.66 ft  
 North: 1842785.80 ft  
 East: 1177933.73 ft  
 Station: 221445.1  
 Offset: 134.868' RT

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**BORING LOG SB 02-26** Page 1 of 1

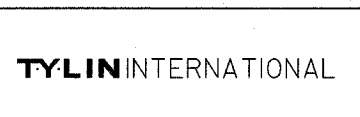
WEI Job No.: 414-07-01  
 Client: T. Y. LIN International  
 Project: Dan Ryan Improvements; IDOT No. D-91-421-01  
 Location: From 95th Street to South of 69th Street

Datum: CCD  
 Elevation: 17.70 ft  
 North: 1842712.11 ft  
 East: 1177936.18 ft  
 Station: 221344.4  
 Offset: 135.212' RT



GENERAL NOTES				WATER LEVEL DATA			
Begin Drilling	01-07-2004	Complete Drilling	01-07-2004	While Drilling	▽	27.00 ft	
Drilling Contractor	Patrick Drilling	Drill Rig	CME 75 TMR	At Completion of Drilling	▽	DRY	
Driller	T&B	Logger	H. Suhail	Time After Drilling	NA		
Checked by	N. Davis	Depth to Water	▽	NA			
Drilling Method 3.25" ID HSA; Boring backfilled with bentonite upon completion							

GENERAL NOTES				WATER LEVEL DATA			
Begin Drilling	01-23-2004	Complete Drilling	01-23-2004	While Drilling	▽	DRY	
Drilling Contractor	Patrick Drilling	Drill Rig	CME 75 TMR	At Completion of Drilling	▽	DRY	
Driller	J&B	Logger	H. Suhail	Time After Drilling	NA		
Checked by	N. Davis	Depth to Water	▽	NA			
Drilling Method 3.25" ID HSA; Boring backfilled with bentonite upon completion							



REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION  
 F.A.I. 94 (DAN RYAN EXPRESSWAY)  
 RETAINING WALL ALONG STATE ST.  
 ENTRANCE RAMP FROM 95TH ST. TO 93RD ST.  
 WALL 2A  
**BORING LOGS SB02-25 & SB02-26**  
 S.N. 016-W944  
 SCALE: N.T.S.  
 DATE: MARCH 18, 2005

DESIGNED BY: DJR  
 DRAWN BY: DJR  
 CHECKED BY: TD

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 Consulting Geotechnical and Environmental Engineers  
 wangeng3@wangeng.com  
 1145 Main Street  
 Lombard, IL 60148  
 Telephone: 630 953-9928  
 Fax: 630 953-9938

**BORING LOG SB 01-01** Page 1 of 1

WEI Job No.: 414-07-01  
 Client: T. Y. LIN International  
 Project: Dan Ryan Improvements; IDOT No. D-91-421-01  
 Location: From 95th Street to South of 69th Street

Datum: CCD  
 Elevation: 8.15 ft  
 North: 1842967.57 ft  
 East: 1177888.51 ft  
 Station: 2215+98.1  
 Offset: 94.868' RT

**Wang Engineering, Inc.**  
 Consulting Geotechnical and Environmental Engineers  
 wangeng3@wangeng.com  
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 Lombard, IL 60148  
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 Fax: 630 953-9938

**BORING LOG SB 01-02** Page 1 of 1

WEI Job No.: 414-07-01  
 Client: T. Y. LIN International  
 Project: Dan Ryan Improvements; IDOT No. D-91-421-01  
 Location: From 95th Street to South of 69th Street

Datum: CCD  
 Elevation: 10.69 ft  
 North: 1842895.47 ft  
 East: 1177894.80 ft  
 Station: 2215+25.8  
 Offset: 99.093' RT

Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample No.	SPT Values (blows/6 in)	Qu (tsf)	Moisture Content (%)	Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample No.	N Values (blows/6 in)	Qu (tsf)	Moisture Content (%)
7.8	3-inch thick, ASPHALT --PAVEMENT--	7.8							7.8				
6.9	12-inch thick, CONCRETE --PAVEMENT--	6.9	1	19 10 8	2.25 P	14			6.9	1	10 17 24	5.17 B	13
6.1	9-inch thick, CRUSHED STONE --BASE COURSE--	6.1							6.1				
4.8	Very stiff, gray SILTY CLAY Soft to medium stiff, gray CLAY	4.8	2	4 3 5	0.74 B	18			4.8	12	13 21 26	4.92 B	13
			3	2 2 3	0.25 B	23							
0.1	Stiff to hard, gray CLAY	0.1	4	2 7 16	1.25 P	20			0.1	13	35 43 44	4.50 P	13
			5	7 16 25	5.41 B	17							
4.3	Dense, gray SILT	4.3							4.3	14	50.25	4.50 P	15
6.2	Very stiff to hard, gray SILTY CLAY, with gravel	6.2	6	7 15 18	NP	23			6.2				
			7	6 9 12	2.87 B	14							
			8	6 15 11	4.02 B	14							
			9	9 11 17	5.82 B	15							
			10	8 11 14	5.41 B	13							

Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample No.	SPT Values (blows/6 in)	Qu (tsf)	Moisture Content (%)	Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample No.	N Values (blows/6 in)	Qu (tsf)	Moisture Content (%)
10.4	3-inch thick, ASPHALT --PAVEMENT--	10.4							10.4				
9.6	10-inch thick, CONCRETE --PAVEMENT--	9.6							9.6				
8.4	3-inch thick, CRUSHED STONE --BASE COURSE--	8.4							8.4	11	13 15 21	6.97 B	12
6.7	Hard, gray CLAY, with gravel --FILL-- Medium stiff to stiff, gray CLAY	6.7	2	7 7 8					6.7	12	14 25 35	8.94 S	12
			3	2 3 5	0.57 B	22							
			4	3 4 7	0.82 B	21							
			5	1 4 8	1.64 B	18							
2.3	Hard, gray CLAY	2.3	6	7 12 21	4.26 S	19			2.3	13	50.25	NP	21
4.8	Medium dense, gray medium SAND	4.8							4.8				
5.6	Dense, gray SILTY LOAM	5.6	7	7 15 15	NP	20							
6.5	Dense, gray medium SAND	6.5							6.5				
7.3	Very stiff to hard, gray SILTY CLAY, with gravel	7.3	8	9 14 24	3.28 B	15			7.3	14	28 50.25	4.50 P	11
			9	10 14 18	3.44 B	17							
			10	12 17 27	7.13 B	12							

GENERAL NOTES				WATER LEVEL DATA			
Begin Drilling	01-28-2004	Complete Drilling	02-02-2004	While Drilling	▽	DRY	
Drilling Contractor	DLZ Drilling	Drill Rig	Mobile B-59 TMR	At Completion of Drilling	▽	DRY	
Driller	J&J	Logger	S. Janowski	Time After Drilling	NA		
Checked by	N. Davis	Drilling Method	3.25" ID HSA; Boring backfilled with bentonite upon completion	Depth to Water	▽	NA	
The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.							

GENERAL NOTES				WATER LEVEL DATA			
Begin Drilling	01-26-2004	Complete Drilling	01-26-2004	While Drilling	▽	DRY	
Drilling Contractor	DLZ Drilling	Drill Rig	Mobile B-59 TMR	At Completion of Drilling	▽	DRY	
Driller	J&J	Logger	N. Davis	Time After Drilling	NA		
Checked by	S. Janowski	Drilling Method	3.25" ID HSA; Boring backfilled with bentonite upon completion	Depth to Water	▽	NA	
The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.							

**TYLIN INTERNATIONAL**

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION  
 F.A.I. 94 (DAN RYAN EXPRESSWAY)  
 RETAINING WALL ALONG STATE ST.  
 ENTRANCE RAMP FROM 95TH ST. TO 93RD ST.  
 WALL 2A  
 BORING LOGS SB01-01 & SB01-02  
 S.N. 016-W944  
 SCALE: N.T.S.  
 DATE: MARCH 18, 2005

DESIGNED BY: DJR  
 DRAWN BY: DJR  
 CHECKED BY: TD



**Wang Engineering, INC.**  
 Consulting Geotechnical and Environmental Engineers  
 wangeng3@wangeng.com  
 1145 Main Street  
 Lombard, IL 60148  
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 Fax: 630 953-9938

**BORING LOG SB 01-03** Page 1 of 1

WEI Job No.: 414-07-01

Datum: CCD  
 Elevation: 13.35 ft  
 North: 1842817.66 ft  
 East: 1177888.52 ft  
 Station: 2214+48.2  
 Offset: 90.587' RT

Client: T. Y. LIN International  
 Project: Dan Ryan Improvements; IDOT No. D-91-421-01  
 Location: From 95th Street to South of 69th Street

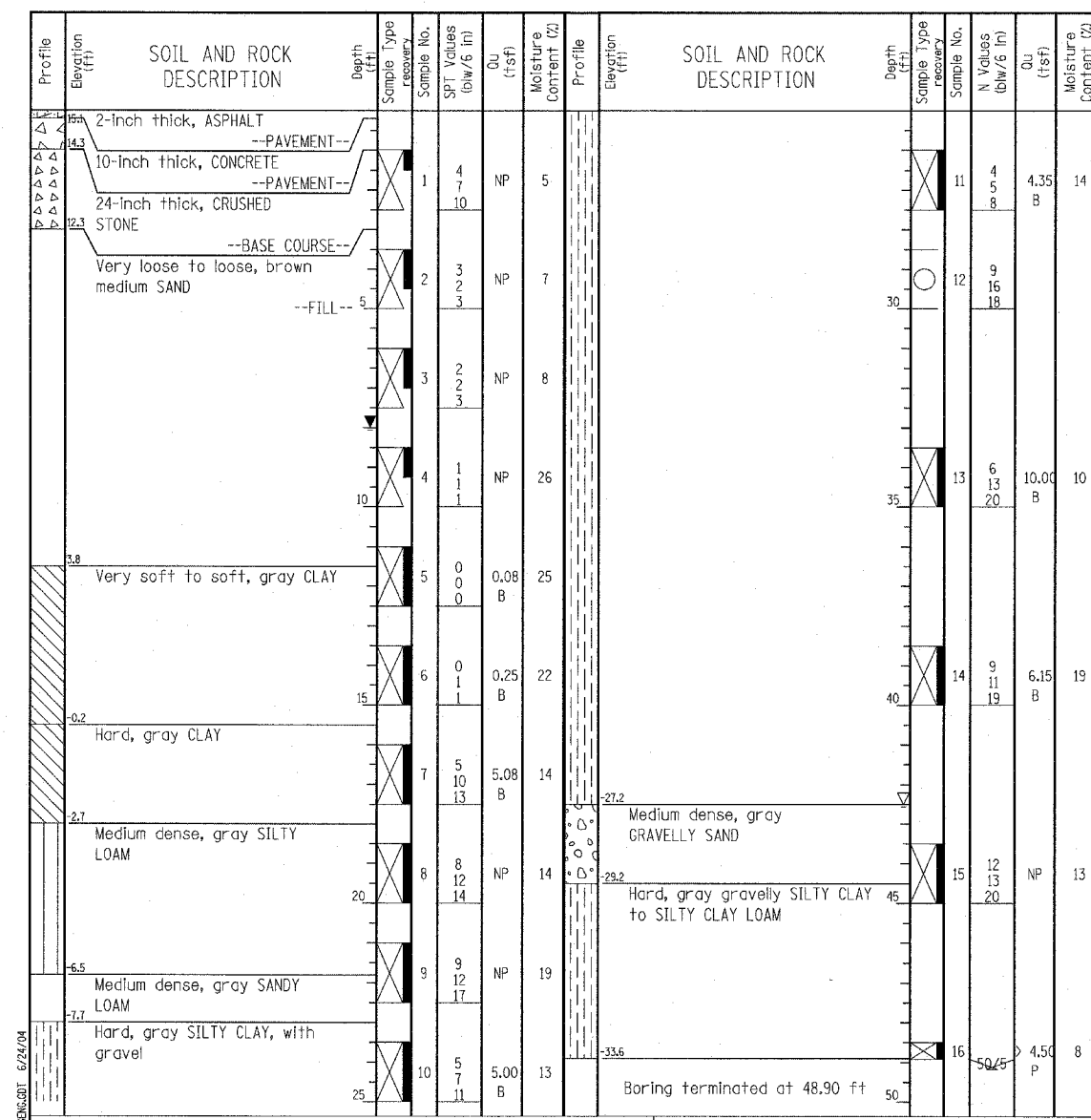
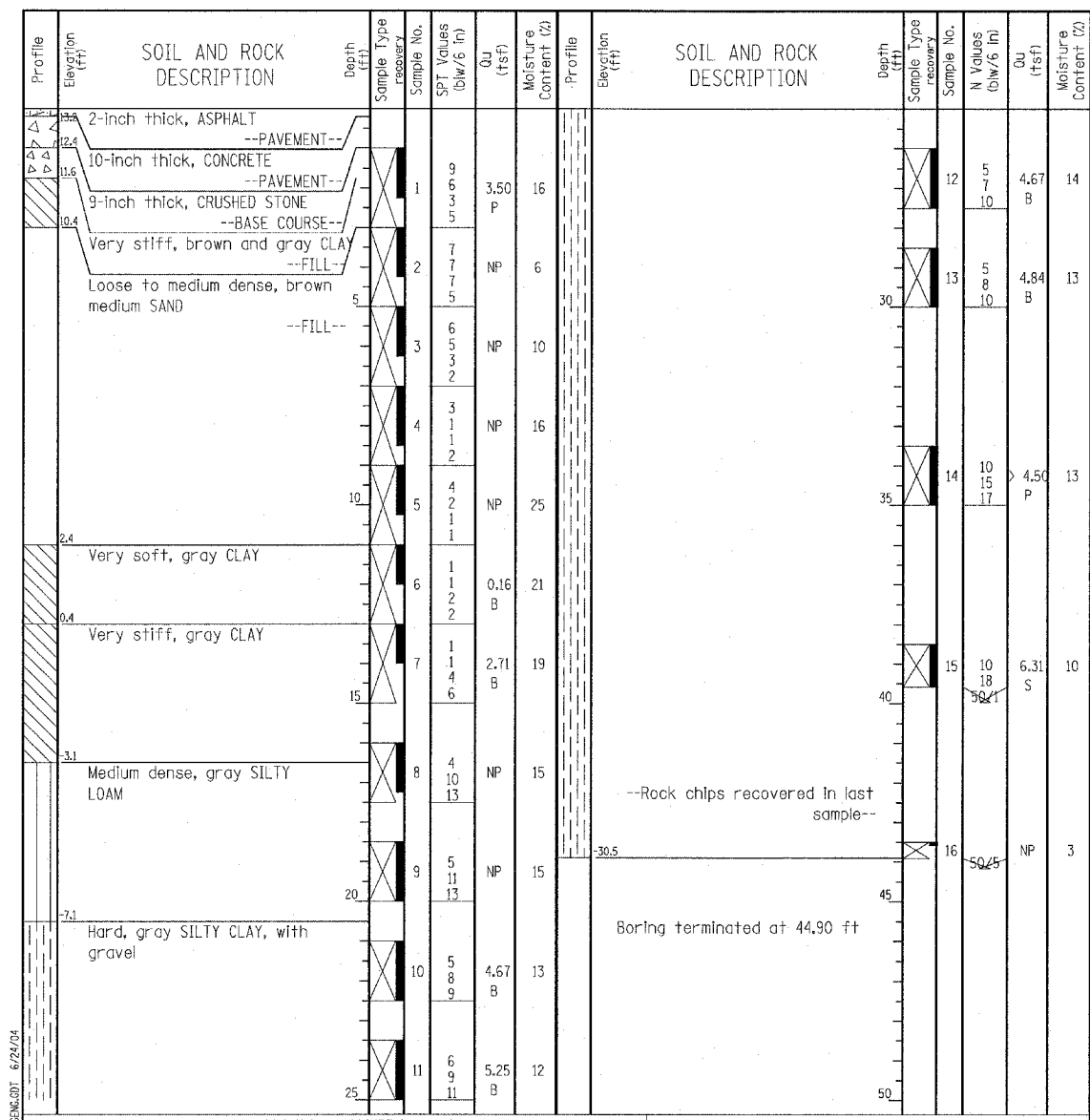
**Wang Engineering, INC.**  
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**BORING LOG SB 01-04** Page 1 of 1

WEI Job No.: 414-07-01

Datum: CCD  
 Elevation: 15.29 ft  
 North: 1842745.19 ft  
 East: 1177895.70 ft  
 Station: 2213+75.6  
 Offset: 95.697' RT

Client: T. Y. LIN International  
 Project: Dan Ryan Improvements; IDOT No. D-91-421-01  
 Location: From 95th Street to South of 69th Street



GENERAL NOTES				WATER LEVEL DATA			
Begin Drilling	01-22-2004	Complete Drilling	01-22-2004	While Drilling	▽	DRY	
Drilling Contractor	Patrick Drilling	Drill Rig	CME 75 TMR	At Completion of Drilling	▽	DRY	
Driller	J&B	Logger	H. Suhail	Time After Drilling	NA		
Drilling Method	3.25" ID HSA; Boring backfilled with bentonite upon completion			Depth to Water	▽	NA	
The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.							

GENERAL NOTES				WATER LEVEL DATA			
Begin Drilling	01-21-2004	Complete Drilling	01-21-2004	While Drilling	▽	42.50 ft	
Drilling Contractor	Patrick Drilling	Drill Rig	CME 75 TMR	At Completion of Drilling	▽	8.00 ft	
Driller	J&B	Logger	H. Suhail	Time After Drilling	NA		
Drilling Method	3.25" ID HSA; Boring backfilled with bentonite upon completion			Depth to Water	▽	NA	
The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.							

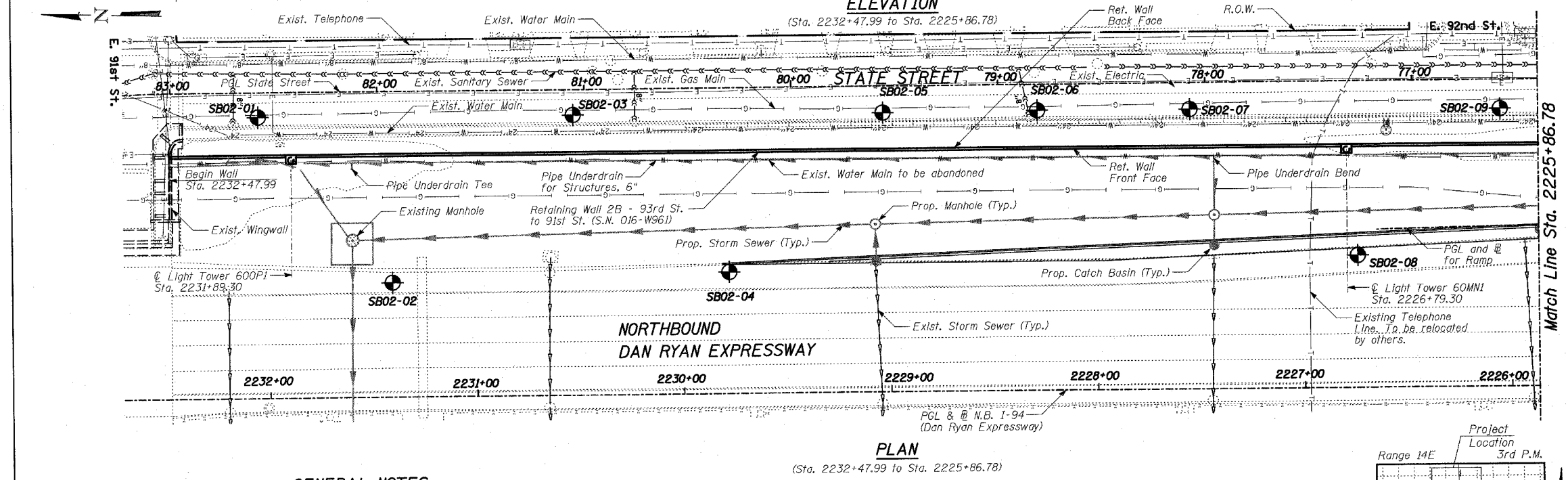
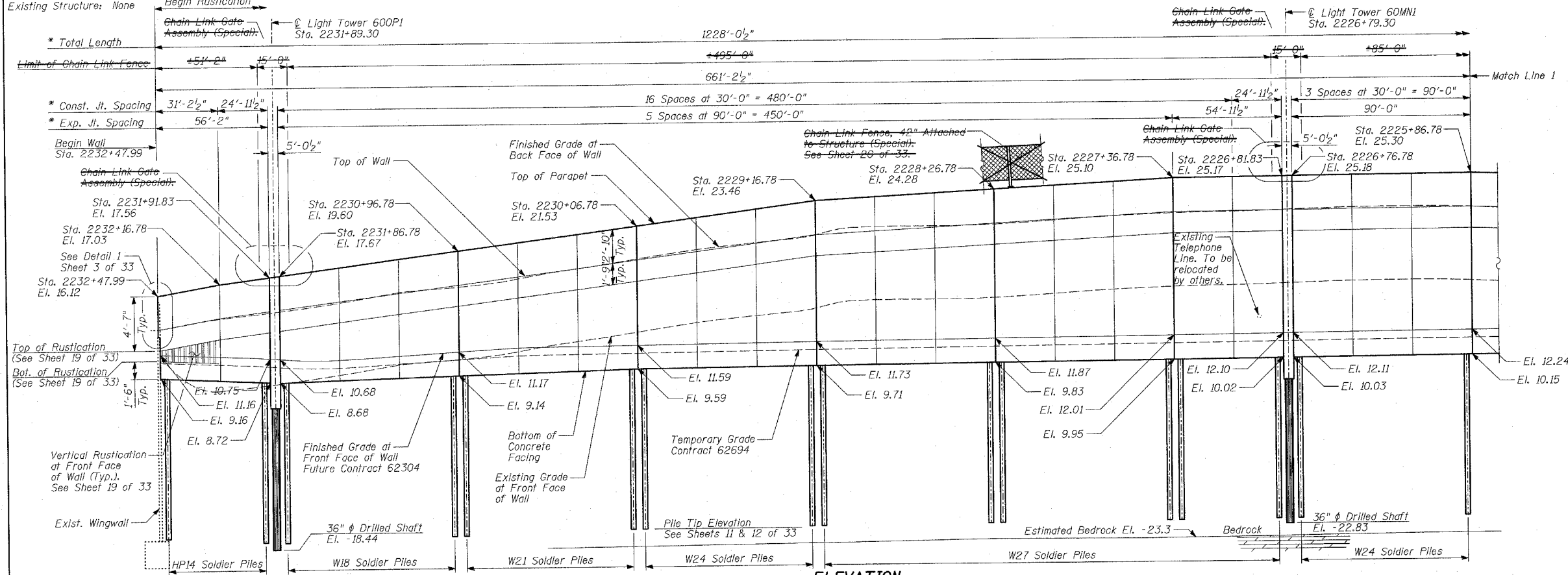


REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION  
 F.A.I. 94 (DAN RYAN EXPRESSWAY)  
 RETAINING WALL ALONG STATE ST.  
 ENTRANCE RAMP FROM 95TH ST. TO 93RD ST.  
 WALL 2A  
 BORING LOGS SB01-03 & SB01-04  
 S.N. 016-W944  
 SCALE: N.T.S.  
 DATE: MARCH 18, 2005

DESIGNED BY: DJR  
 DRAWN BY: DJR  
 CHECKED BY: TD

Benchmarks: BM 3522 Set "+\* on south southeast flange bolt of hydrant ± halfway between north and south entrance to Citgo, east side of State St. and north of 95th St. El. 18.06



**LEGEND**  
 Boring Location  
 \* Measured along Front Face of Wall.

**TYLIN INTERNATIONAL**

- GENERAL NOTES:**
- Reinforcement bars shall conform to the requirements of AASHTO M31 or M322 Grade 60.
  - The Contractor is responsible for the design and performance of the lagging using no less than 3" nominal rough-sawn thickness and the minimum tabulated unit stress in bending ( $f_b$ ), used in the design of timber lagging shall be 1000 psi.
  - The soldier piles shall be cleaned and given one shop coat of Inorganic Zinc-Rich primer.
  - All exposed concrete edges shall be chamfered  $\frac{3}{4}$ " except as noted.
  - Protective coat shall be applied to exposed surfaces of the concrete facing.

- Existing utilities in conflict with soldier pile wall construction shall be abandoned or relocated according to directions given on the roadway plans.
- All construction joints shall be bonded.
- All elevations shown are based on the Chicago City Datum of 0.00, which is 579.19 feet above mean tide New York. (NAVD 88)
- The wall shall be backfilled (where applicable) prior to placing the concrete facing.
- The Contractor is responsible to coordinate all electrical crossings with this Contract and with Contract 62583.

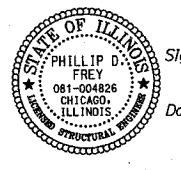
**TOTAL BILL OF MATERIAL**

ITEM	UNIT	TOTAL
Porous Granular Embankment	CU YD	1,332
Concrete Removal	CU YD	2
Structure Excavation	CU YD	676
Concrete Structures	CU YD	738
Protective Coat	SQ YD	2,202
Rustication Finish	SQ FT	11,075
Stud Shear Connectors	EACH	3,180
Untreated Timber Lagging	SQ FT	11,160
Furnishing Soldier Piles (HP Section)	FOOT	183
Furnishing Soldier Piles (W Section)	FOOT	8,568
Reinforcement Bars, Epoxy Coated	POUND	93,760
Geocomposite Wall Drain	SQ YD	1,308
Pipe Underdrains for Structures, 6"	FOOT	1,229
Drilling and Setting Soldier Piles (in Soil)	CU FT	52,151
Chain Link Fence, 42" Attached to Structure (Special)	FOOT	1,184
Chain Link Gate Assembly (Special)	EACH	3
Drilled Shaft in Soil 36"	FOOT	89

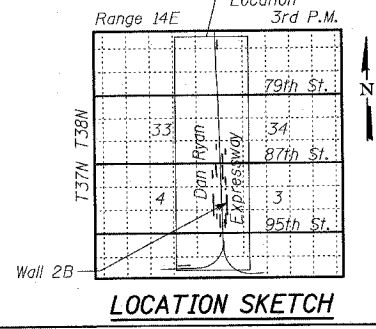
**DESIGN SPECIFICATION**  
 AASHTO 2002 Standard Specifications for Highway Bridges

**DESIGN STRESSES**  
**FIELD UNITS**  
 $f'_c = 3,500$  psi  
 $f_y = 60,000$  psi (Reinforcement)  
 $f_y = 36,000$  psi (M270 Grade 36)  
 Soldier Piles

- INDEX OF SHEETS**
- GENERAL PLAN
  - GENERAL PLAN
  - PLAN AND ELEVATION STA. 2232+47.99 TO STA. 2230+96.78
  - PLAN AND ELEVATION STA. 2230+96.78 TO STA. 2229+16.78
  - PLAN AND ELEVATION STA. 2229+16.78 TO STA. 2227+36.78
  - PLAN AND ELEVATION STA. 2227+36.78 TO STA. 2225+86.78
  - PLAN AND ELEVATION STA. 2225+86.78 TO STA. 2224+06.78
  - PLAN AND ELEVATION STA. 2224+06.78 TO STA. 2222+56.78
  - PLAN AND ELEVATION STA. 2222+56.78 TO STA. 2221+36.78
  - PLAN AND ELEVATION STA. 2221+36.78 TO STA. 2220+20.60
  - PILE LAYOUT
  - PILE LAYOUT, DETAILS & BILL OF MATERIAL
  - LIGHT TOWER 600P1 FOUNDATION DETAILS
  - LIGHT TOWER 60MNI FOUNDATION DETAILS
  - LIGHT TOWER 60M2Z FOUNDATION DETAILS
  - LIGHT TOWER DETAILS
  - WALL CROSS SECTIONS & DETAILS (1 OF 2)
  - WALL CROSS SECTIONS & DETAILS (2 OF 2)
  - RUSTICATION DETAILS
  - CHAIN LINK FENCE, 42" ATTACHED TO STRUCTURE (SPECIAL)
  - GATE PLAN AND NOTES
  - GATE ELEVATIONS
  - GATE SECTIONS
  - GATE SECTIONS AND DETAILS
  - BORING LOGS SB02-01 & SB02-02
  - BORING LOGS SB02-03 & SB02-04
  - BORING LOGS SB02-05 & SB02-06
  - BORING LOGS SB02-07 & SB02-08
  - BORING LOGS SB02-09 & SB02-10
  - BORING LOGS SB02-11 & SB02-12
  - BORING LOGS SB02-13 & SB02-14
  - BORING LOG SB02-15 & SB02-16
  - BORING LOG SB02-17
- APPROVED FOR STRUCTURAL ADEQUACY ONLY**  
 Ralph E. Anderson, P.E.  
 ENGINEER OF BRIDGES AND STRUCTURES



Signed: *Phillip D. Frey*  
 Phillip D. Frey, P.E., Ill. Lic. No. 081-004826 For drawings 1 thru 33 of 33  
 Expires 11-30-2006  
 Date: 9/18/05



REVISIONS	NAME	DATE
REVISED		04/15/05

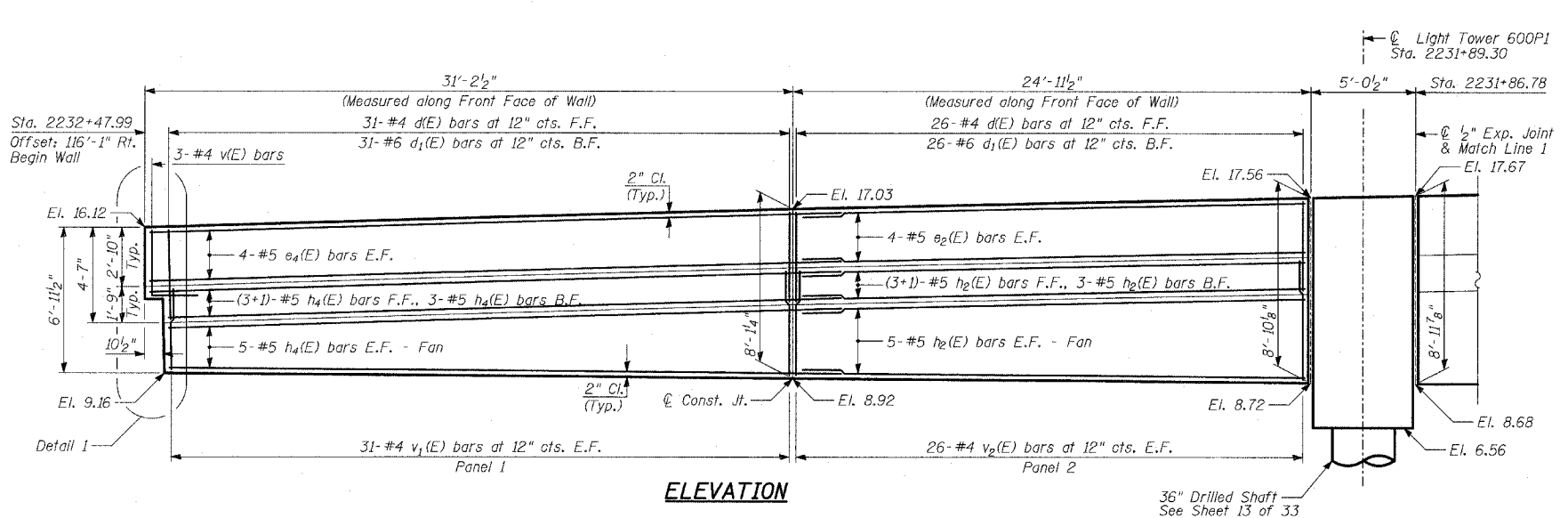
ILLINOIS DEPARTMENT OF TRANSPORTATION  
**F.A.I. 94 (DAN RYAN EXPRESSWAY)**  
**RETAINING WALL ALONG STATE ST.**  
**93RD ST. TO 91ST ST.**  
**WALL 2B - GENERAL PLAN**  
 STA. 2232+47.99 TO STA. 2220+20.60  
 S.N. 016-W961  
 SCALE: N.T.S.  
 DATE: MARCH 18, 2005

DESIGNED BY: MI, DJR  
 DRAWN BY: DJR, MAF  
 CHECKED BY: TD, MI

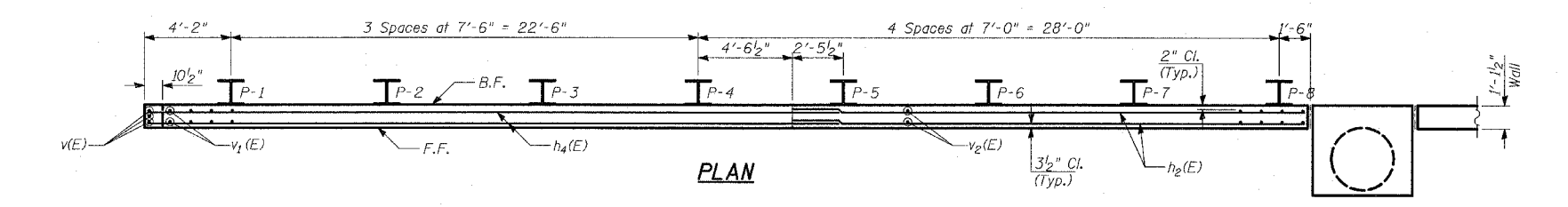
SHEET 1 OF 33



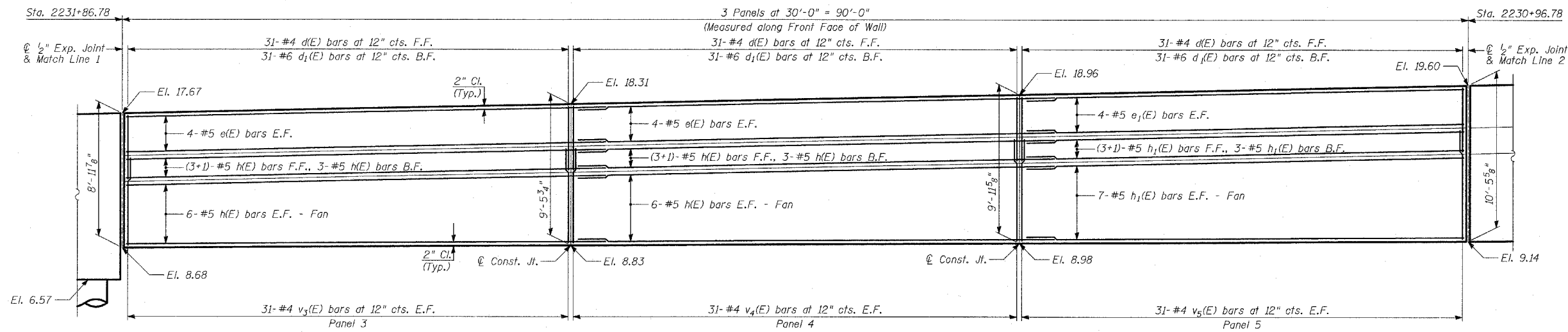
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94		COOK	860	452
STA. 2200+00.00 TO STA. 2362+00.00		ILLINOIS FED. AID PROJECT		
FED. ROAD DIST. NO.		• (1516, 1, 1717 & 1818) R-8		
				62694



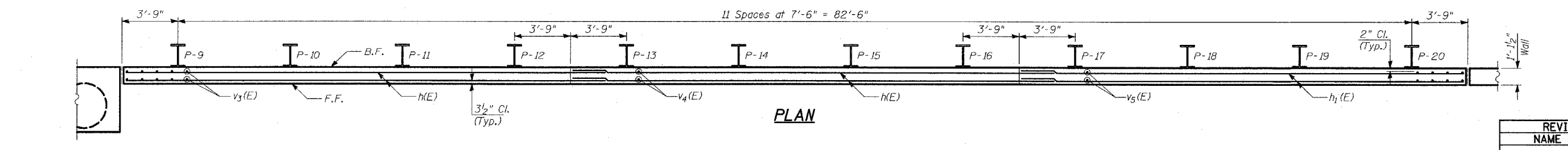
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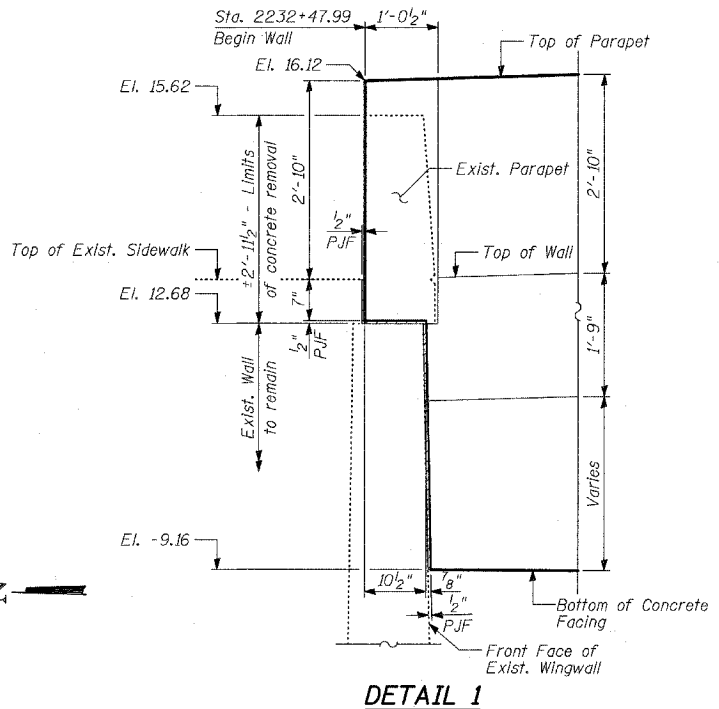
**PLAN**



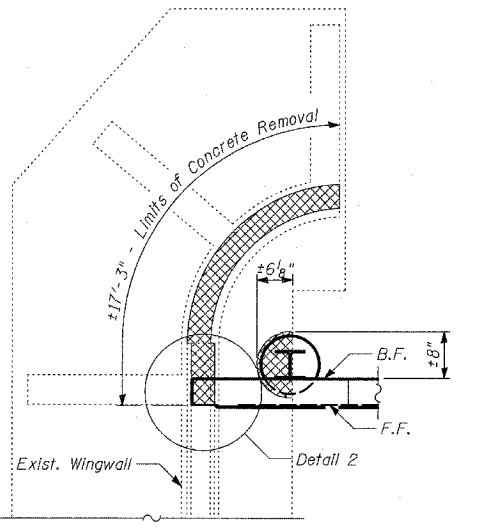
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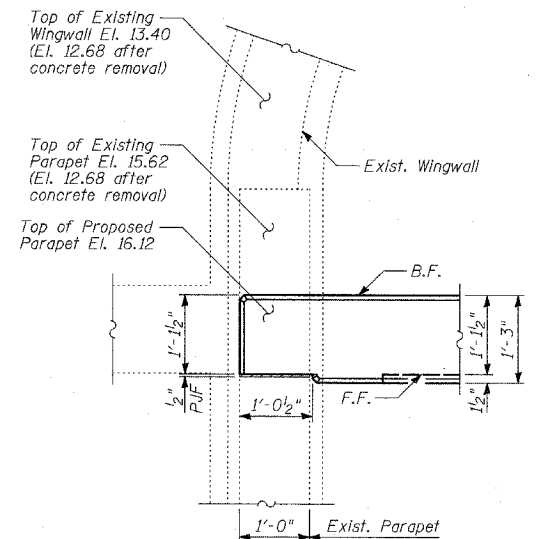
**PLAN**



**DETAIL 1**



**REMOVAL PLAN**



**DETAIL 2**

**BILL OF MATERIAL**

ITEM	UNIT	TOTAL
Concrete Removal	CU YD	2

REVISIONS	
NAME	DATE

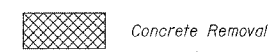
ILLINOIS DEPARTMENT OF TRANSPORTATION  
 F.A.I. 94 (DAN RYAN EXPRESSWAY)  
 RETAINING WALL ALONG STATE ST.  
 93RD ST. TO 91ST ST.  
 WALL 2B - PLAN AND ELEVATION  
 STA. 2232+47.99 TO STA. 2230+96.78  
 S.N. 016-W961 DESIGNED BY: MI, DJR  
 SCALE: N.T.S. DRAWN BY: DJR, MAF  
 DATE: MARCH 18, 2005 CHECKED BY: TD, MI

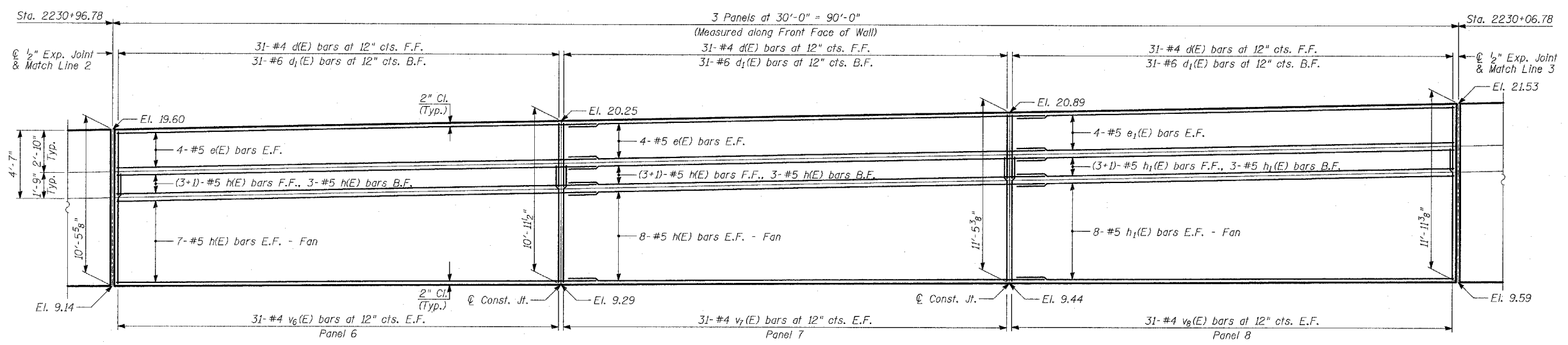
**NOTES:**

1. B.F. - denotes Back Face.
2. E.F. - denotes Each Face.
3. F.F. - denotes Front Face.
4. Work this Sheet with Sheets 11 thru 24 of 33.
5. Pile spacing measured along front face of wall.
6. For Lap Splices, see Sheet 12 of 33.

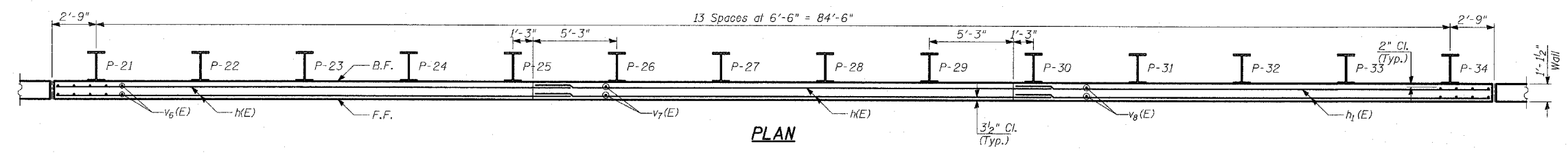
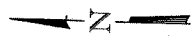
**TYLIN INTERNATIONAL**

**LEGEND**

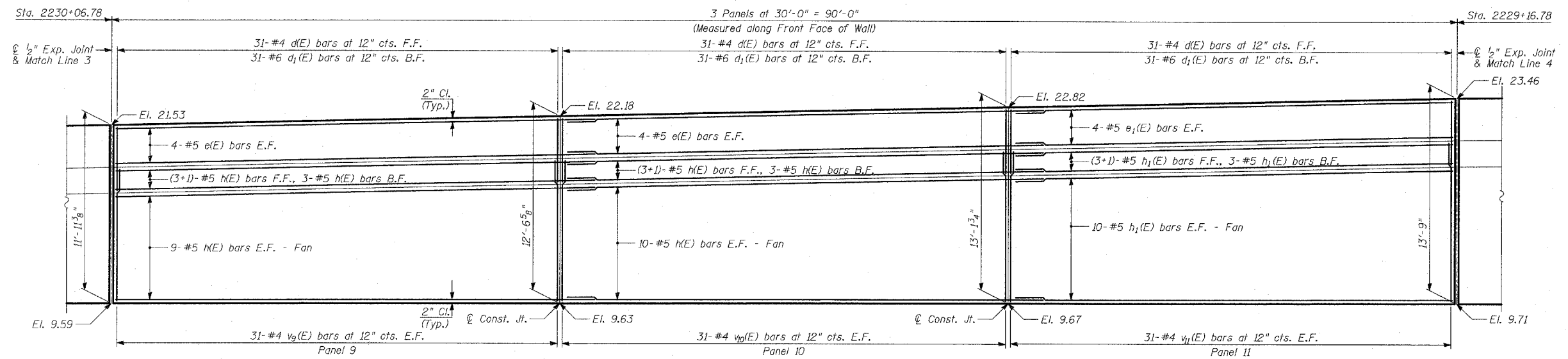




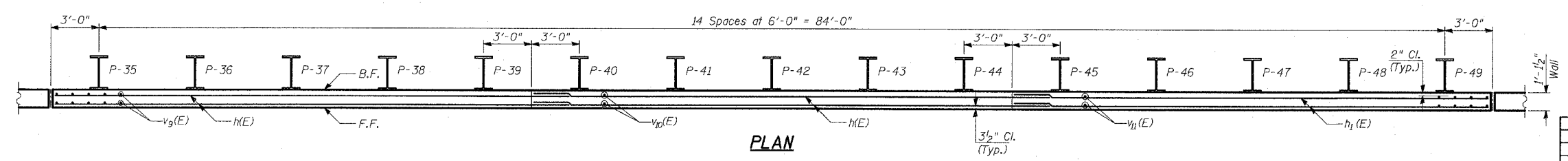
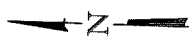
**ELEVATION**



**PLAN**



**ELEVATION**

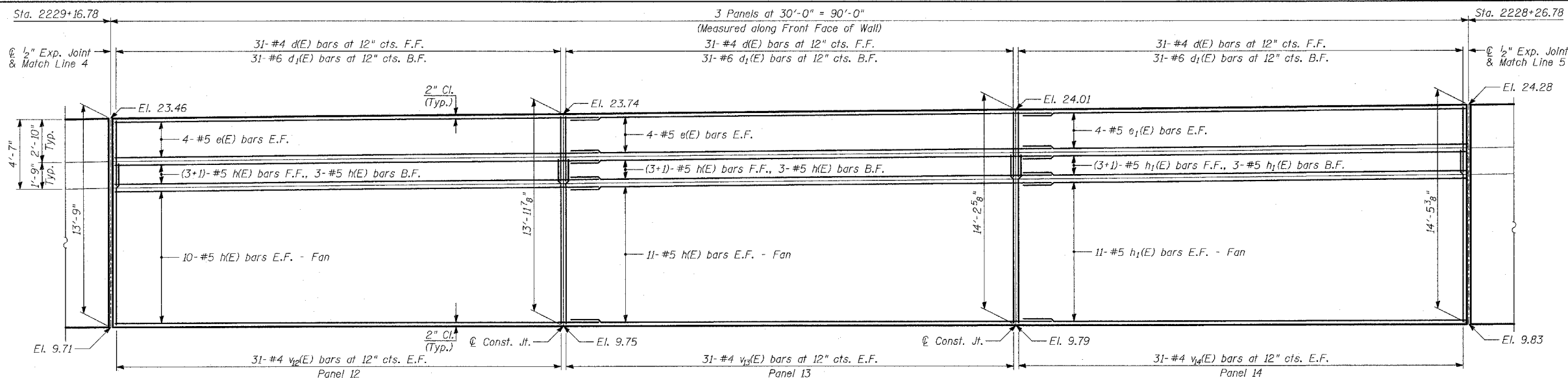


**PLAN**

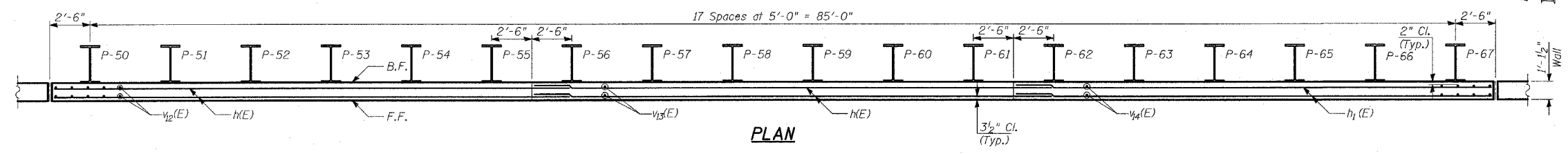
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  5. Pile spacing measured along front face of wall.
  6. For Lap Splices, see Sheet 12 of 33.

REVISIONS	
NAME	DATE

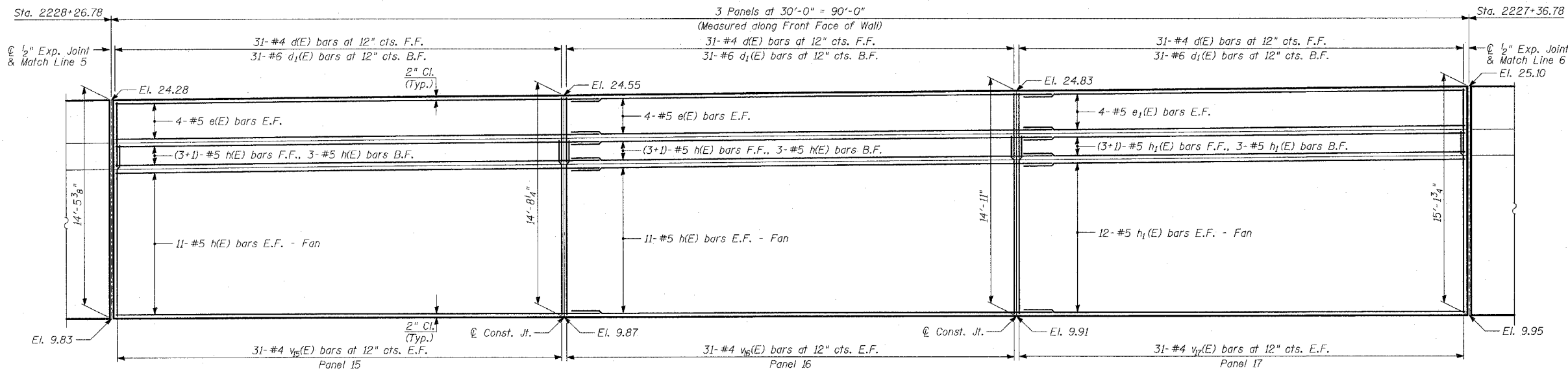
ILLINOIS DEPARTMENT OF TRANSPORTATION  
**F.A.I. 94 (DAN RYAN EXPRESSWAY)**  
**RETAINING WALL ALONG STATE ST.**  
**93RD ST. TO 91ST ST.**  
**WALL 2B - PLAN AND ELEVATION**  
**STA. 2230+96.78 TO STA. 2229+16.78**  
 S.N. 016-W961 DESIGNED BY: MI, DJR  
 SCALE: N.T.S. DRAWN BY: DJR, MAF  
 DATE: MARCH 18, 2005 CHECKED BY: TD, MIA



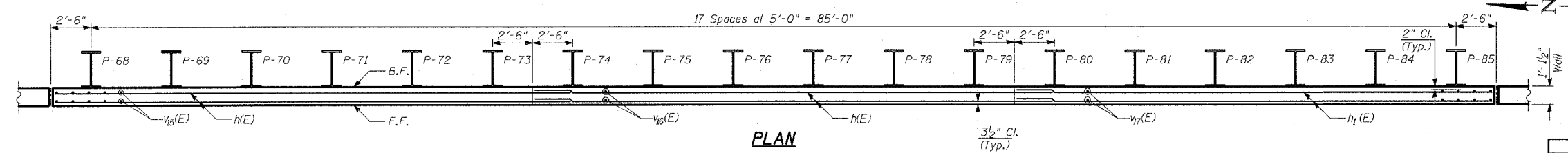
**ELEVATION**



**PLAN**



**ELEVATION**



**PLAN**

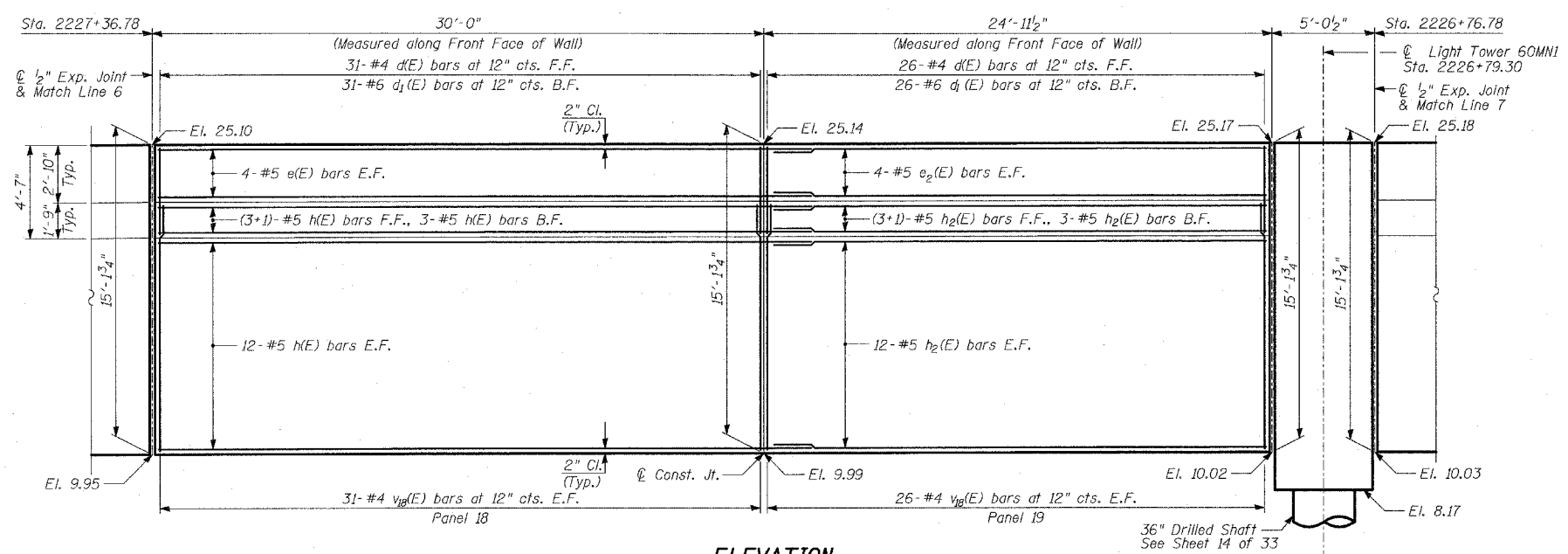
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**TYLIN INTERNATIONAL**

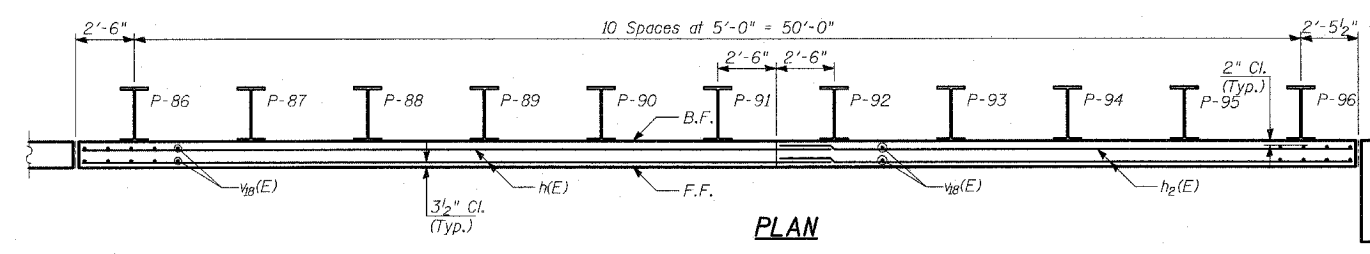
REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION  
 F.A.I. 94 (DAN RYAN EXPRESSWAY)  
 RETAINING WALL ALONG STATE ST.  
 93RD ST. TO 91ST ST.  
 WALL 2B - PLAN AND ELEVATION  
 STA. 2229+16.78 TO STA. 2227+36.78  
 S.N. 016-W961 DESIGNED BY: MI, DJR  
 SCALE: N.T.S. DRAWN BY: DJR, MAF  
 DATE: MARCH 18, 2005 CHECKED BY: TD, MI

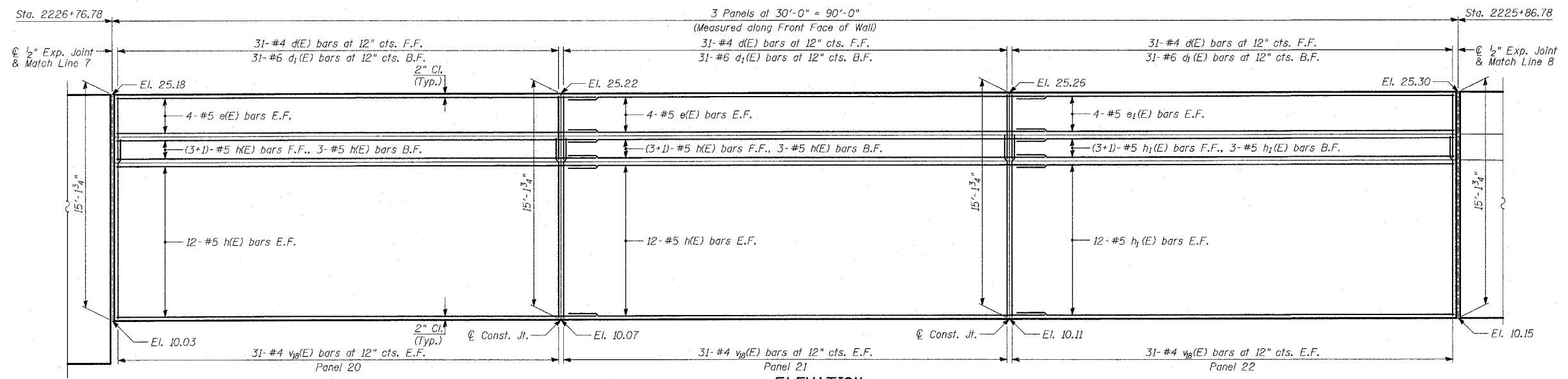
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94		COOK	860	455
STA. 2200+00.00 TO STA. 2362+00.00				
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT				
(1516.1, 1717 & 1818) R-8				
62694				



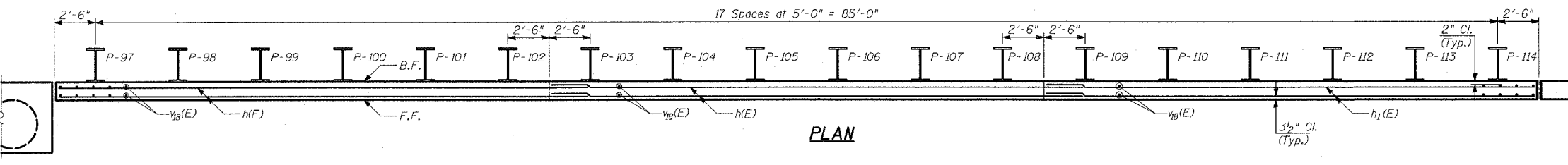
**ELEVATION**



**PLAN**



**ELEVATION**



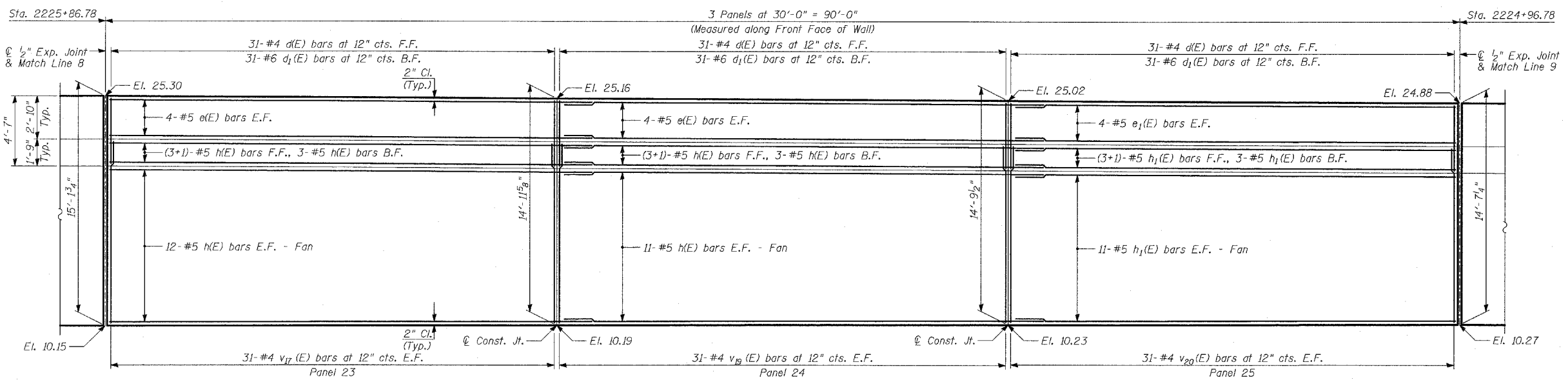
**PLAN**

- NOTES:**
1. B.F. - denotes Back Face.
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  3. F.F. - denotes Front Face.
  4. Work this Sheet with Sheets 11 thru 24 of 33.
  5. Pile spacing measured along front face of wall.
  6. For Lap Splices, see Sheet 12 of 33.

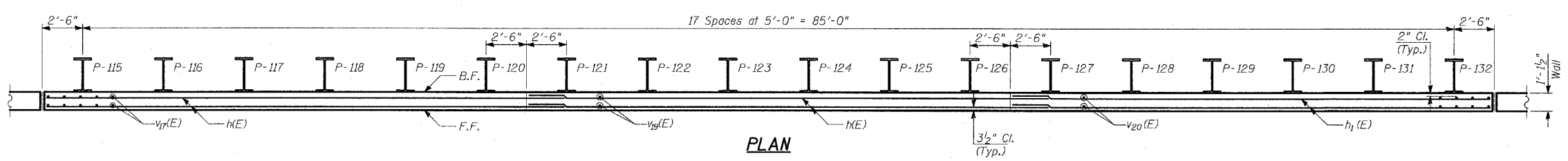
REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION  
 F.A.I. 94 (DAN RYAN EXPRESSWAY)  
 RETAINING WALL ALONG STATE ST.  
 93RD ST. TO 91ST ST.  
 WALL 2B - PLAN AND ELEVATION  
 STA. 2227+36.78 TO STA. 2225+86.78  
 S.N. 016-W961 DESIGNED BY: MI, DJR  
 SCALE: N.T.S. DRAWN BY: DJR, MAF  
 DATE: MARCH 18, 2005 CHECKED BY: TD, MI

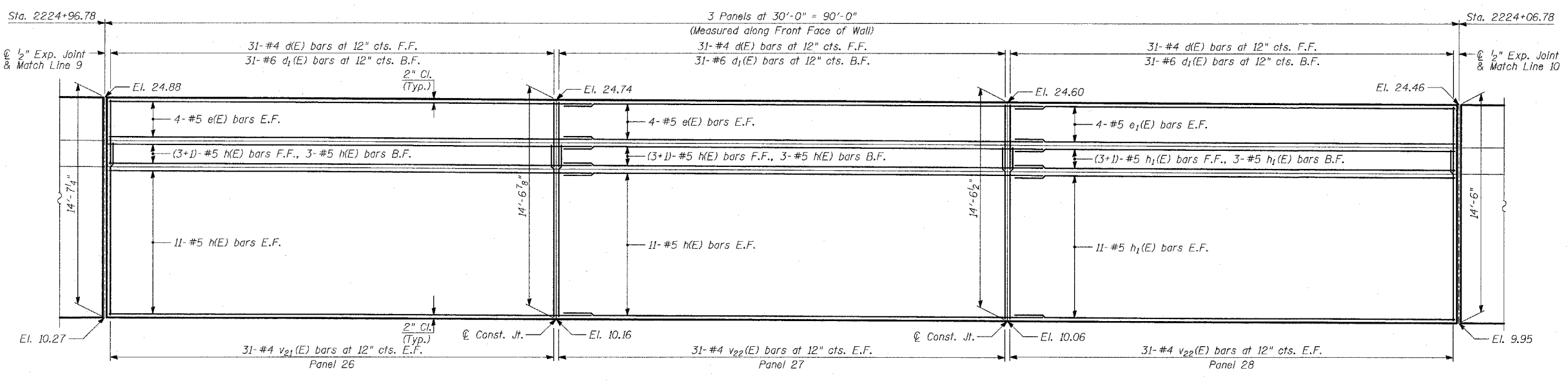
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	•	COOK	860	456
STA. 2200+00.00 TO STA. 2362+00.00				
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT	
(1516.1, 1717 & 1818) R-8		62694		



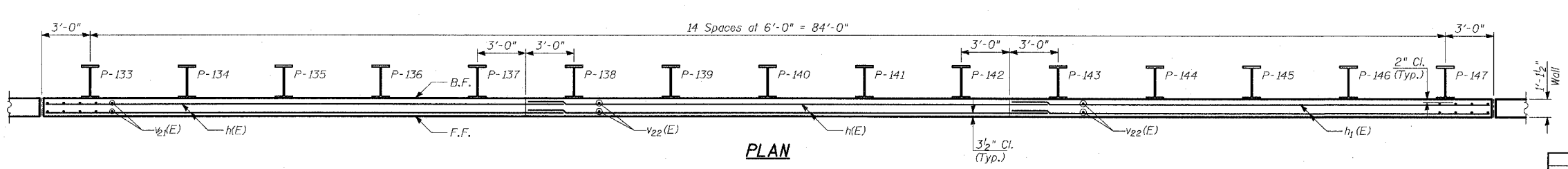
**ELEVATION**



**PLAN**



**ELEVATION**



**PLAN**

- NOTES:**
1. B.F. - denotes Back Face.
  2. E.F. - denotes Each Face.
  3. F.F. - denotes Front Face.
  4. Work this Sheet with Sheets 11, 12 & 17 thru 20 of 33.
  5. File spacing measured along front face of wall.
  6. For Lap Splices, see Sheet 12 of 33.

REVISIONS	
NAME	DATE

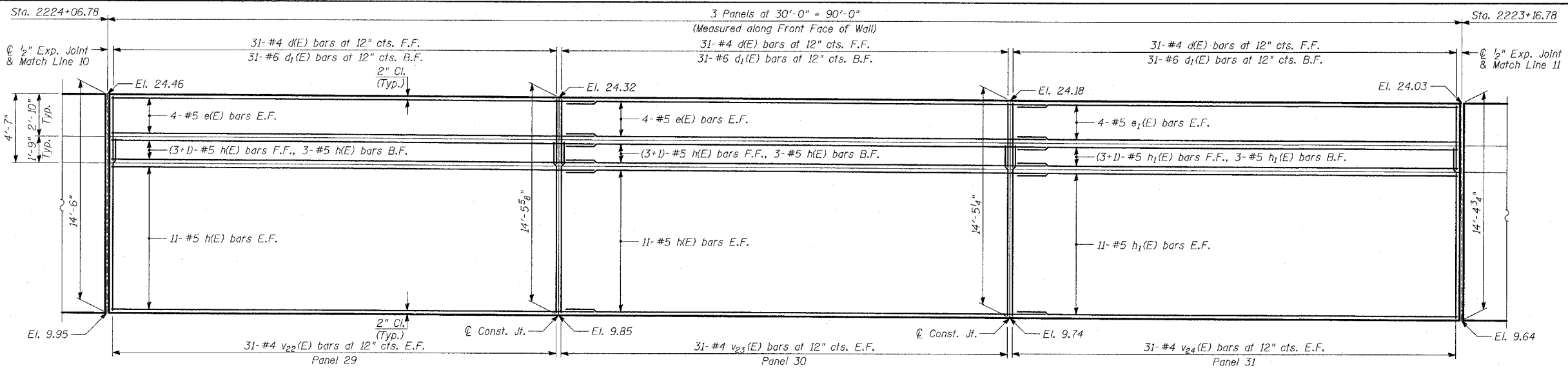
ILLINOIS DEPARTMENT OF TRANSPORTATION  
 F.A.I. 94 (DAN RYAN EXPRESSWAY)  
 RETAINING WALL ALONG STATE ST.  
 93RD ST. TO 91ST ST.  
 WALL 2B - PLAN AND ELEVATION  
 STA. 2225+86.78 TO STA. 2224+06.78  
 S.N. 016-W961 DESIGNED BY: MI, DJR  
 SCALE: N.T.S. DRAWN BY: DJR, MAF  
 DATE: MARCH 18, 2005 CHECKED BY: TD, MI



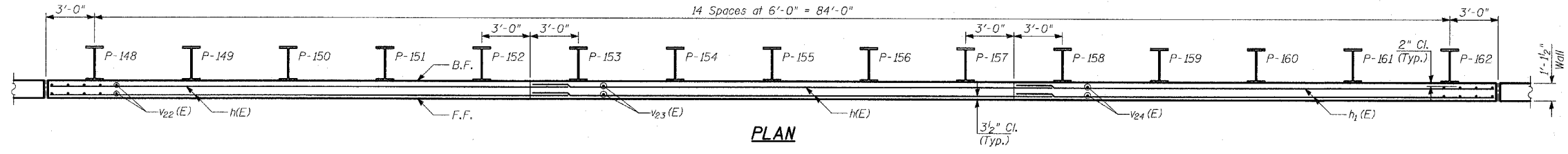
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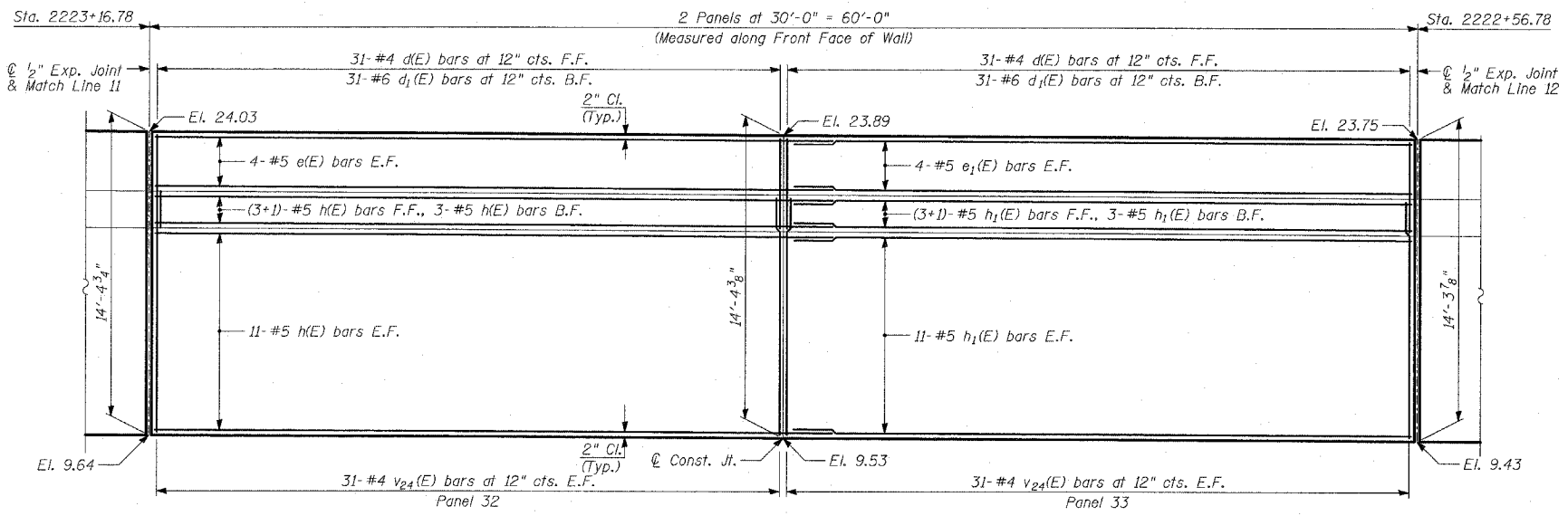
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94		COOK	860	457
STA. 2200+00.00 TO STA. 2362+00.00				
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT	
(1516.1, 1717 & 1818) R-8		62694		



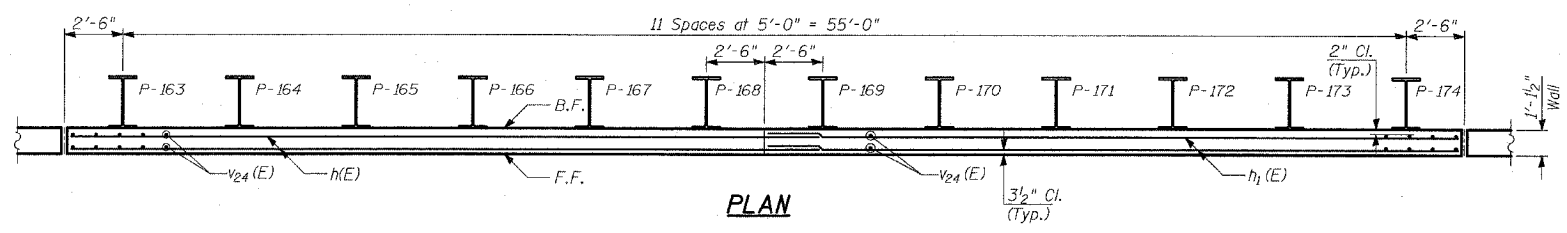
**ELEVATION**



**PLAN**



**ELEVATION**



**PLAN**

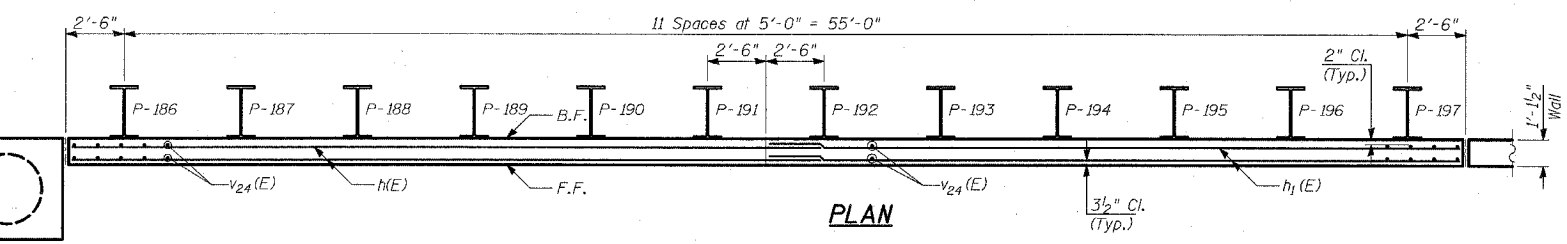
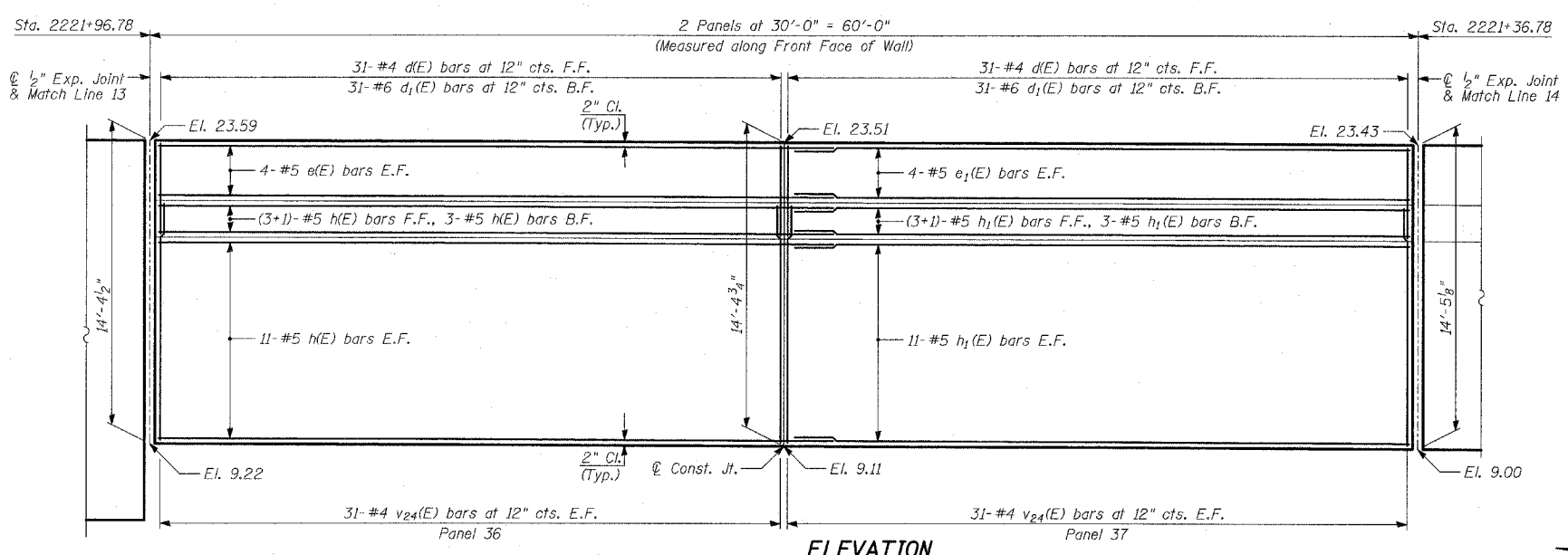
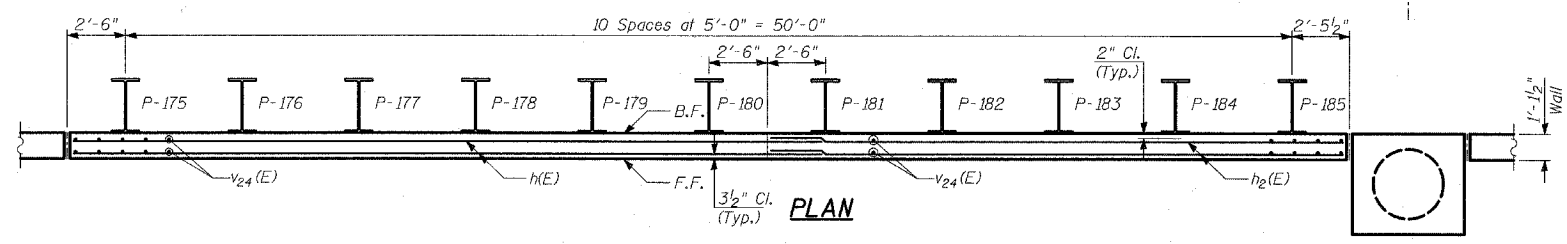
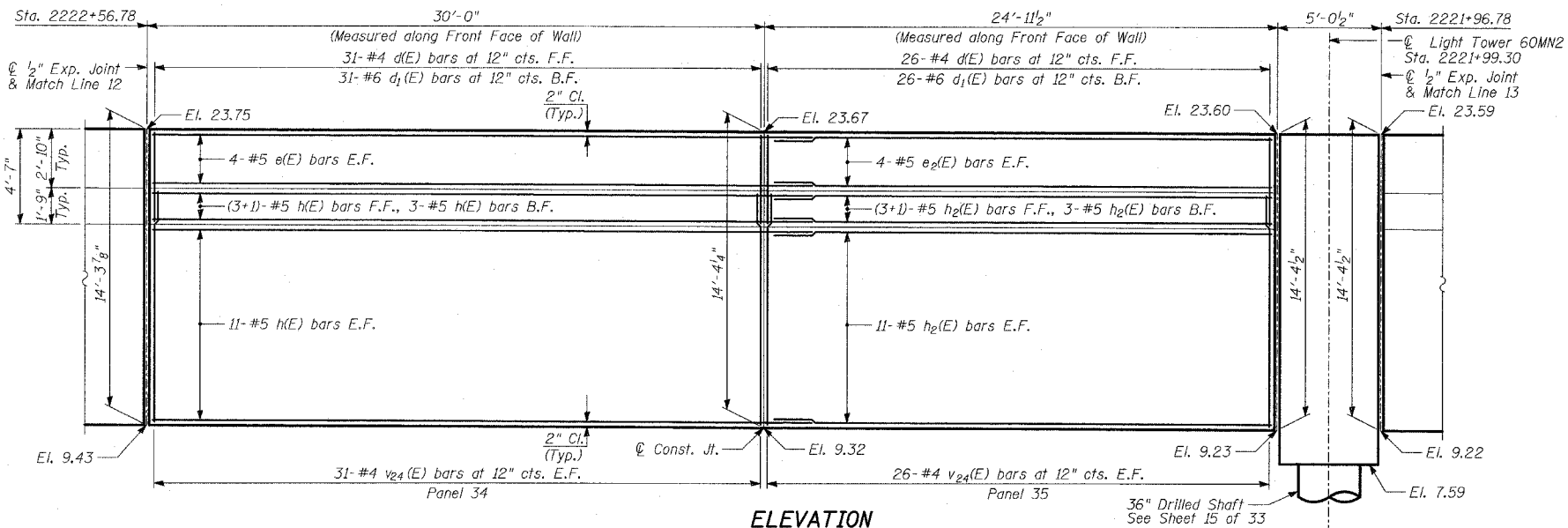
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  5. Pile spacing measured along front face of wall.
  6. For Lap Splices, see Sheet 12 of 33.

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION  
**F.A.I. 94 (DAN RYAN EXPRESSWAY)**  
**RETAINING WALL ALONG STATE ST.**  
**93RD ST. TO 91ST ST.**  
**WALL 2B - PLAN AND ELEVATION**  
**STA. 2224+06.78 TO STA. 2222+56.78**  
 S.N. 016-W961 DESIGNED BY: MI, DJR  
 SCALE: N.T.S. DRAWN BY: DJR, MAF  
 DATE: MARCH 18, 2005 CHECKED BY: TD, MI

**TYLIN INTERNATIONAL**

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94		COOK	860	458
STA. 2200+00.00 TO STA. 2362+00.00				
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		
(1516.1, 1717 & 1818) R-8		62694		



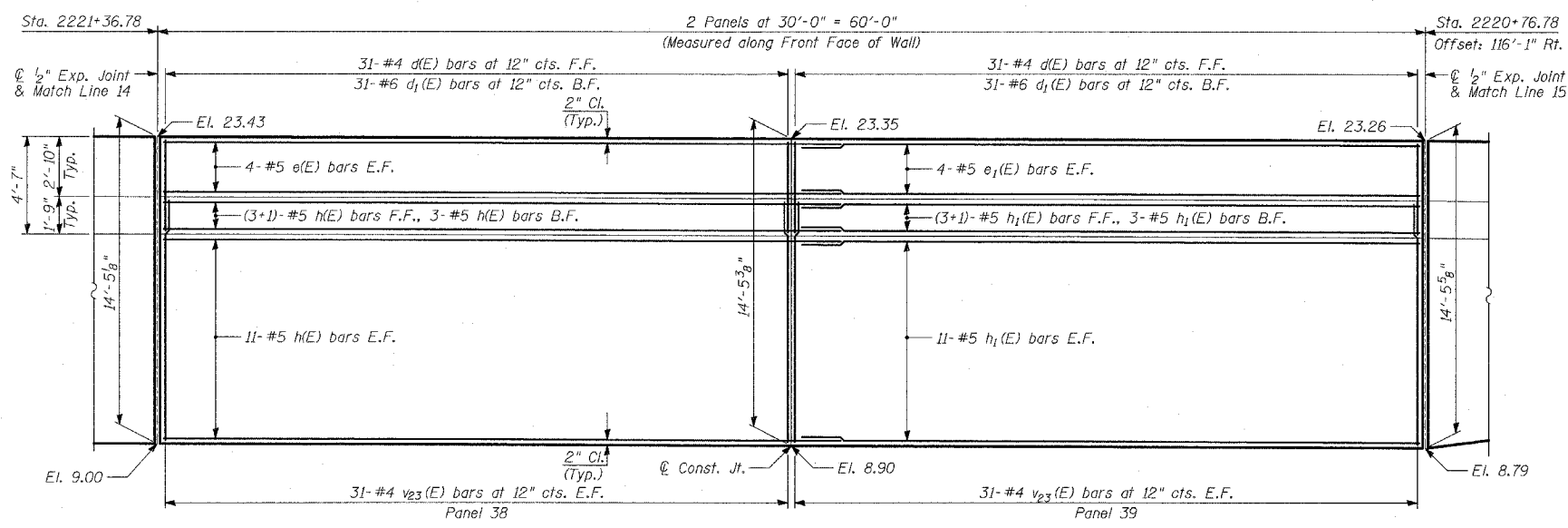
- NOTES:**
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  2. E.F. - denotes Each Face.
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  4. Work this Sheet with Sheets 11 thru 24 of 33.
  5. Pile spacing measured along front face of wall.
  6. For Lap Splices, see Sheet 12 of 33.

REVISIONS	
NAME	DATE

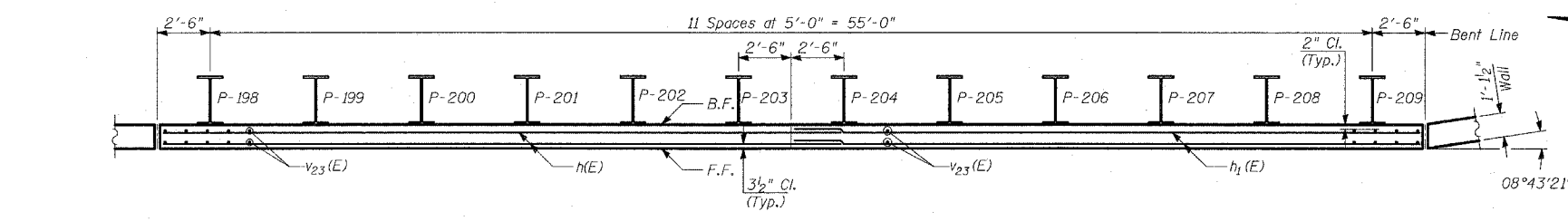
ILLINOIS DEPARTMENT OF TRANSPORTATION  
 F.A.I. 94 (DAN RYAN EXPRESSWAY)  
 RETAINING WALL ALONG STATE ST.  
 93RD ST. TO 91ST ST.  
 WALL 2B - PLAN AND ELEVATION  
 STA. 2222+56.78 TO STA. 2221+36.78  
 S.N. 016-W961 DESIGNED BY: MI, DJR  
 SCALE: N.T.S. DRAWN BY: DJR, MAF  
 DATE: MARCH 18, 2005 CHECKED BY: TD, MI

TYLIN INTERNATIONAL

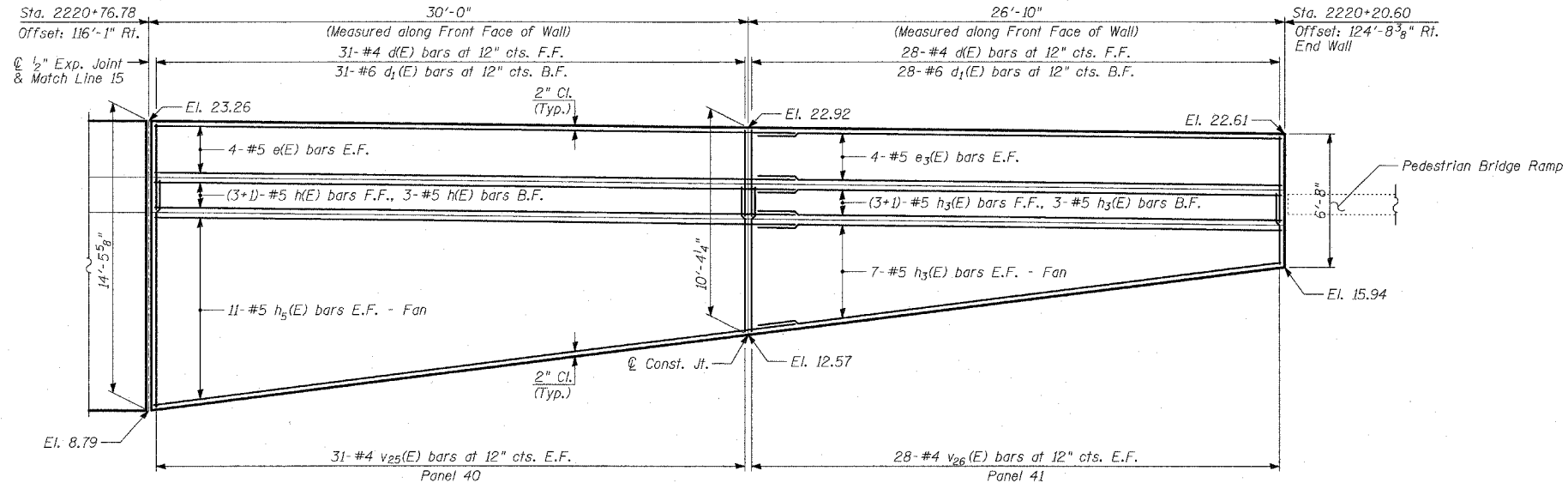
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	*	COOK	860	459
STA. 2200+00.00		TO STA. 2362+00.00		
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		
(1516.1, 1717 & 1818) R-8		62694		



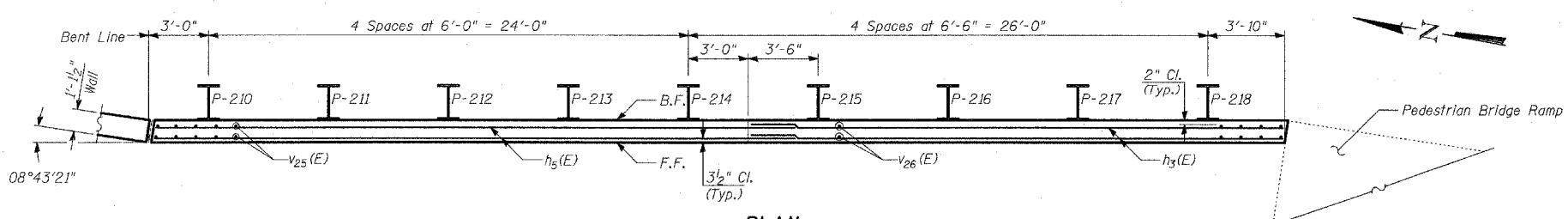
**ELEVATION**



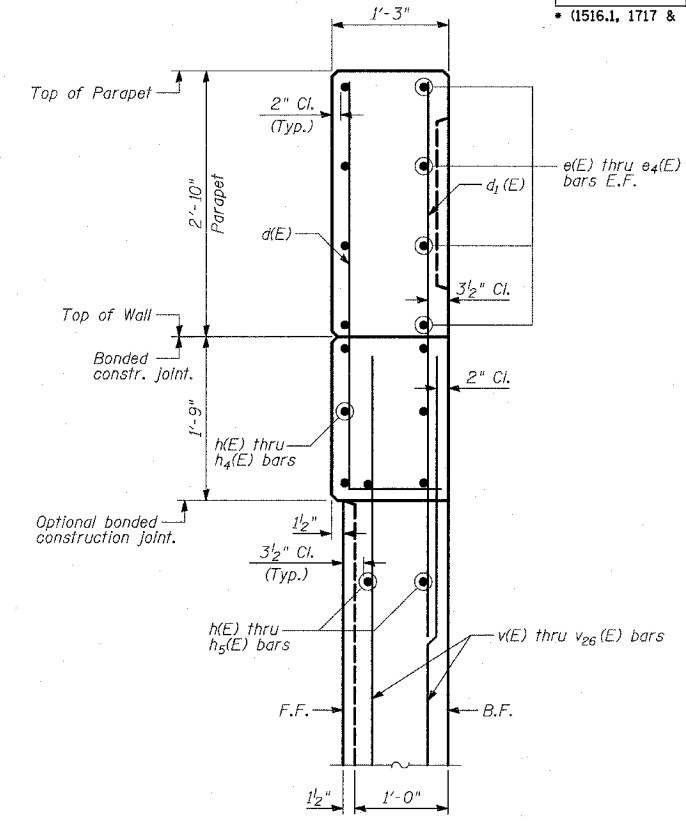
**PLAN**



**ELEVATION**



**PLAN**



**FLUTED PARAPET DETAIL**  
(Sta. 2232+47.99 to Sta. 2220+20.60)

- NOTES:**
1. B.F. - denotes Back Face.
  2. E.F. - denotes Each Face.
  3. F.F. - denotes Front Face.
  4. Work this Sheet with Sheets 11, 12 & 17 thru 20 of 33.
  5. File spacing measured along front face of wall.
  6. For Lap Splices, see Sheet 12 of 33.

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION  
**F.A.I. 94 (DAN RYAN EXPRESSWAY)**  
**RETAINING WALL ALONG STATE ST.**  
**93RD ST. TO 91ST ST.**  
**WALL 2B - PLAN AND ELEVATION**  
**STA. 2221+36.78 TO STA. 2220+20.60**  
 S.N. 016-W961 DESIGNED BY: MI, DJR  
 SCALE: N.T.S. DRAWN BY: DJR, MAF  
 DATE: MARCH 18, 2005 CHECKED BY: TD, MI

**PILE LAYOUT**

Pile	Station at Working Point	Top of Parapet El.	Top of Pile El.	Bot. of Wall El.	Section	Pile Tip El.	Pile Length
P-1	2232+43.83	16.23	12.06	9.13	HP14x117	-9.94	22'-0"
P-2	2232+36.33	16.43	12.27	9.08		-9.98	22'-3"
P-3	2232+28.83	16.64	12.47	9.02		-10.03	22'-6"
P-4	2232+21.33	16.84	12.67	8.97		-10.08	22'-9"
P-5	2232+14.33	17.04	12.87	8.91		-10.13	23'-0"
P-6	2232+07.33	17.19	13.02	8.86		-10.14	23'-2"
P-7	2232+00.33	17.34	13.17	8.80		-10.24	23'-5"
P-8	2231+93.33	17.49	13.32	8.75	HP14x117	-10.26	23'-7"
P-9	2231+83.03	17.75	13.58	8.70	W18x130	-13.33	26'-11"
P-10	2231+75.53	17.91	13.75	8.74		-13.34	27'-1"
P-11	2231+68.03	18.07	13.91	8.78		-13.26	27'-2"
P-12	2231+60.53	18.23	14.07	8.81		-13.27	27'-4"
P-13	2231+53.03	18.40	14.23	8.85		-13.19	27'-5"
P-14	2231+45.53	18.56	14.39	8.89		-13.11	27'-6"
P-15	2231+38.03	18.72	14.55	8.93		-13.12	27'-8"
P-16	2231+30.53	18.88	14.71	8.97		-13.04	27'-9"
P-17	2231+23.03	19.04	14.87	9.00		-13.05	27'-11"
P-18	2231+15.53	19.20	15.03	9.04		-12.97	28'-0"
P-19	2231+08.03	19.36	15.19	9.08		-12.97	28'-2"
P-20	2231+00.53	19.52	15.35	9.12	W18x130	-12.90	28'-3"
P-21	2230+94.03	19.66	15.49	9.15	W21x147	-20.92	36'-5"
P-22	2230+87.53	19.80	15.63	9.18		-20.87	36'-6"
P-23	2230+81.03	19.94	15.77	9.21		-20.81	36'-7"
P-24	2230+74.53	20.08	15.91	9.25		-20.75	36'-8"
P-25	2230+68.03	20.22	16.05	9.28		-20.78	36'-10"
P-26	2230+61.53	20.36	16.19	9.31		-20.73	36'-11"
P-27	2230+55.03	20.50	16.33	9.35		-20.67	37'-0"
P-28	2230+48.53	20.64	16.47	9.38		-20.70	37'-2"
P-29	2230+42.03	20.78	16.61	9.41		-20.64	37'-3"
P-30	2230+35.53	20.92	16.75	9.44		-20.58	37'-4"
P-31	2230+29.03	21.06	16.89	9.48		-20.53	37'-5"
P-32	2230+22.53	21.19	17.03	9.51		-20.56	37'-7"
P-33	2230+16.03	21.33	17.17	9.54		-20.50	37'-8"
P-34	2230+09.53	21.47	17.31	9.58	W21x147	-20.44	37'-9"
P-35	2230+03.78	21.60	17.43	9.59	W24x176	-22.49	39'-11"
P-36	2229+97.78	21.73	17.56	9.60		-22.44	40'-0"
P-37	2229+91.78	21.85	17.69	9.61		-22.40	40'-1"
P-38	2229+85.78	21.98	17.82	9.62		-22.43	40'-3"
P-39	2229+79.78	22.11	17.94	9.63		-22.39	40'-4"
P-40	2229+73.78	22.24	18.07	9.63		-22.43	40'-6"
P-41	2229+67.78	22.37	18.20	9.64		-22.38	40'-7"
P-42	2229+61.78	22.50	18.33	9.65		-22.42	40'-9"
P-43	2229+55.78	22.63	18.46	9.66		-22.37	40'-10"
P-44	2229+49.78	22.76	18.59	9.67		-22.41	41'-0"
P-45	2229+43.78	22.88	18.72	9.67		-22.37	41'-1"
P-46	2229+37.78	23.01	18.85	9.68		-22.32	41'-2"
P-47	2229+31.78	23.14	18.97	9.69		-22.36	41'-4"
P-48	2229+25.78	23.27	19.10	9.70		-22.31	41'-5"
P-49	2229+19.78	23.40	19.23	9.71	W24x176	-22.35	41'-7"
P-50	2229+14.28	23.49	19.32	9.71	W27x178	-22.35	41'-8"
P-51	2229+09.28	23.53	19.36	9.72		-22.30	41'-8"
P-52	2229+04.28	23.58	19.41	9.73		-22.34	41'-9"
P-53	2228+99.28	23.62	19.46	9.73		-22.29	41'-9"
P-54	2228+94.28	23.67	19.50	9.74		-22.33	41'-10"
P-55	2228+89.28	23.71	19.55	9.75		-22.29	41'-10"
P-56	2228+84.28	23.76	19.59	9.75		-22.32	41'-11"
P-57	2228+79.28	23.80	19.64	9.76		-22.28	41'-11"
P-58	2228+74.28	23.85	19.68	9.77		-22.32	42'-0"
P-59	2228+69.28	23.89	19.73	9.77		-22.27	42'-0"
P-60	2228+64.28	23.94	19.77	9.78		-22.23	42'-0"
P-61	2228+59.28	23.99	19.82	9.79		-22.26	42'-1"
P-62	2228+54.28	24.03	19.86	9.79		-22.22	42'-1"
P-63	2228+49.28	24.08	19.91	9.80		-22.26	42'-2"
P-64	2228+44.28	24.12	19.96	9.81		-22.21	42'-2"
P-65	2228+39.28	24.17	20.00	9.81	W27x178	-22.25	42'-3"

**PILE LAYOUT**

Pile	Station at Working Point	Top of Parapet El.	Top of Pile El.	Bot. of Wall El.	Section	Pile Tip El.	Pile Length
P-66	2228+34.28	24.21	20.05	9.82	W27x178	-22.20	42'-3"
P-67	2228+29.28	24.26	20.09	9.83		-22.24	42'-4"
P-68	2228+24.28	24.30	20.14	9.83		-22.20	42'-4"
P-69	2228+19.28	24.35	20.18	9.84		-22.23	42'-5"
P-70	2228+14.28	24.39	20.23	9.85		-22.19	42'-5"
P-71	2228+09.28	24.44	20.27	9.85		-22.23	42'-6"
P-72	2228+04.28	24.49	20.32	9.86		-22.18	42'-6"
P-73	2227+99.28	24.53	20.36	9.87		-22.14	42'-6"
P-74	2227+94.28	24.58	20.41	9.87		-22.17	42'-7"
P-75	2227+89.28	24.62	20.46	9.88		-22.13	42'-7"
P-76	2227+84.28	24.67	20.50	9.89		-22.17	42'-8"
P-77	2227+79.28	24.71	20.55	9.89		-22.12	42'-8"
P-78	2227+74.28	24.76	20.59	9.90		-22.16	42'-9"
P-79	2227+69.28	24.80	20.64	9.91		-22.11	42'-9"
P-80	2227+64.28	24.85	20.68	9.91		-22.15	42'-10"
P-81	2227+59.28	24.89	20.73	9.92		-22.11	42'-10"
P-82	2227+54.28	24.94	20.77	9.93		-22.14	42'-11"
P-83	2227+49.28	24.99	20.82	9.93		-22.10	42'-11"
P-84	2227+44.28	25.03	20.86	9.94		-22.14	43'-0"
P-85	2227+39.28	25.08	20.91	9.95		-22.09	43'-0"
P-86	2227+34.28	25.10	20.94	9.95		-21.06	42'-0"
P-87	2227+29.28	25.11	20.94	9.96		-21.06	42'-0"
P-88	2227+24.28	25.12	20.95	9.97		-21.05	42'-0"
P-89	2227+19.28	25.12	20.96	9.97		-21.04	42'-0"
P-90	2227+14.28	25.13	20.96	9.98		-21.04	42'-0"
P-91	2227+09.28	25.14	20.97	9.99		-21.03	42'-0"
P-92	2227+04.28	25.14	20.98	9.99		-21.02	42'-0"
P-93	2226+99.28	25.15	20.98	10.00		-21.02	42'-0"
P-94	2226+94.28	25.16	20.99	10.01		-21.01	42'-0"
P-95	2226+89.28	25.16	21.00	10.01		-21.00	42'-0"
P-96	2226+84.28	25.17	21.00	10.02	W27x178	-21.00	42'-0"
P-97	2226+79.28	25.18	21.02	10.03	W24x176	-20.98	42'-0"
P-98	2226+74.28	25.19	21.02	10.04		-20.98	42'-0"
P-99	2226+69.28	25.20	21.03	10.05		-20.97	42'-0"
P-100	2226+64.28	25.20	21.04	10.05		-20.96	42'-0"
P-101	2226+59.28	25.21	21.04	10.06		-20.96	42'-0"
P-102	2226+54.28	25.22	21.05	10.07		-20.95	42'-0"
P-103	2226+49.28	25.22	21.06	10.07		-20.94	42'-0"
P-104	2226+44.28	25.23	21.06	10.08		-20.94	42'-0"
P-105	2226+39.28	25.24	21.07	10.09		-20.93	42'-0"
P-106	2226+34.28	25.24	21.08	10.09		-20.92	42'-0"
P-107	2226+29.28	25.25	21.08	10.10		-20.92	42'-0"
P-108	2226+24.28	25.25	21.09	10.11		-20.91	42'-0"
P-109	2226+19.28	25.26	21.09	10.11		-20.91	42'-0"
P-110	2226+14.28	25.26	21.10	10.12		-20.90	42'-0"
P-111	2226+09.28	25.27	21.10	10.12		-20.90	42'-0"
P-112	2226+04.28	25.28	21.11	10.13		-20.89	42'-0"
P-113	2225+99.28	25.28	21.12	10.13		-20.88	42'-0"
P-114	2225+94.28	25.29	21.12	10.14		-20.88	42'-0"
P-115	2225+89.28	25.30	21.13	10.15		-20.87	42'-0"
P-116	2225+84.28	25.29	21.12	10.15		-20.88	42'-0"
P-117	2225+79.28	25.26	21.10	10.16		-20.90	42'-0"
P-118	2225+74.28	25.24	21.07	10.17		-20.84	41'-11"
P-119	2225+69.28	25.22	21.05	10.17		-20.87	41'-11"
P-120	2225+64.28	25.19	21.03	10.18		-20.89	41'-11"
P-121	2225+59.28	25.17	21.00	10.19		-20.83	41'-10"
P-122	2225+54.28	25.15	20.98	10.19		-20.85	41'-10"
P-123	2225+49.28	25.12	20.96	10.20		-20.88	41'-10"
P-124	2225+44.28	25.10	20.93	10.21		-20.82	41'-9"
P-125	2225+39.28	25.08	20.91	10.21		-20.84	41'-9"
P-126	2225+34.28	25.05	20.89	10.22		-20.86	41'-9"
P-127	2225+29.28	25.03	20.86	10.23		-20.80	41'-8"
P-128	2225+24.28	25.01	20.84	10.23		-20.83	41'-8"
P-129	2225+19.28	24.98	20.82	10.24		-20.77	41'-7"
P-130	2225+14.28	24.96	20.79	10.25		-20.79	41'-7"
P-131	2225+09.28	24.94	20.77	10.25	W24x176	-20.81	41'-7"

**PILE LAYOUT**

Pile	Station at Working Point	Top of Parapet El.	Top of Pile El.	Bot. of Wall El.	Section	Pile Tip El.	Pile Length
P-131	2225+04.28	24.91	20.75	10.26	W24x176	-20.75	41'-6"
P-132	2224+99.28	24.89	20.72	10.27		-20.78	41'-6"
P-133	2224+93.78	24.86	20.70	10.26		-20.80	41'-6"
P-134	2224+87.78	24.84	20.67	10.24		-20.83	41'-6"
P-135	2224+81.78	24.81	20.64	10.22		-20.86	41'-6"
P-136	2224+75.78	24.78	20.61	10.20		-20.89	41'-6"
P-137	2224+69.78	24.75	20.58	10.17		-20.83	41'-5"
P-138	2224+63.78	24.72	20.56	10.15		-20.86	41'-5"
P-139	2224+57.78	24.70	20.53	10.13		-20.89	41'-5"
P-140	2224+51.78	24.67	20.50	10.11		-20.92	41'-5"
P-141	2224+45.78	24.64	20.47	10.09			



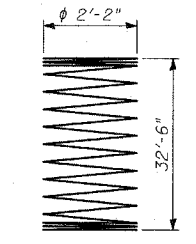
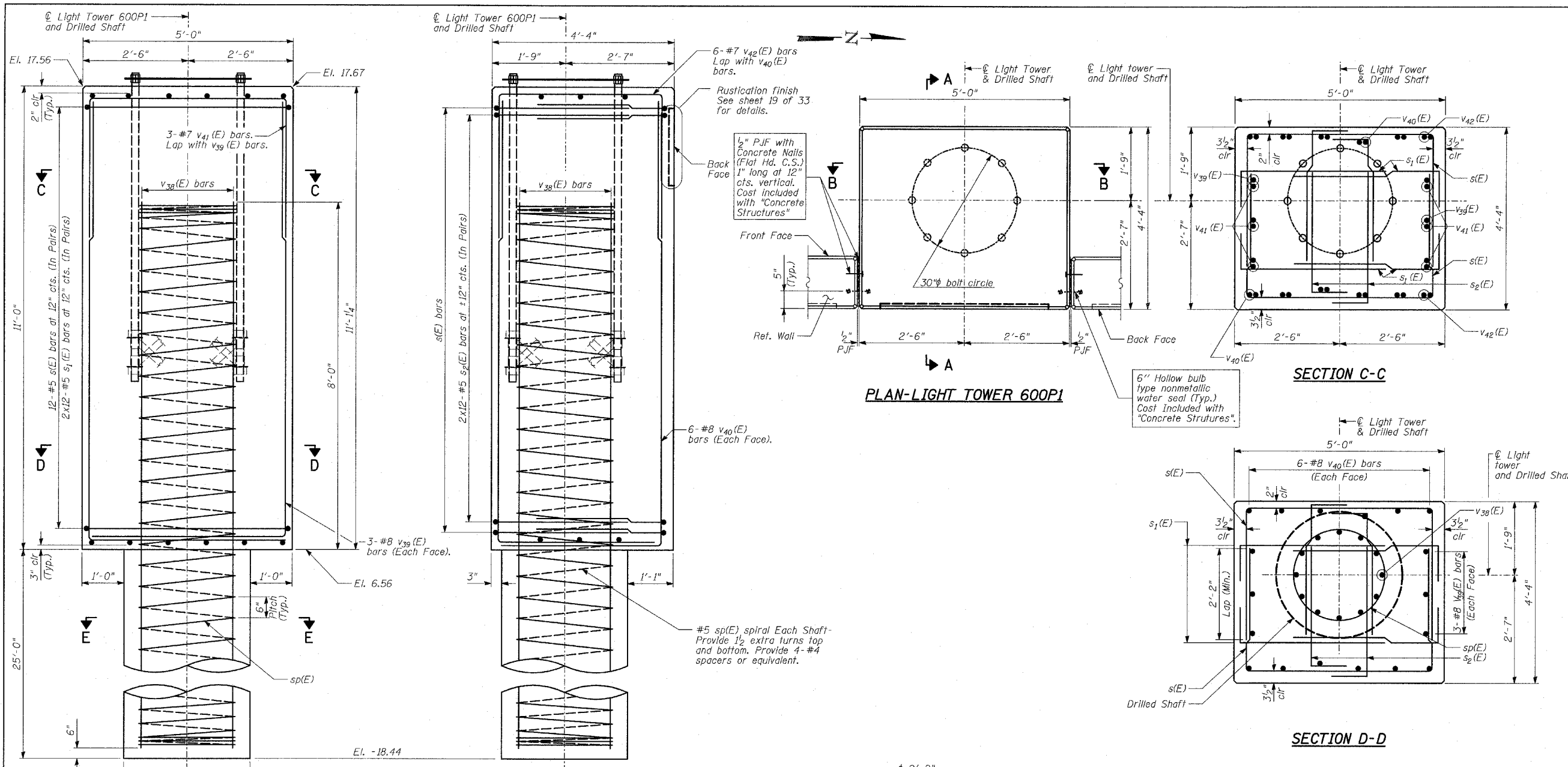
**BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
s (E)	24	#5	10'-7"	□
s <sub>1</sub> (E)	48	#5	4'-2"	□
s <sub>2</sub> (E)	48	#5	3'-11"	□
sp (E)	1	#5	32'-6"	
v <sub>38</sub> (E)	12	#10	32'-6"	—
v <sub>39</sub> (E)	6	#8	14'-10"	L
v <sub>40</sub> (E)	12	#8	14'-3"	L
v <sub>41</sub> (E)	3	#7	11'-2"	□
v <sub>42</sub> (E)	6	#7	10'-8"	□
Reinforcement Bars, Epoxy Coated			POUND	3,730
Structure Excavation			CU YD	4
Concrete Structures			CU YD	9
Protective Coat			SQ YD	13
Rustication Finish			SQ FT	8
Drilled Shaft in Soil 36"			FOOT	25

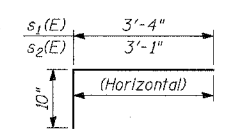
Reinforcement bars designated (E) shall be epoxy coated.

**NOTES:**

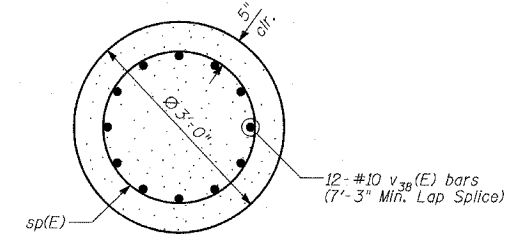
- The design loads are based on AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals-2001.
- Drilled shafts shall be installed according to IDOT special provisions for "Drilled Shafts".
- Protective Coat shall be applied to exposed surfaces of the new concrete wall and tower base.
- At all locations where reinforcement bar laps are not in direct contact, the Contractor shall provide sufficient spacing between the vertical bars, equal to the size of the largest concrete aggregate plus 1/2 inch.
- For location of drilled shaft, see Sheet 3 of 33.
- Conduit is not shown for clarity. For location of conduit, see Sheet 16 of 33.
- Cost of anchor rod assembly, conduit and wires for grounding are included with "Concrete Structures".
- Minimum lap for spirals = 2'-6"



BAR sp(E)



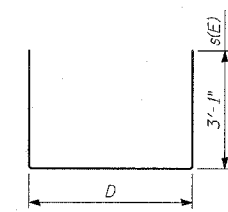
BARS s<sub>1</sub>(E) & s<sub>2</sub>(E)



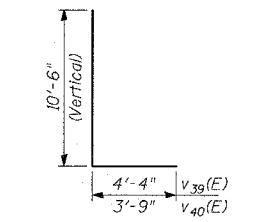
SECTION E-E

**MARK TABLE**

Bar	D
s (E)	4'-5"
v <sub>41</sub> (E)	4'-4"
v <sub>42</sub> (E)	3'-10"



BARS s(E), v<sub>41</sub>(E) & v<sub>42</sub>(E)



BARS v<sub>39</sub>(E) & v<sub>40</sub>(E)

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION  
**F.A.I. 94 (DAN RYAN EXPRESSWAY)**  
**RETAINING WALL ALONG STATE ST.**  
**93RD ST. TO 91ST ST.**  
**WALL 2B - LIGHT TOWER 600P1**  
**FOUNDATION DETAIL**  
 S.N. 016-W961 DESIGNED BY: MI, DJR  
 SCALE: N.T.S. DRAWN BY: DJR, MAF  
 DATE: MARCH 18, 2005 CHECKED BY: TD, MI

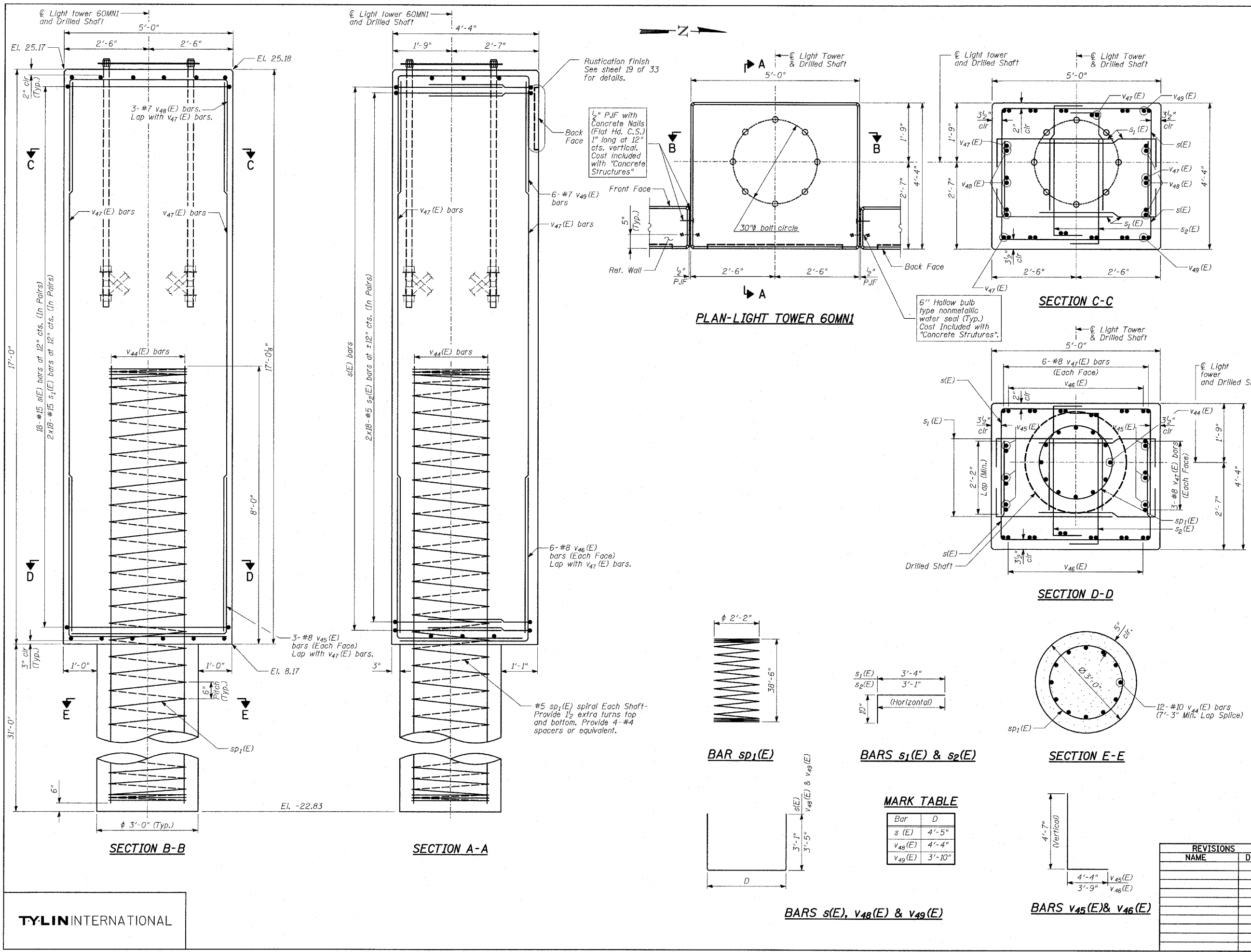
**BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
s (E)	36	#5	10'-7"	□
s <sub>1</sub> (E)	72	#5	4'-2"	□
s <sub>2</sub> (E)	72	#5	3'-11"	□
sp <sub>1</sub> (E)	1	#5	38'-6"	
v <sub>44</sub> (E)	12	#10	38'-6"	—
v <sub>45</sub> (E)	6	#8	8'-11"	L
v <sub>46</sub> (E)	12	#8	8'-4"	L
v <sub>47</sub> (E)	18	#8	16'-6"	—
v <sub>48</sub> (E)	3	#7	11'-2"	□
v <sub>49</sub> (E)	6	#7	10'-8"	□
Reinforcement Bars, Epoxy Coated		POUND	4,970	
Structure Excavation		CU YD	13	
Concrete Structures		CU YD	14	
Protective Coat		SQ YD	21	
Rustication Finish		SQ FT	8	
Drilled Shaft in Soil 36"		FOOT	31	

Reinforcement bars designated (E) shall be epoxy coated.

**NOTES:**

- The design loads are based on AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals-2001.
- Drilled shafts shall be installed according to IDOT special provisions for "Drilled Shafts".
- Protective Coat shall be applied to exposed surfaces of the new concrete wall and tower base.
- At all locations where reinforcement bar laps are not in direct contact, the Contractor shall provide sufficient spacing between the vertical bars, equal to the size of the largest concrete aggregate plus 1/2 inch.
- For location of drilled shaft, see Sheet 6 of 33.
- Conduit is not shown for clarity. For location of conduit, see Sheet 16 of 33.
- Cost of anchor rod assembly, conduit and wires for grounding are included with "Concrete Structures".
- Minimum lap for spirals = 2'-6"



TYLIN INTERNATIONAL

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION  
**F.A.I. 94 (DAN RYAN EXPRESSWAY)**  
**RETAINING WALL ALONG STATE ST.**  
**93RD ST. TO 91ST ST.**  
**WALL 2B - LIGHT TOWER 60MNI**  
**FOUNDATION DETAILS**

S.N. 016-W961      DESIGNED BY: MI, DJR  
SCALE: N.T.S.      DRAWN BY: DJR, MAF  
DATE: MARCH 18, 2005      CHECKED BY: TD, MI

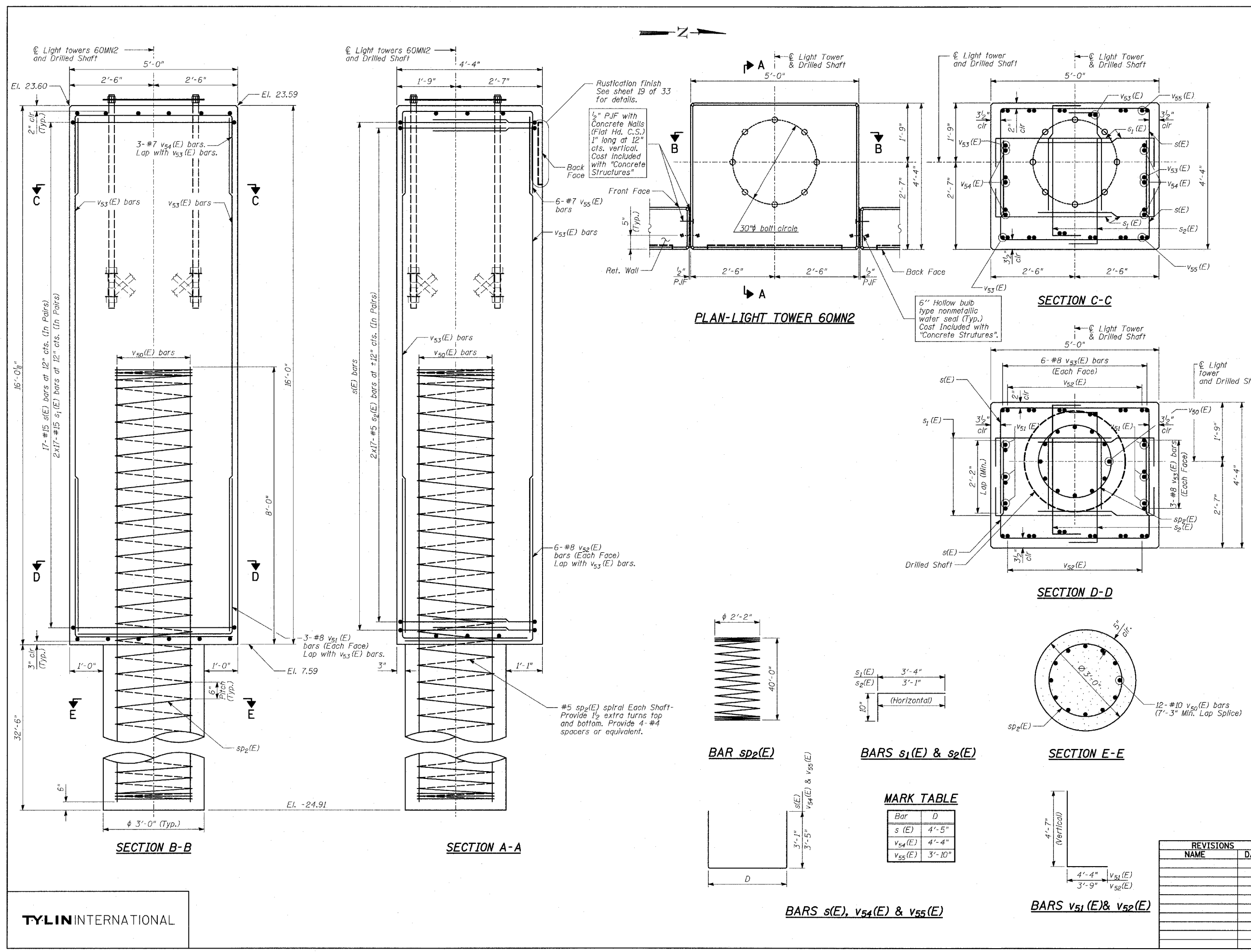
**BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
s (E)	34	#5	10'-7"	□
s <sub>1</sub> (E)	68	#5	4'-2"	□
s <sub>2</sub> (E)	68	#5	3'-11"	□
sp <sub>2</sub> (E)	1	#5	40'-0"	
v <sub>50</sub> (E)	12	#10	40'-0"	—
v <sub>51</sub> (E)	6	#8	8'-11"	L
v <sub>52</sub> (E)	12	#8	8'-4"	L
v <sub>53</sub> (E)	18	#8	15'-6"	—
v <sub>54</sub> (E)	3	#7	11'-2"	□
v <sub>55</sub> (E)	6	#7	10'-8"	□
Reinforcement Bars, Epoxy Coated		POUND	4,960	
Structure Excavation		CU YD	11	
Concrete Structures		CU YD	13	
Protective Coat		SQ FT	20	
Rustication Finish		SQ FT	8	
Drilled Shaft in Soil 36"		FOOT	33	

Reinforcement bars designated (E) shall be epoxy coated.

**NOTES:**

- The design loads are based on AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals-2001.
- Drilled shafts shall be installed according to IDOT special provisions for "Drilled Shafts".
- Protective Coat shall be applied to exposed surfaces of the new concrete wall and tower base.
- At all locations where reinforcement bar laps are not in direct contact, the Contractor shall provide sufficient spacing between the vertical bars, equal to the size of the largest concrete aggregate plus 1/2 inch.
- For location of drilled shaft, see Sheet 9 of 33.
- Conduit is not shown for clarity. For location of conduit, see Sheet 16 of 33.
- Cost of anchor rod assembly, conduit and wires for grounding are included with "Concrete Structures".
- Minimum lap for spirals = 2'-6"



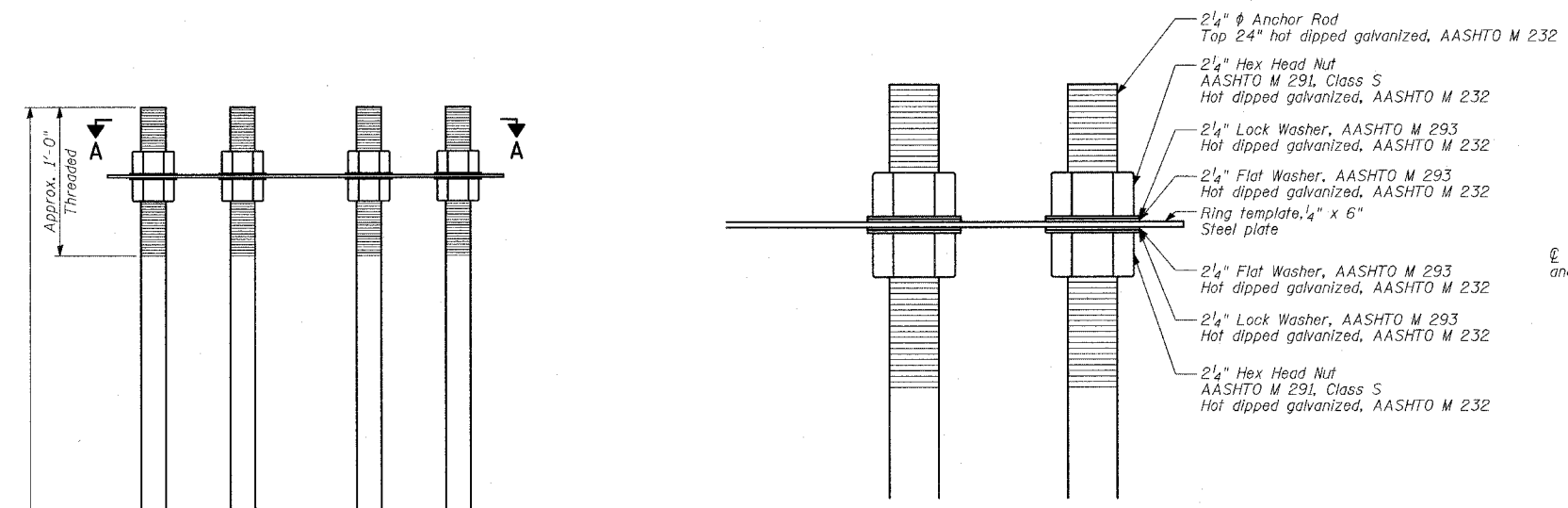
TYLIN INTERNATIONAL

REVISIONS	
NAME	DATE

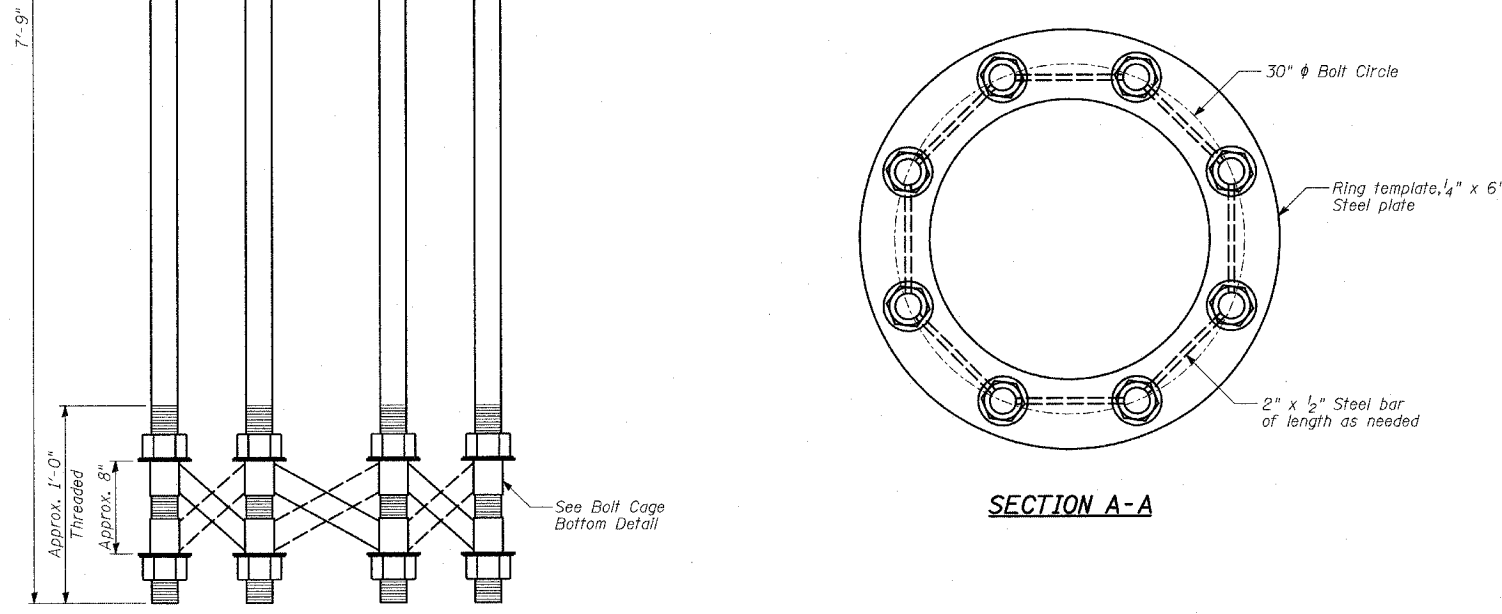
ILLINOIS DEPARTMENT OF TRANSPORTATION  
**F.A.I. 94 (DAN RYAN EXPRESSWAY)**  
**RETAINING WALL ALONG STATE ST.**  
**93RD ST. TO 91ST ST.**  
**WALL 2B - LIGHT TOWER 60MN2**  
**FOUNDATION DETAILS**  
 S.N. 016-W961 DESIGNED BY: MI, DJR  
 SCALE: N.T.S. DRAWN BY: DJR, MAF  
 DATE: MARCH 18, 2005 CHECKED BY: TD, MI



F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94		COOK	860	465
STA. 2200+00.00		TO STA. 2362+00.00		
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT	
		(1516.1, 1717 & 1818) R-8		62694

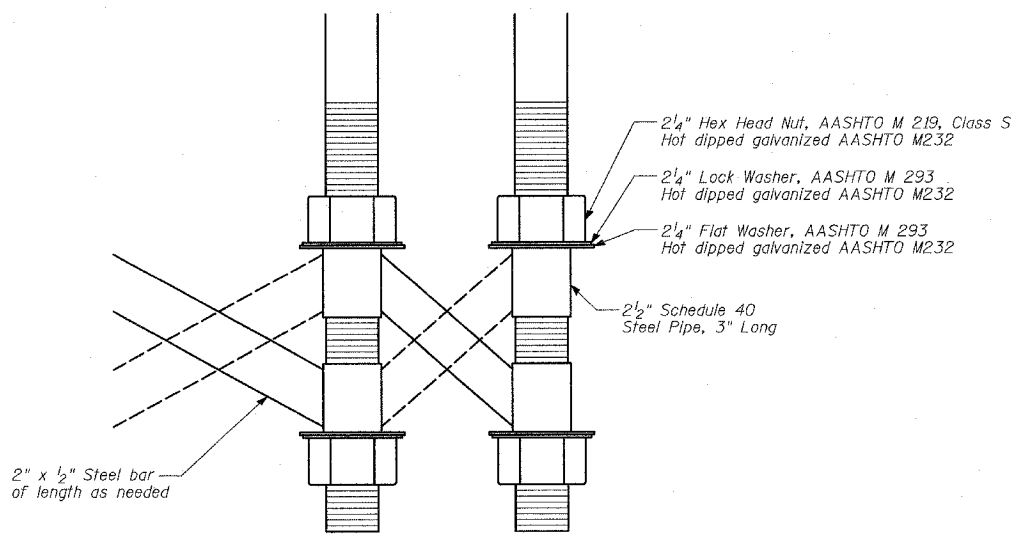


**BOLT CAGE TOP**

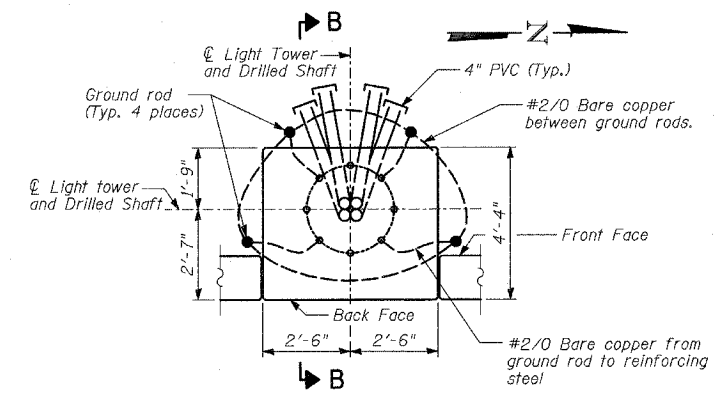


**SECTION A-A**

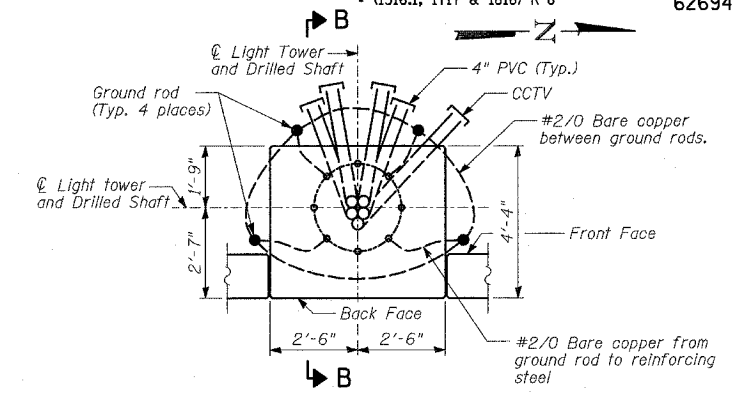
**ANCHOR BOLT CAGE**



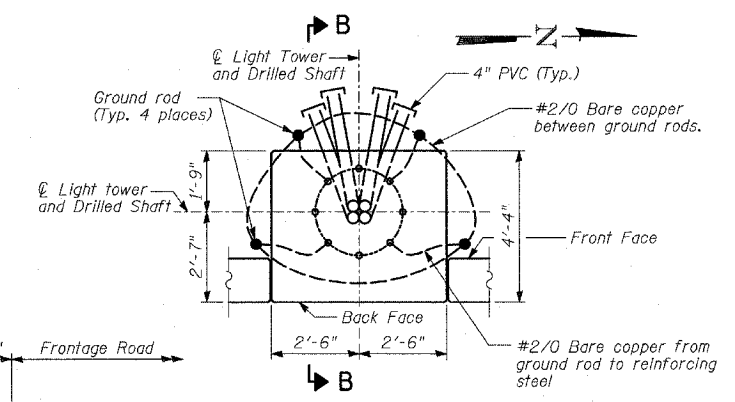
**BOLT CAGE BOTTOM**



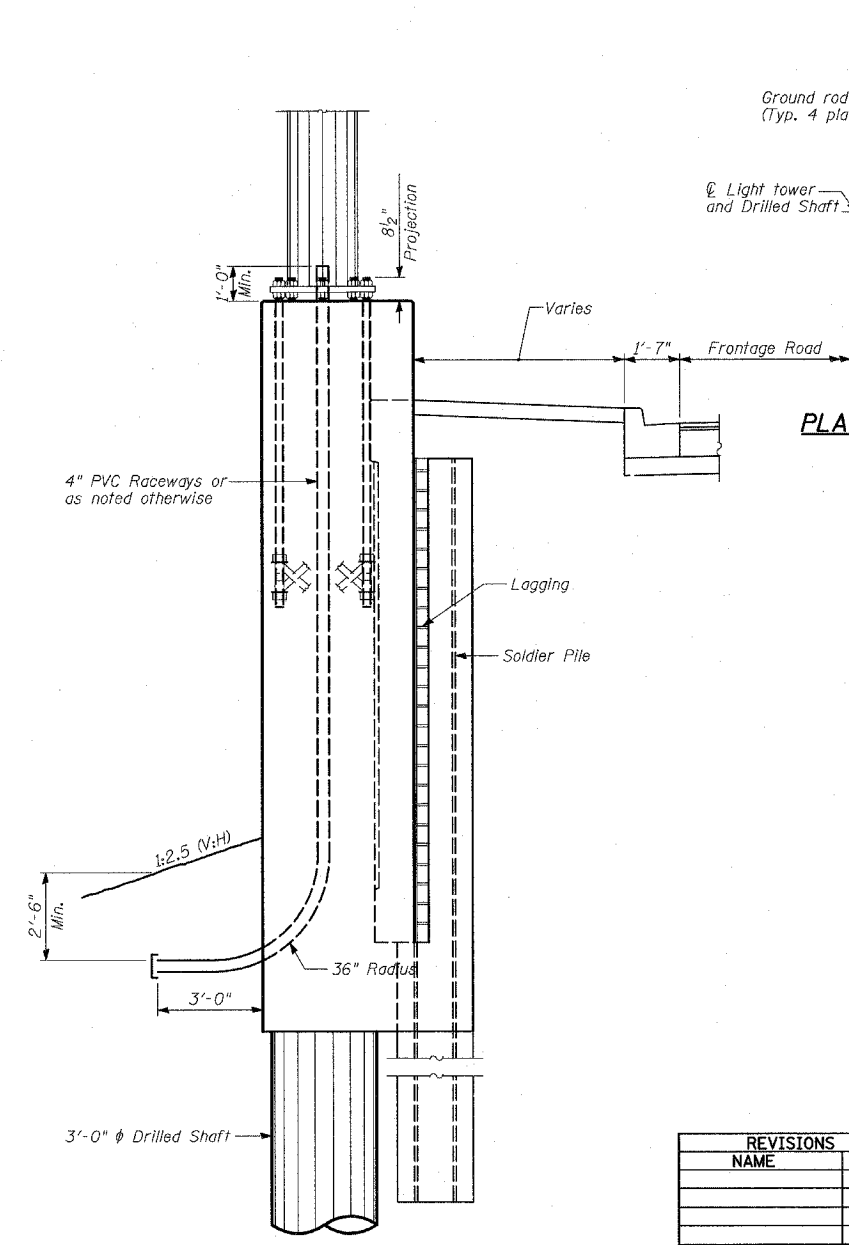
**PLAN - 60MN2 CONDUIT PLACEMENT**



**PLAN - 60MN1 CONDUIT PLACEMENT**



**PLAN - 600P1 CONDUIT PLACEMENT**



**SECTION B-B**

- NOTES:**
- Anchor rods shall be straight and shall be according to AASHTO M 314 or ASTM F1554, Grade 105 and galvanized according to Article 1006.09.
  - Anchor rod information shall be submitted for approval and shall be fully coordinated with tower manufacturer's requirements.
  - The Anchor Rods shall be vertical. No adjustment shall be allowed after the foundation is placed.
  - The gap between the foundation and the base plate shall be enclosed with a stainless steel screen fastened with a stainless steel band.
  - The Light Tower shall not be erected until after the concrete has been cured according to Article 1020.13.
  - Two anchor rods opposite each other shall have the anchor rod threads peened after nuts are installed.
  - Refer to BES01 for details.

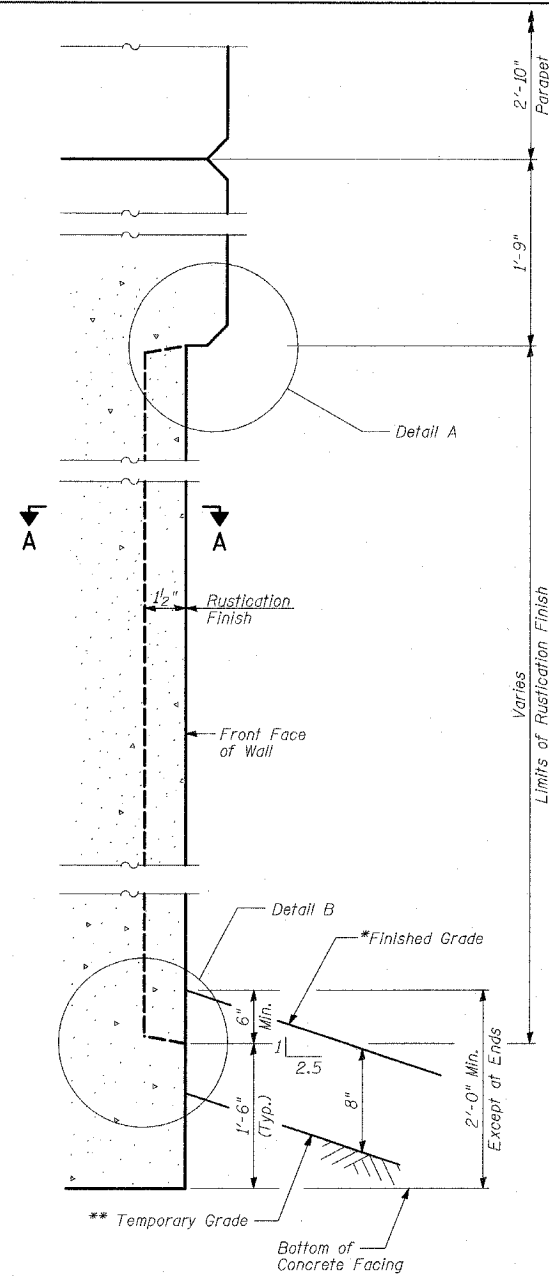
REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION  
**F.A.I. 94 (DAN RYAN EXPRESSWAY)  
 RETAINING WALL ALONG STATE ST.  
 93RD ST. TO 91ST ST.  
 WALL 2B  
 LIGHT TOWER DETAILS**

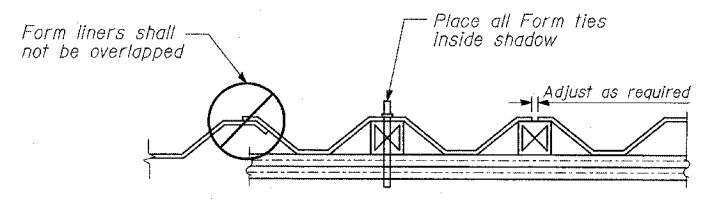
S.N. 016-W961      DESIGNED BY: MI, DJR  
 SCALE: N.T.S.      DRAWN BY: DJR, MAF  
 DATE: MARCH 18, 2005      CHECKED BY: TD, MI



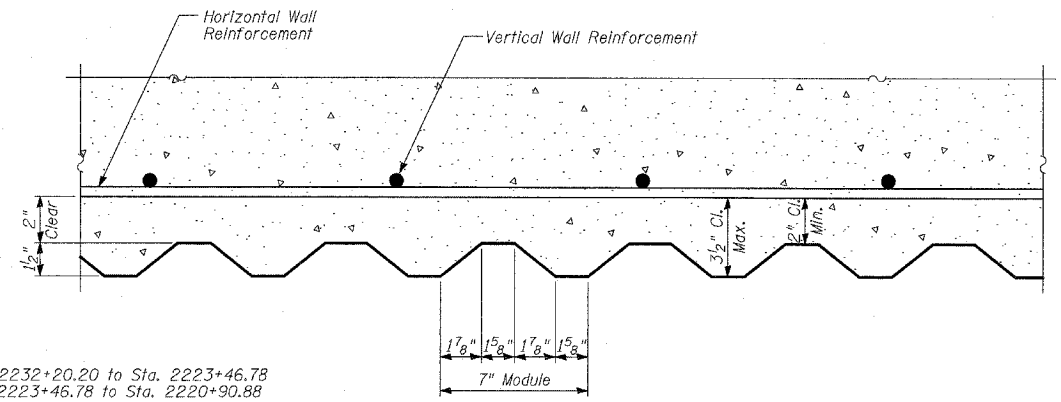




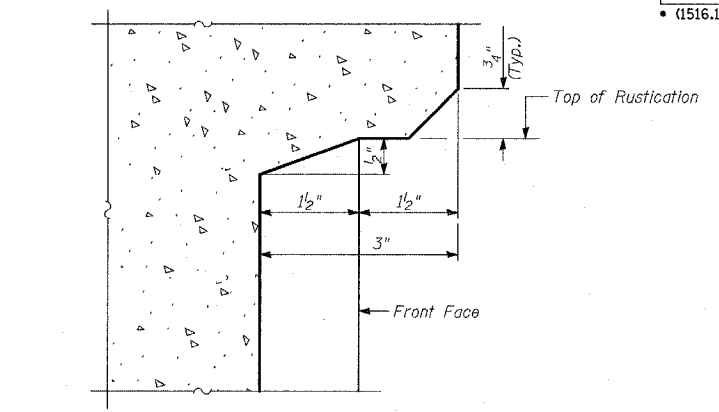
**WALL DETAIL AT FLUTED PARAPET**



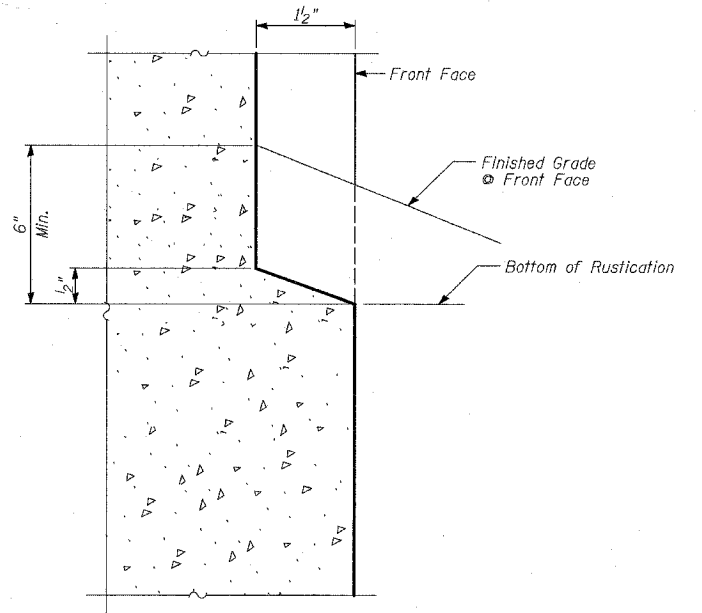
**SUGGESTED FORMWORK DETAIL**



**SECTION A-A**



**DETAIL A**



**DETAIL B**

\* Contract 62304 Sta. 2232+20.20 to Sta. 2223+46.78  
 Contract 62694 Sta. 2223+46.78 to Sta. 2220+90.88  
 \*\* Contract 62694 Sta. 2232+20.20 to Sta. 2223+46.78

**BILL OF MATERIAL**

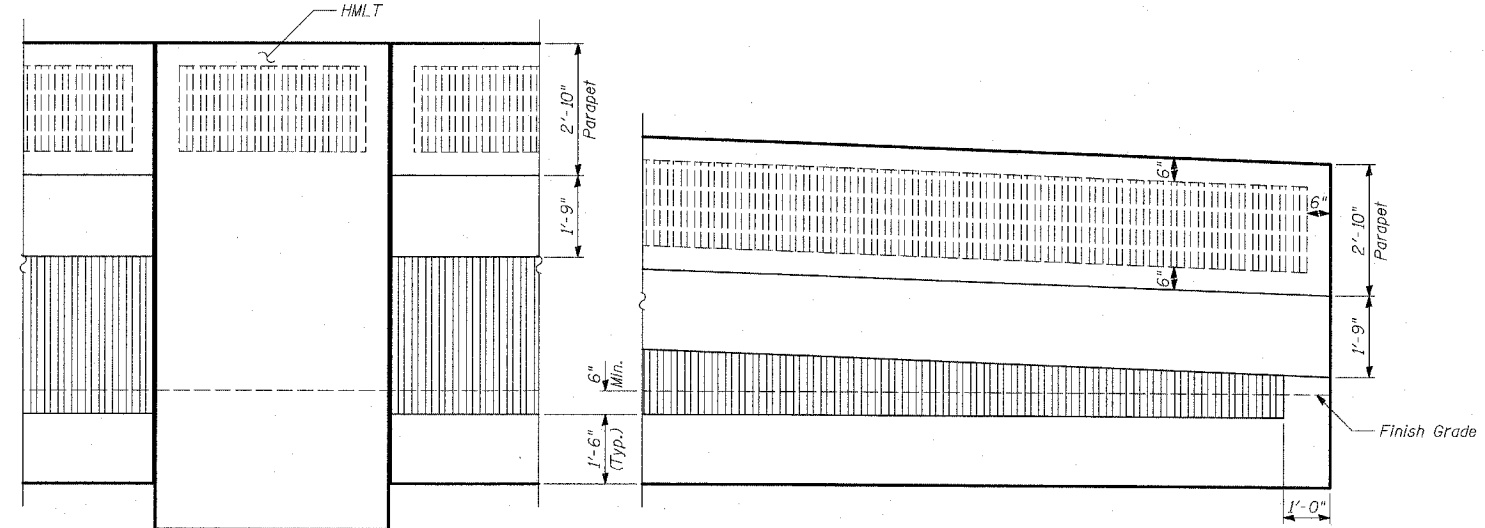
ITEM	UNIT	TOTAL
Rustication Finish	SQ FT	11,051

**NOTES**

1. See Sheet 18 of 33 for expansion and construction joint details.

**LEGEND**

HMLT - denotes High Mast Light Tower.



**RUSTICATION DETAIL**  
(At HMLT with Embankment)

**RUSTICATION DETAIL**  
(At End Panel with Embankment)

**TYLIN INTERNATIONAL**

REVISIONS	
NAME	DATE
REVISED	04/15/05

ILLINOIS DEPARTMENT OF TRANSPORTATION  
 F.A.I. 94 (DAN RYAN EXPRESSWAY)  
 RETAINING WALL ALONG STATE ST.  
 93RD ST. TO 91ST ST.  
 WALL 2B  
 RUSTICATION DETAILS  
 S.N. 016-W961  
 SCALE: N.T.S.  
 DATE: MARCH 18, 2005

DESIGNED BY: MI, DJR  
 DRAWN BY: DJR, MAF  
 CHECKED BY: TD, MI













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Lombard, IL 60148  
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Fax: 630 953-9938

**BORING LOG SB 02-01**

Page 1 of 1

WEI Job No.: 414-07-01  
Client: T. Y. LIN International  
Project: Dan Ryan Improvements; IDOT No. D-91-421-01  
Location: From 95th Street to South of 69th Street

Datum: CCD  
Elevation: 13.52 ft  
North: 1844575.05 ft  
East: 1177883.10 ft  
Station: 2232+05.1  
Offset: 135.477' RT

Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample No.	SPT Values (blows/6 in)	Qu (tsf)	Moisture Content (%)	Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample No.	N Values (blows/6 in)	Qu (tsf)	Moisture Content (%)
13.52	2-Inch thick, ASPHALT --PAVEMENT--												
12.5	10-Inch thick, CONCRETE --PAVEMENT--												
	Loose to medium dense, brown SANDY LOAM --FILL--	1	7	7	NP	14			11	5	7	9	5.08
		2	10	4	NP	16			12	5	7	9	4.76
8.8	Stiff to hard, brown and gray CLAY	3	2	2	2.54	18			13	6	11	16	6.67
		4	6	8	5.33	17			14	6	11	16	6.67
		5	6	5	4.35	18	22.5	Very dense, gray SILTY LOAM, with gravel					
		6	6	5	2.62	17	23.9	Boring terminated at 37.40 ft					
		7	2	3	1.31	19							
4.5	Very stiff to hard, gray SILTY CLAY, with gravel	8	4	8	4.43	12							
		9	4	5	3.53	13							
		10	4	8	5.25	11							

GENERAL NOTES				WATER LEVEL DATA			
Begin Drilling	01-13-2004	Complete Drilling	01-13-2004	White Drilling	∇	DRY	
Drilling Contractor	Patrick Drilling	Drill Rig	CME 75 TMR	At Completion of Drilling	∇	DRY	
Driller	J&B	Logger	K. Jacob	Time After Drilling	NA		
Drilling Method	3.25" ID HSA; Boring backfilled with bentonite upon completion			Depth to Water	∇	NA	
The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.							

**W** Wang Engineering, INC.  
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Fax: 630 953-9938

**BORING LOG SB 02-02**

Page 1 of 1

WEI Job No.: 414-07-01  
Client: T. Y. LIN International  
Project: Dan Ryan Improvements; IDOT No. D-91-421-01  
Location: From 95th Street to South of 69th Street

Datum: CCD  
Elevation: -4.45 ft  
North: 1844508.44 ft  
East: 1177804.49 ft  
Station: 2231+40.7  
Offset: 54.993' RT

Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample No.	SPT Values (blows/6 in)	Qu (tsf)	Moisture Content (%)	Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample No.	N Values (blows/6 in)	Qu (tsf)	Moisture Content (%)
-5.2	8-Inch thick, CONCRETE --PAVEMENT--												
	Stiff, brown and gray CLAY LOAM, with gravel --FILL--	1	13	24	NP	12			1	13	24	9	NP
-7.5	Very stiff to hard, gray SILTY CLAY, with gravel	2	8	7	3.77	12			2	8	7	6	3.77
		3	7	11	4.10	11			3	7	11	10	4.10
		4	7	9	4.02	12			4	7	9	9	4.02
		5	7	9	3.94	11			5	7	9	12	3.94
		6	3	11	5.00	11			6	3	11	15	5.00
-20.0	Very dense, gray SILTY LOAM, with gravel	7	15	25	NP	9			7	15	25	33	NP
		8	10	5	NP	10			8	10	5	24	NP
-24.0	Boring terminated at 19.50 ft												

GENERAL NOTES				WATER LEVEL DATA			
Begin Drilling	02-04-2004	Complete Drilling	02-04-2004	White Drilling	∇	DRY	
Drilling Contractor	Patrick Drilling	Drill Rig	CME 75 TMR	At Completion of Drilling	∇	DRY	
Driller	J&L	Logger	K. Jacob	Time After Drilling	NA		
Drilling Method	3.25" ID HSA; Boring backfilled with bentonite upon completion			Depth to Water	∇	NA	
The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.							



REVISIONS	
NAME	DATE

SHEET 25 OF 33

ILLINOIS DEPARTMENT OF TRANSPORTATION  
F.A.I. 94 (DAN RYAN EXPRESSWAY)  
RETAINING WALL ALONG STATE ST.  
93RD ST. TO 91ST ST.  
WALL 2B  
BORING LOGS SB02-01 & SB02-02

S.N. 016-W961      DESIGNED BY: DJR  
SCALE: N.T.S.      DRAWN BY: DJR  
DATE: MARCH 18, 2005      CHECKED BY: TD

**Wang Engineering, INC.**  
 Consulting Geotechnical and Environmental Engineers  
 wangeng3@wangeng.com  
 1145 Main Street  
 Lombard, IL 60148  
 Telephone: 630 953-9928  
 Fax: 630 953-9938

**BORING LOG SB 02-03** Page 1 of 1

WEI Job No.: 414-07-01  
 Client: T. Y. LIN International  
 Project: Dan Ryan Improvements; IDOT No. D-91-421-01  
 Location: From 95th Street to South of 69th Street

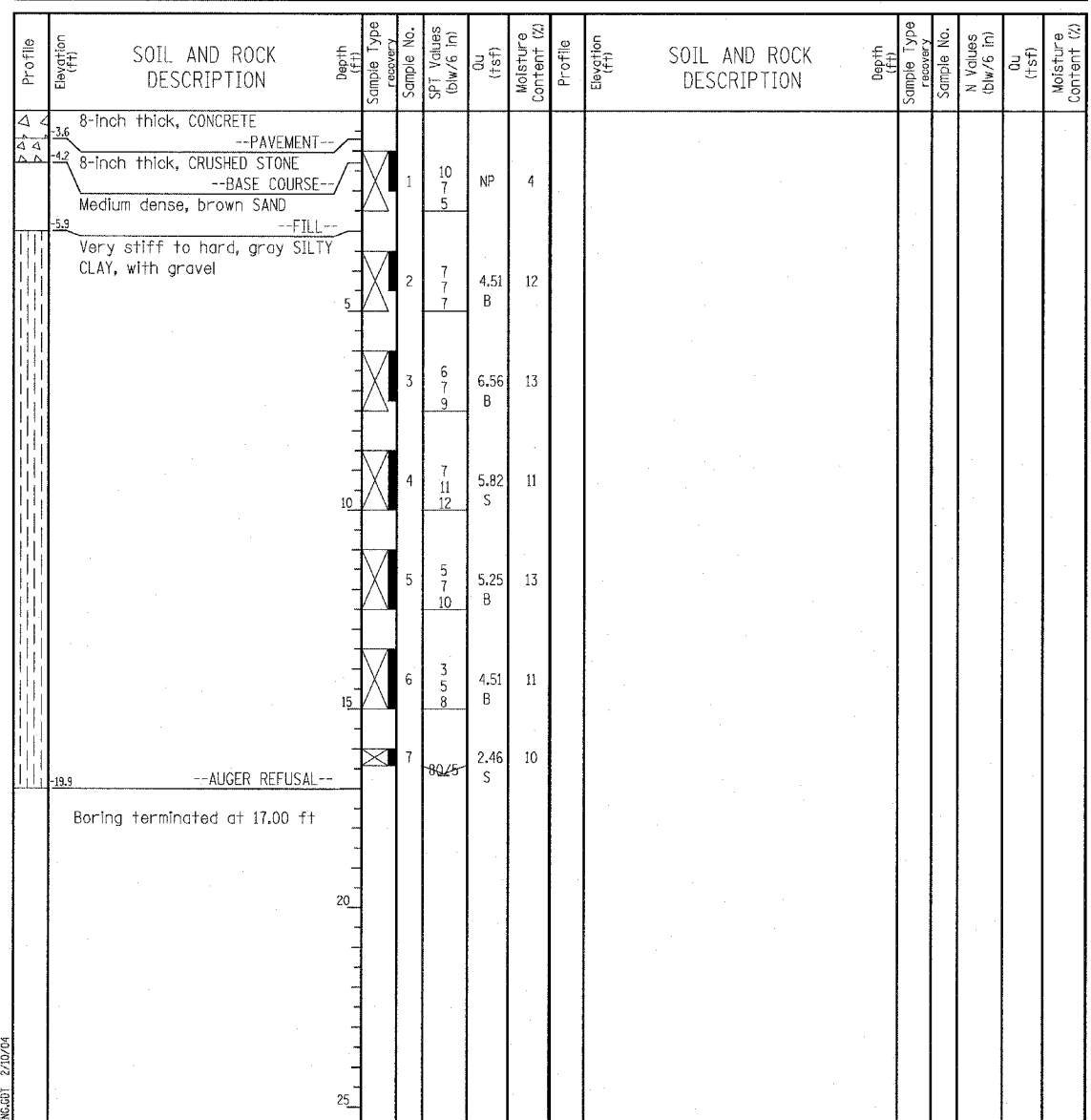
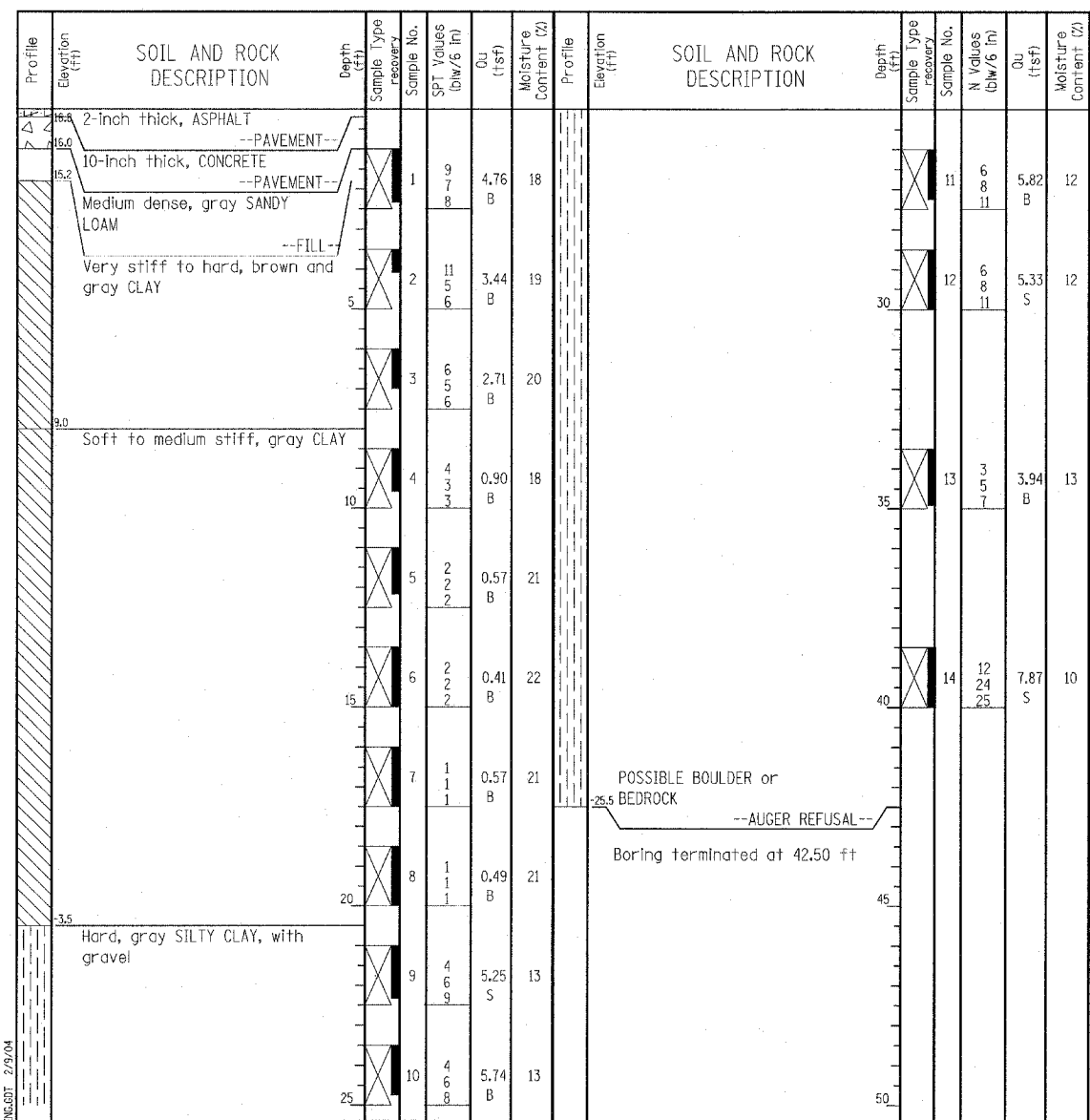
Datum: CCO  
 Elevation: 16.98 ft  
 North: 1844422.99 ft  
 East: 1177886.99 ft  
 Station: 2230+52.9  
 Offset: 135.013' RT

**Wang Engineering, INC.**  
 Consulting Geotechnical and Environmental Engineers  
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 1145 Main Street  
 Lombard, IL 60148  
 Telephone: 630 953-9928  
 Fax: 630 953-9938

**BORING LOG SB 02-04** Page 1 of 1

WEI Job No.: 414-07-01  
 Client: T. Y. LIN International  
 Project: Dan Ryan Improvements; IDOT No. D-91-421-01  
 Location: From 95th Street to South of 69th Street

Datum: CCO  
 Elevation: -2.86 ft  
 North: 1844345.87 ft  
 East: 1177812.61 ft  
 Station: 2229+78.0  
 Offset: 58.453' RT



GENERAL NOTES				WATER LEVEL DATA			
Begin Drilling	01-13-2004	Complete Drilling	01-13-2004	While Drilling	∇	DRY	
Drilling Contractor	Patrick Drilling	Drill Rig	CME 75 TMR	At Completion of Drilling	∇	DRY	
Driller	J&B	Logger	K. Jacob	Time After Drilling	NA		
Checked by	N. Davis	Depth to Water	∇	NA			
Drilling Method 3.25" ID HSA; Boring backfilled with bentonite upon completion							
The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.							

GENERAL NOTES				WATER LEVEL DATA			
Begin Drilling	02-04-2004	Complete Drilling	02-04-2004	While Drilling	∇	DRY	
Drilling Contractor	Patrick Drilling	Drill Rig	CME 75 TMR	At Completion of Drilling	∇	DRY	
Driller	J&L	Logger	K. Jacob	Time After Drilling	NA		
Checked by	N. Davis	Depth to Water	∇	NA			
Drilling Method 3.25" ID HSA; Boring backfilled with bentonite upon completion							
The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.							



REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION  
 F.A.I. 94 (DAN RYAN EXPRESSWAY)  
 RETAINING WALL ALONG STATE ST.  
 93RD ST. TO 91ST ST.  
 WALL 2B  
 BORING LOGS SB02-03 & SB02-04  
 S.N. 016-W961  
 SCALE: N.T.S.  
 DATE: MARCH 18, 2005

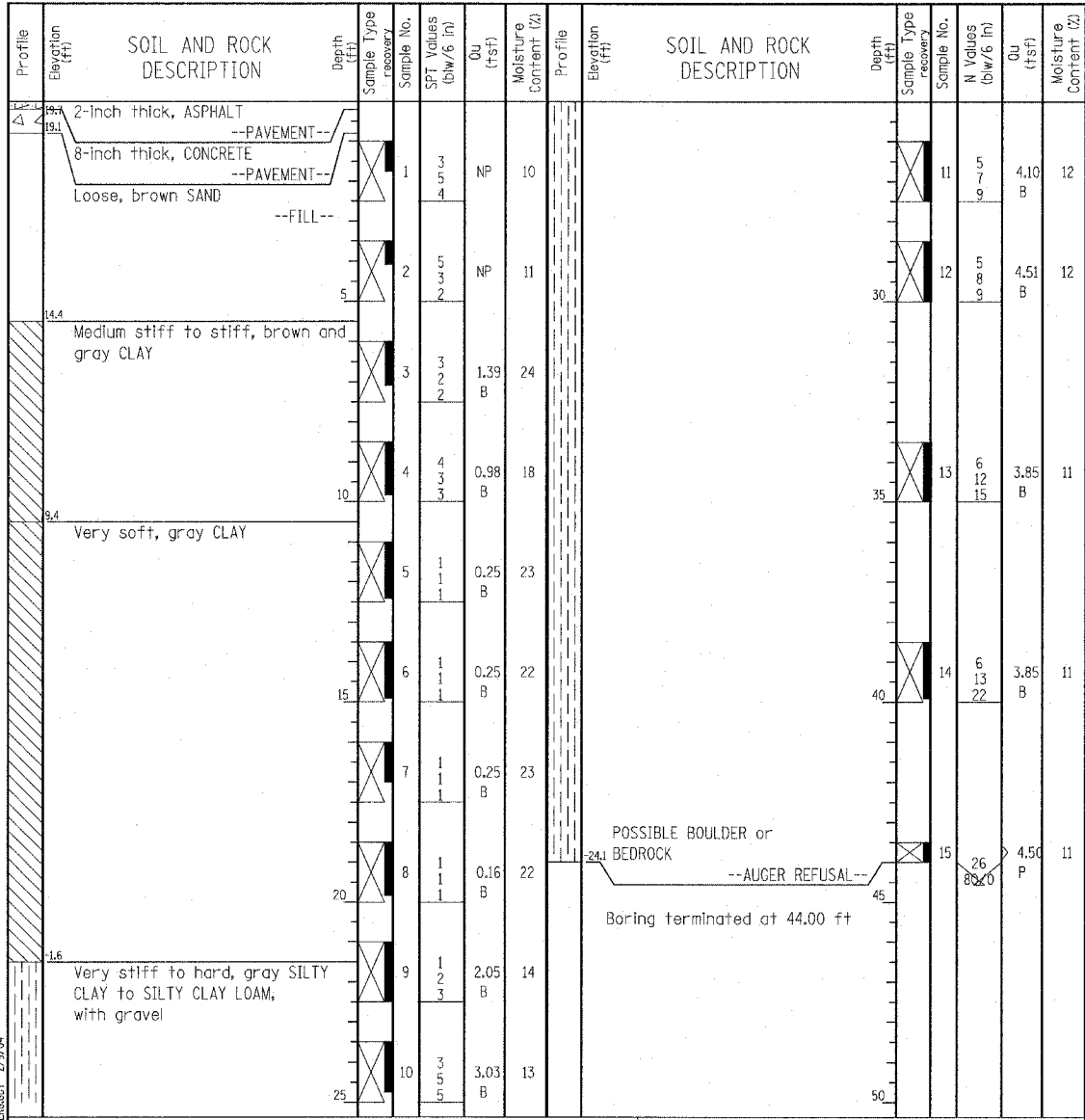
DESIGNED BY: DJR  
 DRAWN BY: DJR  
 CHECKED BY: TD

**Wang Engineering, INC.**  
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**BORING LOG SB 02-05** Page 1 of 1

WEI Job No.: 414-07-01  
 Client: T. Y. LIN International  
 Project: Dan Ryan Improvements; IDOT No. D-91-421-01  
 Location: From 95th Street to South of 69th Street

Datum: CCD  
 Elevation: 19.93 ft  
 North: 1844273.28 ft  
 East: 1177890.70 ft  
 Station: 2229+03.2  
 Offset: 134.44' RT



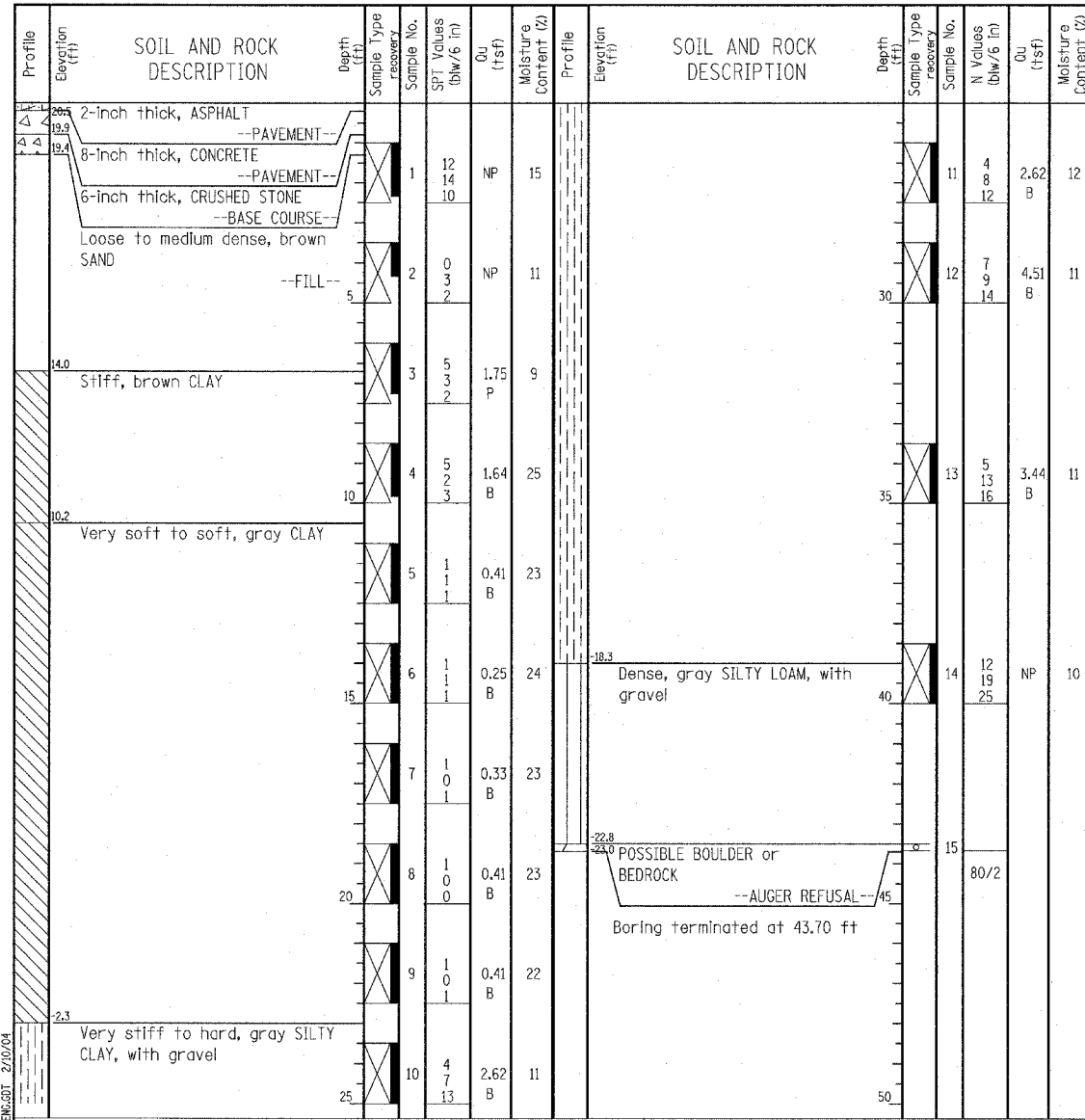
GENERAL NOTES				WATER LEVEL DATA	
Begin Drilling	01-12-2004	Complete Drilling	01-12-2004	While Drilling	∇ DRY
Drilling Contractor	Patrick Drilling	Drill Rig	CME 75 TMR	At Completion of Drilling	∇ DRY
Driller	J&B	Logger	K. Jacob	Time After Drilling	NA
Drilling Method	3.25" ID, HSA; Boring backfilled with bentonite upon completion				

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**BORING LOG SB 02-06** Page 1 of 1

WEI Job No.: 414-07-01  
 Client: T. Y. LIN International  
 Project: Dan Ryan Improvements; IDOT No. D-91-421-01  
 Location: From 95th Street to South of 69th Street

Datum: CCD  
 Elevation: 20.67 ft  
 North: 1844199.16 ft  
 East: 1177892.98 ft  
 Station: 2228+29.9  
 Offset: 134.595' RT



GENERAL NOTES				WATER LEVEL DATA	
Begin Drilling	02-05-2004	Complete Drilling	02-05-2004	While Drilling	∇ DRY
Drilling Contractor	Patrick Drilling	Drill Rig	CME 75 TMR	At Completion of Drilling	∇ DRY
Driller	J&L	Logger	K. Jacob	Time After Drilling	NA
Drilling Method	3.25" ID, HSA; Boring backfilled with bentonite upon completion				

**TYLIN INTERNATIONAL**

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION  
 F.A.I. 94 (DAN RYAN EXPRESSWAY)  
 RETAINING WALL ALONG STATE ST.  
 93RD ST. TO 91ST ST.  
 WALL 2B  
 BORING LOGS SB02-05 & SB02-06  
 S.N. 016-W961  
 SCALE: N.T.S.  
 DATE: MARCH 18, 2005

DESIGNED BY: DJR  
 DRAWN BY: DJR  
 CHECKED BY: TD

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**BORING LOG SB 02-07** Page 1 of 1

WEI Job No.: 414-07-01  
 Client: T. Y. LIN International  
 Project: Dan Ryan Improvements; IDOT No. D-91-421-01  
 Location: From 95th Street to South of 69th Street

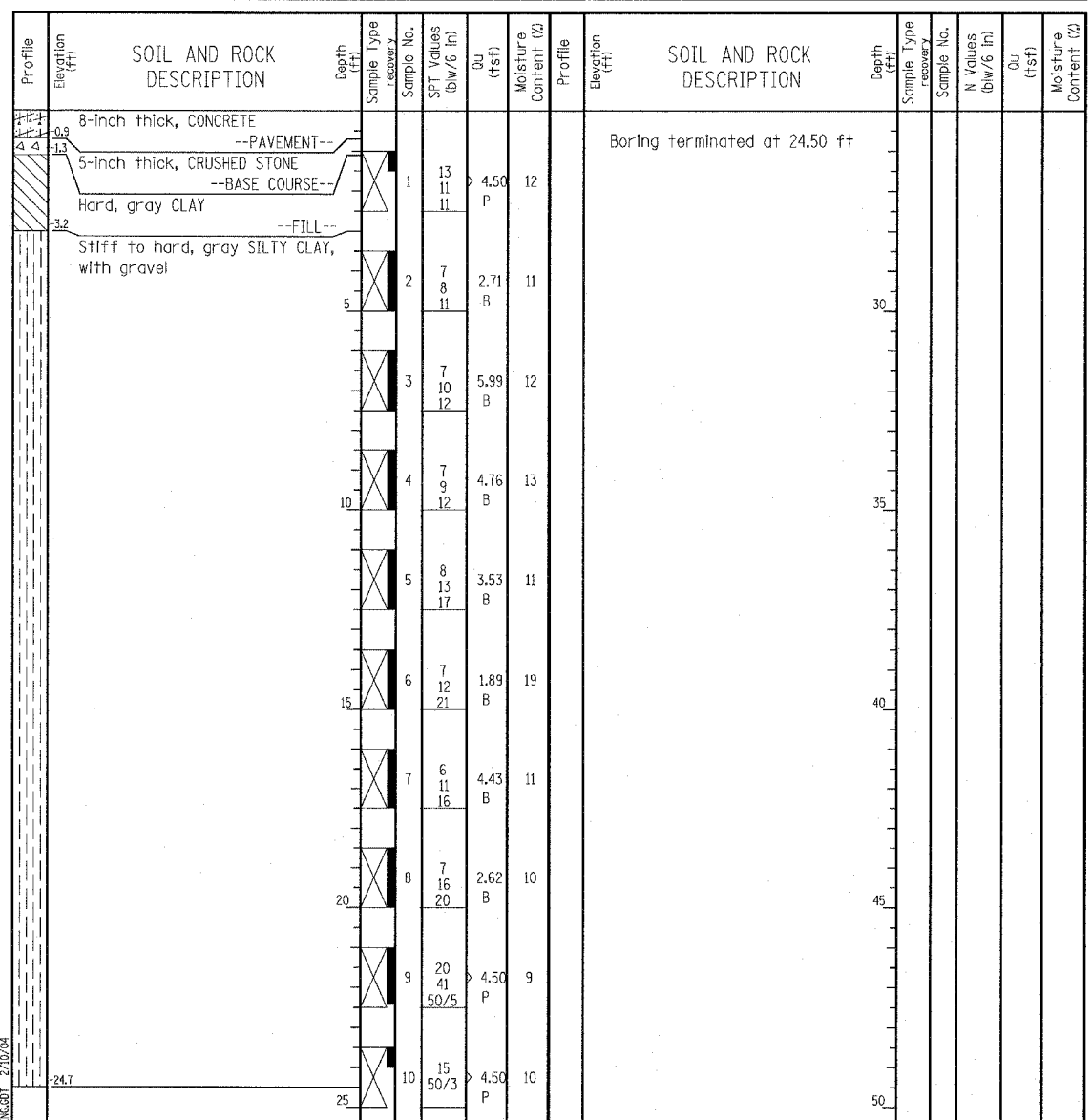
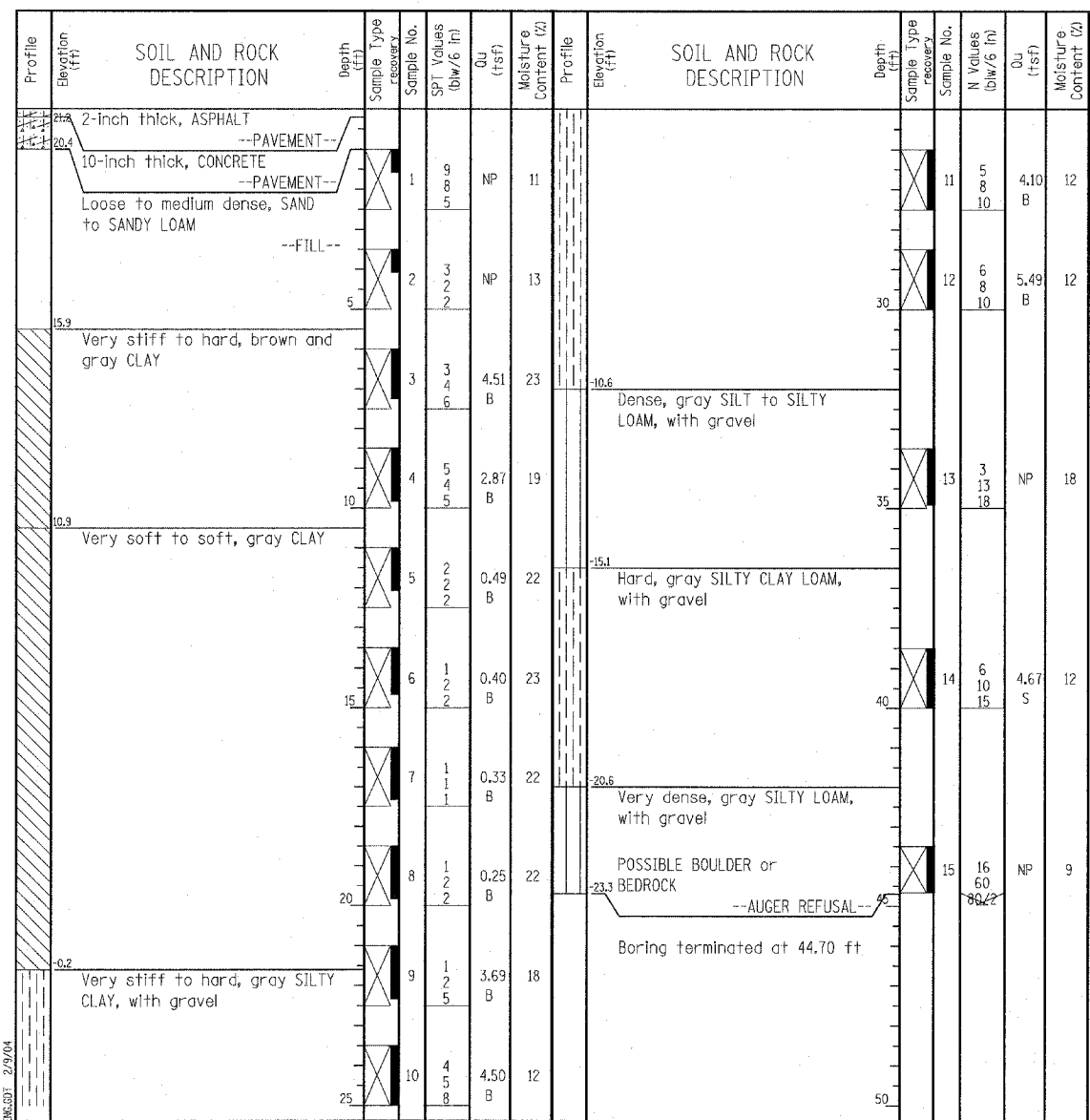
Datum: CCD  
 Elevation: 21.41 ft  
 North: 1844125.05 ft  
 East: 1177895.26 ft  
 Station: 2227+54.9  
 Offset: 134.750' RT

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**BORING LOG SB 02-08** Page 1 of 1

WEI Job No.: 414-07-01  
 Client: T. Y. LIN International  
 Project: Dan Ryan Improvements; IDOT No. D-91-421-01  
 Location: From 95th Street to South of 69th Street

Datum: CCD  
 Elevation: -0.20 ft  
 North: 1844042.40 ft  
 East: 1177826.44 ft  
 Station: 2226+74.3  
 Offset: 63.596' RT



GENERAL NOTES				WATER LEVEL DATA			
Begin Drilling	01-09-2004	Complete Drilling	01-09-2004	While Drilling	∇	DRY	
Drilling Contractor	Patrick Drilling	Drill Rig	CME 75 TMR	At Completion of Drilling	∇	DRY	
Driller	J&L	Logger	K. Jacob	Time After Drilling	NA		
Checked by	N. Davis	Drilling Method	3.25" ID HSA; Boring backfilled with bentonite upon completion	Depth to Water	∇	NA	

GENERAL NOTES				WATER LEVEL DATA			
Begin Drilling	02-04-2004	Complete Drilling	02-04-2004	While Drilling	∇	DRY	
Drilling Contractor	Patrick Drilling	Drill Rig	CME 75 TMR	At Completion of Drilling	∇	DRY	
Driller	T&D	Logger	Y. Shiu	Time After Drilling	NA		
Checked by	N. Davis	Drilling Method	3.25" ID HSA; Boring backfilled with bentonite upon completion	Depth to Water	∇	NA	

**TYLIN INTERNATIONAL**

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION  
 F.A.I. 94 (DAN RYAN EXPRESSWAY)  
 RETAINING WALL ALONG STATE ST.  
 93RD ST. TO 91ST ST.  
 WALL 2B  
 BORING LOGS SB02-07 & SB02-08  
 S.N. 016-W961 DESIGNED BY: DJR  
 SCALE: N.T.S. DRAWN BY: DJR  
 DATE: MARCH 18, 2005 CHECKED BY: TD

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**BORING LOG SB 02-09** Page 1 of 1

WEI Job No.: 414-07-01  
 Client: T. Y. LIN International  
 Project: Dan Ryan Improvements; IDOT No. D-91-421-01  
 Location: From 95th Street to South of 69th Street

Datum: CCD  
 Elevation: 21.78 ft  
 North: 1843975.22 ft  
 East: 1177898.59 ft  
 Station: 2226+05.0  
 Offset: 133.792' RT

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**BORING LOG SB 02-10** Page 1 of 1

WEI Job No.: 414-07-01  
 Client: T. Y. LIN International  
 Project: Dan Ryan Improvements; IDOT No. D-91-421-01  
 Location: From 95th Street to South of 69th Street

Datum: CCD  
 Elevation: 1.17 ft  
 North: 1843894.89 ft  
 East: 1177836.93 ft  
 Station: 2225+26.5  
 Offset: 69.861' RT

Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample No.	SPT Values (blows/6 in)	Qu (tsf)	Moisture Content (%)	Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample No.	N Values (blows/6 in)	Qu (tsf)	Moisture Content (%)
21.0	2-inch thick, ASPHALT --PAVEMENT--	0					21.78	Very stiff to hard, gray SILTY CLAY, with gravel	0	11	3 8 11	3.44 B	12
20.0	7-inch thick, CONCRETE --PAVEMENT--	1	5 5 4	NP	10				1	11	3 8 11	3.44 B	12
	Loose, brown GRAVELLY SANDY LOAM --FILL--	5	2	5 2 3	NP	13			2	12	4 11 16	5.29 B	12
15.5	Medium stiff to very stiff, brown and gray CLAY	10	3	5 3 2	2.00 P	23			3	13	8 11 14	5.49 B	12
		15	4	4 2 3	2.00 P	24			4	13	8 11 14	5.49 B	12
		20	5	0 1 2	0.66 B	22			5	13	8 11 14	5.49 B	12
8.8	Very soft, gray CLAY	15	6	1 1 1	0.25 P	20			6	14	4 8 12	4.18 B	12
		20	7	0 1 1	0.25 P	19			7	14	4 8 12	4.18 B	12
		25	8	0 0 0	0.25 P	23			8	15	N/A	N/A	13
		30	9	0 1 2	3.20 B	22			9	15	100/1	N/A	13
0.8	Very stiff, gray SILTY CLAY, with interbeds of clay, sand, and silt	25	10	5 6 7	2.62 B	12			10	15	100/1	N/A	13
-2.7	Medium dense, gray SAND	25											

GENERAL NOTES: Begin Drilling 01-09-2004, Complete Drilling 01-09-2004, Drilling Contractor Patrick Drilling, Drill Rig CME 75 TMR, Driller J&L, Logger K. Jacob, Checked by N. Davis, Drilling Method 3.25" ID HSA; Boring backfilled with bentonite upon completion.

WATER LEVEL DATA: While Drilling 24.70 ft, At Completion of Drilling DRY, Time After Drilling NA, Depth to Water NA.

Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample No.	SPT Values (blows/6 in)	Qu (tsf)	Moisture Content (%)	Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample No.	N Values (blows/6 in)	Qu (tsf)	Moisture Content (%)
21.0	6-inch thick, CONCRETE --PAVEMENT--	0					21.78	Boring terminated at 24.25 ft	0				
20.0	6-inch thick, CRUSHED STONE --BASE COURSE--	1	13 12 8	2.62 B	16				1	11	4 8 12	4.18 B	12
	Very stiff, gray CLAY --FILL--	5	2	5 5 6	3.94 B	12			2	12	4 8 12	4.18 B	12
	Very stiff, gray CLAY, with gravel	10	3	6 11 17	3.61 B	10			3	13	5 9 13	4.84 B	12
		15	4	7 11 12	3.03 B	12			4	13	5 9 13	4.84 B	12
		20	5	5 9 13	4.84 B	12			5	13	5 9 13	4.84 B	12
		25	6	4 11 15	2.79 B	11			6	13	5 9 13	4.84 B	12
		30	7	6 10 13	4.51 B	11			7	13	5 9 13	4.84 B	12
		35	8	5 7 12	4.10 B	13			8	13	5 9 13	4.84 B	12
		40	9	13 46 50 23	NP	11			9	13	5 9 13	4.84 B	12
		45	10	35 50 23	NP	8			10	13	5 9 13	4.84 B	12

GENERAL NOTES: Begin Drilling 02-04-2004, Complete Drilling 02-04-2004, Drilling Contractor Patrick Drilling, Drill Rig CME 75 TMR, Driller T&D, Logger Y. Shu, Checked by N. Davis, Drilling Method 3.25" ID HSA; Boring backfilled with bentonite upon completion.

WATER LEVEL DATA: While Drilling DRY, At Completion of Drilling DRY, Time After Drilling NA, Depth to Water NA.

**TYLIN INTERNATIONAL**

REVISIONS	
NAME	DATE

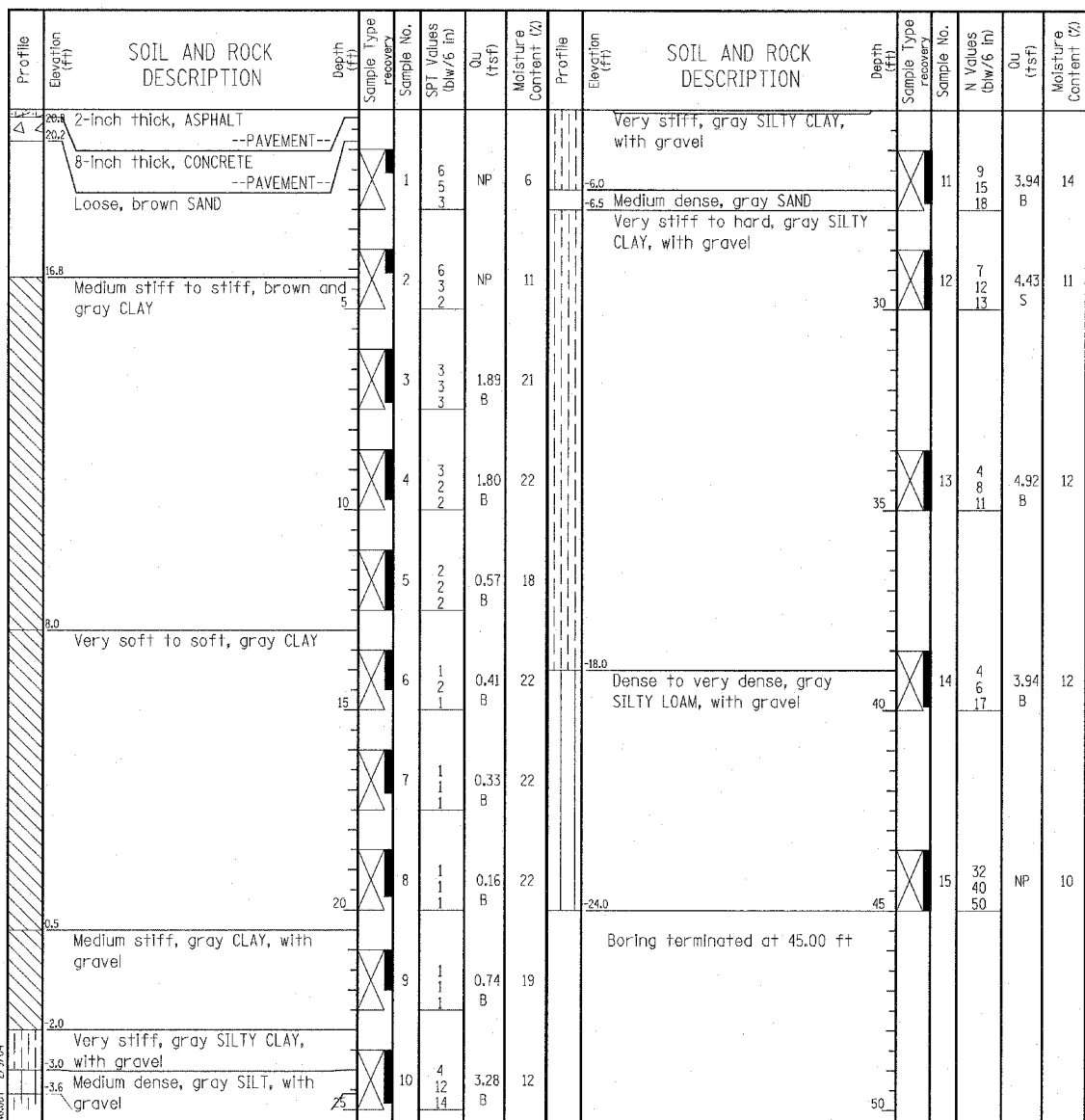
ILLINOIS DEPARTMENT OF TRANSPORTATION  
 F.A.I. 94 (DAN RYAN EXPRESSWAY)  
 RETAINING WALL ALONG STATE ST.  
 93RD ST. TO 91ST ST.  
 WALL 2B  
 BORING LOGS SB02-09 & SB02-10  
 S.N. 016-W961 DESIGNED BY: DJR  
 SCALE: N.T.S. DRAWN BY: DJR  
 DATE: MARCH 18, 2005 CHECKED BY: TD

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**BORING LOG SB 02-11** Page 1 of 1

WEI Job No.: 414-07-01  
 Client: T. Y. LIN International  
 Project: Dan Ryan Improvements; IDOT No. D-91-421-01  
 Location: From 95th Street to South of 69th Street

Datum: CCD  
 Elevation: 21.04 ft  
 North: 1843826.62 ft  
 East: 1177903.70 ft  
 Station: 2224+56.3  
 Offset: 134.649' RT



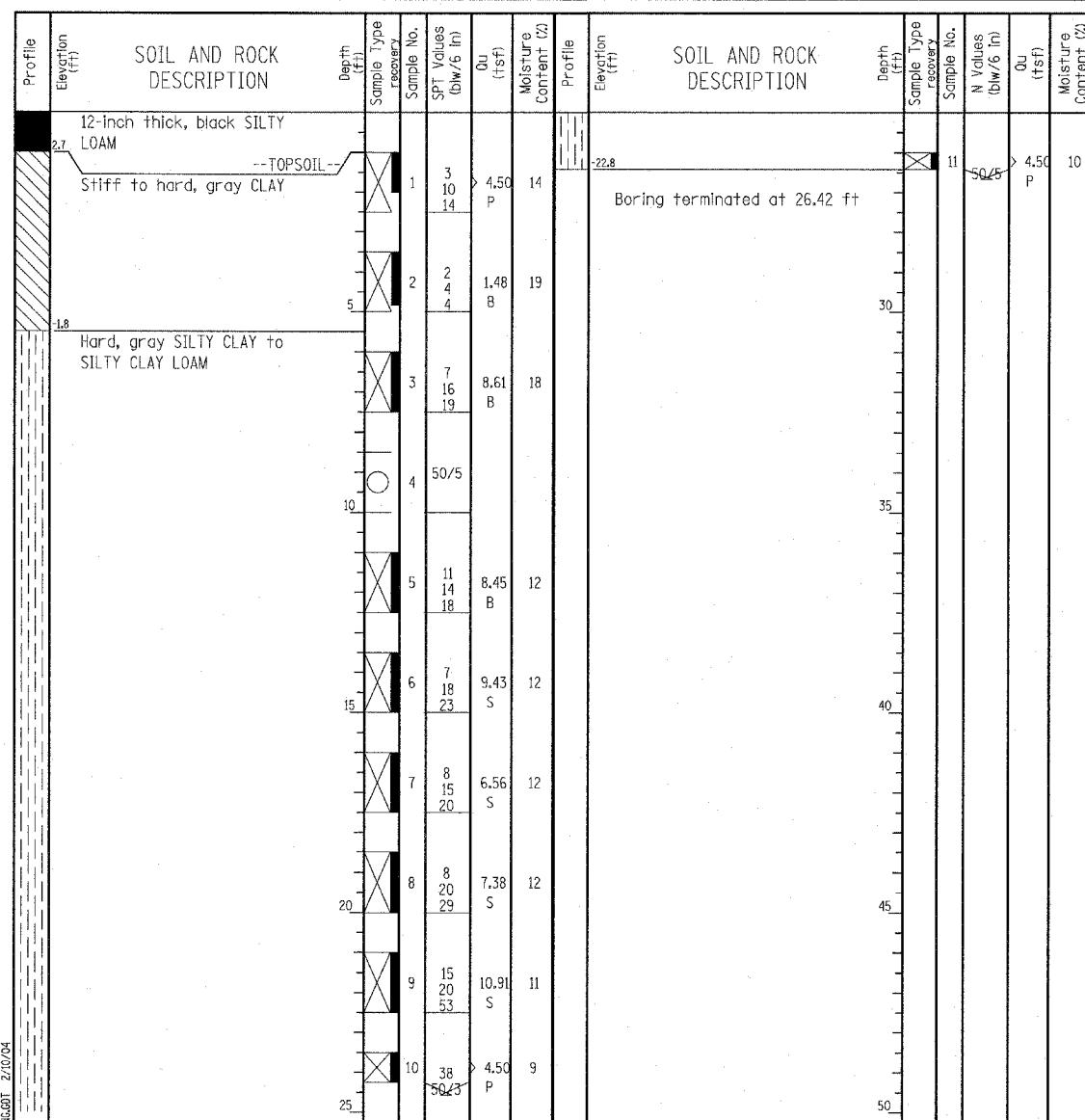
GENERAL NOTES				WATER LEVEL DATA			
Begin Drilling	01-12-2004	Complete Drilling	01-12-2004	While Drilling	∇	DRY	
Drilling Contractor	Patrick Drilling	Drill Rig	CME 75 TMR	At Completion of Drilling	∇	DRY	
Driller	J&B	Logger	K. Jacob	Time After Drilling	NA		
Drilling Method	3.25" ID HSA; Boring backfilled with bentonite upon completion			Depth to Water	∇	NA	
The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.							

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**BORING LOG SB 02-12** Page 1 of 1

WEI Job No.: 414-07-01  
 Client: T. Y. LIN International  
 Project: Dan Ryan Improvements; IDOT No. D-91-421-01  
 Location: From 95th Street to South of 69th Street

Datum: CCD  
 Elevation: 3.65 ft  
 North: 1843753.79 ft  
 East: 1177841.57 ft  
 Station: 2223+85.3  
 Offset: 70.454' RT



GENERAL NOTES				WATER LEVEL DATA			
Begin Drilling	02-02-2004	Complete Drilling	02-02-2004	While Drilling	∇	DRY	
Drilling Contractor	DLZ Drilling	Drill Rig	Mobile B-59 TMR	At Completion of Drilling	∇	DRY	
Driller	J&J	Logger	N. Davis	Time After Drilling	NA		
Drilling Method	3.25" ID HSA; Boring backfilled with bentonite upon completion			Depth to Water	∇	NA	
The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.							

**TYLIN INTERNATIONAL**

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION  
 F.A.I. 94 (DAN RYAN EXPRESSWAY)  
 RETAINING WALL ALONG STATE ST.  
 93RD ST. TO 91ST ST.  
 WALL 2B  
 BORING LOGS SB02-11 & SB02-12  
 S.N. 016-W961  
 SCALE: N.T.S.  
 DATE: MARCH 18, 2005

DESIGNED BY: DJR  
 DRAWN BY: DJR  
 CHECKED BY: TD

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**BORING LOG SB 02-13** Page 1 of 1

WEI Job No.: 414-07-01  
 Client: T. Y. LIN International  
 Project: Dan Ryan Improvements; IDOT No. D-91-421-01  
 Location: From 95th Street to South of 69th Street

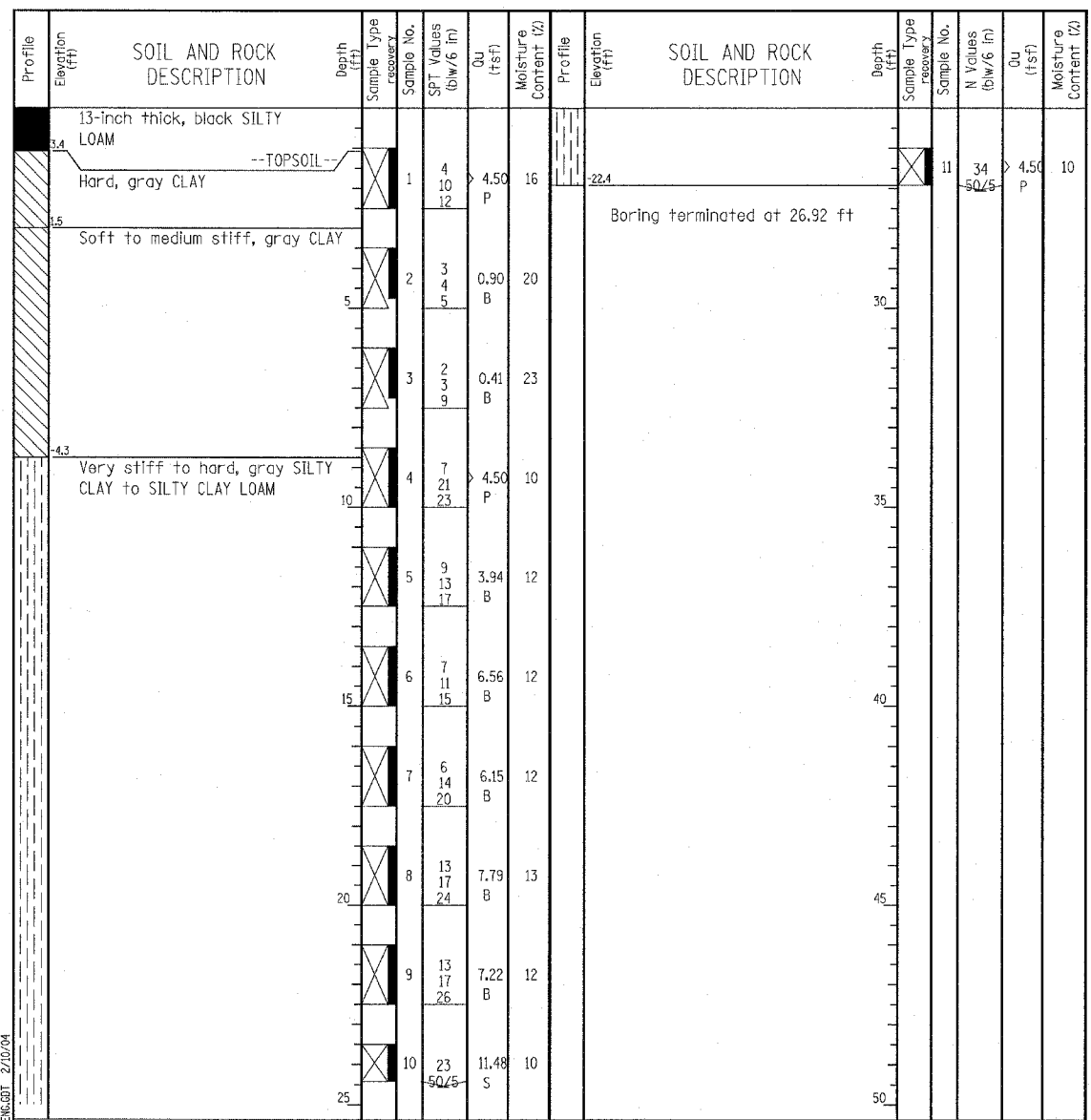
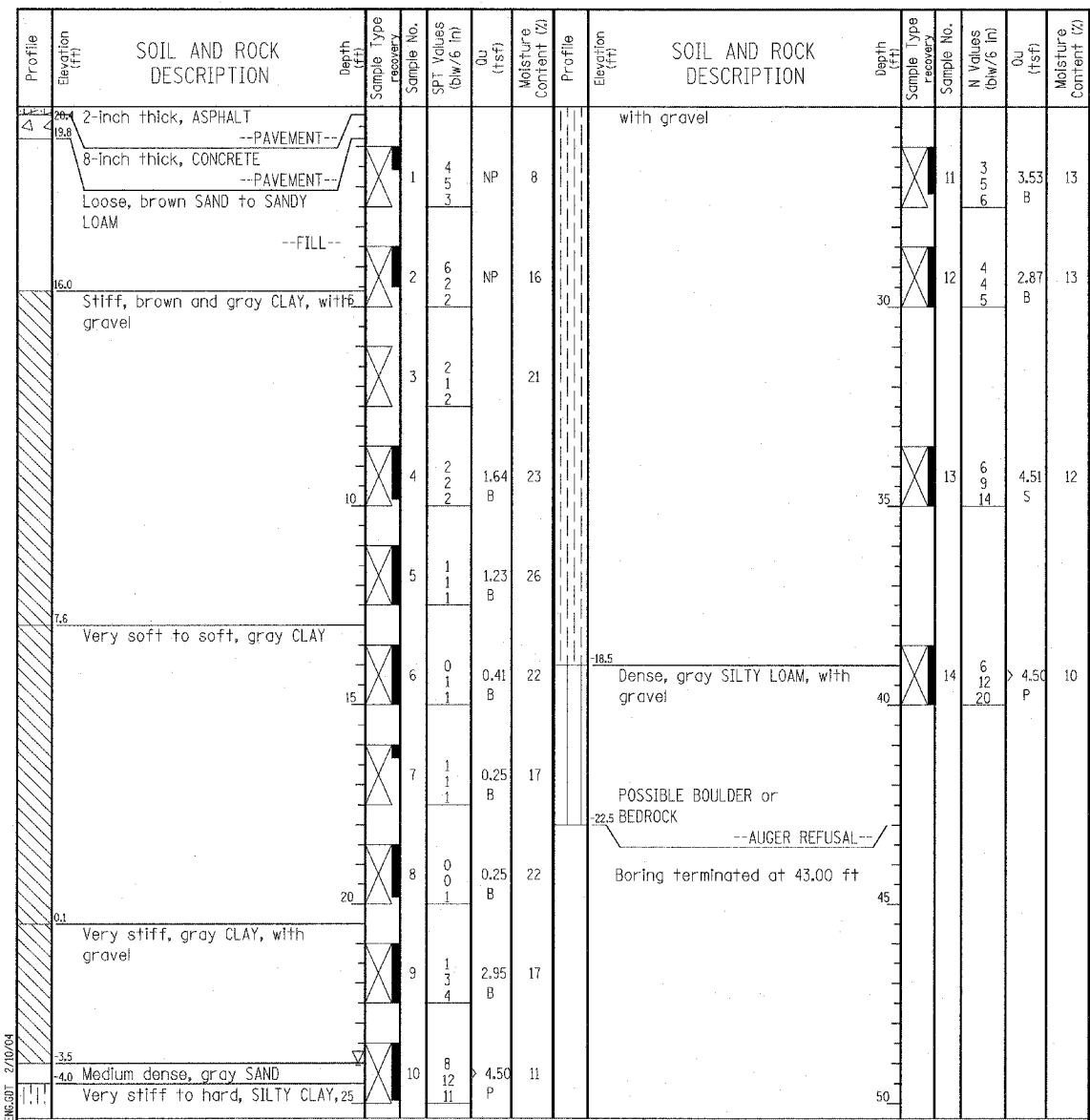
Datum: CCD  
 Elevation: 20.55 ft  
 North: 1843678.10 ft  
 East: 1177908.00 ft  
 Station: 2223+07.8  
 Offset: 134.690' RT

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**BORING LOG SB 02-14** Page 1 of 1

WEI Job No.: 414-07-01  
 Client: T. Y. LIN International  
 Project: Dan Ryan Improvements; IDOT No. D-91-421-01  
 Location: From 95th Street to South of 69th Street

Datum: CCD  
 Elevation: 4.48 ft  
 North: 1843601.05 ft  
 East: 1177847.45 ft  
 Station: 2222+32.5  
 Offset: 71.965' RT



GENERAL NOTES				WATER LEVEL DATA			
Begin Drilling	01-12-2004	Complete Drilling	01-12-2004	While Drilling	▽	24.00 ft	
Drilling Contractor	Patrick Drilling	Drill Rig	CME 75 TMR	At Completion of Drilling	▽	DRY	
Driller	J&B	Logger	K. Jacob	Time After Drilling		NA	
Checked by	N. Davis	Drilling Method	3.25" ID. HSA; Boring backfilled with bentonite upon completion	Depth to Water	▽	NA	
The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.							

GENERAL NOTES				WATER LEVEL DATA			
Begin Drilling	02-02-2004	Complete Drilling	02-02-2004	While Drilling	▽	DRY	
Drilling Contractor	DLZ Drilling	Drill Rig	Mobile B-59 TMR	At Completion of Drilling	▽	DRY	
Driller	J&J	Logger	N. Davis	Time After Drilling		NA	
Checked by	S. Janowski	Drilling Method	3.25" ID. HSA; Boring backfilled with bentonite upon completion	Depth to Water	▽	NA	
The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.							

**TYLIN INTERNATIONAL**

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION  
 F.A.I. 94 (DAN RYAN EXPRESSWAY)  
 RETAINING WALL ALONG STATE ST.  
 93RD ST. TO 91ST ST.  
 WALL 2B  
 BORING LOGS SB02-13 & SB02-14  
 S.N. 016-W961 DESIGNED BY: DJR  
 SCALE: N.T.S. DRAWN BY: DJR  
 DATE: MARCH 18, 2005 CHECKED BY: TD

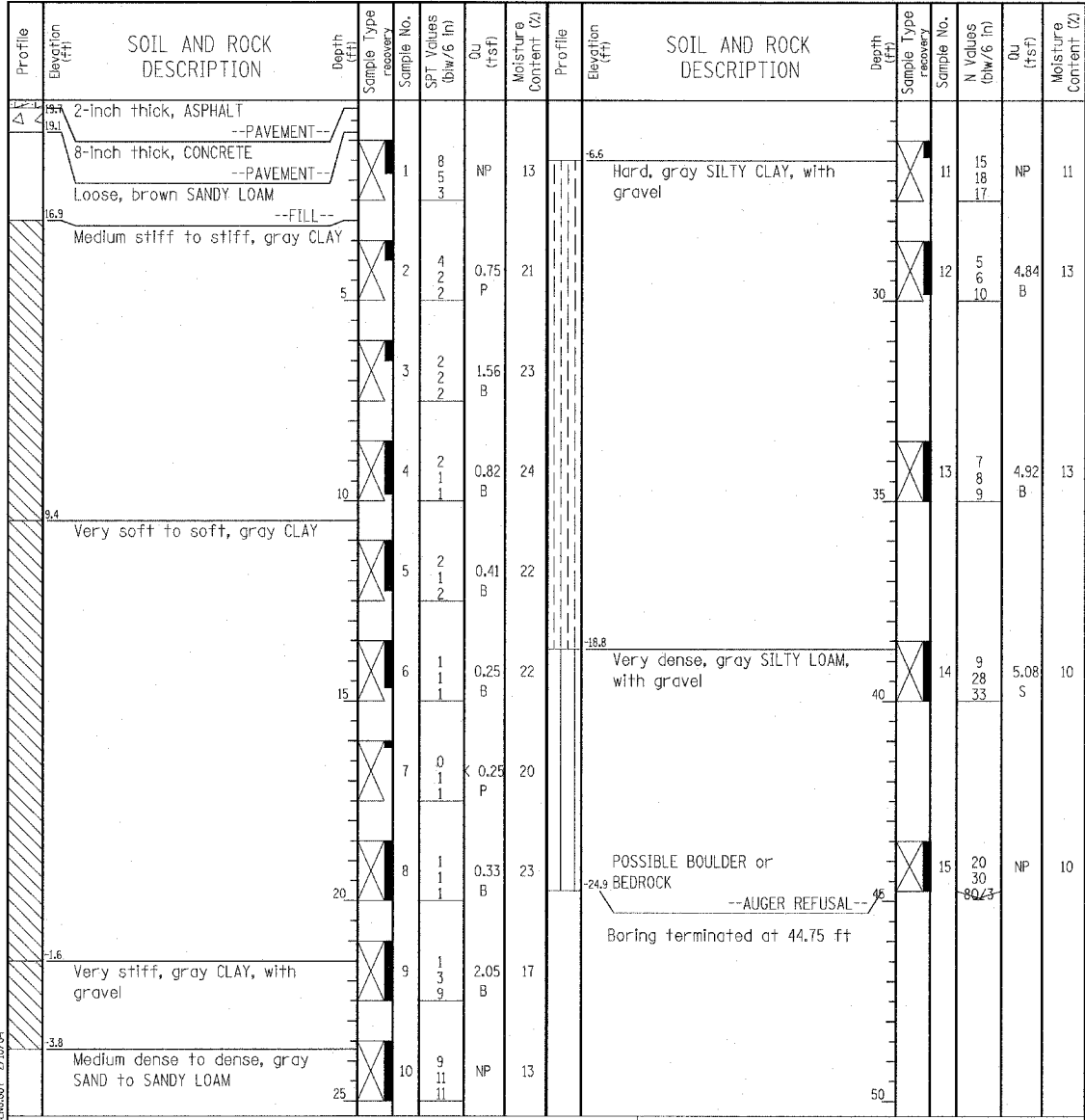


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**BORING LOG SB 02-15** Page 1 of 1

WEI Job No.: 414-07-01  
 Client: T. Y. LIN International  
 Project: Dan Ryan Improvements; IDOT No. D-91-421-01  
 Location: From 95th Street to South of 69th Street

Datum: CCD  
 Elevation: 19.86 ft  
 North: 1843528.15 ft  
 East: 1177911.47 ft  
 Station: 2221+57.8  
 Offset: 133.873' RT



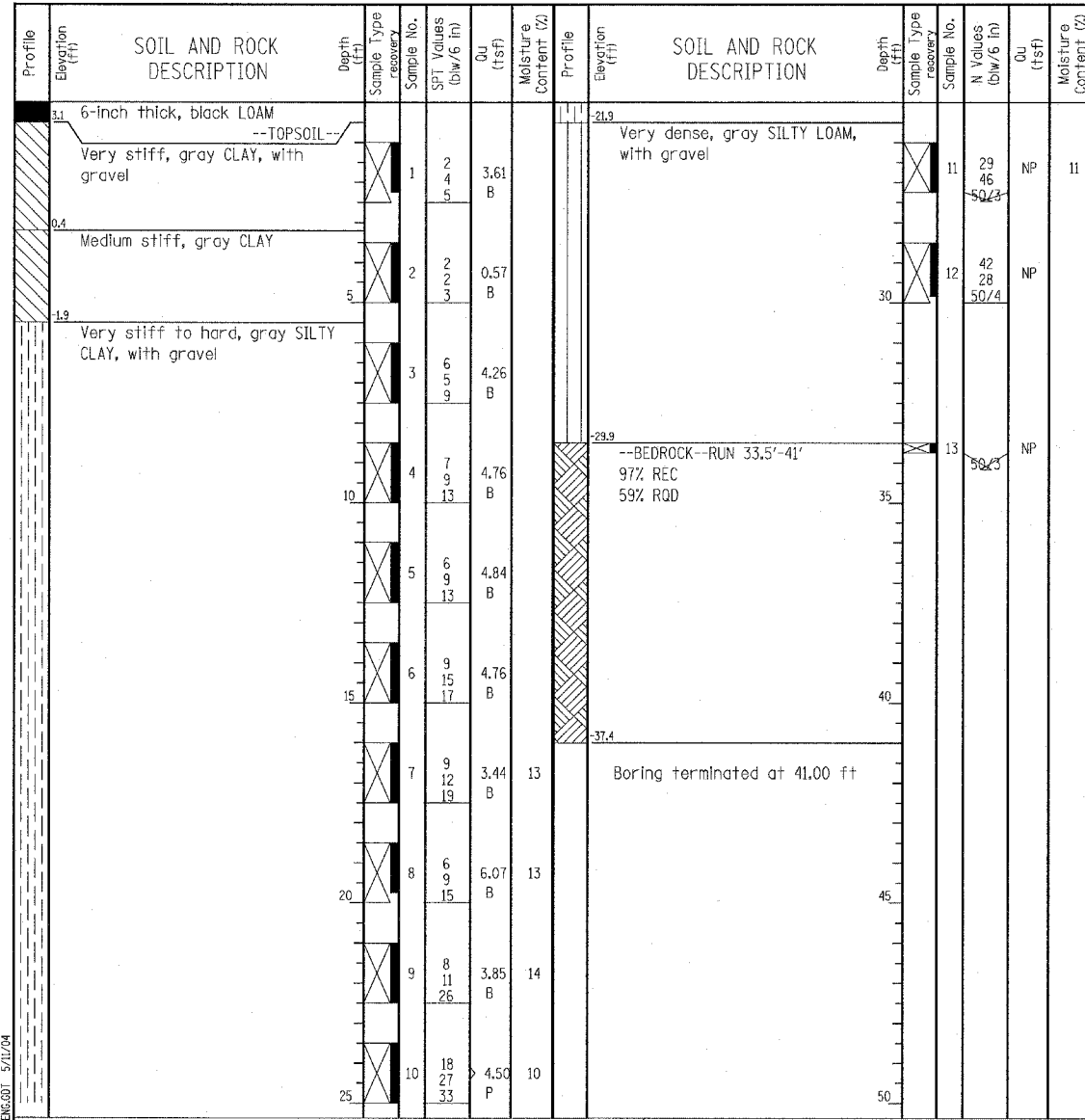
GENERAL NOTES				WATER LEVEL DATA			
Begin Drilling	01-13-2004	Complete Drilling	01-13-2004	While Drilling	▽	DRY	
Drilling Contractor	Patrick Drilling	Drill Rig	CME 75 TMR	At Completion of Drilling	▽	DRY	
Driller	J&B	Logger	K. Jacob	Time After Drilling	NA		
Drilling Method	3.25" ID HSA; Boring backfilled with bentonite upon completion			Depth to Water	▽	NA	
The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.							

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**BORING LOG SB 02-16** Page 1 of 1

WEI Job No.: 414-07-01  
 Client: T. Y. LIN International  
 Project: Dan Ryan Improvements; IDOT No. D-91-421-01  
 Location: From 95th Street to South of 69th Street

Datum: CCD  
 Elevation: 3.60 ft  
 North: 1843453.44 ft  
 East: 1177847.20 ft  
 Station: 2220+84.9  
 Offset: 67.486' RT



GENERAL NOTES				WATER LEVEL DATA			
Begin Drilling	01-28-2004	Complete Drilling	02-04-2004	While Drilling	▽	DRY	
Drilling Contractor	Patrick Drilling	Drill Rig	CME 75 TMR	At Completion of Drilling	▽	DRY	
Driller	T&D	Logger	Y. Shiu	Time After Drilling	NA		
Drilling Method	3.25" ID HSA; Boring backfilled with bentonite upon completion			Depth to Water	▽	NA	
The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.							




REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION  
 F.A.I. 94 (DAN RYAN EXPRESSWAY)  
 RETAINING WALL ALONG STATE ST.  
 93RD ST. TO 91ST ST.  
 WALL 2B  
 BORING LOGS SB02-15 & SB02-16  
 S.N. 016-W961  
 SCALE: N.T.S.  
 DATE: MARCH 18, 2005

DESIGNED BY: DJR  
 DRAWN BY: DJR  
 CHECKED BY: TD

03/15/2005 10:08:13 AM



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### BORING LOG SB 02-17

WEI Job No.: 414-07-01

Datum: CCD  
Elevation: 19.18 ft  
North: 1843375.82 ft  
East: 1177916.87 ft  
Station: 2220+05.3  
Offset: 134.907' RT

Client: T. Y. LIN International  
Project: Dan Ryan Improvements; IDOT No. D-91-421-01  
Location: From 95th Street to South of 69th Street

Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample No.	SPT Values (blows/6 in)	Qu (tsf)	Moisture Content (%)	Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample No.	N Values (blows/6 in)	Qu (tsf)	Moisture Content (%)	
19.4	2-inch thick, ASPHALT --PAVEMENT--	0					19.4		0					
18.2	10-inch thick, CONCRETE --PAVEMENT--	1	5	4	NP	16	18.2	Very stiff to hard, gray SILTY CLAY, with gravel	1	5	7	4.5	12	
17.7	6-inch thick, CRUSHED STONE --BASE COURSE--	2	3	4	NP	15	17.7		2	4	6	3.6	13	
	Medium dense, brown medium SAND --FILL--	5							30					
13.7	Medium stiff, brown and gray CLAY	3	3	4	0.82	40	13.7							
		4	1	2	0.66	25			35		6	8	4.6	14
6.7	Very soft to soft, gray CLAY	5	0	0	0.16	24	6.7							
		6	1	1	0.16	21			40		24	28	8.36	13
		7	0	1	0.25	21								
1.2	Medium stiff, gray CLAY	8	0	1	0.57	21	1.2				12	13	5.66	12
1.0	Medium dense, gray SAND	20					1.0		45		47			
1.5	Very stiff, gray CLAY	9	3	3	2.71	15	1.5							
4.8	Medium dense, gray SANDY LOAM	10	6	11	NP	12	4.8							
		25							50					

GENERAL NOTES				WATER LEVEL DATA	
Begin Drilling	01-09-2004	Complete Drilling	01-09-2004	While Drilling	20.50 ft
Drilling Contractor	Patrick Drilling	Drill Rig	CME 75 TMR	At Completion of Drilling	13.00 ft
Driller	T&B	Logger	H. Suhail	Time After Drilling	NA
Drilling Method	3.25" ID, HSA; Boring backfilled with bentonite upon completion			Depth to Water	NA
The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.					

**TYLIN INTERNATIONAL**

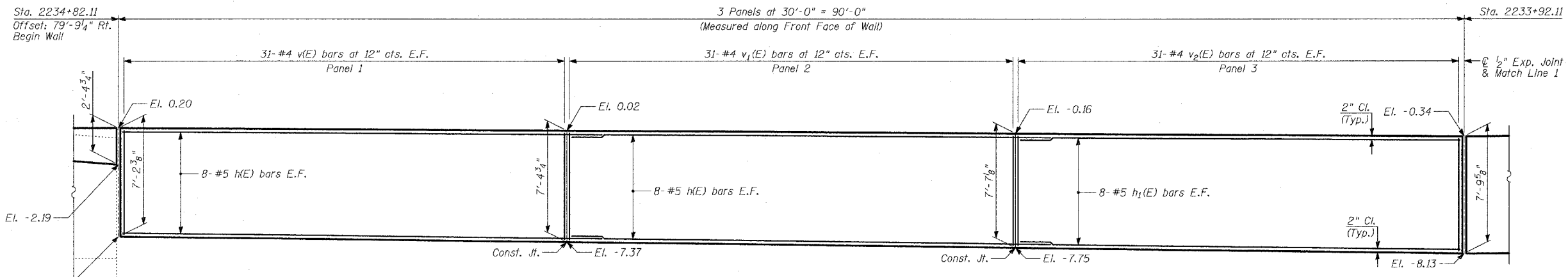
REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION  
**F.A.I. 94 (DAN RYAN EXPRESSWAY)**  
**RETAINING WALL ALONG STATE ST.**  
**93RD ST. TO 91ST ST.**  
**WALL 2B**  
**BORING LOG SB02-17**

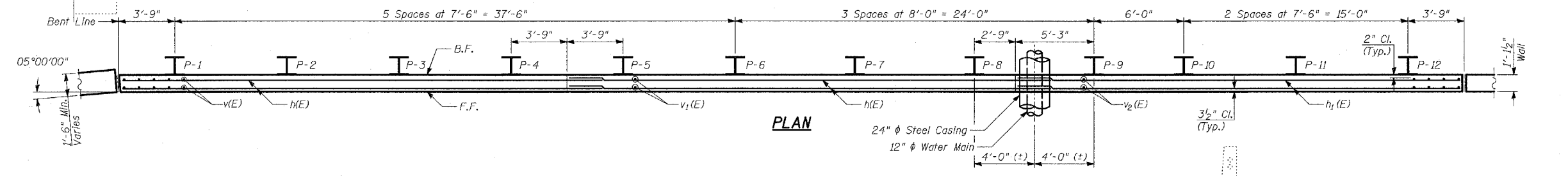
S.N. 016-W961      DESIGNED BY: DJR  
SCALE: N.T.S.      DRAWN BY: DJR  
DATE: MARCH 18, 2005      CHECKED BY: TD

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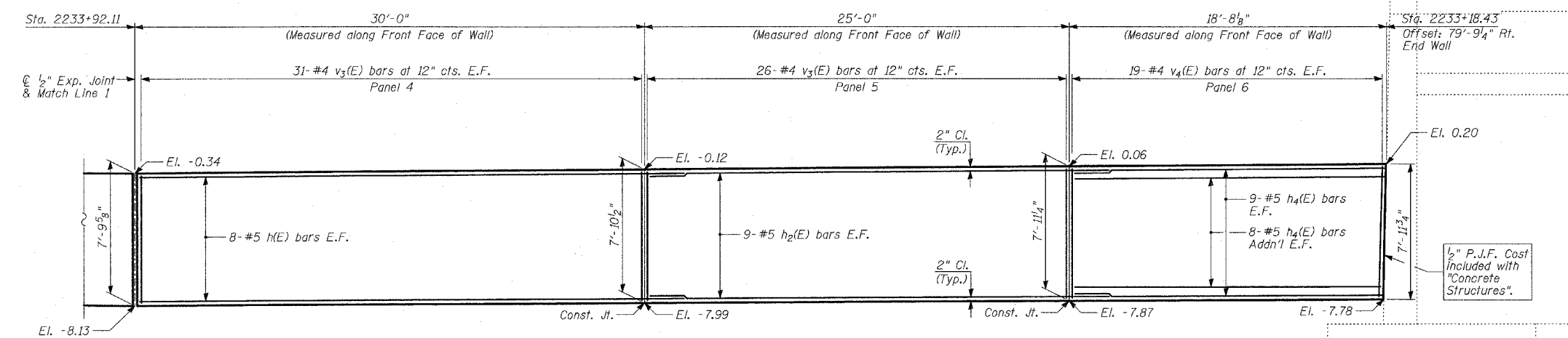




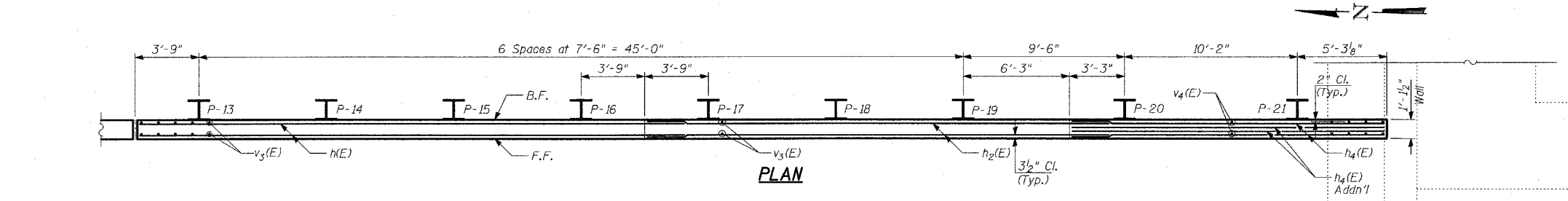
**ELEVATION**



**PLAN**



**ELEVATION**



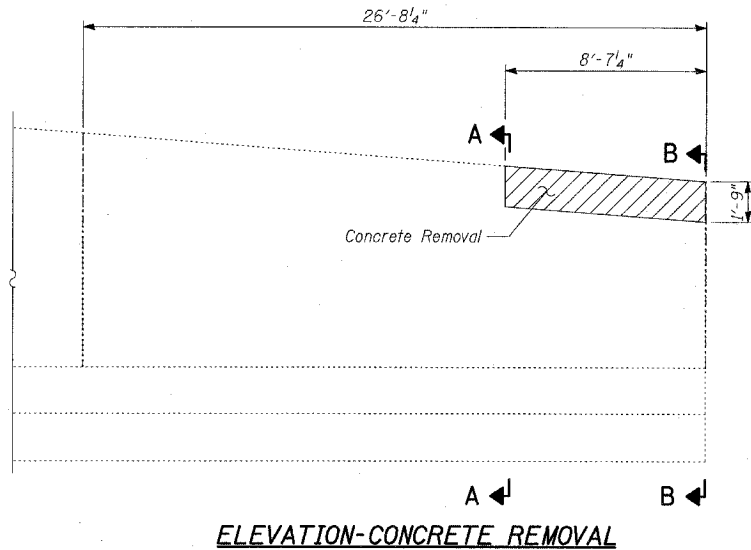
**PLAN**

- NOTES:**
1. B.F. - denotes Back Face.
  2. E.F. - denotes Each Face.
  3. F.F. - denotes Front Face.
  4. Work this Sheet with Sheets 3 thru 6 of 8.
  5. Pile spacing measured along front face of wall.
  6. For Lap Splices, see Sheet 3 of 8.

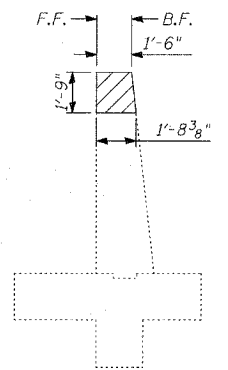
**TYLIN INTERNATIONAL**

REVISIONS	
NAME	DATE

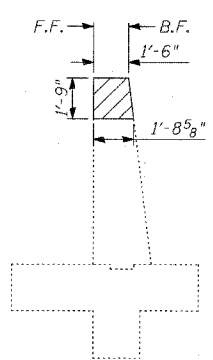
ILLINOIS DEPARTMENT OF TRANSPORTATION  
**F.A.I. 94 (DAN RYAN EXPRESSWAY)**  
**RETAINING WALL ALONG STATE ST.**  
**91ST ST. TO CPI&R RR**  
**WALL 3 - PLAN AND ELEVATION**  
**STA. 2234+82.11 TO STA. 2233+18.43**  
 S.N. 016-W945      DESIGNED BY: MI, MAF  
 SCALE: N.T.S.      DRAWN BY: MAF, TB  
 DATE: MARCH 18, 2005      CHECKED BY: TD, MI



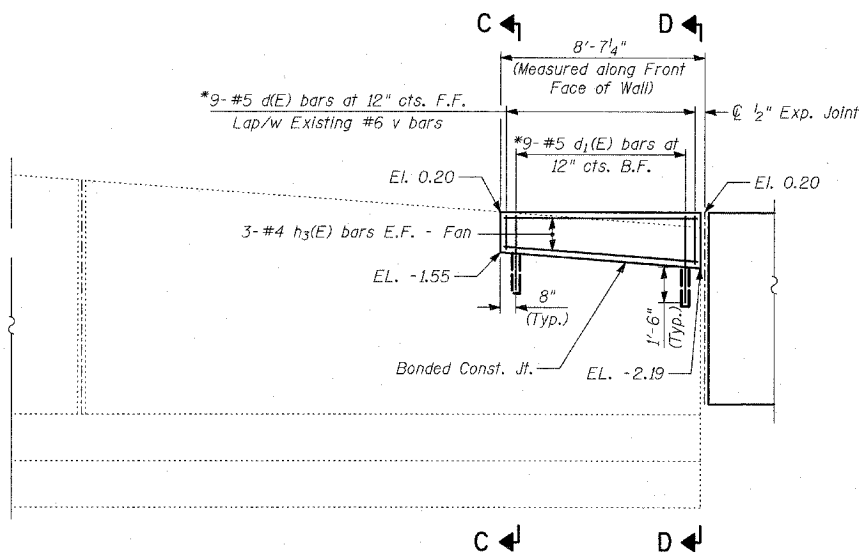
**ELEVATION-CONCRETE REMOVAL**



**SECTION A-A**

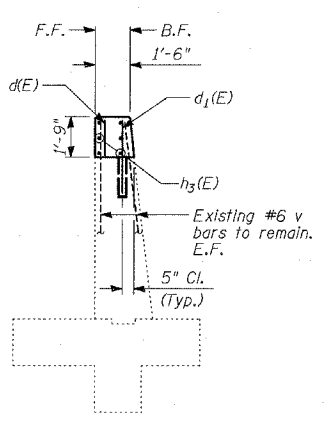


**SECTION B-B**

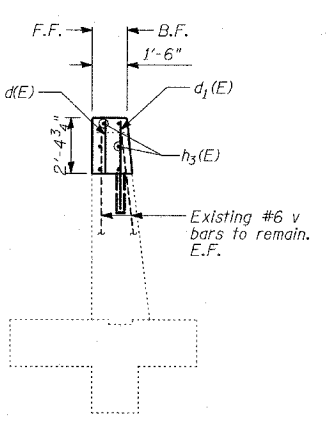


**ELEVATION-CONCRETE REPLACEMENT**

\* Cut bars to fit in field



**SECTION C-C**



**SECTION D-D**

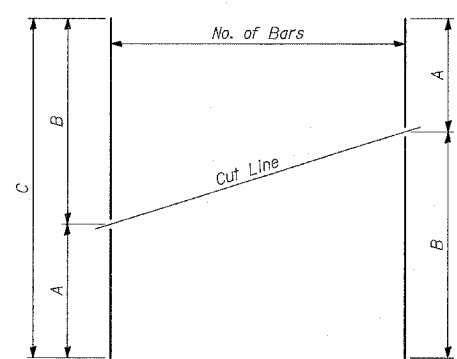
**PILE LAYOUT**

Pile	Station at Working Point	Top of Wall EL.	Top of Pile EL.	Bot. of Wall EL.	Section	Pile Tip EL.	Pile Length
P-1	2234+78.36	0.18	-1.82	-7.04	HP14x117	-27.07	25'-3"
P-2	2234+70.86	0.14	-1.86	-7.14		-27.20	25'-4"
P-3	2234+63.36	0.09	-1.91	-7.23		-27.24	25'-4"
P-4	2234+55.86	0.05	-1.95	-7.33		-27.37	25'-5"
P-5	2234+48.36	0.00	-2.00	-7.42		-27.50	25'-6"
P-6	2234+40.86	-0.04	-2.04	-7.52		-27.54	25'-6"
P-7	2234+32.86	-0.09	-2.09	-7.62		-27.67	25'-7"
P-8	2234+24.86	-0.14	-2.14	-7.72		-27.72	25'-7"
P-9	2234+16.86	-0.19	-2.19	-7.82		-27.85	25'-8"
P-10	2234+10.86	-0.22	-2.22	-7.90		-27.97	25'-9"
P-11	2234+03.36	-0.27	-2.27	-7.99		-28.02	25'-9"
P-12	2233+95.86	-0.31	-2.31	-8.09		-28.15	25'-10"
P-13	2233+88.36	-0.31	-2.31	-8.12		-28.14	25'-10"
P-14	2233+80.86	-0.25	-2.25	-8.08		-28.09	25'-10"
P-15	2233+73.36	-0.20	-2.20	-8.04		-28.12	25'-11"
P-16	2233+65.86	-0.15	-2.15	-8.01		-28.06	25'-11"
P-17	2233+58.36	-0.09	-2.09	-7.97		-28.01	25'-11"
P-18	2233+50.86	-0.04	-2.04	-7.94		-27.95	25'-11"
P-19	2233+43.36	0.02	-1.98	-7.90		-27.98	26'-0"
P-20	2233+33.86	0.09	-1.91	-7.86		-29.91	28'-0"
P-21	2233+23.69	0.16	-1.84	-7.81	HP14x117	-29.84	28'-0"

**BILL OF MATERIAL**

Bar	No.	Size	Length	Shape	
d(E)	9	#5	2'-3"		
d1(E)	9	#5	3'-9"		
h(E)	48	#5	32'-2"		
h1(E)	16	#5	29'-8"		
h2(E)	18	#5	27'-2"		
h3(E)	6	#5	8'-3"		
h4(E)	34	#5	18'-4"		
v(E)	62	#4	7'-0"		
v1(E)	31	#4	14'-5"		
v2(E)	62	#4	7'-5"		
v3(E)	113	#4	7'-7"		
v4(E)	38	#4	7'-8"		
Reinforcement Bars, Epoxy Coated				POUND	5,040
Concrete Removal				CU YD	1
Concrete Structures				CU YD	55
Protective Coat				SQ YD	139
Furnishing Soldier Piles (HP Section)				FOOT	544
Drilling and Setting Soldier Piles (in Soil)				CU FT	2,722

Reinforcement bars designated (E) shall be epoxy coated.

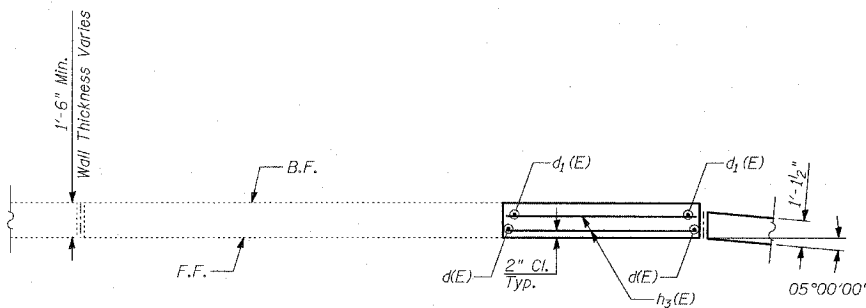


**SERIES OF BAR CUTTING DIAGRAM**

See table for dimensions. Make all cuts normal to bar axis

**BAR TABLE SCHEDULE**

Bar	No. of Sets Req'd	No. of Bars Per Set	A	B	C
v1(E)	1	31	7'-1"	7'-4"	14'-5"



**PLAN**

**NOTES:**

- Any vertical reinforcement bars that are damaged during concrete removal operations of the existing retaining wall shall be repaired or replaced using approved bar splicer or anchorage system. Cost included with "Concrete Removal".
- Sand blast clean existing reinforcing bars to be incorporated into new construction. After cleaning, bars shall be evaluated to determine if additional reinforcing bars are required. Damaged or cut bars, or bars that have lost 25% or more of their original cross sectional area shall be supplemented by new in-kind reinforcement bars, to the approval of the Engineer. Cost included with "Concrete Removal".
- Epoxy grout d1(E) bars in 9" min. drilled holes according to Section 584 of the Standard Specifications. Cost included with "Concrete Structures".

**LAP SPLICES**

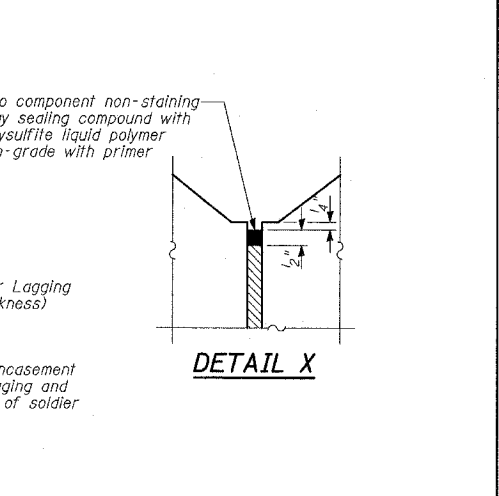
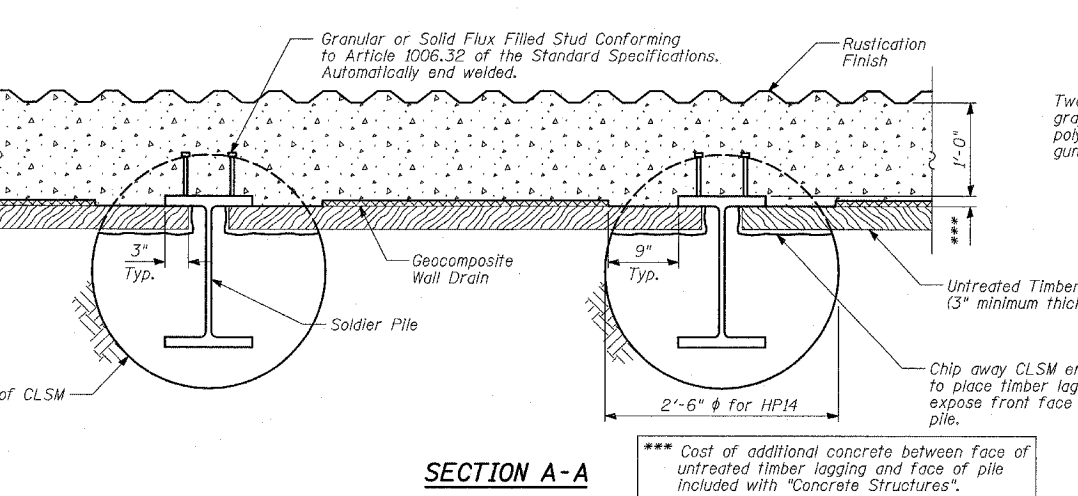
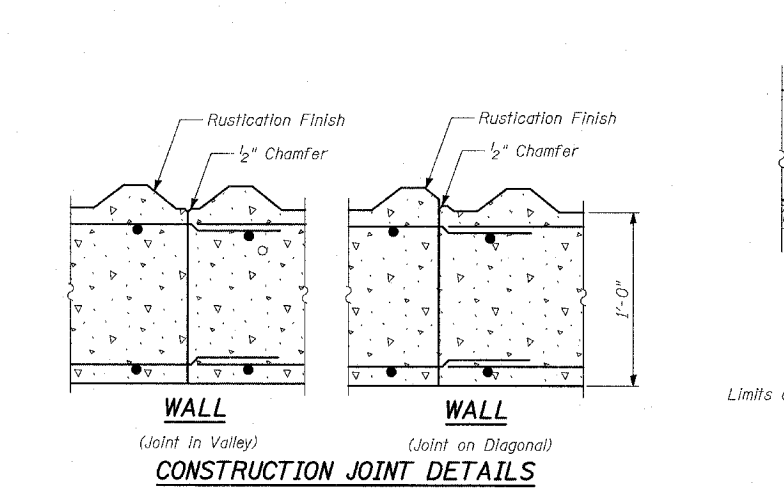
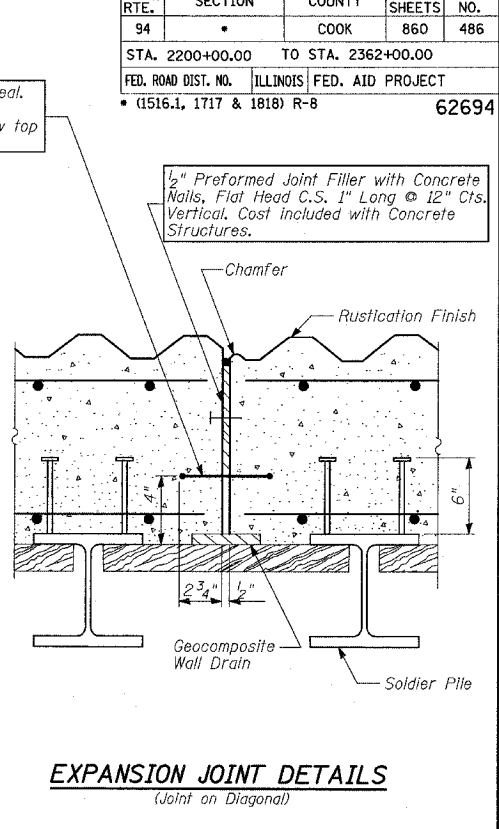
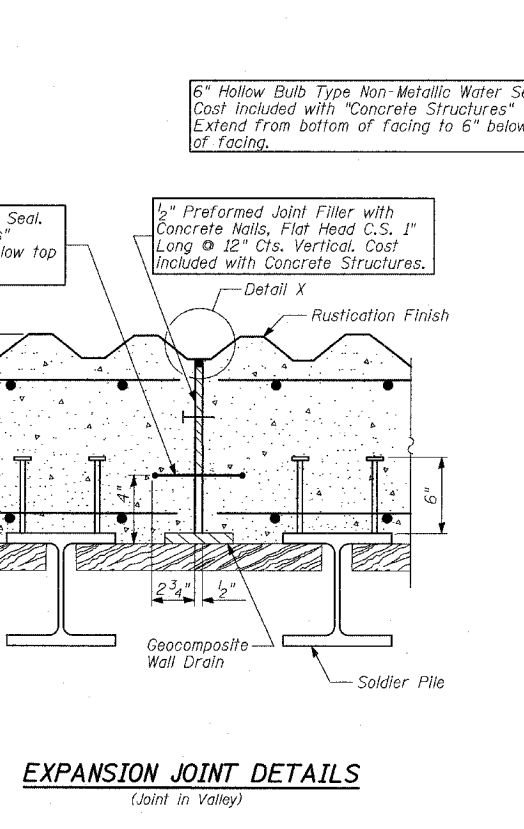
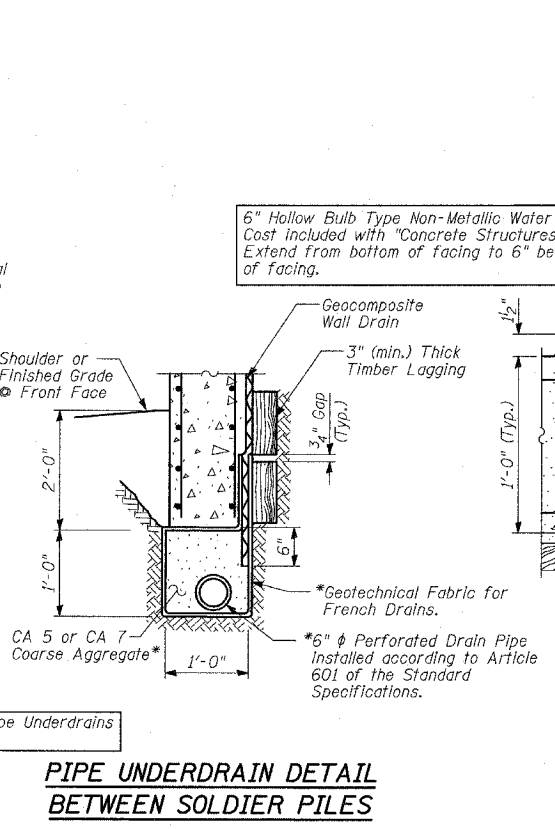
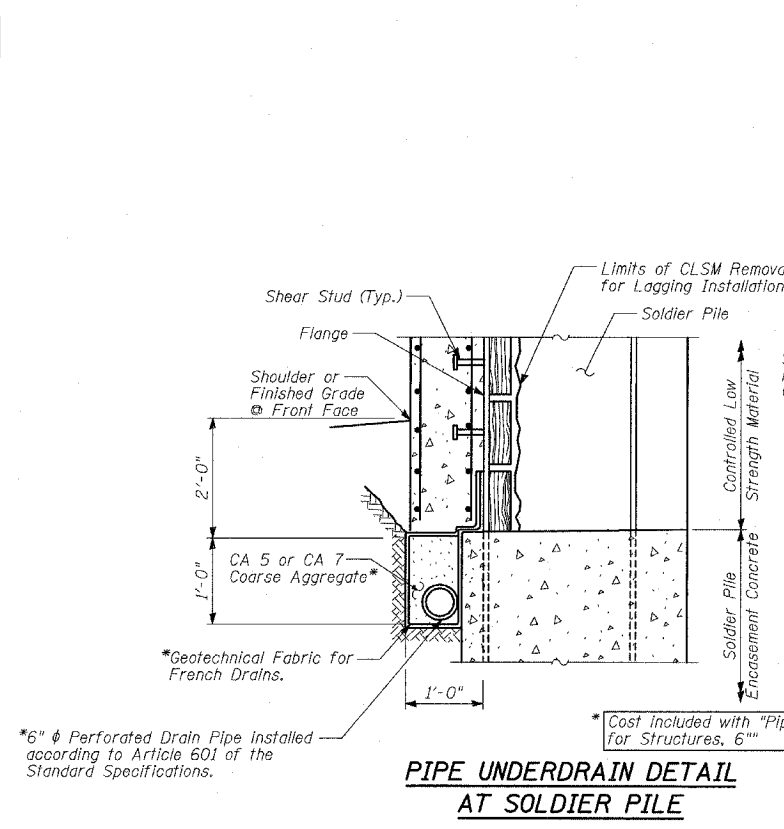
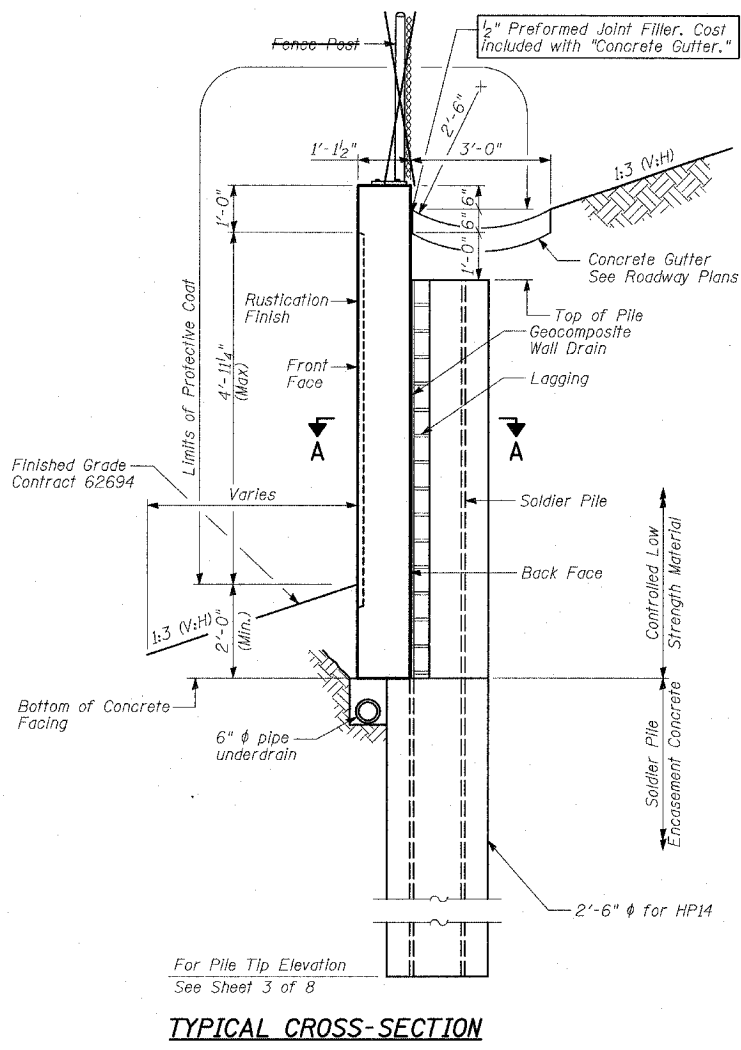
Bar	Lap
#4	1'-8"
#5	2'-2"
#6	2'-7"
#8	4'-6"

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NAME	DATE

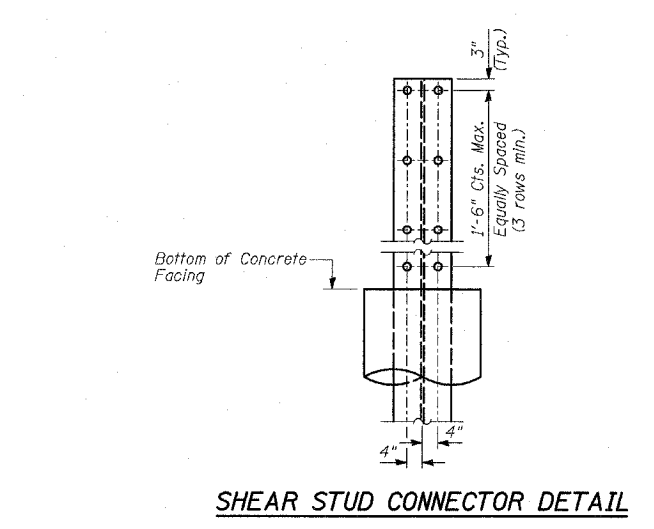
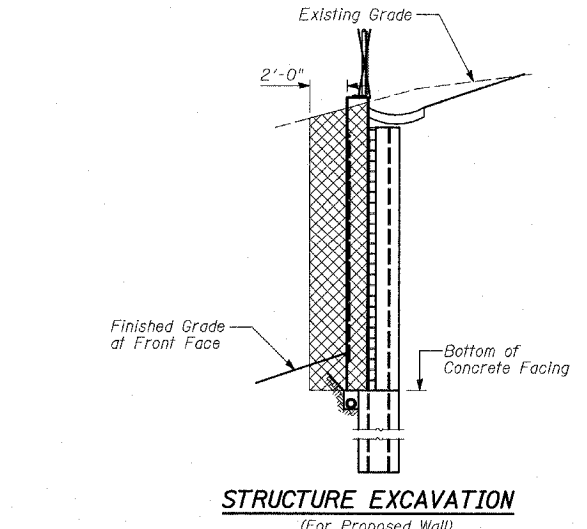
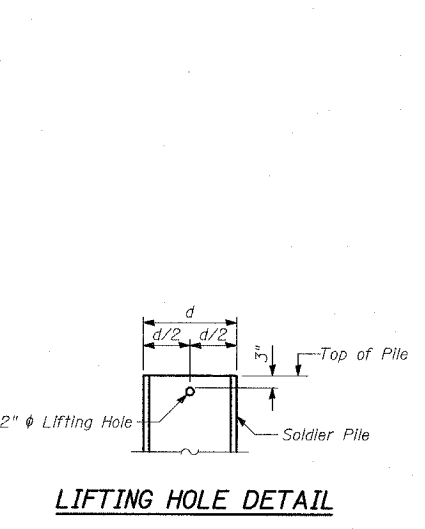
SHEET 3 OF 8

**ILLINOIS DEPARTMENT OF TRANSPORTATION**  
**F.A.I. 94 (DAN RYAN EXPRESSWAY)**  
**RETAINING WALL ALONG STATE ST.**  
**91ST ST. TO CPI&R RR**  
**WALL 3**  
**PILE LAYOUT, DETAILS & BILL OF MATERIAL**  
 S.N. 016-W945  
 SCALE: N.T.S.  
 DATE: MARCH 18, 2005

DESIGNED BY: MI, MAF  
 DRAWN BY: MAF, TB  
 CHECKED BY: TD, MI



- NOTES:**
- The geocomposite wall drain shall be constructed according to Section 591 of the Standard Specifications.
  - The Contractor is responsible for the design and performance of the lagging using no less than 3" nominal rough-sawn thickness and the minimum tabulated unit stress in bending ( $f_b$ ), used in the design of timber lagging shall be 1000 psi.
  - Stud shear connectors shall be 3/4"  $\phi$  x 6" granular or solid flux filled headed studs, automatically end welded to the front flange of the soldier piles.



**BILL OF MATERIAL**

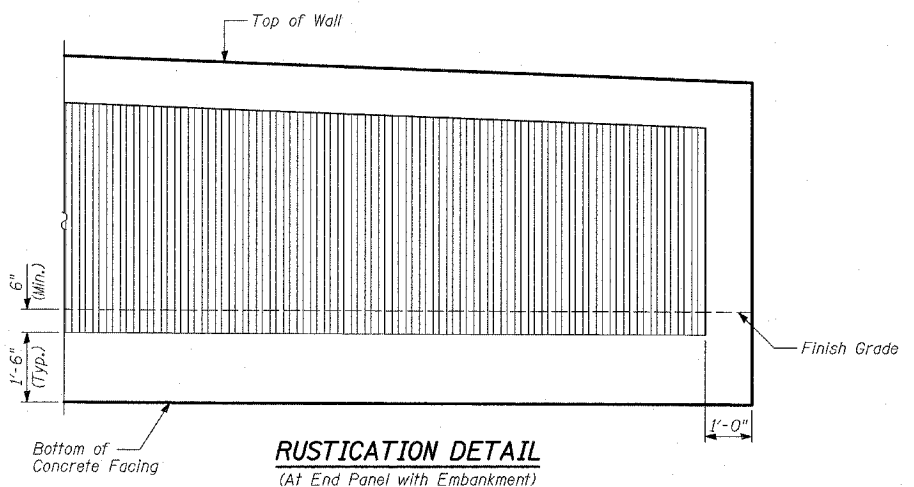
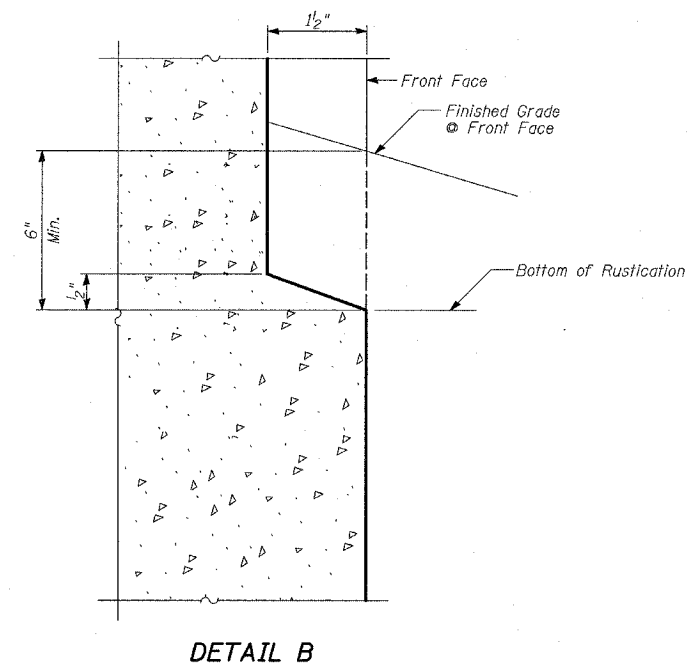
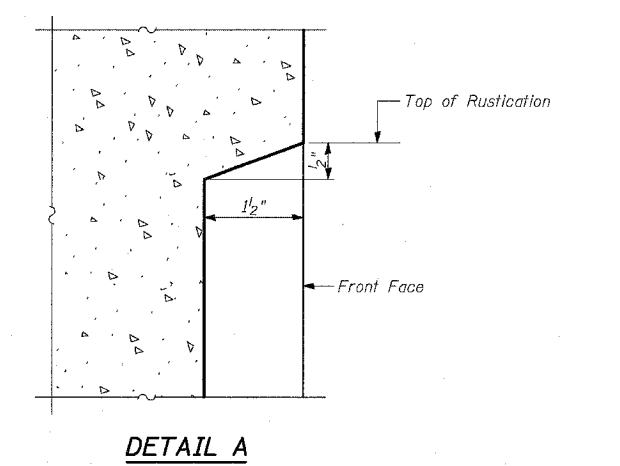
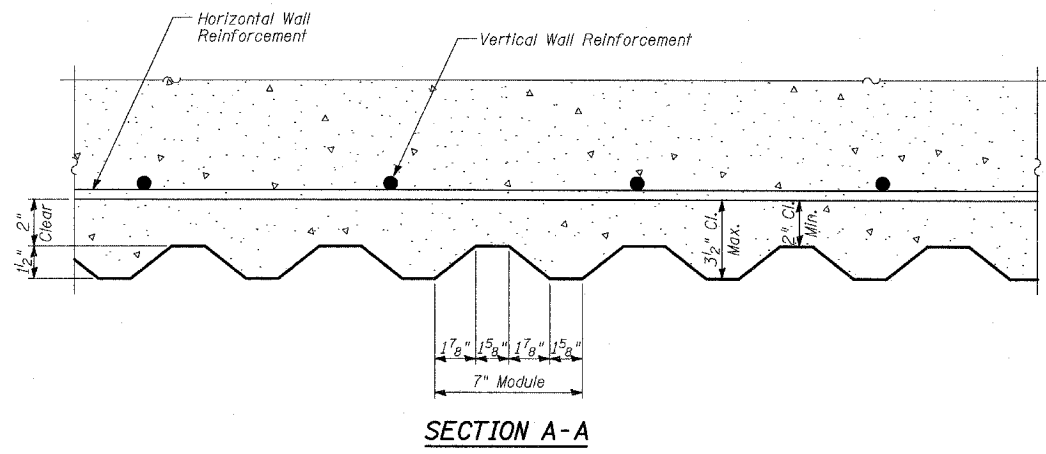
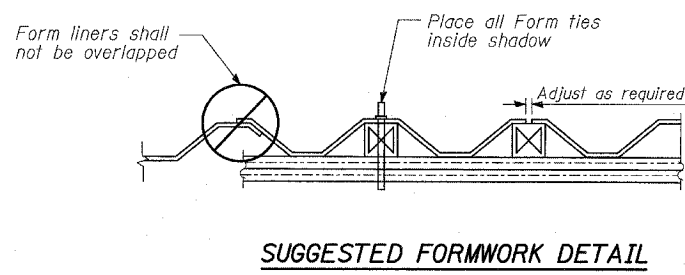
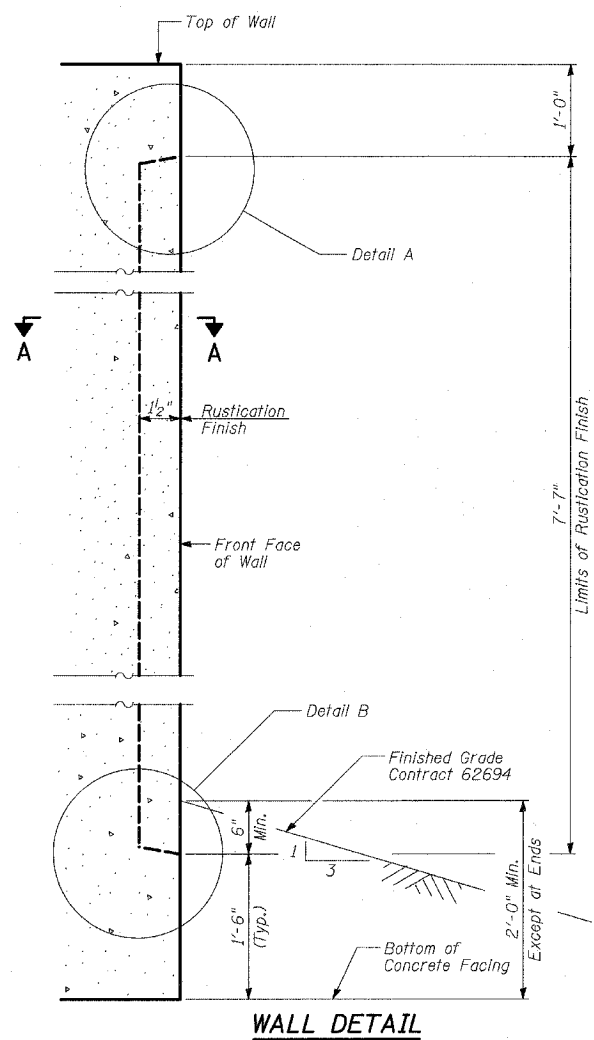
ITEM	UNIT	TOTAL
Structure Excavation	CU YD	117
Stud Shear Connectors	EACH	208
Untreated Timber Lagging	SQ FT	929
Geocomposite Wall Drain	SQ YD	113
Pipe Underdrains for Structures, 6"	FOOT	164

**REVISIONS**

NAME	DATE
REVISED	04/15/05

ILLINOIS DEPARTMENT OF TRANSPORTATION  
**F.A.I. 94 (DAN RYAN EXPRESSWAY)**  
**RETAINING WALL ALONG STATE ST.**  
**91ST ST. TO CPI&R RR**  
**WALL 3**  
 S.N. 016-W945  
 SCALE: N.T.S.  
 DATE: MARCH 18, 2005

DESIGNED BY: MI, MAF  
 DRAWN BY: MAF, DJR  
 CHECKED BY: TD, MI



**NOTES:**  
1. See Sheet 4 of 8 for expansion and construction joint details.

**BILL OF MATERIAL**

ITEM	UNIT	TOTAL
Rustication Finish	SQ FT	837

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION  
**F.A.I. 94 (DAN RYAN EXPRESSWAY)**  
**RETAINING WALL ALONG STATE ST.**  
**91ST ST. TO CPI&R RR**  
**WALL 3**  
**RUSTICATION DETAILS**  
 S.N. 016-W945 DESIGNED BY: MI, MAF  
 SCALE: N.T.S. DRAWN BY: DJR  
 DATE: MARCH 18, 2005 CHECKED BY: TD, MI





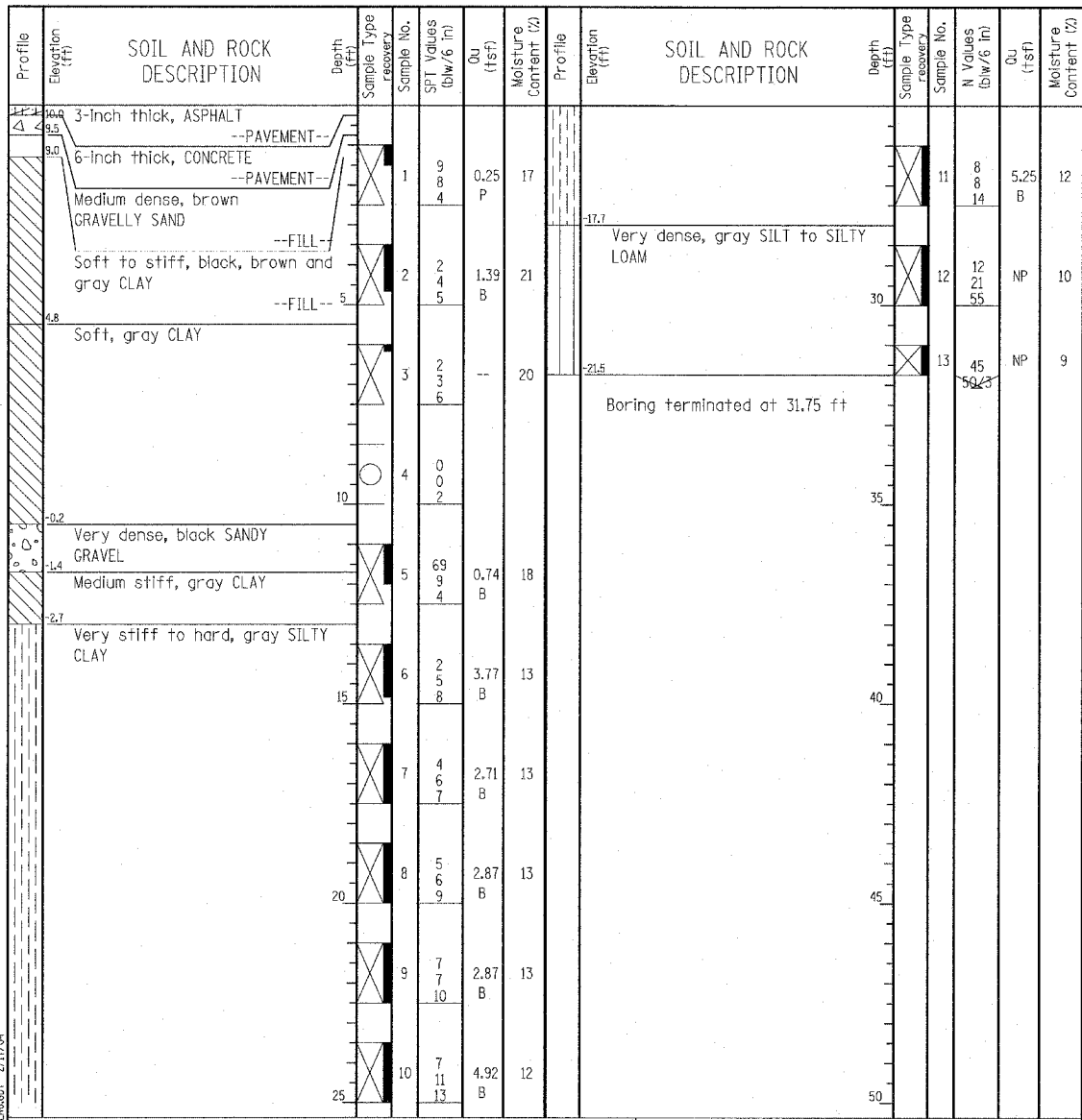
**Wang Engineering, INC.**  
 Consulting Geotechnical and Environmental Engineers  
 wangeng3@wangeng.com  
 1145 Main Street  
 Lombard, IL 60148  
 Telephone: 630 953-9928  
 Fax: 630 953-9938

**BORING LOG SB 03-01**

Page 1 of 1

WEI Job No.: 414-07-01  
 Client: T. Y. LIN International  
 Project: Dan Ryan Improvements; IDOT No. D-91-421-01  
 Location: From 95th Street to South of 69th Street

Datum: CCD  
 Elevation: 10.29 ft  
 North: 1844768.53 ft  
 East: 1177869.83 ft  
 Station: 2233+98.8  
 Offset: 127.749' RT



GENERAL NOTES				WATER LEVEL DATA			
Begin Drilling	02-10-2004	Complete Drilling	02-10-2004	While Drilling	▽	DRY	
Drilling Contractor	Patrick Drilling	Drill Rig	CME 75 TMR	At Completion of Drilling	▽	DRY	
Driller	T&D	Logger	J. Kasnick	Time After Drilling		NA	
Drilling Method	3.25" ID, HSA; Boring backfilled with bentonite upon completion			Depth to Water	▽	NA	

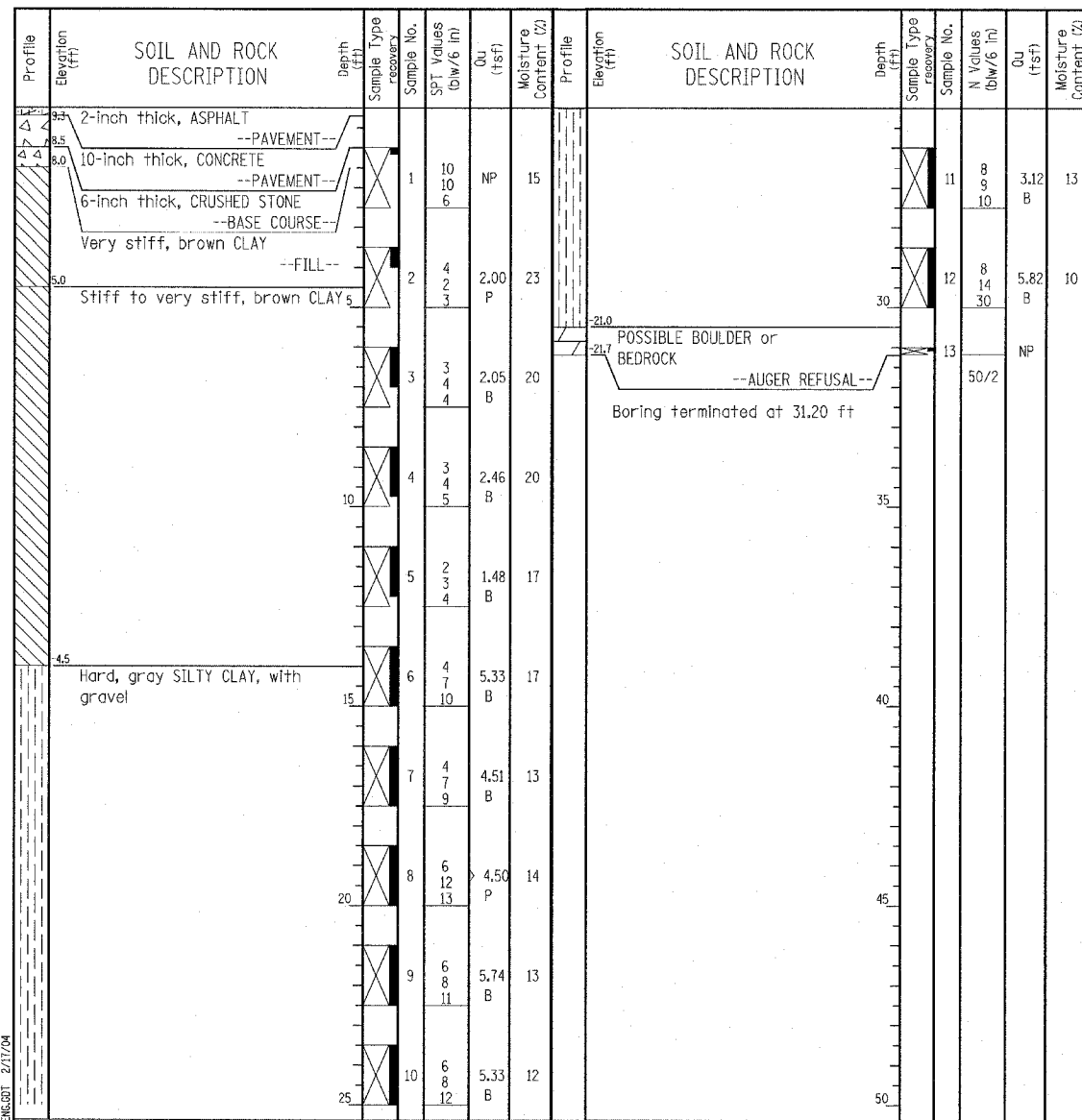
**Wang Engineering, INC.**  
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 1145 Main Street  
 Lombard, IL 60148  
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 Fax: 630 953-9938

**BORING LOG SB 03-02**

Page 1 of 1

WEI Job No.: 414-07-01  
 Client: T. Y. LIN International  
 Project: Dan Ryan Improvements; IDOT No. D-91-421-01  
 Location: From 95th Street to South of 69th Street

Datum: CCD  
 Elevation: 9.48 ft  
 North: 1844840.86 ft  
 East: 1177864.33 ft  
 Station: 2234+71.3  
 Offset: 124.323' RT



GENERAL NOTES				WATER LEVEL DATA			
Begin Drilling	02-06-2004	Complete Drilling	02-06-2004	While Drilling	▽	DRY	
Drilling Contractor	Patrick Drilling	Drill Rig	CME 75 TMR	At Completion of Drilling	▽	DRY	
Driller	J&L	Logger	N. Davis	Time After Drilling		NA	
Drilling Method	3.25" ID, HSA; Boring backfilled with bentonite upon completion			Depth to Water	▽	NA	


**TYLIN INTERNATIONAL**

REVISIONS	
NAME	DATE

SHEET 7 OF 8

ILLINOIS DEPARTMENT OF TRANSPORTATION  
 F.A.I. 94 (DAN RYAN EXPRESSWAY)  
 RETAINING WALL ALONG STATE ST.  
 91ST ST. TO CPI&R RR  
 WALL 3  
 BORING LOGS SB03-01 & SB03-02  
 S.N. 016-W945  
 SCALE: N.T.S.  
 DATE: MARCH 18, 2005

DESIGNED BY: DJR  
 DRAWN BY: DJR  
 CHECKED BY: TD


**Wang Engineering, Inc.**  
 Consulting Geotechnical and Environmental Engineers  
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 1145 Main Street  
 Lombard, IL 60148  
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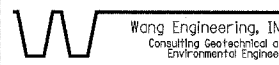
**BORING LOG SB 03-03**  
 WEI Job No.: 414-07-01  
 Client: T. Y. LIN International  
 Project: Dan Ryan Improvements; IDOT No. D-91-421-01  
 Location: From 95th Street to South of 69th Street

Datum: CCD  
 Elevation: -6.52 ft  
 North: 1844721.75 ft  
 East: 1177800.32 ft  
 Station: 2233+54  
 Offset: 56.930' RT

Page 1 of 1

Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type recovery	Sample No.	SPT Values (blows/6 in)	Qu (tsf)	Moisture Content (%)	Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type recovery	Sample No.	N Values (blows/6 in)	Qu (tsf)	Moisture Content (%)	
-7.2	9-inch thick CONCRETE --PAVEMENT--							-32.5	Boring terminated at 26.00 ft							
-7.8	6-inch thick CRUSHED STONE --BASE COURSE--															
	Hard, gray SILTY CLAY with gravel															
		1	X	3	6	7.79	11									
		2	X	4	6	5.99	13									
		3	X	4	9	6.72	13									
		4	X	6	9	5.33	12									
		5	X	5	12	7.79	10									
		6	X	10	50/4	4.50	10									
		7	X	72	60	NP	8									
		8	X	13	40	NP	9									
		9	X	25	62	NP	10									
		10	X	22	68	NP	8									
		25		50/5												

GENERAL NOTES				WATER LEVEL DATA			
Begin Drilling	04-28-2004	Complete Drilling	04-28-2004	While Drilling	∇	DRY	
Drilling Contractor	Patrick Drilling	Drill Rig	CME 75 TMR	At Completion of Drilling	∇	DRY	
Driller	K&L	Logger	N. Davis	Time After Drilling	NA		
Drilling Method	3.25" ID HSA; Boring backfilled with bentonite upon completion			Depth to Water	∇	NA	
The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.							


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 Lombard, IL 60148  
 Telephone: 630 953-9928  
 Fax: 630 953-9938

**BORING LOG SB 03-04**  
 WEI Job No.: 414-07-01  
 Client: T. Y. LIN International  
 Project: Dan Ryan Improvements; IDOT No. D-91-421-01  
 Location: From 95th Street to South of 69th Street

Datum: CCD  
 Elevation: -7.02 ft  
 North: 1844793.59 ft  
 East: 1177798.06 ft  
 Station: 2234+26  
 Offset: 56.730' RT

Page 1 of 1

Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type recovery	Sample No.	SPT Values (blows/6 in)	Qu (tsf)	Moisture Content (%)	Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type recovery	Sample No.	N Values (blows/6 in)	Qu (tsf)	Moisture Content (%)	
-7.7	8-inch thick CONCRETE --PAVEMENT--								Boring terminated at 23.20 ft							
-8.4	6-inch thick CRUSHED STONE --BASE COURSE--															
	Hard, gray SILTY CLAY with gravel															
		1	X	7	8	7.87	12									
		2	X	6	7	6.48	12									
		3	X	6	13	6.97	10									
		4	X	4	9	8.20	12									
		5	X	5	16	6.97	10									
		6	X	35	43	6.97	11									
		7	X	16	50	NP	8									
		8	X	20	33	NP	10									
		9	X	38	58	NP	9									
		10	X	50/2												
		25														

GENERAL NOTES				WATER LEVEL DATA			
Begin Drilling	04-28-2004	Complete Drilling	04-28-2004	While Drilling	∇	22.50 ft	
Drilling Contractor	Patrick Drilling	Drill Rig	CME 75 TMR	At Completion of Drilling	∇	11.40 ft	
Driller	J&L	Logger	N. Davis	Time After Drilling	NA		
Drilling Method	3.25" ID HSA; Boring backfilled with bentonite upon completion			Depth to Water	∇	NA	
The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.							

**TYLIN INTERNATIONAL**

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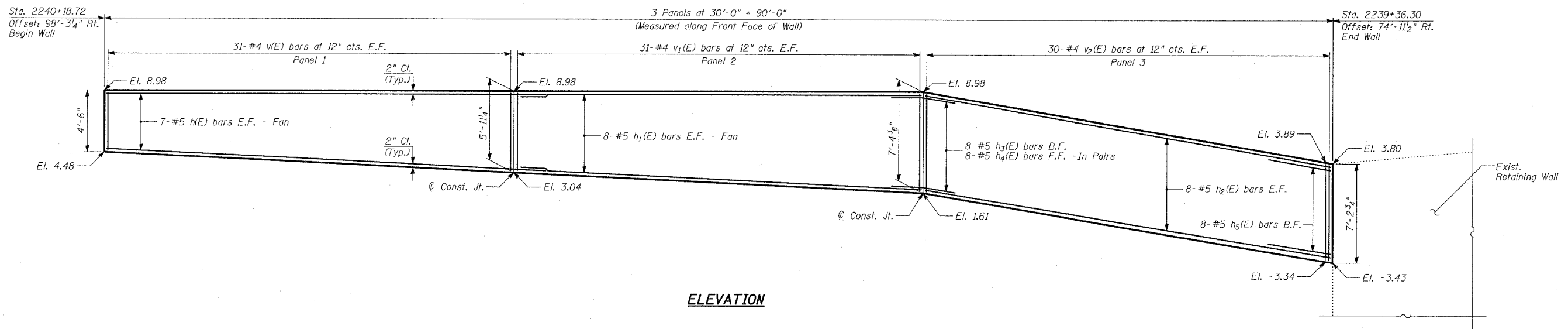
SHEET 8 OF 8

**ILLINOIS DEPARTMENT OF TRANSPORTATION**  
**F.A.I. 94 (DAN RYAN EXPRESSWAY)**  
**RETAINING WALL ALONG STATE ST.**  
**91ST ST. TO CPI&R RR**  
**WALL 3**  
**BORING LOGS SB03-03 & SB03-04**  
 S.N. 016-W945      DESIGNED BY: DJR  
 SCALE: N.T.S.      DRAWN BY: DJR  
 DATE: MARCH 18, 2005      CHECKED BY: TD

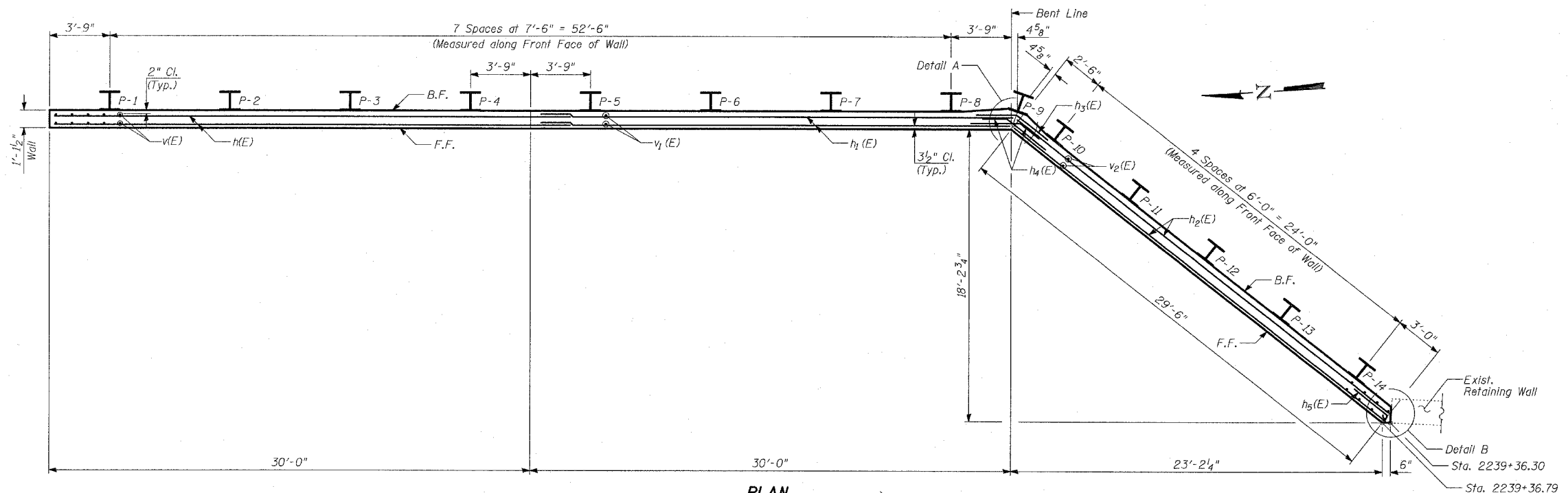
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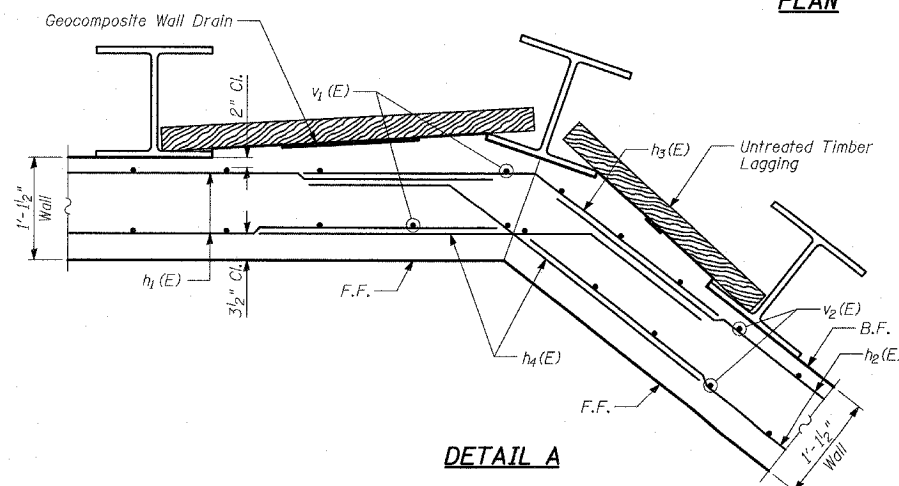
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94		COOK	860	492
STA. 2200+00.00 TO STA. 2362+00.00				
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT	
(1516.1, 1717 & 1818) R-8		62694		



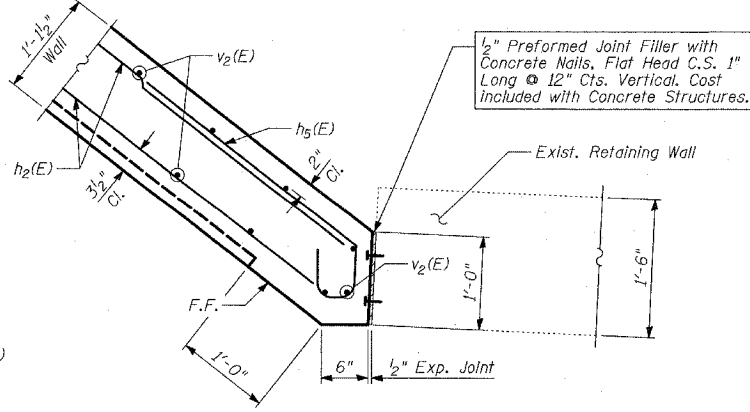
**ELEVATION**



**PLAN**



**DETAIL A**



**DETAIL B**

- NOTES:**
1. B.F. - denotes Back Face.
  2. E.F. - denotes Each Face.
  3. F.F. - denotes Front Face.
  4. Work this sheet with Sheets 3 thru 6 of 7.
  5. For Lap Splices, see Sheet 3 of 7.

SHEET 2 OF 7

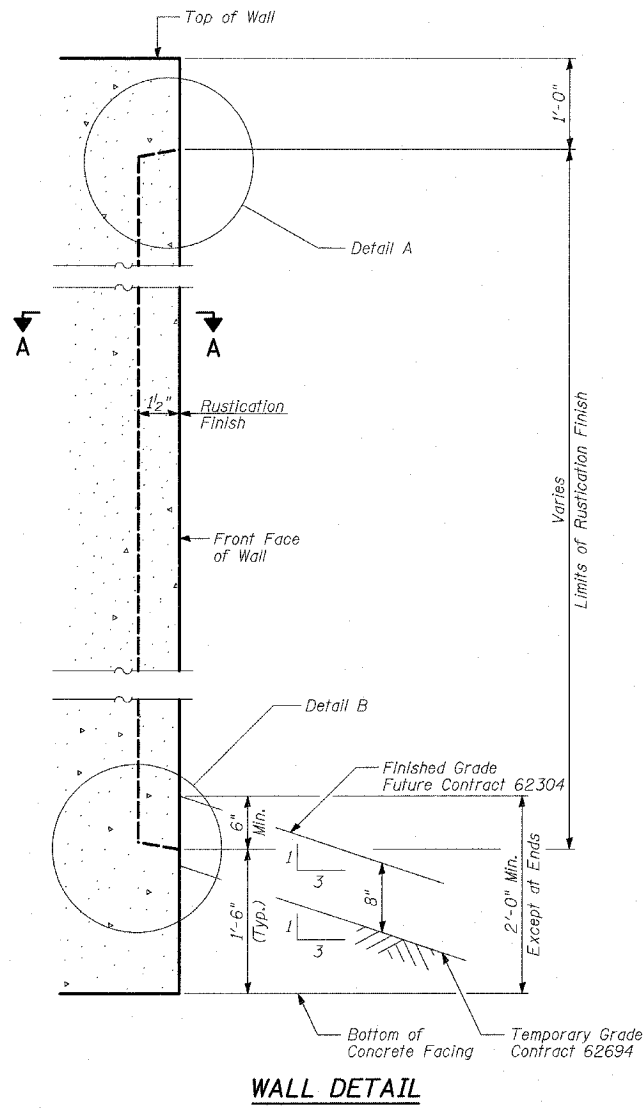
REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION  
**F.A.I. 94 (DAN RYAN EXPRESSWAY)**  
**RETAINING WALL ALONG STATE ST.**  
**AT BELT RY.**  
**WALL 4 - PLAN AND ELEVATION**  
**STA. 2240+18.72 TO STA. 2239+36.30**  
 S.N. 016-W953 DESIGNED BY: MI, DJR  
 SCALE: N.T.S. DRAWN BY: DJR, TB  
 DATE: MARCH 18, 2005 CHECKED BY: TD, MI

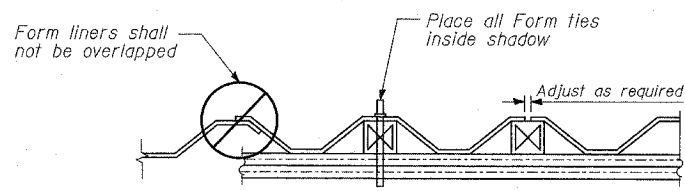
**TYLIN INTERNATIONAL**



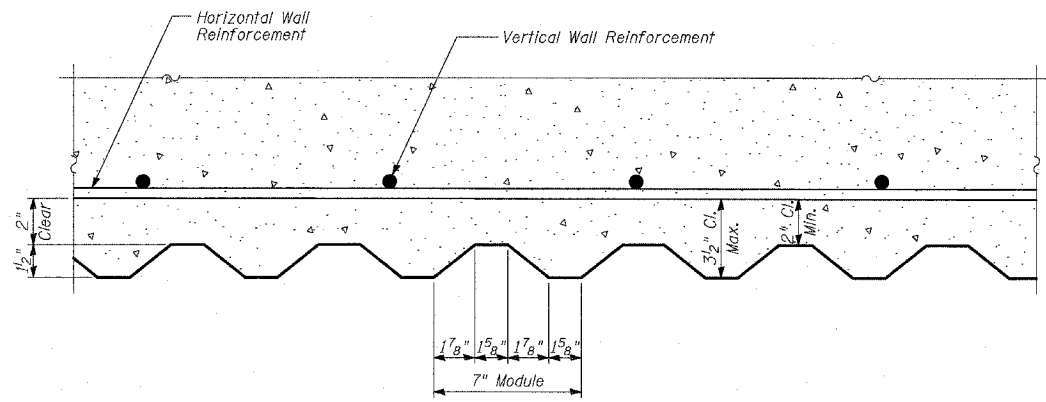




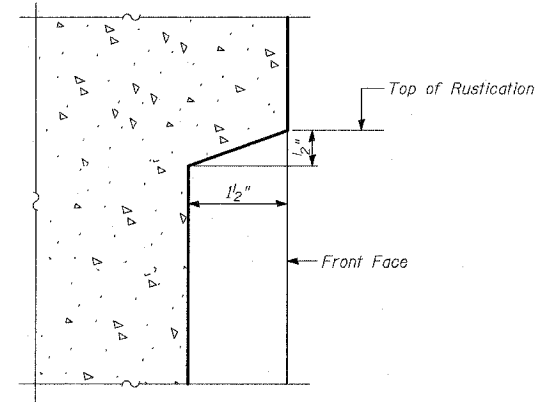
**WALL DETAIL**



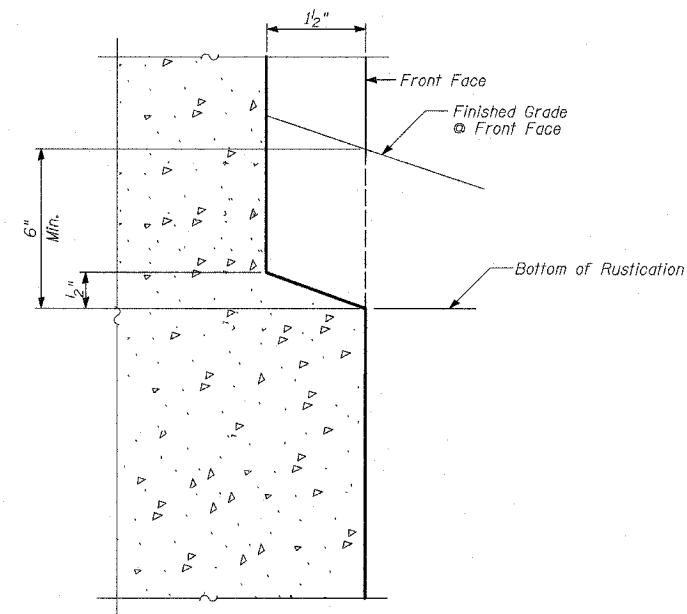
**SUGGESTED FORMWORK DETAIL**



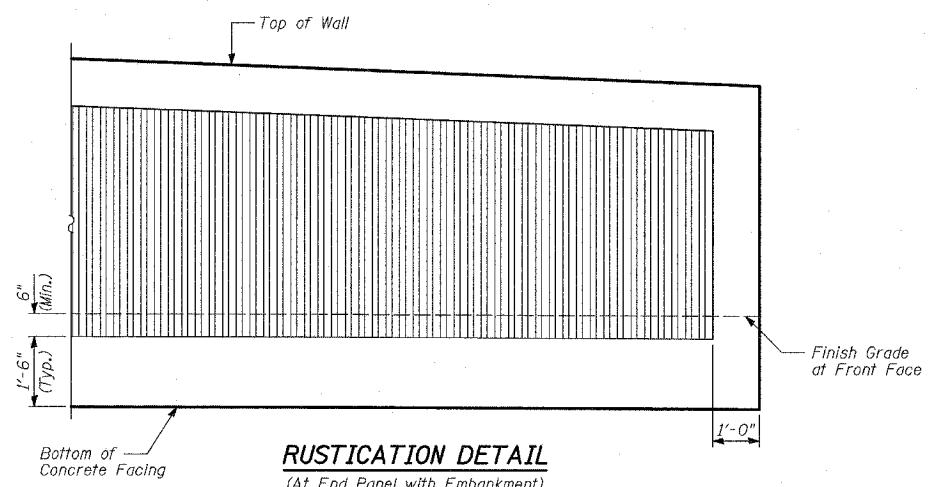
**SECTION A-A**



**DETAIL A**



**DETAIL B**



**RUSTICATION DETAIL**  
(At End Panel with Embankment)

**BILL OF MATERIAL**

ITEM	UNIT	TOTAL
Rustication Finish	SQ FT	340

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION  
**F.A.I. 94 (DAN RYAN EXPRESSWAY)**  
**RETAINING WALL ALONG STATE ST.**  
**AT BELT RY.**  
**WALL 4**  
**RUSTICATION DETAILS**  
 S.N. 016-W953      DESIGNED BY: MI, DJR  
 SCALE: N.T.S.      DRAWN BY: DJR  
 DATE: MARCH 18, 2005      CHECKED BY: TD, MI

**NOTES:**

1. See Sheet 4 of 7 for expansion and construction joint details.





**Wang Engineering, Inc.**  
 Consulting Geotechnical and Environmental Engineers  
 wangeng3@wangeng.com  
 1145 Main Street  
 Lombard, IL 60148  
 Telephone: 630 953-9928  
 Fax: 630 953-9938

**BORING LOG SB 04-02** Page 1 of 1

WEI Job No.: 414-07-01  
 Client: T. Y. LIN International  
 Project: Dan Ryan Improvements; IDOT No. D-91-421-01  
 Location: From 95th Street to South of 69th Street

Datum: CCD  
 Elevation: 9.03 ft  
 North: 1845380.25 ft  
 East: 1177832.52 ft  
 Station: 2240+11  
 Offset: 107.97' RT

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 Lombard, IL 60148  
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 Fax: 630 953-9938

**BORING LOG SB 04-03** Page 1 of 1

WEI Job No.: 414-07-01  
 Client: T. Y. LIN International  
 Project: Dan Ryan Improvements; IDOT No. D-91-421-01  
 Location: From 95th Street to South of 69th Street

Datum: CCD  
 Elevation: 8.74 ft  
 North: 1845317.83 ft  
 East: 1177836.62 ft  
 Station: 2239+49  
 Offset: 110.28' RT

Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type	Sample No.	SPT Values (blows/6 in)	Qu (tsf)	Moisture Content (%)	Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type	Sample No.	N Values (blows/6 in)	Qu (tsf)	Moisture Content (%)
8.2	10-Inch thick TOPSOIL														
	Very stiff, brown and gray CLAY --FILL--			1	13 7 8	NP						11	8 15 20	8.61 S	11
				2	6 5 5	3.00 P	20					12	32 50 50/3	> 4.50 P	9
6.0	Stiff to very stiff, gray CLAY			3	3 4 4	1.31 B	21					13	50/1		
				4	3 4 5	1.48 B	20								
				5	2 4 5	1.31 B	20								
				6	5 6 9	2.71 B	18								
7.2	Very stiff to hard, SILTY CLAY with gravel			7	11 12 14	4.93 S	11								
				8	4 6 9	3.28 B	13								
				9	6 16 26	7.54 B	11								
				10	6 11 17	7.87 B	12								

Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type	Sample No.	SPT Values (blows/6 in)	Qu (tsf)	Moisture Content (%)	Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type	Sample No.	N Values (blows/6 in)	Qu (tsf)	Moisture Content (%)
	14-inch thick TOPSOIL														
7.6	Hard, brown and gray CLAY LOAM --FILL--			1	15 19 7	4.00 P	16					11	10 16 30	> 4.50 P	11
				2	4 4 5	4.00 P	19					12	13 32 50/3	> 4.50 P	10
3.7	Stiff, brown and gray CLAY			3	3 4 7	1.89 B	54								
				4	3 3 4	0.66 B	19								
				5	2 3 4	0.90 B	20								
4.8	Medium dense, gray SILT			6	5 13 19	NP	19								
				7	7 12 13	NP	20								
9.3	Hard, gray SILTY CLAY with gravel			8	5 12 16	> 4.50 P	13								
				9	7 14 19	> 4.50 P	10								
				10	10 18 24	> 4.50 P	11								

GENERAL NOTES				WATER LEVEL DATA			
Begin Drilling	04-13-2004	Complete Drilling	04-13-2004	While Drilling	▽	DRY	
Drilling Contractor	Patrick Drilling	Drill Rig	CME 75 TMR	At Completion of Drilling	▽	DRY	
Driller	K&J	Logger	N. Davis	Time After Drilling	NA		
Checked by	MLS	Depth to Water	▽	NA			
Drilling Method 3.25" ID. HSA; Boring backfilled with bentonite upon completion							
The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.							

GENERAL NOTES				WATER LEVEL DATA			
Begin Drilling	04-13-2004	Complete Drilling	04-13-2004	While Drilling	▽	DRY	
Drilling Contractor	Patrick Drilling	Drill Rig	CME 75 TMR	At Completion of Drilling	▽	DRY	
Driller	K&J	Logger	N. Davis	Time After Drilling	NA		
Checked by	MLS	Depth to Water	▽	NA			
Drilling Method 3.25" ID. HSA; Boring backfilled with bentonite upon completion							
The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.							

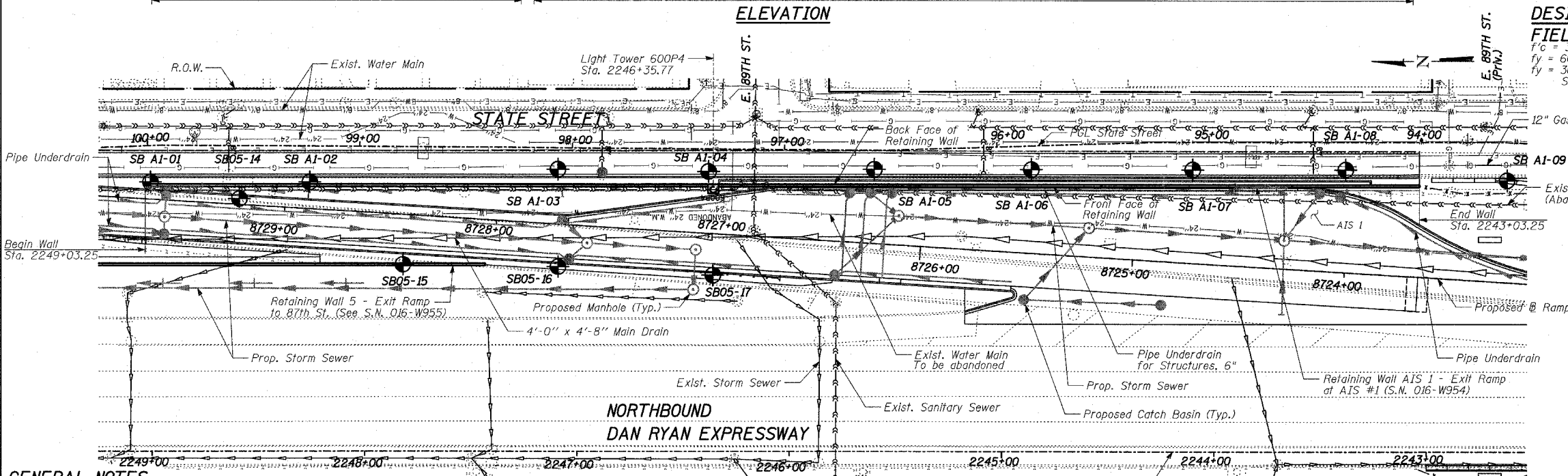
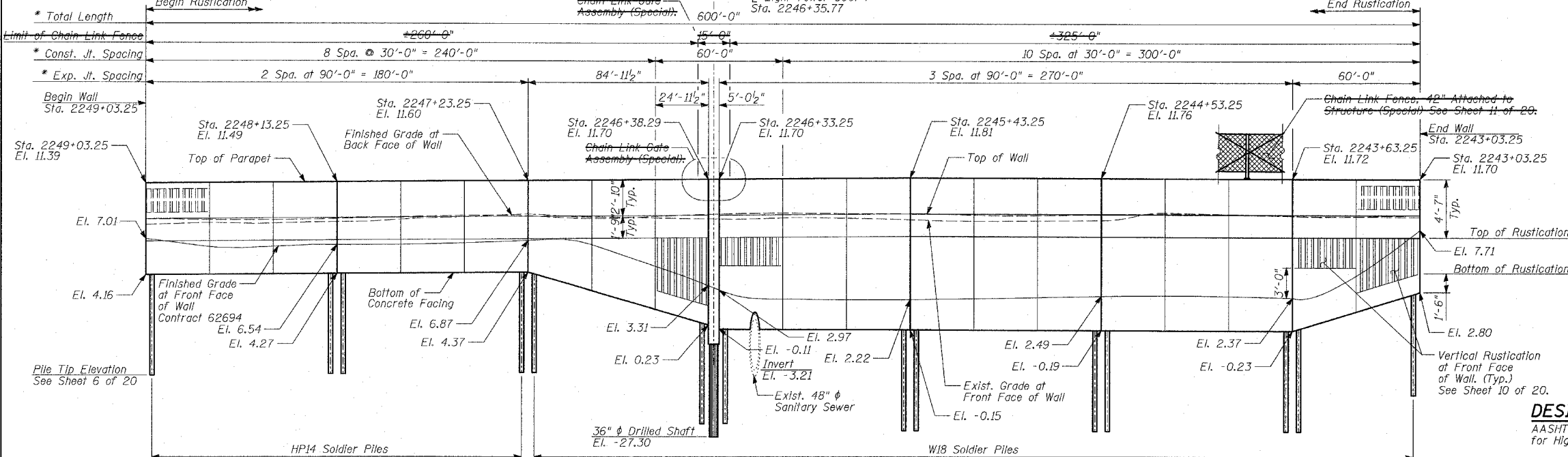
**TYLIN INTERNATIONAL**

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION  
 F.A.I. 94 (DAN RYAN EXPRESSWAY)  
 RETAINING WALL ALONG STATE ST.  
 AT BELT RY.  
 WALL 4  
 BORING LOGS SB04-02 & SB04-03  
 S.N. 016-W953 DESIGNED BY: DJR  
 SCALE: N.T.S. DRAWN BY: DJR  
 DATE: MARCH 18, 2005 CHECKED BY: TD

Benchmarks: BM 3553 Set "+" northwest bolt of traffic signal/light base at northeast intersection of 87th St. and State St. El. 8.47

Existing Structure: None



- GENERAL NOTES:**
- Reinforcement bars shall conform to the requirements of AASHTO M31 or M322 Grade 60.
  - The Contractor is responsible for the design and performance of the lagging using no less than 3" nominal rough-sawn thickness and the minimum tabulated unit stress in bending ( $f_b$ ), used in the design of timber lagging shall be 1000 psi.
  - The soldier piles shall be cleaned and given one shop coat of Inorganic Zinc-Rich primer.
  - All exposed concrete edges shall be chamfered  $3/4"$  except as noted.
  - Protective coat shall be applied to exposed surfaces of the concrete facing.
  - Existing utilities in conflict with soldier pile wall construction shall be abandoned or relocated according to directions given on the roadway plans.
  - All construction joints shall be bonded.
  - All elevations shown are based on the Chicago City Datum of 0.00, which is 579.19 feet above mean tide New York. (NAVD 88)
  - The wall shall be backfilled (where applicable) prior to placing the concrete facing.
  - The Contractor is responsible to coordinate all electrical crossings with this Contract and with Contract 62583.

**TYLIN** INTERNATIONAL

**PLAN**

**LEGEND**

**OFFSET SKETCH**

**PROFILE GRADE (State Street)**

**PROFILE GRADE (N.B. I-94)**

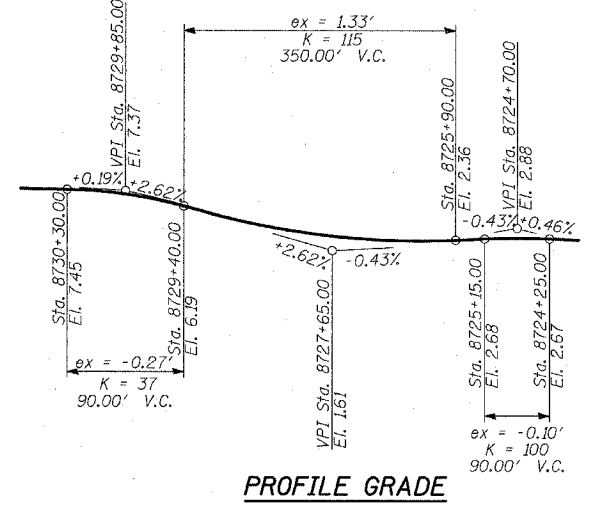
**LOCATION SKETCH**

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94		COOK	860	498
STA. 2200+00.00 TO STA. 2362+00.00			FED. AID PROJECT	
FED. ROAD DIST. NO.			ILLINOIS	
• (1516.1, 1717 & 1818) R-8			62694	

**TOTAL BILL OF MATERIAL**

ITEM	UNIT	TOTAL
Structure Excavation	CU YD	489
Concrete Structures	CU YD	272
Protective Coat	SQ YD	813
Rustication Finish	SQ FT	2,009
Stud Shear Connectors	EACH	792
Untreated Timber Lagging	SQ FT	3,463
Furnishing Soldier Piles (HP Section)	FOOT	627
Furnishing Soldier Piles (W Section)	FOOT	1,795
Reinforcement Bars, Epoxy Coated	POUND	36,320
Geocomposite Wall Drain	SQ YD	418
Pipe Underdrains for Structures, 6"	FOOT	600
Drilling and Setting Soldier Piles (in Soil)	CU FT	12,306
Chain Link Fence, 42" Attached to Structure (Special)	FOOT	585
Chain Link Gate Assembly (Special)	EACH	1
Drilled Shaft in Soil 36"	FOOT	26

- DESIGN SPECIFICATION**  
AASHTO 2002 Standard Specifications for Highway Bridges
- DESIGN STRESSES**
- FIELD UNITS**  
 $f'_c$  = 3,500 psi  
 $f_y$  = 60,000 psi (Reinforcement)  
 $f_y$  = 36,000 psi (M270 Grade 36) Solder Piles
- INDEX OF SHEETS**
- GENERAL PLAN
  - PLAN AND ELEVATION STA. 2249+03.25 TO STA. 2247+23.25
  - PLAN AND ELEVATION STA. 2247+23.25 TO STA. 2245+43.25
  - PLAN AND ELEVATION STA. 2245+43.25 TO STA. 2243+63.25
  - PLAN AND ELEVATION STA. 2243+63.25 TO STA. 2243+03.25
  - PILE LAYOUT, DETAILS & BILL OF MATERIAL
  - LIGHT TOWER 600P4 FOUNDATION DETAILS
  - LIGHT TOWER DETAILS
  - WALL CROSS SECTIONS & DETAILS
  - RUSTICATION DETAILS
  - CHAIN LINK FENCE, 42" ATTACHED TO STRUCTURE (SPECIAL)
  - GATE PLAN AND NOTES
  - GATE ELEVATIONS
  - GATE SECTIONS
  - GATE SECTIONS AND DETAILS
  - BORING LOGS SB A1-01 & SB A1-02
  - BORING LOGS SB A1-03 & SB A1-04
  - BORING LOGS SB A1-05 & SB A1-06
  - BORING LOGS SB A1-07 & SB A1-08
  - BORING LOG SB A1-09



**PROFILE GRADE** (Ramp)

Staged *Phillip D. Frey*  
 Phillip D. Frey, S.E. II, Lic. No. 081-004826  
 Expires 11-30-2006.

Date 3/18/05

REVISIONS

NAME	DATE

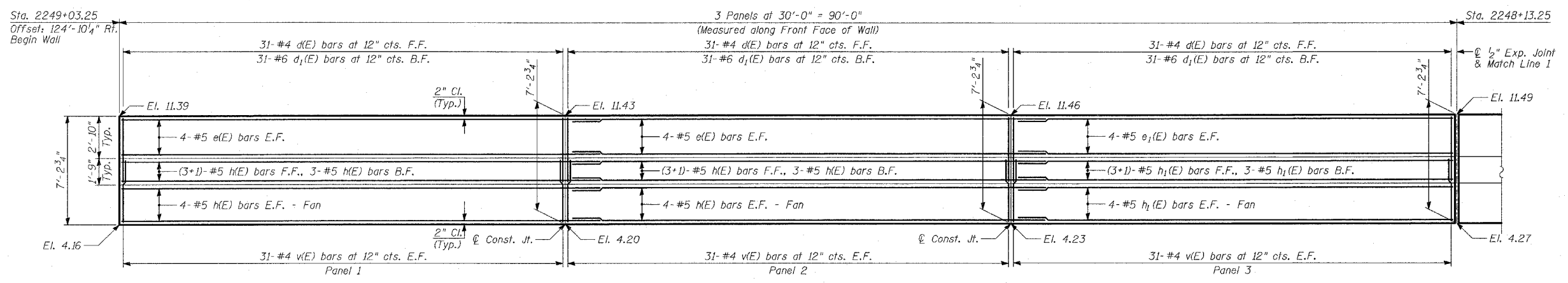
ILLINOIS DEPARTMENT OF TRANSPORTATION  
**F.A.I. 94 (DAN RYAN EXPRESSWAY)**  
**RETAINING WALL ALONG STATE ST.**  
**EXIT RAMP AT AIS #1**  
**AIS 1 - GENERAL PLAN**  
 STA. 2249+03.25 TO STA. 2243+03.25  
 S.N. 016-W954  
 SCALE: N.T.S.

DESIGNED BY: MI, MAF  
 DRAWN BY: MAF, DJR  
 CHECKED BY: TD, MI

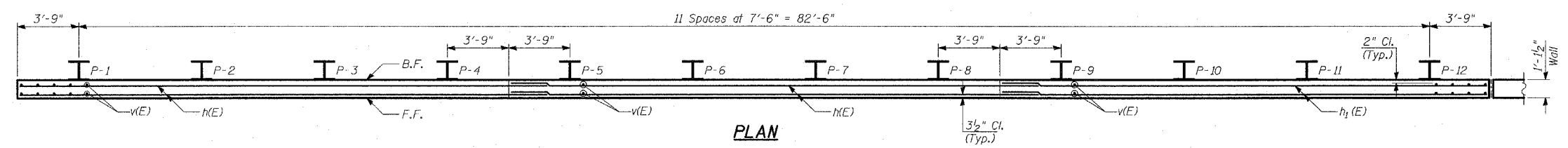
DATE: MARCH 18, 2005

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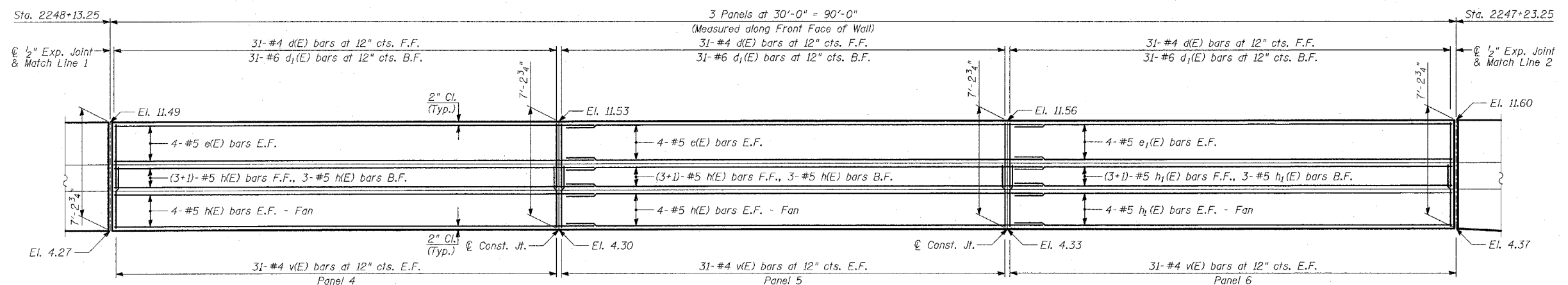
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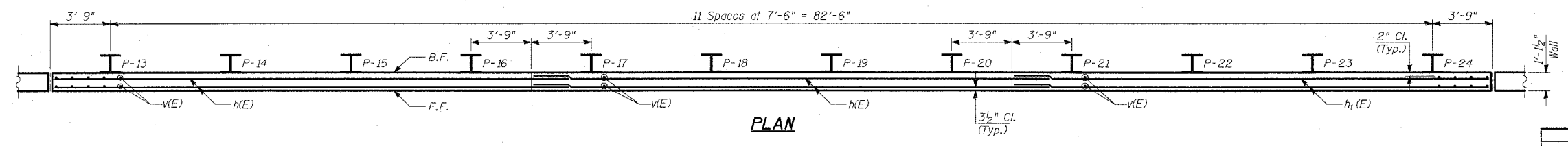
**ELEVATION**



**PLAN**



**ELEVATION**



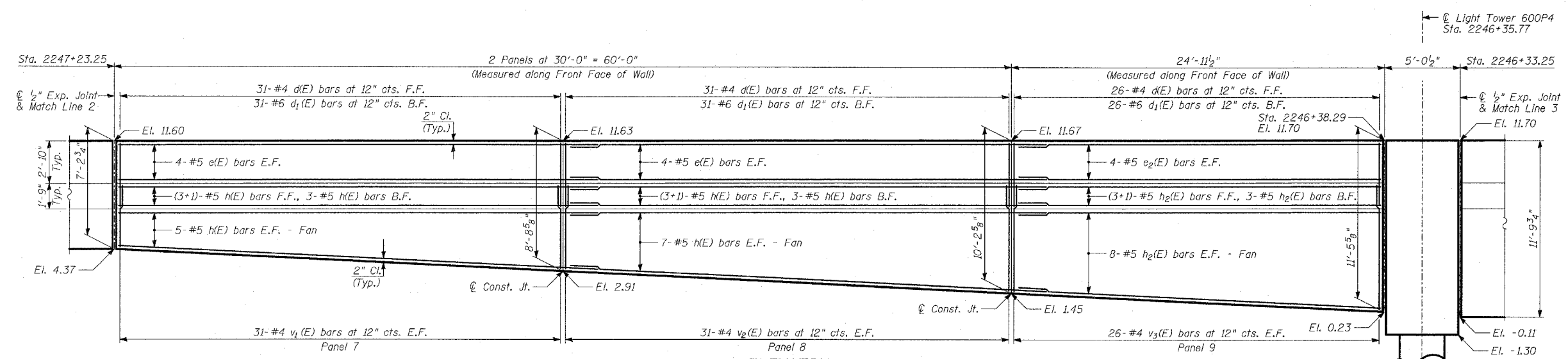
**PLAN**

- NOTES:**
1. B.F. - denotes Back Face.
  2. E.F. - denotes Each Face.
  3. F.F. - denotes Front Face.
  4. Work this Sheet with Sheets 6 and 9 thru 11 of 20.
  5. Pile spacing measured along front face of wall.
  6. For Lap Splices, see Sheet 6 of 20.

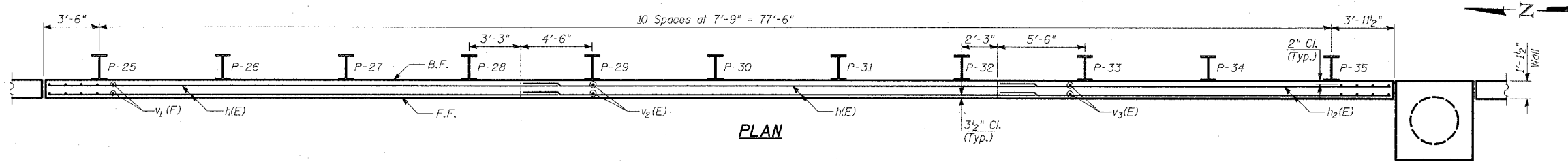
**TYLIN INTERNATIONAL**

REVISIONS	
NAME	DATE

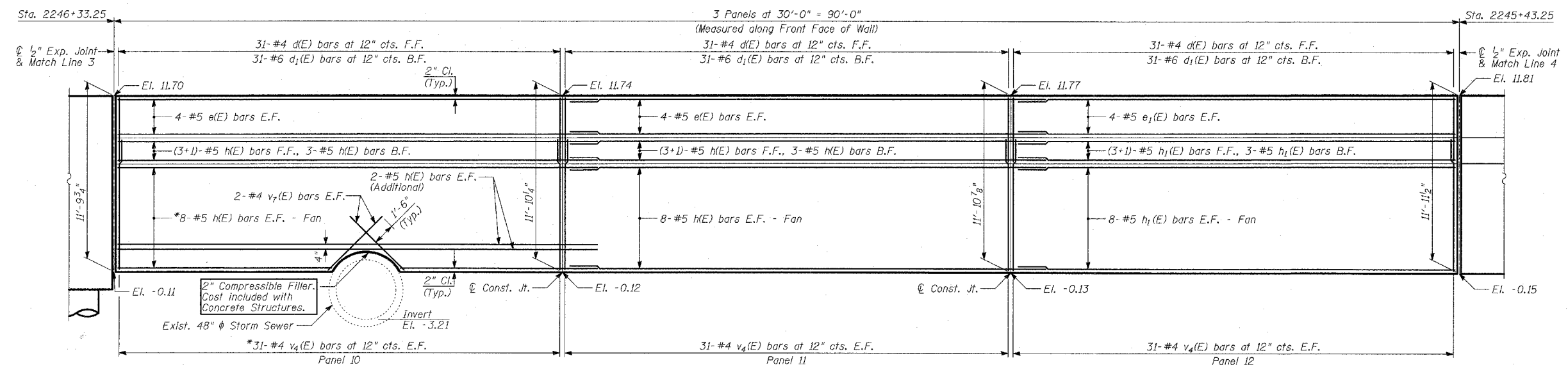
ILLINOIS DEPARTMENT OF TRANSPORTATION  
**F.A.I. 94 (DAN RYAN EXPRESSWAY)**  
**RETAINING WALL ALONG STATE ST.**  
**EXIT RAMP AT AIS #1**  
**AIS 1 - PLAN AND ELEVATION**  
**STA. 2249+03.25 TO STA. 2247+23.25**  
 S.N. 016-W954 DESIGNED BY: MI, MAF  
 SCALE: N.T.S. DRAWN BY: MAF, DJR  
 DATE: MARCH 18, 2005 CHECKED BY: TD, MI



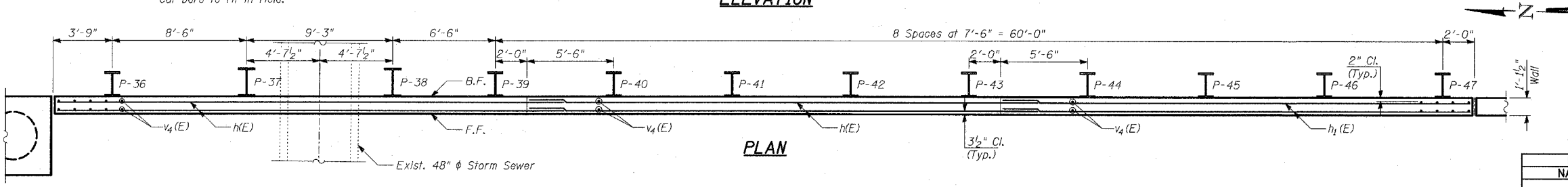
**ELEVATION**



**PLAN**



**ELEVATION**



**PLAN**

\* - Cut bars to fit in field.

- NOTES:**
1. B.F. - denotes Back Face.
  2. E.F. - denotes Each Face.
  3. F.F. - denotes Front Face.
  4. Work this Sheet with Sheets 6 thru 15 of 20.
  5. Pile spacing measured along front face of wall.
  6. For Lap Splices, see Sheet 6 of 20.

REVISIONS	NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION  
 F.A.I. 94 (DAN RYAN EXPRESSWAY)  
 RETAINING WALL ALONG STATE ST.  
 EXIT RAMP AT AIS #1  
 AIS 1 - PLAN AND ELEVATION  
 STA. 2247+23.25 TO STA. 2245+43.25  
 S.N. 016-W954 DESIGNED BY: MI, MAF  
 SCALE: N.T.S. DRAWN BY: MAF, DJR  
 DATE: MARCH 18, 2005 CHECKED BY: TD, MI

**TYLINTERNATIONAL**